



INTELLIGENT TRANSPORTATION SYSTEMS (ITS) PLAN FOR THE KERN REGION

FINAL DELIVERABLE NO. 12 **REGIONAL ITS PLAN** **APPENDIX D: FUNCTIONAL REQUIREMENTS**

JUNE 2018



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FUNCTIONAL REQUIREMENTS

Once funding has been identified for an ITS project and the development is underway, the ITS Architecture is beneficial for providing a context in which the project will fit within the regional ITS implementations (either existing or planned). Agencies can use the ITS Architecture to determine the functionality for the project and also determine detailed communications and operating requirements of the project based on the functionality desired.

All functional requirements in this document are organized by inventory item in alphabetical order which aligns with the stakeholders the inventory items represent. When an inventory item is selected in this document, four very important types of information are displayed.

1. Physical Object Name – this provide context of what type of equipment or center or interface that inventory item has within the ITS Architecture.
2. Functional Object – This summarizes the type of service that is associated with the inventory item.
3. Requirement – This is a functional requirement that can be used to inform a Request for Proposals or in the development of Project Specifications for a project that would be accounted for in the ITS Architecture.
4. Status – This provides the currently operating or planned status of the inventory item as it is represented in the ITS Architecture.

All of this information is applicable to find functional requirements for a project to help with the design of the project.

Functional requirements can be identified by first identifying the inventory name that is associated with the stakeholder involved with the project. Then, the type of service, or Functional Object, can be identified that best represents the purpose of the project that the agency is developing. Third, the functional requirements are ordered by number in a column that will help provide project specifications from which to procure or to support the development of RFP documentation for the project.

Table 1 – Functional Requirements

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Planned
AMTRAK Rail	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	1	The transit vehicle shall receive a vehicle assignment including transit route information, transit service instructions, traffic information, road conditions, and other information for the operator.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	2	The transit vehicle shall use the route information and its current location to determine the deviation from the predetermined schedule.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	3	The transit vehicle shall calculate the estimated times of arrival (ETA) at transit stops.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	4	The transit vehicle shall determine scenarios to correct the schedule deviation.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	5	The transit vehicle shall provide the schedule deviations and instructions for schedule corrections to the transit vehicle operator if the deviation is small, or the transit vehicle is operating in an urban area.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	6	The transit vehicle shall send the schedule deviation and estimated arrival time information to the center.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	7	The transit vehicle shall support the operations of a flexible route service. This may include requests for route deviations that would then lead to schedule corrective actions.	Planned
AMTRAK Thruway Bus	Transit Vehicle OBE	Transit Vehicle Schedule Management	8	The transit vehicle shall notify the transit center of vehicle location and operational status as the vehicle exits and returns to the transit facility to support future vehicle assignments.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	1	The transit vehicle shall manage data input to sensor(s) on-board a transit vehicle to determine the vehicle's availability for use in demand responsive and flexible-route transit services based on identity, type, and passenger capacity.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	2	The transit vehicle shall receive the status of demand responsive or flexible-route transit schedules and passenger loading from the transit vehicle operator.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	3	The transit vehicle shall provide the transit vehicle operator instructions about the demand responsive or flexible-route transit schedule that has been confirmed from the center.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	4	The transit vehicle shall provide the capability to log passenger boarding and alighting and make passenger use data available to the transit center.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Planned
Arvin Demand Response Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Planned
Arvin Fixed Route Transit Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	1	The center shall manage service requests for routing of an individual through the transit system.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	2	The center shall provide transit plans for both fixed and demand responsive transit to transit passengers.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	3	The center shall be able to coordinate with Other Transit Management systems or Multimodal Transportation Service Providers to provide a complete multimodal trip plan.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	4	The center shall track the passenger through the transit network, and coordinate with Other TRM and Multimodal Transportation Service Providers so that the passenger makes efficient connections between the transit system and other transit systems or other modes of transportation.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	5	The center shall track transit vehicles and identify when connections between transit routes are in jeopardy due to the late arrival of a transit vehicle at a transfer stop or station.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	6	The center shall send schedule adjustments to a transit vehicle to protect a connection made with other transit vehicles.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	7	The center shall be able to provide a traveler with updates regarding their transit trip, including connection protection actions taken by the center.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Connection Protection	8	The center shall send schedule adjustments to a transit vehicle to protect a connection to be made by a specific traveler.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Transit Center	Transit Management Center	Transit Center Data Collection	1	The center shall collect transit management data such as transit fares and passenger use, transit services, paratransit operations, transit vehicle maintenance data, etc.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the transit data or for the data itself.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Arvin Transit Center	Transit Management Center	Transit Center Environmental Monitoring	2	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	1	The center shall manage the actual value of transit fares for each segment of each regular transit route, including the transmission of the information to transit vehicles and transit stops or stations.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	2	The center shall provide the capability for a system operator to manage the transit fares and control the exchange of transit fare information.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	3	The center shall process the financial requests from the transit vehicles or roadside and manage an interface to a Financial Institution.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	4	The center shall support the payment of transit fare transactions using data provided by the traveler cards / payment instruments.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	5	The center shall collect data on fare payment violations and send the data, including images of the violator, to the appropriate enforcement agency.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	6	The center shall process requests for transit fares to be paid in advance.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	9	The center shall maintain a list of invalid traveler credit identities or bad tag lists that can be forwarded to transit vehicles and transit stops or stations.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	10	The center shall collect fare statistics data to implement variable and flexible fare structures.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	11	The center shall exchange fare and load information with other transit management centers, including potential Centralized Payments facilities.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Transit Center	Transit Management Center	Transit Center Fare Management	12	The center shall provide transit fare information to traveler information providers upon request.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	1	The center shall provide travelers using public transportation with traffic and advisory information upon request. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	2	The center shall provide transit information to the media including details of deviations from schedule of regular transit services.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	3	The center shall exchange transit schedules, real-time arrival information, fare schedules, and general transit service information with other transit organizations to support transit traveler information systems.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	4	The center shall provide transit service information to traveler information service providers including routes, schedules, schedule adherence, and fare information as well as transit service information during evacuation.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	5	The center shall enable yellow pages (including non-motorized transportation) information to be output to the traveler.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	6	The center shall broadcast transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	7	The center shall provide transit vehicle transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	8	The center shall receive transit stop requests from travelers and provide them to the appropriate transit vehicles.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	9	The center shall receive trip requests from travelers, including those who are visually impaired which include the current location of the traveler.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Information Services	10	The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	1	The center shall coordinate schedules and services with traffic management, parking management, and event planning systems.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	2	The center shall share transfer cluster and transfer point information with other transit centers. A transfer cluster is a collection of stop points, stations, or terminals where transfers can be made conveniently.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	4	The center shall coordinate schedules and services with other transit centers	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	5	The center shall coordinate schedules and services with other surface or air transportation modes.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	6	The center shall provide transit operations personnel with the capability to control and monitor transit service coordination activities.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	7	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	8	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	9	The center shall collect asset restriction information from maintenance operations.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	10	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	1	The center shall process trip requests for demand responsive transit services, i.e. paratransit. Sources of the requests may include traveler information service providers.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	2	The center shall monitor the operational status of the demand response vehicles including status of passenger pick-up and drop-off.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	3	The center shall generate demand response transit (including paratransit) routes and schedules based on such factors as parameters input by the system operator, what other demand responsive transit schedules have been planned, the availability and location of vehicles, the relevance of any fixed transit routes and schedules, road network information, and incident information.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	4	The center shall dispatch demand response (paratransit) transit vehicles.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	5	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	6	The center shall disseminate up-to-date schedules and route information to other centers for demand responsive transit services (paratransit).	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	7	The center shall collect the log of passenger boarding and alighting from the paratransit vehicles.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	8	The center shall monitor real time location of demand response vehicles.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Paratransit Operations	9	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Transit Center	Transit Management Center	Transit Center Passenger Counting	1	The center shall collect passenger count information from each transit vehicle.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Passenger Counting	2	The center shall calculate transit ridership data by route, route segment, transit stop, time of day, and day of week based on the collected passenger count information.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Passenger Counting	3	The center shall make the compiled ridership data available to the system operator.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	1	The center shall monitor transit vehicle operational data to determine if the transit vehicle is off-route and assess whether a security incident is occurring.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	2	The center shall receive reports of emergencies on-board transit vehicles entered directly by the transit vehicle operator or from a traveler through interfaces such as panic buttons or alarm switches.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	3	The center shall support the back-office portion of functionality to authenticate transit vehicle operators.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	4	The center shall provide transit incident information along with other service data to emergency centers.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	5	The center shall receive information pertaining to a wide-area alert such as weather alerts, disaster situations, or child abductions. This information may come from Emergency Management or from other Alerting and Advisory Systems.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	6	The center shall send wide-area alert information to travelers (on-board transit vehicles or at stations/stops) and transit vehicle operators.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	7	The center shall coordinate the response to security incidents involving transit with other agencies including Emergency Management, other transit agencies, media, traffic management, and traveler information service providers.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	8	The center shall receive threat information and status on the integrity of the transit infrastructure.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	9	The center shall provide support to remotely disable (or reset the disabling of) a transit vehicle in service.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Security	10	The center shall provide transit incident information to traveler information providers and the media.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Vehicle Tracking	1	The center shall monitor the locations of all transit vehicles within its network.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Vehicle Tracking	2	The center shall determine adherence of transit vehicles to their assigned schedule.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Arvin Transit Center	Transit Management Center	Transit Center Vehicle Tracking	3	The center shall provide transit operational data to traveler information service providers.	Planned
Arvin Transit Center	Transit Management Center	Transit Center Vehicle Tracking	4	The center shall provide collected transit probe data to traffic management centers and traveler information service providers for use in measuring current traffic conditions.	Planned
Arvin Transit Center	Transit Management Center	Transit Evacuation Support	1	The center shall manage the use of transit resources to support evacuation and subsequent reentry of a population near a disaster or another emergency.	Planned
Arvin Transit Center	Transit Management Center	Transit Evacuation Support	2	The center shall coordinate regional evacuation plans with Emergency Management - identifying the transit role in an evacuation and the transit resources that would be used.	Planned
Arvin Transit Center	Transit Management Center	Transit Evacuation Support	3	The center shall coordinate the use of transit and school bus fleets during an evacuation, supporting evacuation of those with special needs and the general population.	Planned
Arvin Transit Center	Transit Management Center	Transit Evacuation Support	4	The center shall adjust and update transit service and fare schedules and provide that information to other agencies as they coordinate evacuations.	Planned
Arvin Transit Center	Transit Management Center	Transit Evacuation Support	5	The center shall be capable of establishing emergency fare structures to override all other fares during disasters, states of emergency, or evacuations.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Incident Detection	1	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Incident Detection	2	The field element shall remotely process video data and provide an indication of potential incidents to the traffic management center.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Incident Detection	3	The field element's video devices shall be remotely controlled by a traffic management center.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Incident Detection	4	The field element shall provide operational status and fault data for the incident detection devices to the traffic management center.	Planned
Bakersfield CCTV	ITS Roadway Equipment	Roadway Passive Monitoring	1	The field element shall collect, process, and send data to the center to uniquely identify passing vehicles to support travel time measurement	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	5	The field element shall monitor notify an enforcement agency when a speed violation is detected.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Bakersfield CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Incident Detection	1	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Incident Detection	2	The field element shall remotely process video data and provide an indication of potential incidents to the traffic management center.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Incident Detection	3	The field element's video devices shall be remotely controlled by a traffic management center.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Incident Detection	4	The field element shall provide operational status and fault data for the incident detection devices to the traffic management center.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Passive Monitoring	1	The field element shall collect, process, and send data to the center to uniquely identify passing vehicles to support travel time measurement	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	5	The field element shall monitor notify an enforcement agency when a speed violation is detected.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned
Bakersfield Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	1	The field element shall activate barrier systems for transportation facilities and infrastructure under center control. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	2	The field element shall return barrier system operational status to the controlling center.	Operate
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	3	The field element shall return barrier system fault data to the maintenance center for repair.	Operate
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	4	The field element shall receive requests for access from approaching vehicles using field-vehicle communications and validate and authenticate the requests.	Operate
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	5	The field element shall grant access only to qualified vehicles.	Operate
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	6	The field element shall communicate access permission status and access instructions to approaching vehicles using field-vehicle communications.	Operate
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	1	The field element shall activate safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.) under center control.	Operate
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	2	The field element shall return safeguard system operational status to the controlling center.	Operate
Bakersfield Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	3	The field element shall return safeguard system fault data to the maintenance center for repair.	Operate
Bakersfield Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Vehicle Location Tracking	1	The maintenance and construction vehicle shall track its current location.	Planned
Bakersfield Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Vehicle Location Tracking	2	The maintenance and construction vehicle shall send the time stamped vehicle location to the controlling center.	Planned
Bakersfield Parking Management System	Parking Management System	Parking Management	1	The parking element shall maintain static parking lot information including hours of operation, rates, location, entrance locations, capacity, type, and constraints.	Planned
Bakersfield Parking Management System	Parking Management System	Parking Management	2	The parking element shall maintain dynamic parking lot information including current state of the lot, occupancy, arrival rates, and departure rates.	Planned
Bakersfield Parking Management System	Parking Management System	Parking Management	3	The parking element shall determine and maintain the number and availability of parking spaces.	Planned
Bakersfield Parking Management System	Parking Management System	Parking Management	4	The parking element shall share information with a traffic management center to identify queues at entrances, exits that should be used, and other information that supports coordinated local traffic control in and around the parking facility.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Parking Management System	Parking Management System	Parking Management	5	The parking element shall manage local dynamic message signs that display messages to travelers such as the parking lot state, number of spaces available, location of entrances, and current charges.	Planned
Bakersfield Parking Management System	Parking Management System	Parking Management	6	The parking element shall provide the capability to detect, count, and classify vehicles at entrances, exits, and designated locations within a parking facility.	Planned
Bakersfield Parking Management System	Parking Management System	Parking Management	7	The parking element shall provide precise parking egress/ingress location information to Centers.	Planned
Bakersfield Parking Management System	Parking Management System	Parking Management	8	The parking element shall provide precise parking space location information to Centers.	Planned
Bakersfield TOC	Center	Center Data Collection	1	The center shall collect transportation data such as traffic operational data, transit data, vehicle data, weather data, freight data, event logs, etc. and make it available for ITS Archives upon request.	Operate
Bakersfield TOC	Center	Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Bakersfield TOC	Center	Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Operate
Bakersfield TOC	Center	Center Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Bakersfield TOC	Center	Center Data Collection	5	The Center shall collect operational data from other Centers.	Planned
Bakersfield TOC	Center	Center Peer-to-Peer Data Communications	1	The center shall support peer-to-peer communications with other regional centers to support operational data sharing.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Data Collection	1	The center shall collect maintenance and construction data (such as field equipment status, infrastructure status, maintenance and construction activity data) gathered from roadway, traffic, and other maintenance and construction sources.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the maintenance and construction data or for the data itself.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Data Collection	4	The center shall be able to produce sample products of the data available.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Maintenance and Construction Management Center	MCM Environmental Information Processing	1	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Environmental Information Processing	2	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services) and local environmental sensor data.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Environmental Information Processing	3	The center shall use the various data inputs of environmental sensors and road weather data to develop a view of current and predicted road weather and road conditions.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Environmental Information Processing	4	The center shall disseminate current and forecasted road weather and road condition information to weather service providers (such as the National Weather Service and value-added sector specific meteorological services) as well as other agencies including traffic, emergency, and transit management, traveler information providers, rail operations centers, media, and other maintenance management centers.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Environmental Information Processing	5	The center shall provide value-added sector specific meteorological services with information on basic road facility and treatment information that supports forecasts for road conditions.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	2	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency and the effective time, etc.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	3	The center shall exchange incident and threat information with emergency management centers as well as traffic management centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	4	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	5	The center shall respond to requests from emergency management to provide maintenance and construction resources to implement response plans, assist in clean up, verify an incident, etc. This may also involve coordination with traffic management centers and other maintenance centers.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	6	The center shall exchange road network status assessment information with emergency management and traffic management centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	7	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	8	The center shall receive information indicating the damage sustained by transportation assets, derived from aerial surveillance, field reports, inspections, tests, and analyses to support incident management.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Incident Management	9	The center shall receive evacuation information including evacuation zones, evacuation times, and reentry times from emergency operation centers.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	1	The center shall maintain an interface with asset management systems to track the inventory, restrictions, repair needs and status updates of transportation assets (pavement, bridges, signs, etc.) including location, installation and materials information, vendor/contractor, current maintenance status, standard height, width, and weight restrictions.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	2	The center shall respond to requests from emergency management and traffic management centers for hazard removal, field equipment repair, and other roadway maintenance.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	3	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	4	The center shall provide emergency management and traffic management centers with information about scheduled maintenance and construction work activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	5	The center shall collect the status and fault data from roadside equipment, such as traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	6	The center shall collect the status and fault data from the centers that operate the equipment, including data for traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	7	The center shall receive equipment availability and materials storage status information from storage facilities to support the scheduling of roadway maintenance and construction activities.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	8	The center shall collect current and forecast traffic and weather information from traffic management centers and weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	9	The center shall dispatch and route maintenance and construction vehicle drivers and support them with route-specific environmental, incident, advisory, threat, alert, and traffic congestion information.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	10	The center shall manage an interface with center personnel to accept vehicle systems control information and remotely control maintenance and construction vehicle on-board equipment.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	11	The center shall track the status of roadway maintenance and construction activities by monitoring collected data from the dispatched vehicles and equipment.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	12	The center shall report the status of field equipment maintenance activities to the centers that operate the equipment.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	13	The Center shall provide the status of field maintenance actions to other centers.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	14	The Center shall track the status of field equipment maintenance actions.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	15	The Center shall accept information from other Centers that indicates which Connected Vehicle Roadside Equipment needs maintenance.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Roadway Maintenance	16	The Center shall accept field equipment maintenance action requests from other centers.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Vehicle Tracking	1	The center shall monitor the locations of all maintenance and construction vehicles and other equipment under its jurisdiction.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Maintenance and Construction Management Center	MCM Vehicle Tracking	2	The center shall present location data to center personnel for the fleet of maintenance and construction vehicles and other equipment.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Work Activity Coordination	1	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Work Activity Coordination	2	The center shall provide status information about scheduled maintenance and construction activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations. The information is provided to other management centers such as traffic, emergency, transit, traveler information providers, other maintenance centers, multimodal transportation providers, rail operations, and the media.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Work Activity Coordination	3	The center shall collect and respond to feedback concerning scheduled maintenance and construction activities with other management centers such as traffic, emergency, transit, and rail operations.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Work Activity Coordination	4	The center shall collect and disseminate asset restriction information levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Work Activity Coordination	5	The Center shall provide road infrastructure restriction information to other Centers.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Work Activity Coordination	6	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance and construction activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Bakersfield TOC	Maintenance and Construction Management Center	MCM Work Activity Coordination	7	The center shall exchange rail schedules and work plans with rail operations centers.	Planned
Bakersfield TOC	Traffic Management Center	TMC Advanced Rail Crossing Management	1	The center shall remotely control highway-rail intersection (HRI) equipment located in the field.	Operate
Bakersfield TOC	Traffic Management Center	TMC Advanced Rail Crossing Management	2	The center shall accept collect highway-rail intersection (HRI) advisory or alert data from rail operations centers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Advanced Rail Crossing Management	3	The center shall collect highway-rail intersection (HRI) equipment operational status and compare against the control information sent by the center.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Advanced Rail Crossing Management	4	The center shall provide the highway-rail intersection (HRI) equipment operational status to rail operations centers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Advanced Rail Crossing Management	5	The center shall collect incident information related to a highway-rail intersection (HRI), such as intersection blockages or crashes or equipment malfunctions.	Operate
Bakersfield TOC	Traffic Management Center	TMC Advanced Rail Crossing Management	6	The center shall implement control plans to coordinate signalized intersections around highway-rail intersections (HRI), under control of center personnel, based on data from sensors and surveillance monitoring traffic conditions, incidents, equipment faults, pedestrian crossings, etc.	Operate
Bakersfield TOC	Traffic Management Center	TMC Advanced Rail Crossing Management	7	The center shall accept train schedules, maintenance schedules, and any other forecast events that will result in highway-rail intersection (HRI) closures data from rail operations centers.	Planned
Bakersfield TOC	Traffic Management Center	TMC Barrier System Management	1	The center shall remotely control barrier systems for transportation facilities and infrastructure. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
Bakersfield TOC	Traffic Management Center	TMC Barrier System Management	2	The center shall accept requests for barrier system activation from other centers and from center personnel to support emergency response and detours.	Planned
Bakersfield TOC	Traffic Management Center	TMC Barrier System Management	3	The center shall collect barrier system operational status.	Planned
Bakersfield TOC	Traffic Management Center	TMC Barrier System Management	4	The center shall collect barrier system fault data and send to the maintenance center for repair.	Planned
Bakersfield TOC	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Operate
Bakersfield TOC	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Operate
Bakersfield TOC	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Bakersfield TOC	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Bakersfield TOC	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Bakersfield TOC	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Operate
Bakersfield TOC	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Operate
Bakersfield TOC	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Operate
Bakersfield TOC	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
Bakersfield TOC	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
Bakersfield TOC	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
Bakersfield TOC	Traffic Management Center	TMC Incident Detection	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Detection	2	The center shall collect and store traffic flow and image data from the field equipment to detect and verify incidents.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Detection	3	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters and traveler information service providers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Detection	4	The center shall exchange incident and threat information with emergency management centers as well as maintenance and construction centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Incident Detection	5	The center shall support requests from emergency management centers and border inspection systems to remotely control sensor and surveillance equipment located in the field.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Detection	6	The center shall provide road network conditions and traffic images to emergency management centers to support the detection, verification, and classification of incidents.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Detection	7	The center shall provide video and traffic sensor control commands to the field equipment to detect and verify incidents.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Operate
Bakersfield TOC	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Operate
Bakersfield TOC	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Operate
Bakersfield TOC	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
Bakersfield TOC	Traffic Management Center	TMC Passive Surveillance	1	The center shall collect time stamped vehicle identities from field equipment.	Planned
Bakersfield TOC	Traffic Management Center	TMC Passive Surveillance	2	The center shall correlate the time stamped vehicle identities to calculate link travel times and derive other traffic measures.	Planned
Bakersfield TOC	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Operate
Bakersfield TOC	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Operate
Bakersfield TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Operate
Bakersfield TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Operate
Bakersfield TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Operate
Bakersfield TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Operate
Bakersfield TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Operate
Bakersfield TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Operate
Bakersfield TOC	Traffic Management Center	TMC Safeguard System Management	1	The center shall remotely control safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.)	Planned
Bakersfield TOC	Traffic Management Center	TMC Safeguard System Management	2	The center shall accept requests for safeguard system activation from other centers and from center personnel to support emergency response.	Planned
Bakersfield TOC	Traffic Management Center	TMC Safeguard System Management	3	The center shall collect safeguard system operational status.	Planned
Bakersfield TOC	Traffic Management Center	TMC Safeguard System Management	4	The center shall collect safeguard system fault data and send to the maintenance center for repair.	Planned
Bakersfield TOC	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Operate
Bakersfield TOC	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
Bakersfield TOC	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned
Bakersfield TOC	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
Bakersfield TOC	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
Bakersfield TOC	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
Bakersfield TOC	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Operate
Bakersfield TOC	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Operate
Bakersfield TOC	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Operate
Bakersfield TOC	Traffic Management Center	TMC Speed Warning	1	The center shall provide the capability to notify an enforcement agency when vehicle speeds in the work zone are more than the posted speed limit or are creating an unsafe condition based upon the current environmental or traffic conditions.	Planned
Bakersfield TOC	Traffic Management Center	TMC Speed Warning	2	The center shall province the capability to control automated speed monitoring and speed warning systems.	Planned
Bakersfield TOC	Traffic Management Center	TMC Speed Warning	3	The center shall monitor reduced speed zone warning field equipment.	Planned
Bakersfield TOC	Traffic Management Center	TMC Speed Warning	4	The center shall control reduced speed zone warning roadside equipment, providing the location and extent of the reduced speed zone, the posted speed limit(s) with information about the applicability of the speed limit(s) (e.g., time of day, day of week, seasonality, relevant vehicle types) and information about associated road configuration changes including lane merges and shifts.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield TOC	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
Bakersfield TOC	Traffic Management Center	TMC Traffic Metering	1	The center shall remotely control systems to manage use of the freeways, including ramp, interchange, and mainline metering.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Metering	2	The center shall collect operational status from ramp meters, interchange meters, and mainline meters and compare against the control information sent by the center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Metering	3	The center shall collect fault data from ramp meters, interchange meters, and mainline meters.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Metering	4	The center shall implement control strategies, under control of center personnel, on some or all the freeway network devices (e.g. ramp meters, interchange meters, and mainline meters), based on data from sensors monitoring traffic conditions upstream, downstream, and queue data on the approaches to the meters.	Operate
Bakersfield TOC	Traffic Management Center	TMC Traffic Metering	5	The center shall be able to, under control of center personnel, use collected environmental and vehicle emissions data to regulate the flow of traffic on ramps, interchanges, and the mainline.	Planned
Bakersfield TOC	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Operate
Bakersfield TOC	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Operate
Bakersfield TOC	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Operate
Bakersfield TOC	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Operate
Bakersfield TOC	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Operate
Bakersfield TOC	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Operate
Bakersfield Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Planned
Bakersfield Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Planned
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	1	The center shall manage electronic credentials filing and processing for commercial vehicles.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	2	The center shall manage the filing of appropriate taxes for the operation of commercial vehicles.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	3	The center shall process requests for payments of electronic credentials and tax filing, maintaining an interface to a Financial Institution as necessary.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	4	The center shall exchange credentials and tax information with other commercial vehicle administration centers, either other states or the federal government.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	5	The center shall provide route restrictions information, including hazmat restrictions, to other centers and agencies for distribution to commercial vehicle operators. These centers and agencies may include commercial fleet and freight management operators, traveler information centers, digital map update providers, and other commercial vehicle administration centers.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	6	The center shall use information on asset restrictions received from maintenance centers to develop the commercial vehicle route restrictions and process credentials applications.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	7	The center shall provide an interface with commercial vehicle fleet and freight management centers to exchange audit and compliance review reports.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	8	The center shall provide credentials information about commercial vehicle operators and carriers to authorized requestors, including roadside check stations that determine when a vehicle should be pulled-in based on their credentials and their actual load/freight contents.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	9	The center shall receive and store information on commercial vehicle violations from enforcement agencies as part of the processing of credentials applications.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	10	The center shall manage driver licensing for commercial vehicle drivers.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	11	The center shall enroll carriers in commercial vehicle programs and support user account management.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	12	The center shall process requests for review of carrier and driver status.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	13	The center shall issue special Oversize/Overweight and HAZMAT permits in coordination with other cognizant authorities.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Information Exchange	1	The center shall exchange information with roadside check facilities, including credentials and credentials status information, safety status information, daily site activity data, driver records, and citations.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Information Exchange	2	The center shall exchange safety and credentials data among other commercial vehicle administration centers, including border clearance status, credentials information, credentials status information, driver records, accident reports, permit information, and safety status information.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Information Exchange	3	The center shall package data concerning commercial vehicle safety and credentials into snapshots (top-level summary and critical status information).	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Information Exchange	4	The center shall package data concerning commercial vehicle safety and credentials into profiles (detailed and historical data).	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Information Exchange	5	The center shall provide reports to the commercial vehicle fleet manager regarding fleet activity through roadside facilities including accident reports, citations, credentials status information, driver records, and safety status information.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Information Exchange	6	The center shall provide commercial vehicle credentials and safety status information to authorized requestors such as insurance agencies.	Planned
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Information Exchange	7	The center shall inform fleet and freight management when certain geographic areas and time periods have been identified for screening and commercial vehicle enforcement. These trigger areas may be shared with the centers or with the field.	Planned
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	1	The center shall provide commercial vehicle safety and security data to roadside check facilities.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	2	The center shall collect and review safety inspection reports and violations from the roadside check facilities and pass on appropriate portions to other commercial vehicle administrative centers and commercial vehicle fleet operators.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	3	The center shall notify enforcement agencies of commercial vehicle safety violations by individual commercial vehicles, drivers, or carriers.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	4	The center shall provide commercial vehicle accident reports to enforcement agencies and the commercial fleet management center.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	5	The center shall receive citation records from roadside check facilities.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	6	The center shall manage the citation records and provide the citations to enforcement agencies and the commercial fleet management center.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	7	The center shall provide the capability for the commercial fleet management center to report required commercial vehicle repairs and other corrections of identified deficiencies.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	8	The center shall support carrier enrollment in wireless roadside inspection programs.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	9	The center shall manage and distribute information about trigger areas where wireless inspections will occur.	Operate
California DMV Vehicle Credentialing System	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	10	The center shall monitor the condition of the commercial vehicle and driver using wireless communications at identified trigger areas.	Operate
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	1	The center shall send data concerning enrollment of commercial vehicles for electronic clearance and tax filing to the appropriate commercial vehicle administration center. The data may include driver and vehicle identification, safety inspections/status, carrier credentials, related citations, and accident information.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	2	The center shall obtain and manage commercial vehicle routes for its fleet of vehicles, considering route restrictions, advance payment of tolls, HAZMAT restrictions, current traffic and road conditions, and incident information provided by traveler information systems.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	3	The center shall support an interface with a map update provider, or other appropriate data sources, through which updates of digitized map data can be obtained and used as the background for commercial vehicle fleet administration - includes commercial vehicle specific data such as route or HAZMAT restrictions.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	4	The center shall monitor the locations and progress of commercial vehicles against their planned routes and raise appropriate warnings based on route monitoring parameters.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	5	The center shall coordinate the response to security incidents and the sharing of security threat information involving commercial vehicles with other agencies including emergency management centers and alerting/advisory systems.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	6	The center shall access driver records from the appropriate commercial vehicle administration center and use the records to support pre-hiring checks for potential drivers and monitor the performance of each driver hired.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	7	The center shall monitor geographic trigger areas for wireless roadside inspection programs and distribute the trigger areas to their commercial vehicles.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	8	The center shall provide fleet status information including safety status, routing information, current vehicle information, and emergency information to commercial vehicle operators.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	9	The center shall send data to its commercial vehicles including dispatch, routing, trigger areas, and special instructions, including alerts and other advisories.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	10	The center shall collect road weather conditions data and advisories from other centers.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	11	The center shall coordinate intermodal load-matching information including availability of a container, container capacity, available truck, equipment, for use in load matching between peer systems.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	12	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped commercial vehicles	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	13	The center shall provide the appropriate emergency management center with information about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	14	The center shall provide routes to its fleet of vehicles, considering route restrictions, advance payment of tolls, HAZMAT restrictions, current traffic and road conditions, and incident information.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	15	The center shall use collected environmental probe data from vehicles and other centers to determine when weather conditions may affect fleet activities.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	16	The center shall provide warnings and advisories to commercial vehicle drivers concerning road conditions and weather events.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	17	The center shall maintain records of the mileage and time in service of its fleet of vehicles and freight equipment.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	18	The center shall monitor the status of its fleet, including vehicles and freight equipment, for maintenance issues or repairs that may be needed.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Administration	19	The center shall report required commercial vehicle repairs and other corrections of identified deficiencies to the appropriate commercial vehicle administration center.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	1	The center shall send data concerning enrollment and purchase of commercial vehicles credentials and tax filing to the appropriate commercial vehicle administration center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	2	The center shall receive compliance review reports from the appropriate commercial vehicle administration centers concerning the operations of the commercial vehicle fleet, including concomitant out-of-service notifications, and carrier warnings/notifications.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	3	The center shall provide audit data to the appropriate commercial vehicle administration center to support tax audits.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	4	The center shall support an interface with a commercial vehicle driver that is acting in the role of a commercial vehicle fleet manager for the purposes of obtaining credentials, obtaining permits, filing taxes and audit data, and receiving compliance reports and status information.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	1	The center shall collect data from the commercial vehicles carrying freight or from the freight equipment itself. Data includes container, trailer, or chassis information regarding identity, type, location, brake wear data, mileage, seal number/type, door open/close status, chassis bare/covered status, tethered/untethered status, bill of lading, and sensor status.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	2	The center shall provide the interface with intermodal freight shippers to setup transportation for freight equipment. Inputs to this include information about the shipper, consignee, commodities, pick-up and drop-off locations for freight equipment. Outputs include information about the driver and commercial vehicle that will be transporting the freight.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	3	The center shall coordinate the shipment of cargo using freight equipment with intermodal freight depots. Information to be coordinated includes information regarding a freight transportation booking and the assigned driver and vehicle scheduled to transport the freight along with cargo movement logs, routing information, and cargo ID's.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	4	The center shall track the progress of freight equipment as it moves from source to destination based on inputs from the commercial vehicles, the freight equipment, intermodal freight depots, shippers, and commercial vehicle administration centers that provide border clearance status information.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	5	The center shall collect diagnostic information from freight equipment to schedule preventative and corrective maintenance.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	6	The center shall notify other security functions within the center of deviations in the movement of freight equipment from its planned route.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	7	The center shall support the submission of cargo manifest data to the appropriate government border inspection administration system.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	8	The center shall support the registration of its vehicles, drivers, and cargo for expedited border crossings with the appropriate government border inspection administration system.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	9	The center shall coordinate the response to security incidents and the sharing of security threat information involving freight equipment with other agencies including emergency management centers, intermodal freight shippers, and alerting/advisory systems.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	10	The center shall provide emergency management information about a hazmat load including nature of the load and unloading instructions. May also include hazmat vehicle route and route update information.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	11	The center shall collect the border crossing clearance status of commercial freight shipment scheduled to enter the U.S. from commercial vehicle administration systems.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	12	The center shall provide traveler information center information about vehicle trips including load information, location, speed, and routing.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	13	The center shall receive customized traveler information for freight users from traveler information center to indicate truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	14	The center shall provide traveler information centers with fleet-specific traveler information preferences including area covered by fleet/driver, types of freight managed (including special restrictions), preferred routes, and other travel preferences pertaining to trip costs or tolls.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	15	The center shall collect freight equipment location and status of the freight, container, or chassis equipment.	Planned
California DMV Vehicle Credentialing System	Fleet and Freight Management Center	Freight Administration and Management	16	The center shall collect Commercial vehicle identities including licenses plate number or USDOT number, Freight Equipment (e.g., container, chassis, or trailer identification), Carrier, and Driver from commercial vehicle.	Planned
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	1	The center shall collect data from centers.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	2	The center shall collect data catalogs from one or more data sources. A catalog describes the data contained in the collection of archived data and may include descriptions of the schema or structure of the data, a description of the contents of the data; e.g., time range of entries, number of entries; or a sample of the data (e. g. a thumbnail).	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	3	The center shall store collected data in an information repository.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	4	The center shall perform quality checks on collected data.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	5	The center shall notify the system operator of errors related to data collection, analysis and archival.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	6	The center shall include capabilities for archive to archive coordination.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	7	The center shall provide the capability to execute methods on the incoming data such as cleansing, summarizations, aggregations, or transformations applied to the data before it is stored in the archive.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	8	The center shall collect data from data distribution systems and other data sources.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	9	The center shall respond to requests from the administrator interface function to manage center-sourced data collection.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	10	The center shall respond to requests from the administrator interface function to manage the archive data.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	11	The center shall respond to requests for archive data from archive data users (centers, field devices).	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	12	The center shall provide a mechanism for archive data users to request archive data by meta-data range.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Data Repository	13	The center shall associate meta-data with archived data, including catalog data, statistical products determined from method execution and data longevity.	Planned
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Government Reporting	1	The center shall provide archive data to federal, state, and local government reporting systems.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Government Reporting	2	The center shall respond to requests for government report data.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Government Reporting	3	The center shall provide the capability to format data suitable for input into government reports.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Government Reporting	4	The center shall provide the applicable meta-data for any ITS archived data to satisfy government reporting system requests. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive On-Line Analysis and Mining	1	The center shall respond to requests for archive data from center users.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive On-Line Analysis and Mining	2	The center shall provide the capability to perform activities such as data mining, data fusion, summarizations, aggregations, and recreation from archive data. This may include multidimensional analysis, selective summarization and expansion of data details, and many other advanced analysis services.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive On-Line Analysis and Mining	3	The center shall collect regional data from data distribution centers.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive On-Line Analysis and Mining	4	The center shall respond to user's systems requests for a catalog of the archived data analysis products available.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive On-Line Analysis and Mining	5	The center shall be capable of processing vehicle probe data into transportation network performance measures.	Planned
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive On-Line Analysis and Mining	6	The center shall be capable of processing vehicle probe data to support infrastructure conditions monitoring performed by Archived Data User Systems including maintenance and construction management centers.	Planned
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive On-Line Analysis and Mining	7	The center shall be capable of processing vehicle probe data to determine roadway environmental conditions for non-operational uses such as maintenance planning and research.	Planned
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Situation Data Archival	1	The center shall collect data from roadside devices.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Situation Data Archival	2	The center shall respond to requests from the administrator interface function to manage field-sourced data collection.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Situation Data Archival	3	The center shall provide the capability to adjust the collection of field-sourced data based on the statistical measures.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Situation Data Archival	4	The center shall collect vehicle traffic probe data for performance monitoring and analysis.	Planned
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Situation Data Archival	5	The center shall be capable of archiving vehicle traffic probe data.	Planned
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Situation Data Archival	6	The center shall provide the capability to execute methods on the incoming field data such as aggregation and statistical measures before the data is stored in the archive.	Operate
Caltrans D6/CHP Central Valley TMC	Archived Data System	Archive Situation Data Archival	7	The center shall respond to requests from the administrator interface function to select and manage data stored in the archive.	Planned
Caltrans D6/CHP Central Valley TMC	Center	Center Data Collection	1	The center shall collect transportation data such as traffic operational data, transit data, vehicle data, weather data, freight data, event logs, etc. and make it available for ITS Archives upon request.	Operate
Caltrans D6/CHP Central Valley TMC	Center	Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Center	Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Operate
Caltrans D6/CHP Central Valley TMC	Center	Center Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Caltrans D6/CHP Central Valley TMC	Center	Center Data Collection	5	The Center shall collect operational data from other Centers.	Planned
Caltrans D6/CHP Central Valley TMC	Center	Center Peer-to-Peer Data Communications	1	The center shall support peer-to-peer communications with other regional centers to support operational data sharing.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Commercial Vehicle Response	1	The center shall receive alerts about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Commercial Vehicle Response	2	The center shall receive emergency notification information from commercial vehicles, commercial vehicle check stations, or commercial fleet operators and present the possible incident information to the emergency system operator. This may include detection of non-permitted transport of security sensitive hazmat, hazardous cargo spills, etc.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Commercial Vehicle Response	3	The center shall receive details of the cargo being carried by commercial vehicles from their commercial fleet manager for incidents involving potential hazardous materials.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Commercial Vehicle Response	4	The center shall forward the verified emergency information to the responding agency based on the location and nature of the emergency.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Commercial Vehicle Response	5	The center shall provide the capability to request Fleet and Freight Management to disable a specific vehicle in their fleet.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Data Collection	1	The center shall collect emergency service data, emergency vehicle management data, emergency vehicle data, sensor and surveillance data, threat data, and incident data.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the emergency management data or for the data itself.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	1	The center shall dispatch emergency vehicles to respond to verified emergencies under center personnel control.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	2	The center shall store the status of all emergency vehicles available for dispatch and those that have been dispatched.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	3	The center shall relay location and incident details to the responding vehicles.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	4	The center shall track the location and status of emergency vehicles responding to an emergency based on information from the emergency vehicle.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	5	The center shall store and maintain the emergency service responses in an action log.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	6	The center shall coordinate response to incidents with other Emergency Management centers to ensure appropriate resources are dispatched and utilized.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	7	The center shall receive traffic images to support dispatch of emergency vehicles.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	8	The center shall provide the capability to request remote control of traffic surveillance devices.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Dispatch	9	The center shall process road and weather conditions to provide updates to responding personnel.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	1	The center shall monitor information from Alerting and Advisory Systems such as the Information Sharing and Analysis Centers (ISACs), the National Infrastructure Protection Center (NIPC), the Homeland Security Advisory System (HSAS), etc. The information may include assessments (general incident and vulnerability awareness information), advisories (identification of threats or recommendations to increase preparedness levels), or alerts (information on imminent or in-progress emergencies).	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	2	The center shall receive incident information from other transportation management centers to support the early warning system.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	3	The center shall support the entry of alert and advisory information directly from the emergency system operator.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	4	The center shall receive potential incident information from social media sources to support the early warning system.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	5	The center shall provide the capability to correlate alerts and advisories, incident information, and security sensor and surveillance data.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	6	The center shall broadcast wide-area alerts and advisories to traffic management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	7	The center shall broadcast wide-area alerts and advisories to transit management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	8	The center shall broadcast wide-area alerts and advisories to toll administration centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	9	The center shall broadcast wide-area alerts and advisories to traveler information service providers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	10	The center shall broadcast wide-area alerts and advisories to maintenance centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	11	The center shall broadcast wide-area alerts and advisories to other emergency management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	12	The center shall broadcast wide-area alerts and advisories to commercial vehicle administration centers and roadside check facilities for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	13	The center shall process status information from each of the centers that have been sent the wide-area alert.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	14	The center shall coordinate the broadcast of wide-area alerts and advisories with other emergency management centers.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Early Warning System	15	The center shall present the alert and advisory information and the status of the actions taken in response to the alert by the other centers to the emergency system operator as received from other system inputs.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Environmental Monitoring	2	The center shall collect road network conditions data, including advisories, from traffic management and traveler information centers.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Environmental Monitoring	3	The center shall collect asset restrictions information from roadway maintenance operations.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Environmental Monitoring	4	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Environmental Monitoring	5	The center shall provide the road and weather warning and advisories to the emergency responders.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	1	The center shall manage inter-agency coordination of evacuation operations, from initial planning through the evacuation process and reentry.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	2	The center shall develop and exchange evacuation plans with allied agencies prior to the occurrence of a disaster.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	3	The center shall provide an interface to the emergency system operator to enter evacuation plans and procedures and present the operator with other agencies' plans.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	4	The center shall coordinate evacuation destinations and shelter needs with shelter providers (e.g., the American Red Cross) in the region.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	5	The center shall provide evacuation information to traffic, transit, maintenance and construction, rail operations, and other emergency management centers as needed.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	6	The center shall request resources from transit agencies as needed to support the evacuation.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	7	The center shall request traffic management agencies to implement special traffic control strategies and to control evacuation traffic, including traffic on local streets and arterials as well as the major evacuation routes.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	8	The center shall provide traveler information systems with evacuation guidance including basic information to assist potential evacuees in determining whether evacuation is necessary and when it is safe to return.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	9	The center shall monitor the progress or status of the evacuation once it begins and exchange tactical plans, prepared during the incident, with allied agencies.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	10	The center shall monitor the progress of the reentry process.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	11	The center shall submit evacuation information to toll administration centers along with requests for changes in the toll services or fee collection during an evacuation.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	12	The center shall retrieve information from public health systems to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	13	The center shall make use of population and housing data to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Evacuation Support	14	The center shall maintain information on the population of an area in the event of an evacuation, including addresses, types of facility (residence, multi-family dwelling, commercial retail, commercial office, etc.), and special considerations (storage of flammable liquids, special needs residents).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	1	The center shall provide tactical decision support, resource coordination, and communications integration for first responders to support local management of an incident.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	2	The center shall provide incident command communications with public safety, emergency management, transportation, and other allied response agency centers.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	3	The center shall track and maintain resource information and action plans pertaining to the incident command.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	4	The center shall share incident command information with other public safety agencies including resource deployment status, hazardous material information, rail incident information, evacuation advice as well as traffic, road, and weather conditions.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	5	The center shall assess the status of responding emergency vehicles as part of an incident command.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	6	The center shall provide other agencies real-time information on the current conditions at the incident scene.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	7	The center shall collect modeling program outputs to support emergency dispatch and staging of personnel and equipment, e.g. predicted HAZMAT plumes or crash severity predictions.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	8	The center shall collect information about freight or cargo to support emergency dispatch and staging of personnel and equipment, e.g. cargo manifest or HAZMAT information.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	9	The center shall collect medical care facility capabilities and availability, e.g., trauma level supported to support emergency dispatch and staging of personnel and equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	10	The center shall collect on-scene reports to support emergency dispatch and staging of personnel and equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	11	The center shall provide situational awareness information to emergency responders about an incident, both en-route and while they are on-scene.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Incident Command	12	The center shall provide status of the current conditions at the incident scene to arriving responders.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	1	The center shall provide strategic emergency response capabilities provided by an Emergency Operations Center for large-scale incidents and disasters.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	2	The center shall manage coordinated inter-agency responses to and recovery from large-scale emergencies. Such agencies include traffic management, transit, maintenance and construction management, rail operations, and other emergency management agencies.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	3	The center shall provide the capability to implement response plans and track progress through the incident by exchanging incident information and response status with allied agencies.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	4	The center shall develop, coordinate with other agencies, and store emergency response plans.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	5	The center shall track the availability of resources and coordinate resource sharing with allied agency centers including traffic, maintenance, or other emergency centers.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	6	The center shall allocate the appropriate emergency services, resources, and vehicle (s) to respond to incidents, and shall provide the capability to override the current allocation to suit the special needs of a current incident.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	7	The center shall receive event scheduling information from Event Promoters.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	8	The center shall support remote control of field equipment normally under control of the traffic management center including traffic signals, dynamic message signs, gates, and barriers.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	9	The center shall provide the capability to remotely control and monitor CCTV systems normally operated by a traffic management center.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	10	The center shall provide the capability to request transit resource availability from transit centers for use during disaster and evacuation operations.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	11	The center shall assimilate the damage assessment of the transit, traffic, rail, maintenance, and other emergency center services and systems to create an overall transportation system status, and disseminate to each of these centers and the traveling public via traveler information providers.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	12	The center shall provide information to the media concerning the status of an emergency response.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	13	The center shall provide the capability for center personnel to provide inputs to the management of incidents, disasters and evacuations.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	14	The center shall collect information about the status of the recovery efforts for the infrastructure during disasters.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	15	The center shall provide the overall status of infrastructure recovery efforts to traveler information providers and media.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	16	The center shall provide the capability to communicate information about emergency situations to local population through the Emergency Telecommunications System.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	17	The center shall provide the capability to identify neighborhoods and businesses that should be informed of an emergency based on information collected about incidents including their severity, impacted locations, and recovery schedule.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	18	The center shall retrieve information from public health systems to increase preparedness for, and implement a response to biological, chemical, radiation, and other public health emergencies.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	19	The center shall manage coordinated inter-agency responses to incidents at an international border.	Operate
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	20	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Response Management	21	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	1	The center shall collect current traffic and road condition information for emergency vehicle route calculation.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	2	The center shall receive information on the location and status of traffic control equipment and work zones along potential emergency routes.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	3	The center shall receive status information from care facilities to determine the appropriate facility and its location.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	4	The center shall receive asset restriction information to support the dispatching of appropriate emergency resources.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	5	The center shall receive current railroad schedule information for emergency vehicle route calculation.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	6	The center shall track current emergency vehicle location and status along with other emergency vehicle characteristics.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	7	The center shall calculate emergency vehicle routes, under center personnel control, based on the collected traffic and road conditions information.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	8	The center shall request and receive ingress and egress routes or other specialized emergency access routes from the traffic management center.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	9	The center shall provide the capability to request special traffic control measures, such as signal preemption, from the traffic management center to facilitate emergency vehicle progress along the suggested route.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	10	The center shall provide the calculated route for emergency vehicles to the dispatch function.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	11	The center shall collect weather and maintenance activity data, e.g., which roads have been plowed to support emergency dispatch and staging of personnel and equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	12	The center shall collect road and traffic conditions information, including current traffic conditions en route, current traffic conditions on-scene, and road weather conditions (e.g. wet, icy, snow-covered).	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	13	The center shall collect road and traffic conditions information from multiple sources including: traffic management centers, probe vehicle data, including traffic data and environmental conditions, and other private traffic data sources, e.g. private distributors that integrate connected (probe) vehicle data with cellular or surveillance device inputs.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	14	The center shall provide routing instructions for a dispatched emergency vehicle that may reflect current network conditions and the additional routing options available to en route emergency that are not available to the public.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Routing	15	the center shall collect location and situational information about the emergency vehicles responding to or on the scene of an incident.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	1	The center shall remotely monitor and control security sensor data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	2	The center shall remotely monitor and control security sensor data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	3	The center shall remotely monitor and control security sensor data collected on-board transit vehicles. The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	4	The center shall exchange security sensor data with other emergency centers.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	5	The center shall identify potential security threats based on collected security sensor data.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	6	The center shall verify potential security threats by correlating security sensor data from multiple sources.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	7	The center shall perform threat analysis based on correlations of security sensor and surveillance data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	8	The center shall exchange threat analysis data with Alerting and Advisory Systems and use that data in local threat analysis processing.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	9	The center shall disseminate threat information to other agencies, including traffic, transit, maintenance, rail operations, and other emergency management centers.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	10	The center shall respond to control data from center personnel regarding security sensor data collection, processing, threat detection, and threat analysis.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	11	The center shall request activation of barriers and safeguards on request from center personnel.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Sensor Management	12	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	1	The center shall remotely monitor video images and audio surveillance data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The data may be raw or pre-processed in the field.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	2	The center shall remotely monitor video images and audio surveillance data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The data may be raw or pre-processed in the field.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	3	The center shall remotely monitor video images and audio surveillance data collected on-board transit vehicles. The data may be raw or pre-processed in the field.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	4	The center shall exchange surveillance data with other emergency centers.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	5	The center shall identify potential security threats based on collected security surveillance data.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	6	The center shall verify potential security threats by correlating security surveillance data from multiple sources.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	7	The center shall remotely control security surveillance devices in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways).	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	8	The center shall remotely control security surveillance devices in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	9	The center shall remotely control security surveillance devices on-board transit vehicles.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	10	The center shall match traveler video images against a database from the Alerting and Advisory Systems of known images that may represent criminals and terrorists.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	11	The center shall exchange traveler images with other emergency management centers to support traveler image matching.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	12	The center shall respond to control data from center personnel regarding security surveillance data collection, processing, threat detection, and image matching.	Planned
Caltrans D6/CHP Central Valley TMC	Emergency Management Center	Emergency Secure Area Surveillance	13	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Automated Treatment System Control	1	The center shall remotely control automated roadway treatment systems. Treatments can be in the form of fog dispersion, anti-icing chemicals, etc.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Automated Treatment System Control	2	The center shall remotely control the environmental sensors that upon detecting changes in environmental or atmospheric conditions, automatically activate roadway treatment systems.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Automated Treatment System Control	3	The center shall collect automated roadway treatment system and associated environmental sensor operational status.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Automated Treatment System Control	4	The center shall collect automated roadway treatment system and associated environmental sensor fault data and request repair.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Automated Treatment System Control	5	The center shall accept requests for automated roadway treatment system activation from center personnel.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Data Collection	1	The center shall collect maintenance and construction data (such as field equipment status, infrastructure status, maintenance and construction activity data) gathered from roadway, traffic, and other maintenance and construction sources.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the maintenance and construction data or for the data itself.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	1	The center shall remotely control environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	3	The center shall remotely control environmental sensors on-board maintenance and construction vehicles that measure road and weather conditions including air and surface temperatures, wind speed, humidity, precipitation, visibility and other measures.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	4	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from short range communications equipment that communicates with appropriately equipped probe vehicles.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	5	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from traffic and traveler information providers, and environmental data collected from sensors deployed on and about the roadway as well as the fleet of maintenance and construction vehicles and the broader population of vehicle probes.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	6	The center shall provide weather and road condition information to weather service providers and center personnel.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	7	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	8	The center shall collect operational status for the roadside and vehicle-based environmental sensor equipment.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	9	The center shall collect fault data for the roadside and vehicle-based environmental sensor equipment for repair.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	10	The center shall collect environmental data from sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	11	The center shall provide weather and road condition information to traffic management operations.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	1	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	2	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services) and local environmental sensor data.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	3	The center shall use the various data inputs of environmental sensors and road weather data to develop a view of current and predicted road weather and road conditions.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	4	The center shall disseminate current and forecasted road weather and road condition information to weather service providers (such as the National Weather Service and value-added sector specific meteorological services) as well as other agencies including traffic, emergency, and transit management, traveler information providers, rail operations centers, media, and other maintenance management centers.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	5	The center shall provide value-added sector specific meteorological services with information on basic road facility and treatment information that supports forecasts for road conditions.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	2	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, etc.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	3	The center shall exchange incident and threat information with emergency management centers as well as traffic management centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	4	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	5	The center shall respond to requests from emergency management to provide maintenance and construction resources to implement response plans, assist in clean up, verify an incident, etc. This may also involve coordination with traffic management centers and other maintenance centers.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	6	The center shall exchange road network status assessment information with emergency management and traffic management centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	7	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	8	The center shall receive information indicating the damage sustained by transportation assets, derived from aerial surveillance, field reports, inspections, tests, and analyses to support incident management.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Incident Management	9	The center shall receive evacuation information including evacuation zones, evacuation times, and reentry times from emergency operation centers.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Maintenance Decision Support	1	The center shall provide the center personnel with tailored external information, including weather or road condition observations, forecasted weather information or road conditions, current usage of treatments and materials, available resources, equipment and vehicle availability, road network information, and source reliability information.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Maintenance Decision Support	2	The center shall tailor the decision support information to include filtering (selection from a large amount of external information), error reduction ('smoothing' the information), fusion (combination of disparate information to match the decision needs), and analysis (creating the decision).	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Maintenance Decision Support	3	The center shall provide an interface to the center personnel to input control parameters for the decision support process and receive decisions or information presentation.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Maintenance Decision Support	4	The center shall provide dispatch information to maintenance and construction vehicles based on the outputs of the decision support system, including recommended roadway treatment actions.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	1	The center shall be capable of remotely control and monitor reduced speed zone warning roadside equipment operations.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	2	The center shall provide reduced speed zone posted speed limits and associated schedules and information about associated road configuration changes including lane merges and shifts for display on roadside devices.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	3	The center shall provide to roadside equipment, for transmittal to connected vehicles, reduced speed zone posted speed limits and associated schedules and information about associated road configuration changes including lane merges and shifts.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	1	The center shall maintain an interface with asset management systems to track the inventory, restrictions, repair needs and status updates of transportation assets (pavement, bridges, signs, etc.) including location, installation and materials information, vendor/contractor, current maintenance status, standard height, width, and weight restrictions.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	2	The center shall respond to requests from emergency management and traffic management centers for hazard removal, field equipment repair, and other roadway maintenance.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	3	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	4	The center shall provide emergency management and traffic management centers with information about scheduled maintenance and construction work activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	5	The center shall collect the status and fault data from roadside equipment, such as traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	6	The center shall collect the status and fault data from the centers that operate the equipment, including data for traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	7	The center shall receive equipment availability and materials storage status information from storage facilities to support the scheduling of roadway maintenance and construction activities.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	8	The center shall collect current and forecast traffic and weather information from traffic management centers and weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	9	The center shall dispatch and route maintenance and construction vehicle drivers and support them with route-specific environmental, incident, advisory, threat, alert, and traffic congestion information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	10	The center shall manage an interface with center personnel to accept vehicle systems control information and remotely control maintenance and construction vehicle on-board equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	11	The center shall track the status of roadway maintenance and construction activities by monitoring collected data from the dispatched vehicles and equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	12	The center shall report the status of field equipment maintenance activities to the centers that operate the equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	13	The Center shall provide the status of field maintenance actions to other centers.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	14	The Center shall track the status of field equipment maintenance actions.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	15	The Center shall accept information from other Centers that indicates which Connected Vehicle Roadside Equipment needs maintenance.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	16	The Center shall accept field equipment maintenance action requests from other centers.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	1	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	2	The center shall provide status information about scheduled maintenance and construction activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations. The information is provided to other management centers such as traffic, emergency, transit, traveler information providers, other maintenance centers, multimodal transportation providers, rail operations, and the media.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	3	The center shall collect and respond to feedback concerning scheduled maintenance and construction activities with other management centers such as traffic, emergency, transit, and rail operations.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	4	The center shall collect and disseminate asset restriction information levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	5	The Center shall provide road infrastructure restriction information to other Centers.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	6	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance and construction activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	7	The center shall exchange rail schedules and work plans with rail operations centers.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Management	1	The center shall generate new work zone activity schedules for use by maintenance and construction vehicles, maintenance and construction operators, and for information coordination purposes.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Management	2	The center shall control the collection of work zone status information including video images from cameras located in or near the work zone.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Management	3	The center shall disseminate work zone information to other agencies and centers including traffic, transit, emergency management centers, other maintenance centers, traveler information centers, and the media.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Management	4	The center shall control traffic in work zones by providing remote control of dynamic message signs, highway advisory radio systems, gates, and barriers located in or near the work zone.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Management	5	The center shall exchange information with administrative systems to support the planning and scheduling of work zone activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Management	6	The center shall collect real-time information on the state of the road network including current traffic and road conditions to support work zone scheduling and management.	Operate
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	1	The center shall provide remote monitoring and control of work zone safety devices - including intrusion detection devices that have been installed in work zones or maintenance areas.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	2	The center shall provide remote monitoring and control of intrusion alert devices that have been installed in work zones or maintenance areas.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	3	The center shall collect status information of work zone safety device status from field equipment or the maintenance and construction vehicles.	Planned
Caltrans D6/CHP Central Valley TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	4	The center shall collect and store work zone data collected from work zone monitoring devices (such as intrusion detection or alert devices and speed monitoring devices) on-board the vehicle and at the roadside.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	1	The center shall remotely control highway-rail intersection (HRI) equipment located in the field.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	2	The center shall accept collect highway-rail intersection (HRI) advisory or alert data from rail operations centers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	3	The center shall collect highway-rail intersection (HRI) equipment operational status and compare against the control information sent by the center.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	4	The center shall provide the highway-rail intersection (HRI) equipment operational status to rail operations centers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	5	The center shall collect incident information related to a highway-rail intersection (HRI), such as intersection blockages or crashes or equipment malfunctions.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	6	The center shall implement control plans to coordinate signalized intersections around highway-rail intersections (HRI), under control of center personnel, based on data from sensors and surveillance monitoring traffic conditions, incidents, equipment faults, pedestrian crossings, etc.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	7	The center shall accept train schedules, maintenance schedules, and any other forecast events that will result in highway-rail intersection (HRI) closures data from rail operations centers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Barrier System Management	1	The center shall remotely control barrier systems for transportation facilities and infrastructure. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Barrier System Management	2	The center shall accept requests for barrier system activation from other centers and from center personnel to support emergency response and detours.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Barrier System Management	3	The center shall collect barrier system operational status.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Barrier System Management	4	The center shall collect barrier system fault data and send to the maintenance center for repair.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	1	The center shall remotely monitor and control dynamically managed travel lanes.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	2	The center shall monitor traffic conditions and demand measured per lane.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	3	The center shall receive input from Border Inspection Systems to identify existing and planned lane configurations at the border.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	4	The center shall receive input from multimodal crossings such as draw bridges to identify existing and planned lane configurations at the crossings.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	5	The center shall receive input from an Intermodal Terminal to support monitoring and anticipation of commercial vehicle traffic originating at the depot and requests for dynamic lane management near the depot.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	6	The center shall monitor and coordinate dynamic lane controls with adjacent jurisdictions.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	7	Based on the collected data and operator input, the center shall determine suggested and required lane control configuration changes.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	8	The center shall support temporary use of shoulders as travel lanes.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	9	The center shall activate lane management field equipment that is used to dynamically manage specific lanes and shoulders.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	10	The center shall identify lane use restrictions, prohibiting specific types of vehicles (e.g., commercial vehicles) from specific lanes.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	11	The center shall designate lanes for use by special vehicles only, such as buses, high occupancy vehicles (HOVs), or vehicles attending a special event.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	12	The center shall receive environmental information from roadway sensors and connected vehicles to identify existing and planned lane configurations long the roadway.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	13	The center shall optimize lane use restrictions for the environment.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	14	The center shall reconfigure intersections and interchanges for compatibility with the current lane configuration.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	15	The center shall notify the enforcement agency of violators of the lane controls.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	16	The field element shall analyze collected vehicle and sensor emissions data against reference data, and determines whether an eco-lane should be created or decommissioned along a roadway.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Evacuation Support	1	The center shall coordinate planning for evacuation with emergency management centers - including pre-planning activities such as establishing routes, areas to be evacuated, timing, etc.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Evacuation Support	2	The center shall support requests from emergency management centers to preempt the current traffic control strategy, activate traffic control and closure systems such as gates and barriers, activate safeguard systems, or use driver information systems to support evacuation traffic control plans.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Evacuation Support	3	The center shall coordinate evacuation information and controls with other traffic management centers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Evacuation Support	4	The center shall coordinate execution of evacuation strategies with emergency management centers - including activities such as setting closures and detours, establishing routes, updating areas to be evacuated, timing the process, etc.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Evacuation Support	5	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Detection	2	The center shall collect and store traffic flow and image data from the field equipment to detect and verify incidents.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Detection	3	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters and traveler information service providers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Detection	4	The center shall exchange incident and threat information with emergency management centers as well as maintenance and construction centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Detection	5	The center shall support requests from emergency management centers and border inspection systems to remotely control sensor and surveillance equipment located in the field.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Detection	6	The center shall provide road network conditions and traffic images to emergency management centers to support the detection, verification, and classification of incidents.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Detection	7	The center shall provide video and traffic sensor control commands to the field equipment to detect and verify incidents.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	2	The center shall provide infrastructure restriction information, including temporary size and weight restrictions, to drivers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	3	The center shall use infrastructure measurements of vehicle characteristics to determine if a vehicle exceeds the roadway or tunnel dimensions.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	4	The center shall use infrastructure measurements of vehicle characteristics to determine if a vehicle exceeds the roadway or tunnel dimensions.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	5	The center shall provide warnings to connected vehicles if the measured height or width exceeds the dimensions for safe passage through the roadway or tunnel.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC In-Vehicle Signing Management	1	The center shall format and output sign information such as traffic and road conditions to field equipment that supports in-vehicle signage communications.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC In-Vehicle Signing Management	2	The center shall format and output advisory information, such as detour information, wide-area alerts, work zone intrusion information, and other special information to field equipment that supports in-vehicle signage communications.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC In-Vehicle Signing Management	3	The center shall monitor and manage output of indicator and fixed sign information, including static sign information (e.g., stop, curve warning, guide signs, service signs, and directional signs) and dynamic information (e.g., current signal states and local conditions warnings identified by local environmental sensors) by field equipment that supports in-vehicle signage communications.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC In-Vehicle Signing Management	4	The center shall receive system operational status from field equipment that supports in-vehicle signage communications.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC In-Vehicle Signing Management	5	The center shall receive system fault data from field equipment that supports in-vehicle signage communications.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC In-Vehicle Signing Management	6	The center shall format and output restricted lane information to field equipment that supports in-vehicle signage communications.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC In-Vehicle Signing Management	7	The center shall format and output low emission zone information to field equipment that supports in-vehicle signage communications.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Passive Surveillance	1	The center shall collect time stamped vehicle identities from field equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Passive Surveillance	2	The center shall correlate the time stamped vehicle identities to calculate link travel times and derive other traffic measures.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	1	The Center shall notify drivers and vehicles when a travel lane is a dedicated bus lane.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	2	The Center shall notify drivers and vehicles when a dedicated bus lane becomes an open travel lane.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	3	The Center shall notify a Transit Center of the status of a dynamic transit lane.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	4	The center shall notify enforcement when a violation of the dynamic transit lane usage is detected.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	5	The center shall provide current lane access requirements and restrictions that effects commercial vehicles.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	6	The center shall provide connected vehicle the location, duration, and operating parameters for lanes that are reserved for the HOV or HOT. It identifies the lane(s), the start and stop locations, start and end times, vehicle restrictions, and vehicle occupancy.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	7	The center shall report enforcement agency of detected HOV or HOT lane entry violations. This notification identifies the vehicle and documents the lane parameter that was violated.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	8	The center shall report operator's status information of the HOV or HOT lanes including start and stop locations, start and end times, vehicle restrictions, and vehicle occupancy.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	9	The center shall provide current lane access requirements and restrictions to roadside equipment to provide to connected vehicles.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Restricted Lanes CV Application	10	The center shall provide current lane access requirements and restrictions to roadside equipment to provide directly to drivers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Road Weather Advisories and Warnings	1	The center shall collect environmental data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped vehicles using short range communications equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Road Weather Advisories and Warnings	2	The center shall aggregate collected environmental data and disseminate the aggregated environmental probe data to other centers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Road Weather Advisories and Warnings	3	The center shall develop short term weather warnings or advisories that can be provided to individual motorists through field equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Safeguard System Management	1	The center shall remotely control safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.)	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Safeguard System Management	2	The center shall accept requests for safeguard system activation from other centers and from center personnel to support emergency response.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Safeguard System Management	3	The center shall collect safeguard system operational status.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Safeguard System Management	4	The center shall collect safeguard system fault data and send to the maintenance center for repair.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Service Patrol Management	1	The center shall dispatch roadway service patrol vehicles to identified incident locations.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Service Patrol Management	2	The center shall store the status of all service patrol vehicles available for dispatch and those that have been dispatched.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Service Patrol Management	3	The center shall share incident information collected by the service patrol with traffic, maintenance and construction, and traveler information centers for incident management, incident notification to travelers, and incident cleanup.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Service Patrol Management	4	The center shall track the location and status of service patrol vehicles.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Speed Warning	1	The center shall provide the capability to notify an enforcement agency when vehicle speeds in the work zone are more than the posted speed limit or are creating an unsafe condition based upon the current environmental or traffic conditions.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Speed Warning	2	The center shall province the capability to control automated speed monitoring and speed warning systems.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Speed Warning	3	The center shall monitor reduced speed zone warning field equipment.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Speed Warning	4	The center shall control reduced speed zone warning roadside equipment, providing the location and extent of the reduced speed zone, the posted speed limit(s) with information about the applicability of the speed limit(s) (e.g., time of day, day of week, seasonality, relevant vehicle types) and information about associated road configuration changes including lane merges and shifts.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Metering	1	The center shall remotely control systems to manage use of the freeways, including ramp, interchange, and mainline metering.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Metering	2	The center shall collect operational status from ramp meters, interchange meters, and mainline meters and compare against the control information sent by the center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Metering	3	The center shall collect fault data from ramp meters, interchange meters, and mainline meters.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Metering	4	The center shall implement control strategies, under control of center personnel, on some or all the freeway network devices (e.g. ramp meters, interchange meters, and mainline meters), based on data from sensors monitoring traffic conditions upstream, downstream, and queue data on the approaches to the meters.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Traffic Metering	5	The center shall be able to, under control of center personnel, use collected environmental and vehicle emissions data to regulate the flow of traffic on ramps, interchanges, and the mainline.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Variable Speed Limits	1	The center shall monitor data on traffic and environmental conditions collected from sensors along the roadway.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Variable Speed Limits	2	Based on the measured data, the center shall calculate and set suitable speed limits by lane.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Variable Speed Limits	3	The center shall control field equipment that posts the current speed limits and displays additional information such as basic safety rules and current traffic information to drivers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Variable Speed Limits	4	The center shall monitor the operational status of the variable speed limit equipment, including fault reports.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Variable Speed Limits	5	The center shall provide center personnel current system status and respond to control data from center personnel regarding variable speed limits.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Variable Speed Limits	6	The center shall provide the current speed limits and additional information such as basic safety rules and current traffic information to drivers.	Planned
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Operate
Caltrans D6/CHP Central Valley TMC	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Caltrans D9/CHP Mojave TMC	Center	Center Data Collection	1	The center shall collect transportation data such as traffic operational data, transit data, vehicle data, weather data, freight data, event logs, etc. and make it available for ITS Archives upon request.	Planned
Caltrans D9/CHP Mojave TMC	Center	Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Caltrans D9/CHP Mojave TMC	Center	Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Caltrans D9/CHP Mojave TMC	Center	Center Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Caltrans D9/CHP Mojave TMC	Center	Center Data Collection	5	The Center shall collect operational data from other Centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Commercial Vehicle Response	1	The center shall receive alerts about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Commercial Vehicle Response	2	The center shall receive emergency notification information from commercial vehicles, commercial vehicle check stations, or commercial fleet operators and present the possible incident information to the emergency system operator. This may include detection of non-permitted transport of security sensitive hazmat, hazardous cargo spills, etc.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Commercial Vehicle Response	3	The center shall receive details of the cargo being carried by commercial vehicles from their commercial fleet manager for incidents involving potential hazardous materials.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Commercial Vehicle Response	4	The center shall forward the verified emergency information to the responding agency based on the location and nature of the emergency.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Commercial Vehicle Response	5	The center shall provide the capability to request Fleet and Freight Management to disable a specific vehicle in their fleet.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Data Collection	1	The center shall collect emergency service data, emergency vehicle management data, emergency vehicle data, sensor and surveillance data, threat data, and incident data.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the emergency management data or for the data itself.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	1	The center shall dispatch emergency vehicles to respond to verified emergencies under center personnel control.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	2	The center shall store the status of all emergency vehicles available for dispatch and those that have been dispatched.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	3	The center shall relay location and incident details to the responding vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	4	The center shall track the location and status of emergency vehicles responding to an emergency based on information from the emergency vehicle.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	5	The center shall store and maintain the emergency service responses in an action log.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	6	The center shall coordinate response to incidents with other Emergency Management centers to ensure appropriate resources are dispatched and utilized.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	7	The center shall receive traffic images to support dispatch of emergency vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	8	The center shall provide the capability to request remote control of traffic surveillance devices.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Dispatch	9	The center shall process road and weather conditions to provide updates to responding personnel.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	1	The center shall monitor information from Alerting and Advisory Systems such as the Information Sharing and Analysis Centers (ISACs), the National Infrastructure Protection Center (NIPC), the Homeland Security Advisory System (HSAS), etc. The information may include assessments (general incident and vulnerability awareness information), advisories (identification of threats or recommendations to increase preparedness levels), or alerts (information on imminent or in-progress emergencies).	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	2	The center shall receive incident information from other transportation management centers to support the early warning system.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	3	The center shall support the entry of alert and advisory information directly from the emergency system operator.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	4	The center shall receive potential incident information from social media sources to support the early warning system.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	5	The center shall provide the capability to correlate alerts and advisories, incident information, and security sensor and surveillance data.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	6	The center shall broadcast wide-area alerts and advisories to traffic management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	7	The center shall broadcast wide-area alerts and advisories to transit management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	8	The center shall broadcast wide-area alerts and advisories to toll administration centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	9	The center shall broadcast wide-area alerts and advisories to traveler information service providers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	10	The center shall broadcast wide-area alerts and advisories to maintenance centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	11	The center shall broadcast wide-area alerts and advisories to other emergency management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	12	The center shall broadcast wide-area alerts and advisories to commercial vehicle administration centers and roadside check facilities for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	13	The center shall process status information from each of the centers that have been sent the wide-area alert.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	14	The center shall coordinate the broadcast of wide-area alerts and advisories with other emergency management centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Early Warning System	15	The center shall present the alert and advisory information and the status of the actions taken in response to the alert by the other centers to the emergency system operator as received from other system inputs.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Environmental Monitoring	2	The center shall collect road network conditions data, including advisories, from traffic management and traveler information centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Environmental Monitoring	3	The center shall collect asset restrictions information from roadway maintenance operations.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Environmental Monitoring	4	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Environmental Monitoring	5	The center shall provide the road and weather warning and advisories to the emergency responders.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	1	The center shall manage inter-agency coordination of evacuation operations, from initial planning through the evacuation process and reentry.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	2	The center shall develop and exchange evacuation plans with allied agencies prior to the occurrence of a disaster.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	3	The center shall provide an interface to the emergency system operator to enter evacuation plans and procedures and present the operator with other agencies' plans.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	4	The center shall coordinate evacuation destinations and shelter needs with shelter providers (e.g., the American Red Cross) in the region.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	5	The center shall provide evacuation information to traffic, transit, maintenance and construction, rail operations, and other emergency management centers as needed.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	6	The center shall request resources from transit agencies as needed to support the evacuation.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	7	The center shall request traffic management agencies to implement special traffic control strategies and to control evacuation traffic, including traffic on local streets and arterials as well as the major evacuation routes.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	8	The center shall provide traveler information systems with evacuation guidance including basic information to assist potential evacuees in determining whether evacuation is necessary and when it is safe to return.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	9	The center shall monitor the progress or status of the evacuation once it begins and exchange tactical plans, prepared during the incident, with allied agencies.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	10	The center shall monitor the progress of the reentry process.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	11	The center shall submit evacuation information to toll administration centers along with requests for changes in the toll services or fee collection during an evacuation.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	12	The center shall retrieve information from public health systems to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	13	The center shall make use of population and housing data to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Evacuation Support	14	The center shall maintain information on the population of an area in the event of an evacuation, including addresses, types of facility (residence, multi-family dwelling, commercial retail, commercial office, etc.), and special considerations (storage of flammable liquids, special needs residents).	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	1	The center shall provide tactical decision support, resource coordination, and communications integration for first responders to support local management of an incident.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	2	The center shall provide incident command communications with public safety, emergency management, transportation, and other allied response agency centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	3	The center shall track and maintain resource information and action plans pertaining to the incident command.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	4	The center shall share incident command information with other public safety agencies including resource deployment status, hazardous material information, rail incident information, evacuation advice as well as traffic, road, and weather conditions.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	5	The center shall assess the status of responding emergency vehicles as part of an incident command.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	6	The center shall provide other agencies real-time information on the current conditions at the incident scene.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	7	The center shall collect modeling program outputs to support emergency dispatch and staging of personnel and equipment, e.g. predicted HAZMAT plumes or crash severity predictions.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	8	The center shall collect information about freight or cargo to support emergency dispatch and staging of personnel and equipment, e.g. cargo manifest or HAZMAT information.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	9	The center shall collect medical care facility capabilities and availability, e.g., trauma level supported to support emergency dispatch and staging of personnel and equipment.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	10	The center shall collect on-scene reports to support emergency dispatch and staging of personnel and equipment.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	11	The center shall provide situational awareness information to emergency responders about an incident, both en-route and while they are on-scene.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Incident Command	12	The center shall provide status of the current conditions at the incident scene to arriving responders.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	1	The center shall provide strategic emergency response capabilities provided by an Emergency Operations Center for large-scale incidents and disasters.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	2	The center shall manage coordinated inter-agency responses to and recovery from large-scale emergencies. Such agencies include traffic management, transit, maintenance and construction management, rail operations, and other emergency management agencies.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	3	The center shall provide the capability to implement response plans and track progress through the incident by exchanging incident information and response status with allied agencies.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	4	The center shall develop, coordinate with other agencies, and store emergency response plans.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	5	The center shall track the availability of resources and coordinate resource sharing with allied agency centers including traffic, maintenance, or other emergency centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	6	The center shall allocate the appropriate emergency services, resources, and vehicle (s) to respond to incidents, and shall provide the capability to override the current allocation to suit the special needs of a current incident.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	7	The center shall receive event scheduling information from Event Promoters.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	8	The center shall support remote control of field equipment normally under control of the traffic management center including traffic signals, dynamic message signs, gates, and barriers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	9	The center shall provide the capability to remotely control and monitor CCTV systems normally operated by a traffic management center.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	10	The center shall provide the capability to request transit resource availability from transit centers for use during disaster and evacuation operations.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	11	The center shall assimilate the damage assessment of the transit, traffic, rail, maintenance, and other emergency center services and systems to create an overall transportation system status, and disseminate to each of these centers and the traveling public via traveler information providers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	12	The center shall provide information to the media concerning the status of an emergency response.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	13	The center shall provide the capability for center personnel to provide inputs to the management of incidents, disasters and evacuations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	14	The center shall collect information about the status of the recovery efforts for the infrastructure during disasters.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	15	The center shall provide the overall status of infrastructure recovery efforts to traveler information providers and media.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	16	The center shall provide the capability to communicate information about emergency situations to local population through the Emergency Telecommunications System.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	17	The center shall provide the capability to identify neighborhoods and businesses that should be informed of an emergency based on information collected about incidents including their severity, impacted locations, and recovery schedule.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	18	The center shall retrieve information from public health systems to increase preparedness for, and implement a response to biological, chemical, radiation, and other public health emergencies.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	19	The center shall manage coordinated inter-agency responses to incidents at an international border.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	20	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Response Management	21	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	1	The center shall collect current traffic and road condition information for emergency vehicle route calculation.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	2	The center shall receive information on the location and status of traffic control equipment and work zones along potential emergency routes.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	3	The center shall receive status information from care facilities to determine the appropriate facility and its location.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	4	The center shall receive asset restriction information to support the dispatching of appropriate emergency resources.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	5	The center shall receive current railroad schedule information for emergency vehicle route calculation.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	6	The center shall track current emergency vehicle location and status along with other emergency vehicle characteristics.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	7	The center shall calculate emergency vehicle routes, under center personnel control, based on the collected traffic and road conditions information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	8	The center shall request and receive ingress and egress routes or other specialized emergency access routes from the traffic management center.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	9	The center shall provide the capability to request special traffic control measures, such as signal preemption, from the traffic management center to facilitate emergency vehicle progress along the suggested route.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	10	The center shall provide the calculated route for emergency vehicles to the dispatch function.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	11	The center shall collect weather and maintenance activity data, e.g., which roads have been plowed to support emergency dispatch and staging of personnel and equipment.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	12	The center shall collect road and traffic conditions information, including current traffic conditions en route, current traffic conditions on-scene, and road weather conditions (e.g. wet, icy, snow-covered).	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	13	The center shall collect road and traffic conditions information from multiple sources including: traffic management centers, probe vehicle data, including traffic data and environmental conditions, and other private traffic data sources, e.g. private distributors that integrate connected (probe) vehicle data with cellular or surveillance device inputs.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	14	The center shall provide routing instructions for a dispatched emergency vehicle that may reflect current network conditions and the additional routing options available to en route emergency that are not available to the public.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Routing	15	the center shall collect location and situational information about the emergency vehicles responding to or on the scene of an incident.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	1	The center shall remotely monitor and control security sensor data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	2	The center shall remotely monitor and control security sensor data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	3	The center shall remotely monitor and control security sensor data collected on-board transit vehicles. The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors. The data may be raw or pre-processed in the field.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	4	The center shall exchange security sensor data with other emergency centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	5	The center shall identify potential security threats based on collected security sensor data.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	6	The center shall verify potential security threats by correlating security sensor data from multiple sources.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	7	The center shall perform threat analysis based on correlations of security sensor and surveillance data.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	8	The center shall exchange threat analysis data with Alerting and Advisory Systems and use that data in local threat analysis processing.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	9	The center shall disseminate threat information to other agencies, including traffic, transit, maintenance, rail operations, and other emergency management centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	10	The center shall respond to control data from center personnel regarding security sensor data collection, processing, threat detection, and threat analysis.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	11	The center shall request activation of barriers and safeguards on request from center personnel.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Sensor Management	12	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	1	The center shall remotely monitor video images and audio surveillance data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The data may be raw or pre-processed in the field.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	2	The center shall remotely monitor video images and audio surveillance data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The data may be raw or pre-processed in the field.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	3	The center shall remotely monitor video images and audio surveillance data collected on-board transit vehicles. The data may be raw or pre-processed in the field.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	4	The center shall exchange surveillance data with other emergency centers.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	5	The center shall identify potential security threats based on collected security surveillance data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	6	The center shall verify potential security threats by correlating security surveillance data from multiple sources.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	7	The center shall remotely control security surveillance devices in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways).	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	8	The center shall remotely control security surveillance devices in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	9	The center shall remotely control security surveillance devices on-board transit vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	10	The center shall match traveler video images against a database from the Alerting and Advisory Systems of known images that may represent criminals and terrorists.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	11	The center shall exchange traveler images with other emergency management centers to support traveler image matching.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	12	The center shall respond to control data from center personnel regarding security surveillance data collection, processing, threat detection, and image matching.	Planned
Caltrans D9/CHP Mojave TMC	Emergency Management Center	Emergency Secure Area Surveillance	13	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Data Collection	1	The center shall collect maintenance and construction data (such as field equipment status, infrastructure status, maintenance and construction activity data) gathered from roadway, traffic, and other maintenance and construction sources.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the maintenance and construction data or for the data itself.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	1	The center shall remotely control environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	3	The center shall remotely control environmental sensors on-board maintenance and construction vehicles that measure road and weather conditions including air and surface temperatures, wind speed, humidity, precipitation, visibility and other measures.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	4	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from short range communications equipment that communicates with appropriately equipped probe vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	5	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from traffic and traveler information providers, and environmental data collected from sensors deployed on and about the roadway as well as the fleet of maintenance and construction vehicles and the broader population of vehicle probes.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	6	The center shall provide weather and road condition information to weather service providers and center personnel.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	7	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	8	The center shall collect operational status for the roadside and vehicle-based environmental sensor equipment.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	9	The center shall collect fault data for the roadside and vehicle-based environmental sensor equipment for repair.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	10	The center shall collect environmental data from sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Collection	11	The center shall provide weather and road condition information to traffic management operations.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	1	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	2	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services) and local environmental sensor data.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	3	The center shall use the various data inputs of environmental sensors and road weather data to develop a view of current and predicted road weather and road conditions.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	4	The center shall disseminate current and forecasted road weather and road condition information to weather service providers (such as the National Weather Service and value-added sector specific meteorological services) as well as other agencies including traffic, emergency, and transit management, traveler information providers, rail operations centers, media, and other maintenance management centers.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Environmental Information Processing	5	The center shall provide value-added sector specific meteorological services with information on basic road facility and treatment information that supports forecasts for road conditions.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	2	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, etc.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	3	The center shall exchange incident and threat information with emergency management centers as well as traffic management centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	4	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	5	The center shall respond to requests from emergency management to provide maintenance and construction resources to implement response plans, assist in clean up, verify an incident, etc. This may also involve coordination with traffic management centers and other maintenance centers.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	6	The center shall exchange road network status assessment information with emergency management and traffic management centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	7	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	8	The center shall receive information indicating the damage sustained by transportation assets, derived from aerial surveillance, field reports, inspections, tests, and analyses to support incident management.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Incident Management	9	The center shall receive evacuation information including evacuation zones, evacuation times, and reentry times from emergency operation centers.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Maintenance Decision Support	3	The center shall provide an interface to the center personnel to input control parameters for the decision support process and receive decisions or information presentation.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Maintenance Decision Support	4	The center shall provide dispatch information to maintenance and construction vehicles based on the outputs of the decision support system, including recommended roadway treatment actions.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	1	The center shall be capable of remotely control and monitor reduced speed zone warning roadside equipment operations.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	2	The center shall provide reduced speed zone posted speed limits and associated schedules and information about associated road configuration changes including lane merges and shifts for display on roadside devices.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	3	The center shall provide to roadside equipment, for transmittal to connected vehicles, reduced speed zone posted speed limits and associated schedules and information about associated road configuration changes including lane merges and shifts.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	1	The center shall maintain an interface with asset management systems to track the inventory, restrictions, repair needs and status updates of transportation assets (pavement, bridges, signs, etc.) including location, installation and materials information, vendor/contractor, current maintenance status, standard height, width, and weight restrictions.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	2	The center shall respond to requests from emergency management and traffic management centers for hazard removal, field equipment repair, and other roadway maintenance.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	3	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	4	The center shall provide emergency management and traffic management centers with information about scheduled maintenance and construction work activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	5	The center shall collect the status and fault data from roadside equipment, such as traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	6	The center shall collect the status and fault data from the centers that operate the equipment, including data for traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	7	The center shall receive equipment availability and materials storage status information from storage facilities to support the scheduling of roadway maintenance and construction activities.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	8	The center shall collect current and forecast traffic and weather information from traffic management centers and weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	9	The center shall dispatch and route maintenance and construction vehicle drivers and support them with route-specific environmental, incident, advisory, threat, alert, and traffic congestion information.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	10	The center shall manage an interface with center personnel to accept vehicle systems control information and remotely control maintenance and construction vehicle on-board equipment.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	11	The center shall track the status of roadway maintenance and construction activities by monitoring collected data from the dispatched vehicles and equipment.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	12	The center shall report the status of field equipment maintenance activities to the centers that operate the equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	13	The Center shall provide the status of field maintenance actions to other centers.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	14	The Center shall track the status of field equipment maintenance actions.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	15	The Center shall accept information from other Centers that indicates which Connected Vehicle Roadside Equipment needs maintenance.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Roadway Maintenance	16	The Center shall accept field equipment maintenance action requests from other centers.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	1	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	2	The center shall provide status information about scheduled maintenance and construction activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations. The information is provided to other management centers such as traffic, emergency, transit, traveler information providers, other maintenance centers, multimodal transportation providers, rail operations, and the media.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	3	The center shall collect and respond to feedback concerning scheduled maintenance and construction activities with other management centers such as traffic, emergency, transit, and rail operations.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	4	The center shall collect and disseminate asset restriction information levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	5	The Center shall provide road infrastructure restriction information to other Centers.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	6	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance and construction activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Activity Coordination	7	The center shall exchange rail schedules and work plans with rail operations centers.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Management	1	The center shall generate new work zone activity schedules for use by maintenance and construction vehicles, maintenance and construction operators, and for information coordination purposes.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Management	2	The center shall control the collection of work zone status information including video images from cameras located in or near the work zone.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Management	3	The center shall disseminate work zone information to other agencies and centers including traffic, transit, emergency management centers, other maintenance centers, traveler information centers, and the media.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Management	4	The center shall control traffic in work zones by providing remote control of dynamic message signs, highway advisory radio systems, gates, and barriers located in or near the work zone.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Management	5	The center shall exchange information with administrative systems to support the planning and scheduling of work zone activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Management	6	The center shall collect real-time information on the state of the road network including current traffic and road conditions to support work zone scheduling and management.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	1	The center shall provide remote monitoring and control of work zone safety devices - including intrusion detection devices that have been installed in work zones or maintenance areas.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	2	The center shall provide remote monitoring and control of intrusion alert devices that have been installed in work zones or maintenance areas.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	3	The center shall collect status information of work zone safety device status from field equipment or the maintenance and construction vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Maintenance and Construction Management Center	MCM Work Zone Safety Management	4	The center shall collect and store work zone data collected from work zone monitoring devices (such as intrusion detection or alert devices and speed monitoring devices) on-board the vehicle and at the roadside.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	1	The center shall remotely control highway-rail intersection (HRI) equipment located in the field.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	2	The center shall accept collect highway-rail intersection (HRI) advisory or alert data from rail operations centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	3	The center shall collect highway-rail intersection (HRI) equipment operational status and compare against the control information sent by the center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	4	The center shall provide the highway-rail intersection (HRI) equipment operational status to rail operations centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	5	The center shall collect incident information related to a highway-rail intersection (HRI), such as intersection blockages or crashes or equipment malfunctions.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	6	The center shall implement control plans to coordinate signalized intersections around highway-rail intersections (HRI), under control of center personnel, based on data from sensors and surveillance monitoring traffic conditions, incidents, equipment faults, pedestrian crossings, etc.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Advanced Rail Crossing Management	7	The center shall accept train schedules, maintenance schedules, and any other forecast events that will result in highway-rail intersection (HRI) closures data from rail operations centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Barrier System Management	1	The center shall remotely control barrier systems for transportation facilities and infrastructure. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Barrier System Management	2	The center shall accept requests for barrier system activation from other centers and from center personnel to support emergency response and detours.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Barrier System Management	3	The center shall collect barrier system operational status.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Barrier System Management	4	The center shall collect barrier system fault data and send to the maintenance center for repair.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	1	The center shall remotely monitor and control dynamically managed travel lanes.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	2	The center shall monitor traffic conditions and demand measured per lane.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	3	The center shall receive input from Border Inspection Systems to identify existing and planned lane configurations at the border.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	4	The center shall receive input from multimodal crossings such as draw bridges to identify existing and planned lane configurations at the crossings.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	5	The center shall receive input from an Intermodal Terminal to support monitoring and anticipation of commercial vehicle traffic originating at the depot and requests for dynamic lane management near the depot.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	6	The center shall monitor and coordinate dynamic lane controls with adjacent jurisdictions.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	7	Based on the collected data and operator input, the center shall determine suggested and required lane control configuration changes.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	8	The center shall support temporary use of shoulders as travel lanes.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	9	The center shall activate lane management field equipment that is used to dynamically manage specific lanes and shoulders.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	12	The center shall receive environmental information from roadway sensors and connected vehicles to identify existing and planned lane configurations long the roadway.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	13	The center shall optimize lane use restrictions for the environment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	14	The center shall reconfigure intersections and interchanges for compatibility with the current lane configuration.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	15	The center shall notify the enforcement agency of violators of the lane controls.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Dynamic Lane Management and Shoulder Use	16	The field element shall analyze collected vehicle and sensor emissions data against reference data, and determines whether an eco-lane should be created or decommissioned along a roadway.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Evacuation Support	1	The center shall coordinate planning for evacuation with emergency management centers - including pre-planning activities such as establishing routes, areas to be evacuated, timing, etc.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Evacuation Support	2	The center shall support requests from emergency management centers to preempt the current traffic control strategy, activate traffic control and closure systems such as gates and barriers, activate safeguard systems, or use driver information systems to support evacuation traffic control plans.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Evacuation Support	3	The center shall coordinate evacuation information and controls with other traffic management centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Evacuation Support	4	The center shall coordinate execution of evacuation strategies with emergency management centers - including activities such as setting closures and detours, establishing routes, updating areas to be evacuated, timing the process, etc.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Evacuation Support	5	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Detection	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Detection	2	The center shall collect and store traffic flow and image data from the field equipment to detect and verify incidents.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Detection	3	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters and traveler information service providers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Detection	4	The center shall exchange incident and threat information with emergency management centers as well as maintenance and construction centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Detection	5	The center shall support requests from emergency management centers and border inspection systems to remotely control sensor and surveillance equipment located in the field.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Detection	6	The center shall provide road network conditions and traffic images to emergency management centers to support the detection, verification, and classification of incidents.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Detection	7	The center shall provide video and traffic sensor control commands to the field equipment to detect and verify incidents.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	1	The center shall provide infrastructure restriction information, including temporary size and weight restrictions, to connected vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	2	The center shall provide infrastructure restriction information, including temporary size and weight restrictions, to drivers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	3	The center shall use infrastructure measurements of vehicle characteristics to determine if a vehicle exceeds the roadway or tunnel dimensions.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	4	The center shall use infrastructure measurements of vehicle characteristics to determine if a vehicle exceeds the roadway or tunnel dimensions.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Infrastructure Restriction Warning	5	The center shall provide warnings to connected vehicles if the measured height or width exceeds the dimensions for safe passage through the roadway or tunnel.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC In-Vehicle Signing Management	1	The center shall format and output sign information such as traffic and road conditions to field equipment that supports in-vehicle signage communications.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC In-Vehicle Signing Management	2	The center shall format and output advisory information, such as detour information, wide-area alerts, work zone intrusion information, and other special information to field equipment that supports in-vehicle signage communications.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC In-Vehicle Signing Management	3	The center shall monitor and manage output of indicator and fixed sign information, including static sign information (e.g., stop, curve warning, guide signs, service signs, and directional signs) and dynamic information (e.g., current signal states and local conditions warnings identified by local environmental sensors) by field equipment that supports in-vehicle signage communications.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC In-Vehicle Signing Management	4	The center shall receive system operational status from field equipment that supports in-vehicle signage communications.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC In-Vehicle Signing Management	5	The center shall receive system fault data from field equipment that supports in-vehicle signage communications.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC In-Vehicle Signing Management	6	The center shall format and output restricted lane information to field equipment that supports in-vehicle signage communications.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC In-Vehicle Signing Management	7	The center shall format and output low emission zone information to field equipment that supports in-vehicle signage communications.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Passive Surveillance	1	The center shall collect time stamped vehicle identities from field equipment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Passive Surveillance	2	The center shall correlate the time stamped vehicle identities to calculate link travel times and derive other traffic measures.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	1	The Center shall notify drivers and vehicles when a travel lane is a dedicated bus lane.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	2	The Center shall notify drivers and vehicles when a dedicated bus lane becomes an open travel lane.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	3	The Center shall notify a Transit Center of the status of a dynamic transit lane.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	4	The center shall notify enforcement when a violation of the dynamic transit lane usage is detected.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	5	The center shall provide current lane access requirements and restrictions that effects commercial vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	6	The center shall provide connected vehicle the location, duration, and operating parameters for lanes that are reserved for the HOV or HOT. It identifies the lane(s), the start and stop locations, start and end times, vehicle restrictions, and vehicle occupancy.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	7	The center shall report enforcement agency of detected HOV or HOT lane entry violations. This notification identifies the vehicle and documents the lane parameter that was violated.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	8	The center shall report operator's status information of the HOV or HOT lanes including start and stop locations, start and end times, vehicle restrictions, and vehicle occupancy.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	9	The center shall provide current lane access requirements and restrictions to roadside equipment to provide to connected vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Restricted Lanes CV Application	10	The center shall provide current lane access requirements and restrictions to roadside equipment to provide directly to drivers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Road Weather Advisories and Warnings	1	The center shall collect environmental data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped vehicles using short range communications equipment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Road Weather Advisories and Warnings	2	The center shall aggregate collected environmental data and disseminate the aggregated environmental probe data to other centers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Road Weather Advisories and Warnings	3	The center shall develop short term weather warnings or advisories that can be provided to individual motorists through field equipment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Safeguard System Management	1	The center shall remotely control safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.)	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Safeguard System Management	2	The center shall accept requests for safeguard system activation from other centers and from center personnel to support emergency response.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Safeguard System Management	3	The center shall collect safeguard system operational status.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Safeguard System Management	4	The center shall collect safeguard system fault data and send to the maintenance center for repair.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Service Patrol Management	1	The center shall dispatch roadway service patrol vehicles to identified incident locations.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Service Patrol Management	2	The center shall store the status of all service patrol vehicles available for dispatch and those that have been dispatched.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Service Patrol Management	3	The center shall share incident information collected by the service patrol with traffic, maintenance and construction, and traveler information centers for incident management, incident notification to travelers, and incident cleanup.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Service Patrol Management	4	The center shall track the location and status of service patrol vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Speed Warning	1	The center shall provide the capability to notify an enforcement agency when vehicle speeds in the work zone are more than the posted speed limit or are creating an unsafe condition based upon the current environmental or traffic conditions.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Speed Warning	2	The center shall provide the capability to control automated speed monitoring and speed warning systems.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Speed Warning	3	The center shall monitor reduced speed zone warning field equipment.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Speed Warning	4	The center shall control reduced speed zone warning roadside equipment, providing the location and extent of the reduced speed zone, the posted speed limit(s) with information about the applicability of the speed limit(s) (e.g., time of day, day of week, seasonality, relevant vehicle types) and information about associated road configuration changes including lane merges and shifts.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Metering	1	The center shall remotely control systems to manage use of the freeways, including ramp, interchange, and mainline metering.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Metering	2	The center shall collect operational status from ramp meters, interchange meters, and mainline meters and compare against the control information sent by the center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Metering	3	The center shall collect fault data from ramp meters, interchange meters, and mainline meters.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Metering	4	The center shall implement control strategies, under control of center personnel, on some or all the freeway network devices (e.g. ramp meters, interchange meters, and mainline meters), based on data from sensors monitoring traffic conditions upstream, downstream, and queue data on the approaches to the meters.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Traffic Metering	5	The center shall be able to, under control of center personnel, use collected environmental and vehicle emissions data to regulate the flow of traffic on ramps, interchanges, and the mainline.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Variable Speed Limits	1	The center shall monitor data on traffic and environmental conditions collected from sensors along the roadway.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Variable Speed Limits	2	Based on the measured data, the center shall calculate and set suitable speed limits by lane.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Variable Speed Limits	3	The center shall control field equipment that posts the current speed limits and displays additional information such as basic safety rules and current traffic information to drivers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Variable Speed Limits	4	The center shall monitor the operational status of the variable speed limit equipment, including fault reports.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Variable Speed Limits	5	The center shall provide center personnel current system status and respond to control data from center personnel regarding variable speed limits.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Variable Speed Limits	6	The center shall provide the current speed limits and additional information such as basic safety rules and current traffic information to drivers.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Planned
Caltrans D9/CHP Mojave TMC	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Planned
Caltrans District CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Operate
Caltrans District CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Operate
Caltrans District CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Operate
Caltrans District CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Operate
Caltrans District CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Operate
Caltrans District CCTV	ITS Roadway Equipment	Roadway Incident Detection	1	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Caltrans District CCTV	ITS Roadway Equipment	Roadway Incident Detection	2	The field element shall remotely process video data and provide an indication of potential incidents to the traffic management center.	Planned
Caltrans District CCTV	ITS Roadway Equipment	Roadway Incident Detection	3	The field element's video devices shall be remotely controlled by a traffic management center.	Planned
Caltrans District CCTV	ITS Roadway Equipment	Roadway Incident Detection	4	The field element shall provide operational status and fault data for the incident detection devices to the traffic management center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District CCTV	ITS Roadway Equipment	Roadway Passive Monitoring	1	The field element shall collect, process, and send data to the center to uniquely identify passing vehicles to support travel time measurement	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	1	The field element shall measure traffic conditions per lane, under center control.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	2	The field element shall determine how to change the lane controls to respond to current traffic and road conditions.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	3	The field element shall receive lane management control information from the controlling center.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	4	The field element shall provide guidance and information to drivers regarding current lane configuration and status.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	5	The field element shall monitor vehicle characteristics and classify individual vehicles.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	6	The field element shall collect vehicle profile information from individual vehicles using field-vehicle communications.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	7	The field element shall monitor current lane usage to determine if vehicles are complying with current lane use restrictions.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	8	The field element shall capture vehicle information, including vehicle image(s) of vehicles violating current lane usage restrictions and report violations to the controlling center.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	9	The field element shall monitor operational status of the dynamic lane control equipment and report operational status to the controlling center.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Dynamic Lane Management and Shoulder Use	10	The field element shall identify and report fault conditions to the controlling center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Operate
Caltrans District CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Operate
Caltrans District CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Operate
Caltrans District CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Operate
Caltrans District CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Caltrans District CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Operate
Caltrans District Detection	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Operate
Caltrans District Detection	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Operate
Caltrans District Detection	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Operate
Caltrans District Detection	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Operate
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Incident Detection	1	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Incident Detection	2	The field element shall remotely process video data and provide an indication of potential incidents to the traffic management center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Incident Detection	3	The field element's video devices shall be remotely controlled by a traffic management center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Incident Detection	4	The field element shall provide operational status and fault data for the incident detection devices to the traffic management center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Passive Monitoring	1	The field element shall collect, process, and send data to the center to uniquely identify passing vehicles to support travel time measurement	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	5	The field element shall monitor notify an enforcement agency when a speed violation is detected.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Detection	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	1	The field element shall monitor traffic and environmental conditions along the roadway.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	2	The field element shall autonomously calculate and set variable speed limits based on current conditions by lane.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	3	The field element shall receive commands from the controlling center that establish speed limits by lane.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	4	The field element shall display the current speed limits per lane to drivers.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	5	The field element shall display additional information such as basic safety rules and current traffic information to drivers.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	6	The field element shall collect operational status of the variable speed limit field equipment and report the operational status to the controlling center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	7	The field element shall monitor and report faults to the controlling center.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	8	As part of speed harmonization, the field element shall display suggested speed per lane to drivers.	Planned
Caltrans District Detection	ITS Roadway Equipment	Roadway Variable Speed Limits	9	As part of speed harmonization, the field element shall send suggested speed per lane to the RSE for transmittal to connected vehicles	Planned
Caltrans District HAR	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Operate
Caltrans District HAR	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Operate
Caltrans District HAR	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Operate
Caltrans District HAR	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Operate
Caltrans District HAR	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District HAR	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Caltrans District HAR	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	1	The field element shall activate barrier systems for transportation facilities and infrastructure under center control. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	2	The field element shall return barrier system operational status to the controlling center.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	3	The field element shall return barrier system fault data to the maintenance center for repair.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	4	The field element shall receive requests for access from approaching vehicles using field-vehicle communications and validate and authenticate the requests.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	5	The field element shall grant access only to qualified vehicles.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	6	The field element shall communicate access permission status and access instructions to approaching vehicles using field-vehicle communications.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	1	The field element shall activate safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.) under center control.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	2	The field element shall return safeguard system operational status to the controlling center.	Planned
Caltrans District Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	3	The field element shall return safeguard system fault data to the maintenance center for repair.	Planned
Caltrans District Parking Management System	Parking Management System	Parking Management	1	The parking element shall maintain static parking lot information including hours of operation, rates, location, entrance locations, capacity, type, and constraints.	Planned
Caltrans District Parking Management System	Parking Management System	Parking Management	2	The parking element shall maintain dynamic parking lot information including current state of the lot, occupancy, arrival rates, and departure rates.	Planned
Caltrans District Parking Management System	Parking Management System	Parking Management	3	The parking element shall determine and maintain the number and availability of parking spaces.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Parking Management System	Parking Management System	Parking Management	4	The parking element shall share information with a traffic management center to identify queues at entrances, exits that should be used, and other information that supports coordinated local traffic control in and around the parking facility.	Planned
Caltrans District Parking Management System	Parking Management System	Parking Management	5	The parking element shall manage local dynamic message signs that display messages to travelers such as the parking lot state, number of spaces available, location of entrances, and current charges.	Planned
Caltrans District Parking Management System	Parking Management System	Parking Management	6	The parking element shall provide the capability to detect, count, and classify vehicles at entrances, exits, and designated locations within a parking facility.	Planned
Caltrans District Parking Management System	Parking Management System	Parking Management	7	The parking element shall provide precise parking egress/ingress location information to Centers.	Planned
Caltrans District Parking Management System	Parking Management System	Parking Management	8	The parking element shall provide precise parking space location information to Centers.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Field Device Support	1	The field element shall monitor the operational status of field devices and detects and reports fault conditions.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Field Device Support	4	The field element shall support an interface with field support equipment to accept installation of updates or configuration of field operations.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	1	The field element shall collect, process, and send work zone images to the center for further analysis and distribution, under center control.	Operate
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	2	Under traffic and maintenance center control, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around the work zone through which they are currently passing.	Operate
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	3	Under the control of field personnel within maintenance vehicles, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around a work zone through which they are currently passing.	Operate
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	4	The field element shall control access to the work zone using automated gate or barrier systems. This includes automated flagger assistance devices that include automated gate arms and other automated gate/barrier systems.	Operate
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	5	The field element shall provide operational status for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center.	Operate
Caltrans District Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	6	The field element shall provide fault data for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center for repair.	Operate
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Planned
Caltrans District Railroad Crossings	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Metering	1	The field element shall regulate the flow of traffic on ramps, interchanges, and the mainline, under center control.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Metering	2	The field element shall monitor operation of ramp, interchange, and mainline meters and report to the center any conflicts between received control plans and current system operation.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Metering	3	The field element shall return ramp, interchange, and mainline meter operational status to the controlling center.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Metering	4	The field element shall provide indications to the driver that the metering system is active and provide safe transitions between active and inactive status.	Operate
Caltrans District Ramp Meters	ITS Roadway Equipment	Roadway Traffic Metering	5	The field element shall return ramp, interchange, and mainline meter fault data to the maintenance center for repair.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Operate
Caltrans District RWIS	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	1	The field element shall monitor traffic and environmental conditions along the roadway.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	2	The field element shall autonomously calculate and set variable speed limits based on current conditions by lane.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	3	The field element shall receive commands from the controlling center that establish speed limits by lane.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	4	The field element shall display the current speed limits per lane to drivers.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	5	The field element shall display additional information such as basic safety rules and current traffic information to drivers.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	6	The field element shall collect operational status of the variable speed limit field equipment and report the operational status to the controlling center.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	7	The field element shall monitor and report faults to the controlling center.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	8	As part of speed harmonization, the field element shall display suggested speed per lane to drivers.	Planned
Caltrans District RWIS	ITS Roadway Equipment	Roadway Variable Speed Limits	9	As part of speed harmonization, the field element shall send suggested speed per lane to the RSE for transmittal to connected vehicles	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	5	The field element shall monitor notify an enforcement agency when a speed violation is detected.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	2	The field element shall determine whether the highway-rail intersection (HRI) is blocked by traffic in the roadway or some other obstruction.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	3	The field element shall notify the traffic management center and the rail wayside equipment of any intersection blockages, including trapped vehicles or other obstructions.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	4	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	5	The field element shall include pedestrian information systems under center control (e.g. warning pedestrians of a potential hazard, or providing mandatory instructions as to the availability of pedestrian access).	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	6	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	7	The field element shall receive track status and arriving train information from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and when a train is expected and/or how long the crossing will be closed.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	8	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	9	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	10	The field element shall close the highway-rail intersection (HRI) when a train is approaching with enough time for traffic to safely clear the crossing using gates, lights/signs, barriers, and traffic control signals.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	11	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	12	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Advanced Rail Crossing	13	The field element shall provide approaching train advisories using field-vehicle communications to vehicles approaching the grade crossing.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Operate
Caltrans District Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	1	The center shall accept requests from traveler interface systems for ridesharing as part of a trip plan request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	2	The center shall provide a rideshare match based on origin and destination of the traveler's proposed trip, any routing constraints, preferences specified by the traveler, compatibility of this rideshare with rideshares confirmed by other travelers, the requesting traveler's eligibility data, and traffic data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	3	The center shall process rideshare requests by balancing the relative benefits of the rideshare to each rideshare participant.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	4	The center shall arrange connections to transit or other multimodal services for portions of a multi-segment trip that includes ridesharing.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	5	The center shall provide a confirmation of the travelers rideshare match and provide the capability to support a payment transaction for the rideshare service.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	6	The center shall store all rideshare matches and traveler eligibility data.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	1	The center shall disseminate emergency evacuation information to the traveler interface systems, including evacuation zones, shelter information, available transportation modes, road closures and detours, changes to transit services, and traffic and road conditions at the origin, destination, and along the evacuation routes.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	2	The center shall provide evacuation information to shelter providers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	3	The center shall disseminate wide-area alert information to the traveler interface systems, including major emergencies such as a natural or man-made disaster, civil emergency, child abductions, severe weather watches and warnings, military activities, and law enforcement warnings.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	4	The center shall provide the capability for a system operator to control the type and update frequency of emergency and wide-area alert information distributed to travelers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	5	The center shall provide evacuation information to personal information devices.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	6	The center shall provide evacuation information to connected vehicles.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	7	The center shall maintain a set of evacuation routes based on various incident scenarios, e.g., storm, industrial accident, etc.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	8	The center shall maintain a set of evacuation plans if an evacuation is necessary, including: evacuation routes, call-plan, special needs evacuations, and shelter locations.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	9	The center shall provide evacuees with information about available shelters that match their needs, including: location, availability, route, and special needs accommodated.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	10	The center shall collect shelter data from multiple sources in accordance with the American Red Cross' National Shelter System format, including: type, location, availability, capability, route mapping to the shelter, traffic flow to and around the shelter, and weather conditions around the shelter.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	11	The center shall support requests for evacuation assistance from individuals or groups requiring assistance.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	12	The center shall match requests for evacuation assistance with the appropriate resource.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	13	The center shall provide information concerning available resources along an evacuation route including information provided by other evacuees.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	14	The center needs to provide evacuees with information regarding when they can return to their area, including evacuation return routes, evacuation return schedule, and evacuation return road conditions.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Freight-Specific Travel Planning	1	The center shall provide customized traveler information for freight users to include truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Freight-Specific Travel Planning	2	The center shall indicate the area covered by the freight traveler information service.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Freight-Specific Travel Planning	3	The center shall provide an interface to allow operators to identify roadway links as part of a key freight route.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Freight-Specific Travel Planning	4	The center shall provide traveler information for freight routes from source to destination, customized for freight users to indicate truck routes, truck stops, inspection stations, steep grades, etc.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Freight-Specific Travel Planning	5	The center shall collect metadata for road conditions information that includes the date and time when the information was generated.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Freight-Specific Travel Planning	6	The center shall indicate when collected data is older than a prescribed threshold with respect to a current operation.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Road Weather Advisories and Warnings	1	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped vehicles and short range communications equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Road Weather Advisories and Warnings	2	The center shall aggregate collected environmental probe data and disseminate the aggregated environmental probe data to other centers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Road Weather Advisories and Warnings	3	The center shall receive traffic probe data collected by transit fleet operators and include this data in aggregated probe data provided to other centers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Road Weather Advisories and Warnings	4	The center shall receive traffic probe data derived from electronic toll collection operations and include this data in aggregated probe data provided to other centers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Road Weather Advisories and Warnings	5	The center shall develop short term weather warnings or advisories that can be provided to individual motorists through field equipment.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Road Weather Advisories and Warnings	6	The center shall obtain information regarding weather and road conditions for targeted weather impact, including visibility, wind speed, wind direction, snow accumulation, adjacent snow accumulation, ice/water accumulation.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Shared Use	1	The center shall accept requests for shared use transportation.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Shared Use	2	The center shall provide the traveler with a shared use transportation option.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Operate
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	1	The center shall provide the capability to process voice-formatted requests for traveler information from a traveler telephone information system, and return the information in the requested format.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	2	The center shall provide the capability to process dual-tone multifrequency (DTMF)-based requests (touch-tone) for traveler information from a traveler telephone information system.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	3	The center shall provide the capability to process traveler information requests from a traveler telephone information system.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	4	The center shall provide information on traffic conditions in the requested voice format and for the requested location.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	5	The center shall provide work zone and roadway maintenance information in the requested voice format and for the requested location.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	6	The center shall provide roadway environment conditions information in the requested voice format and for the requested location.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	7	The center shall provide weather and event information in the requested voice format and for the requested location.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	8	The center shall provide transit service information in the requested voice format and for the requested location.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	9	The center shall provide current ferry and rail schedule and airport status information in the requested voice format and for the requested location.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Traveler Telephone Information	10	The center shall provide the capability to support both specific caller requests as well as bulk upload of regional traveler information.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	1	The center shall provide the capability to provide specific pre-trip and en route directions to travelers (and drivers), including costs, arrival times, and transfer points.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	2	The center shall include bicycle routes, walkways, skyways, and multi-use trails in the pre-trip and en route directions it provides to travelers.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	3	The center shall support on-line route guidance for travelers using personal devices (such as PDAs).	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	4	The center shall support on-line route guidance for drivers in vehicles.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	5	The center shall support on-line route guidance for specialty vehicles, such as commercial vehicles.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	6	The center shall generate route plans based on current and/or predicted conditions of the road network, scheduled maintenance and construction work activities, and work zone activities.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	7	The center shall generate route plans based on transit services, including fares, schedules, and requirements for travelers with special needs.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	8	The center shall generate route plans based on current asset restrictions, such as height and weight restrictions on tunnels or bridges.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	9	The center shall generate route plans based on ferry, rail, air, or other multimodal transportation data.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	10	The center shall exchange route segment information with other centers outside the area served by the local center.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	11	The center shall generate trips based on the use of more than one mode of transport.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	12	The center shall use the preferences and constraints specified by the traveler in the trip request to select the most appropriate mode of transport.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	13	The center shall provide the capability for the traveler to confirm the proposed trip plan.	Planned
Caltrans District Traveler Information Services	Transportation Information Center	TIC Trip Planning	14	The center shall provide the capability for center personnel to control route calculation parameters.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	1	The field element shall monitor traffic and environmental conditions along the roadway.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	2	The field element shall autonomously calculate and set variable speed limits based on current conditions by lane.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	3	The field element shall receive commands from the controlling center that establish speed limits by lane.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	4	The field element shall display the current speed limits per lane to drivers.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	5	The field element shall display additional information such as basic safety rules and current traffic information to drivers.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	6	The field element shall collect operational status of the variable speed limit field equipment and report the operational status to the controlling center.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	7	The field element shall monitor and report faults to the controlling center.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	8	As part of speed harmonization, the field element shall display suggested speed per lane to drivers.	Planned
Caltrans District VSL	ITS Roadway Equipment	Roadway Variable Speed Limits	9	As part of speed harmonization, the field element shall send suggested speed per lane to the RSE for transmittal to connected vehicles	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	1	The field element shall monitor the operational status of field devices and detects and reports fault conditions.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	2	The field element shall detect and report any fault conditions with the equipment being monitored back to its controlling center.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	3	The field element shall provide the capability for field personnel to locally control and configure this equipment.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	4	The field element shall support an interface with field support equipment to accept installation of updates or configuration of field operations.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	1	The field element shall collect, process, and send work zone images to the center for further analysis and distribution, under center control.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	2	Under traffic and maintenance center control, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around the work zone through which they are currently passing.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	3	Under the control of field personnel within maintenance vehicles, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around a work zone through which they are currently passing.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	4	The field element shall control access to the work zone using automated gate or barrier systems. This includes automated flagger assistance devices that include automated gate arms and other automated gate/barrier systems.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	5	The field element shall provide operational status for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center.	Planned
Caltrans District WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	6	The field element shall provide fault data for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center for repair.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	1	The field element shall include work zone intrusion detection devices that detect when a vehicle has intruded upon the boundary of a work zone, under center control.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	2	The field element shall include work zone intrusion detection devices that detect when crew workers have crossed the boundary between the work zone and vehicle traffic, under center control.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	3	The field element shall include work zone intrusion alerting devices that alert crew workers of a work zone emergency or safety issue such as the intrusion of a vehicle into the work zone area or movement of field crew into the travel lanes or vehicles approaching at an unsafe speed.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	4	The field element shall include work zone intrusion alerting devices that notify crew via maintenance vehicles of a work zone emergency or safety issue such as the intrusion of a vehicle into the work zone area or movement of field crew into the travel lanes.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	5	The field element shall include work zone intrusion alerting devices that alert drivers that they have intruded upon the perimeter of the work zone, or are about to do so; may provide alerts to drivers directly or via in-vehicle signing.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	6	The field element shall provide operational status for the work zone intrusion detection devices to the maintenance center.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	7	The field element shall provide fault data for the work zone intrusion detection devices to the maintenance center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	8	The field element shall provide operational status for the work zone intrusion alerting devices to the maintenance center.	Planned
Caltrans District WZ Safety Monitoring	ITS Roadway Equipment	Roadway Work Zone Safety	9	The field element shall provide fault data for the work zone intrusion alerting devices to the maintenance center for repair.	Planned
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	1	The center shall collect data from centers.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	2	The center shall collect data catalogs from one or more data sources. A catalog describes the data contained in the collection of archived data and may include descriptions of the schema or structure of the data, a description of the contents of the data; e.g., time range of entries, number of entries; or a sample of the data (e. g. a thumbnail).	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	3	The center shall store collected data in an information repository.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	4	The center shall perform quality checks on collected data.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	5	The center shall notify the system operator of errors related to data collection, analysis and archival.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	6	The center shall include capabilities for archive to archive coordination.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	7	The center shall provide the capability to execute methods on the incoming data such as cleansing, summarizations, aggregations, or transformations applied to the data before it is stored in the archive.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	8	The center shall collect data from data distribution systems and other data sources.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	9	The center shall respond to requests from the administrator interface function to manage center-sourced data collection.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	10	The center shall respond to requests from the administrator interface function to manage the archive data.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	11	The center shall respond to requests for archive data from archive data users (centers, field devices).	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	12	The center shall provide a mechanism for archive data users to request archive data by meta-data range.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Data Repository	13	The center shall associate meta-data with archived data, including catalog data, statistical products determined from method execution and data longevity.	Planned
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Government Reporting	1	The center shall provide archive data to federal, state, and local government reporting systems.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Government Reporting	2	The center shall respond to requests for government report data.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Government Reporting	3	The center shall provide the capability to format data suitable for input into government reports.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Government Reporting	4	The center shall provide the applicable meta-data for any ITS archived data to satisfy government reporting system requests. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive On-Line Analysis and Mining	1	The center shall respond to requests for archive data from center users.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive On-Line Analysis and Mining	2	The center shall provide the capability to perform activities such as data mining, data fusion, summarizations, aggregations, and recreation from archive data. This may include multidimensional analysis, selective summarization and expansion of data details, and many other advanced analysis services.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive On-Line Analysis and Mining	3	The center shall collect regional data from data distribution centers.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive On-Line Analysis and Mining	4	The center shall respond to user's systems requests for a catalog of the archived data analysis products available.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive On-Line Analysis and Mining	5	The center shall be capable of processing vehicle probe data into transportation network performance measures.	Planned
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive On-Line Analysis and Mining	6	The center shall be capable of processing vehicle probe data to support infrastructure conditions monitoring performed by Archived Data User Systems including maintenance and construction management centers.	Planned
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive On-Line Analysis and Mining	7	The center shall be capable of processing vehicle probe data to determine roadway environmental conditions for non-operational uses such as maintenance planning and research.	Planned
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Situation Data Archival	1	The center shall collect data from roadside devices.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Situation Data Archival	2	The center shall respond to requests from the administrator interface function to manage field-sourced data collection.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Situation Data Archival	3	The center shall provide the capability to adjust the collection of field-sourced data based on the statistical measures.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Situation Data Archival	4	The center shall collect vehicle traffic probe data for performance monitoring and analysis.	Planned
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Situation Data Archival	5	The center shall be capable of archiving vehicle traffic probe data.	Planned
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Situation Data Archival	6	The center shall provide the capability to execute methods on the incoming field data such as aggregation and statistical measures before the data is stored in the archive.	Operate
Caltrans Performance Monitoring System (PeMS)	Archived Data System	Archive Situation Data Archival	7	The center shall respond to requests from the administrator interface function to select and manage data stored in the archive.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Freight-Specific Travel Planning	1	The center shall provide customized traveler information for freight users to include truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Freight-Specific Travel Planning	2	The center shall indicate the area covered by the freight traveler information service.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Freight-Specific Travel Planning	3	The center shall provide an interface to allow operators to identify roadway links as part of a key freight route.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Freight-Specific Travel Planning	4	The center shall provide traveler information for freight routes from source to destination, customized for freight users to indicate truck routes, truck stops, inspection stations, steep grades, etc.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Freight-Specific Travel Planning	5	The center shall collect metadata for road conditions information that includes the date and time when the information was generated.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Freight-Specific Travel Planning	6	The center shall indicate when collected data is older than a prescribed threshold with respect to a current operation.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Road Weather Advisories and Warnings	1	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped vehicles and short range communications equipment.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Road Weather Advisories and Warnings	2	The center shall aggregate collected environmental probe data and disseminate the aggregated environmental probe data to other centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans Quickmaps Website	Transportation Information Center	TIC Road Weather Advisories and Warnings	3	The center shall receive traffic probe data collected by transit fleet operators and include this data in aggregated probe data provided to other centers.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Road Weather Advisories and Warnings	4	The center shall receive traffic probe data derived from electronic toll collection operations and include this data in aggregated probe data provided to other centers.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Road Weather Advisories and Warnings	5	The center shall develop short term weather warnings or advisories that can be provided to individual motorists through field equipment.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Road Weather Advisories and Warnings	6	The center shall obtain information regarding weather and road conditions for targeted weather impact, including visibility, wind speed, wind direction, snow accumulation, adjacent snow accumulation, ice/water accumulation.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Situation Data Management	1	The center shall collect traffic probe data (speeds, travel times, etc.) from appropriately equipped vehicles and short range communications equipment.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Situation Data Management	2	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped vehicles and short range communications equipment.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Situation Data Management	3	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Situation Data Management	4	The center shall collect probe data from toll administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Situation Data Management	5	The center shall aggregate collected traffic probe data, calculate route segment travel times, route segment speeds, route usage, and road weather information for dissemination to other centers.	Planned
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	1	The center shall provide the capability to process voice-formatted requests for traveler information from a traveler telephone information system, and return the information in the requested format.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	2	The center shall provide the capability to process dual-tone multifrequency (DTMF)-based requests (touch-tone) for traveler information from a traveler telephone information system.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	3	The center shall provide the capability to process traveler information requests from a traveler telephone information system.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	4	The center shall provide information on traffic conditions in the requested voice format and for the requested location.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	5	The center shall provide work zone and roadway maintenance information in the requested voice format and for the requested location.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	6	The center shall provide roadway environment conditions information in the requested voice format and for the requested location.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	7	The center shall provide weather and event information in the requested voice format and for the requested location.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	8	The center shall provide transit service information in the requested voice format and for the requested location.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	9	The center shall provide current ferry and rail schedule and airport status information in the requested voice format and for the requested location.	Operate
Caltrans Quickmaps Website	Transportation Information Center	TIC Traveler Telephone Information	10	The center shall provide the capability to support both specific caller requests as well as bulk upload of regional traveler information.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	1	The emergency vehicle, including roadway service patrols, shall track its current location.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	2	The emergency vehicle, including roadway service patrols, shall send the vehicle's location and operational data to the center for emergency management and dispatch.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	3	The emergency vehicle, including roadway service patrols, shall receive incident details and a suggested route when dispatched to a scene.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	4	The emergency vehicle shall send the current en route status (including estimated time of arrival) and requests for emergency dispatch updates.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	5	The emergency vehicle shall send requests to traffic signal control equipment at the roadside to preempt the signal.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	6	The emergency vehicle shall provide the personnel on-board with dispatch information, including incident type and location, and forward an acknowledgment from personnel to the center that the vehicle is on its way to the incident scene.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	7	The emergency vehicle shall send patient status information to the care facility along with a request for further information.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	8	The emergency vehicle shall forward care facility status information to emergency vehicle personnel, including the location, specialized services, quality of care, waiting time, number of rooms available, and emergency room status of hospitals or emergency care providers.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	9	The emergency vehicle shall send the vehicle's location, speed and direction to other vehicles in the area.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	10	The roadway service patrols vehicle shall monitor roads and aid motorists, offering rapid response to minor incidents (flat tire, accidents, out of gas).	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	11	The emergency vehicle shall receive the crash data from connected vehicles involved in a crash.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board En Route Support	12	The emergency vehicle shall receive the HAZMAT information from commercial vehicles involved in a crash.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	1	The emergency vehicle shall receive dispatch instructions sufficient to enable emergency personnel in the field to implement an effective incident response. It includes local traffic, road, and weather conditions, hazardous material information, and the status of resources that have been allocated to an incident.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	2	The emergency vehicle shall provide an interface to the center for emergency personnel to transmit information about the incident site such as the extent of injuries, identification of vehicles and people involved, hazardous material, etc.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	3	The emergency vehicle shall provide an interface to the center for emergency personnel to transmit information about the current incident response status such as the identification of the resources on site, site management strategies in effect, and current clearance status.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	4	The emergency vehicle shall provide traffic incident information to other emergency vehicles using short range communications.	Operate
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	5	The emergency vehicle shall receive container manifest and status of the electronic seal on a container.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	6	The emergency vehicle shall inspect the electronic seal on a container to verify the container has not been opened or tampered with.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	7	The vehicle shall collect vehicle occupants' electronic medical records to support emergency dispatch and staging of personnel and equipment.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV On-Board Incident Management Communication	8	The emergency vehicle shall exchange information with other emergency vehicles to support the decision making and overall incident response.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	1	The service patrol vehicle shall track its current location.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	2	The service patrol vehicle shall send the vehicle's location and operational data to the center for dispatch.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	3	The service patrol vehicle shall receive incident details and a suggested route when dispatched to a scene.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	4	The service patrol vehicle shall send the current en route status (including estimated time of arrival) and requests for emergency dispatch updates.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	5	The service patrol vehicle shall provide the personnel on-board with dispatch information, including incident type and location, and forward an acknowledgment from personnel to the center that the vehicle is on its way to the incident scene.	Planned
CHP Freeway Service Patrol	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	6	The service patrol vehicle shall update the center with status of an incident response including the nature of the incident, e.g. flat tire, gas, minor accident.	Planned
CHP SWITRS System	Archived Data System	Archive Data Repository	1	The center shall collect data from centers.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	2	The center shall collect data catalogs from one or more data sources. A catalog describes the data contained in the collection of archived data and may include descriptions of the schema or structure of the data, a description of the contents of the data; e.g., time range of entries, number of entries; or a sample of the data (e.g. a thumbnail).	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	3	The center shall store collected data in an information repository.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP SWITRS System	Archived Data System	Archive Data Repository	4	The center shall perform quality checks on collected data.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	5	The center shall notify the system operator of errors related to data collection, analysis and archival.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	6	The center shall include capabilities for archive to archive coordination.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	7	The center shall provide the capability to execute methods on the incoming data such as cleansing, summarizations, aggregations, or transformations applied to the data before it is stored in the archive.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	8	The center shall collect data from data distribution systems and other data sources.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	9	The center shall respond to requests from the administrator interface function to manage center-sourced data collection.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	10	The center shall respond to requests from the administrator interface function to manage the archive data.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	11	The center shall respond to requests for archive data from archive data users (centers, field devices).	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	12	The center shall provide a mechanism for archive data users to request archive data by meta-data range.	Operate
CHP SWITRS System	Archived Data System	Archive Data Repository	13	The center shall associate meta-data with archived data, including catalog data, statistical products determined from method execution and data longevity.	Planned
CHP SWITRS System	Archived Data System	Archive Government Reporting	1	The center shall provide archive data to federal, state, and local government reporting systems.	Operate
CHP SWITRS System	Archived Data System	Archive Government Reporting	2	The center shall respond to requests for government report data.	Operate
CHP SWITRS System	Archived Data System	Archive Government Reporting	3	The center shall provide the capability to format data suitable for input into government reports.	Operate
CHP SWITRS System	Archived Data System	Archive Government Reporting	4	The center shall provide the applicable meta-data for any ITS archived data to satisfy government reporting system requests. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
CHP SWITRS System	Archived Data System	Archive Situation Data Archival	1	The center shall collect data from roadside devices.	Operate
CHP SWITRS System	Archived Data System	Archive Situation Data Archival	2	The center shall respond to requests from the administrator interface function to manage field-sourced data collection.	Operate
CHP SWITRS System	Archived Data System	Archive Situation Data Archival	3	The center shall provide the capability to adjust the collection of field-sourced data based on the statistical measures.	Operate
CHP SWITRS System	Archived Data System	Archive Situation Data Archival	4	The center shall collect vehicle traffic probe data for performance monitoring and analysis.	Planned
CHP SWITRS System	Archived Data System	Archive Situation Data Archival	5	The center shall be capable of archiving vehicle traffic probe data.	Planned
CHP SWITRS System	Archived Data System	Archive Situation Data Archival	6	The center shall provide the capability to execute methods on the incoming field data such as aggregation and statistical measures before the data is stored in the archive.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP SWITRS System	Archived Data System	Archive Situation Data Archival	7	The center shall respond to requests from the administrator interface function to select and manage data stored in the archive.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	1	The personal traveler interface shall receive traffic information from a center and present it to the traveler upon request.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	2	The personal traveler interface shall receive transit information from a center and present it to the traveler upon request.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	3	The personal traveler interface shall receive traveler services information (such as lodging, restaurants, theaters, bicycle facilities, and other tourist activities) from a center and present it to the traveler upon request.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	4	The personal traveler interface shall receive event information from a center and present it to the traveler upon request.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	5	The personal traveler interface shall receive evacuation information from a center and present it to the traveler.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	6	The personal traveler interface shall receive wide-area alerts and present it to the traveler.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	7	The personal traveler interface shall accept reservations for confirmed trip plans.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	8	The personal traveler interface shall support payment for services, such as confirmed trip plans, tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	9	The personal traveler interface shall provide an interface through which credit identity, stored credit value, or traveler information may be collected from a traveler card being used by a traveler with a personal device.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	10	The personal traveler interface shall base requests from the traveler on the traveler's current location or a specific location identified by the traveler, and filter the provided information accordingly.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	11	The personal traveler interface shall support traveler input in audio or manual form.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	12	The personal traveler interface shall present information to the traveler in audible or visual forms consistent with a personal device, and suitable for travelers with hearing and vision physical disabilities.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	13	The personal traveler interface shall be able to store frequently requested or used data, including the traveler's identity, home and work locations, etc.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	14	The personal traveler interface shall receive travel alerts and present them to the traveler. Relevant alerts are provided based on pre-supplied trip characteristics and preferences.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	15	The personal traveler interface shall accept personal preferences, recurring trip characteristics, and traveler alert subscription information from the traveler and send this information to a center to support customized traveler information services.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	16	The personal traveler interface shall provide an interface to establish and manage user road pricing accounts, process road pricing payments, and access road pricing reports under user control.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	17	The personal traveler interface shall receive traveler information including traffic and road conditions, advisories, incidents, payment information, transit services, parking information, weather information, and other travel-related data updates and confirmations.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	18	The personal traveler interface shall provide an interface to establish and manage user road pricing accounts, process road pricing payments, and access road pricing reports under user control.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	19	The personal traveler interface shall provide the ability for a traveler to set up and modify a user account for a regional electronic payment system.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	20	The personal traveler interface shall be able to provide payment information for road use charges.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	21	The personal traveler interface shall be able to provide payment information for use of a low emission zone.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	22	The personal traveler interface shall provide the ability for a traveler to select customized information about a disaster and evacuation routing.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	23	The personal traveler interface shall provide the ability for a traveler to select customized information on evacuation resources including self-evacuation options, anticipated pickup time and location if a transportation asset is to be deployed, destination shelter, and supporting information on what to bring.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	24	The personal traveler interface shall provide the ability for a traveler to select customized information on resources along evacuation routes based on inputs from other evacuees.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Interactive Traveler Information	25	The personal traveler interface shall provide the ability for a traveler to select customized information on estimated reentry date/times following a disaster.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Shared Use Planning	1	The personal traveler device shall allow the traveler to make a request for a shared use transportation.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Shared Use Planning	2	The personal traveler device shall allow the traveler to confirm a shared use transportation trip.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Traveler Information Reception	1	The personal traveler interface shall receive traffic information from a center and present it to the traveler.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP Traveler Information Outlets	Personal Information Device	Personal Traveler Information Reception	2	The personal traveler interface shall receive transit information from a center and present it to the traveler.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Traveler Information Reception	3	The personal traveler interface shall receive event information from a center and present it to the traveler.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Traveler Information Reception	4	The personal traveler interface shall receive evacuation information from a center and present it to the traveler.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Traveler Information Reception	5	The personal traveler interface shall receive wide-area alerts and present it to the traveler.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Traveler Information Reception	6	The personal traveler interface shall support traveler input in audio or manual form.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Traveler Information Reception	7	The personal traveler interface shall present information to the traveler in audible or visual forms, consistent with a personal device.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	1	The personal traveler interface shall allow a traveler to request and confirm multi-modal route guidance from a specified source to a destination.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	2	The personal traveler interface shall forward the request for route guidance to a traveler information center for route calculation.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	3	The personal traveler interface shall forward user preferences, background information, constraints, and payment information to the supplying traveler information center.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	4	The personal traveler interface shall present information to the traveler in audible or visual forms consistent with a personal device, and suitable for travelers with hearing and vision physical disabilities.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	5	The personal traveler interface shall provide the capability for a traveler to request and receive freight specific traveler information including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	6	The personal traveler interface shall allow a traveler to send a stop request to an approaching transit vehicle.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	7	The personal traveler interface shall allow a traveler to request connection protection be provided as part of the traveler's trip request.	Planned
CHP Traveler Information Outlets	Personal Information Device	Personal Trip Planning and Route Guidance	8	The personal traveler interface shall provide to the traveler with updates regarding their transit trip to provide connection protection.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Citation and Accident Electronic Recording	1	The roadside check facility equipment shall record the results of roadside inspections carried using an inspector's hand held terminal interface.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Citation and Accident Electronic Recording	2	The roadside check facility equipment shall provide an interface for an inspector to add comments to the inspection results.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Citation and Accident Electronic Recording	3	The roadside check facility equipment shall forward results of the roadside inspections to the commercial vehicle administration center either as needed or on a periodic basis. These reports include accident reports, violation notifications, citations, and daily site activity logs.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Citation and Accident Electronic Recording	4	The roadside check facility equipment shall receive driver records from the commercial vehicle administration center to support driver identification and collection of driver credentials and history information.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Citation and Accident Electronic Recording	5	The roadside check facility equipment shall collect safety data from the commercial vehicle and its freight equipment to help characterize the circumstances surrounding an accident.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Citation and Accident Electronic Recording	6	The roadside check facility equipment shall read the driver identification card provided by the commercial vehicle driver and support cross-check of the identification data with driver records.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Citation and Accident Electronic Recording	7	The roadside check facility equipment shall notify the enforcement agency of a violation describing the statute or regulation that was violated and how it was violated.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	1	The roadside check facility equipment shall detect the presence of commercial vehicles and freight equipment approaching a facility.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	2	The roadside check facility equipment shall differentiate between different types of vehicles and determine the number of axles, gross vehicle weight, and the identification of the vehicle and its cargo.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	6	The roadside check facility equipment shall receive information about a breach or tamper event on a commercial vehicle or its attached freight equipment which includes identity, type of breach, location, and time.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	7	The roadside check facility equipment shall request and input electronic screening data from the commercial vehicle's electronic tag data.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	8	The roadside check facility equipment shall collect safety data from the commercial vehicle and its freight equipment.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	9	The roadside check facility equipment shall send a pass/pull-in notification to the commercial vehicle and its driver based on the information received from the vehicle, the administration center, enforcement agencies, and the inspector. The message may be sent to the on-board equipment in the commercial vehicle or transmitted to the driver using equipment such as dynamic message signs, red-green lights, flashing signs, etc.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	10	The roadside check facility equipment shall verify that pull-in requests are heeded by drivers, notifying the facility operator if a vehicle fails to pull in as requested.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	11	The roadside check facility equipment shall send a record of daily activities at the facility including summaries of screening events and inspections to the commercial vehicle administration center.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	12	The roadside check facility equipment element shall alert the emergency management center about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Driver-Vehicle-Freight assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Electronic Screening	13	The roadside check facility equipment shall send an alarm to the appropriate emergency management center when it has determined there has been a container breach or tamper event on a commercial vehicle or its attached freight equipment which includes identity, type of breach, location, and time.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE HAZMAT Detection	1	The roadside check facility equipment shall detect the presence of commercial vehicles and freight equipment approaching a facility. Sensors can differentiate between different types of vehicles and determine the number of axles, gross vehicle weight, presence of security sensitive hazardous materials, and the identification of the vehicle and its cargo.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE HAZMAT Detection	2	The roadside check facility equipment shall detect the presence of security sensitive substances, e.g. detection of radiation or ammonia compounds, carried on-board commercial vehicles and freight equipment approaching a facility. This data is acquired by roadside sensors from the freight equipment electronically, optically, or manually.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE HAZMAT Detection	3	The roadside check facility equipment shall receive the credential information (e.g. snapshots) from the commercial vehicle administration center to maintain an up to date list of which vehicles with hazardous materials shipments have been cleared (enrolled).	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE HAZMAT Detection	4	The roadside check facility equipment shall send a pass/pull-in notification to the commercial vehicle and its driver based on the hazmat information received from the vehicle, the freight equipment, or the administration center. The message may be sent to the on-board equipment in the commercial vehicle via nearby connected vehicle roadside equipment or transmitted to the driver using equipment such as dynamic message signs, red-green lights, flashing signs, etc.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE HAZMAT Detection	5	The roadside check facility equipment shall raise and forward an alarm to the appropriate emergency management center if the hazmat-carrying commercial vehicle does not stop, or in the case of a positive identification of an unpermitted security sensitive hazmat cargo, to coordinate a traffic stop or some other action with respect to the offending commercial vehicle. The alarm will include information concerning the security sensitive hazmat detected at the roadside including the location, appropriate identifiers, route deviation, or assignment mismatches between the driver, commercial vehicle, or the freight equipment.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	1	The roadside check facility equipment shall receive information concerning commercial vehicles and freight equipment approaching a facility that are being pulled in for safety and security inspections.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	2	The roadside check facility equipment shall receive the safety and security inspection and status information from the commercial vehicle administration center to include information such as safety ratings, inspection summaries, and violation summaries.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	3	The roadside check facility equipment shall provide an interface to inspectors in the field to update safety inspection data including overrides to the pull-in decisions made by the system.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	4	The roadside check facility equipment shall request and input electronic safety data from the commercial vehicle's electronic tag data. This includes identities, driver logs, on-board safety data, safety inspection records, commercial vehicle breach information, as well as freight equipment information.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	5	The roadside check facility equipment shall send a pass/pull-in notification to the commercial vehicle and its driver based on the information received from the vehicle, the administration center, and the inspector. The message may be sent to the on-board equipment in the commercial vehicle or transmitted to the driver using equipment such as dynamic message signs, red-green lights, flashing signs, etc.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	6	The roadside check facility equipment shall receive driver records, accident reports, and citation records from the commercial vehicle administration center to support driver identification and access to driver credentials and history information.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	7	The roadside check facility equipment shall read expected driver identity characteristics (e.g., PIN codes and biometric data) from the commercial vehicle equipment to support safety and security checking.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	8	The roadside check facility equipment shall read the driver identification card provided by the commercial vehicle driver and support cross-check of the identification data with driver records.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	9	The roadside check facility equipment shall forward results of the roadside safety inspections to the commercial vehicle administration center.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	10	The roadside check facility equipment shall support wireless roadside inspections that are conducted remotely, forwarding data provided by the commercial vehicle via Field-Vehicle communications to the center that performs the safety assessment.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Safety and Security Inspection	11	The roadside check facility equipment shall monitor the safety of commercial vehicles that have been remotely disabled, based on mismatched identities, or other situations as directed by commercial vehicle fleet management and the appropriate emergency management center.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Weigh-In-Motion	1	The roadside check facility equipment shall detect the presence of commercial vehicles and freight equipment approaching a facility.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Weigh-In-Motion	2	The roadside check facility equipment shall request and input electronic screening data from the commercial vehicle's electronic tag data.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Weigh-In-Motion	3	The roadside check facility equipment shall send a pass/pull-in notification to the commercial vehicle and its driver based on the information received from the vehicle and the measurements taken. The message may be sent to the on-board equipment in the commercial vehicle or transmitted to the driver using equipment such as dynamic message signs, red-green lights, flashing signs, etc.	Planned
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Weigh-In-Motion	4	The roadside check facility equipment shall differentiate between different types of commercial vehicles, including number of axles, presence of containers, and types of connected freight equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CHP Weigh-in-Motion	Commercial Vehicle Check Equipment	CVCE Weigh-In-Motion	5	The roadside check facility equipment shall determine the gross vehicle weight, weight per axle, and the identification of a passing commercial vehicle and its cargo.	Planned
CHP Weigh-in-Motion	Connected Vehicle Roadside Equipment	RSE Commercial Vehicle Services	1	The field element shall communicate with approaching properly equipped commercial vehicles at mainline speeds for automated vehicle identification and credential checking.	Planned
CHP Weigh-in-Motion	Connected Vehicle Roadside Equipment	RSE Commercial Vehicle Services	2	The field element shall forward the collected vehicle information to commercial vehicle administration centers.	Planned
CHP Weigh-in-Motion	Connected Vehicle Roadside Equipment	RSE Commercial Vehicle Services	3	The field element shall send a pass/pull-in notification to the commercial vehicle and its driver based on the information received from the vehicle and the measurements taken.	Planned
CHP Weigh-in-Motion	Connected Vehicle Roadside Equipment	RSE Commercial Vehicle Services	4	The field element shall send the roadside safety inspections record to commercial vehicle administration operations.	Planned
CHP Weigh-in-Motion	Connected Vehicle Roadside Equipment	RSE Commercial Vehicle Services	5	The field element shall receive container manifest data and status of the electronic seal on a container.	Planned
CHP Weigh-in-Motion	Connected Vehicle Roadside Equipment	RSE Commercial Vehicle Services	6	The field element shall forward the collected vehicle information to commercial vehicle check facilities.	Planned
CHP Weigh-in-Motion	Connected Vehicle Roadside Equipment	RSE Infrastructure Restriction Warning	1	The roadside equipment shall provide infrastructure restriction warnings to connected vehicles.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	1	The center shall manage electronic credentials filing and processing for commercial vehicles.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	2	The center shall manage the filing of appropriate taxes for the operation of commercial vehicles.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	3	The center shall process requests for payments of electronic credentials and tax filing, maintaining an interface to a Financial Institution as necessary.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	4	The center shall exchange credentials and tax information with other commercial vehicle administration centers, either other states or the federal government.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	5	The center shall provide route restrictions information, including hazmat restrictions, to other centers and agencies for distribution to commercial vehicle operators. These centers and agencies may include commercial fleet and freight management operators, traveler information centers, digital map update providers, and other commercial vehicle administration centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	6	The center shall use information on asset restrictions received from maintenance centers to develop the commercial vehicle route restrictions and process credentials applications.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	7	The center shall provide an interface with commercial vehicle fleet and freight management centers to exchange audit and compliance review reports.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	8	The center shall provide credentials information about commercial vehicle operators and carriers to authorized requestors, including roadside check stations that determine when a vehicle should be pulled-in based on their credentials and their actual load/freight contents.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	9	The center shall receive and store information on commercial vehicle violations from enforcement agencies as part of the processing of credentials applications.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	10	The center shall manage driver licensing for commercial vehicle drivers.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	11	The center shall enroll carriers in commercial vehicle programs and support user account management.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	12	The center shall process requests for review of carrier and driver status.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Credentials and Taxes Administration	13	The center shall issue special Oversize/Overweight and HAZMAT permits in coordination with other cognizant authorities.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Information Exchange	1	The center shall exchange information with roadside check facilities, including credentials and credentials status information, safety status information, daily site activity data, driver records, and citations.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Information Exchange	2	The center shall exchange safety and credentials data among other commercial vehicle administration centers, including border clearance status, credentials information, credentials status information, driver records, accident reports, permit information, and safety status information.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Information Exchange	3	The center shall package data concerning commercial vehicle safety and credentials into snapshots (top-level summary and critical status information).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Information Exchange	4	The center shall package data concerning commercial vehicle safety and credentials into profiles (detailed and historical data).	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Information Exchange	5	The center shall provide reports to the commercial vehicle fleet manager regarding fleet activity through roadside facilities including accident reports, citations, credentials status information, driver records, and safety status information.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Information Exchange	6	The center shall provide commercial vehicle credentials and safety status information to authorized requestors such as insurance agencies.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Information Exchange	7	The center shall inform fleet and freight management when certain geographic areas and time periods have been identified for screening and commercial vehicle enforcement. These trigger areas may be shared with the centers or with the field.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	1	The center shall provide commercial vehicle safety and security data to roadside check facilities.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	2	The center shall collect and review safety inspection reports and violations from the roadside check facilities and pass on appropriate portions to other commercial vehicle administrative centers and commercial vehicle fleet operators.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	3	The center shall notify enforcement agencies of commercial vehicle safety violations by individual commercial vehicles, drivers, or carriers.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	4	The center shall provide commercial vehicle accident reports to enforcement agencies and the commercial fleet management center.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	5	The center shall receive citation records from roadside check facilities.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	6	The center shall manage the citation records and provide the citations to enforcement agencies and the commercial fleet management center.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	7	The center shall provide the capability for the commercial fleet management center to report required commercial vehicle repairs and other corrections of identified deficiencies.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	8	The center shall support carrier enrollment in wireless roadside inspection programs.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	9	The center shall manage and distribute information about trigger areas where wireless inspections will occur.	Planned
Commercial Vehicle Administration Centers	Commercial Vehicle Administration Center	CVAC Safety and Security Administration	10	The center shall monitor the condition of the commercial vehicle and driver using wireless communications at identified trigger areas.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	1	The commercial vehicle shall compute the location of the commercial vehicle and its freight equipment.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	2	The commercial vehicle shall monitor on-board systems and record measures such as weight, vehicle security status, vehicle safety status, vehicle identity, driver status, driver safety status, distance traveled, and brake condition.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	3	The commercial vehicle shall monitor information concerning the freight equipment including cargo type, HAZMAT designation (if any) for the cargo, cargo weight, the type of container in which the cargo is held, safety condition of the cargo.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	4	The commercial vehicle shall forward information concerning the freight equipment on to its fleet and freight management center as well as the roadside check facility.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	5	The commercial vehicle shall send notification of a hazmat spill to the appropriate emergency management center in case of an incident including the information from cargo sensors, vehicle location, and the carrier identification.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	6	The commercial vehicle shall send notification of a hazmat spill to and share them with the arriving public safety vehicles, including the information from cargo sensors, vehicle location, and the carrier identification.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	7	The commercial vehicle shall provide status of the electronic seal on a container, including sealing time, location, and authority, and any openings or tampering to field check devices.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	8	The commercial vehicle shall send information from on-board safety systems, including its cargo or freight equipment, to roadside facilities.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	9	The commercial vehicle shall provide an interface with the driver to be presented with and respond to alerts, either visual or audible, concerning the safety and security of the vehicle and its cargo. Alerts and messages specific to commercial vehicles include trucks not advised on a route, trucks over 10 tons not allowed on bridge, route details, detected route deviations and warning indications detected by on-board sensors (e.g., safety) and freight equipment sensors (e.g., breach, cargo).	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	10	The commercial vehicle shall provide a mechanism for an operator to manually enter the contents of a freight container into onboard equipment.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Cargo Monitoring	11	The commercial vehicle shall send on-board systems data passing connected vehicles, including emergency vehicles.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Electronic Screening Support	1	The commercial vehicle shall receive pass/pull-in messages from the roadside check facilities and present them to the driver in either audible or visual forms.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Electronic Screening Support	2	The commercial vehicle shall respond to requests to provide data accumulated on-board the vehicle to roadside check facilities for inspection including driver logs, electronic identifiers, credentials, border clearance data, and other screening data such as cargo status, hazmat identifiers, out of service status, vehicle axle weight, vehicle weight, and time.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Electronic Screening Support	3	The commercial vehicle shall respond to requests to provide the identity, status and other information from the electronic cargo lock tag, if so equipped, to roadside check facilities, including border crossings.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Electronic Screening Support	4	The commercial vehicle shall support an interface to a commercial vehicle driver that is also acting in the role of a commercial vehicle fleet manager to set up routes, pay necessary taxes, obtain proper credentials, and write the identifiers to the electronic tag for the driver, vehicle, and carrier.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	1	The commercial vehicle shall receive pass/pull-in messages from the roadside check facilities and present them to the driver in either audible or visual forms.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	2	The commercial vehicle shall respond to requests to provide on-board safety inspection data to roadside check facilities including vehicle identification, driver logs, and characteristics data for initiating safety and security checking. Results of the inspection are read back into the on-board equipment.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	3	The commercial vehicle shall monitor on-board systems pertaining to the safety and security of the vehicle, its driver, and its cargo/freight equipment; and provide the information to the driver, roadside check facilities, and commercial fleet management centers.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	4	The commercial vehicle shall provide information concerning a breach or tamper event on a commercial vehicle or its attached freight equipment to roadside check facilities and to the commercial fleet management center, the information includes identity, type of breach, location, and time.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	5	The commercial vehicle shall provide expected driver identity characteristics (e.g., PIN codes and biometric data) to roadside check facilities to support safety and security checking.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	6	The commercial vehicle shall provide information about previous attempts to disable the commercial vehicle to roadside check facilities.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	7	The commercial vehicle shall provide safety information at predetermined trigger areas using wireless communications.	Operate
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	8	The commercial vehicle shall record the results of roadside safety inspections.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Safety and Security	9	The commercial vehicle shall provide infrastructure restriction warnings to the driver based upon information received from roadside equipment.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	1	The commercial vehicle shall compute the location of the commercial vehicle and its freight equipment based on inputs from commercial vehicle measures (e.g. identity, distance traveled, etc.) and a positioning system.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	2	The commercial vehicle shall provide details of the route to the driver as received from the commercial vehicle fleet management center.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	3	The commercial vehicle shall provide warnings to the driver when the vehicle's location has deviated from its planned route.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	4	The commercial vehicle shall warn the commercial vehicle fleet management center when the vehicle's location has deviated from its planned route.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	5	The commercial vehicle shall maintain the driver's daily log, vehicle location, mileage, and trip activity (includes screening, inspection and border clearance event data as well as fare payments) and distribute it to the driver and to the commercial vehicle fleet management center upon request.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	6	The commercial vehicle shall provide on-board vehicle data to the commercial vehicle fleet management center upon request - includes location, credentials, driver license citations, fuel purchase data, identity details, inspection data, log data, service records, safety systems diagnostics, and freight equipment data.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	7	The commercial vehicle shall maintain the interface between the vehicle, its driver, and the commercial vehicle fleet management center for dispatch, routing, and special instructions as well as payment, and enrollment information.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	8	The commercial vehicle shall receive customized traveler information from traveler information centers to include truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	9	The commercial vehicle shall collect and process environmental sensor data, including air temperature and rain sensors.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	10	The commercial vehicle shall transmit environmental probe data to the center along with location and timestamp information.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	11	The vehicle shall warn the driver of a vehicle whose weight exceeds the weight limit for a bridge or roadway sufficiently before entering the bridge or roadway so that the driver may act to avoid going on the road segment for which the vehicle is overweight.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	12	The vehicle shall warn the driver of a potential crash due to over height/over width, sufficiently before the potential crash's occurrence that the driver may act to avoid the crash.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	13	The vehicle shall calculate whether the vehicle is at risk of crash by entering the size-restricted roadway.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	14	The vehicle shall calculate whether the vehicle is at risk of entering the weight-restricted roadway.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	15	The vehicle shall determine the host vehicle's weight.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	16	The vehicle shall determine the host vehicle's physical size characteristics (height, width).	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	17	The vehicle shall determine the roadway's size characteristics (clearance height, width, geometry).	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	18	The vehicle shall determine the location of the vehicle relative to the location of the size-restricted or weight restricted roadway.	Planned
Commercial Vehicles	Commercial Vehicle OBE	CV On-Board Trip Monitoring	19	The vehicle shall determine the roadway's size characteristics (clearance height, width, geometry).	Planned
Commercial Vehicles	Vehicle OBE	Vehicle Environmental Monitoring	1	The vehicle shall collect and process environmental sensor data, including air temperature and rain sensors.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Commercial Vehicles	Vehicle OBE	Vehicle Environmental Monitoring	2	The vehicle shall monitor the status of vehicle convenience and safety systems (wiper status, headlight status, traction control system status) that can be used to measure environmental conditions and record snapshots of significant events in these systems.	Planned
Commercial Vehicles	Vehicle OBE	Vehicle Environmental Monitoring	3	The vehicle shall transmit environmental probe data to the center along with location and timestamp information.	Planned
Commercial Vehicles	Vehicle OBE	Vehicle Environmental Monitoring	4	The vehicle shall transmit environmental probe data to field equipment located along the roadway using short range communications.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CommuteKern	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
CommuteKern	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Planned
CommuteKern	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	1	The center shall provide the capability to provide specific pre-trip and en route directions to travelers (and drivers), including costs, arrival times, and transfer points.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	2	The center shall include bicycle routes, walkways, skyways, and multi-use trails in the pre-trip and en route directions it provides to travelers.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	3	The center shall support on-line route guidance for travelers using personal devices (such as PDAs).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
CommuteKern	Transportation Information Center	TIC Trip Planning	4	The center shall support on-line route guidance for drivers in vehicles.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	5	The center shall support on-line route guidance for specialty vehicles, such as commercial vehicles.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	6	The center shall generate route plans based on current and/or predicted conditions of the road network, scheduled maintenance and construction work activities, and work zone activities.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	7	The center shall generate route plans based on transit services, including fares, schedules, and requirements for travelers with special needs.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	8	The center shall generate route plans based on current asset restrictions, such as height and weight restrictions on tunnels or bridges.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	9	The center shall generate route plans based on ferry, rail, air, or other multimodal transportation data.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	10	The center shall exchange route segment information with other centers outside the area served by the local center.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	11	The center shall generate trips based on the use of more than one mode of transport.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	12	The center shall use the preferences and constraints specified by the traveler in the trip request to select the most appropriate mode of transport.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	13	The center shall provide the capability for the traveler to confirm the proposed trip plan.	Planned
CommuteKern	Transportation Information Center	TIC Trip Planning	14	The center shall provide the capability for center personnel to control route calculation parameters.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Intersection Management	1	The field element shall communicate with passing vehicles to provide the current signal phase and timing information for all lanes and approaches at a signalized intersection.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Intersection Management	2	The field element shall send the request for emergency vehicle preemption to a traffic signal controller that results in preemption of the current control plan and grants right-of-way to the requesting vehicle.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Intersection Management	3	The field element shall send the infrastructure application status to the operations center.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Intersection Management	4	The field element shall send the request for commercial vehicle priority to a traffic signal controller that results in priority of the current control plan and grants right-of-way to the requesting vehicle.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Intersection Management	5	The field element shall receive transit signal priority requests from transit vehicles and forward to the traffic signal controller	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Intersection Management	6	The field element shall receive emergency vehicle preemption requests from emergency vehicles and forward to the traffic signal controller.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Intersection Management	7	The field element shall determine when special vehicles requesting preemption or priority at a signal are authorized to do so based on their digital credentials.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Situation Monitoring	1	The field element shall collect traffic-related data including snapshots of measured speed and heading and events including starts and stops, speed changes, and other vehicle control from vehicles.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Situation Monitoring	2	The field element shall collect provide vehicle situation data to a center for archival.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Situation Monitoring	3	The field element shall provide data collection parameters to vehicles.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Situation Monitoring	4	The field element shall collect sensor data from ITS Roadway Equipment.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Situation Monitoring	5	The field element shall provide collected vehicle situation and local sensor data to data distribution centers.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Traffic Monitoring	1	The field element shall communicate with on-board equipment on passing vehicles to collect current vehicle position, speed, and heading and a record of previous events (e.g., starts and stops, link travel times) that can be used to determine current traffic conditions.	Planned
Connected Vehicle RSU	Connected Vehicle Roadside Equipment	RSE Traffic Monitoring	2	The field element shall aggregate and forward collected probe information to the center.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Field Device Support	1	The field element shall monitor the operational status of field devices and detects and reports fault conditions.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern CCTV	ITS Roadway Equipment	Roadway Field Device Support	2	The field element shall detect and report any fault conditions with the equipment being monitored back to its controlling center.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Field Device Support	3	The field element shall provide the capability for field personnel to locally control and configure this equipment.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Field Device Support	4	The field element shall support an interface with field support equipment to accept installation of updates or configuration of field operations.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Incident Detection	1	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Incident Detection	2	The field element shall remotely process video data and provide an indication of potential incidents to the traffic management center.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Incident Detection	3	The field element's video devices shall be remotely controlled by a traffic management center.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Incident Detection	4	The field element shall provide operational status and fault data for the incident detection devices to the traffic management center.	Planned
County of Kern CCTV	ITS Roadway Equipment	Roadway Passive Monitoring	1	The field element shall collect, process, and send data to the center to uniquely identify passing vehicles to support travel time measurement	Planned
County of Kern CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
County of Kern CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
County of Kern CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
County of Kern CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
County of Kern CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
County of Kern CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
County of Kern CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	1	The center shall collect data from centers.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	2	The center shall collect data catalogs from one or more data sources. A catalog describes the data contained in the collection of archived data and may include descriptions of the schema or structure of the data, a description of the contents of the data; e.g., time range of entries, number of entries; or a sample of the data (e. g. a thumbnail).	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	3	The center shall store collected data in an information repository.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	4	The center shall perform quality checks on collected data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	5	The center shall notify the system operator of errors related to data collection, analysis and archival.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	6	The center shall include capabilities for archive to archive coordination.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	7	The center shall provide the capability to execute methods on the incoming data such as cleansing, summarizations, aggregations, or transformations applied to the data before it is stored in the archive.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	8	The center shall collect data from data distribution systems and other data sources.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	9	The center shall respond to requests from the administrator interface function to manage center-sourced data collection.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	10	The center shall respond to requests from the administrator interface function to manage the archive data.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	11	The center shall respond to requests for archive data from archive data users (centers, field devices).	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	12	The center shall provide a mechanism for archive data users to request archive data by meta-data range.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Data Repository	13	The center shall associate meta-data with archived data, including catalog data, statistical products determined from method execution and data longevity.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Government Reporting	1	The center shall provide archive data to federal, state, and local government reporting systems.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Government Reporting	2	The center shall respond to requests for government report data.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Government Reporting	3	The center shall provide the capability to format data suitable for input into government reports.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Government Reporting	4	The center shall provide the applicable meta-data for any ITS archived data to satisfy government reporting system requests. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
County of Kern Data Warehouse	Archived Data System	Archive On-Line Analysis and Mining	1	The center shall respond to requests for archive data from center users.	Planned
County of Kern Data Warehouse	Archived Data System	Archive On-Line Analysis and Mining	2	The center shall provide the capability to perform activities such as data mining, data fusion, summarizations, aggregations, and recreation from archive data. This may include multidimensional analysis, selective summarization and expansion of data details, and many other advanced analysis services.	Planned
County of Kern Data Warehouse	Archived Data System	Archive On-Line Analysis and Mining	3	The center shall collect regional data from data distribution centers.	Planned
County of Kern Data Warehouse	Archived Data System	Archive On-Line Analysis and Mining	4	The center shall respond to user's systems requests for a catalog of the archived data analysis products available.	Planned
County of Kern Data Warehouse	Archived Data System	Archive On-Line Analysis and Mining	5	The center shall be capable of processing vehicle probe data into transportation network performance measures.	Planned
County of Kern Data Warehouse	Archived Data System	Archive On-Line Analysis and Mining	6	The center shall be capable of processing vehicle probe data to support infrastructure conditions monitoring performed by Archived Data User Systems including maintenance and construction management centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Data Warehouse	Archived Data System	Archive On-Line Analysis and Mining	7	The center shall be capable of processing vehicle probe data to determine roadway environmental conditions for non-operational uses such as maintenance planning and research.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Situation Data Archival	1	The center shall collect data from roadside devices.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Situation Data Archival	2	The center shall respond to requests from the administrator interface function to manage field-sourced data collection.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Situation Data Archival	3	The center shall provide the capability to adjust the collection of field-sourced data based on the statistical measures.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Situation Data Archival	4	The center shall collect vehicle traffic probe data for performance monitoring and analysis.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Situation Data Archival	5	The center shall be capable of archiving vehicle traffic probe data.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Situation Data Archival	6	The center shall provide the capability to execute methods on the incoming field data such as aggregation and statistical measures before the data is stored in the archive.	Planned
County of Kern Data Warehouse	Archived Data System	Archive Situation Data Archival	7	The center shall respond to requests from the administrator interface function to select and manage data stored in the archive.	Planned
County of Kern Detection	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
County of Kern Detection	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
County of Kern Detection	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
County of Kern Detection	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
County of Kern Detection	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
County of Kern Detection	ITS Roadway Equipment	Roadway Passive Monitoring	1	The field element shall collect, process, and send data to the center to uniquely identify passing vehicles to support travel time measurement	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	1	The emergency vehicle, including roadway service patrols, shall track its current location.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	2	The emergency vehicle, including roadway service patrols, shall send the vehicle's location and operational data to the center for emergency management and dispatch.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	3	The emergency vehicle, including roadway service patrols, shall receive incident details and a suggested route when dispatched to a scene.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	4	The emergency vehicle shall send the current en route status (including estimated time of arrival) and requests for emergency dispatch updates.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	5	The emergency vehicle shall send requests to traffic signal control equipment at the roadside to preempt the signal.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	6	The emergency vehicle shall provide the personnel on-board with dispatch information, including incident type and location, and forward an acknowledgment from personnel to the center that the vehicle is on its way to the incident scene.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	7	The emergency vehicle shall send patient status information to the care facility along with a request for further information.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	8	The emergency vehicle shall forward care facility status information to emergency vehicle personnel, including the location, specialized services, quality of care, waiting time, number of rooms available, and emergency room status of hospitals or emergency care providers.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	9	The emergency vehicle shall send the vehicle's location, speed and direction to other vehicles in the area.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	10	The roadway service patrols vehicle shall monitor roads and aid motorists, offering rapid response to minor incidents (flat tire, accidents, out of gas).	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	11	The emergency vehicle shall receive the crash data from connected vehicles involved in a crash.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	12	The emergency vehicle shall receive the HAZMAT information from commercial vehicles involved in a crash.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	1	The emergency vehicle shall receive dispatch instructions sufficient to enable emergency personnel in the field to implement an effective incident response. It includes local traffic, road, and weather conditions, hazardous material information, and the status of resources that have been allocated to an incident.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	2	The emergency vehicle shall provide an interface to the center for emergency personnel to transmit information about the incident site such as the extent of injuries, identification of vehicles and people involved, hazardous material, etc.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	3	The emergency vehicle shall provide an interface to the center for emergency personnel to transmit information about the current incident response status such as the identification of the resources on site, site management strategies in effect, and current clearance status.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	4	The emergency vehicle shall provide traffic incident information to other emergency vehicles using short range communications.	Operate
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	5	The emergency vehicle shall receive container manifest and status of the electronic seal on a container.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	6	The emergency vehicle shall inspect the electronic seal on a container to verify the container has not been opened or tampered with.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	7	The vehicle shall collect vehicle occupants' electronic medical records to support emergency dispatch and staging of personnel and equipment.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	8	The emergency vehicle shall exchange information with other emergency vehicles to support the decision making and overall incident response.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	1	The service patrol vehicle shall track its current location.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	2	The service patrol vehicle shall send the vehicle's location and operational data to the center for dispatch.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	3	The service patrol vehicle shall receive incident details and a suggested route when dispatched to a scene.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	4	The service patrol vehicle shall send the current en route status (including estimated time of arrival) and requests for emergency dispatch updates.	Planned
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	5	The service patrol vehicle shall provide the personnel on-board with dispatch information, including incident type and location, and forward an acknowledgment from personnel to the center that the vehicle is on its way to the incident scene.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	6	The service patrol vehicle shall update the center with status of an incident response including the nature of the incident, e.g. flat tire, gas, minor accident.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	1	The vehicle shall provide the capability for a driver to report an emergency and summon assistance.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	2	The vehicle shall provide the capability to accept input from a driver via a panic button or some other functionally similar form of input device provided as part of the in-vehicle equipment.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	3	The vehicle shall provide the capability to automatically identify that a collision has occurred using equipment such as collision detection sensors with an interface to mayday type equipment that would automatically detect vehicle problems and send appropriate distress signals to a center.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	4	The vehicle shall forward a request for assistance to a center containing the driver's current location, its identity and basic vehicle data relevant to its current condition, as well as any other data, such as personal medical history, vehicle orientation, etc., that may be developed in-vehicle by other systems.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	5	The vehicle shall acknowledge the driver's request for emergency assistance.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	6	The vehicle shall provide further details about the emergency to the center upon request from that function.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	7	The vehicle shall provide the capability to broadcast emergency alerts to remote connected vehicles or nearby roadside units.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	8	The vehicle shall provide the capability to receive and rebroadcast emergency alerts received from other remote connected vehicles.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	9	The vehicle shall broadcast information about the vehicle when a collision occurs, including: position, change in velocity, vehicle orientation, airbag status, call-back number, video, and multiple impact indicators.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	10	The vehicle shall broadcast information about the vehicle's occupants when a collision occurs, including: number of occupants, seat belt use, and passenger special medical needs.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	11	The vehicle shall broadcast information about the vehicle's contents when a collision occurs, including: freight equipment type (box, flatbed, trailer, container, etc.), type of cargo (refrigerated, non-perishable, liquid, etc.), hazardous material data, quantity of cargo, and cargo permits as applicable (hazmat, special routing permissions).	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	12	The vehicle shall determine if a received collision notification message should be retransmitted based on criteria such as the distance from position of message origin or the number of retransmissions already made.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	13	The vehicle shall increment the number of retransmissions of a collision notification as part of the retransmitted message.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	1	The vehicle shall provide the capability for a driver to report an emergency and summon assistance.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	2	The vehicle shall provide the capability to accept input from a driver via a panic button or some other functionally similar form of input device provided as part of the in-vehicle equipment.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	3	The vehicle shall acknowledge the driver's request for emergency assistance.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	4	The vehicle shall collect vehicle characteristics describing the vehicles typical and real time configuration, including damage to vehicle components.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	5	The vehicle shall notify emergency responders of the characteristics and damage identified to the vehicle involved in a collision.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	6	The vehicle shall provide the capability to automatically identify that a collision has occurred using equipment such as collision detection sensors with an interface to mayday type equipment that would automatically detect vehicle problems and send appropriate distress signals to the arriving public safety vehicles.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	7	The vehicle shall collect vehicle operational state information from the host vehicle.	Planned
County of Kern Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	8	The vehicle shall analyze vehicle operational state information to determine if the host vehicle has been involved in a collision.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Barrier System Control	1	The field element shall activate barrier systems for transportation facilities and infrastructure under center control. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Barrier System Control	2	The field element shall return barrier system operational status to the controlling center.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Barrier System Control	3	The field element shall return barrier system fault data to the maintenance center for repair.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Barrier System Control	4	The field element shall receive requests for access from approaching vehicles using field-vehicle communications and validate and authenticate the requests.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Barrier System Control	5	The field element shall grant access only to qualified vehicles.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Barrier System Control	6	The field element shall communicate access permission status and access instructions to approaching vehicles using field-vehicle communications.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Work Zone Traffic Control	1	The field element shall collect, process, and send work zone images to the center for further analysis and distribution, under center control.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Work Zone Traffic Control	2	Under traffic and maintenance center control, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around the work zone through which they are currently passing.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Work Zone Traffic Control	3	Under the control of field personnel within maintenance vehicles, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around a work zone through which they are currently passing.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Work Zone Traffic Control	4	The field element shall control access to the work zone using automated gate or barrier systems. This includes automated flagger assistance devices that include automated gate arms and other automated gate/barrier systems.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Work Zone Traffic Control	5	The field element shall provide operational status for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center.	Planned
County of Kern Environmental Sensors	ITS Roadway Equipment	Roadway Work Zone Traffic Control	6	The field element shall provide fault data for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center for repair.	Planned
County of Kern EOC	Emergency Management Center	Emergency Commercial Vehicle Response	1	The center shall receive alerts about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
County of Kern EOC	Emergency Management Center	Emergency Commercial Vehicle Response	2	The center shall receive emergency notification information from commercial vehicles, commercial vehicle check stations, or commercial fleet operators and present the possible incident information to the emergency system operator. This may include detection of non-permitted transport of security sensitive hazmat, hazardous cargo spills, etc.	Planned
County of Kern EOC	Emergency Management Center	Emergency Commercial Vehicle Response	3	The center shall receive details of the cargo being carried by commercial vehicles from their commercial fleet manager for incidents involving potential hazardous materials.	Planned
County of Kern EOC	Emergency Management Center	Emergency Commercial Vehicle Response	4	The center shall forward the verified emergency information to the responding agency based on the location and nature of the emergency.	Planned
County of Kern EOC	Emergency Management Center	Emergency Commercial Vehicle Response	5	The center shall provide the capability to request Fleet and Freight Management to disable a specific vehicle in their fleet.	Planned
County of Kern EOC	Emergency Management Center	Emergency Data Collection	1	The center shall collect emergency service data, emergency vehicle management data, emergency vehicle data, sensor and surveillance data, threat data, and incident data.	Planned
County of Kern EOC	Emergency Management Center	Emergency Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the emergency management data or for the data itself.	Planned
County of Kern EOC	Emergency Management Center	Emergency Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	1	The center shall dispatch emergency vehicles to respond to verified emergencies under center personnel control.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	2	The center shall store the status of all emergency vehicles available for dispatch and those that have been dispatched.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	3	The center shall relay location and incident details to the responding vehicles.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	4	The center shall track the location and status of emergency vehicles responding to an emergency based on information from the emergency vehicle.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	5	The center shall store and maintain the emergency service responses in an action log.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	6	The center shall coordinate response to incidents with other Emergency Management centers to ensure appropriate resources are dispatched and utilized.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	7	The center shall receive traffic images to support dispatch of emergency vehicles.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	8	The center shall provide the capability to request remote control of traffic surveillance devices.	Planned
County of Kern EOC	Emergency Management Center	Emergency Dispatch	9	The center shall process road and weather conditions to provide updates to responding personnel.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	1	The center shall monitor information from Alerting and Advisory Systems such as the Information Sharing and Analysis Centers (ISACs), the National Infrastructure Protection Center (NIPC), the Homeland Security Advisory System (HSAS), etc. The information may include assessments (general incident and vulnerability awareness information), advisories (identification of threats or recommendations to increase preparedness levels), or alerts (information on imminent or in-progress emergencies).	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	2	The center shall receive incident information from other transportation management centers to support the early warning system.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	3	The center shall support the entry of alert and advisory information directly from the emergency system operator.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	4	The center shall receive potential incident information from social media sources to support the early warning system.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	5	The center shall provide the capability to correlate alerts and advisories, incident information, and security sensor and surveillance data.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	6	The center shall broadcast wide-area alerts and advisories to traffic management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	7	The center shall broadcast wide-area alerts and advisories to transit management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	8	The center shall broadcast wide-area alerts and advisories to toll administration centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	9	The center shall broadcast wide-area alerts and advisories to traveler information service providers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	10	The center shall broadcast wide-area alerts and advisories to maintenance centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	11	The center shall broadcast wide-area alerts and advisories to other emergency management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	12	The center shall broadcast wide-area alerts and advisories to commercial vehicle administration centers and roadside check facilities for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	13	The center shall process status information from each of the centers that have been sent the wide-area alert.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	14	The center shall coordinate the broadcast of wide-area alerts and advisories with other emergency management centers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Early Warning System	15	The center shall present the alert and advisory information and the status of the actions taken in response to the alert by the other centers to the emergency system operator as received from other system inputs.	Planned
County of Kern EOC	Emergency Management Center	Emergency Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Environmental Monitoring	2	The center shall collect road network conditions data, including advisories, from traffic management and traveler information centers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Environmental Monitoring	3	The center shall collect asset restrictions information from roadway maintenance operations.	Planned
County of Kern EOC	Emergency Management Center	Emergency Environmental Monitoring	4	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
County of Kern EOC	Emergency Management Center	Emergency Environmental Monitoring	5	The center shall provide the road and weather warning and advisories to the emergency responders.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	1	The center shall manage inter-agency coordination of evacuation operations, from initial planning through the evacuation process and reentry.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	2	The center shall develop and exchange evacuation plans with allied agencies prior to the occurrence of a disaster.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	3	The center shall provide an interface to the emergency system operator to enter evacuation plans and procedures and present the operator with other agencies' plans.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	4	The center shall coordinate evacuation destinations and shelter needs with shelter providers (e.g., the American Red Cross) in the region.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	5	The center shall provide evacuation information to traffic, transit, maintenance and construction, rail operations, and other emergency management centers as needed.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	6	The center shall request resources from transit agencies as needed to support the evacuation.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	7	The center shall request traffic management agencies to implement special traffic control strategies and to control evacuation traffic, including traffic on local streets and arterials as well as the major evacuation routes.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	8	The center shall provide traveler information systems with evacuation guidance including basic information to assist potential evacuees in determining whether evacuation is necessary and when it is safe to return.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	9	The center shall monitor the progress or status of the evacuation once it begins and exchange tactical plans, prepared during the incident, with allied agencies.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	10	The center shall monitor the progress of the reentry process.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	11	The center shall submit evacuation information to toll administration centers along with requests for changes in the toll services or fee collection during an evacuation.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	12	The center shall retrieve information from public health systems to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	13	The center shall make use of population and housing data to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
County of Kern EOC	Emergency Management Center	Emergency Evacuation Support	14	The center shall maintain information on the population of an area in the event of an evacuation, including addresses, types of facility (residence, multi-family dwelling, commercial retail, commercial office, etc.), and special considerations (storage of flammable liquids, special needs residents).	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	1	The center shall provide tactical decision support, resource coordination, and communications integration for first responders to support local management of an incident.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	2	The center shall provide incident command communications with public safety, emergency management, transportation, and other allied response agency centers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	3	The center shall track and maintain resource information and action plans pertaining to the incident command.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	4	The center shall share incident command information with other public safety agencies including resource deployment status, hazardous material information, rail incident information, evacuation advice as well as traffic, road, and weather conditions.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	5	The center shall assess the status of responding emergency vehicles as part of an incident command.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	6	The center shall provide other agencies real-time information on the current conditions at the incident scene.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	7	The center shall collect modeling program outputs to support emergency dispatch and staging of personnel and equipment, e.g. predicted HAZMAT plumes or crash severity predictions.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	8	The center shall collect information about freight or cargo to support emergency dispatch and staging of personnel and equipment, e.g. cargo manifest or HAZMAT information.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	9	The center shall collect medical care facility capabilities and availability, e.g., trauma level supported to support emergency dispatch and staging of personnel and equipment.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	10	The center shall collect on-scene reports to support emergency dispatch and staging of personnel and equipment.	Planned
County of Kern EOC	Emergency Management Center	Emergency Incident Command	11	The center shall provide situational awareness information to emergency responders about an incident, both en-route and while they are on-scene.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Incident Command	12	The center shall provide status of the current conditions at the incident scene to arriving responders.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	1	The center shall provide strategic emergency response capabilities provided by an Emergency Operations Center for large-scale incidents and disasters.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	2	The center shall manage coordinated inter-agency responses to and recovery from large-scale emergencies. Such agencies include traffic management, transit, maintenance and construction management, rail operations, and other emergency management agencies.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	3	The center shall provide the capability to implement response plans and track progress through the incident by exchanging incident information and response status with allied agencies.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	4	The center shall develop, coordinate with other agencies, and store emergency response plans.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	5	The center shall track the availability of resources and coordinate resource sharing with allied agency centers including traffic, maintenance, or other emergency centers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	6	The center shall allocate the appropriate emergency services, resources, and vehicle (s) to respond to incidents, and shall provide the capability to override the current allocation to suit the special needs of a current incident.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	7	The center shall receive event scheduling information from Event Promoters.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	8	The center shall support remote control of field equipment normally under control of the traffic management center including traffic signals, dynamic message signs, gates, and barriers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	9	The center shall provide the capability to remotely control and monitor CCTV systems normally operated by a traffic management center.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	10	The center shall provide the capability to request transit resource availability from transit centers for use during disaster and evacuation operations.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	11	The center shall assimilate the damage assessment of the transit, traffic, rail, maintenance, and other emergency center services and systems to create an overall transportation system status, and disseminate to each of these centers and the traveling public via traveler information providers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	12	The center shall provide information to the media concerning the status of an emergency response.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	13	The center shall provide the capability for center personnel to provide inputs to the management of incidents, disasters and evacuations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Response Management	14	The center shall collect information about the status of the recovery efforts for the infrastructure during disasters.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	15	The center shall provide the overall status of infrastructure recovery efforts to traveler information providers and media.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	16	The center shall provide the capability to communicate information about emergency situations to local population through the Emergency Telecommunications System.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	17	The center shall provide the capability to identify neighborhoods and businesses that should be informed of an emergency based on information collected about incidents including their severity, impacted locations, and recovery schedule.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	18	The center shall retrieve information from public health systems to increase preparedness for, and implement a response to biological, chemical, radiation, and other public health emergencies.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	19	The center shall manage coordinated inter-agency responses to incidents at an international border.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	20	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
County of Kern EOC	Emergency Management Center	Emergency Response Management	21	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	1	The center shall collect current traffic and road condition information for emergency vehicle route calculation.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	2	The center shall receive information on the location and status of traffic control equipment and work zones along potential emergency routes.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	3	The center shall receive status information from care facilities to determine the appropriate facility and its location.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	4	The center shall receive asset restriction information to support the dispatching of appropriate emergency resources.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	5	The center shall receive current railroad schedule information for emergency vehicle route calculation.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	6	The center shall track current emergency vehicle location and status along with other emergency vehicle characteristics.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	7	The center shall calculate emergency vehicle routes, under center personnel control, based on the collected traffic and road conditions information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Routing	8	The center shall request and receive ingress and egress routes or other specialized emergency access routes from the traffic management center.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	9	The center shall provide the capability to request special traffic control measures, such as signal preemption, from the traffic management center to facilitate emergency vehicle progress along the suggested route.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	10	The center shall provide the calculated route for emergency vehicles to the dispatch function.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	11	The center shall collect weather and maintenance activity data, e.g., which roads have been plowed to support emergency dispatch and staging of personnel and equipment.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	12	The center shall collect road and traffic conditions information, including current traffic conditions en route, current traffic conditions on-scene, and road weather conditions (e.g. wet, icy, snow-covered).	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	13	The center shall collect road and traffic conditions information from multiple sources including: traffic management centers, probe vehicle data, including traffic data and environmental conditions, and other private traffic data sources, e.g. private distributors that integrate connected (probe) vehicle data with cellular or surveillance device inputs.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	14	The center shall provide routing instructions for a dispatched emergency vehicle that may reflect current network conditions and the additional routing options available to en route emergency that are not available to the public.	Planned
County of Kern EOC	Emergency Management Center	Emergency Routing	15	the center shall collect location and situational information about the emergency vehicles responding to or on the scene of an incident.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	1	The center shall remotely monitor and control security sensor data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	2	The center shall remotely monitor and control security sensor data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	3	The center shall remotely monitor and control security sensor data collected on-board transit vehicles. The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors. The data may be raw or pre-processed in the field.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	4	The center shall exchange security sensor data with other emergency centers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	5	The center shall identify potential security threats based on collected security sensor data.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	6	The center shall verify potential security threats by correlating security sensor data from multiple sources.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	7	The center shall perform threat analysis based on correlations of security sensor and surveillance data.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	8	The center shall exchange threat analysis data with Alerting and Advisory Systems and use that data in local threat analysis processing.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	9	The center shall disseminate threat information to other agencies, including traffic, transit, maintenance, rail operations, and other emergency management centers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	10	The center shall respond to control data from center personnel regarding security sensor data collection, processing, threat detection, and threat analysis.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	11	The center shall request activation of barriers and safeguards on request from center personnel.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Sensor Management	12	The center shall monitor maintenance status of the security sensor field equipment.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	1	The center shall remotely monitor video images and audio surveillance data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The data may be raw or pre-processed in the field.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	2	The center shall remotely monitor video images and audio surveillance data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The data may be raw or pre-processed in the field.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	3	The center shall remotely monitor video images and audio surveillance data collected on-board transit vehicles. The data may be raw or pre-processed in the field.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	4	The center shall exchange surveillance data with other emergency centers.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	5	The center shall identify potential security threats based on collected security surveillance data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	6	The center shall verify potential security threats by correlating security surveillance data from multiple sources.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	7	The center shall remotely control security surveillance devices in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways).	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	8	The center shall remotely control security surveillance devices in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	9	The center shall remotely control security surveillance devices on-board transit vehicles.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	10	The center shall match traveler video images against a database from the Alerting and Advisory Systems of known images that may represent criminals and terrorists.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	11	The center shall exchange traveler images with other emergency management centers to support traveler image matching.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	12	The center shall respond to control data from center personnel regarding security surveillance data collection, processing, threat detection, and image matching.	Planned
County of Kern EOC	Emergency Management Center	Emergency Secure Area Surveillance	13	The center shall monitor maintenance status of the security sensor field equipment.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	1	The field element shall activate barrier systems for transportation facilities and infrastructure under center control. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	2	The field element shall return barrier system operational status to the controlling center.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	3	The field element shall return barrier system fault data to the maintenance center for repair.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	4	The field element shall receive requests for access from approaching vehicles using field-vehicle communications and validate and authenticate the requests.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	5	The field element shall grant access only to qualified vehicles.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	6	The field element shall communicate access permission status and access instructions to approaching vehicles using field-vehicle communications.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	1	The field element shall activate safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.) under center control.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	2	The field element shall return safeguard system operational status to the controlling center.	Planned
County of Kern Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	3	The field element shall return safeguard system fault data to the maintenance center for repair.	Planned
County of Kern Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	1	The maintenance and construction vehicle shall track the location and status of safety systems on-board the vehicle.	Planned
County of Kern Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	2	The maintenance and construction vehicle shall respond to control information from the center to allow remote operation of the on-board vehicle systems. These systems include routine maintenance equipment for cutting, repairs, hazard removal, etc.	Planned
County of Kern Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	3	The maintenance and construction vehicle shall monitor materials information including remaining quantity and current application rate of materials on the vehicle.	Planned
County of Kern Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	4	The maintenance and construction vehicle shall respond to dispatch information from the center, presented to the vehicle operator for acknowledgement and returning status.	Planned
County of Kern Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	5	The maintenance and construction vehicle shall send operational data to the center including the operational state of the maintenance equipment (e.g., blade up/down, spreader pattern), types and quantities of materials used for construction and maintenance activities, and a record of the actual work performed.	Planned
County of Kern Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Vehicle Location Tracking	1	The maintenance and construction vehicle shall track its current location.	Planned
County of Kern Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Vehicle Location Tracking	2	The maintenance and construction vehicle shall send the time stamped vehicle location to the controlling center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Field Device Support	1	The field element shall monitor the operational status of field devices and detects and reports fault conditions.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Field Device Support	2	The field element shall detect and report any fault conditions with the equipment being monitored back to its controlling center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Field Device Support	3	The field element shall provide the capability for field personnel to locally control and configure this equipment.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Field Device Support	4	The field element shall support an interface with field support equipment to accept installation of updates or configuration of field operations.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	1	The field element shall collect, process, and send work zone images to the center for further analysis and distribution, under center control.	Operate
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	2	Under traffic and maintenance center control, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around the work zone through which they are currently passing.	Operate
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	3	Under the control of field personnel within maintenance vehicles, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around a work zone through which they are currently passing.	Operate
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	4	The field element shall control access to the work zone using automated gate or barrier systems. This includes automated flagger assistance devices that include automated gate arms and other automated gate/barrier systems.	Operate
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	5	The field element shall provide operational status for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center.	Operate
County of Kern Portable Traffic Control	ITS Roadway Equipment	Roadway Work Zone Traffic Control	6	The field element shall provide fault data for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center for repair.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	1	The center shall collect maintenance and construction data (such as field equipment status, infrastructure status, maintenance and construction activity data) gathered from roadway, traffic, and other maintenance and construction sources.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the maintenance and construction data or for the data itself.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	1	The center shall remotely control environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	3	The center shall remotely control environmental sensors on-board maintenance and construction vehicles that measure road and weather conditions including air and surface temperatures, wind speed, humidity, precipitation, visibility and other measures.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	4	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from short range communications equipment that communicates with appropriately equipped probe vehicles.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	5	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from traffic and traveler information providers, and environmental data collected from sensors deployed on and about the roadway as well as the fleet of maintenance and construction vehicles and the broader population of vehicle probes.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	6	The center shall provide weather and road condition information to weather service providers and center personnel.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	7	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	8	The center shall collect operational status for the roadside and vehicle-based environmental sensor equipment.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	9	The center shall collect fault data for the roadside and vehicle-based environmental sensor equipment for repair.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	10	The center shall collect environmental data from sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Collection	11	The center shall provide weather and road condition information to traffic management operations.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	1	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	2	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services) and local environmental sensor data.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	3	The center shall use the various data inputs of environmental sensors and road weather data to develop a view of current and predicted road weather and road conditions.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	4	The center shall disseminate current and forecasted road weather and road condition information to weather service providers (such as the National Weather Service and value-added sector specific meteorological services) as well as other agencies including traffic, emergency, and transit management, traveler information providers, rail operations centers, media, and other maintenance management centers.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	5	The center shall provide value-added sector specific meteorological services with information on basic road facility and treatment information that supports forecasts for road conditions.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	2	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, etc.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	3	The center shall exchange incident and threat information with emergency management centers as well as traffic management centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	4	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	5	The center shall respond to requests from emergency management to provide maintenance and construction resources to implement response plans, assist in clean up, verify an incident, etc. This may also involve coordination with traffic management centers and other maintenance centers.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	6	The center shall exchange road network status assessment information with emergency management and traffic management centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	7	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	8	The center shall receive information indicating the damage sustained by transportation assets, derived from aerial surveillance, field reports, inspections, tests, and analyses to support incident management.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	9	The center shall receive evacuation information including evacuation zones, evacuation times, and reentry times from emergency operation centers.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	1	The center shall provide the center personnel with tailored external information, including weather or road condition observations, forecasted weather information or road conditions, current usage of treatments and materials, available resources, equipment and vehicle availability, road network information, and source reliability information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	2	The center shall tailor the decision support information to include filtering (selection from a large amount of external information), error reduction ('smoothing' the information), fusion (combination of disparate information to match the decision needs), and analysis (creating the decision).	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	3	The center shall provide an interface to the center personnel to input control parameters for the decision support process and receive decisions or information presentation.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	4	The center shall provide dispatch information to maintenance and construction vehicles based on the outputs of the decision support system, including recommended roadway treatment actions.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	1	The center shall be capable of remotely control and monitor reduced speed zone warning roadside equipment operations.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	2	The center shall provide reduced speed zone posted speed limits and associated schedules and information about associated road configuration changes including lane merges and shifts for display on roadside devices.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Reduced Speed Zone Warning	3	The center shall provide to roadside equipment, for transmittal to connected vehicles, reduced speed zone posted speed limits and associated schedules and information about associated road configuration changes including lane merges and shifts.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	1	The center shall maintain an interface with asset management systems to track the inventory, restrictions, repair needs and status updates of transportation assets (pavement, bridges, signs, etc.) including location, installation and materials information, vendor/contractor, current maintenance status, standard height, width, and weight restrictions.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	2	The center shall respond to requests from emergency management and traffic management centers for hazard removal, field equipment repair, and other roadway maintenance.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	3	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	4	The center shall provide emergency management and traffic management centers with information about scheduled maintenance and construction work activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	5	The center shall collect the status and fault data from roadside equipment, such as traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	6	The center shall collect the status and fault data from the centers that operate the equipment, including data for traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	7	The center shall receive equipment availability and materials storage status information from storage facilities to support the scheduling of roadway maintenance and construction activities.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	8	The center shall collect current and forecast traffic and weather information from traffic management centers and weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	9	The center shall dispatch and route maintenance and construction vehicle drivers and support them with route-specific environmental, incident, advisory, threat, alert, and traffic congestion information.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	10	The center shall manage an interface with center personnel to accept vehicle systems control information and remotely control maintenance and construction vehicle on-board equipment.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	11	The center shall track the status of roadway maintenance and construction activities by monitoring collected data from the dispatched vehicles and equipment.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	12	The center shall report the status of field equipment maintenance activities to the centers that operate the equipment.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	13	The Center shall provide the status of field maintenance actions to other centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	14	The Center shall track the status of field equipment maintenance actions.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	15	The Center shall accept information from other Centers that indicates which Connected Vehicle Roadside Equipment needs maintenance.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	16	The Center shall accept field equipment maintenance action requests from other centers.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Vehicle Tracking	1	The center shall monitor the locations of all maintenance and construction vehicles and other equipment under its jurisdiction.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Vehicle Tracking	2	The center shall present location data to center personnel for the fleet of maintenance and construction vehicles and other equipment.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	1	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	2	The center shall provide status information about scheduled maintenance and construction activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations. The information is provided to other management centers such as traffic, emergency, transit, traveler information providers, other maintenance centers, multimodal transportation providers, rail operations, and the media.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	3	The center shall collect and respond to feedback concerning scheduled maintenance and construction activities with other management centers such as traffic, emergency, transit, and rail operations.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	4	The center shall collect and disseminate asset restriction information levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	5	The Center shall provide road infrastructure restriction information to other Centers.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	6	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance and construction activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	7	The center shall exchange rail schedules and work plans with rail operations centers.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Management	1	The center shall generate new work zone activity schedules for use by maintenance and construction vehicles, maintenance and construction operators, and for information coordination purposes.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Management	2	The center shall control the collection of work zone status information including video images from cameras located in or near the work zone.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Management	3	The center shall disseminate work zone information to other agencies and centers including traffic, transit, emergency management centers, other maintenance centers, traveler information centers, and the media.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Management	4	The center shall control traffic in work zones by providing remote control of dynamic message signs, highway advisory radio systems, gates, and barriers located in or near the work zone.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Management	5	The center shall exchange information with administrative systems to support the planning and scheduling of work zone activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Management	6	The center shall collect real-time information on the state of the road network including current traffic and road conditions to support work zone scheduling and management.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Safety Management	1	The center shall provide remote monitoring and control of work zone safety devices - including intrusion detection devices that have been installed in work zones or maintenance areas.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Safety Management	2	The center shall provide remote monitoring and control of intrusion alert devices that have been installed in work zones or maintenance areas.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Safety Management	3	The center shall collect status information of work zone safety device status from field equipment or the maintenance and construction vehicles.	Operate
County of Kern Public Works Center	Maintenance and Construction Management Center	MCM Work Zone Safety Management	4	The center shall collect and store work zone data collected from work zone monitoring devices (such as intrusion detection or alert devices and speed monitoring devices) on-board the vehicle and at the roadside.	Operate
County of Kern Public Works Center	Traffic Management Center	TMC Advanced Rail Crossing Management	1	The center shall remotely control highway-rail intersection (HRI) equipment located in the field.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Advanced Rail Crossing Management	2	The center shall accept collect highway-rail intersection (HRI) advisory or alert data from rail operations centers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Advanced Rail Crossing Management	3	The center shall collect highway-rail intersection (HRI) equipment operational status and compare against the control information sent by the center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Advanced Rail Crossing Management	4	The center shall provide the highway-rail intersection (HRI) equipment operational status to rail operations centers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Advanced Rail Crossing Management	5	The center shall collect incident information related to a highway-rail intersection (HRI), such as intersection blockages or crashes or equipment malfunctions.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Advanced Rail Crossing Management	6	The center shall implement control plans to coordinate signalized intersections around highway-rail intersections (HRI), under control of center personnel, based on data from sensors and surveillance monitoring traffic conditions, incidents, equipment faults, pedestrian crossings, etc.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Barrier System Management	1	The center shall remotely control barrier systems for transportation facilities and infrastructure. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Barrier System Management	2	The center shall accept requests for barrier system activation from other centers and from center personnel to support emergency response and detours.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Barrier System Management	3	The center shall collect barrier system operational status.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Barrier System Management	4	The center shall collect barrier system fault data and send to the maintenance center for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Detection	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Detection	2	The center shall collect and store traffic flow and image data from the field equipment to detect and verify incidents.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Detection	3	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters and traveler information service providers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Detection	4	The center shall exchange incident and threat information with emergency management centers as well as maintenance and construction centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Detection	5	The center shall support requests from emergency management centers and border inspection systems to remotely control sensor and surveillance equipment located in the field.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Detection	6	The center shall provide road network conditions and traffic images to emergency management centers to support the detection, verification, and classification of incidents.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Detection	7	The center shall provide video and traffic sensor control commands to the field equipment to detect and verify incidents.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Passive Surveillance	1	The center shall collect time stamped vehicle identities from field equipment.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Passive Surveillance	2	The center shall correlate the time stamped vehicle identities to calculate link travel times and derive other traffic measures.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Road Weather Advisories and Warnings	1	The center shall collect environmental data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped vehicles using short range communications equipment.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Road Weather Advisories and Warnings	2	The center shall aggregate collected environmental data and disseminate the aggregated environmental probe data to other centers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Road Weather Advisories and Warnings	3	The center shall develop short term weather warnings or advisories that can be provided to individual motorists through field equipment.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Safeguard System Management	1	The center shall remotely control safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.)	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Safeguard System Management	2	The center shall accept requests for safeguard system activation from other centers and from center personnel to support emergency response.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Safeguard System Management	3	The center shall collect safeguard system operational status.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Safeguard System Management	4	The center shall collect safeguard system fault data and send to the maintenance center for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Speed Warning	1	The center shall provide the capability to notify an enforcement agency when vehicle speeds in the work zone are more than the posted speed limit or are creating an unsafe condition based upon the current environmental or traffic conditions.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Speed Warning	2	The center shall provide the capability to control automated speed monitoring and speed warning systems.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Speed Warning	3	The center shall monitor reduced speed zone warning field equipment.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Speed Warning	4	The center shall control reduced speed zone warning roadside equipment, providing the location and extent of the reduced speed zone, the posted speed limit(s) with information about the applicability of the speed limit(s) (e.g., time of day, day of week, seasonality, relevant vehicle types) and information about associated road configuration changes including lane merges and shifts.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
County of Kern Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	1	The center shall support the interface to the Emergency Telecommunications System (e.g. 911 or 7-digit call routing) to receive emergency notification information and provide it to the emergency system operator.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	2	The center shall receive emergency call information from 911 services and present the possible incident information to the emergency system operator.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	3	The center shall receive emergency call information from vehicles and present the possible incident information to the emergency system operator.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	4	The center shall receive emergency call information from other emergency management centers, e.g. mayday service providers, and present the possible incident information to the emergency system operator.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	5	The center shall receive emergency notification information from other public safety agencies and present the possible incident information to the emergency system operator.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	6	The center shall receive emergency notification information from public transit systems and present the possible incident information to the emergency system operator.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	7	The center shall coordinate, correlate, and verify all emergency inputs, including those identified based on external calls and internal analysis of security sensor and surveillance data, and assign each a level of confidence.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	8	The center shall send a request for remote control of Closed-circuit Television (CCTV) systems from a traffic management center to verify the reported incident.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	9	The center shall forward the verified emergency information to the responding agency based on the location and nature of the emergency.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Call-Taking	10	The center shall update the incident information log once the emergency system operator has verified the incident.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Commercial Vehicle Response	1	The center shall receive alerts about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Commercial Vehicle Response	2	The center shall receive emergency notification information from commercial vehicles, commercial vehicle check stations, or commercial fleet operators and present the possible incident information to the emergency system operator. This may include detection of non-permitted transport of security sensitive hazmat, hazardous cargo spills, etc.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Commercial Vehicle Response	3	The center shall receive details of the cargo being carried by commercial vehicles from their commercial fleet manager for incidents involving potential hazardous materials.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Commercial Vehicle Response	4	The center shall forward the verified emergency information to the responding agency based on the location and nature of the emergency.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Commercial Vehicle Response	5	The center shall provide the capability to request Fleet and Freight Management to disable a specific vehicle in their fleet.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Data Collection	1	The center shall collect emergency service data, emergency vehicle management data, emergency vehicle data, sensor and surveillance data, threat data, and incident data.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the emergency management data or for the data itself.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	1	The center shall dispatch emergency vehicles to respond to verified emergencies under center personnel control.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	2	The center shall store the status of all emergency vehicles available for dispatch and those that have been dispatched.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	3	The center shall relay location and incident details to the responding vehicles.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	4	The center shall track the location and status of emergency vehicles responding to an emergency based on information from the emergency vehicle.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	5	The center shall store and maintain the emergency service responses in an action log.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	6	The center shall coordinate response to incidents with other Emergency Management centers to ensure appropriate resources are dispatched and utilized.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	7	The center shall receive traffic images to support dispatch of emergency vehicles.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	8	The center shall provide the capability to request remote control of traffic surveillance devices.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Dispatch	9	The center shall process road and weather conditions to provide updates to responding personnel.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	1	The center shall monitor information from Alerting and Advisory Systems such as the Information Sharing and Analysis Centers (ISACs), the National Infrastructure Protection Center (NIPC), the Homeland Security Advisory System (HSAS), etc. The information may include assessments (general incident and vulnerability awareness information), advisories (identification of threats or recommendations to increase preparedness levels), or alerts (information on imminent or in-progress emergencies).	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	2	The center shall receive incident information from other transportation management centers to support the early warning system.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	3	The center shall support the entry of alert and advisory information directly from the emergency system operator.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	4	The center shall receive potential incident information from social media sources to support the early warning system.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	5	The center shall provide the capability to correlate alerts and advisories, incident information, and security sensor and surveillance data.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	6	The center shall broadcast wide-area alerts and advisories to traffic management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	7	The center shall broadcast wide-area alerts and advisories to transit management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	8	The center shall broadcast wide-area alerts and advisories to toll administration centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	9	The center shall broadcast wide-area alerts and advisories to traveler information service providers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	10	The center shall broadcast wide-area alerts and advisories to maintenance centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	11	The center shall broadcast wide-area alerts and advisories to other emergency management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	12	The center shall broadcast wide-area alerts and advisories to commercial vehicle administration centers and roadside check facilities for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	13	The center shall process status information from each of the centers that have been sent the wide-area alert.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	14	The center shall coordinate the broadcast of wide-area alerts and advisories with other emergency management centers.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Early Warning System	15	The center shall present the alert and advisory information and the status of the actions taken in response to the alert by the other centers to the emergency system operator as received from other system inputs.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Environmental Monitoring	2	The center shall collect road network conditions data, including advisories, from traffic management and traveler information centers.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Environmental Monitoring	3	The center shall collect asset restrictions information from roadway maintenance operations.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Environmental Monitoring	4	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Environmental Monitoring	5	The center shall provide the road and weather warning and advisories to the emergency responders.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	1	The center shall manage inter-agency coordination of evacuation operations, from initial planning through the evacuation process and reentry.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	2	The center shall develop and exchange evacuation plans with allied agencies prior to the occurrence of a disaster.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	3	The center shall provide an interface to the emergency system operator to enter evacuation plans and procedures and present the operator with other agencies' plans.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	4	The center shall coordinate evacuation destinations and shelter needs with shelter providers (e.g., the American Red Cross) in the region.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	5	The center shall provide evacuation information to traffic, transit, maintenance and construction, rail operations, and other emergency management centers as needed.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	6	The center shall request resources from transit agencies as needed to support the evacuation.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	7	The center shall request traffic management agencies to implement special traffic control strategies and to control evacuation traffic, including traffic on local streets and arterials as well as the major evacuation routes.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	8	The center shall provide traveler information systems with evacuation guidance including basic information to assist potential evacuees in determining whether evacuation is necessary and when it is safe to return.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	9	The center shall monitor the progress or status of the evacuation once it begins and exchange tactical plans, prepared during the incident, with allied agencies.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	10	The center shall monitor the progress of the reentry process.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	11	The center shall submit evacuation information to toll administration centers along with requests for changes in the toll services or fee collection during an evacuation.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	12	The center shall retrieve information from public health systems to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	13	The center shall make use of population and housing data to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Evacuation Support	14	The center shall maintain information on the population of an area in the event of an evacuation, including addresses, types of facility (residence, multi-family dwelling, commercial retail, commercial office, etc.), and special considerations (storage of flammable liquids, special needs residents).	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	1	The center shall provide tactical decision support, resource coordination, and communications integration for first responders to support local management of an incident.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	2	The center shall provide incident command communications with public safety, emergency management, transportation, and other allied response agency centers.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	3	The center shall track and maintain resource information and action plans pertaining to the incident command.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	4	The center shall share incident command information with other public safety agencies including resource deployment status, hazardous material information, rail incident information, evacuation advice as well as traffic, road, and weather conditions.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	5	The center shall assess the status of responding emergency vehicles as part of an incident command.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	6	The center shall provide other agencies real-time information on the current conditions at the incident scene.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	7	The center shall collect modeling program outputs to support emergency dispatch and staging of personnel and equipment, e.g. predicted HAZMAT plumes or crash severity predictions.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	8	The center shall collect information about freight or cargo to support emergency dispatch and staging of personnel and equipment, e.g. cargo manifest or HAZMAT information.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	9	The center shall collect medical care facility capabilities and availability, e.g., trauma level supported to support emergency dispatch and staging of personnel and equipment.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	10	The center shall collect on-scene reports to support emergency dispatch and staging of personnel and equipment.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	11	The center shall provide situational awareness information to emergency responders about an incident, both en-route and while they are on-scene.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Incident Command	12	The center shall provide status of the current conditions at the incident scene to arriving responders.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	1	The center shall be able to determine that a crash or emergency has taken place, based on on-board sensor data collected from the vehicle.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	2	The center shall monitor subscribed vehicle data, including changes in velocity, attitude/orientation, position, and air bag status to determine when an emergency (crash) has happened.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	3	The center shall collect mayday messages from travelers via personal handheld devices.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	4	The center shall collect mayday messages from drivers via onboard devices.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	5	The center shall acknowledge the request for emergency assistance, whether originated by the driver, automatically by the vehicle's safety systems, or by a traveler via a personal handheld device.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	6	The center shall communicate with the mayday emergency message sender (driver) to determine the nature and severity of their situation.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	7	After the mayday becomes a verified incident, the center shall determine the appropriate response to the mayday message.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	8	The center shall determine whether the mayday message indicates an emergency that requires the attention of public safety agencies, and forward mayday emergency data to the appropriate agency as necessary.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	9	The center shall support the activation of remote controlled functions requested by a vehicle, such as requests to unlock doors.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	10	The center shall request additional emergency details from or issue commands to the vehicle's security systems or vehicle driver if needed.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	11	The center shall maintain a log of all mayday signals received from vehicles.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	12	The center shall provide all mayday data to center personnel and respond to the vehicle, driver, or traveler using the portable handheld device as directed by the personnel.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	13	The center shall determine that a collision has occurred based on changes in vehicle sensor data.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	14	The center shall determine the location of the sender when it receives a collision notification broadcast.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	15	The center shall determine the nature of the emergency from the contents of the received collision notification message.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Notification Support	16	AACN-Relay shall maintain a registry of emergency communications center (ECCs) based on factors such as coverage area (county, state, continent), types of emergencies serviced (e.g. all, hazmat, rail crossing, Brand X autos), and hours of service (days, 24-hour, etc.).	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	1	The center shall provide strategic emergency response capabilities provided by an Emergency Operations Center for large-scale incidents and disasters.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	2	The center shall manage coordinated inter-agency responses to and recovery from large-scale emergencies. Such agencies include traffic management, transit, maintenance and construction management, rail operations, and other emergency management agencies.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	3	The center shall provide the capability to implement response plans and track progress through the incident by exchanging incident information and response status with allied agencies.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	4	The center shall develop, coordinate with other agencies, and store emergency response plans.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	5	The center shall track the availability of resources and coordinate resource sharing with allied agency centers including traffic, maintenance, or other emergency centers.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	6	The center shall allocate the appropriate emergency services, resources, and vehicle (s) to respond to incidents, and shall provide the capability to override the current allocation to suit the special needs of a current incident.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	7	The center shall receive event scheduling information from Event Promoters.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	8	The center shall support remote control of field equipment normally under control of the traffic management center including traffic signals, dynamic message signs, gates, and barriers.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	9	The center shall provide the capability to remotely control and monitor CCTV systems normally operated by a traffic management center.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	10	The center shall provide the capability to request transit resource availability from transit centers for use during disaster and evacuation operations.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	11	The center shall assimilate the damage assessment of the transit, traffic, rail, maintenance, and other emergency center services and systems to create an overall transportation system status, and disseminate to each of these centers and the traveling public via traveler information providers.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	12	The center shall provide information to the media concerning the status of an emergency response.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	13	The center shall provide the capability for center personnel to provide inputs to the management of incidents, disasters and evacuations.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	14	The center shall collect information about the status of the recovery efforts for the infrastructure during disasters.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	15	The center shall provide the overall status of infrastructure recovery efforts to traveler information providers and media.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	16	The center shall provide the capability to communicate information about emergency situations to local population through the Emergency Telecommunications System.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	17	The center shall provide the capability to identify neighborhoods and businesses that should be informed of an emergency based on information collected about incidents including their severity, impacted locations, and recovery schedule.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	18	The center shall retrieve information from public health systems to increase preparedness for, and implement a response to biological, chemical, radiation, and other public health emergencies.	Operate
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	19	The center shall manage coordinated inter-agency responses to incidents at an international border.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	20	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Response Management	21	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	1	The center shall collect current traffic and road condition information for emergency vehicle route calculation.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	2	The center shall receive information on the location and status of traffic control equipment and work zones along potential emergency routes.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	3	The center shall receive status information from care facilities to determine the appropriate facility and its location.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	4	The center shall receive asset restriction information to support the dispatching of appropriate emergency resources.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	5	The center shall receive current railroad schedule information for emergency vehicle route calculation.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	6	The center shall track current emergency vehicle location and status along with other emergency vehicle characteristics.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	7	The center shall calculate emergency vehicle routes, under center personnel control, based on the collected traffic and road conditions information.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	8	The center shall request and receive ingress and egress routes or other specialized emergency access routes from the traffic management center.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	9	The center shall provide the capability to request special traffic control measures, such as signal preemption, from the traffic management center to facilitate emergency vehicle progress along the suggested route.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	10	The center shall provide the calculated route for emergency vehicles to the dispatch function.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	11	The center shall collect weather and maintenance activity data, e.g., which roads have been plowed to support emergency dispatch and staging of personnel and equipment.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	12	The center shall collect road and traffic conditions information, including current traffic conditions en route, current traffic conditions on-scene, and road weather conditions (e.g. wet, icy, snow-covered).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Routing	13	The center shall collect road and traffic conditions information from multiple sources including: traffic management centers, probe vehicle data, including traffic data and environmental conditions, and other private traffic data sources, e.g. private distributors that integrate connected (probe) vehicle data with cellular or surveillance device inputs.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	14	The center shall provide routing instructions for a dispatched emergency vehicle that may reflect current network conditions and the additional routing options available to en route emergency that are not available to the public.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Routing	15	the center shall collect location and situational information about the emergency vehicles responding to or on the scene of an incident.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	1	The center shall remotely monitor and control security sensor data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	2	The center shall remotely monitor and control security sensor data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	3	The center shall remotely monitor and control security sensor data collected on-board transit vehicles. The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors. The data may be raw or pre-processed in the field.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	4	The center shall exchange security sensor data with other emergency centers.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	5	The center shall identify potential security threats based on collected security sensor data.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	6	The center shall verify potential security threats by correlating security sensor data from multiple sources.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	7	The center shall perform threat analysis based on correlations of security sensor and surveillance data.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	8	The center shall exchange threat analysis data with Alerting and Advisory Systems and use that data in local threat analysis processing.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	9	The center shall disseminate threat information to other agencies, including traffic, transit, maintenance, rail operations, and other emergency management centers.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	10	The center shall respond to control data from center personnel regarding security sensor data collection, processing, threat detection, and threat analysis.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	11	The center shall request activation of barriers and safeguards on request from center personnel.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Sensor Management	12	The center shall monitor maintenance status of the security sensor field equipment.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	1	The center shall remotely monitor video images and audio surveillance data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The data may be raw or pre-processed in the field.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	2	The center shall remotely monitor video images and audio surveillance data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The data may be raw or pre-processed in the field.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	3	The center shall remotely monitor video images and audio surveillance data collected on-board transit vehicles. The data may be raw or pre-processed in the field.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	4	The center shall exchange surveillance data with other emergency centers.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	5	The center shall identify potential security threats based on collected security surveillance data.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	6	The center shall verify potential security threats by correlating security surveillance data from multiple sources.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	7	The center shall remotely control security surveillance devices in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways).	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	8	The center shall remotely control security surveillance devices in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	9	The center shall remotely control security surveillance devices on-board transit vehicles.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	10	The center shall match traveler video images against a database from the Alerting and Advisory Systems of known images that may represent criminals and terrorists.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	11	The center shall exchange traveler images with other emergency management centers to support traveler image matching.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	12	The center shall respond to control data from center personnel regarding security surveillance data collection, processing, threat detection, and image matching.	Planned
County of Kern Sheriff	Emergency Management Center	Emergency Secure Area Surveillance	13	The center shall monitor maintenance status of the security sensor field equipment.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Field Device Support	1	The field element shall monitor the operational status of field devices and detects and reports fault conditions.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Field Device Support	2	The field element shall detect and report any fault conditions with the equipment being monitored back to its controlling center.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Field Device Support	3	The field element shall provide the capability for field personnel to locally control and configure this equipment.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Field Device Support	4	The field element shall support an interface with field support equipment to accept installation of updates or configuration of field operations.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	5	The field element shall monitor notify an enforcement agency when a speed violation is detected.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned
County of Kern Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Operate
County of Kern Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Planned
County of Kern Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Planned
County of Kern WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	1	The field element shall monitor the operational status of field devices and detects and reports fault conditions.	Planned
County of Kern WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	2	The field element shall detect and report any fault conditions with the equipment being monitored back to its controlling center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
County of Kern WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	3	The field element shall provide the capability for field personnel to locally control and configure this equipment.	Planned
County of Kern WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	4	The field element shall support an interface with field support equipment to accept installation of updates or configuration of field operations.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Planned
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	1	The transit vehicle shall receive a vehicle assignment including transit route information, transit service instructions, traffic information, road conditions, and other information for the operator.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	2	The transit vehicle shall use the route information and its current location to determine the deviation from the predetermined schedule.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	3	The transit vehicle shall calculate the estimated times of arrival (ETA) at transit stops.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	4	The transit vehicle shall determine scenarios to correct the schedule deviation.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	5	The transit vehicle shall provide the schedule deviations and instructions for schedule corrections to the transit vehicle operator if the deviation is small, or the transit vehicle is operating in an urban area.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	6	The transit vehicle shall send the schedule deviation and estimated arrival time information to the center.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	7	The transit vehicle shall support the operations of a flexible route service. This may include requests for route deviations that would then lead to schedule corrective actions.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Schedule Management	8	The transit vehicle shall notify the transit center of vehicle location and operational status as the vehicle exits and returns to the transit facility to support future vehicle assignments.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	1	The transit vehicle shall perform video and audio surveillance inside of transit vehicles and output raw video or audio data for either local monitoring (for processing or direct output to the transit vehicle operator), remote monitoring or for local storage (e.g., in an event recorder).	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	2	The transit vehicle shall perform local monitoring of video or audio surveillance data collected inside of transit vehicles, and identify potential incidents or threats based on received processing parameters.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	3	The transit vehicle shall output an indication of potential incidents or threats and the processed video or audio information to the center along with the vehicle's current location.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	4	The transit vehicle shall detect potential threats via sensors for chemical agents, toxic industrial chemicals, biological agents, explosives, and radiation.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	5	The transit vehicle shall detect potential threats via object detection sensors (e.g. metal detectors).	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	6	The transit vehicle shall output an indication of potential incidents or threats and the processed sensor information to the center along with the vehicle's current location.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	7	The transit vehicle shall accept sensor control data to allow remote control of the sensors.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	8	The transit vehicle shall monitor and output surveillance and sensor equipment status and fault indications.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	9	The transit vehicle shall accept emergency inputs from either the transit vehicle operator or a traveler through such interfaces as panic buttons, silent or audible alarms, etc.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	10	The transit vehicle shall output reported emergencies to the center.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	11	The transit vehicle shall receive acknowledgments of the emergency request from the center and output this acknowledgment to the transit vehicle operator or to the travelers.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	12	The transit vehicle shall be capable of receiving an emergency message for broadcast to the travelers or to the transit vehicle operator.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	13	The transit vehicle shall be capable of being disabled or enabled based on commands from the center or authentic inputs from the transit vehicle operator	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Security	14	The transit vehicle shall perform authentication of the transit vehicle operator.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Operate
DART Fixed-Route Vehicles	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Operate
DART Transit Center	Archived Data User System				
DART Transit Center	Transit Management Center	Transit Center Connection Protection	1	The center shall manage service requests for routing of an individual through the transit system.	Planned
DART Transit Center	Transit Management Center	Transit Center Connection Protection	2	The center shall provide transit plans for both fixed and demand responsive transit to transit passengers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Center	Transit Management Center	Transit Center Connection Protection	3	The center shall be able to coordinate with Other Transit Management systems or Multimodal Transportation Service Providers to provide a complete multimodal trip plan.	Planned
DART Transit Center	Transit Management Center	Transit Center Connection Protection	4	The center shall track the passenger through the transit network, and coordinate with Other TRM and Multimodal Transportation Service Providers so that the passenger makes efficient connections between the transit system and other transit systems or other modes of transportation.	Planned
DART Transit Center	Transit Management Center	Transit Center Connection Protection	5	The center shall track transit vehicles and identify when connections between transit routes are in jeopardy due to the late arrival of a transit vehicle at a transfer stop or station.	Planned
DART Transit Center	Transit Management Center	Transit Center Connection Protection	6	The center shall send schedule adjustments to a transit vehicle to protect a connection made with other transit vehicles.	Planned
DART Transit Center	Transit Management Center	Transit Center Connection Protection	7	The center shall be able to provide a traveler with updates regarding their transit trip, including connection protection actions taken by the center.	Planned
DART Transit Center	Transit Management Center	Transit Center Connection Protection	8	The center shall send schedule adjustments to a transit vehicle to protect a connection to be made by a specific traveler.	Planned
DART Transit Center	Transit Management Center	Transit Center Data Collection	1	The center shall collect transit management data such as transit fares and passenger use, transit services, paratransit operations, transit vehicle maintenance data, etc.	Operate
DART Transit Center	Transit Management Center	Transit Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
DART Transit Center	Transit Management Center	Transit Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the transit data or for the data itself.	Operate
DART Transit Center	Transit Management Center	Transit Center Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
DART Transit Center	Transit Management Center	Transit Center Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
DART Transit Center	Transit Management Center	Transit Center Environmental Monitoring	2	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	1	The center shall manage the actual value of transit fares for each segment of each regular transit route, including the transmission of the information to transit vehicles and transit stops or stations.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	2	The center shall provide the capability for a system operator to manage the transit fares and control the exchange of transit fare information.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	3	The center shall process the financial requests from the transit vehicles or roadside and manage an interface to a Financial Institution.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Center	Transit Management Center	Transit Center Fare Management	4	The center shall support the payment of transit fare transactions using data provided by the traveler cards / payment instruments.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	5	The center shall collect data on fare payment violations and send the data, including images of the violator, to the appropriate enforcement agency.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	6	The center shall process requests for transit fares to be paid in advance.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	9	The center shall maintain a list of invalid traveler credit identities or bad tag lists that can be forwarded to transit vehicles and transit stops or stations.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	10	The center shall collect fare statistics data to implement variable and flexible fare structures.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	11	The center shall exchange fare and load information with other transit management centers, including potential Centralized Payments facilities.	Planned
DART Transit Center	Transit Management Center	Transit Center Fare Management	12	The center shall provide transit fare information to traveler information providers upon request.	Planned
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	1	The center shall generate transit routes and schedules based on such factors as parameters input by the system operator, road network conditions, incident information, operational data on current routes and schedules, and digitized map data.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	2	The center shall provide the interface to the system operator to control the generation of new routes and schedules (transit services) including the ability to review and update the parameters used by the routes and schedules generation processes and to initiate these processes	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	3	The center shall be able to generate special routes and schedules to support an incident, disaster, evacuation, or another emergency.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	4	The center shall dispatch fixed route or flexible route transit vehicles.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	5	The center shall collect transit operational data for use in the generation of routes and schedules.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	6	The center shall provide instructions or corrective actions to the transit vehicle operators based upon operational needs.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	7	The center shall manage large deviations of individual transit vehicles, deviations in rural areas, and deviations of large numbers of vehicles.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	8	The center shall generate the necessary corrective actions which may involve more than the vehicles concerned and more far reaching action, such as, the introduction of extra vehicles, wide area signal priority by traffic management, the premature termination of some services, etc.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	9	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	10	The center shall disseminate up-to-date schedules and route information to other centers for fixed and flexible route services.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	11	The center shall provide an interface to the archive data repository to enable the operator to retrieve historical operating data for use in planning transit routes and schedules.	Operate
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	12	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
DART Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	13	The center shall monitor transit vehicle schedule adherence to manage transit vehicle operations.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	1	The center shall provide travelers using public transportation with traffic and advisory information upon request. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	2	The center shall provide transit information to the media including details of deviations from schedule of regular transit services.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	3	The center shall exchange transit schedules, real-time arrival information, fare schedules, and general transit service information with other transit organizations to support transit traveler information systems.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	4	The center shall provide transit service information to traveler information service providers including routes, schedules, schedule adherence, and fare information as well as transit service information during evacuation.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	5	The center shall enable yellow pages (including non-motorized transportation) information to be output to the traveler.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	6	The center shall broadcast transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	7	The center shall provide transit vehicle transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	8	The center shall receive transit stop requests from travelers and provide them to the appropriate transit vehicles.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Center	Transit Management Center	Transit Center Information Services	9	The center shall receive trip requests from travelers, including those who are visually impaired which include the current location of the traveler.	Planned
DART Transit Center	Transit Management Center	Transit Center Information Services	10	The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests.	Planned
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	1	The center shall coordinate schedules and services with traffic management, parking management, and event planning systems.	Operate
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	2	The center shall share transfer cluster and transfer point information with other transit centers. A transfer cluster is a collection of stop points, stations, or terminals where transfers can be made conveniently.	Operate
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	3	The center shall accept requests from traffic management to change routes and schedules as part of the implementation of demand management strategies.	Operate
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	4	The center shall coordinate schedules and services with other transit centers	Planned
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	5	The center shall coordinate schedules and services with other surface or air transportation modes.	Planned
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	6	The center shall provide transit operations personnel with the capability to control and monitor transit service coordination activities.	Operate
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	7	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	8	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	9	The center shall collect asset restriction information from maintenance operations.	Planned
DART Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	10	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	1	The center shall process trip requests for demand responsive transit services, i.e. paratransit. Sources of the requests may include traveler information service providers.	Operate
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	2	The center shall monitor the operational status of the demand response vehicles including status of passenger pick-up and drop-off.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	3	The center shall generate demand response transit (including paratransit) routes and schedules based on such factors as parameters input by the system operator, what other demand responsive transit schedules have been planned, the availability and location of vehicles, the relevance of any fixed transit routes and schedules, road network information, and incident information.	Operate
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	4	The center shall dispatch demand response (paratransit) transit vehicles.	Operate
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	5	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	6	The center shall disseminate up-to-date schedules and route information to other centers for demand responsive transit services (paratransit).	Operate
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	7	The center shall collect the log of passenger boarding and alighting from the paratransit vehicles.	Operate
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	8	The center shall monitor real time location of demand response vehicles.	Planned
DART Transit Center	Transit Management Center	Transit Center Paratransit Operations	9	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
DART Transit Center	Transit Management Center	Transit Center Passenger Counting	1	The center shall collect passenger count information from each transit vehicle.	Planned
DART Transit Center	Transit Management Center	Transit Center Passenger Counting	2	The center shall calculate transit ridership data by route, route segment, transit stop, time of day, and day of week based on the collected passenger count information.	Planned
DART Transit Center	Transit Management Center	Transit Center Passenger Counting	3	The center shall make the compiled ridership data available to the system operator.	Planned
DART Transit Center	Transit Management Center	Transit Center Security	1	The center shall monitor transit vehicle operational data to determine if the transit vehicle is off-route and assess whether a security incident is occurring.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	2	The center shall receive reports of emergencies on-board transit vehicles entered directly by the transit vehicle operator or from a traveler through interfaces such as panic buttons or alarm switches.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	3	The center shall support the back-office portion of functionality to authenticate transit vehicle operators.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	4	The center shall provide transit incident information along with other service data to emergency centers.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Center	Transit Management Center	Transit Center Security	5	The center shall receive information pertaining to a wide-area alert such as weather alerts, disaster situations, or child abductions. This information may come from Emergency Management or from other Alerting and Advisory Systems.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	6	The center shall send wide-area alert information to travelers (on-board transit vehicles or at stations/stops) and transit vehicle operators.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	7	The center shall coordinate the response to security incidents involving transit with other agencies including Emergency Management, other transit agencies, media, traffic management, and traveler information service providers.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	8	The center shall receive threat information and status on the integrity of the transit infrastructure.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	9	The center shall provide support to remotely disable (or reset the disabling of) a transit vehicle in service.	Operate
DART Transit Center	Transit Management Center	Transit Center Security	10	The center shall provide transit incident information to traveler information providers and the media.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Assignment	1	The center shall assign individual transit vehicles to transit blocks.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Assignment	2	The center shall download vehicle assignments to the transit vehicle prior to the start of the day's operations.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Assignment	3	The center shall provide an exception handling process for the vehicle assignment function. This process shall generate new supplemental vehicle assignments as required due to change events which occur during the operating day.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Assignment	4	The center shall provide an inventory management function for the transit facility that stores functional attributes about each vehicle owned by the transit operator. The functional attributes permit the planning and assignment functions to match vehicles with routes based on suitability for the types of service required by the routes.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Assignment	5	The center shall generate transit vehicle availability listings, current and forecast, to support transit vehicle assignment planning.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Assignment	6	The center shall provide transit operations personnel with the capability to update transit vehicle assignments and receive reports on transit vehicle inventory status.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Tracking	1	The center shall monitor the locations of all transit vehicles within its network.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Tracking	2	The center shall determine adherence of transit vehicles to their assigned schedule.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Center	Transit Management Center	Transit Center Vehicle Tracking	3	The center shall provide transit operational data to traveler information service providers.	Planned
DART Transit Center	Transit Management Center	Transit Center Vehicle Tracking	4	The center shall provide collected transit probe data to traffic management centers and traveler information service providers for use in measuring current traffic conditions.	Planned
DART Transit Center	Transit Management Center	Transit Evacuation Support	1	The center shall manage the use of transit resources to support evacuation and subsequent reentry of a population near a disaster or another emergency.	Planned
DART Transit Center	Transit Management Center	Transit Evacuation Support	2	The center shall coordinate regional evacuation plans with Emergency Management - identifying the transit role in an evacuation and the transit resources that would be used.	Planned
DART Transit Center	Transit Management Center	Transit Evacuation Support	3	The center shall coordinate the use of transit and school bus fleets during an evacuation, supporting evacuation of those with special needs and the general population.	Planned
DART Transit Center	Transit Management Center	Transit Evacuation Support	4	The center shall adjust and update transit service and fare schedules and provide that information to other agencies as they coordinate evacuations.	Planned
DART Transit Center	Transit Management Center	Transit Evacuation Support	5	The center shall be capable of establishing emergency fare structures to override all other fares during disasters, states of emergency, or evacuations.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	1	The center shall accept requests from traveler interface systems for ridesharing as part of a trip plan request.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	2	The center shall provide a rideshare match based on origin and destination of the traveler's proposed trip, any routing constraints, preferences specified by the traveler, compatibility of this rideshare with rideshares confirmed by other travelers, the requesting traveler's eligibility data, and traffic data.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	3	The center shall process rideshare requests by balancing the relative benefits of the rideshare to each rideshare participant.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	4	The center shall arrange connections to transit or other multimodal services for portions of a multi-segment trip that includes ridesharing.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	5	The center shall provide a confirmation of the travelers rideshare match and provide the capability to support a payment transaction for the rideshare service.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	6	The center shall store all rideshare matches and traveler eligibility data.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Shared Use	1	The center shall accept requests for shared use transportation.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Shared Use	2	The center shall provide the traveler with a shared use transportation option.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	1	The center shall provide the capability to provide specific pre-trip and en route directions to travelers (and drivers), including costs, arrival times, and transfer points.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	2	The center shall include bicycle routes, walkways, skyways, and multi-use trails in the pre-trip and en route directions it provides to travelers.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	3	The center shall support on-line route guidance for travelers using personal devices (such as PDAs).	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	4	The center shall support on-line route guidance for drivers in vehicles.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	5	The center shall support on-line route guidance for specialty vehicles, such as commercial vehicles.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	6	The center shall generate route plans based on current and/or predicted conditions of the road network, scheduled maintenance and construction work activities, and work zone activities.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	7	The center shall generate route plans based on transit services, including fares, schedules, and requirements for travelers with special needs.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	8	The center shall generate route plans based on current asset restrictions, such as height and weight restrictions on tunnels or bridges.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	9	The center shall generate route plans based on ferry, rail, air, or other multimodal transportation data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	10	The center shall exchange route segment information with other centers outside the area served by the local center.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	11	The center shall generate trips based on the use of more than one mode of transport.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	12	The center shall use the preferences and constraints specified by the traveler in the trip request to select the most appropriate mode of transport.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	13	The center shall provide the capability for the traveler to confirm the proposed trip plan.	Planned
DART Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	14	The center shall provide the capability for center personnel to control route calculation parameters.	Planned
Delano Detection	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Delano Detection	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Delano Detection	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Delano Detection	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Delano Detection	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Delano Detection	ITS Roadway Equipment	Roadway Passive Monitoring	1	The field element shall collect, process, and send data to the center to uniquely identify passing vehicles to support travel time measurement	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	1	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	2	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services) and local environmental sensor data.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	3	The center shall use the various data inputs of environmental sensors and road weather data to develop a view of current and predicted road weather and road conditions.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	4	The center shall disseminate current and forecasted road weather and road condition information to weather service providers (such as the National Weather Service and value-added sector specific meteorological services) as well as other agencies including traffic, emergency, and transit management, traveler information providers, rail operations centers, media, and other maintenance management centers.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	5	The center shall provide value-added sector specific meteorological services with information on basic road facility and treatment information that supports forecasts for road conditions.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	2	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, etc.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	3	The center shall exchange incident and threat information with emergency management centers as well as traffic management centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	4	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	5	The center shall respond to requests from emergency management to provide maintenance and construction resources to implement response plans, assist in clean up, verify an incident, etc. This may also involve coordination with traffic management centers and other maintenance centers.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	6	The center shall exchange road network status assessment information with emergency management and traffic management centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	7	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	8	The center shall receive information indicating the damage sustained by transportation assets, derived from aerial surveillance, field reports, inspections, tests, and analyses to support incident management.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Incident Management	9	The center shall receive evacuation information including evacuation zones, evacuation times, and reentry times from emergency operation centers.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	1	The center shall provide the center personnel with tailored external information, including weather or road condition observations, forecasted weather information or road conditions, current usage of treatments and materials, available resources, equipment and vehicle availability, road network information, and source reliability information.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	2	The center shall tailor the decision support information to include filtering (selection from a large amount of external information), error reduction ('smoothing' the information), fusion (combination of disparate information to match the decision needs), and analysis (creating the decision).	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	3	The center shall provide an interface to the center personnel to input control parameters for the decision support process and receive decisions or information presentation.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Maintenance Decision Support	4	The center shall provide dispatch information to maintenance and construction vehicles based on the outputs of the decision support system, including recommended roadway treatment actions.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	1	The center shall maintain an interface with asset management systems to track the inventory, restrictions, repair needs and status updates of transportation assets (pavement, bridges, signs, etc.) including location, installation and materials information, vendor/contractor, current maintenance status, standard height, width, and weight restrictions.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	2	The center shall respond to requests from emergency management and traffic management centers for hazard removal, field equipment repair, and other roadway maintenance.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	3	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	4	The center shall provide emergency management and traffic management centers with information about scheduled maintenance and construction work activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	5	The center shall collect the status and fault data from roadside equipment, such as traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	6	The center shall collect the status and fault data from the centers that operate the equipment, including data for traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	7	The center shall receive equipment availability and materials storage status information from storage facilities to support the scheduling of roadway maintenance and construction activities.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	8	The center shall collect current and forecast traffic and weather information from traffic management centers and weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	9	The center shall dispatch and route maintenance and construction vehicle drivers and support them with route-specific environmental, incident, advisory, threat, alert, and traffic congestion information.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	10	The center shall manage an interface with center personnel to accept vehicle systems control information and remotely control maintenance and construction vehicle on-board equipment.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	11	The center shall track the status of roadway maintenance and construction activities by monitoring collected data from the dispatched vehicles and equipment.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	12	The center shall report the status of field equipment maintenance activities to the centers that operate the equipment.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	13	The Center shall provide the status of field maintenance actions to other centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	14	The Center shall track the status of field equipment maintenance actions.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	15	The Center shall accept information from other Centers that indicates which Connected Vehicle Roadside Equipment needs maintenance.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	16	The Center shall accept field equipment maintenance action requests from other centers.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Vehicle Tracking	1	The center shall monitor the locations of all maintenance and construction vehicles and other equipment under its jurisdiction.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Vehicle Tracking	2	The center shall present location data to center personnel for the fleet of maintenance and construction vehicles and other equipment.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	1	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	2	The center shall provide status information about scheduled maintenance and construction activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations. The information is provided to other management centers such as traffic, emergency, transit, traveler information providers, other maintenance centers, multimodal transportation providers, rail operations, and the media.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	3	The center shall collect and respond to feedback concerning scheduled maintenance and construction activities with other management centers such as traffic, emergency, transit, and rail operations.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	4	The center shall collect and disseminate asset restriction information levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	5	The Center shall provide road infrastructure restriction information to other Centers.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	6	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance and construction activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	7	The center shall exchange rail schedules and work plans with rail operations centers.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Zone Management	1	The center shall generate new work zone activity schedules for use by maintenance and construction vehicles, maintenance and construction operators, and for information coordination purposes.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Zone Management	2	The center shall control the collection of work zone status information including video images from cameras located in or near the work zone.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Zone Management	3	The center shall disseminate work zone information to other agencies and centers including traffic, transit, emergency management centers, other maintenance centers, traveler information centers, and the media.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Zone Management	4	The center shall control traffic in work zones by providing remote control of dynamic message signs, highway advisory radio systems, gates, and barriers located in or near the work zone.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Zone Management	5	The center shall exchange information with administrative systems to support the planning and scheduling of work zone activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Delano Maintenance Center	Maintenance and Construction Management Center	MCM Work Zone Management	6	The center shall collect real-time information on the state of the road network including current traffic and road conditions to support work zone scheduling and management.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Planned
Delano Maintenance Center	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Planned
Delano Maintenance Center	Traffic Management Center	TMC In-Vehicle Signing Management	1	The center shall format and output sign information such as traffic and road conditions to field equipment that supports in-vehicle signage communications.	Planned
Delano Maintenance Center	Traffic Management Center	TMC In-Vehicle Signing Management	2	The center shall format and output advisory information, such as detour information, wide-area alerts, work zone intrusion information, and other special information to field equipment that supports in-vehicle signage communications.	Planned
Delano Maintenance Center	Traffic Management Center	TMC In-Vehicle Signing Management	3	The center shall monitor and manage output of indicator and fixed sign information, including static sign information (e.g., stop, curve warning, guide signs, service signs, and directional signs) and dynamic information (e.g., current signal states and local conditions warnings identified by local environmental sensors) by field equipment that supports in-vehicle signage communications.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Traffic Management Center	TMC In-Vehicle Signing Management	4	The center shall receive system operational status from field equipment that supports in-vehicle signage communications.	Planned
Delano Maintenance Center	Traffic Management Center	TMC In-Vehicle Signing Management	5	The center shall receive system fault data from field equipment that supports in-vehicle signage communications.	Planned
Delano Maintenance Center	Traffic Management Center	TMC In-Vehicle Signing Management	6	The center shall format and output restricted lane information to field equipment that supports in-vehicle signage communications.	Planned
Delano Maintenance Center	Traffic Management Center	TMC In-Vehicle Signing Management	7	The center shall format and output low emission zone information to field equipment that supports in-vehicle signage communications.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Passive Surveillance	1	The center shall collect time stamped vehicle identities from field equipment.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Passive Surveillance	2	The center shall correlate the time stamped vehicle identities to calculate link travel times and derive other traffic measures.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Planned
Delano Maintenance Center	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Maintenance Center	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Delano Maintenance Center	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Delano Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	1	The maintenance and construction vehicle shall track the location and status of safety systems on-board the vehicle.	Planned
Delano Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	2	The maintenance and construction vehicle shall respond to control information from the center to allow remote operation of the on-board vehicle systems. These systems include routine maintenance equipment for cutting, repairs, hazard removal, etc.	Planned
Delano Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	3	The maintenance and construction vehicle shall monitor materials information including remaining quantity and current application rate of materials on the vehicle.	Planned
Delano Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	4	The maintenance and construction vehicle shall respond to dispatch information from the center, presented to the vehicle operator for acknowledgement and returning status.	Planned
Delano Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Roadway Maintenance and Construction	5	The maintenance and construction vehicle shall send operational data to the center including the operational state of the maintenance equipment (e.g., blade up/down, spreader pattern), types and quantities of materials used for construction and maintenance activities, and a record of the actual work performed.	Planned
Delano Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Vehicle Location Tracking	1	The maintenance and construction vehicle shall track its current location.	Operate
Delano Maintenance Vehicles	Maintenance and Construction Vehicle OBE	MCV Vehicle Location Tracking	2	The maintenance and construction vehicle shall send the time stamped vehicle location to the controlling center.	Operate
Delano Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Planned
Delano Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Planned
Delano Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	1	The field element shall monitor the operational status of field devices and detects and reports fault conditions.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	2	The field element shall detect and report any fault conditions with the equipment being monitored back to its controlling center.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	3	The field element shall provide the capability for field personnel to locally control and configure this equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Field Device Support	4	The field element shall support an interface with field support equipment to accept installation of updates or configuration of field operations.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	1	The field element shall collect, process, and send work zone images to the center for further analysis and distribution, under center control.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	2	Under traffic and maintenance center control, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around the work zone through which they are currently passing.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	3	Under the control of field personnel within maintenance vehicles, the field element shall include driver information systems (such as dynamic messages signs and highway advisory radios) that advise drivers of activity around a work zone through which they are currently passing.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	4	The field element shall control access to the work zone using automated gate or barrier systems. This includes automated flagger assistance devices that include automated gate arms and other automated gate/barrier systems.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	5	The field element shall provide operational status for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center.	Planned
Delano WZ Management Devices	ITS Roadway Equipment	Roadway Work Zone Traffic Control	6	The field element shall provide fault data for the surveillance (e.g. CCTV), driver information systems, and gates/barriers in work zones to the maintenance center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Federal Military Bases	Center				
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	1	The center shall monitor information from Alerting and Advisory Systems such as the Information Sharing and Analysis Centers (ISACs), the National Infrastructure Protection Center (NIPC), the Homeland Security Advisory System (HSAS), etc. The information may include assessments (general incident and vulnerability awareness information), advisories (identification of threats or recommendations to increase preparedness levels), or alerts (information on imminent or in-progress emergencies).	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	2	The center shall receive incident information from other transportation management centers to support the early warning system.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	3	The center shall support the entry of alert and advisory information directly from the emergency system operator.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	4	The center shall receive potential incident information from social media sources to support the early warning system.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	5	The center shall provide the capability to correlate alerts and advisories, incident information, and security sensor and surveillance data.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	6	The center shall broadcast wide-area alerts and advisories to traffic management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	7	The center shall broadcast wide-area alerts and advisories to transit management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	8	The center shall broadcast wide-area alerts and advisories to toll administration centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	9	The center shall broadcast wide-area alerts and advisories to traveler information service providers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	10	The center shall broadcast wide-area alerts and advisories to maintenance centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	11	The center shall broadcast wide-area alerts and advisories to other emergency management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	12	The center shall broadcast wide-area alerts and advisories to commercial vehicle administration centers and roadside check facilities for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	13	The center shall process status information from each of the centers that have been sent the wide-area alert.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	14	The center shall coordinate the broadcast of wide-area alerts and advisories with other emergency management centers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Early Warning System	15	The center shall present the alert and advisory information and the status of the actions taken in response to the alert by the other centers to the emergency system operator as received from other system inputs.	Planned
Federal Military Bases	Emergency Management Center	Emergency Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Federal Military Bases	Emergency Management Center	Emergency Environmental Monitoring	2	The center shall collect road network conditions data, including advisories, from traffic management and traveler information centers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Environmental Monitoring	3	The center shall collect asset restrictions information from roadway maintenance operations.	Planned
Federal Military Bases	Emergency Management Center	Emergency Environmental Monitoring	4	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
Federal Military Bases	Emergency Management Center	Emergency Environmental Monitoring	5	The center shall provide the road and weather warning and advisories to the emergency responders.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	1	The center shall provide tactical decision support, resource coordination, and communications integration for first responders to support local management of an incident.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	2	The center shall provide incident command communications with public safety, emergency management, transportation, and other allied response agency centers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	3	The center shall track and maintain resource information and action plans pertaining to the incident command.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	4	The center shall share incident command information with other public safety agencies including resource deployment status, hazardous material information, rail incident information, evacuation advice as well as traffic, road, and weather conditions.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	5	The center shall assess the status of responding emergency vehicles as part of an incident command.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Federal Military Bases	Emergency Management Center	Emergency Incident Command	6	The center shall provide other agencies real-time information on the current conditions at the incident scene.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	7	The center shall collect modeling program outputs to support emergency dispatch and staging of personnel and equipment, e.g. predicted HAZMAT plumes or crash severity predictions.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	8	The center shall collect information about freight or cargo to support emergency dispatch and staging of personnel and equipment, e.g. cargo manifest or HAZMAT information.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	9	The center shall collect medical care facility capabilities and availability, e.g., trauma level supported to support emergency dispatch and staging of personnel and equipment.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	10	The center shall collect on-scene reports to support emergency dispatch and staging of personnel and equipment.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	11	The center shall provide situational awareness information to emergency responders about an incident, both en-route and while they are on-scene.	Planned
Federal Military Bases	Emergency Management Center	Emergency Incident Command	12	The center shall provide status of the current conditions at the incident scene to arriving responders.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	1	The center shall provide strategic emergency response capabilities provided by an Emergency Operations Center for large-scale incidents and disasters.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	2	The center shall manage coordinated inter-agency responses to and recovery from large-scale emergencies. Such agencies include traffic management, transit, maintenance and construction management, rail operations, and other emergency management agencies.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	3	The center shall provide the capability to implement response plans and track progress through the incident by exchanging incident information and response status with allied agencies.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	4	The center shall develop, coordinate with other agencies, and store emergency response plans.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	5	The center shall track the availability of resources and coordinate resource sharing with allied agency centers including traffic, maintenance, or other emergency centers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	6	The center shall allocate the appropriate emergency services, resources, and vehicle (s) to respond to incidents, and shall provide the capability to override the current allocation to suit the special needs of a current incident.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	7	The center shall receive event scheduling information from Event Promoters.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	8	The center shall support remote control of field equipment normally under control of the traffic management center including traffic signals, dynamic message signs, gates, and barriers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Federal Military Bases	Emergency Management Center	Emergency Response Management	9	The center shall provide the capability to remotely control and monitor CCTV systems normally operated by a traffic management center.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	10	The center shall provide the capability to request transit resource availability from transit centers for use during disaster and evacuation operations.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	11	The center shall assimilate the damage assessment of the transit, traffic, rail, maintenance, and other emergency center services and systems to create an overall transportation system status, and disseminate to each of these centers and the traveling public via traveler information providers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	12	The center shall provide information to the media concerning the status of an emergency response.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	13	The center shall provide the capability for center personnel to provide inputs to the management of incidents, disasters and evacuations.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	14	The center shall collect information about the status of the recovery efforts for the infrastructure during disasters.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	15	The center shall provide the overall status of infrastructure recovery efforts to traveler information providers and media.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	16	The center shall provide the capability to communicate information about emergency situations to local population through the Emergency Telecommunications System.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	17	The center shall provide the capability to identify neighborhoods and businesses that should be informed of an emergency based on information collected about incidents including their severity, impacted locations, and recovery schedule.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	18	The center shall retrieve information from public health systems to increase preparedness for, and implement a response to biological, chemical, radiation, and other public health emergencies.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	19	The center shall manage coordinated inter-agency responses to incidents at an international border.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	20	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Federal Military Bases	Emergency Management Center	Emergency Response Management	21	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	1	The center shall remotely monitor and control security sensor data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	2	The center shall remotely monitor and control security sensor data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	3	The center shall remotely monitor and control security sensor data collected on-board transit vehicles. The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	4	The center shall exchange security sensor data with other emergency centers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	5	The center shall identify potential security threats based on collected security sensor data.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	6	The center shall verify potential security threats by correlating security sensor data from multiple sources.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	7	The center shall perform threat analysis based on correlations of security sensor and surveillance data.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	8	The center shall exchange threat analysis data with Alerting and Advisory Systems and use that data in local threat analysis processing.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	9	The center shall disseminate threat information to other agencies, including traffic, transit, maintenance, rail operations, and other emergency management centers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	10	The center shall respond to control data from center personnel regarding security sensor data collection, processing, threat detection, and threat analysis.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	11	The center shall request activation of barriers and safeguards on request from center personnel.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Sensor Management	12	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	1	The center shall remotely monitor video images and audio surveillance data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The data may be raw or pre-processed in the field.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	2	The center shall remotely monitor video images and audio surveillance data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The data may be raw or pre-processed in the field.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	3	The center shall remotely monitor video images and audio surveillance data collected on-board transit vehicles. The data may be raw or pre-processed in the field.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	4	The center shall exchange surveillance data with other emergency centers.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	5	The center shall identify potential security threats based on collected security surveillance data.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	6	The center shall verify potential security threats by correlating security surveillance data from multiple sources.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	7	The center shall remotely control security surveillance devices in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways).	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	8	The center shall remotely control security surveillance devices in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	9	The center shall remotely control security surveillance devices on-board transit vehicles.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	10	The center shall match traveler video images against a database from the Alerting and Advisory Systems of known images that may represent criminals and terrorists.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	11	The center shall exchange traveler images with other emergency management centers to support traveler image matching.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	12	The center shall respond to control data from center personnel regarding security surveillance data collection, processing, threat detection, and image matching.	Planned
Federal Military Bases	Emergency Management Center	Emergency Secure Area Surveillance	13	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	1	The center shall send data concerning enrollment of commercial vehicles for electronic clearance and tax filing to the appropriate commercial vehicle administration center. The data may include driver and vehicle identification, safety inspections/status, carrier credentials, related citations, and accident information.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	2	The center shall obtain and manage commercial vehicle routes for its fleet of vehicles, considering route restrictions, advance payment of tolls, HAZMAT restrictions, current traffic and road conditions, and incident information provided by traveler information systems.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Freight Ports	Fleet and Freight Management Center	Fleet Administration	3	The center shall support an interface with a map update provider, or other appropriate data sources, through which updates of digitized map data can be obtained and used as the background for commercial vehicle fleet administration - includes commercial vehicle specific data such as route or HAZMAT restrictions.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	4	The center shall monitor the locations and progress of commercial vehicles against their planned routes and raise appropriate warnings based on route monitoring parameters.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	5	The center shall coordinate the response to security incidents and the sharing of security threat information involving commercial vehicles with other agencies including emergency management centers and alerting/advisory systems.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	6	The center shall access driver records from the appropriate commercial vehicle administration center and use the records to support pre-hiring checks for potential drivers and monitor the performance of each driver hired.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	7	The center shall monitor geographic trigger areas for wireless roadside inspection programs and distribute the trigger areas to their commercial vehicles.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	8	The center shall provide fleet status information including safety status, routing information, current vehicle information, and emergency information to commercial vehicle operators.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	9	The center shall send data to its commercial vehicles including dispatch, routing, trigger areas, and special instructions, including alerts and other advisories.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	10	The center shall collect road weather conditions data and advisories from other centers.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	11	The center shall coordinate intermodal load-matching information including availability of a container, container capacity, available truck, equipment, for use in load matching between peer systems.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	12	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped commercial vehicles	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	13	The center shall provide the appropriate emergency management center with information about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	14	The center shall provide routes to its fleet of vehicles, considering route restrictions, advance payment of tolls, HAZMAT restrictions, current traffic and road conditions, and incident information.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	15	The center shall use collected environmental probe data from vehicles and other centers to determine when weather conditions may affect fleet activities.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	16	The center shall provide warnings and advisories to commercial vehicle drivers concerning road conditions and weather events.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Freight Ports	Fleet and Freight Management Center	Fleet Administration	17	The center shall maintain records of the mileage and time in service of its fleet of vehicles and freight equipment.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	18	The center shall monitor the status of its fleet, including vehicles and freight equipment, for maintenance issues or repairs that may be needed.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Administration	19	The center shall report required commercial vehicle repairs and other corrections of identified deficiencies to the appropriate commercial vehicle administration center.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	1	The center shall send data concerning enrollment and purchase of commercial vehicles credentials and tax filing to the appropriate commercial vehicle administration center.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	2	The center shall receive compliance review reports from the appropriate commercial vehicle administration centers concerning the operations of the commercial vehicle fleet, including concomitant out-of-service notifications, and carrier warnings/notifications.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	3	The center shall provide audit data to the appropriate commercial vehicle administration center to support tax audits.	Planned
Freight Ports	Fleet and Freight Management Center	Fleet Credentials and Taxes Management and Reporting	4	The center shall support an interface with a commercial vehicle driver that is acting in the role of a commercial vehicle fleet manager for the purposes of obtaining credentials, obtaining permits, filing taxes and audit data, and receiving compliance reports and status information.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	1	The center shall collect data from the commercial vehicles carrying freight or from the freight equipment itself. Data includes container, trailer, or chassis information regarding identity, type, location, brake wear data, mileage, seal number/type, door open/close status, chassis bare/covered status, tethered/untethered status, bill of lading, and sensor status.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	2	The center shall provide the interface with intermodal freight shippers to setup transportation for freight equipment. Inputs to this include information about the shipper, consignee, commodities, pick-up and drop-off locations for freight equipment. Outputs include information about the driver and commercial vehicle that will be transporting the freight.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	3	The center shall coordinate the shipment of cargo using freight equipment with intermodal freight depots. Information to be coordinated includes information regarding a freight transportation booking and the assigned driver and vehicle scheduled to transport the freight along with cargo movement logs, routing information, and cargo ID's.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	4	The center shall track the progress of freight equipment as it moves from source to destination based on inputs from the commercial vehicles, the freight equipment, intermodal freight depots, shippers, and commercial vehicle administration centers that provide border clearance status information.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	5	The center shall collect diagnostic information from freight equipment to schedule preventative and corrective maintenance.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	6	The center shall notify other security functions within the center of deviations in the movement of freight equipment from its planned route.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	7	The center shall support the submission of cargo manifest data to the appropriate government border inspection administration system.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	8	The center shall support the registration of its vehicles, drivers, and cargo for expedited border crossings with the appropriate government border inspection administration system.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	9	The center shall coordinate the response to security incidents and the sharing of security threat information involving freight equipment with other agencies including emergency management centers, intermodal freight shippers, and alerting/advisory systems.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	10	The center shall provide emergency management information about a hazmat load including nature of the load and unloading instructions. May also include hazmat vehicle route and route update information.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	11	The center shall collect the border crossing clearance status of commercial freight shipment scheduled to enter the U.S. from commercial vehicle administration systems.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	12	The center shall provide traveler information center information about vehicle trips including load information, location, speed, and routing.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	13	The center shall receive customized traveler information for freight users from traveler information center to indicate truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	14	The center shall provide traveler information centers with fleet-specific traveler information preferences including area covered by fleet/driver, types of freight managed (including special restrictions), preferred routes, and other travel preferences pertaining to trip costs or tolls.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	15	The center shall collect freight equipment location and status of the freight, container, or chassis equipment.	Planned
Freight Ports	Fleet and Freight Management Center	Freight Administration and Management	16	The center shall collect Commercial vehicle identities including licenses plate number or USDOT number, Freight Equipment (e.g., container, chassis, or trailer identification), Carrier, and Driver from commercial vehicle.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	1	The transit vehicle shall collect and process vehicle mileage data available to sensors on-board.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	2	The transit vehicle shall collect and process the transit vehicle's operating conditions such as engine temperature, oil pressure, brake wear, internal lighting, environmental controls, etc.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	3	The transit vehicle shall transmit vehicle maintenance data to the center to be used for scheduling future vehicle maintenance.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	1	The transit vehicle shall manage data input to sensor(s) on-board a transit vehicle to determine the vehicle's availability for use in demand responsive and flexible-route transit services based on identity, type, and passenger capacity.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	2	The transit vehicle shall receive the status of demand responsive or flexible-route transit schedules and passenger loading from the transit vehicle operator.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	3	The transit vehicle shall provide the transit vehicle operator instructions about the demand responsive or flexible-route transit schedule that has been confirmed from the center.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	4	The transit vehicle shall provide the capability to log passenger boarding and alighting and make passenger use data available to the transit center.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	1	The transit vehicle shall receive a vehicle assignment including transit route information, transit service instructions, traffic information, road conditions, and other information for the operator.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	2	The transit vehicle shall use the route information and its current location to determine the deviation from the predetermined schedule.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	3	The transit vehicle shall calculate the estimated times of arrival (ETA) at transit stops.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	4	The transit vehicle shall determine scenarios to correct the schedule deviation.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	5	The transit vehicle shall provide the schedule deviations and instructions for schedule corrections to the transit vehicle operator if the deviation is small, or the transit vehicle is operating in an urban area.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	6	The transit vehicle shall send the schedule deviation and estimated arrival time information to the center.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	7	The transit vehicle shall support the operations of a flexible route service. This may include requests for route deviations that would then lead to schedule corrective actions.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	8	The transit vehicle shall notify the transit center of vehicle location and operational status as the vehicle exits and returns to the transit facility to support future vehicle assignments.	Planned
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	1	The transit vehicle shall perform video and audio surveillance inside of transit vehicles and output raw video or audio data for either local monitoring (for processing or direct output to the transit vehicle operator), remote monitoring or for local storage (e.g., in an event recorder).	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	2	The transit vehicle shall perform local monitoring of video or audio surveillance data collected inside of transit vehicles, and identify potential incidents or threats based on received processing parameters.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	3	The transit vehicle shall output an indication of potential incidents or threats and the processed video or audio information to the center along with the vehicle's current location.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	4	The transit vehicle shall detect potential threats via sensors for chemical agents, toxic industrial chemicals, biological agents, explosives, and radiation.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	5	The transit vehicle shall detect potential threats via object detection sensors (e.g. metal detectors).	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	6	The transit vehicle shall output an indication of potential incidents or threats and the processed sensor information to the center along with the vehicle's current location.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	7	The transit vehicle shall accept sensor control data to allow remote control of the sensors.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	8	The transit vehicle shall monitor and output surveillance and sensor equipment status and fault indications.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	9	The transit vehicle shall accept emergency inputs from either the transit vehicle operator or a traveler through such interfaces as panic buttons, silent or audible alarms, etc.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	10	The transit vehicle shall output reported emergencies to the center.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	11	The transit vehicle shall receive acknowledgments of the emergency request from the center and output this acknowledgment to the transit vehicle operator or to the travelers.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	12	The transit vehicle shall be capable of receiving an emergency message for broadcast to the travelers or to the transit vehicle operator.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	13	The transit vehicle shall be capable of being disabled or enabled based on commands from the center or authentic inputs from the transit vehicle operator	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	14	The transit vehicle shall perform authentication of the transit vehicle operator.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Operate
GET Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	1	The transit vehicle shall collect and process vehicle mileage data available to sensors on-board.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	2	The transit vehicle shall collect and process the transit vehicle's operating conditions such as engine temperature, oil pressure, brake wear, internal lighting, environmental controls, etc.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	3	The transit vehicle shall transmit vehicle maintenance data to the center to be used for scheduling future vehicle maintenance.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Planned
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	1	The transit vehicle shall receive a vehicle assignment including transit route information, transit service instructions, traffic information, road conditions, and other information for the operator.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	2	The transit vehicle shall use the route information and its current location to determine the deviation from the predetermined schedule.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	3	The transit vehicle shall calculate the estimated times of arrival (ETA) at transit stops.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	4	The transit vehicle shall determine scenarios to correct the schedule deviation.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	5	The transit vehicle shall provide the schedule deviations and instructions for schedule corrections to the transit vehicle operator if the deviation is small, or the transit vehicle is operating in an urban area.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	6	The transit vehicle shall send the schedule deviation and estimated arrival time information to the center.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	7	The transit vehicle shall support the operations of a flexible route service. This may include requests for route deviations that would then lead to schedule corrective actions.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	8	The transit vehicle shall notify the transit center of vehicle location and operational status as the vehicle exits and returns to the transit facility to support future vehicle assignments.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	1	The transit vehicle shall perform video and audio surveillance inside of transit vehicles and output raw video or audio data for either local monitoring (for processing or direct output to the transit vehicle operator), remote monitoring or for local storage (e.g., in an event recorder).	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	2	The transit vehicle shall perform local monitoring of video or audio surveillance data collected inside of transit vehicles, and identify potential incidents or threats based on received processing parameters.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	3	The transit vehicle shall output an indication of potential incidents or threats and the processed video or audio information to the center along with the vehicle's current location.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	4	The transit vehicle shall detect potential threats via sensors for chemical agents, toxic industrial chemicals, biological agents, explosives, and radiation.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	5	The transit vehicle shall detect potential threats via object detection sensors (e.g. metal detectors).	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	6	The transit vehicle shall output an indication of potential incidents or threats and the processed sensor information to the center along with the vehicle's current location.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	7	The transit vehicle shall accept sensor control data to allow remote control of the sensors.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	8	The transit vehicle shall monitor and output surveillance and sensor equipment status and fault indications.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	9	The transit vehicle shall accept emergency inputs from either the transit vehicle operator or a traveler through such interfaces as panic buttons, silent or audible alarms, etc.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	10	The transit vehicle shall output reported emergencies to the center.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	11	The transit vehicle shall receive acknowledgments of the emergency request from the center and output this acknowledgment to the transit vehicle operator or to the travelers.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	12	The transit vehicle shall be capable of receiving an emergency message for broadcast to the travelers or to the transit vehicle operator.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	13	The transit vehicle shall be capable of being disabled or enabled based on commands from the center or authentic inputs from the transit vehicle operator	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	14	The transit vehicle shall perform authentication of the transit vehicle operator.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Operate
GET Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Operate
GET Transit Center	Emergency Management Center	Emergency Data Collection	1	The center shall collect emergency service data, emergency vehicle management data, emergency vehicle data, sensor and surveillance data, threat data, and incident data.	Planned
GET Transit Center	Emergency Management Center	Emergency Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
GET Transit Center	Emergency Management Center	Emergency Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the emergency management data or for the data itself.	Planned
GET Transit Center	Emergency Management Center	Emergency Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	1	The center shall monitor information from Alerting and Advisory Systems such as the Information Sharing and Analysis Centers (ISACs), the National Infrastructure Protection Center (NIPC), the Homeland Security Advisory System (HSAS), etc. The information may include assessments (general incident and vulnerability awareness information), advisories (identification of threats or recommendations to increase preparedness levels), or alerts (information on imminent or in-progress emergencies).	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	2	The center shall receive incident information from other transportation management centers to support the early warning system.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	3	The center shall support the entry of alert and advisory information directly from the emergency system operator.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	4	The center shall receive potential incident information from social media sources to support the early warning system.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	5	The center shall provide the capability to correlate alerts and advisories, incident information, and security sensor and surveillance data.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	6	The center shall broadcast wide-area alerts and advisories to traffic management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	7	The center shall broadcast wide-area alerts and advisories to transit management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Emergency Management Center	Emergency Early Warning System	8	The center shall broadcast wide-area alerts and advisories to toll administration centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	9	The center shall broadcast wide-area alerts and advisories to traveler information service providers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	10	The center shall broadcast wide-area alerts and advisories to maintenance centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	11	The center shall broadcast wide-area alerts and advisories to other emergency management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	12	The center shall broadcast wide-area alerts and advisories to commercial vehicle administration centers and roadside check facilities for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	13	The center shall process status information from each of the centers that have been sent the wide-area alert.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	14	The center shall coordinate the broadcast of wide-area alerts and advisories with other emergency management centers.	Planned
GET Transit Center	Emergency Management Center	Emergency Early Warning System	15	The center shall present the alert and advisory information and the status of the actions taken in response to the alert by the other centers to the emergency system operator as received from other system inputs.	Planned
GET Transit Center	Emergency Management Center	Emergency Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
GET Transit Center	Emergency Management Center	Emergency Environmental Monitoring	2	The center shall collect road network conditions data, including advisories, from traffic management and traveler information centers.	Planned
GET Transit Center	Emergency Management Center	Emergency Environmental Monitoring	3	The center shall collect asset restrictions information from roadway maintenance operations.	Planned
GET Transit Center	Emergency Management Center	Emergency Environmental Monitoring	4	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
GET Transit Center	Emergency Management Center	Emergency Environmental Monitoring	5	The center shall provide the road and weather warning and advisories to the emergency responders.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	1	The center shall manage inter-agency coordination of evacuation operations, from initial planning through the evacuation process and reentry.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	2	The center shall develop and exchange evacuation plans with allied agencies prior to the occurrence of a disaster.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	3	The center shall provide an interface to the emergency system operator to enter evacuation plans and procedures and present the operator with other agencies' plans.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	4	The center shall coordinate evacuation destinations and shelter needs with shelter providers (e.g., the American Red Cross) in the region.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	5	The center shall provide evacuation information to traffic, transit, maintenance and construction, rail operations, and other emergency management centers as needed.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	6	The center shall request resources from transit agencies as needed to support the evacuation.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	7	The center shall request traffic management agencies to implement special traffic control strategies and to control evacuation traffic, including traffic on local streets and arterials as well as the major evacuation routes.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	8	The center shall provide traveler information systems with evacuation guidance including basic information to assist potential evacuees in determining whether evacuation is necessary and when it is safe to return.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	9	The center shall monitor the progress or status of the evacuation once it begins and exchange tactical plans, prepared during the incident, with allied agencies.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	10	The center shall monitor the progress of the reentry process.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	11	The center shall submit evacuation information to toll administration centers along with requests for changes in the toll services or fee collection during an evacuation.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	12	The center shall retrieve information from public health systems to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	13	The center shall make use of population and housing data to plan for and implement evacuations or in-place sheltering for biological, chemical, radiation, and other public health emergencies.	Planned
GET Transit Center	Emergency Management Center	Emergency Evacuation Support	14	The center shall maintain information on the population of an area in the event of an evacuation, including addresses, types of facility (residence, multi-family dwelling, commercial retail, commercial office, etc.), and special considerations (storage of flammable liquids, special needs residents).	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	1	The center shall provide tactical decision support, resource coordination, and communications integration for first responders to support local management of an incident.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Emergency Management Center	Emergency Incident Command	2	The center shall provide incident command communications with public safety, emergency management, transportation, and other allied response agency centers.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	3	The center shall track and maintain resource information and action plans pertaining to the incident command.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	4	The center shall share incident command information with other public safety agencies including resource deployment status, hazardous material information, rail incident information, evacuation advice as well as traffic, road, and weather conditions.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	5	The center shall assess the status of responding emergency vehicles as part of an incident command.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	6	The center shall provide other agencies real-time information on the current conditions at the incident scene.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	7	The center shall collect modeling program outputs to support emergency dispatch and staging of personnel and equipment, e.g. predicted HAZMAT plumes or crash severity predictions.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	8	The center shall collect information about freight or cargo to support emergency dispatch and staging of personnel and equipment, e.g. cargo manifest or HAZMAT information.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	9	The center shall collect medical care facility capabilities and availability, e.g., trauma level supported to support emergency dispatch and staging of personnel and equipment.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	10	The center shall collect on-scene reports to support emergency dispatch and staging of personnel and equipment.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	11	The center shall provide situational awareness information to emergency responders about an incident, both en-route and while they are on-scene.	Planned
GET Transit Center	Emergency Management Center	Emergency Incident Command	12	The center shall provide status of the current conditions at the incident scene to arriving responders.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	1	The center shall provide strategic emergency response capabilities provided by an Emergency Operations Center for large-scale incidents and disasters.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	2	The center shall manage coordinated inter-agency responses to and recovery from large-scale emergencies. Such agencies include traffic management, transit, maintenance and construction management, rail operations, and other emergency management agencies.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	3	The center shall provide the capability to implement response plans and track progress through the incident by exchanging incident information and response status with allied agencies.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Emergency Management Center	Emergency Response Management	4	The center shall develop, coordinate with other agencies, and store emergency response plans.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	5	The center shall track the availability of resources and coordinate resource sharing with allied agency centers including traffic, maintenance, or other emergency centers.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	6	The center shall allocate the appropriate emergency services, resources, and vehicle (s) to respond to incidents, and shall provide the capability to override the current allocation to suit the special needs of a current incident.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	7	The center shall receive event scheduling information from Event Promoters.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	8	The center shall support remote control of field equipment normally under control of the traffic management center including traffic signals, dynamic message signs, gates, and barriers.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	9	The center shall provide the capability to remotely control and monitor CCTV systems normally operated by a traffic management center.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	10	The center shall provide the capability to request transit resource availability from transit centers for use during disaster and evacuation operations.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	11	The center shall assimilate the damage assessment of the transit, traffic, rail, maintenance, and other emergency center services and systems to create an overall transportation system status, and disseminate to each of these centers and the traveling public via traveler information providers.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	12	The center shall provide information to the media concerning the status of an emergency response.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	13	The center shall provide the capability for center personnel to provide inputs to the management of incidents, disasters and evacuations.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	14	The center shall collect information about the status of the recovery efforts for the infrastructure during disasters.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	15	The center shall provide the overall status of infrastructure recovery efforts to traveler information providers and media.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	16	The center shall provide the capability to communicate information about emergency situations to local population through the Emergency Telecommunications System.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	17	The center shall provide the capability to identify neighborhoods and businesses that should be informed of an emergency based on information collected about incidents including their severity, impacted locations, and recovery schedule.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	18	The center shall retrieve information from public health systems to increase preparedness for, and implement a response to biological, chemical, radiation, and other public health emergencies.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Emergency Management Center	Emergency Response Management	19	The center shall manage coordinated inter-agency responses to incidents at an international border.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	20	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
GET Transit Center	Emergency Management Center	Emergency Response Management	21	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Alarm Support	1	The center shall collect silent and audible alarms received from travelers in secure areas (such as transit stops, rest areas, park and ride lots, modal interchange facilities).	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Alarm Support	2	The center shall collect silent and audible alarms received from transit vehicles, originated by the traveler or the transit vehicle operator.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Alarm Support	3	After the alarm message, has been received, the center shall generate an alarm acknowledgment to the sender.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Alarm Support	4	After the alarm message becomes a verified incident, the center shall determine the appropriate response.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Alarm Support	5	The center shall determine whether the alarm message indicates an emergency that requires the attention of public safety agencies, and forward alarm message data to the appropriate agency as necessary.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Alarm Support	6	The center shall forward the alarm message to center personnel and respond to the traveler or transit vehicle operator as directed by the personnel.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	1	The center shall remotely monitor and control security sensor data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	2	The center shall remotely monitor and control security sensor data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	3	The center shall remotely monitor and control security sensor data collected on-board transit vehicles. The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors. The data may be raw or pre-processed in the field.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	4	The center shall exchange security sensor data with other emergency centers.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	5	The center shall identify potential security threats based on collected security sensor data.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	6	The center shall verify potential security threats by correlating security sensor data from multiple sources.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	7	The center shall perform threat analysis based on correlations of security sensor and surveillance data.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	8	The center shall exchange threat analysis data with Alerting and Advisory Systems and use that data in local threat analysis processing.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	9	The center shall disseminate threat information to other agencies, including traffic, transit, maintenance, rail operations, and other emergency management centers.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	10	The center shall respond to control data from center personnel regarding security sensor data collection, processing, threat detection, and threat analysis.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	11	The center shall request activation of barriers and safeguards on request from center personnel.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Sensor Management	12	The center shall monitor maintenance status of the security sensor field equipment.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	1	The center shall remotely monitor video images and audio surveillance data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The data may be raw or pre-processed in the field.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	2	The center shall remotely monitor video images and audio surveillance data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The data may be raw or pre-processed in the field.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	3	The center shall remotely monitor video images and audio surveillance data collected on-board transit vehicles. The data may be raw or pre-processed in the field.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	4	The center shall exchange surveillance data with other emergency centers.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	5	The center shall identify potential security threats based on collected security surveillance data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	6	The center shall verify potential security threats by correlating security surveillance data from multiple sources.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	7	The center shall remotely control security surveillance devices in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways).	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	8	The center shall remotely control security surveillance devices in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	9	The center shall remotely control security surveillance devices on-board transit vehicles.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	10	The center shall match traveler video images against a database from the Alerting and Advisory Systems of known images that may represent criminals and terrorists.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	11	The center shall exchange traveler images with other emergency management centers to support traveler image matching.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	12	The center shall respond to control data from center personnel regarding security surveillance data collection, processing, threat detection, and image matching.	Planned
GET Transit Center	Emergency Management Center	Emergency Secure Area Surveillance	13	The center shall monitor maintenance status of the security sensor field equipment.	Planned
GET Transit Center	Transit Management Center	Transit Center Connection Protection	1	The center shall manage service requests for routing of an individual through the transit system.	Planned
GET Transit Center	Transit Management Center	Transit Center Connection Protection	2	The center shall provide transit plans for both fixed and demand responsive transit to transit passengers.	Planned
GET Transit Center	Transit Management Center	Transit Center Connection Protection	3	The center shall be able to coordinate with Other Transit Management systems or Multimodal Transportation Service Providers to provide a complete multimodal trip plan.	Planned
GET Transit Center	Transit Management Center	Transit Center Connection Protection	4	The center shall track the passenger through the transit network, and coordinate with Other TRM and Multimodal Transportation Service Providers so that the passenger makes efficient connections between the transit system and other transit systems or other modes of transportation.	Planned
GET Transit Center	Transit Management Center	Transit Center Connection Protection	5	The center shall track transit vehicles and identify when connections between transit routes are in jeopardy due to the late arrival of a transit vehicle at a transfer stop or station.	Planned
GET Transit Center	Transit Management Center	Transit Center Connection Protection	6	The center shall send schedule adjustments to a transit vehicle to protect a connection made with other transit vehicles.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Transit Management Center	Transit Center Connection Protection	7	The center shall be able to provide a traveler with updates regarding their transit trip, including connection protection actions taken by the center.	Planned
GET Transit Center	Transit Management Center	Transit Center Connection Protection	8	The center shall send schedule adjustments to a transit vehicle to protect a connection to be made by a specific traveler.	Planned
GET Transit Center	Transit Management Center	Transit Center Data Collection	1	The center shall collect transit management data such as transit fares and passenger use, transit services, paratransit operations, transit vehicle maintenance data, etc.	Operate
GET Transit Center	Transit Management Center	Transit Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
GET Transit Center	Transit Management Center	Transit Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the transit data or for the data itself.	Operate
GET Transit Center	Transit Management Center	Transit Center Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
GET Transit Center	Transit Management Center	Transit Center Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
GET Transit Center	Transit Management Center	Transit Center Environmental Monitoring	2	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
GET Transit Center	Transit Management Center	Transit Center Fare Management	1	The center shall manage the actual value of transit fares for each segment of each regular transit route, including the transmission of the information to transit vehicles and transit stops or stations.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	2	The center shall provide the capability for a system operator to manage the transit fares and control the exchange of transit fare information.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	3	The center shall process the financial requests from the transit vehicles or roadside and manage an interface to a Financial Institution.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	4	The center shall support the payment of transit fare transactions using data provided by the traveler cards / payment instruments.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	5	The center shall collect data on fare payment violations and send the data, including images of the violator, to the appropriate enforcement agency.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	6	The center shall process requests for transit fares to be paid in advance.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	9	The center shall maintain a list of invalid traveler credit identities or bad tag lists that can be forwarded to transit vehicles and transit stops or stations.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Transit Management Center	Transit Center Fare Management	10	The center shall collect fare statistics data to implement variable and flexible fare structures.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	11	The center shall exchange fare and load information with other transit management centers, including potential Centralized Payments facilities.	Operate
GET Transit Center	Transit Management Center	Transit Center Fare Management	12	The center shall provide transit fare information to traveler information providers upon request.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	1	The center shall generate transit routes and schedules based on such factors as parameters input by the system operator, road network conditions, incident information, operational data on current routes and schedules, and digitized map data.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	2	The center shall provide the interface to the system operator to control the generation of new routes and schedules (transit services) including the ability to review and update the parameters used by the routes and schedules generation processes and to initiate these processes	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	3	The center shall be able to generate special routes and schedules to support an incident, disaster, evacuation, or another emergency.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	4	The center shall dispatch fixed route or flexible route transit vehicles.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	5	The center shall collect transit operational data for use in the generation of routes and schedules.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	6	The center shall provide instructions or corrective actions to the transit vehicle operators based upon operational needs.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	7	The center shall manage large deviations of individual transit vehicles, deviations in rural areas, and deviations of large numbers of vehicles.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	8	The center shall generate the necessary corrective actions which may involve more than the vehicles concerned and more far reaching action, such as, the introduction of extra vehicles, wide area signal priority by traffic management, the premature termination of some services, etc.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	9	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	10	The center shall disseminate up-to-date schedules and route information to other centers for fixed and flexible route services.	Operate
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	11	The center shall provide an interface to the archive data repository to enable the operator to retrieve historical operating data for use in planning transit routes and schedules.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	12	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
GET Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	13	The center shall monitor transit vehicle schedule adherence to manage transit vehicle operations.	Planned
GET Transit Center	Transit Management Center	Transit Center Information Services	1	The center shall provide travelers using public transportation with traffic and advisory information upon request. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
GET Transit Center	Transit Management Center	Transit Center Information Services	2	The center shall provide transit information to the media including details of deviations from schedule of regular transit services.	Operate
GET Transit Center	Transit Management Center	Transit Center Information Services	3	The center shall exchange transit schedules, real-time arrival information, fare schedules, and general transit service information with other transit organizations to support transit traveler information systems.	Operate
GET Transit Center	Transit Management Center	Transit Center Information Services	4	The center shall provide transit service information to traveler information service providers including routes, schedules, schedule adherence, and fare information as well as transit service information during evacuation.	Operate
GET Transit Center	Transit Management Center	Transit Center Information Services	5	The center shall enable yellow pages (including non-motorized transportation) information to be output to the traveler.	Operate
GET Transit Center	Transit Management Center	Transit Center Information Services	6	The center shall broadcast transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
GET Transit Center	Transit Management Center	Transit Center Information Services	7	The center shall provide transit vehicle transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
GET Transit Center	Transit Management Center	Transit Center Information Services	8	The center shall receive transit stop requests from travelers and provide them to the appropriate transit vehicles.	Planned
GET Transit Center	Transit Management Center	Transit Center Information Services	9	The center shall receive trip requests from travelers, including those who are visually impaired which include the current location of the traveler.	Planned
GET Transit Center	Transit Management Center	Transit Center Information Services	10	The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests.	Planned
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	1	The center shall coordinate schedules and services with traffic management, parking management, and event planning systems.	Operate
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	2	The center shall share transfer cluster and transfer point information with other transit centers. A transfer cluster is a collection of stop points, stations, or terminals where transfers can be made conveniently.	Operate
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	3	The center shall accept requests from traffic management to change routes and schedules as part of the implementation of demand management strategies.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	4	The center shall coordinate schedules and services with other transit centers	Planned
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	5	The center shall coordinate schedules and services with other surface or air transportation modes.	Planned
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	6	The center shall provide transit operations personnel with the capability to control and monitor transit service coordination activities.	Operate
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	7	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	8	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	9	The center shall collect asset restriction information from maintenance operations.	Planned
GET Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	10	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	1	The center shall process trip requests for demand responsive transit services, i.e. paratransit. Sources of the requests may include traveler information service providers.	Operate
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	2	The center shall monitor the operational status of the demand response vehicles including status of passenger pick-up and drop-off.	Operate
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	3	The center shall generate demand response transit (including paratransit) routes and schedules based on such factors as parameters input by the system operator, what other demand responsive transit schedules have been planned, the availability and location of vehicles, the relevance of any fixed transit routes and schedules, road network information, and incident information.	Operate
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	4	The center shall dispatch demand response (paratransit) transit vehicles.	Operate
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	5	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	6	The center shall disseminate up-to-date schedules and route information to other centers for demand responsive transit services (paratransit).	Operate
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	7	The center shall collect the log of passenger boarding and alighting from the paratransit vehicles.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	8	The center shall monitor real time location of demand response vehicles.	Planned
GET Transit Center	Transit Management Center	Transit Center Paratransit Operations	9	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
GET Transit Center	Transit Management Center	Transit Center Passenger Counting	1	The center shall collect passenger count information from each transit vehicle.	Planned
GET Transit Center	Transit Management Center	Transit Center Passenger Counting	2	The center shall calculate transit ridership data by route, route segment, transit stop, time of day, and day of week based on the collected passenger count information.	Planned
GET Transit Center	Transit Management Center	Transit Center Passenger Counting	3	The center shall make the compiled ridership data available to the system operator.	Planned
GET Transit Center	Transit Management Center	Transit Center Security	1	The center shall monitor transit vehicle operational data to determine if the transit vehicle is off-route and assess whether a security incident is occurring.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	2	The center shall receive reports of emergencies on-board transit vehicles entered directly by the transit vehicle operator or from a traveler through interfaces such as panic buttons or alarm switches.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	3	The center shall support the back-office portion of functionality to authenticate transit vehicle operators.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	4	The center shall provide transit incident information along with other service data to emergency centers.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	5	The center shall receive information pertaining to a wide-area alert such as weather alerts, disaster situations, or child abductions. This information may come from Emergency Management or from other Alerting and Advisory Systems.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	6	The center shall send wide-area alert information to travelers (on-board transit vehicles or at stations/stops) and transit vehicle operators.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	7	The center shall coordinate the response to security incidents involving transit with other agencies including Emergency Management, other transit agencies, media, traffic management, and traveler information service providers.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	8	The center shall receive threat information and status on the integrity of the transit infrastructure.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	9	The center shall provide support to remotely disable (or reset the disabling of) a transit vehicle in service.	Operate
GET Transit Center	Transit Management Center	Transit Center Security	10	The center shall provide transit incident information to traveler information providers and the media.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Transit Management Center	Transit Center Vehicle Assignment	1	The center shall assign individual transit vehicles to transit blocks.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Assignment	2	The center shall download vehicle assignments to the transit vehicle prior to the start of the day's operations.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Assignment	3	The center shall provide an exception handling process for the vehicle assignment function. This process shall generate new supplemental vehicle assignments as required due to change events which occur during the operating day.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Assignment	4	The center shall provide an inventory management function for the transit facility that stores functional attributes about each vehicle owned by the transit operator. The functional attributes permit the planning and assignment functions to match vehicles with routes based on suitability for the types of service required by the routes.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Assignment	5	The center shall generate transit vehicle availability listings, current and forecast, to support transit vehicle assignment planning.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Assignment	6	The center shall provide transit operations personnel with the capability to update transit vehicle assignments and receive reports on transit vehicle inventory status.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Tracking	1	The center shall monitor the locations of all transit vehicles within its network.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Tracking	2	The center shall determine adherence of transit vehicles to their assigned schedule.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Tracking	3	The center shall provide transit operational data to traveler information service providers.	Planned
GET Transit Center	Transit Management Center	Transit Center Vehicle Tracking	4	The center shall provide collected transit probe data to traffic management centers and traveler information service providers for use in measuring current traffic conditions.	Planned
GET Transit Center	Transit Management Center	Transit Evacuation Support	1	The center shall manage the use of transit resources to support evacuation and subsequent reentry of a population near a disaster or another emergency.	Planned
GET Transit Center	Transit Management Center	Transit Evacuation Support	2	The center shall coordinate regional evacuation plans with Emergency Management - identifying the transit role in an evacuation and the transit resources that would be used.	Planned
GET Transit Center	Transit Management Center	Transit Evacuation Support	3	The center shall coordinate the use of transit and school bus fleets during an evacuation, supporting evacuation of those with special needs and the general population.	Planned
GET Transit Center	Transit Management Center	Transit Evacuation Support	4	The center shall adjust and update transit service and fare schedules and provide that information to other agencies as they coordinate evacuations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Transit Center	Transit Management Center	Transit Evacuation Support	5	The center shall be capable of establishing emergency fare structures to override all other fares during disasters, states of emergency, or evacuations.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	1	The center shall collect operational and maintenance data from transit vehicles.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	2	The center shall monitor the condition of a transit vehicle to analyze brake, drive train, sensors, fuel, steering, tire, processor, communications equipment, and transit vehicle mileage to identify mileage based maintenance, out-of-specification or imminent failure conditions.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	3	The center shall generate transit vehicle maintenance schedules that identify the maintenance or repair to be performed and when the work is to be done.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	4	The center shall generate transit vehicle availability listings, current and forecast, to support transit vehicle assignment planning based, in part, on the transit vehicle maintenance schedule.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	5	The center shall assign technicians to a transit vehicle maintenance schedule, based upon such factors as personnel eligibility, work assignments, preferences and seniority.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	6	The center shall verify that the transit vehicle maintenance activities were performed correctly, using the transit vehicle's status, the maintenance personnel's work assignment, and the transit maintenance schedules.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	7	The center shall generate a time-stamped maintenance log of all maintenance activities performed on a transit vehicle.	Planned
GET Transit Center	Transit Management Center	Transit Garage Maintenance	8	The center shall provide transit operations personnel with the capability to update transit vehicle maintenance information and receive reports on all transit vehicle operations data.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	1	The public interface for travelers shall collect and provide real-time travel-related information at transit stops, multi-modal transfer points, and other public transportation areas.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	2	The public interface for travelers shall collect and present to the transit traveler information on transit routes, schedules, and real-time schedule adherence.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	3	The public interface for travelers shall provide support for general annunciation and/or display of imminent arrival information and other information of general interest to transit users.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	4	The public interface for travelers shall present information to the traveler in a form suitable for travelers with physical disabilities including travelers who are visually impaired.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	5	The public interface for travelers shall allow the traveler to request the transit vehicle at the transit stop.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	6	The public interface for travelers shall allow a traveler to provide a trip request and ask for connection protection for the trip.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	1	The public interface for travelers shall accept and process current transit passenger fare collection information.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	2	The public interface for travelers shall calculate a fare based on the origin and destination provided by the traveler, in conjunction with transit routing, transit fare category, and transit user history.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	3	The public interface for travelers shall provide an interface to a transit user traveler card in support of payment for transit fares, tolls, and/or parking lot charges. The stored credit value data from the card shall be collected and updated based on the fare or other charges, or the credit identity shall be collected.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	4	The public interface for travelers shall provide information to the center for financial authorization and transaction processing.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	5	The public interface for travelers shall provide an image of all travelers purchasing rides or services to be used for violation processing.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	6	The public interface for travelers shall determine the routing based on the traveler's destination and the location of the closest transit stop from which a route request is being made.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	7	The public interface for travelers shall create fare statistics data based upon data collected at a transit stop.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	8	The public interface for travelers shall present information to the traveler in a form suitable for travelers with physical disabilities.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	9	The public interface for travelers shall provide an interface to a transit user payment device in support of a multimodal electronic payment system providing payment for transit fares, tolls, and/or parking lot charges.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	1	The field element shall include security sensors that monitor conditions in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	2	The field element shall be remotely controlled by a center.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	3	The field element shall provide equipment status and fault indication of security sensor equipment to a center.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	4	The field element shall include environmental threat sensors (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological).	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	5	The field element shall include motion and intrusion detection sensors.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	6	The field element shall include object detection sensors (such as metal detectors).	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	7	The field element shall provide raw security sensor data.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	8	The field element shall remotely process security sensor data and provide an indication of potential incidents or threats to a center.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	1	The field element shall include video and/or audio surveillance of traveler secure areas including transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and traveler information centers).	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	2	The field element shall be remotely controlled by a center.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	3	The field element shall provide equipment status and fault indication of surveillance equipment to a center.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	4	The field element shall provide raw video or audio data.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	5	The field element shall remotely process video and audio data and provide an indication of potential incidents or threats to a center.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Security	1	The public interface for travelers shall provide the capability for a traveler to report an emergency and summon assistance from secure areas such as transit stops, transit stations, modal transfer facilities, rest stops, park-and-ride areas, travel information areas, and emergency pull off areas.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Security	2	When initiated by a traveler, the public interface for travelers shall forward a request for assistance to an emergency management function and acknowledge the request.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Security	3	The public interface for travelers shall provide the capability to broadcast a message to advise or warn a traveler.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Security	4	The public interface for travelers shall accept input and provide information to the traveler in a form suitable for travelers with physical disabilities.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	1	The public interface for travelers shall receive traffic information from a center and present it to the traveler upon request.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	2	The public interface for travelers shall receive transit information from a center and present it to the traveler upon request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	3	The public interface for travelers shall receive event information from a center and present it to the traveler upon request.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	4	The public interface for travelers shall base requests from the traveler on the traveler's current location or a specific location identified by the traveler, and filter the provided information accordingly.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	5	The public interface for travelers shall support traveler input in audio or manual form.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	6	The public interface for travelers shall present information to the traveler in audible or visual forms consistent with a kiosk, including those that are suitable for travelers with hearing or vision physical disabilities.	Planned
GET Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	7	The public interface for travelers shall be able to store frequently requested data.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
GET Traveler Information Services	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	1	The center shall accept requests from traveler interface systems for ridesharing as part of a trip plan request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	2	The center shall provide a rideshare match based on origin and destination of the traveler's proposed trip, any routing constraints, preferences specified by the traveler, compatibility of this rideshare with rideshares confirmed by other travelers, the requesting traveler's eligibility data, and traffic data.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	3	The center shall process rideshare requests by balancing the relative benefits of the rideshare to each rideshare participant.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	4	The center shall arrange connections to transit or other multimodal services for portions of a multi-segment trip that includes ridesharing.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	5	The center shall provide a confirmation of the travelers rideshare match and provide the capability to support a payment transaction for the rideshare service.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	6	The center shall store all rideshare matches and traveler eligibility data.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	1	The center shall disseminate emergency evacuation information to the traveler interface systems, including evacuation zones, shelter information, available transportation modes, road closures and detours, changes to transit services, and traffic and road conditions at the origin, destination, and along the evacuation routes.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	2	The center shall provide evacuation information to shelter providers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	3	The center shall disseminate wide-area alert information to the traveler interface systems, including major emergencies such as a natural or man-made disaster, civil emergency, child abductions, severe weather watches and warnings, military activities, and law enforcement warnings.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	4	The center shall provide the capability for a system operator to control the type and update frequency of emergency and wide-area alert information distributed to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	5	The center shall provide evacuation information to personal information devices.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	6	The center shall provide evacuation information to connected vehicles.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	7	The center shall maintain a set of evacuation routes based on various incident scenarios, e.g., storm, industrial accident, etc.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	8	The center shall maintain a set of evacuation plans if an evacuation is necessary, including: evacuation routes, call-plan, special needs evacuations, and shelter locations.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	9	The center shall provide evacuees with information about available shelters that match their needs, including: location, availability, route, and special needs accommodated.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	10	The center shall collect shelter data from multiple sources in accordance with the American Red Cross' National Shelter System format, including: type, location, availability, capability, route mapping to the shelter, traffic flow to and around the shelter, and weather conditions around the shelter.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	11	The center shall support requests for evacuation assistance from individuals or groups requiring assistance.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	12	The center shall match requests for evacuation assistance with the appropriate resource.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	13	The center shall provide information concerning available resources along an evacuation route including information provided by other evacuees.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Emergency Traveler Information	14	The center needs to provide evacuees with information regarding when they can return to their area, including evacuation return routes, evacuation return schedule, and evacuation return road conditions.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Shared Use	1	The center shall accept requests for shared use transportation.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Shared Use	2	The center shall provide the traveler with a shared use transportation option.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	1	The center shall provide the capability to provide specific pre-trip and en route directions to travelers (and drivers), including costs, arrival times, and transfer points.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	2	The center shall include bicycle routes, walkways, skyways, and multi-use trails in the pre-trip and en route directions it provides to travelers.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	3	The center shall support on-line route guidance for travelers using personal devices (such as PDAs).	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	4	The center shall support on-line route guidance for drivers in vehicles.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	5	The center shall support on-line route guidance for specialty vehicles, such as commercial vehicles.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	6	The center shall generate route plans based on current and/or predicted conditions of the road network, scheduled maintenance and construction work activities, and work zone activities.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	7	The center shall generate route plans based on transit services, including fares, schedules, and requirements for travelers with special needs.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	8	The center shall generate route plans based on current asset restrictions, such as height and weight restrictions on tunnels or bridges.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	9	The center shall generate route plans based on ferry, rail, air, or other multimodal transportation data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	10	The center shall exchange route segment information with other centers outside the area served by the local center.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	11	The center shall generate trips based on the use of more than one mode of transport.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	12	The center shall use the preferences and constraints specified by the traveler in the trip request to select the most appropriate mode of transport.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	13	The center shall provide the capability for the traveler to confirm the proposed trip plan.	Planned
GET Traveler Information Services	Transportation Information Center	TIC Trip Planning	14	The center shall provide the capability for center personnel to control route calculation parameters.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	1	The center shall send data concerning enrollment of commercial vehicles for electronic clearance and tax filing to the appropriate commercial vehicle administration center. The data may include driver and vehicle identification, safety inspections/status, carrier credentials, related citations, and accident information.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	2	The center shall obtain and manage commercial vehicle routes for its fleet of vehicles, considering route restrictions, advance payment of tolls, HAZMAT restrictions, current traffic and road conditions, and incident information provided by traveler information systems.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	3	The center shall support an interface with a map update provider, or other appropriate data sources, through which updates of digitized map data can be obtained and used as the background for commercial vehicle fleet administration - includes commercial vehicle specific data such as route or HAZMAT restrictions.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	4	The center shall monitor the locations and progress of commercial vehicles against their planned routes and raise appropriate warnings based on route monitoring parameters.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	5	The center shall coordinate the response to security incidents and the sharing of security threat information involving commercial vehicles with other agencies including emergency management centers and alerting/advisory systems.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	6	The center shall access driver records from the appropriate commercial vehicle administration center and use the records to support pre-hiring checks for potential drivers and monitor the performance of each driver hired.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	7	The center shall monitor geographic trigger areas for wireless roadside inspection programs and distribute the trigger areas to their commercial vehicles.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	8	The center shall provide fleet status information including safety status, routing information, current vehicle information, and emergency information to commercial vehicle operators.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	9	The center shall send data to its commercial vehicles including dispatch, routing, trigger areas, and special instructions, including alerts and other advisories.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	10	The center shall collect road weather conditions data and advisories from other centers.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	11	The center shall coordinate intermodal load-matching information including availability of a container, container capacity, available truck, equipment, for use in load matching between peer systems.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	12	The center shall collect environmental probe data (air temperature, exterior light status, wiper status, traction control status, etc.) from appropriately equipped commercial vehicles	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	13	The center shall provide the appropriate emergency management center with information about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	14	The center shall provide routes to its fleet of vehicles, considering route restrictions, advance payment of tolls, HAZMAT restrictions, current traffic and road conditions, and incident information.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	15	The center shall use collected environmental probe data from vehicles and other centers to determine when weather conditions may affect fleet activities.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	16	The center shall provide warnings and advisories to commercial vehicle drivers concerning road conditions and weather events.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	17	The center shall maintain records of the mileage and time in service of its fleet of vehicles and freight equipment.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	18	The center shall monitor the status of its fleet, including vehicles and freight equipment, for maintenance issues or repairs that may be needed.	Planned
High-Speed Rail	Fleet and Freight Management Center	Fleet Administration	19	The center shall report required commercial vehicle repairs and other corrections of identified deficiencies to the appropriate commercial vehicle administration center.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	1	The center shall collect data from the commercial vehicles carrying freight or from the freight equipment itself. Data includes container, trailer, or chassis information regarding identity, type, location, brake wear data, mileage, seal number/type, door open/close status, chassis bare/covered status, tethered/untethered status, bill of lading, and sensor status.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	2	The center shall provide the interface with intermodal freight shippers to setup transportation for freight equipment. Inputs to this include information about the shipper, consignee, commodities, pick-up and drop-off locations for freight equipment. Outputs include information about the driver and commercial vehicle that will be transporting the freight.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	3	The center shall coordinate the shipment of cargo using freight equipment with intermodal freight depots. Information to be coordinated includes information regarding a freight transportation booking and the assigned driver and vehicle scheduled to transport the freight along with cargo movement logs, routing information, and cargo ID's.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	4	The center shall track the progress of freight equipment as it moves from source to destination based on inputs from the commercial vehicles, the freight equipment, intermodal freight depots, shippers, and commercial vehicle administration centers that provide border clearance status information.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	5	The center shall collect diagnostic information from freight equipment to schedule preventative and corrective maintenance.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	6	The center shall notify other security functions within the center of deviations in the movement of freight equipment from its planned route.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	7	The center shall support the submission of cargo manifest data to the appropriate government border inspection administration system.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	8	The center shall support the registration of its vehicles, drivers, and cargo for expedited border crossings with the appropriate government border inspection administration system.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	9	The center shall coordinate the response to security incidents and the sharing of security threat information involving freight equipment with other agencies including emergency management centers, intermodal freight shippers, and alerting/advisory systems.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	10	The center shall provide emergency management information about a hazmat load including nature of the load and unloading instructions. May also include hazmat vehicle route and route update information.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	11	The center shall collect the border crossing clearance status of commercial freight shipment scheduled to enter the U.S. from commercial vehicle administration systems.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	12	The center shall provide traveler information center information about vehicle trips including load information, location, speed, and routing.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	13	The center shall receive customized traveler information for freight users from traveler information center to indicate truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	14	The center shall provide traveler information centers with fleet-specific traveler information preferences including area covered by fleet/driver, types of freight managed (including special restrictions), preferred routes, and other travel preferences pertaining to trip costs or tolls.	Planned
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	15	The center shall collect freight equipment location and status of the freight, container, or chassis equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
High-Speed Rail	Fleet and Freight Management Center	Freight Administration and Management	16	The center shall collect Commercial vehicle identities including licenses plate number or USDOT number, Freight Equipment (e.g., container, chassis, or trailer identification), Carrier, and Driver from commercial vehicle.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern 511	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
Kern 511	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
Kern 511	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Planned
Kern 511	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Kern Transit Center	Archived Data User System				
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	1	The center shall manage service requests for routing of an individual through the transit system.	Planned
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	2	The center shall provide transit plans for both fixed and demand responsive transit to transit passengers.	Planned
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	3	The center shall be able to coordinate with Other Transit Management systems or Multimodal Transportation Service Providers to provide a complete multimodal trip plan.	Planned
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	4	The center shall track the passenger through the transit network, and coordinate with Other TRM and Multimodal Transportation Service Providers so that the passenger makes efficient connections between the transit system and other transit systems or other modes of transportation.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	5	The center shall track transit vehicles and identify when connections between transit routes are in jeopardy due to the late arrival of a transit vehicle at a transfer stop or station.	Planned
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	6	The center shall send schedule adjustments to a transit vehicle to protect a connection made with other transit vehicles.	Planned
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	7	The center shall be able to provide a traveler with updates regarding their transit trip, including connection protection actions taken by the center.	Planned
Kern Transit Center	Transit Management Center	Transit Center Connection Protection	8	The center shall send schedule adjustments to a transit vehicle to protect a connection to be made by a specific traveler.	Planned
Kern Transit Center	Transit Management Center	Transit Center Data Collection	1	The center shall collect transit management data such as transit fares and passenger use, transit services, paratransit operations, transit vehicle maintenance data, etc.	Operate
Kern Transit Center	Transit Management Center	Transit Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
Kern Transit Center	Transit Management Center	Transit Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the transit data or for the data itself.	Operate
Kern Transit Center	Transit Management Center	Transit Center Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
Kern Transit Center	Transit Management Center	Transit Center Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Kern Transit Center	Transit Management Center	Transit Center Environmental Monitoring	2	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
Kern Transit Center	Transit Management Center	Transit Center Fare Management	1	The center shall manage the actual value of transit fares for each segment of each regular transit route, including the transmission of the information to transit vehicles and transit stops or stations.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	2	The center shall provide the capability for a system operator to manage the transit fares and control the exchange of transit fare information.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	3	The center shall process the financial requests from the transit vehicles or roadside and manage an interface to a Financial Institution.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	4	The center shall support the payment of transit fare transactions using data provided by the traveler cards / payment instruments.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	5	The center shall collect data on fare payment violations and send the data, including images of the violator, to the appropriate enforcement agency.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Center	Transit Management Center	Transit Center Fare Management	6	The center shall process requests for transit fares to be paid in advance.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	9	The center shall maintain a list of invalid traveler credit identities or bad tag lists that can be forwarded to transit vehicles and transit stops or stations.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	10	The center shall collect fare statistics data to implement variable and flexible fare structures.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	11	The center shall exchange fare and load information with other transit management centers, including potential Centralized Payments facilities.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fare Management	12	The center shall provide transit fare information to traveler information providers upon request.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	1	The center shall generate transit routes and schedules based on such factors as parameters input by the system operator, road network conditions, incident information, operational data on current routes and schedules, and digitized map data.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	2	The center shall provide the interface to the system operator to control the generation of new routes and schedules (transit services) including the ability to review and update the parameters used by the routes and schedules generation processes and to initiate these processes	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	3	The center shall be able to generate special routes and schedules to support an incident, disaster, evacuation, or another emergency.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	4	The center shall dispatch fixed route or flexible route transit vehicles.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	5	The center shall collect transit operational data for use in the generation of routes and schedules.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	6	The center shall provide instructions or corrective actions to the transit vehicle operators based upon operational needs.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	7	The center shall manage large deviations of individual transit vehicles, deviations in rural areas, and deviations of large numbers of vehicles.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	8	The center shall generate the necessary corrective actions which may involve more than the vehicles concerned and more far reaching action, such as, the introduction of extra vehicles, wide area signal priority by traffic management, the premature termination of some services, etc.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	9	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	10	The center shall disseminate up-to-date schedules and route information to other centers for fixed and flexible route services.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	11	The center shall provide an interface to the archive data repository to enable the operator to retrieve historical operating data for use in planning transit routes and schedules.	Operate
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	12	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
Kern Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	13	The center shall monitor transit vehicle schedule adherence to manage transit vehicle operations.	Planned
Kern Transit Center	Transit Management Center	Transit Center Information Services	1	The center shall provide travelers using public transportation with traffic and advisory information upon request. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
Kern Transit Center	Transit Management Center	Transit Center Information Services	2	The center shall provide transit information to the media including details of deviations from schedule of regular transit services.	Operate
Kern Transit Center	Transit Management Center	Transit Center Information Services	3	The center shall exchange transit schedules, real-time arrival information, fare schedules, and general transit service information with other transit organizations to support transit traveler information systems.	Operate
Kern Transit Center	Transit Management Center	Transit Center Information Services	4	The center shall provide transit service information to traveler information service providers including routes, schedules, schedule adherence, and fare information as well as transit service information during evacuation.	Operate
Kern Transit Center	Transit Management Center	Transit Center Information Services	5	The center shall enable yellow pages (including non-motorized transportation) information to be output to the traveler.	Operate
Kern Transit Center	Transit Management Center	Transit Center Information Services	6	The center shall broadcast transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
Kern Transit Center	Transit Management Center	Transit Center Information Services	7	The center shall provide transit vehicle transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
Kern Transit Center	Transit Management Center	Transit Center Information Services	8	The center shall receive transit stop requests from travelers and provide them to the appropriate transit vehicles.	Planned
Kern Transit Center	Transit Management Center	Transit Center Information Services	9	The center shall receive trip requests from travelers, including those who are visually impaired which include the current location of the traveler.	Planned
Kern Transit Center	Transit Management Center	Transit Center Information Services	10	The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests.	Planned
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	1	The center shall coordinate schedules and services with traffic management, parking management, and event planning systems.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	2	The center shall share transfer cluster and transfer point information with other transit centers. A transfer cluster is a collection of stop points, stations, or terminals where transfers can be made conveniently.	Operate
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	3	The center shall accept requests from traffic management to change routes and schedules as part of the implementation of demand management strategies.	Operate
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	4	The center shall coordinate schedules and services with other transit centers	Planned
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	5	The center shall coordinate schedules and services with other surface or air transportation modes.	Planned
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	6	The center shall provide transit operations personnel with the capability to control and monitor transit service coordination activities.	Operate
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	7	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	8	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	9	The center shall collect asset restriction information from maintenance operations.	Planned
Kern Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	10	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	1	The center shall process trip requests for demand responsive transit services, i.e. paratransit. Sources of the requests may include traveler information service providers.	Operate
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	2	The center shall monitor the operational status of the demand response vehicles including status of passenger pick-up and drop-off.	Operate
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	3	The center shall generate demand response transit (including paratransit) routes and schedules based on such factors as parameters input by the system operator, what other demand responsive transit schedules have been planned, the availability and location of vehicles, the relevance of any fixed transit routes and schedules, road network information, and incident information.	Operate
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	4	The center shall dispatch demand response (paratransit) transit vehicles.	Operate
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	5	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	6	The center shall disseminate up-to-date schedules and route information to other centers for demand responsive transit services (paratransit).	Operate
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	7	The center shall collect the log of passenger boarding and alighting from the paratransit vehicles.	Operate
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	8	The center shall monitor real time location of demand response vehicles.	Planned
Kern Transit Center	Transit Management Center	Transit Center Paratransit Operations	9	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
Kern Transit Center	Transit Management Center	Transit Center Passenger Counting	1	The center shall collect passenger count information from each transit vehicle.	Operate
Kern Transit Center	Transit Management Center	Transit Center Passenger Counting	2	The center shall calculate transit ridership data by route, route segment, transit stop, time of day, and day of week based on the collected passenger count information.	Operate
Kern Transit Center	Transit Management Center	Transit Center Passenger Counting	3	The center shall make the compiled ridership data available to the system operator.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	1	The center shall monitor transit vehicle operational data to determine if the transit vehicle is off-route and assess whether a security incident is occurring.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	2	The center shall receive reports of emergencies on-board transit vehicles entered directly by the transit vehicle operator or from a traveler through interfaces such as panic buttons or alarm switches.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	3	The center shall support the back-office portion of functionality to authenticate transit vehicle operators.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	4	The center shall provide transit incident information along with other service data to emergency centers.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	5	The center shall receive information pertaining to a wide-area alert such as weather alerts, disaster situations, or child abductions. This information may come from Emergency Management or from other Alerting and Advisory Systems.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	6	The center shall send wide-area alert information to travelers (on-board transit vehicles or at stations/stops) and transit vehicle operators.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	7	The center shall coordinate the response to security incidents involving transit with other agencies including Emergency Management, other transit agencies, media, traffic management, and traveler information service providers.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	8	The center shall receive threat information and status on the integrity of the transit infrastructure.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Center	Transit Management Center	Transit Center Security	9	The center shall provide support to remotely disable (or reset the disabling of) a transit vehicle in service.	Operate
Kern Transit Center	Transit Management Center	Transit Center Security	10	The center shall provide transit incident information to traveler information providers and the media.	Planned
Kern Transit Center	Transit Management Center	Transit Center Vehicle Assignment	1	The center shall assign individual transit vehicles to transit blocks.	Planned
Kern Transit Center	Transit Management Center	Transit Center Vehicle Assignment	2	The center shall download vehicle assignments to the transit vehicle prior to the start of the day's operations.	Planned
Kern Transit Center	Transit Management Center	Transit Center Vehicle Assignment	3	The center shall provide an exception handling process for the vehicle assignment function. This process shall generate new supplemental vehicle assignments as required due to change events which occur during the operating day.	Planned
Kern Transit Center	Transit Management Center	Transit Center Vehicle Assignment	4	The center shall provide an inventory management function for the transit facility that stores functional attributes about each vehicle owned by the transit operator. The functional attributes permit the planning and assignment functions to match vehicles with routes based on suitability for the types of service required by the routes.	Planned
Kern Transit Center	Transit Management Center	Transit Center Vehicle Assignment	5	The center shall generate transit vehicle availability listings, current and forecast, to support transit vehicle assignment planning.	Planned
Kern Transit Center	Transit Management Center	Transit Center Vehicle Assignment	6	The center shall provide transit operations personnel with the capability to update transit vehicle assignments and receive reports on transit vehicle inventory status.	Planned
Kern Transit Center	Transit Management Center	Transit Center Vehicle Tracking	1	The center shall monitor the locations of all transit vehicles within its network.	Operate
Kern Transit Center	Transit Management Center	Transit Center Vehicle Tracking	2	The center shall determine adherence of transit vehicles to their assigned schedule.	Operate
Kern Transit Center	Transit Management Center	Transit Center Vehicle Tracking	3	The center shall provide transit operational data to traveler information service providers.	Operate
Kern Transit Center	Transit Management Center	Transit Center Vehicle Tracking	4	The center shall provide collected transit probe data to traffic management centers and traveler information service providers for use in measuring current traffic conditions.	Operate
Kern Transit Center	Transit Management Center	Transit Evacuation Support	1	The center shall manage the use of transit resources to support evacuation and subsequent reentry of a population near a disaster or another emergency.	Planned
Kern Transit Center	Transit Management Center	Transit Evacuation Support	2	The center shall coordinate regional evacuation plans with Emergency Management - identifying the transit role in an evacuation and the transit resources that would be used.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Center	Transit Management Center	Transit Evacuation Support	3	The center shall coordinate the use of transit and school bus fleets during an evacuation, supporting evacuation of those with special needs and the general population.	Planned
Kern Transit Center	Transit Management Center	Transit Evacuation Support	4	The center shall adjust and update transit service and fare schedules and provide that information to other agencies as they coordinate evacuations.	Planned
Kern Transit Center	Transit Management Center	Transit Evacuation Support	5	The center shall be capable of establishing emergency fare structures to override all other fares during disasters, states of emergency, or evacuations.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	1	The center shall collect operational and maintenance data from transit vehicles.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	2	The center shall monitor the condition of a transit vehicle to analyze brake, drive train, sensors, fuel, steering, tire, processor, communications equipment, and transit vehicle mileage to identify mileage based maintenance, out-of-specification or imminent failure conditions.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	3	The center shall generate transit vehicle maintenance schedules that identify the maintenance or repair to be performed and when the work is to be done.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	4	The center shall generate transit vehicle availability listings, current and forecast, to support transit vehicle assignment planning based, in part, on the transit vehicle maintenance schedule.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	5	The center shall assign technicians to a transit vehicle maintenance schedule, based upon such factors as personnel eligibility, work assignments, preferences and seniority.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	6	The center shall verify that the transit vehicle maintenance activities were performed correctly, using the transit vehicle's status, the maintenance personnel's work assignment, and the transit maintenance schedules.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	7	The center shall generate a time-stamped maintenance log of all maintenance activities performed on a transit vehicle.	Planned
Kern Transit Center	Transit Management Center	Transit Garage Maintenance	8	The center shall provide transit operations personnel with the capability to update transit vehicle maintenance information and receive reports on all transit vehicle operations data.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	1	The transit vehicle shall collect and process vehicle mileage data available to sensors on-board.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	2	The transit vehicle shall collect and process the transit vehicle's operating conditions such as engine temperature, oil pressure, brake wear, internal lighting, environmental controls, etc.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	3	The transit vehicle shall transmit vehicle maintenance data to the center to be used for scheduling future vehicle maintenance.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	1	The transit vehicle shall manage data input to sensor(s) on-board a transit vehicle to determine the vehicle's availability for use in demand responsive and flexible-route transit services based on identity, type, and passenger capacity.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	2	The transit vehicle shall receive the status of demand responsive or flexible-route transit schedules and passenger loading from the transit vehicle operator.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	3	The transit vehicle shall provide the transit vehicle operator instructions about the demand responsive or flexible-route transit schedule that has been confirmed from the center.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	4	The transit vehicle shall provide the capability to log passenger boarding and alighting and make passenger use data available to the transit center.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	1	The transit vehicle shall receive a vehicle assignment including transit route information, transit service instructions, traffic information, road conditions, and other information for the operator.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	2	The transit vehicle shall use the route information and its current location to determine the deviation from the predetermined schedule.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	3	The transit vehicle shall calculate the estimated times of arrival (ETA) at transit stops.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	4	The transit vehicle shall determine scenarios to correct the schedule deviation.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	5	The transit vehicle shall provide the schedule deviations and instructions for schedule corrections to the transit vehicle operator if the deviation is small, or the transit vehicle is operating in an urban area.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	6	The transit vehicle shall send the schedule deviation and estimated arrival time information to the center.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	7	The transit vehicle shall support the operations of a flexible route service. This may include requests for route deviations that would then lead to schedule corrective actions.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	8	The transit vehicle shall notify the transit center of vehicle location and operational status as the vehicle exits and returns to the transit facility to support future vehicle assignments.	Planned
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	1	The transit vehicle shall perform video and audio surveillance inside of transit vehicles and output raw video or audio data for either local monitoring (for processing or direct output to the transit vehicle operator), remote monitoring or for local storage (e.g., in an event recorder).	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	2	The transit vehicle shall perform local monitoring of video or audio surveillance data collected inside of transit vehicles, and identify potential incidents or threats based on received processing parameters.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	3	The transit vehicle shall output an indication of potential incidents or threats and the processed video or audio information to the center along with the vehicle's current location.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	4	The transit vehicle shall detect potential threats via sensors for chemical agents, toxic industrial chemicals, biological agents, explosives, and radiation.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	5	The transit vehicle shall detect potential threats via object detection sensors (e.g. metal detectors).	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	6	The transit vehicle shall output an indication of potential incidents or threats and the processed sensor information to the center along with the vehicle's current location.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	7	The transit vehicle shall accept sensor control data to allow remote control of the sensors.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	8	The transit vehicle shall monitor and output surveillance and sensor equipment status and fault indications.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	9	The transit vehicle shall accept emergency inputs from either the transit vehicle operator or a traveler through such interfaces as panic buttons, silent or audible alarms, etc.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	10	The transit vehicle shall output reported emergencies to the center.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	11	The transit vehicle shall receive acknowledgments of the emergency request from the center and output this acknowledgment to the transit vehicle operator or to the travelers.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	12	The transit vehicle shall be capable of receiving an emergency message for broadcast to the travelers or to the transit vehicle operator.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	13	The transit vehicle shall be capable of being disabled or enabled based on commands from the center or authentic inputs from the transit vehicle operator	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	14	The transit vehicle shall perform authentication of the transit vehicle operator.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Operate
Kern Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	1	The transit vehicle shall collect and process vehicle mileage data available to sensors on-board.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	2	The transit vehicle shall collect and process the transit vehicle's operating conditions such as engine temperature, oil pressure, brake wear, internal lighting, environmental controls, etc.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Maintenance	3	The transit vehicle shall transmit vehicle maintenance data to the center to be used for scheduling future vehicle maintenance.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	1	The transit vehicle shall receive a vehicle assignment including transit route information, transit service instructions, traffic information, road conditions, and other information for the operator.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	2	The transit vehicle shall use the route information and its current location to determine the deviation from the predetermined schedule.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	3	The transit vehicle shall calculate the estimated times of arrival (ETA) at transit stops.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	4	The transit vehicle shall determine scenarios to correct the schedule deviation.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	5	The transit vehicle shall provide the schedule deviations and instructions for schedule corrections to the transit vehicle operator if the deviation is small, or the transit vehicle is operating in an urban area.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	6	The transit vehicle shall send the schedule deviation and estimated arrival time information to the center.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	7	The transit vehicle shall support the operations of a flexible route service. This may include requests for route deviations that would then lead to schedule corrective actions.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	8	The transit vehicle shall notify the transit center of vehicle location and operational status as the vehicle exits and returns to the transit facility to support future vehicle assignments.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	1	The transit vehicle shall perform video and audio surveillance inside of transit vehicles and output raw video or audio data for either local monitoring (for processing or direct output to the transit vehicle operator), remote monitoring or for local storage (e.g., in an event recorder).	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	2	The transit vehicle shall perform local monitoring of video or audio surveillance data collected inside of transit vehicles, and identify potential incidents or threats based on received processing parameters.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	3	The transit vehicle shall output an indication of potential incidents or threats and the processed video or audio information to the center along with the vehicle's current location.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	4	The transit vehicle shall detect potential threats via sensors for chemical agents, toxic industrial chemicals, biological agents, explosives, and radiation.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	5	The transit vehicle shall detect potential threats via object detection sensors (e.g. metal detectors).	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	6	The transit vehicle shall output an indication of potential incidents or threats and the processed sensor information to the center along with the vehicle's current location.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	7	The transit vehicle shall accept sensor control data to allow remote control of the sensors.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	8	The transit vehicle shall monitor and output surveillance and sensor equipment status and fault indications.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	9	The transit vehicle shall accept emergency inputs from either the transit vehicle operator or a traveler through such interfaces as panic buttons, silent or audible alarms, etc.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	10	The transit vehicle shall output reported emergencies to the center.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	11	The transit vehicle shall receive acknowledgments of the emergency request from the center and output this acknowledgment to the transit vehicle operator or to the travelers.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	12	The transit vehicle shall be capable of receiving an emergency message for broadcast to the travelers or to the transit vehicle operator.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	13	The transit vehicle shall be capable of being disabled or enabled based on commands from the center or authentic inputs from the transit vehicle operator	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	14	The transit vehicle shall perform authentication of the transit vehicle operator.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Operate
Kern Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Operate
Kern Transit Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	1	The public interface for travelers shall collect and provide real-time travel-related information at transit stops, multi-modal transfer points, and other public transportation areas.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	2	The public interface for travelers shall collect and present to the transit traveler information on transit routes, schedules, and real-time schedule adherence.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	3	The public interface for travelers shall provide support for general annunciation and/or display of imminent arrival information and other information of general interest to transit users.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	4	The public interface for travelers shall present information to the traveler in a form suitable for travelers with physical disabilities including travelers who are visually impaired.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	5	The public interface for travelers shall allow the traveler to request the transit vehicle at the transit stop.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Transit Stop Information Services	6	The public interface for travelers shall allow a traveler to provide a trip request and ask for connection protection for the trip.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	1	The public interface for travelers shall accept and process current transit passenger fare collection information.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	2	The public interface for travelers shall calculate a fare based on the origin and destination provided by the traveler, in conjunction with transit routing, transit fare category, and transit user history.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	3	The public interface for travelers shall provide an interface to a transit user traveler card in support of payment for transit fares, tolls, and/or parking lot charges. The stored credit value data from the card shall be collected and updated based on the fare or other charges, or the credit identity shall be collected.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	4	The public interface for travelers shall provide information to the center for financial authorization and transaction processing.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	5	The public interface for travelers shall provide an image of all travelers purchasing rides or services to be used for violation processing.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	6	The public interface for travelers shall determine the routing based on the traveler's destination and the location of the closest transit stop from which a route request is being made.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	7	The public interface for travelers shall create fare statistics data based upon data collected at a transit stop.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	8	The public interface for travelers shall present information to the traveler in a form suitable for travelers with physical disabilities.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Fare Management	9	The public interface for travelers shall provide an interface to a transit user payment device in support of a multimodal electronic payment system providing payment for transit fares, tolls, and/or parking lot charges.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	1	The field element shall include security sensors that monitor conditions in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	2	The field element shall be remotely controlled by a center.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	3	The field element shall provide equipment status and fault indication of security sensor equipment to a center.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	4	The field element shall include environmental threat sensors (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	5	The field element shall include motion and intrusion detection sensors.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	6	The field element shall include object detection sensors (such as metal detectors).	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	7	The field element shall provide raw security sensor data.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Sensor Monitoring	8	The field element shall remotely process security sensor data and provide an indication of potential incidents or threats to a center.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	1	The field element shall include video and/or audio surveillance of traveler secure areas including transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and traveler information centers).	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	2	The field element shall be remotely controlled by a center.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	3	The field element shall provide equipment status and fault indication of surveillance equipment to a center.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	4	The field element shall provide raw video or audio data.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Secure Area Surveillance	5	The field element shall remotely process video and audio data and provide an indication of potential incidents or threats to a center.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Security	1	The public interface for travelers shall provide the capability for a traveler to report an emergency and summon assistance from secure areas such as transit stops, transit stations, modal transfer facilities, rest stops, park-and-ride areas, travel information areas, and emergency pull off areas.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Security	2	When initiated by a traveler, the public interface for travelers shall forward a request for assistance to an emergency management function and acknowledge the request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Security	3	The public interface for travelers shall provide the capability to broadcast a message to advise or warn a traveler.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Security	4	The public interface for travelers shall accept input and provide information to the traveler in a form suitable for travelers with physical disabilities.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	1	The public interface for travelers shall receive traffic information from a center and present it to the traveler upon request.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	2	The public interface for travelers shall receive transit information from a center and present it to the traveler upon request.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	3	The public interface for travelers shall receive event information from a center and present it to the traveler upon request.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	4	The public interface for travelers shall base requests from the traveler on the traveler's current location or a specific location identified by the traveler, and filter the provided information accordingly.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	5	The public interface for travelers shall support traveler input in audio or manual form.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	6	The public interface for travelers shall present information to the traveler in audible or visual forms consistent with a kiosk, including those that are suitable for travelers with hearing or vision physical disabilities.	Planned
Kern Transit Traveler Information Displays	Traveler Support Equipment	Traveler Trip Planning	7	The public interface for travelers shall be able to store frequently requested data.	Planned
Kern Transit Traveler Information Services	Other Transportation Information Centers				
Kern Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	1	The center shall accept requests from traveler interface systems for ridesharing as part of a trip plan request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	2	The center shall provide a rideshare match based on origin and destination of the traveler's proposed trip, any routing constraints, preferences specified by the traveler, compatibility of this rideshare with rideshares confirmed by other travelers, the requesting traveler's eligibility data, and traffic data.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	3	The center shall process rideshare requests by balancing the relative benefits of the rideshare to each rideshare participant.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	4	The center shall arrange connections to transit or other multimodal services for portions of a multi-segment trip that includes ridesharing.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	5	The center shall provide a confirmation of the travelers rideshare match and provide the capability to support a payment transaction for the rideshare service.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Dynamic Ridesharing	6	The center shall store all rideshare matches and traveler eligibility data.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Shared Use	1	The center shall accept requests for shared use transportation.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Shared Use	2	The center shall provide the traveler with a shared use transportation option.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Planned
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	1	The center shall provide the capability to provide specific pre-trip and en route directions to travelers (and drivers), including costs, arrival times, and transfer points.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	2	The center shall include bicycle routes, walkways, skyways, and multi-use trails in the pre-trip and en route directions it provides to travelers.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	3	The center shall support on-line route guidance for travelers using personal devices (such as PDAs).	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	4	The center shall support on-line route guidance for drivers in vehicles.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	5	The center shall support on-line route guidance for specialty vehicles, such as commercial vehicles.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	6	The center shall generate route plans based on current and/or predicted conditions of the road network, scheduled maintenance and construction work activities, and work zone activities.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	7	The center shall generate route plans based on transit services, including fares, schedules, and requirements for travelers with special needs.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	8	The center shall generate route plans based on current asset restrictions, such as height and weight restrictions on tunnels or bridges.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	9	The center shall generate route plans based on ferry, rail, air, or other multimodal transportation data.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	10	The center shall exchange route segment information with other centers outside the area served by the local center.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	11	The center shall generate trips based on the use of more than one mode of transport.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	12	The center shall use the preferences and constraints specified by the traveler in the trip request to select the most appropriate mode of transport.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	13	The center shall provide the capability for the traveler to confirm the proposed trip plan.	Operate
Kern Transit Traveler Information Services	Transportation Information Center	TIC Trip Planning	14	The center shall provide the capability for center personnel to control route calculation parameters.	Operate
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	1	The center shall manage service requests for routing of an individual through the transit system.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	2	The center shall provide transit plans for both fixed and demand responsive transit to transit passengers.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	3	The center shall be able to coordinate with Other Transit Management systems or Multimodal Transportation Service Providers to provide a complete multimodal trip plan.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	4	The center shall track the passenger through the transit network, and coordinate with Other TRM and Multimodal Transportation Service Providers so that the passenger makes efficient connections between the transit system and other transit systems or other modes of transportation.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	5	The center shall track transit vehicles and identify when connections between transit routes are in jeopardy due to the late arrival of a transit vehicle at a transfer stop or station.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	6	The center shall send schedule adjustments to a transit vehicle to protect a connection made with other transit vehicles.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	7	The center shall be able to provide a traveler with updates regarding their transit trip, including connection protection actions taken by the center.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Connection Protection	8	The center shall send schedule adjustments to a transit vehicle to protect a connection to be made by a specific traveler.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	1	The center shall manage the actual value of transit fares for each segment of each regular transit route, including the transmission of the information to transit vehicles and transit stops or stations.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	2	The center shall provide the capability for a system operator to manage the transit fares and control the exchange of transit fare information.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	3	The center shall process the financial requests from the transit vehicles or roadside and manage an interface to a Financial Institution.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	4	The center shall support the payment of transit fare transactions using data provided by the traveler cards / payment instruments.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	5	The center shall collect data on fare payment violations and send the data, including images of the violator, to the appropriate enforcement agency.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	6	The center shall process requests for transit fares to be paid in advance.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	9	The center shall maintain a list of invalid traveler credit identities or bad tag lists that can be forwarded to transit vehicles and transit stops or stations.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	10	The center shall collect fare statistics data to implement variable and flexible fare structures.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	11	The center shall exchange fare and load information with other transit management centers, including potential Centralized Payments facilities.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Fare Management	12	The center shall provide transit fare information to traveler information providers upon request.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	1	The center shall provide travelers using public transportation with traffic and advisory information upon request. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	2	The center shall provide transit information to the media including details of deviations from schedule of regular transit services.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	3	The center shall exchange transit schedules, real-time arrival information, fare schedules, and general transit service information with other transit organizations to support transit traveler information systems.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	4	The center shall provide transit service information to traveler information service providers including routes, schedules, schedule adherence, and fare information as well as transit service information during evacuation.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	5	The center shall enable yellow pages (including non-motorized transportation) information to be output to the traveler.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	6	The center shall broadcast transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	7	The center shall provide transit vehicle transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	8	The center shall receive transit stop requests from travelers and provide them to the appropriate transit vehicles.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	9	The center shall receive trip requests from travelers, including those who are visually impaired which include the current location of the traveler.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Information Services	10	The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	1	The center shall coordinate schedules and services with traffic management, parking management, and event planning systems.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	2	The center shall share transfer cluster and transfer point information with other transit centers. A transfer cluster is a collection of stop points, stations, or terminals where transfers can be made conveniently.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	3	The center shall accept requests from traffic management to change routes and schedules as part of the implementation of demand management strategies.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	4	The center shall coordinate schedules and services with other transit centers	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	5	The center shall coordinate schedules and services with other surface or air transportation modes.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	6	The center shall provide transit operations personnel with the capability to control and monitor transit service coordination activities.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	7	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	8	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	9	The center shall collect asset restriction information from maintenance operations.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Multi-Modal Coordination	10	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Passenger Counting	1	The center shall collect passenger count information from each transit vehicle.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Passenger Counting	2	The center shall calculate transit ridership data by route, route segment, transit stop, time of day, and day of week based on the collected passenger count information.	Planned
Local Jurisdiction Dial-A-Ride Transit Services	Transit Management Center	Transit Center Passenger Counting	3	The center shall make the compiled ridership data available to the system operator.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	1	The emergency vehicle, including roadway service patrols, shall track its current location.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	2	The emergency vehicle, including roadway service patrols, shall send the vehicle's location and operational data to the center for emergency management and dispatch.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	3	The emergency vehicle, including roadway service patrols, shall receive incident details and a suggested route when dispatched to a scene.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	4	The emergency vehicle shall send the current en route status (including estimated time of arrival) and requests for emergency dispatch updates.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	5	The emergency vehicle shall send requests to traffic signal control equipment at the roadside to preempt the signal.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	6	The emergency vehicle shall provide the personnel on-board with dispatch information, including incident type and location, and forward an acknowledgment from personnel to the center that the vehicle is on its way to the incident scene.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	7	The emergency vehicle shall send patient status information to the care facility along with a request for further information.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	8	The emergency vehicle shall forward care facility status information to emergency vehicle personnel, including the location, specialized services, quality of care, waiting time, number of rooms available, and emergency room status of hospitals or emergency care providers.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	9	The emergency vehicle shall send the vehicle's location, speed and direction to other vehicles in the area.	Operate
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	10	The roadway service patrols vehicle shall monitor roads and aid motorists, offering rapid response to minor incidents (flat tire, accidents, out of gas).	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	11	The emergency vehicle shall receive the crash data from connected vehicles involved in a crash.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board En Route Support	12	The emergency vehicle shall receive the HAZMAT information from commercial vehicles involved in a crash.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	1	The emergency vehicle shall receive dispatch instructions sufficient to enable emergency personnel in the field to implement an effective incident response. It includes local traffic, road, and weather conditions, hazardous material information, and the status of resources that have been allocated to an incident.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	2	The emergency vehicle shall provide an interface to the center for emergency personnel to transmit information about the incident site such as the extent of injuries, identification of vehicles and people involved, hazardous material, etc.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	3	The emergency vehicle shall provide an interface to the center for emergency personnel to transmit information about the current incident response status such as the identification of the resources on site, site management strategies in effect, and current clearance status.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	4	The emergency vehicle shall provide traffic incident information to other emergency vehicles using short range communications.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	5	The emergency vehicle shall receive container manifest and status of the electronic seal on a container.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	6	The emergency vehicle shall inspect the electronic seal on a container to verify the container has not been opened or tampered with.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	7	The vehicle shall collect vehicle occupants' electronic medical records to support emergency dispatch and staging of personnel and equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV On-Board Incident Management Communication	8	The emergency vehicle shall exchange information with other emergency vehicles to support the decision making and overall incident response.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	1	The service patrol vehicle shall track its current location.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	2	The service patrol vehicle shall send the vehicle's location and operational data to the center for dispatch.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	3	The service patrol vehicle shall receive incident details and a suggested route when dispatched to a scene.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	4	The service patrol vehicle shall send the current en route status (including estimated time of arrival) and requests for emergency dispatch updates.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	5	The service patrol vehicle shall provide the personnel on-board with dispatch information, including incident type and location, and forward an acknowledgment from personnel to the center that the vehicle is on its way to the incident scene.	Planned
Local Jurisdiction Emergency Services Vehicles	Emergency Vehicle OBE	EV Service Patrol Vehicle Operations	6	The service patrol vehicle shall update the center with status of an incident response including the nature of the incident, e.g. flat tire, gas, minor accident.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	1	The vehicle shall provide the capability for a driver to report an emergency and summon assistance.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	2	The vehicle shall provide the capability to accept input from a driver via a panic button or some other functionally similar form of input device provided as part of the in-vehicle equipment.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	3	The vehicle shall provide the capability to automatically identify that a collision has occurred using equipment such as collision detection sensors with an interface to mayday type equipment that would automatically detect vehicle problems and send appropriate distress signals to a center.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	4	The vehicle shall forward a request for assistance to a center containing the driver's current location, its identity and basic vehicle data relevant to its current condition, as well as any other data, such as personal medical history, vehicle orientation, etc., that may be developed in-vehicle by other systems.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	5	The vehicle shall acknowledge the driver's request for emergency assistance.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	6	The vehicle shall provide further details about the emergency to the center upon request from that function.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	7	The vehicle shall provide the capability to broadcast emergency alerts to remote connected vehicles or nearby roadside units.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	8	The vehicle shall provide the capability to receive and rebroadcast emergency alerts received from other remote connected vehicles.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	9	The vehicle shall broadcast information about the vehicle when a collision occurs, including: position, change in velocity, vehicle orientation, airbag status, call-back number, video, and multiple impact indicators.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	10	The vehicle shall broadcast information about the vehicle's occupants when a collision occurs, including: number of occupants, seat belt use, and passenger special medical needs.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	11	The vehicle shall broadcast information about the vehicle's contents when a collision occurs, including: freight equipment type (box, flatbed, trailer, container, etc.), type of cargo (refrigerated, non-perishable, liquid, etc.), hazardous material data, quantity of cargo, and cargo permits as applicable (hazmat, special routing permissions).	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	12	The vehicle shall determine if a received collision notification message should be retransmitted based on criteria such as the distance from position of message origin or the number of retransmissions already made.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Emergency Notification	13	The vehicle shall increment the number of retransmissions of a collision notification as part of the retransmitted message.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	1	The vehicle shall provide the capability for a driver to report an emergency and summon assistance.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	2	The vehicle shall provide the capability to accept input from a driver via a panic button or some other functionally similar form of input device provided as part of the in-vehicle equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	3	The vehicle shall acknowledge the driver's request for emergency assistance.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	4	The vehicle shall collect vehicle characteristics describing the vehicles typical and real time configuration, including damage to vehicle components.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	5	The vehicle shall notify emergency responders of the characteristics and damage identified to the vehicle involved in a collision.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	6	The vehicle shall provide the capability to automatically identify that a collision has occurred using equipment such as collision detection sensors with an interface to mayday type equipment that would automatically detect vehicle problems and send appropriate distress signals to the arriving public safety vehicles.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	7	The vehicle shall collect vehicle operational state information from the host vehicle.	Planned
Local Jurisdiction Emergency Services Vehicles	Vehicle OBE	Vehicle Mayday Notification	8	The vehicle shall analyze vehicle operational state information to determine if the host vehicle has been involved in a collision.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	1	The center shall support the interface to the Emergency Telecommunications System (e.g. 911 or 7-digit call routing) to receive emergency notification information and provide it to the emergency system operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	2	The center shall receive emergency call information from 911 services and present the possible incident information to the emergency system operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	3	The center shall receive emergency call information from vehicles and present the possible incident information to the emergency system operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	4	The center shall receive emergency call information from other emergency management centers, e.g. mayday service providers, and present the possible incident information to the emergency system operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	5	The center shall receive emergency notification information from other public safety agencies and present the possible incident information to the emergency system operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	6	The center shall receive emergency notification information from public transit systems and present the possible incident information to the emergency system operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	7	The center shall coordinate, correlate, and verify all emergency inputs, including those identified based on external calls and internal analysis of security sensor and surveillance data, and assign each a level of confidence.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	8	The center shall send a request for remote control of Closed-circuit Television (CCTV) systems from a traffic management center to verify the reported incident.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	9	The center shall forward the verified emergency information to the responding agency based on the location and nature of the emergency.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Call-Taking	10	The center shall update the incident information log once the emergency system operator has verified the incident.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Commercial Vehicle Response	1	The center shall receive alerts about a Commercial Vehicle or Freight Equipment breach, non-permitted security sensitive hazmat detected at the roadside, route deviation, or Commercial Vehicle Driver / Commercial Vehicle / Freight Equipment assignment mismatches which includes the location of the Commercial Vehicle and appropriate identities.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Commercial Vehicle Response	2	The center shall receive emergency notification information from commercial vehicles, commercial vehicle check stations, or commercial fleet operators and present the possible incident information to the emergency system operator. This may include detection of non-permitted transport of security sensitive hazmat, hazardous cargo spills, etc.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Commercial Vehicle Response	3	The center shall receive details of the cargo being carried by commercial vehicles from their commercial fleet manager for incidents involving potential hazardous materials.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Commercial Vehicle Response	4	The center shall forward the verified emergency information to the responding agency based on the location and nature of the emergency.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Commercial Vehicle Response	5	The center shall provide the capability to request Fleet and Freight Management to disable a specific vehicle in their fleet.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	1	The center shall dispatch emergency vehicles to respond to verified emergencies under center personnel control.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	2	The center shall store the status of all emergency vehicles available for dispatch and those that have been dispatched.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	3	The center shall relay location and incident details to the responding vehicles.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	4	The center shall track the location and status of emergency vehicles responding to an emergency based on information from the emergency vehicle.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	5	The center shall store and maintain the emergency service responses in an action log.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	6	The center shall coordinate response to incidents with other Emergency Management centers to ensure appropriate resources are dispatched and utilized.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	7	The center shall receive traffic images to support dispatch of emergency vehicles.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	8	The center shall provide the capability to request remote control of traffic surveillance devices.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Dispatch	9	The center shall process road and weather conditions to provide updates to responding personnel.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	1	The center shall monitor information from Alerting and Advisory Systems such as the Information Sharing and Analysis Centers (ISACs), the National Infrastructure Protection Center (NIPC), the Homeland Security Advisory System (HSAS), etc. The information may include assessments (general incident and vulnerability awareness information), advisories (identification of threats or recommendations to increase preparedness levels), or alerts (information on imminent or in-progress emergencies).	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	2	The center shall receive incident information from other transportation management centers to support the early warning system.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	3	The center shall support the entry of alert and advisory information directly from the emergency system operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	4	The center shall receive potential incident information from social media sources to support the early warning system.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	5	The center shall provide the capability to correlate alerts and advisories, incident information, and security sensor and surveillance data.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	6	The center shall broadcast wide-area alerts and advisories to traffic management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	7	The center shall broadcast wide-area alerts and advisories to transit management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	8	The center shall broadcast wide-area alerts and advisories to toll administration centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	9	The center shall broadcast wide-area alerts and advisories to traveler information service providers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	10	The center shall broadcast wide-area alerts and advisories to maintenance centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	11	The center shall broadcast wide-area alerts and advisories to other emergency management centers for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	12	The center shall broadcast wide-area alerts and advisories to commercial vehicle administration centers and roadside check facilities for emergency situations such as severe weather events, civil emergencies, child abduction (AMBER alert system), military activities, and other situations that pose a threat to life and property.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	13	The center shall process status information from each of the centers that have been sent the wide-area alert.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	14	The center shall coordinate the broadcast of wide-area alerts and advisories with other emergency management centers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Early Warning System	15	The center shall present the alert and advisory information and the status of the actions taken in response to the alert by the other centers to the emergency system operator as received from other system inputs.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Environmental Monitoring	2	The center shall collect road network conditions data, including advisories, from traffic management and traveler information centers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Environmental Monitoring	3	The center shall collect asset restrictions information from roadway maintenance operations.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Environmental Monitoring	4	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Environmental Monitoring	5	The center shall provide the road and weather warning and advisories to the emergency responders.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	1	The center shall provide tactical decision support, resource coordination, and communications integration for first responders to support local management of an incident.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	2	The center shall provide incident command communications with public safety, emergency management, transportation, and other allied response agency centers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	3	The center shall track and maintain resource information and action plans pertaining to the incident command.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	4	The center shall share incident command information with other public safety agencies including resource deployment status, hazardous material information, rail incident information, evacuation advice as well as traffic, road, and weather conditions.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	5	The center shall assess the status of responding emergency vehicles as part of an incident command.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	6	The center shall provide other agencies real-time information on the current conditions at the incident scene.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	7	The center shall collect modeling program outputs to support emergency dispatch and staging of personnel and equipment, e.g. predicted HAZMAT plumes or crash severity predictions.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	8	The center shall collect information about freight or cargo to support emergency dispatch and staging of personnel and equipment, e.g. cargo manifest or HAZMAT information.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	9	The center shall collect medical care facility capabilities and availability, e.g., trauma level supported to support emergency dispatch and staging of personnel and equipment.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	10	The center shall collect on-scene reports to support emergency dispatch and staging of personnel and equipment.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	11	The center shall provide situational awareness information to emergency responders about an incident, both en-route and while they are on-scene.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Incident Command	12	The center shall provide status of the current conditions at the incident scene to arriving responders.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	1	The center shall be able to determine that a crash or emergency has taken place, based on on-board sensor data collected from the vehicle.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	2	The center shall monitor subscribed vehicle data, including changes in velocity, attitude/orientation, position, and air bag status to determine when an emergency (crash) has happened.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	3	The center shall collect mayday messages from travelers via personal handheld devices.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	4	The center shall collect mayday messages from drivers via onboard devices.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	5	The center shall acknowledge the request for emergency assistance, whether originated by the driver, automatically by the vehicle's safety systems, or by a traveler via a personal handheld device.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	6	The center shall communicate with the mayday emergency message sender (driver) to determine the nature and severity of their situation.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	7	After the mayday becomes a verified incident, the center shall determine the appropriate response to the mayday message.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	8	The center shall determine whether the mayday message indicates an emergency that requires the attention of public safety agencies, and forward mayday emergency data to the appropriate agency as necessary.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	9	The center shall support the activation of remote controlled functions requested by a vehicle, such as requests to unlock doors.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	10	The center shall request additional emergency details from or issue commands to the vehicle's security systems or vehicle driver if needed.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	11	The center shall maintain a log of all mayday signals received from vehicles.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	12	The center shall provide all mayday data to center personnel and respond to the vehicle, driver, or traveler using the portable handheld device as directed by the personnel.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	13	The center shall determine that a collision has occurred based on changes in vehicle sensor data.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	14	The center shall determine the location of the sender when it receives a collision notification broadcast.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	15	The center shall determine the nature of the emergency from the contents of the received collision notification message.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Notification Support	16	AACN-Relay shall maintain a registry of emergency communications center (ECCs) based on factors such as coverage area (county, state, continent), types of emergencies serviced (e.g. all, hazmat, rail crossing, Brand X autos), and hours of service (days, 24-hour, etc.).	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	1	The center shall provide strategic emergency response capabilities provided by an Emergency Operations Center for large-scale incidents and disasters.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	2	The center shall manage coordinated inter-agency responses to and recovery from large-scale emergencies. Such agencies include traffic management, transit, maintenance and construction management, rail operations, and other emergency management agencies.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	3	The center shall provide the capability to implement response plans and track progress through the incident by exchanging incident information and response status with allied agencies.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	4	The center shall develop, coordinate with other agencies, and store emergency response plans.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	5	The center shall track the availability of resources and coordinate resource sharing with allied agency centers including traffic, maintenance, or other emergency centers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	6	The center shall allocate the appropriate emergency services, resources, and vehicle (s) to respond to incidents, and shall provide the capability to override the current allocation to suit the special needs of a current incident.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	7	The center shall receive event scheduling information from Event Promoters.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	8	The center shall support remote control of field equipment normally under control of the traffic management center including traffic signals, dynamic message signs, gates, and barriers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	9	The center shall provide the capability to remotely control and monitor CCTV systems normally operated by a traffic management center.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	10	The center shall provide the capability to request transit resource availability from transit centers for use during disaster and evacuation operations.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	11	The center shall assimilate the damage assessment of the transit, traffic, rail, maintenance, and other emergency center services and systems to create an overall transportation system status, and disseminate to each of these centers and the traveling public via traveler information providers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	12	The center shall provide information to the media concerning the status of an emergency response.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	13	The center shall provide the capability for center personnel to provide inputs to the management of incidents, disasters and evacuations.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	14	The center shall collect information about the status of the recovery efforts for the infrastructure during disasters.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	15	The center shall provide the overall status of infrastructure recovery efforts to traveler information providers and media.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	16	The center shall provide the capability to communicate information about emergency situations to local population through the Emergency Telecommunications System.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	17	The center shall provide the capability to identify neighborhoods and businesses that should be informed of an emergency based on information collected about incidents including their severity, impacted locations, and recovery schedule.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	18	The center shall retrieve information from public health systems to increase preparedness for, and implement a response to biological, chemical, radiation, and other public health emergencies.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	19	The center shall manage coordinated inter-agency responses to incidents at an international border.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	20	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Response Management	21	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	1	The center shall collect current traffic and road condition information for emergency vehicle route calculation.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	2	The center shall receive information on the location and status of traffic control equipment and work zones along potential emergency routes.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	3	The center shall receive status information from care facilities to determine the appropriate facility and its location.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	4	The center shall receive asset restriction information to support the dispatching of appropriate emergency resources.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	5	The center shall receive current railroad schedule information for emergency vehicle route calculation.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	6	The center shall track current emergency vehicle location and status along with other emergency vehicle characteristics.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	7	The center shall calculate emergency vehicle routes, under center personnel control, based on the collected traffic and road conditions information.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	8	The center shall request and receive ingress and egress routes or other specialized emergency access routes from the traffic management center.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	9	The center shall provide the capability to request special traffic control measures, such as signal preemption, from the traffic management center to facilitate emergency vehicle progress along the suggested route.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	10	The center shall provide the calculated route for emergency vehicles to the dispatch function.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	11	The center shall collect weather and maintenance activity data, e.g., which roads have been plowed to support emergency dispatch and staging of personnel and equipment.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	12	The center shall collect road and traffic conditions information, including current traffic conditions en route, current traffic conditions on-scene, and road weather conditions (e.g. wet, icy, snow-covered).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	13	The center shall collect road and traffic conditions information from multiple sources including: traffic management centers, probe vehicle data, including traffic data and environmental conditions, and other private traffic data sources, e.g. private distributors that integrate connected (probe) vehicle data with cellular or surveillance device inputs.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	14	The center shall provide routing instructions for a dispatched emergency vehicle that may reflect current network conditions and the additional routing options available to en route emergency that are not available to the public.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Routing	15	the center shall collect location and situational information about the emergency vehicles responding to or on the scene of an incident.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Alarm Support	1	The center shall collect silent and audible alarms received from travelers in secure areas (such as transit stops, rest areas, park and ride lots, modal interchange facilities).	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Alarm Support	2	The center shall collect silent and audible alarms received from transit vehicles, originated by the traveler or the transit vehicle operator.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Alarm Support	3	After the alarm message, has been received, the center shall generate an alarm acknowledgment to the sender.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Alarm Support	4	After the alarm message becomes a verified incident, the center shall determine the appropriate response.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Alarm Support	5	The center shall determine whether the alarm message indicates an emergency that requires the attention of public safety agencies, and forward alarm message data to the appropriate agency as necessary.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Alarm Support	6	The center shall forward the alarm message to center personnel and respond to the traveler or transit vehicle operator as directed by the personnel.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	1	The center shall remotely monitor and control security sensor data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), infrastructure condition and integrity, intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	2	The center shall remotely monitor and control security sensor data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors), intrusion and motion, and object detection sensors. The data may be raw or pre-processed in the field.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	3	The center shall remotely monitor and control security sensor data collected on-board transit vehicles. The types of security sensor data include environmental threat (e.g. chemical agent, toxic industrial chemical, biological, explosives, and radiological sensors) and object detection sensors. The data may be raw or pre-processed in the field.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	4	The center shall exchange security sensor data with other emergency centers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	5	The center shall identify potential security threats based on collected security sensor data.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	6	The center shall verify potential security threats by correlating security sensor data from multiple sources.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	7	The center shall perform threat analysis based on correlations of security sensor and surveillance data.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	8	The center shall exchange threat analysis data with Alerting and Advisory Systems and use that data in local threat analysis processing.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	9	The center shall disseminate threat information to other agencies, including traffic, transit, maintenance, rail operations, and other emergency management centers.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	10	The center shall respond to control data from center personnel regarding security sensor data collection, processing, threat detection, and threat analysis.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	11	The center shall request activation of barriers and safeguards on request from center personnel.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Sensor Management	12	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	1	The center shall remotely monitor video images and audio surveillance data collected in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways). The data may be raw or pre-processed in the field.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	2	The center shall remotely monitor video images and audio surveillance data collected in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers). The data may be raw or pre-processed in the field.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	3	The center shall remotely monitor video images and audio surveillance data collected on-board transit vehicles. The data may be raw or pre-processed in the field.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	4	The center shall exchange surveillance data with other emergency centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	5	The center shall identify potential security threats based on collected security surveillance data.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	6	The center shall verify potential security threats by correlating security surveillance data from multiple sources.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	7	The center shall remotely control security surveillance devices in secure areas including facilities (e.g. transit yards) and transportation infrastructure (e.g. bridges, tunnels, interchanges, roadway infrastructure, and transit railways or guideways).	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	8	The center shall remotely control security surveillance devices in traveler secure areas, which include transit stations, transit stops, rest areas, park and ride lots, and other fixed sites along travel routes (e.g., emergency pull-off areas and travel information centers).	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	9	The center shall remotely control security surveillance devices on-board transit vehicles.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	10	The center shall match traveler video images against a database from the Alerting and Advisory Systems of known images that may represent criminals and terrorists.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	11	The center shall exchange traveler images with other emergency management centers to support traveler image matching.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	12	The center shall respond to control data from center personnel regarding security surveillance data collection, processing, threat detection, and image matching.	Planned
Local Jurisdiction Police and Fire Departments	Emergency Management Center	Emergency Secure Area Surveillance	13	The center shall monitor maintenance status of the security sensor field equipment.	Planned
Local Jurisdiction Traffic Operations	Center	Center Data Collection	1	The center shall collect transportation data such as traffic operational data, transit data, vehicle data, weather data, freight data, event logs, etc. and make it available for ITS Archives upon request.	Planned
Local Jurisdiction Traffic Operations	Center	Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Local Jurisdiction Traffic Operations	Center	Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Local Jurisdiction Traffic Operations	Center	Center Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Local Jurisdiction Traffic Operations	Center	Center Data Collection	5	The Center shall collect operational data from other Centers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Detection	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Detection	2	The center shall collect and store traffic flow and image data from the field equipment to detect and verify incidents.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Detection	3	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters and traveler information service providers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Detection	4	The center shall exchange incident and threat information with emergency management centers as well as maintenance and construction centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Detection	5	The center shall support requests from emergency management centers and border inspection systems to remotely control sensor and surveillance equipment located in the field.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Detection	6	The center shall provide road network conditions and traffic images to emergency management centers to support the detection, verification, and classification of incidents.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Detection	7	The center shall provide video and traffic sensor control commands to the field equipment to detect and verify incidents.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Metering	1	The center shall remotely control systems to manage use of the freeways, including ramp, interchange, and mainline metering.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Metering	2	The center shall collect operational status from ramp meters, interchange meters, and mainline meters and compare against the control information sent by the center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Metering	3	The center shall collect fault data from ramp meters, interchange meters, and mainline meters.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Metering	4	The center shall implement control strategies, under control of center personnel, on some or all the freeway network devices (e.g. ramp meters, interchange meters, and mainline meters), based on data from sensors monitoring traffic conditions upstream, downstream, and queue data on the approaches to the meters.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Traffic Metering	5	The center shall be able to, under control of center personnel, use collected environmental and vehicle emissions data to regulate the flow of traffic on ramps, interchanges, and the mainline.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Local Jurisdiction Traffic Operations	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Planned
Local Jurisdiction Traffic Signals	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	5	The field element shall monitor notify an enforcement agency when a speed violation is detected.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	1	The field element shall include dynamic message signs for dissemination of traffic and other information to drivers, under center control; the DMS may be either those that display variable text messages, or those that have fixed format display(s) (e.g. vehicle restrictions, or lane open/close).	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	2	The field element shall include driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers, under center control.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	3	The field element shall provide operational status for the driver information systems equipment (DMS, HAR, etc.) to the center.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	4	The field element shall provide fault data for the driver information systems equipment (DMS, HAR, etc.) to the center for repair.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	5	The field element shall provide dynamic message sign information to roadside equipment for transmission to connected vehicles to support in-vehicle signing.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	6	The field element shall include devices that provide data and status information to other field element devices without center control.	Planned
McFarland CMS	ITS Roadway Equipment	Roadway Traffic Information Dissemination	7	The field element shall include devices that receive configuration data from other field element devices, without center control.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	1	The field element shall activate barrier systems for transportation facilities and infrastructure under center control. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	2	The field element shall return barrier system operational status to the controlling center.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	3	The field element shall return barrier system fault data to the maintenance center for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	4	The field element shall receive requests for access from approaching vehicles using field-vehicle communications and validate and authenticate the requests.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	5	The field element shall grant access only to qualified vehicles.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Barrier System Control	6	The field element shall communicate access permission status and access instructions to approaching vehicles using field-vehicle communications.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	1	The field element shall activate safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.) under center control.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	2	The field element shall return safeguard system operational status to the controlling center.	Planned
McFarland Infrastructure Monitoring	ITS Roadway Equipment	Roadway Safeguard System Control	3	The field element shall return safeguard system fault data to the maintenance center for repair.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
McFarland Portable Traffic Control	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	1	The field element shall include surface and sub-surface environmental sensors that measure road surface temperature, moisture, icing, salinity, and other measures.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	2	The field element shall include environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	3	The field element's environmental sensors shall be remotely controlled by a maintenance center.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	4	The field element's environmental sensors shall be remotely controlled by a traffic management center.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	5	The field element's environmental sensors shall be remotely controlled by weather service providers such as the National Weather Service or value-added sector specific meteorological services.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	6	The field element's environmental sensors shall be remotely controlled by a maintenance and construction vehicle.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	7	The field element shall provide environmental sensor equipment operational status to the controlling center or maintenance vehicle.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	8	The field element shall provide environmental sensor equipment fault indication to the controlling center or maintenance vehicle.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	9	The field element shall remotely aggregate environmental sensor data with environmental data collected from maintenance and construction vehicles.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	10	The field element shall provide weather and road surface condition data to centers.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	11	The field element shall provide weather and road surface condition data to maintenance and construction vehicles.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Environmental Monitoring	12	The field equipment shall provide environmental sensor data to the Connected Vehicle Roadside Equipment.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	1	The field element shall include sensors to detect vehicle speeds, under traffic or maintenance center control.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	2	The field element shall include sensors to detect vehicle speeds, under enforcement agency control.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	3	If the speed detected by vehicle speed sensors is determined to be excessive, the field element shall provide a safe speed advisory to passing drivers via a driver information system (such as portable messages signs, field to vehicle communications to in-vehicle signing systems, etc.).	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	4	The field element shall base speed advisories to passing drivers on environmental conditions.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	5	The field element shall monitor notify an enforcement agency when a speed violation is detected.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	6	The field element shall return operational status for the vehicle speed sensors to the controlling traffic or maintenance center; including measured speeds, warning messages displayed, and violation records.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	7	The field element shall return operational status for the vehicle speed sensors to the enforcement agency.	Planned
McFarland Speed Warning System	ITS Roadway Equipment	Roadway Speed Monitoring and Warning	8	The field element shall return fault data for the vehicle speed sensors to the controlling center for repair.	Planned
McFarland TOC	Center				
McFarland TOC	Traffic Management Center	TMC Barrier System Management	1	The center shall remotely control barrier systems for transportation facilities and infrastructure. Barrier systems include automated or remotely controlled gates, barriers and other systems that manage entry to roadways.	Planned
McFarland TOC	Traffic Management Center	TMC Barrier System Management	2	The center shall accept requests for barrier system activation from other centers and from center personnel to support emergency response and detours.	Planned
McFarland TOC	Traffic Management Center	TMC Barrier System Management	3	The center shall collect barrier system operational status.	Planned
McFarland TOC	Traffic Management Center	TMC Barrier System Management	4	The center shall collect barrier system fault data and send to the maintenance center for repair.	Planned
McFarland TOC	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Planned
McFarland TOC	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Planned
McFarland TOC	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Planned
McFarland TOC	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Planned
McFarland TOC	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Planned
McFarland TOC	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Planned
McFarland TOC	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned
McFarland TOC	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland TOC	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
McFarland TOC	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
McFarland TOC	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Planned
McFarland TOC	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
McFarland TOC	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Planned
McFarland TOC	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Planned
McFarland TOC	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
McFarland TOC	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
McFarland TOC	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Planned
McFarland TOC	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Planned
McFarland TOC	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Planned
McFarland TOC	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Planned
McFarland TOC	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
McFarland TOC	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Planned
McFarland TOC	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Planned
McFarland TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Planned
McFarland TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Planned
McFarland TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Planned
McFarland TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Planned
McFarland TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Planned
McFarland TOC	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Planned
McFarland TOC	Traffic Management Center	TMC Safeguard System Management	1	The center shall remotely control safeguard systems, equipment used to mitigate the impact of incidents on transportation infrastructure (e.g., blast shields, tunnel exhaust systems, etc.)	Planned
McFarland TOC	Traffic Management Center	TMC Safeguard System Management	2	The center shall accept requests for safeguard system activation from other centers and from center personnel to support emergency response.	Planned
McFarland TOC	Traffic Management Center	TMC Safeguard System Management	3	The center shall collect safeguard system operational status.	Planned
McFarland TOC	Traffic Management Center	TMC Safeguard System Management	4	The center shall collect safeguard system fault data and send to the maintenance center for repair.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland TOC	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
McFarland TOC	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
McFarland TOC	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Planned
McFarland TOC	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
McFarland TOC	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Planned
McFarland TOC	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned
McFarland TOC	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Planned
McFarland TOC	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland TOC	Traffic Management Center	TMC Speed Warning	1	The center shall provide the capability to notify an enforcement agency when vehicle speeds in the work zone are more than the posted speed limit or are creating an unsafe condition based upon the current environmental or traffic conditions.	Planned
McFarland TOC	Traffic Management Center	TMC Speed Warning	2	The center shall provide the capability to control automated speed monitoring and speed warning systems.	Planned
McFarland TOC	Traffic Management Center	TMC Speed Warning	3	The center shall monitor reduced speed zone warning field equipment.	Planned
McFarland TOC	Traffic Management Center	TMC Speed Warning	4	The center shall control reduced speed zone warning roadside equipment, providing the location and extent of the reduced speed zone, the posted speed limit(s) with information about the applicability of the speed limit(s) (e.g., time of day, day of week, seasonality, relevant vehicle types) and information about associated road configuration changes including lane merges and shifts.	Planned
McFarland TOC	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
McFarland TOC	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
McFarland TOC	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Planned
McFarland TOC	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Planned
McFarland TOC	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Planned
McFarland TOC	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Planned
McFarland TOC	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Planned
McFarland TOC	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
McFarland TOC	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Planned
McFarland Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	1	The personal traveler interface shall receive traffic information from a center and present it to the traveler upon request.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	2	The personal traveler interface shall receive transit information from a center and present it to the traveler upon request.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	3	The personal traveler interface shall receive traveler services information (such as lodging, restaurants, theaters, bicycle facilities, and other tourist activities) from a center and present it to the traveler upon request.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	4	The personal traveler interface shall receive event information from a center and present it to the traveler upon request.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	5	The personal traveler interface shall receive evacuation information from a center and present it to the traveler.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	6	The personal traveler interface shall receive wide-area alerts and present it to the traveler.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	7	The personal traveler interface shall accept reservations for confirmed trip plans.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	8	The personal traveler interface shall support payment for services, such as confirmed trip plans, tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	9	The personal traveler interface shall provide an interface through which credit identity, stored credit value, or traveler information may be collected from a traveler card being used by a traveler with a personal device.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	10	The personal traveler interface shall base requests from the traveler on the traveler's current location or a specific location identified by the traveler, and filter the provided information accordingly.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	11	The personal traveler interface shall support traveler input in audio or manual form.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	12	The personal traveler interface shall present information to the traveler in audible or visual forms consistent with a personal device, and suitable for travelers with hearing and vision physical disabilities.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	13	The personal traveler interface shall be able to store frequently requested or used data, including the traveler's identity, home and work locations, etc.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	14	The personal traveler interface shall receive travel alerts and present them to the traveler. Relevant alerts are provided based on pre-supplied trip characteristics and preferences.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	15	The personal traveler interface shall accept personal preferences, recurring trip characteristics, and traveler alert subscription information from the traveler and send this information to a center to support customized traveler information services.	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	16	The personal traveler interface shall provide an interface to establish and manage user road pricing accounts, process road pricing payments, and access road pricing reports under user control	Operate
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	17	The personal traveler interface shall receive traveler information including traffic and road conditions, advisories, incidents, payment information, transit services, parking information, weather information, and other travel-related data updates and confirmations.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	18	The personal traveler interface shall provide an interface to establish and manage user road pricing accounts, process road pricing payments, and access road pricing reports under user control.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	19	The personal traveler interface shall provide the ability for a traveler to set up and modify a user account for a regional electronic payment system.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	20	The personal traveler interface shall be able to provide payment information for road use charges.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	21	The personal traveler interface shall be able to provide payment information for use of a low emission zone.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	22	The personal traveler interface shall provide the ability for a traveler to select customized information about a disaster and evacuation routing.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	23	The personal traveler interface shall provide the ability for a traveler to select customized information on evacuation resources including self-evacuation options, anticipated pickup time and location if a transportation asset is to be deployed, destination shelter, and supporting information on what to bring.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	24	The personal traveler interface shall provide the ability for a traveler to select customized information on resources along evacuation routes based on inputs from other evacuees.	Planned
Personal Computing Devices	Personal Information Device	Personal Interactive Traveler Information	25	The personal traveler interface shall provide the ability for a traveler to select customized information on estimated reentry date/times following a disaster.	Planned
Personal Computing Devices	Personal Information Device	Personal Local Route Guidance	1	The personal traveler interface shall provide the capability for a traveler to obtain route guidance from a specified source to a destination.	Planned
Personal Computing Devices	Personal Information Device	Personal Local Route Guidance	2	The personal traveler interface shall calculate the requested route using data obtained from a navigable map database stored in the device.	Planned
Personal Computing Devices	Personal Information Device	Personal Local Route Guidance	3	The personal traveler interface shall provide multi-modal guidance for the shortest route, within the preferences and constraints specified by the traveler.	Planned
Personal Computing Devices	Personal Information Device	Personal Local Route Guidance	4	The personal traveler interface shall present information to the traveler in audible or visual forms consistent with a personal device, and suitable for travelers with hearing and vision physical disabilities.	Planned
Personal Computing Devices	Personal Information Device	Personal Location Determination	1	The Personal device shall determine the traveler's current location. It is intended for use by traveler personal navigation and guidance systems, as well as emergency notification systems.	Operate
Personal Computing Devices	Personal Information Device	Personal Location Determination	2	The Personal device shall obtain time and position data from its local location and time data source.	Planned
Personal Computing Devices	Personal Information Device	Personal Location Determination	3	The Personal device shall make time and position data to device applications.	Planned
Personal Computing Devices	Personal Information Device	Personal Location Determination	4	The Personal device shall obtain position correction data from the Connected Vehicle Roadside Equipment.	Planned
Personal Computing Devices	Personal Information Device	Personal Location Determination	5	The Personal device shall apply position correction data to its base positional data.	Planned
Personal Computing Devices	Personal Information Device	Personal Shared Use Planning	1	The personal traveler device shall allow the traveler to make a request for a shared use transportation.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Personal Computing Devices	Personal Information Device	Personal Shared Use Planning	2	The personal traveler device shall allow the traveler to confirm a shared use transportation trip.	Planned
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	1	The personal traveler interface shall allow a traveler to request and confirm multi-modal route guidance from a specified source to a destination.	Operate
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	2	The personal traveler interface shall forward the request for route guidance to a traveler information center for route calculation.	Operate
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	3	The personal traveler interface shall forward user preferences, background information, constraints, and payment information to the supplying traveler information center.	Operate
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	4	The personal traveler interface shall present information to the traveler in audible or visual forms consistent with a personal device, and suitable for travelers with hearing and vision physical disabilities.	Operate
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	5	The personal traveler interface shall provide the capability for a traveler to request and receive freight specific traveler information including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories, etc. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	6	The personal traveler interface shall allow a traveler to send a stop request to an approaching transit vehicle.	Planned
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	7	The personal traveler interface shall allow a traveler to request connection protection be provided as part of the traveler's trip request.	Planned
Personal Computing Devices	Personal Information Device	Personal Trip Planning and Route Guidance	8	The personal traveler interface shall provide to the traveler with updates regarding their transit trip to provide connection protection.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	1	The center shall collect maintenance and construction data (such as field equipment status, infrastructure status, maintenance and construction activity data) gathered from roadway, traffic, and other maintenance and construction sources.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the maintenance and construction data or for the data itself.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	4	The center shall be able to produce sample products of the data available.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	1	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	2	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services) and local environmental sensor data.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	3	The center shall use the various data inputs of environmental sensors and road weather data to develop a view of current and predicted road weather and road conditions.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	4	The center shall disseminate current and forecasted road weather and road condition information to weather service providers (such as the National Weather Service and value-added sector specific meteorological services) as well as other agencies including traffic, emergency, and transit management, traveler information providers, rail operations centers, media, and other maintenance management centers.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	5	The center shall provide value-added sector specific meteorological services with information on basic road facility and treatment information that supports forecasts for road conditions.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	2	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, etc.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	3	The center shall exchange incident and threat information with emergency management centers as well as traffic management centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	4	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	5	The center shall respond to requests from emergency management to provide maintenance and construction resources to implement response plans, assist in clean up, verify an incident, etc. This may also involve coordination with traffic management centers and other maintenance centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	6	The center shall exchange road network status assessment information with emergency management and traffic management centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	7	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	8	The center shall receive information indicating the damage sustained by transportation assets, derived from aerial surveillance, field reports, inspections, tests, and analyses to support incident management.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	9	The center shall receive evacuation information including evacuation zones, evacuation times, and reentry times from emergency operation centers.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	1	The center shall maintain an interface with asset management systems to track the inventory, restrictions, repair needs and status updates of transportation assets (pavement, bridges, signs, etc.) including location, installation and materials information, vendor/contractor, current maintenance status, standard height, width, and weight restrictions.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	2	The center shall respond to requests from emergency management and traffic management centers for hazard removal, field equipment repair, and other roadway maintenance.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	3	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	4	The center shall provide emergency management and traffic management centers with information about scheduled maintenance and construction work activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	5	The center shall collect the status and fault data from roadside equipment, such as traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	6	The center shall collect the status and fault data from the centers that operate the equipment, including data for traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	7	The center shall receive equipment availability and materials storage status information from storage facilities to support the scheduling of roadway maintenance and construction activities.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	8	The center shall collect current and forecast traffic and weather information from traffic management centers and weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	9	The center shall dispatch and route maintenance and construction vehicle drivers and support them with route-specific environmental, incident, advisory, threat, alert, and traffic congestion information.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	10	The center shall manage an interface with center personnel to accept vehicle systems control information and remotely control maintenance and construction vehicle on-board equipment.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	11	The center shall track the status of roadway maintenance and construction activities by monitoring collected data from the dispatched vehicles and equipment.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	12	The center shall report the status of field equipment maintenance activities to the centers that operate the equipment.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	13	The Center shall provide the status of field maintenance actions to other centers.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	14	The Center shall track the status of field equipment maintenance actions.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	15	The Center shall accept information from other Centers that indicates which Connected Vehicle Roadside Equipment needs maintenance.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	16	The Center shall accept field equipment maintenance action requests from other centers.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	1	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	2	The center shall provide status information about scheduled maintenance and construction activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations. The information is provided to other management centers such as traffic, emergency, transit, traveler information providers, other maintenance centers, multimodal transportation providers, rail operations, and the media.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	3	The center shall collect and respond to feedback concerning scheduled maintenance and construction activities with other management centers such as traffic, emergency, transit, and rail operations.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	4	The center shall collect and disseminate asset restriction information levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	5	The Center shall provide road infrastructure restriction information to other Centers.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	6	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance and construction activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Ridgecrest Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	7	The center shall exchange rail schedules and work plans with rail operations centers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Ridgecrest Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Planned
Ridgecrest Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	1	The center shall collect traveler information for distribution including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	2	The center shall distribute location relevant traveler information to short range communications equipment at the roadside.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	3	The center shall provide the capability for a system operator to monitor connected vehicle system operation and control the type and update frequency of traveler information that is distributed.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Connected Vehicle Traveler Info Distribution	4	The center shall send eco-driving recommendations to connected vehicles so that the vehicle or the driver can adjust their driving behavior to save fuel and reduce emissions.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	1	The center shall collect, process, and store traffic and highway condition information, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	2	The center shall select real-time information on the state of the regional transportation system including current traffic and road conditions, weather conditions, transit information, parking information, special event and incident information.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	3	The center shall collect, process, and store maintenance and construction information, including scheduled maintenance and construction work activities and work zone activities.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	4	The center shall collect, process, and store transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	5	The center shall collect, process, and store parking information, including location, availability, and fees.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	6	The center shall collect, process, and store toll fee information.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	7	The center shall collect, process, and store current and forecast road conditions and surface weather conditions.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	8	The center shall collect, process, and store event information.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	9	The center shall collect, process, and store air quality information.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	10	The center shall collect, process, and store freight specific traveler information.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	11	The center shall collect, process, and store border crossing information.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	12	The center shall collect information on transit schedule and service changes that adapt the service to better meet needs of responders and the public in an emergency, including special service schedules supporting evacuation.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	13	The center shall collect evacuation shelter information including location, hours of operation, special accommodations, and current vacancy/availability information.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	14	The center shall collect evacuation information including evacuation zones, evacuation times, and reentry times.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	15	The center shall collect alert information and status from emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	16	The center shall collect road condition information for freeways, arterials, and secondary roads that are used as freight routes.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	17	The center shall collect emissions information, including information from low emission zone operations.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	18	The center shall collect information concerning members of the population that may require additional assistance in the event of an evacuation, including the names of household members, address, special needs, and any care giver information (nurse or hospice service that may want to keep track of their patient's status).	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Data Collection	19	The center shall collect, store and process multimodal transportation service information (for example, from ferry, rail and airline operators), including current ferry and rail schedule and airport status information and transfer points.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	1	The center shall disseminate emergency evacuation information to the traveler interface systems, including evacuation zones, shelter information, available transportation modes, road closures and detours, changes to transit services, and traffic and road conditions at the origin, destination, and along the evacuation routes.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	2	The center shall provide evacuation information to shelter providers.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	3	The center shall disseminate wide-area alert information to the traveler interface systems, including major emergencies such as a natural or man-made disaster, civil emergency, child abductions, severe weather watches and warnings, military activities, and law enforcement warnings.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	4	The center shall provide the capability for a system operator to control the type and update frequency of emergency and wide-area alert information distributed to travelers.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	5	The center shall provide evacuation information to personal information devices.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	6	The center shall provide evacuation information to connected vehicles.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	7	The center shall maintain a set of evacuation routes based on various incident scenarios, e.g., storm, industrial accident, etc.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	8	The center shall maintain a set of evacuation plans if an evacuation is necessary, including: evacuation routes, call-plan, special needs evacuations, and shelter locations.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	9	The center shall provide evacuees with information about available shelters that match their needs, including: location, availability, route, and special needs accommodated.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	10	The center shall collect shelter data from multiple sources in accordance with the American Red Cross' National Shelter System format, including: type, location, availability, capability, route mapping to the shelter, traffic flow to and around the shelter, and weather conditions around the shelter.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	11	The center shall support requests for evacuation assistance from individuals or groups requiring assistance.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	12	The center shall match requests for evacuation assistance with the appropriate resource.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	13	The center shall provide information concerning available resources along an evacuation route including information provided by other evacuees.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Emergency Traveler Information	14	The center needs to provide evacuees with information regarding when they can return to their area, including evacuation return routes, evacuation return schedule, and evacuation return road conditions.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	1	The center shall disseminate customized traffic and highway condition information to travelers, including incident information, detours and road closures, recommended routes, and current speeds on specific routes upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	2	The center shall disseminate customized maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	3	The center shall disseminate customized transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	4	The center shall disseminate customized parking information to travelers, including location, availability, and fees upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	5	The center shall disseminate customized toll fee information to travelers upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	6	The center shall disseminate customized weather information to travelers upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	7	The center shall disseminate customized multimodal transportation service information (for example, from ferry and airline operators), including transfer points and other information, to travelers upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	8	The center shall disseminate customized event information to travelers upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	9	The center shall disseminate customized air quality information to travelers upon request.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	10	The center shall provide all traveler information based on the traveler's current location or a specific location identified by the traveler, and filter or customize the provided information accordingly.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	11	The center shall accept traveler profiles for determining the type of personalized data to send to the traveler.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	12	The center shall accept requests for parking space information from travelers.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	13	The center shall manage payment for services, such as tolls, transit fares, parking lot charges, map updates, and advanced payment for tolls, and provide transaction success or failure details.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	14	The center shall provide park and ride space information to travelers.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	15	The center shall provide the capability to exchange information with another traveler information service provider current or predicted data for road links that are outside the area served by the local supplier.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	16	The center shall provide the capability to support requests from the media for traffic and incident data.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	17	The center shall provide the capability for a system operator to control the type and update frequency of traveler information.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	18	The center shall support requests for traveler information and advanced payment for traveler services from commercial fleet operators.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Interactive Traveler Information	19	The center shall disseminate customized freight information to travelers, including truck routes, permit information, truck stops, inspection stations, steep grades, high-profile vehicle advisories. Information provided includes freight-related road and weather conditions, parking information, and route plans.	Planned
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	1	The center shall disseminate traffic and highway condition information to travelers, including incident information, detours and road closures, event information, recommended routes, and current speeds on specific routes.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	2	The center shall disseminate maintenance and construction information to travelers, including scheduled maintenance and construction work activities and work zone activities.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	3	The center shall disseminate transit routes and schedules, transit transfer options, transit fares, and real-time schedule adherence information to travelers.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	4	The center shall disseminate parking information to travelers, including location, availability, and fees.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	5	The center shall disseminate toll fee information to travelers.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	6	The center shall disseminate weather information to travelers.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	7	The center shall disseminate event information to travelers.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	8	The center shall disseminate air quality information to travelers.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	9	The center shall provide traffic and incident data to the media.	Operate
San Joaquin Valley 511	Transportation Information Center	TIC Traveler Information Broadcast	10	The center shall provide the capability for a system operator to control the type and update frequency of broadcast traveler information.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	1	The center shall manage service requests for routing of an individual through the transit system.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	2	The center shall provide transit plans for both fixed and demand responsive transit to transit passengers.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	3	The center shall be able to coordinate with Other Transit Management systems or Multimodal Transportation Service Providers to provide a complete multimodal trip plan.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	4	The center shall track the passenger through the transit network, and coordinate with Other TRM and Multimodal Transportation Service Providers so that the passenger makes efficient connections between the transit system and other transit systems or other modes of transportation.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	5	The center shall track transit vehicles and identify when connections between transit routes are in jeopardy due to the late arrival of a transit vehicle at a transfer stop or station.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	6	The center shall send schedule adjustments to a transit vehicle to protect a connection made with other transit vehicles.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	7	The center shall be able to provide a traveler with updates regarding their transit trip, including connection protection actions taken by the center.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Connection Protection	8	The center shall send schedule adjustments to a transit vehicle to protect a connection to be made by a specific traveler.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Data Collection	1	The center shall collect transit management data such as transit fares and passenger use, transit services, paratransit operations, transit vehicle maintenance data, etc.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the transit data or for the data itself.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Center	Transit Management Center	Transit Center Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Shafter Transit Center	Transit Management Center	Transit Center Environmental Monitoring	2	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	1	The center shall manage the actual value of transit fares for each segment of each regular transit route, including the transmission of the information to transit vehicles and transit stops or stations.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	2	The center shall provide the capability for a system operator to manage the transit fares and control the exchange of transit fare information.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	3	The center shall process the financial requests from the transit vehicles or roadside and manage an interface to a Financial Institution.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	4	The center shall support the payment of transit fare transactions using data provided by the traveler cards / payment instruments.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	5	The center shall collect data on fare payment violations and send the data, including images of the violator, to the appropriate enforcement agency.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	6	The center shall process requests for transit fares to be paid in advance.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	9	The center shall maintain a list of invalid traveler credit identities or bad tag lists that can be forwarded to transit vehicles and transit stops or stations.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	10	The center shall collect fare statistics data to implement variable and flexible fare structures.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	11	The center shall exchange fare and load information with other transit management centers, including potential Centralized Payments facilities.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fare Management	12	The center shall provide transit fare information to traveler information providers upon request.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	1	The center shall generate transit routes and schedules based on such factors as parameters input by the system operator, road network conditions, incident information, operational data on current routes and schedules, and digitized map data.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	2	The center shall provide the interface to the system operator to control the generation of new routes and schedules (transit services) including the ability to review and update the parameters used by the routes and schedules generation processes and to initiate these processes	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	3	The center shall be able to generate special routes and schedules to support an incident, disaster, evacuation, or another emergency.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	4	The center shall dispatch fixed route or flexible route transit vehicles.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	5	The center shall collect transit operational data for use in the generation of routes and schedules.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	6	The center shall provide instructions or corrective actions to the transit vehicle operators based upon operational needs.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	7	The center shall manage large deviations of individual transit vehicles, deviations in rural areas, and deviations of large numbers of vehicles.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	8	The center shall generate the necessary corrective actions which may involve more than the vehicles concerned and more far reaching action, such as, the introduction of extra vehicles, wide area signal priority by traffic management, the premature termination of some services, etc.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	9	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	10	The center shall disseminate up-to-date schedules and route information to other centers for fixed and flexible route services.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	11	The center shall provide an interface to the archive data repository to enable the operator to retrieve historical operating data for use in planning transit routes and schedules.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	12	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	13	The center shall monitor transit vehicle schedule adherence to manage transit vehicle operations.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Information Services	1	The center shall provide travelers using public transportation with traffic and advisory information upon request. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Information Services	2	The center shall provide transit information to the media including details of deviations from schedule of regular transit services.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Center	Transit Management Center	Transit Center Information Services	3	The center shall exchange transit schedules, real-time arrival information, fare schedules, and general transit service information with other transit organizations to support transit traveler information systems.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Information Services	4	The center shall provide transit service information to traveler information service providers including routes, schedules, schedule adherence, and fare information as well as transit service information during evacuation.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Information Services	5	The center shall enable yellow pages (including non-motorized transportation) information to be output to the traveler.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Information Services	6	The center shall broadcast transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Information Services	7	The center shall provide transit vehicle transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Information Services	8	The center shall receive transit stop requests from travelers and provide them to the appropriate transit vehicles.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Information Services	9	The center shall receive trip requests from travelers, including those who are visually impaired which include the current location of the traveler.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Information Services	10	The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	1	The center shall coordinate schedules and services with traffic management, parking management, and event planning systems.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	2	The center shall share transfer cluster and transfer point information with other transit centers. A transfer cluster is a collection of stop points, stations, or terminals where transfers can be made conveniently.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	3	The center shall accept requests from traffic management to change routes and schedules as part of the implementation of demand management strategies.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	4	The center shall coordinate schedules and services with other transit centers	Planned
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	5	The center shall coordinate schedules and services with other surface or air transportation modes.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	6	The center shall provide transit operations personnel with the capability to control and monitor transit service coordination activities.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	7	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	8	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	9	The center shall collect asset restriction information from maintenance operations.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	10	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	1	The center shall process trip requests for demand responsive transit services, i.e. paratransit. Sources of the requests may include traveler information service providers.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	2	The center shall monitor the operational status of the demand response vehicles including status of passenger pick-up and drop-off.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	3	The center shall generate demand response transit (including paratransit) routes and schedules based on such factors as parameters input by the system operator, what other demand responsive transit schedules have been planned, the availability and location of vehicles, the relevance of any fixed transit routes and schedules, road network information, and incident information.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	4	The center shall dispatch demand response (paratransit) transit vehicles.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	5	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	6	The center shall disseminate up-to-date schedules and route information to other centers for demand responsive transit services (paratransit).	Operate
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	7	The center shall collect the log of passenger boarding and alighting from the paratransit vehicles.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	8	The center shall monitor real time location of demand response vehicles.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Paratransit Operations	9	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Passenger Counting	1	The center shall collect passenger count information from each transit vehicle.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Passenger Counting	2	The center shall calculate transit ridership data by route, route segment, transit stop, time of day, and day of week based on the collected passenger count information.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Center	Transit Management Center	Transit Center Passenger Counting	3	The center shall make the compiled ridership data available to the system operator.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	1	The center shall monitor transit vehicle operational data to determine if the transit vehicle is off-route and assess whether a security incident is occurring.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	2	The center shall receive reports of emergencies on-board transit vehicles entered directly by the transit vehicle operator or from a traveler through interfaces such as panic buttons or alarm switches.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	3	The center shall support the back-office portion of functionality to authenticate transit vehicle operators.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	4	The center shall provide transit incident information along with other service data to emergency centers.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	5	The center shall receive information pertaining to a wide-area alert such as weather alerts, disaster situations, or child abductions. This information may come from Emergency Management or from other Alerting and Advisory Systems.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	6	The center shall send wide-area alert information to travelers (on-board transit vehicles or at stations/stops) and transit vehicle operators.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	7	The center shall coordinate the response to security incidents involving transit with other agencies including Emergency Management, other transit agencies, media, traffic management, and traveler information service providers.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	8	The center shall receive threat information and status on the integrity of the transit infrastructure.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	9	The center shall provide support to remotely disable (or reset the disabling of) a transit vehicle in service.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Security	10	The center shall provide transit incident information to traveler information providers and the media.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Assignment	1	The center shall assign individual transit vehicles to transit blocks.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Assignment	2	The center shall download vehicle assignments to the transit vehicle prior to the start of the day's operations.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Assignment	3	The center shall provide an exception handling process for the vehicle assignment function. This process shall generate new supplemental vehicle assignments as required due to change events which occur during the operating day.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Assignment	4	The center shall provide an inventory management function for the transit facility that stores functional attributes about each vehicle owned by the transit operator. The functional attributes permit the planning and assignment functions to match vehicles with routes based on suitability for the types of service required by the routes.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Assignment	5	The center shall generate transit vehicle availability listings, current and forecast, to support transit vehicle assignment planning.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Assignment	6	The center shall provide transit operations personnel with the capability to update transit vehicle assignments and receive reports on transit vehicle inventory status.	Planned
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Tracking	1	The center shall monitor the locations of all transit vehicles within its network.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Tracking	2	The center shall determine adherence of transit vehicles to their assigned schedule.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Tracking	3	The center shall provide transit operational data to traveler information service providers.	Operate
Shafter Transit Center	Transit Management Center	Transit Center Vehicle Tracking	4	The center shall provide collected transit probe data to traffic management centers and traveler information service providers for use in measuring current traffic conditions.	Operate
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	1	The transit vehicle shall manage data input to sensor(s) on-board a transit vehicle to determine the vehicle's availability for use in demand responsive and flexible-route transit services based on identity, type, and passenger capacity.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	2	The transit vehicle shall receive the status of demand responsive or flexible-route transit schedules and passenger loading from the transit vehicle operator.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	4	The transit vehicle shall provide the capability to log passenger boarding and alighting and make passenger use data available to the transit center.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	1	The transit vehicle shall perform video and audio surveillance inside of transit vehicles and output raw video or audio data for either local monitoring (for processing or direct output to the transit vehicle operator), remote monitoring or for local storage (e.g., in an event recorder).	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	2	The transit vehicle shall perform local monitoring of video or audio surveillance data collected inside of transit vehicles, and identify potential incidents or threats based on received processing parameters.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	3	The transit vehicle shall output an indication of potential incidents or threats and the processed video or audio information to the center along with the vehicle's current location.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	4	The transit vehicle shall detect potential threats via sensors for chemical agents, toxic industrial chemicals, biological agents, explosives, and radiation.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	5	The transit vehicle shall detect potential threats via object detection sensors (e.g. metal detectors).	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	6	The transit vehicle shall output an indication of potential incidents or threats and the processed sensor information to the center along with the vehicle's current location.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	7	The transit vehicle shall accept sensor control data to allow remote control of the sensors.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	8	The transit vehicle shall monitor and output surveillance and sensor equipment status and fault indications.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	9	The transit vehicle shall accept emergency inputs from either the transit vehicle operator or a traveler through such interfaces as panic buttons, silent or audible alarms, etc.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	10	The transit vehicle shall output reported emergencies to the center.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	11	The transit vehicle shall receive acknowledgments of the emergency request from the center and output this acknowledgment to the transit vehicle operator or to the travelers.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	12	The transit vehicle shall be capable of receiving an emergency message for broadcast to the travelers or to the transit vehicle operator.	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	13	The transit vehicle shall be capable of being disabled or enabled based on commands from the center or authentic inputs from the transit vehicle operator	Planned
Shafter Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Security	14	The transit vehicle shall perform authentication of the transit vehicle operator.	Planned
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	1	The transit vehicle shall receive a vehicle assignment including transit route information, transit service instructions, traffic information, road conditions, and other information for the operator.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	2	The transit vehicle shall use the route information and its current location to determine the deviation from the predetermined schedule.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	3	The transit vehicle shall calculate the estimated times of arrival (ETA) at transit stops.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	4	The transit vehicle shall determine scenarios to correct the schedule deviation.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	5	The transit vehicle shall provide the schedule deviations and instructions for schedule corrections to the transit vehicle operator if the deviation is small, or the transit vehicle is operating in an urban area.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	6	The transit vehicle shall send the schedule deviation and estimated arrival time information to the center.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	7	The transit vehicle shall support the operations of a flexible route service. This may include requests for route deviations that would then lead to schedule corrective actions.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Schedule Management	8	The transit vehicle shall notify the transit center of vehicle location and operational status as the vehicle exits and returns to the transit facility to support future vehicle assignments.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	1	The transit vehicle shall perform video and audio surveillance inside of transit vehicles and output raw video or audio data for either local monitoring (for processing or direct output to the transit vehicle operator), remote monitoring or for local storage (e.g., in an event recorder).	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	2	The transit vehicle shall perform local monitoring of video or audio surveillance data collected inside of transit vehicles, and identify potential incidents or threats based on received processing parameters.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	3	The transit vehicle shall output an indication of potential incidents or threats and the processed video or audio information to the center along with the vehicle's current location.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	4	The transit vehicle shall detect potential threats via sensors for chemical agents, toxic industrial chemicals, biological agents, explosives, and radiation.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	5	The transit vehicle shall detect potential threats via object detection sensors (e.g. metal detectors).	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	6	The transit vehicle shall output an indication of potential incidents or threats and the processed sensor information to the center along with the vehicle's current location.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	7	The transit vehicle shall accept sensor control data to allow remote control of the sensors.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	8	The transit vehicle shall monitor and output surveillance and sensor equipment status and fault indications.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	9	The transit vehicle shall accept emergency inputs from either the transit vehicle operator or a traveler through such interfaces as panic buttons, silent or audible alarms, etc.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	10	The transit vehicle shall output reported emergencies to the center.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	11	The transit vehicle shall receive acknowledgments of the emergency request from the center and output this acknowledgment to the transit vehicle operator or to the travelers.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	12	The transit vehicle shall be capable of receiving an emergency message for broadcast to the travelers or to the transit vehicle operator.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	13	The transit vehicle shall be capable of being disabled or enabled based on commands from the center or authentic inputs from the transit vehicle operator	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Security	14	The transit vehicle shall perform authentication of the transit vehicle operator.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Operate
Shafter Transit Fixed-Route Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	1	The center shall manage service requests for routing of an individual through the transit system.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	2	The center shall provide transit plans for both fixed and demand responsive transit to transit passengers.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	3	The center shall be able to coordinate with Other Transit Management systems or Multimodal Transportation Service Providers to provide a complete multimodal trip plan.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	4	The center shall track the passenger through the transit network, and coordinate with Other TRM and Multimodal Transportation Service Providers so that the passenger makes efficient connections between the transit system and other transit systems or other modes of transportation.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	5	The center shall track transit vehicles and identify when connections between transit routes are in jeopardy due to the late arrival of a transit vehicle at a transfer stop or station.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	6	The center shall send schedule adjustments to a transit vehicle to protect a connection made with other transit vehicles.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	7	The center shall be able to provide a traveler with updates regarding their transit trip, including connection protection actions taken by the center.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Connection Protection	8	The center shall send schedule adjustments to a transit vehicle to protect a connection to be made by a specific traveler.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Data Collection	1	The center shall collect transit management data such as transit fares and passenger use, transit services, paratransit operations, transit vehicle maintenance data, etc.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the transit data or for the data itself.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Data Collection	4	The center shall be able to produce sample products of the data available.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Environmental Monitoring	1	The center shall collect current and forecast road and weather information from weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Environmental Monitoring	2	The center shall assimilate current and forecast road conditions and surface weather information to support incident management.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	1	The center shall manage the actual value of transit fares for each segment of each regular transit route, including the transmission of the information to transit vehicles and transit stops or stations.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	2	The center shall provide the capability for a system operator to manage the transit fares and control the exchange of transit fare information.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	3	The center shall process the financial requests from the transit vehicles or roadside and manage an interface to a Financial Institution.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	4	The center shall support the payment of transit fare transactions using data provided by the traveler cards / payment instruments.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	5	The center shall collect data on fare payment violations and send the data, including images of the violator, to the appropriate enforcement agency.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	6	The center shall process requests for transit fares to be paid in advance.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	9	The center shall maintain a list of invalid traveler credit identities or bad tag lists that can be forwarded to transit vehicles and transit stops or stations.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	10	The center shall collect fare statistics data to implement variable and flexible fare structures.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	11	The center shall exchange fare and load information with other transit management centers, including potential Centralized Payments facilities.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fare Management	12	The center shall provide transit fare information to traveler information providers upon request.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	1	The center shall generate transit routes and schedules based on such factors as parameters input by the system operator, road network conditions, incident information, operational data on current routes and schedules, and digitized map data.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	2	The center shall provide the interface to the system operator to control the generation of new routes and schedules (transit services) including the ability to review and update the parameters used by the routes and schedules generation processes and to initiate these processes	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	3	The center shall be able to generate special routes and schedules to support an incident, disaster, evacuation, or another emergency.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	4	The center shall dispatch fixed route or flexible route transit vehicles.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	5	The center shall collect transit operational data for use in the generation of routes and schedules.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	6	The center shall provide instructions or corrective actions to the transit vehicle operators based upon operational needs.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	7	The center shall manage large deviations of individual transit vehicles, deviations in rural areas, and deviations of large numbers of vehicles.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	8	The center shall generate the necessary corrective actions which may involve more than the vehicles concerned and more far reaching action, such as, the introduction of extra vehicles, wide area signal priority by traffic management, the premature termination of some services, etc.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	9	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	10	The center shall disseminate up-to-date schedules and route information to other centers for fixed and flexible route services.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	11	The center shall provide an interface to the archive data repository to enable the operator to retrieve historical operating data for use in planning transit routes and schedules.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	12	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Fixed-Route Operations	13	The center shall monitor transit vehicle schedule adherence to manage transit vehicle operations.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	1	The center shall provide travelers using public transportation with traffic and advisory information upon request. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	2	The center shall provide transit information to the media including details of deviations from schedule of regular transit services.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	3	The center shall exchange transit schedules, real-time arrival information, fare schedules, and general transit service information with other transit organizations to support transit traveler information systems.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	4	The center shall provide transit service information to traveler information service providers including routes, schedules, schedule adherence, and fare information as well as transit service information during evacuation.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	5	The center shall enable yellow pages (including non-motorized transportation) information to be output to the traveler.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	6	The center shall broadcast transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	7	The center shall provide transit vehicle transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	8	The center shall receive transit stop requests from travelers and provide them to the appropriate transit vehicles.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	9	The center shall receive trip requests from travelers, including those who are visually impaired which include the current location of the traveler.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Information Services	10	The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	1	The center shall coordinate schedules and services with traffic management, parking management, and event planning systems.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	2	The center shall share transfer cluster and transfer point information with other transit centers. A transfer cluster is a collection of stop points, stations, or terminals where transfers can be made conveniently.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	3	The center shall accept requests from traffic management to change routes and schedules as part of the implementation of demand management strategies.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	4	The center shall coordinate schedules and services with other transit centers	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	5	The center shall coordinate schedules and services with other surface or air transportation modes.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	6	The center shall provide transit operations personnel with the capability to control and monitor transit service coordination activities.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	7	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	8	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	9	The center shall collect asset restriction information from maintenance operations.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Multi-Modal Coordination	10	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	1	The center shall process trip requests for demand responsive transit services, i.e. paratransit. Sources of the requests may include traveler information service providers.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	2	The center shall monitor the operational status of the demand response vehicles including status of passenger pick-up and drop-off.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	3	The center shall generate demand response transit (including paratransit) routes and schedules based on such factors as parameters input by the system operator, what other demand responsive transit schedules have been planned, the availability and location of vehicles, the relevance of any fixed transit routes and schedules, road network information, and incident information.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	4	The center shall dispatch demand response (paratransit) transit vehicles.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	5	The center shall exchange information with Maintenance and Construction Operations concerning work zones, roadway conditions, asset restrictions, work plans, etc.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	6	The center shall disseminate up-to-date schedules and route information to other centers for demand responsive transit services (paratransit).	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	7	The center shall collect the log of passenger boarding and alighting from the paratransit vehicles.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	8	The center shall monitor real time location of demand response vehicles.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Paratransit Operations	9	The center shall receive information from Traffic Operations concerning road network conditions, incidents, and other impacts to the road network.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Passenger Counting	1	The center shall collect passenger count information from each transit vehicle.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Passenger Counting	2	The center shall calculate transit ridership data by route, route segment, transit stop, time of day, and day of week based on the collected passenger count information.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Passenger Counting	3	The center shall make the compiled ridership data available to the system operator.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Security	1	The center shall monitor transit vehicle operational data to determine if the transit vehicle is off-route and assess whether a security incident is occurring.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	2	The center shall receive reports of emergencies on-board transit vehicles entered directly by the transit vehicle operator or from a traveler through interfaces such as panic buttons or alarm switches.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	3	The center shall support the back-office portion of functionality to authenticate transit vehicle operators.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	4	The center shall provide transit incident information along with other service data to emergency centers.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	5	The center shall receive information pertaining to a wide-area alert such as weather alerts, disaster situations, or child abductions. This information may come from Emergency Management or from other Alerting and Advisory Systems.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	6	The center shall send wide-area alert information to travelers (on-board transit vehicles or at stations/stops) and transit vehicle operators.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	7	The center shall coordinate the response to security incidents involving transit with other agencies including Emergency Management, other transit agencies, media, traffic management, and traveler information service providers.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	8	The center shall receive threat information and status on the integrity of the transit infrastructure.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Security	9	The center shall provide support to remotely disable (or reset the disabling of) a transit vehicle in service.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Center	Transit Management Center	Transit Center Security	10	The center shall provide transit incident information to traveler information providers and the media.	Planned
Taft Area Transit Center	Transit Management Center	Transit Center Vehicle Tracking	1	The center shall monitor the locations of all transit vehicles within its network.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Vehicle Tracking	2	The center shall determine adherence of transit vehicles to their assigned schedule.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Vehicle Tracking	3	The center shall provide transit operational data to traveler information service providers.	Operate
Taft Area Transit Center	Transit Management Center	Transit Center Vehicle Tracking	4	The center shall provide collected transit probe data to traffic management centers and traveler information service providers for use in measuring current traffic conditions.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	1	The transit vehicle shall monitor vehicle schedule performance and provide it to the transit center for connection protection processing.	Planned
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	2	The transit vehicle shall receive operator instructions from the transit center relating to managing connection protection.	Planned
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Connection Protection	3	The transit vehicle shall recognize individual travelers who have arranged for connection protection and provide information regarding them to the transit center.	Planned
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	1	The transit vehicle shall read data from the traveler card / payment instrument presented by boarding passengers.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	2	The transit vehicle shall provide an image of all travelers which shall be used for violation processing of those who do not have a traveler card / payment instrument or whose transit fare transaction fails.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	3	The transit vehicle shall determine the traveler's travel routing based on the transit vehicle's current location and the traveler's destination.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	4	The transit vehicle shall calculate the traveler's fare based on the origin and destination provided by the traveler as well as factors such as the transit routing, transit fare category, traveler history, and route-specific information.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	5	The transit vehicle shall have access to the complete range of transit services (routes and schedules) that are available to the traveler.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	6	The transit vehicle shall provide a transit fare payment interface that is suitable for travelers with physical disabilities.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	7	The transit vehicle shall include a database on-board the transit vehicle for use in fare processing from which the fares for all possible trips within the transit operational network can be determined.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	8	The transit vehicle shall support the support advanced payments for tolls, and/or parking lot charges, and/or transit fares via the traveler card / payment instrument.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Fare Management	9	The transit vehicle shall provide fare statistics data to the center.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	1	The transit vehicle shall enable traffic and travel advisory information to be requested and output to the traveler. Such information may include transit routes, schedules, transfer options, fares, real-time schedule adherence, current incidents, weather conditions, and special events.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	2	The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	3	The transit vehicle shall support input and output forms that are suitable for travelers with physical disabilities.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	4	The transit vehicle shall gather transit advisory data, including alerts and advisories pertaining to major emergencies, or man-made disasters.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	5	The transit vehicle shall tailor the output of the request traveler information based on the current location of the transit vehicle.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Information Services	6	The transit vehicle shall provide to the transit vehicle operator transit stop requests received from travelers or from the transit center.	Planned
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	1	The transit vehicle shall manage data input to sensor(s) on-board a transit vehicle to determine the vehicle's availability for use in demand responsive and flexible-route transit services based on identity, type, and passenger capacity.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	2	The transit vehicle shall receive the status of demand responsive or flexible-route transit schedules and passenger loading from the transit vehicle operator.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	3	The transit vehicle shall provide the transit vehicle operator instructions about the demand responsive or flexible-route transit schedule that has been confirmed from the center.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Paratransit Operations	4	The transit vehicle shall provide the capability to log passenger boarding and alighting and make passenger use data available to the transit center.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	1	The transit vehicle shall track the current location of the transit vehicle.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	2	The transit vehicle shall support the computation of the location of a transit vehicle using on-board sensors to augment the location determination function. This may include proximity to the transit stops or other known reference points as well as recording trip length.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	3	The transit vehicle shall record transit trip monitoring data including vehicle mileage and fuel usage.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	4	The transit vehicle shall record transit trip monitoring data including operational status information such as doors open/closed, running times, etc.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	5	The transit vehicle shall send the transit vehicle trip monitoring data to center-based trip monitoring functions.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	6	The transit vehicle shall receive transit stop requests from travelers.	Planned
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle On-Board Trip Monitoring	7	The transit vehicle shall receive transit stop requests from Transit Operations	Planned
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	1	The transit vehicle shall count passengers boarding and alighting.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	2	The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	3	The passenger counts shall be timestamped so that ridership can be measured by time of day and day of week.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Passenger Counting	4	The transit vehicle shall send the collected passenger count information to the transit center.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	1	The transit vehicle shall determine the schedule deviation and estimated times of arrival (ETA) at transit stops.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	2	The transit vehicle shall send priority requests to traffic signal controllers at intersections, pedestrian crossings, and multimodal crossings on the roads (surface streets) and freeway (ramp controls) network that enable a transit vehicle schedule deviation to be corrected.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	3	The transit vehicle shall send the schedule deviation data and status of priority requests to the transit vehicle operator and provide the capability for the transit vehicle operator to control the priority system.	Operate
Taft Area Transit Demand Response Vehicle	Transit Vehicle OBE	Transit Vehicle Signal Priority	4	The transit vehicle shall prevent a priority request from being sent when the transit vehicle cannot use the priority (e.g., when the transit vehicle makes a passenger stop on the approach to an intersection).	Operate
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	1	The center shall collect maintenance and construction data (such as field equipment status, infrastructure status, maintenance and construction activity data) gathered from roadway, traffic, and other maintenance and construction sources.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the maintenance and construction data or for the data itself.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Data Collection	4	The center shall be able to produce sample products of the data available.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	1	The center shall respond to control data from center personnel regarding environmental sensor control and weather data collection and processing.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	2	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services) and local environmental sensor data.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	3	The center shall use the various data inputs of environmental sensors and road weather data to develop a view of current and predicted road weather and road conditions.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	4	The center shall disseminate current and forecasted road weather and road condition information to weather service providers (such as the National Weather Service and value-added sector specific meteorological services) as well as other agencies including traffic, emergency, and transit management, traveler information providers, rail operations centers, media, and other maintenance management centers.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Environmental Information Processing	5	The center shall provide value-added sector specific meteorological services with information on basic road facility and treatment information that supports forecasts for road conditions.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	1	The center shall receive inputs from the Alerting and Advisory System concerning the possibility or occurrence of severe weather, terrorist activity, or other major emergency, including information provided by the Emergency Alert System.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	2	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, etc.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	3	The center shall exchange incident and threat information with emergency management centers as well as traffic management centers; including notification of existence of incident and expected severity, location, time and nature of incident.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	4	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	5	The center shall respond to requests from emergency management to provide maintenance and construction resources to implement response plans, assist in clean up, verify an incident, etc. This may also involve coordination with traffic management centers and other maintenance centers.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	6	The center shall exchange road network status assessment information with emergency management and traffic management centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	7	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	8	The center shall receive information indicating the damage sustained by transportation assets, derived from aerial surveillance, field reports, inspections, tests, and analyses to support incident management.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Incident Management	9	The center shall receive evacuation information including evacuation zones, evacuation times, and reentry times from emergency operation centers.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	1	The center shall maintain an interface with asset management systems to track the inventory, restrictions, repair needs and status updates of transportation assets (pavement, bridges, signs, etc.) including location, installation and materials information, vendor/contractor, current maintenance status, standard height, width, and weight restrictions.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	2	The center shall respond to requests from emergency management and traffic management centers for hazard removal, field equipment repair, and other roadway maintenance.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	3	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	4	The center shall provide emergency management and traffic management centers with information about scheduled maintenance and construction work activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	5	The center shall collect the status and fault data from roadside equipment, such as traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	6	The center shall collect the status and fault data from the centers that operate the equipment, including data for traffic, infrastructure, and environmental sensors, highway advisory radio and dynamic message signs, automated roadway treatment systems, barrier and safeguard systems, cameras, traffic signals and override equipment, ramp meters, short range communications equipment, security sensors and surveillance equipment, etc., and provide a cohesive view of equipment repair needs.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	7	The center shall receive equipment availability and materials storage status information from storage facilities to support the scheduling of roadway maintenance and construction activities.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	8	The center shall collect current and forecast traffic and weather information from traffic management centers and weather service providers (such as the National Weather Service and value-added sector specific meteorological services).	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	9	The center shall dispatch and route maintenance and construction vehicle drivers and support them with route-specific environmental, incident, advisory, threat, alert, and traffic congestion information.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	10	The center shall manage an interface with center personnel to accept vehicle systems control information and remotely control maintenance and construction vehicle on-board equipment.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	11	The center shall track the status of roadway maintenance and construction activities by monitoring collected data from the dispatched vehicles and equipment.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	12	The center shall report the status of field equipment maintenance activities to the centers that operate the equipment.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	13	The Center shall provide the status of field maintenance actions to other centers.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	14	The Center shall track the status of field equipment maintenance actions.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	15	The Center shall accept information from other Centers that indicates which Connected Vehicle Roadside Equipment needs maintenance.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Roadway Maintenance	16	The Center shall accept field equipment maintenance action requests from other centers.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	1	The center shall provide work zone activities affecting the road network including the nature of the maintenance or construction activity, location, impact to the roadway, expected time(s) and duration of impact, anticipated delays, alternate routes, and suggested speed limits. This information may be augmented with images that provide a visual indication of current work zone status and traffic impacts.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	2	The center shall provide status information about scheduled maintenance and construction activities including anticipated closures and impact to the roadway, alternate routes, anticipated delays, closure times, and durations. The information is provided to other management centers such as traffic, emergency, transit, traveler information providers, other maintenance centers, multimodal transportation providers, rail operations, and the media.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	3	The center shall collect and respond to feedback concerning scheduled maintenance and construction activities with other management centers such as traffic, emergency, transit, and rail operations.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	4	The center shall collect and disseminate asset restriction information levied on transportation asset usage based on infrastructure design, surveys, tests, or analyses. This includes standard facility design height, width, and weight restrictions, special restrictions such as spring weight restrictions, and temporary facility restrictions that are imposed during maintenance and construction.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	5	The Center shall provide road infrastructure restriction information to other Centers.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	6	The center shall exchange information with administrative systems to support the planning and scheduling of maintenance and construction activities. This information includes: equipment and consumables resupply purchase request status, personnel qualifications including training and special certifications, environmental regulations and rules that may impact maintenance activities, and requests and project requirements from contract administration.	Planned
Tehachapi Public Works Center	Maintenance and Construction Management Center	MCM Work Activity Coordination	7	The center shall exchange rail schedules and work plans with rail operations centers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Basic Surveillance	1	The center shall monitor, analyze, and store traffic sensor data (speed, volume, occupancy) collected from field elements under remote control of the center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Basic Surveillance	2	The center shall monitor, analyze, and distribute traffic images from CCTV systems under remote control of the center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Basic Surveillance	3	The center shall monitor, analyze, and store multimodal crossing, high occupancy vehicle (HOV) and high occupancy toll (HOT) lane sensor data under remote control of the center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Basic Surveillance	4	The center shall distribute road network conditions data (raw or processed) based on collected and analyzed traffic sensor and surveillance data to other centers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Basic Surveillance	5	The center shall respond to control data from center personnel regarding sensor and surveillance data collection, analysis, storage, and distribution.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Basic Surveillance	6	The center shall maintain a database of surveillance equipment and sensors and associated data (including the roadway on which they are located, the type of data collected, and the ownership of each)	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Traffic Management Center	TMC Data Collection	1	The center shall collect traffic management data such as operational data, event logs, etc.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Data Collection	2	The center shall assign quality control metrics and meta-data to be stored along with the data. Meta-data may include attributes that describe the source and quality of the data and the conditions surrounding the collection of the data.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Data Collection	3	The center shall receive and respond to requests from ITS Archives for either a catalog of the traffic data or for the data itself.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Data Collection	4	The center shall be able to produce sample products of the data available.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Environmental Monitoring	1	The center shall remotely control environmental sensors that measure road surface conditions including temperature, moisture, icing, salinity, and other measures.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Environmental Monitoring	2	The center shall remotely control environmental sensors that measure weather conditions including temperature, wind, humidity, precipitation, and visibility.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Environmental Monitoring	3	The center shall assimilate current and forecast road conditions and surface weather information using a combination of weather service provider information (such as the National Weather Service and value-added sector specific meteorological services), data from roadway maintenance operations, and environmental data collected from sensors deployed on and about the roadway.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Environmental Monitoring	4	The center shall be able to receive road condition information from weather service providers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Environmental Monitoring	5	The center shall receive aggregated and processed vehicle environmental data collected from vehicle safety and convenience systems through the connected vehicle roadside equipment.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Environmental Monitoring	6	The center shall be able to share the collected environmental data with Maintenance and construction operations.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Environmental Monitoring	7	The center shall provide drivers road weather advisories at warnings.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	1	The center shall exchange alert information and status with emergency management centers. The information includes notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public. The information may include the alert originator, the nature of the emergency, the geographic area affected by the emergency, the effective time, and information and instructions necessary for the public to respond to the alert. This may also identify specific information that should not be released to the public.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	2	The center shall coordinate planning for incidents with emergency management centers - including pre-planning activities for disaster response, evacuation, and recovery operations.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	3	The center shall support requests from emergency management centers to remotely control sensor and surveillance equipment located in the field, provide special routing for emergency vehicles, and to provide responding emergency vehicles with signal preemption.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	4	The center shall exchange incident information with emergency management centers, maintenance and construction centers, transit centers, information service providers, and the media including description, location, traffic impact, status, expected duration, and response information.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	5	The center shall share resources with allied agency centers to implement special traffic control measures, assist in clean up, verify an incident, etc. This may also involve coordination with maintenance centers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	6	The center shall receive inputs concerning upcoming events that would affect the traffic network from event promoters, traveler information service providers, media, border crossings, and rail operations centers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	7	The center shall provide road network conditions and traffic images to emergency management centers, maintenance and construction centers, and traveler information service providers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	8	The center shall monitor incident response performance and calculate incident response and clearance times.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	9	The center shall exchange road network status assessment information with emergency management and maintenance centers including an assessment of damage sustained by the road network including location and extent of the damage, estimate of remaining capacity, required closures, alternate routes, necessary restrictions, and time frame for repair and recovery.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	10	The center shall coordinate information and controls with other traffic management centers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Incident Dispatch Coordination	11	The center shall receive inputs from emergency management and transit management centers to develop an overall status of the transportation system including emergency transit schedules in effect and status and condition of the transportation infrastructure.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	1	The center shall respond to requests from transit management centers for signal priority at one or more intersections along a transit route.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	2	The center shall exchange information with transit management centers including details current transit routes, the level of service on each route, and the progress of individual vehicles along their routes.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Multi-Modal Coordination	3	The center shall provide an integrated operations strategy for the parking facilities in the area. These strategies can include dynamic adjustments to parking fees and restrictions, and other active demand management strategies.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Regional Traffic Management	1	The center shall exchange traffic information with other traffic management centers including incident information, congestion data, traffic data, signal timing plans, and real-time signal control information.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Regional Traffic Management	2	The center shall exchange traffic control information with other traffic management centers to support remote monitoring and control of traffic management devices (e.g. signs, sensors, signals, cameras, etc.).	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	1	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) operational status.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	2	The center shall collect and store CCTV surveillance system (traffic, pedestrian) operational status.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	3	The center shall collect and store sensor (traffic, pedestrian, multimodal crossing) fault data and send to the maintenance center for repair.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	4	The center shall collect and store CCTV surveillance system (traffic, pedestrian) fault data send to the maintenance center for repair.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	5	The center shall collect environmental sensor operational status.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	6	The center shall collect environmental sensor equipment fault data and send to the maintenance center for repair.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Roadway Equipment Monitoring	7	The center shall exchange data with maintenance centers concerning the reporting of faulty equipment and the schedule/status of their repair. Information exchanged includes details of new equipment faults, and clearances when the faults are cleared.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	1	The center shall remotely control traffic signal controllers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	2	The center shall accept notifications of pedestrian calls.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	3	The center shall collect traffic signal controller operational status and compare against the control information sent by the center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	4	The center shall collect traffic signal controller fault data from the field.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	5	The center shall manage (define, store and modify) control plans to coordinate signalized intersections, to be engaged at the direction of center personnel or per a daily schedule.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	6	The center shall implement control plans to coordinate signalized intersections based on data from sensors.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	7	The center shall manage boundaries of the control sections used within the signal system.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	8	The center shall maintain traffic signal coordination including synchronizing clocks throughout the system.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	9	The center shall implement control plans to coordinate signalized intersections based on data from sensors and connected vehicles.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	10	The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	11	The center shall collect commercial vehicle data (e.g., characteristics, route, schedule) for intermodal freight events.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	12	The center shall adjust signal timing in respond to traffic and environmental parameters at each intersection in real time and adapts so that the traffic network is optimized using available green time to serve the actual traffic demands while minimizing the environmental impact.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	13	The center shall process collected traffic and environmental data from sensors and connected vehicles.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Signal Control	14	The center shall support requests from emergency management centers to provide responding emergency vehicles with signal preemption.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Situation Data Management	1	The center shall collect traffic probe data from vehicles via roadside field equipment.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Situation Data Management	2	The center shall collect road condition data from probe-equipped transit vehicles via transit management centers; the data may be aggregated and preliminarily processed at the sending center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Situation Data Management	3	The center shall collect traffic data from traveler information centers based on data from their subscriber vehicles; the data may be aggregated and initial link time calculations performed at the sending center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Situation Data Management	4	The center shall collect probe data from payment administrative centers containing travel times between toll collection points for those vehicles equipped for electronic toll collection; the data may be aggregated and processed at the sending center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Situation Data Management	5	The center shall collect operational status for the roadside probe data collection equipment.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Situation Data Management	6	The center shall collect fault data for the roadside probe data collection equipment for repair.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Standard Rail Crossing Management	1	The center shall collect highway-rail intersection (HRI) equipment operational status including both the current state or mode of operation and the current equipment condition.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	1	The center shall remotely control dynamic messages signs for dissemination of traffic and other information to drivers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	2	The center shall remotely control driver information systems that communicate directly from a center to the vehicle radio (such as Highway Advisory Radios) for dissemination of traffic and other information to drivers.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	3	The center shall collect operational status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	4	The center shall collect fault data for the driver information systems equipment (DMS, HAR, etc.) for repair.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	5	The center shall retrieve locally stored traffic information, including current and forecasted traffic information, road and weather conditions, traffic incident information, information on diversions and alternate routes, closures, and special traffic restrictions (lane/shoulder use, weight restrictions, width restrictions, HOV requirements), and the definition of the road network itself.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	6	The center shall distribute traffic data to maintenance and construction centers, transit centers, emergency management centers, parking facilities, and traveler information providers.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	7	The center shall distribute traffic data to the media.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	8	The center shall provide the capability for center personnel to control the nature of the data that is available to non-traffic operations centers and the media.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	9	The center shall collect current lane configurations status for the driver information systems equipment (DMS, HAR, etc.).	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	10	The center shall provide traffic information in both data stream and graphical display.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	11	The center shall provide drivers low emission zone restriction or fees information.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	12	The center shall receive alert notification of a major emergency such as a natural or man-made disaster, civil emergency, or child abduction for distribution to the public from emergency management.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	13	The center shall coordinate with emission management to establish low emission zone parameters based on air quality and transportation need.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Traffic Information Dissemination	14	Traffic management shall provide operators information on the state of transportation system operations within the low emissions zone.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	1	The center shall receive work zone images from a maintenance center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	2	The center shall analyze work zone images for indications of a possible incident.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	3	The center shall remotely control driver information systems (such as dynamic messages signs, highway advisory radios) to advise drivers of activity around a work zone.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	4	The center shall collect operational status for the driver information systems equipment in work zones.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	5	The center shall collect fault data for the driver information systems equipment in work zones for repair.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	6	The center shall receive proposed maintenance and construction work plans, analyze the activity as a possible incident, and provide work plan feedback to the sending center.	Planned
Tehachapi Public Works Center	Traffic Management Center	TMC Work Zone Traffic Management	7	The center shall receive temporary facility restrictions that are imposed during maintenance and construction.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	1	The field element shall collect, process, digitize, and send traffic sensor data (speed, volume, and occupancy) to the center for further analysis and storage, under center control.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	2	The field element shall collect, process, and send traffic images to the center for further analysis and distribution.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	3	The field element shall collect, digitize, and send multimodal crossing and high occupancy vehicle (HOV), and high occupancy toll (HOT) lane sensor data to the center for further analysis and storage.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	4	The field element shall return sensor and CCTV system operational status to the controlling center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Basic Surveillance	5	The field element shall return sensor and CCTV system fault data to the controlling center for repair.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	1	The field element shall accept configuration information from the center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Field Management Station Operation	2	The field element shall pass data provided by the center to local field devices and report data from the field devices back to the center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	1	The field element shall control traffic signals under center control.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	2	The field element shall respond to pedestrian crossing requests by accommodating the pedestrian crossing.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	3	The field element shall provide the capability to notify the traffic management center of pedestrian calls and pedestrian accommodations.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	4	The field element shall report the current signal control information to the center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	5	The field element shall report current preemption status to the center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	6	The field element shall return traffic signal controller operational status to the center.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	7	The field element shall return traffic signal controller fault data to the center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	8	The field element shall report current transit priority status to the center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	9	The field element shall report current intersection signal timing information to roadside equipment for transmission to connected vehicles.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	10	The field element shall receive request for transit vehicle signal priority.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	11	The field element shall receive request for commercial vehicle signal priority.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	12	The field element shall report current commercial vehicle priority status to the center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	13	The field element shall provide to roadside equipment the intersection geometry and signal phase movement information including phase and timing information, alarm status, and priority/preempt status.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	14	The field element shall provide data to the Connected Vehicle Roadside Equipment.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Control	15	The field element shall receive requests for emergency vehicle signal preemption.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	1	The field element shall respond to signal preemption requests from emergency vehicles.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	2	The field element shall inform the controlling center when preemption requests have been received.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Signal Preemption	3	The field element shall send the preemption request to the signal controller to immediately preempt the signal for the requested direction.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	1	The field element shall collect and process, traffic sensor data near a highway-rail intersection (HRI).	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	2	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the traffic management center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	3	The field element shall monitor the status of the highway-rail intersection (HRI) equipment, including both the current state and mode of operation and the current equipment condition, to be forwarded on to the rail wayside equipment.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	4	The field element shall receive track status from the rail wayside equipment that can be passed on to the traffic management center. This may include the status of the tracks and whether a train is approaching.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	5	The field element shall collect pedestrian images and pedestrian sensor data, and respond to pedestrian crossing requests via display, audio signal, or other manner.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	6	The field element shall control the dynamic message signs (DMS) near a highway-rail intersection (HRI) to advise drivers, cyclists, and pedestrians of approaching trains.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	7	The field element shall close the highway-rail intersection (HRI) when a train is approaching using gates, lights/signs, barriers, and traffic control signals.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	8	The field element shall support the integrated control of adjacent traffic signals to clear an area in advance of an approaching train and to manage traffic around the intersection.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	9	The field element shall forward rail traffic advisories received from the Wayside Equipment to the traffic management center.	Planned
Tehachapi Traffic Signal	ITS Roadway Equipment	Roadway Standard Rail Crossing	10	The field element shall warn drivers of crossing closures or potential crash-imminent situations.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	1	The vehicle shall provide its location with lane-level accuracy to on-board applications.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	2	The vehicle shall provide its location with road-level accuracy to on-board applications.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	3	The vehicle shall collect road condition data from other vehicles.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	4	The vehicle shall calculate vehicle paths to determine if an impending collision is detected.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	5	The vehicle shall exchange location and motion information with roadside equipment and nearby vehicles.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	6	The vehicle shall be able to receive warnings, informational road signs, traffic meters, and signals provided by infrastructure devices.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	7	The vehicle shall warn the driver of an Emergency Electronic Brake Light (EEBL) Event.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	8	The vehicle shall determine when its host Vehicle is braking in an emergency fashion and broadcast an Emergency Electronic Brake Light (EEBL) notification.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	9	The vehicle shall determine the status of host vehicle systems including vehicle speed, heading, yaw, wheel spin, ABS, traction control, and wiper status.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	10	The vehicle shall determine if vehicle systems status indicates a potentially hazardous road condition.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	11	The vehicle shall analyze its own applications' performance and enter fail-safe mode (a mode such that the application cannot provide information or perform actions that affect its host) when critical components fail.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Safety Communication	12	The vehicle shall notify the driver when onboard components or safety applications are offline.	Planned
Vehicles	Vehicle OBE	Vehicle Basic Toll/Parking Payment	1	The vehicle shall respond to requests from toll collection equipment for credit identity, stored value card cash, etc.	Operate
Vehicles	Vehicle OBE	Vehicle Basic Toll/Parking Payment	2	The vehicle shall respond to request from parking field equipment for credit identity, stored value card cash, etc.	Operate
Vehicles	Vehicle OBE	Vehicle Basic Toll/Parking Payment	3	The vehicle shall provide an interface to the driver to make requests for advance payments of tolls, parking, and transit fares and present the status of electronic payment transactions.	Operate
Vehicles	Vehicle OBE	Vehicle Basic Toll/Parking Payment	4	The vehicle shall provide an interface with the traveler card / payment instrument carried on-board the vehicle - to exchange identity information and payment transactions.	Operate
Vehicles	Vehicle OBE	Vehicle Basic Toll/Parking Payment	5	The vehicle shall present information to the driver in audible or visual forms without impairing the driver's ability to control the vehicle in a safe manner.	Operate

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Vehicles	Vehicle OBE	Vehicle Emergency Notification	1	The vehicle shall provide the capability for a driver to report an emergency and summon assistance.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	2	The vehicle shall provide the capability to accept input from a driver via a panic button or some other functionally similar form of input device provided as part of the in-vehicle equipment.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	3	The vehicle shall provide the capability to automatically identify that a collision has occurred using equipment such as collision detection sensors with an interface to mayday type equipment that would automatically detect vehicle problems and send appropriate distress signals to a center.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	4	The vehicle shall forward a request for assistance to a center containing the driver's current location, its identity and basic vehicle data relevant to its current condition, as well as any other data, such as personal medical history, vehicle orientation, etc., that may be developed in-vehicle by other systems.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	5	The vehicle shall acknowledge the driver's request for emergency assistance.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	6	The vehicle shall provide further details about the emergency to the center upon request from that function.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	7	The vehicle shall provide the capability to broadcast emergency alerts to remote connected vehicles or nearby roadside units.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	8	The vehicle shall provide the capability to receive and rebroadcast emergency alerts received from other remote connected vehicles.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	9	The vehicle shall broadcast information about the vehicle when a collision occurs, including: position, change in velocity, vehicle orientation, airbag status, call-back number, video, and multiple impact indicators.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	10	The vehicle shall broadcast information about the vehicle's occupants when a collision occurs, including: number of occupants, seat belt use, and passenger special medical needs.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	11	The vehicle shall broadcast information about the vehicle's contents when a collision occurs, including: freight equipment type (box, flatbed, trailer, container, etc.), type of cargo (refrigerated, non-perishable, liquid, etc.), hazardous material data, quantity of cargo, and cargo permits as applicable (hazmat, special routing permissions).	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	12	The vehicle shall determine if a received collision notification message should be retransmitted based on criteria such as the distance from position of message origin or the number of retransmissions already made.	Planned
Vehicles	Vehicle OBE	Vehicle Emergency Notification	13	The vehicle shall increment the number of retransmissions of a collision notification as part of the retransmitted message.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	1	The vehicle shall receive formatted traffic and travel advisories from a center and present them to the driver upon request.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	2	The vehicle shall receive travel alerts from a center and present them to the driver. Relevant alerts are provided based on pre-supplied trip characteristics and preferences.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	3	The vehicle shall receive yellow pages' information (such as lodging, restaurants, theaters, and other tourist activities) from a center and present it to the driver upon request.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	4	The vehicle shall receive event information from a center and present it to the driver upon request.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	5	The vehicle shall collect vehicle data and present it to the driver (including vehicle conditions, environmental conditions, safety and position warnings, and enhanced vision images) upon request.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	6	The vehicle shall provide the capability of translating signage for presentation to the driver, including fixed signage, situational messages, or work zone intrusion messages.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	7	The vehicle shall accept reservations for yellow pages' services, non-motorized transportation information and event information.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	8	The vehicle shall prioritize safety and warning messages to supersede advisory and broadcast messages.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	9	The vehicle shall base requests from the driver on the vehicle's current location, and filter the provided information accordingly.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	10	The vehicle shall accept personal preferences, recurring trip characteristics, and traveler alert subscription information from the driver and send this information to a center to support customized traveler information services.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	11	The vehicle shall support driver input in audio or manual form.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	12	The vehicle shall present information to the driver in audible or visual forms without impairing the driver's ability to control the vehicle in a safe manner.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	13	The vehicle shall receive information on evacuation resources including self-evacuation options, anticipated pickup time and location if a transportation asset is to be deployed, destination shelter, and supporting information on what to bring, estimated reentry date/time, from a center and present it to the traveler.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	14	The vehicle shall receive wide-area alerts from the center and present it to the traveler.	Planned
Vehicles	Vehicle OBE	Vehicle Interactive Traveler Information	15	The vehicle shall receive information on available parking including available spaces with associated information about parking restrictions and location for each available space.	Planned
Vehicles	Vehicle OBE	Vehicle Location Determination	1	The vehicle shall provide the vehicle's current location to other in-vehicle functions.	Operate
Vehicles	Vehicle OBE	Vehicle Location Determination	2	The vehicle shall calculate the location from one or more data sources including positioning systems such as GPS, sensors that track vehicle movement, and maps used to determine the likely vehicle route.	Operate
Vehicles	Vehicle OBE	Vehicle Location Determination	3	The Vehicle shall obtain position correction data from the Connected Vehicle Roadside Equipment.	Planned
Vehicles	Vehicle OBE	Vehicle Location Determination	4	The Vehicle shall apply position correction data to its base positional data.	Planned
Vehicles	Vehicle OBE	Vehicle Location Determination	5	The Vehicle shall provide its location with lane-level accuracy to on-board applications.	Planned
Vehicles	Vehicle OBE	Vehicle Location Determination	6	The Vehicle shall provide its location with road-level accuracy to on-board applications.	Planned
Vehicles	Vehicle OBE	Vehicle Mayday Notification	1	The vehicle shall provide the capability for a driver to report an emergency and summon assistance.	Planned

Element Name	Physical Object Name	Functional Object	Req #	Requirement	Status
Vehicles	Vehicle OBE	Vehicle Mayday Notification	2	The vehicle shall provide the capability to accept input from a driver via a panic button or some other functionally similar form of input device provided as part of the in-vehicle equipment.	Planned
Vehicles	Vehicle OBE	Vehicle Mayday Notification	3	The vehicle shall acknowledge the driver's request for emergency assistance.	Planned
Vehicles	Vehicle OBE	Vehicle Mayday Notification	4	The vehicle shall collect vehicle characteristics describing the vehicles typical and real time configuration, including damage to vehicle components.	Planned
Vehicles	Vehicle OBE	Vehicle Mayday Notification	5	The vehicle shall notify emergency responders of the characteristics and damage identified to the vehicle involved in a collision.	Planned
Vehicles	Vehicle OBE	Vehicle Mayday Notification	6	The vehicle shall provide the capability to automatically identify that a collision has occurred using equipment such as collision detection sensors with an interface to mayday type equipment that would automatically detect vehicle problems and send appropriate distress signals to the arriving public safety vehicles.	Planned
Vehicles	Vehicle OBE	Vehicle Mayday Notification	7	The vehicle shall collect vehicle operational state information from the host vehicle.	Planned
Vehicles	Vehicle OBE	Vehicle Mayday Notification	8	The vehicle shall analyze vehicle operational state information to determine if the host vehicle has been involved in a collision.	Planned
Vehicles	Vehicle OBE	Vehicle Situation Data Monitoring	1	The Vehicle shall obtain data collection parameters from Connected Vehicle Roadside Equipment.	Planned
Vehicles	Vehicle OBE	Vehicle Situation Data Monitoring	2	The Vehicle shall collect data collection parameters from Centers.	Planned
Vehicles	Vehicle OBE	Vehicle Situation Data Monitoring	3	The vehicle shall provide traffic-related data including snapshots of measured speed and heading and events including starts and stops, speed changes, and other vehicle control from vehicle.	Planned
Vehicles	Vehicle OBE	Vehicle Situation Data Monitoring	4	The Vehicle shall provide data to Centers in accordance with data collection parameters provided by Centers/Connected Vehicle Roadside Equipment.	Planned
Vehicles	Vehicle OBE	Vehicle Situation Data Monitoring	5	The Vehicle shall provide data to Connected Vehicle Roadside Equipment. in accordance with data collection parameters provided by Centers/Connected Vehicle Roadside Equipment.	Planned