DOWNTOWN BAKERSFIELD
PEDESTRIAN ACCESS TO TRANSIT PLAN

December 2020

PREPARED FOR
Kern Council of Governments

CALIFORNIA BICYCLE COALITION

CONTENTS

EXECUTIVE SUMMARY

This plan suggests improvements to the pedestrian environment in Bakersfield to increase connectivity to planned and existing transit. It builds off of the existing Bicycle and Pedestrian Safety Plan (2020), Kern Region Active Transportation Plan (2018), and Downtown Vision Plan (2018), focusing on pedestrian conditions within a ½ mile radius of the existing Amtrak station, the planned High-Speed Rail (HSR) station, and the planned bus rapid transit (BRT) route with a focus on the Amtrak and HSR stations. By creating an environment that prioritizes active transportation over automobile travel, Bakersfield will reap environmental, economic, and public safety benefits.

PLAN CONTENTS

- Analysis of existing pedestrian conditions surrounding planned and existing transit
- Summary of existing relevant plans
- Key findings and needs for improvements
- Best practices
- Recommendations on specific sites and corridors
- Next steps and implementation

SITE RECOMMENDATIONS

In addition to providing general recommendations, this plan offers a set of recommendations for six specific sites and corridors:

- Garces Circle
- Amtrak Station
- F Street and Golden State Avenue
- Chester Avenue from Kern River to 23rd Street
- California Avenue from K Street to Union Avenue
- Truxtun Avenue from Chester Avenue to Sonora Street

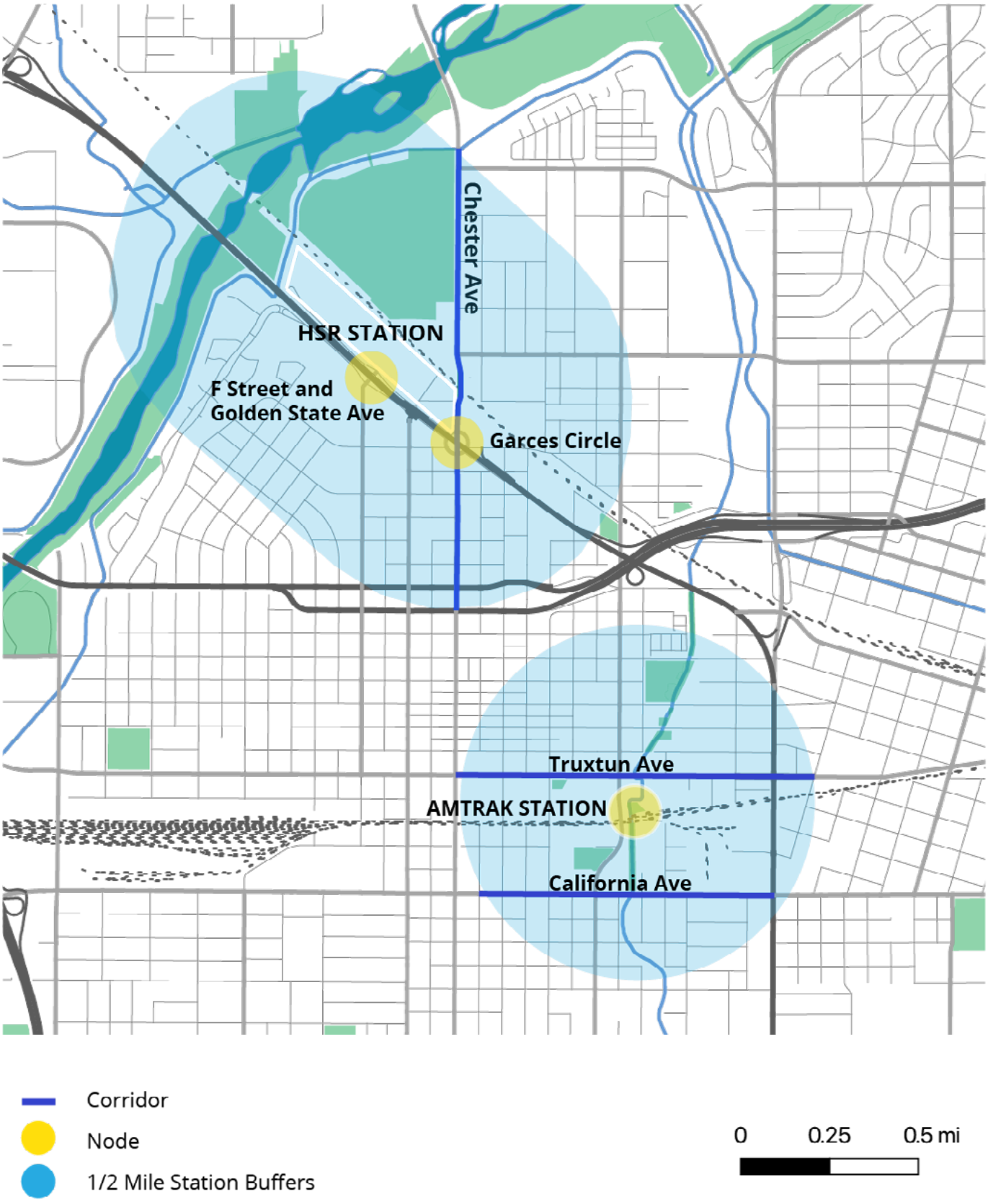

Figure 1: map of site recommendations

INTRODUCTION

EXISTING CONDITIONS

The conditions in Bakersfield prioritize automobiles and are hostile for pedestrians. According to the 2018 American Community Survey 5-Year Estimates, 92.6% of people drove to work, while only 1% took public transportation, .8% walked, and 2.1% used other means. People living below the poverty rate were more likely to take public transportation or walk. Among people living below the poverty rate, 3% took public transit, and 3% walked. Despite the fact that walking rates in Bakersfield are below state average and driving rates are above state average, a disproportionate number of collisions involve pedestrians. These statistics raise equity concerns, as those who rely on public or active transportation are likely more vulnerable. There are several key findings that can explain these statistics.

Insufficient Crosswalks

Marked crosswalks are infrequent on major commercial streets. While major intersections tend to have painted crosswalks, they are typically striped rather than continental, and in several places, the median encroaches on the crosswalk. In addition, wide turn radii, wide roads, and lack of pedestrian refuge islands mean that pedestrians have to cross long distances at intersections. There are rarely crosswalks, signalized or otherwise, on major-minor intersections, and there are no advanced stop markings at lights or stop signs.

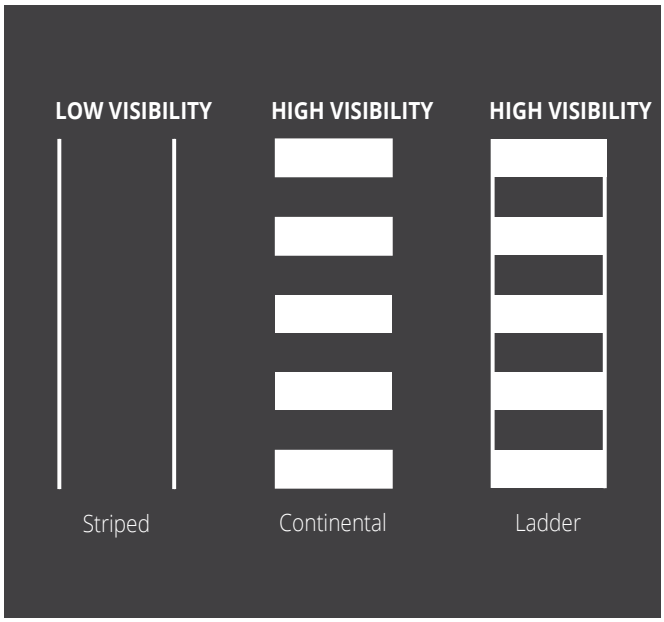

Figure 2: diagram of high and low visibility crosswalks

There are a few places in which crosswalks have been treated to be more pedestrian-friendly. For example, on Q Street between 17th and 21st Street, pedestrian crossing distances are made shorter with curb bump-outs, and crosswalks are continental. However, this treatment is a deviation from the norm.

Intersection of Q St and 21st St. Source: Google 2021 US Geographical Survey

Inconsistent Sidewalks
While major commercial roads consistently have sidewalks, they tend not to be as wide as would be recommended considering the number of lanes and speeds on these streets. In residential or industrial areas, there are frequent gaps in sidewalk coverage and often no curb cuts in these areas.

Figure 3: incomplete sidewalks at Panama St and 30th St

Lack of Amenities
In general, Bakersfield lacks shade from street trees and pedestrian-scale lighting, making the environment uninviting to pedestrians. A few notable exceptions exist, such as along Chester Avenue south of Golden State Avenue, which has more amenities such as street trees, lighting, benches, and trash cans.

Surplus of Surface Parking
An excess of surface parking in Downtown Bakersfield causes a less stimulating experience for pedestrians, as commercial areas often lack a consistent pedestrian-facing street wall. In addition, excess parking creates a more dangerous environment for pedestrians, as there are frequent interruptions in the sidewalk for driveway aprons.

EXISTING PLANS

In preparing this report, authors reviewed three existing plans: the 2020 Bicycle and Pedestrian Safety Plan (BPSP), the 2018 Kern Active Transportation (ATP) Plan, and the 2018 Downtown Vision Plan. Each of these plans has a slightly different focus, but they all aim to foster a more pedestrian-friendly environment in Bakersfield.

Bicycle and Pedestrian Safety Plan
The BPSP was completed by Alta Planning + Design in January 2020. It aims to "deliver a set of collision data collection tools, collision data analysis, and corridor improvements that can be applied throughout the city to improve safety for all." Through the collision data, which was collected through the Statewide Integrated Traffic Records System (SWITRS) and the Bakersfield Police Department, the report found that collisions involving pedestrians and cyclists were correlated with functional roadway classification (FRC), posted speed limits, land use, bicycle facilities, intersection control, and crosswalks. Collisions were more frequent and more often resulted in death on roads with higher FRCs, speed limits greater than 35 mph, and 4-6 lanes of traffic.

In addition, the plan identified 8 priority corridors with the idea that the suggestions from these corridors could be applied to other similar corridors. It then provided a concept

Corridor	BRT Study Area	Amtrak Study Area	HSR Study Area
California Avenue (Oleander Avenue to R Street)			
California Ave (Marella Way to Planz Road)			
Chester Ave (4th Street to Brundage Lane)			
Garces Memorial Circle			
Hageman Road (Brittany Street to Patton Way)			
Monterey St (Alta Vista Drive to Brown Street)			
Q Street (34th Street to 30th Street)			
Union Ave (21st Street to Belle Terrace)			

design for each of these corridors as well as a 30% design that could be implemented in the short-term. Of the 8 corridors, 6 of them are within ½ mile of the HSR station, Amtrak station, or BRT route, and four are in 2 of these study areas. The priority corridors are as follows:

This plan recommends that the City of Bakersfield implement the specific designs put forth in the BPSP. Suggested changes in the BPSP included:

- Curb extensions at signalized intersections
- Curb extensions and pedestrian-refuge islands at uncontrolled intersections
- Curb cuts and ramps at all signalized intersections
- High-visibility crosswalks/continental crosswalks
- Advanced stop markings at all signalized intersections
- Turn line markings at intersections for left turns
- Leading pedestrian intervals at signalized intersections
- HAWK or RRFB beacons
- Redesigned medians so they do not encroach on crosswalks
- Lighting improvements along corridor

Kern Region ATP

The Kern Region ATP was completed in 2018 by Alta Planning + Design in partnership with Kern Council of Governments (COG). The plan came out of the California Department of Transportation (Caltrans) Active Transportation Program and was paid for by the state cap and trade program. While the plan focuses on the entire Kern County, this report will focus on the recommendations specific to Bakersfield.

The Kern ATP aims to serve disadvantaged communities by providing bicycle and pedestrian infrastructure improvements and increasing access to transportation. Through these proposed improvements, it aims to increase mobility for people with disabilities and create economic benefits through lower transportation costs, local economic development, and job creation. The plan proposes updates to existing bicycle networks, new bikeways, end of trip facilities, pedestrian corridor improvements, and spot improvements.

Several important connections are identified in the ATP. These include the Kern River Parkway Path, the existing Amtrak station, four Golden Empire Transit (GET) centers, and the planned HSR station. The plan focuses on improving bicycle and pedestrian connections around these areas.

For pedestrian improvements, the plan proposes four types of interventions: sidewalk improvements, high-visibility crosswalks, crossing improvements, and corridor improvements. Corridor improvements

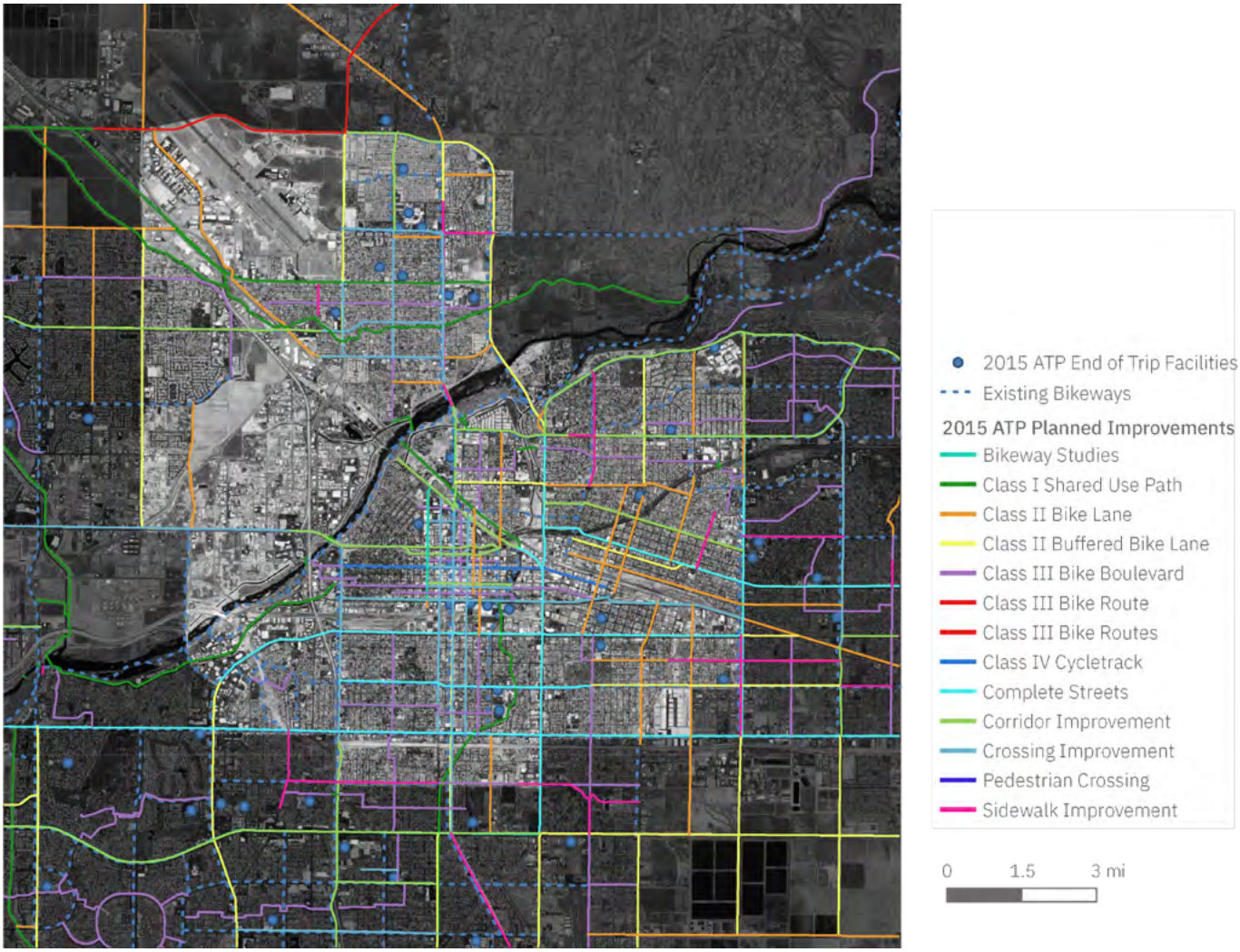

Figure 4: 2015 ATP Planned Improvements Map

include sidewalk gap closures, crosswalk enhancements, traffic calming measures, crossing improvements, and sidewalk improvements. There are also corridors identified for complete street studies. Included in the list of areas with proposed improvements are estimated costs, and the plan includes a list of possible new funding sources. This report recommends that Bakersfield implement changes proposed in the ATP. However, as the improvements proposed by the ATP tend to be applied to whole corridors and lack specificity in terms of specific locations and standards for improvements, the Downtown Bakersfield Pedestrian Access to Transit Plan aims to create more concrete recommendations within our study area.

Downtown Vision Plan

The Downtown Vision Plan, or the Downtown Bakersfield High-speed Rail Station Area Plan, was completed in May 2018 by Skidmore, Owings & Merrill (SOM) in partnership with the City of Bakersfield. The purpose of the plan is to "inspire future decisions and offer up best practices that will lay the groundwork for future development in Downtown Bakersfield through the next 10, 20, and 30 years." With careful planning and policy, the Vision Plan argues that the HSR station has the potential to spur future development and revitalize Downtown Bakersfield through infill development, new housing and job opportunities, and new connections.

The Downtown Vision Plan centers on three large proposals: the Wall Street Pedestrian Paseo, the Golden State Connector, and the Garces Circle Pedestrian Plaza. The Wall Street Pedestrian Paseo is a proposed expansion of a one block pedestrian corridor that will act as an outdoor mall and connect the densest part of Downtown to the historic core. Also a new project, the Golden State Connector will be a mixed-use trail that runs alongside the planned HSR route and will connect the existing Kern River Trail and Mill Creek Linear Park to the HSR station, essentially creating a "green loop" Downtown. Finally, the Garces Circle Pedestrian Plaza is a reimagining of an existing 7 road traffic circle that is currently auto-centric and hostile for pedestrians. With its proximity to the proposed HSR, the new Garces Circle will prioritize pedestrians and cyclists and act as a gateway to the station and to Downtown.

In addition to these three concepts the Downtown Vision Plan calls for upgrades to Chester Avenue, a shuttle connecting the HSR station to the Amtrak station, and the consolidation of surface parking lots into district parking facilities. Many of these changes, such as upgrades to Chester Avenue and Garces Circle and the removal of surface parking lots, will be discussed in this report.

KEY FINDINGS

Gaps in the pedestrian environment make driving more appealing than walking. Improving access to public transit and promoting walking for shorter trips will reduce air pollution caused by cars, increase the overall public health of the City residents by promoting an active lifestyle, and provide a boost to the economy, particularly local storefronts and small businesses in the core region. Commercial corridors that cater to pedestrians rather than cars generate more income from people passing by, and upgrades to the public realm will encourage more real estate development. In order to increase pedestrian connectivity around planned and existing transit, interventions need to be made to three main categories: intersections, sidewalks, and surrounding urban design. Reccomendations in this report are based on best practices outlined in the NACTO Urban Street Design Guide (2013).

INTERSECTIONS

As found in the BPSP, collisions involving pedestrians are more likely to occur at intersections with some form of treatment than elsewhere. While this is somewhat unsurprising, as people are more likely to come into contact with cars at intersections, it is also in part because the treatments at intersections tend to be insufficient. Freeway interchanges are also particularly dangerous and require additional measures.

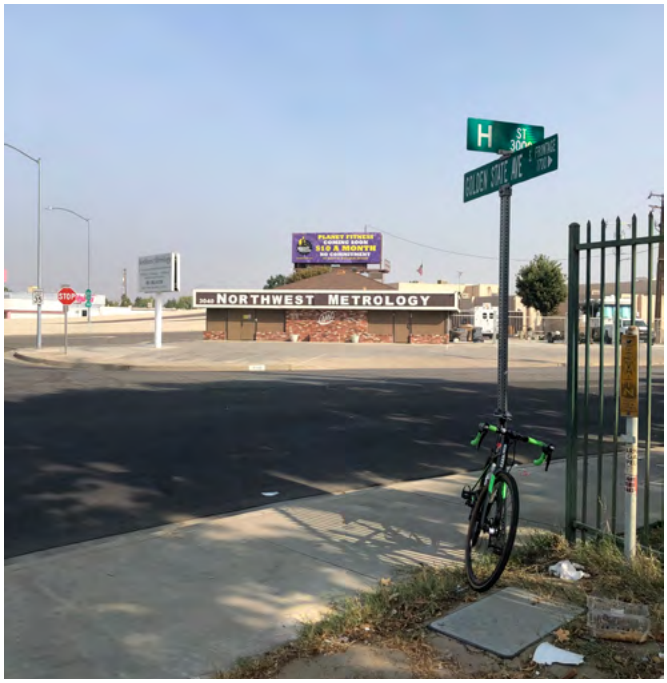

Figure 5: Unmarked intersection at H Street and Golden State Avenue

Existing Condition	Needed Improvement
There are too few crosswalks, and they are spaced too far apart. Typically, painted crosswalks only exist on major-major intersections.	More marked crosswalks need to be added. Ideally, signalized crosswalks should be the norm on any major street (i.e. a street with more than 3,000 ADT, speeds greater than 20 mph, and more than 2 lanes), and they should be spaced approximately 200 feet apart. This includes both major-major and major-minor intersections. They are not necessarily needed on minor-minor intersections, but some form of traffic calming measure is recommended.
The majority of painted crosswalks are striped.	Crosswalks should be high-visibility, especially at high risk intersections (i.e. surrounding schools, on streets with high collision rates).
On wide (i.e. 6 lane) roads, crossing distances are very long.	Measures such as bulbouts, pedestrian refuge islands, and leading pedestrian intervals (LPIs) should be implemented on such intersections in order to shorten the pedestrian travel distance. Interim measures, such as temporary curbs, bollards, or planters can be used to extend curbs at a lower cost.
In several places, medians encroach on the crosswalks.	Medians should be redesigned where they encroach on crosswalks to give pedestrians a clear path of travel.
Limit lines for stop lights and stop signs go right up to the intersection.	There should be advanced stop markings at every stop light and stop sign.

SIDEWALKS

Through outreach efforts for the ATP, residents expressed that sidewalks on major streets are too narrow, poorly maintained, and too close to traffic. They also expressed frustration with the lack of sidewalk coverage on residential streets and that the existing sidewalks do not meet ADA requirements.

Existing Condition	Needed Improvement
Sidewalk coverage is inconsistent on residential and industrial roads.	There should be consistent sidewalk coverage everywhere, including city and county-owned property.
Sidewalks typically do not have curb cuts in residential areas. Sidewalks typically have curb cuts in commercial areas, but not always.	According to the ADA, curb cuts are needed wherever sidewalks cross a curb.
Sidewalks on major commercial streets tend to be too narrow.	Ideally, sidewalks in dense urban cores should be 15-20', leaving room for street trees and street furniture. Barring sidewalk expansion, more immediate measures can be taken to add a barrier between pedestrians and traffic. For example, planting street trees or adding bollards, repurposing parking lanes, and adding parklets can increase pedestrian comfort.
Commercial corridors typically have curb cuts, but they drop off in the middle of the intersection.	Ideally, curb cuts should feed directly into the crosswalk. This could be achieved through two curb cuts or wider curb cuts.
Corner radii tend to be wide.	Tighter corner radii should be used to give pedestrians a shorter crossing distance and to slow down automobiles making a turn. Interim measures, such as bollards, temporary curbs, or planters can be implemented to achieve tighter corner radii at a lower cost.

URBAN DESIGN

The quality of the pedestrian environment is determined not just by the pedestrian facilities, but also by the surrounding environment.

By improving the public realm, the City of Bakersfield can encourage more people to walk to and engage with commercial areas rather than drive.

Existing Condition	Needed Improvement
Some parts of Bakersfield have street trees, but in general, street trees are lacking on both sidewalks and medians.	Street trees should be planted wherever possible on both sidewalks and medians. They improve pedestrian comfort by providing shade, beauty, and a buffer from traffic.
There is insufficient pedestrian-scale lighting.	Pedestrian-scale lighting should be widespread so that pedestrians feel safe both during the day and at night.
A large portion of land is taken up by surface level parking lots.	Surface parking should be filled in with infill development, and all parking should be street parking or district parking structures that are slightly removed from the urban core.
Buildings are often designed for cars over people (i.e. strip malls are common, commercial buildings have low transparency or don't have sidewalk facing entrances).	There should be a Downtown urban design guideline that creates pedestrian-oriented design standards for new development and includes mixed-use residential development.

BEST PRACTICES

The National Association of City Transportation Officials (NACTO) provides Federal Highway Authority (FHWA) approved design standards. The "Urban Street Design Guide" outlines best practices for making urban streets into successful public spaces, providing "the toolbox and the tactics cities use to make streets safer, more livable, and more economically vibrant." While the American Association of State and Highway Transportation Officials (AASHTO) has also published a widely used set of standards for roadway design, the "Urban Street Design Guide" is a more useful tool for urban settings. NACTO states, "While other national manuals, such as AASHTO's 'A Policy on Geometric Design of Highways and Streets,' provide a general discussion of street design in an urban context, the 'Urban Street Design Guide' emphasizes city street design as a unique practice with its own set of design goals, parameters, and tools." In addition, Caltrans endorsed the "Urban Street Design Guide" in the 2014 memorandum "Design Flexibility in Multimodal Design." This report will rely primarily on the guidelines outlined in the "Urban Street Design Guide."

INTERSECTION TREATMENTS

According to NACTO, marked crosswalks should be the norm on streets with higher speeds and volumes. This means that if a street has more than 3,000 average daily traffic (ADT), higher than a 20 mph speed limit, and more than 2 lanes, there should generally be a marked crosswalk at every intersection. In terms of spacing, there should be marked crosswalks approximately every 120-200', although this can vary. Signalized crosswalks should be permitted every 200', but unsignalized crosswalks can be closer together.

On streets with medium volumes, meaning there are fewer lanes and less traffic, there should still be marked crosswalks, but these can be unsignalized. However, traffic calming measures such as medians, hybrid or rapid flash beacons, or raised crossings may be used.

On low volume streets, painted crosswalks are not always necessary, but there should be marked crosswalks around high-pedestrian traffic locations, such as schools, churches, or senior centers. Implementing a Safe Routes to

School Project would be beneficial in providing safe crossings in key locations.

In addition to the frequency of marked crosswalks determining walkability, the quality of the crosswalk is also a factor. High visibility crosswalks, such as laddered crosswalks, are preferable to simple striped crosswalks. It is also important to keep crossing distances as short as possible. Crossing distances can be shortened by providing pedestrian safety islands, bulb-outs, and tighter corner radii. Having smaller corner radii, as small as two feet in some urban areas, not only extends the sidewalk, but also forces drivers to turn more slowly, limiting the risk for collisions. Turning speeds should be 15 mph or less. It is also preferable to have wide crosswalks. Crosswalks should be at least the width of the connected walkway.

Finally, pedestrian safety can be improved by leading pedestrians intervals (LPIs) by giving pedestrians a 3-7 second head start over traffic travelling in the same direction. This increases the visibility of crossing pedestrians to turning drivers, as the pedestrians will have a chance to enter the crosswalk before the car is permitted to drive. LPIs should be the norm at all major intersections.

For minor intersections where signalized crosswalks are not always necessary, there should still be traffic calming measures. These include raised intersections, which function similarly to a speed bump to slow down traffic. In addition, mini roundabouts and tighter corner radii lower automobile speeds, and corner bollards add a barrier for pedestrians against traffic.

SIDEWALKS

Sidewalks consist of four zones: the frontage zone, the pedestrian zone, the greenscaping/ furniture zone, and the curb zone. The frontage zone refers to the area abutting building facades and is typically the area for sidewalk cafés or building greenscape elements. The pedestrian zone is the unobstructed area where pedestrians walk. The greenscaping/ furniture zone is where street trees or street furniture go, and the curb zone is the 6" area with the curb.

The pedestrian zone should be at minimum 6', but NACTO recommends 8-12' in commercial or Downtown areas with at least a 2' greenscaping and/or furniture zone as a buffer. Sidewalk widths vary in Downtown Bakersfield, with a range of 5-15'. On high speed roads, such as arterials, more of a buffer against traffic is needed. This can be achieved through design elements such as street trees, bollards, and street parking. In addition, enhancement buffer zones, such as bike parking or bike share, can be beneficial. Local streets can have narrower sidewalks, but they should still be upgraded. There should also be curb cuts wherever the sidewalk crosses a curb.

PUBLIC REALM/ SURROUNDING DESIGN

A design overlay of Downtown Bakersfield will help activate the streets, bringing cultural and economic benefits. The commercial strips in Bakersfield are auto-oriented, and certain design standards could transform these corridors into thriving hubs. With road diets, additional parklets, lower speed limits and fewer traffic lanes, commercial centers are often more successful. In addition, successful urban design calls for a consistent street wall with interesting, high visibility displays and sidewalk-facing entrances. While surface parking lots and strip malls interrupt the sidewalk with driveway cuts and detract from the visual appeal, street parking can create a barrier against traffic and improve the pedestrian environment.. It is best to have denser, mixed use development in city centers so that the streets are activated both day and night, and attractive street lights help add to the urban character and make pedestrians safer. The goal is to create a consistent street character. This can be achieved through stylistically consistent street furniture, wayfinding, and shade structures. Community engagement is important when thinking of a vision for Downtown.

SPECIFIC RECOMMENDATIONS

Through analysis of existing conditions, several areas were identified in which interventions to the pedestrian environment would be particularly helpful in providing connections to existing and proposed transit. They are as follows:

Nodes
1. Garces Circle
2. Amtrak Station
3. F Street and Golden State Avenue

Corridors
1. Chester Avenue between the Kern River Trail and 23rd Street
2. California Avenue between K Street and Union Avenue
3. Truxtun Avenue between Chester Avenue and Sonora Street

GARCES CIRCLE

Garces Circle sits adjacent to the proposed High-speed Rail Station in downtown Bakersfield, and as one of the only places to cross Golden State Avenue as a pedestrian, it is an important connection. Currently, however, the site is auto-oriented and dangerous for pedestrians. In order to link Bakersfield and promote walking to transit, major changes need to be made to Garces Circle.

Existing Plans

Garces Circle is mentioned in the ATP, the Vision Plan, and the BPSP. The ATP calls for long-term and short-term bicycle parking in Garces Circle as well as well as a number of unspecified pedestrian corridor improvements. With its proximity to the proposed HSR station providing a link to the station, Garces Circle can be envisioned as a pedestrian gateway to Downtown. The plan mentions the potential removal of 3 of the 7 roads that flow into the circle and an addition of a bus lane. However, the details on how Garces Circle will transform into the Garces Pedestrian Plaza are unclear, and the site plan from the environmental impact report only shows two roads removed.

Finally, the BPSP presents the most cohesive plan for changes to Garces Circle. It includes repainted green bike lanes on surrounding streets, striped travel lanes, conflict striping and paint at entrances and exits of circle, continental crosswalks, curb cuts and ramps

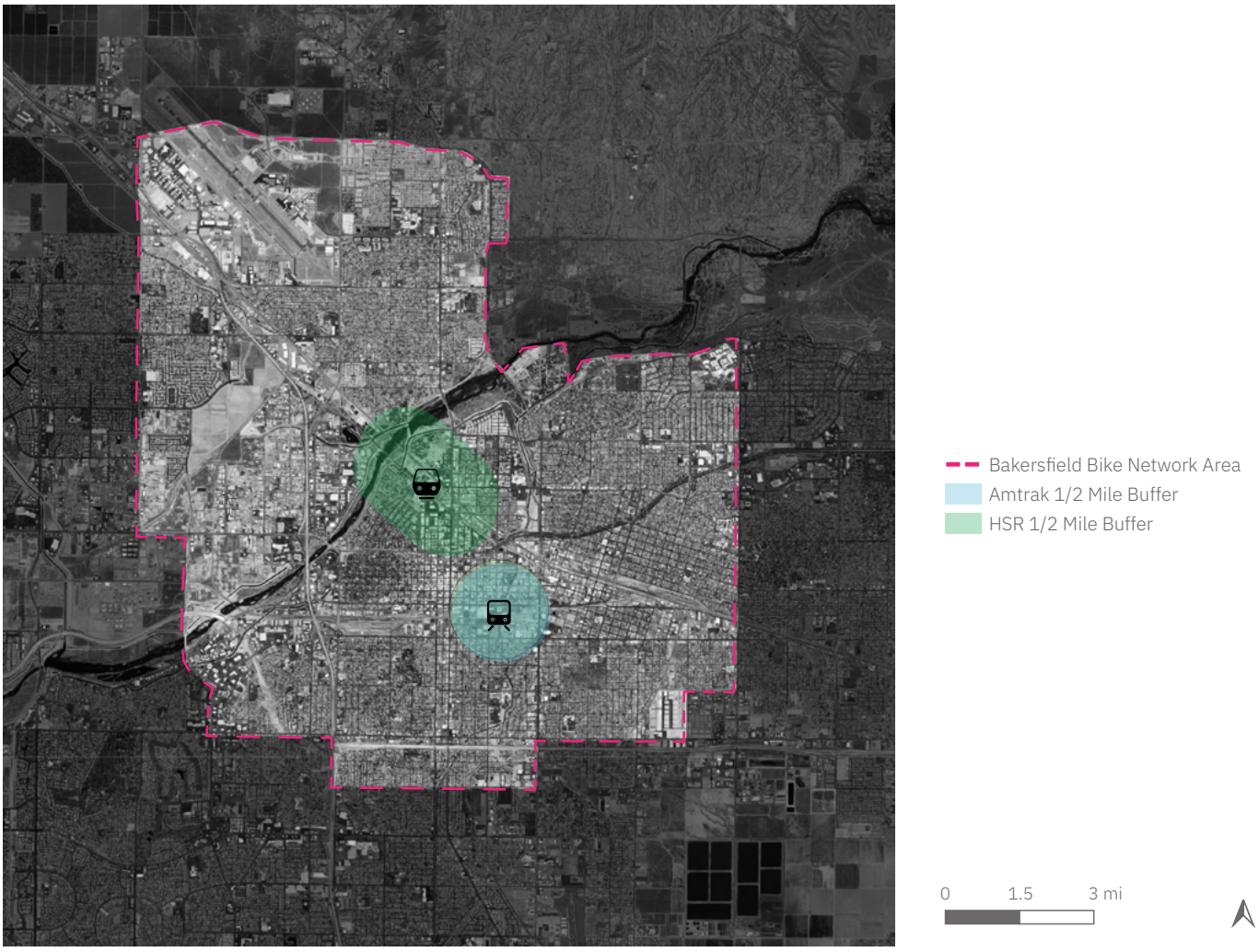

Figure 6: Study Areas in Downtown Bakersfield

at all crosswalks, pedestrian refuge island at splitters, lighting improvements, and wayfinding including improved street signs and directional signage.

Existing Conditions

Garces Circle is unsafe for pedestrians. Currently, there are no crosswalks at any of the 7 intersections, and the sidewalks are incomplete. Within the traffic circle, there are interrupted or missing sidewalks on Chester Avenue and Golden Avenue North Frontage or on Eye Street and 30th Street (see figure 8). In addition, the circle lacks trees or other street furniture, and it is surrounded by parking. Finally, lanes are not sufficiently marked, and limit lines and splitters encroach on pedestrian travel lines.

Recommendations

In order for Garces Circle to truly become pedestrian friendly, drastic changes need to

Figure 7: Garces Circle from Chester Ave, facing West towards 30th St

Figure 8: Existing conditions at Garces Circle

be made. While further traffic studies must be performed, removing the three frontage roads, as suggested in the Vision Plan, would greatly improve pedestrian safety and comfort. The complete list of suggestions suggestions are as follows:

- Upgrade Golden State Avenue and remove the three service roads
- Add continental crosswalks at all crossings with shortest possible crossing distance
- Add wayfinding to HSR station/ Downtown/ other transit
- Implement advance stop markings
- Place pedestrian refuge islands on both sides of Chester Avenue and both sides of 30th Street
- Add street trees
- Add pedestrian-scale lighting
- Create a continuous sidewalk
- Improve underpass through painting and lighting

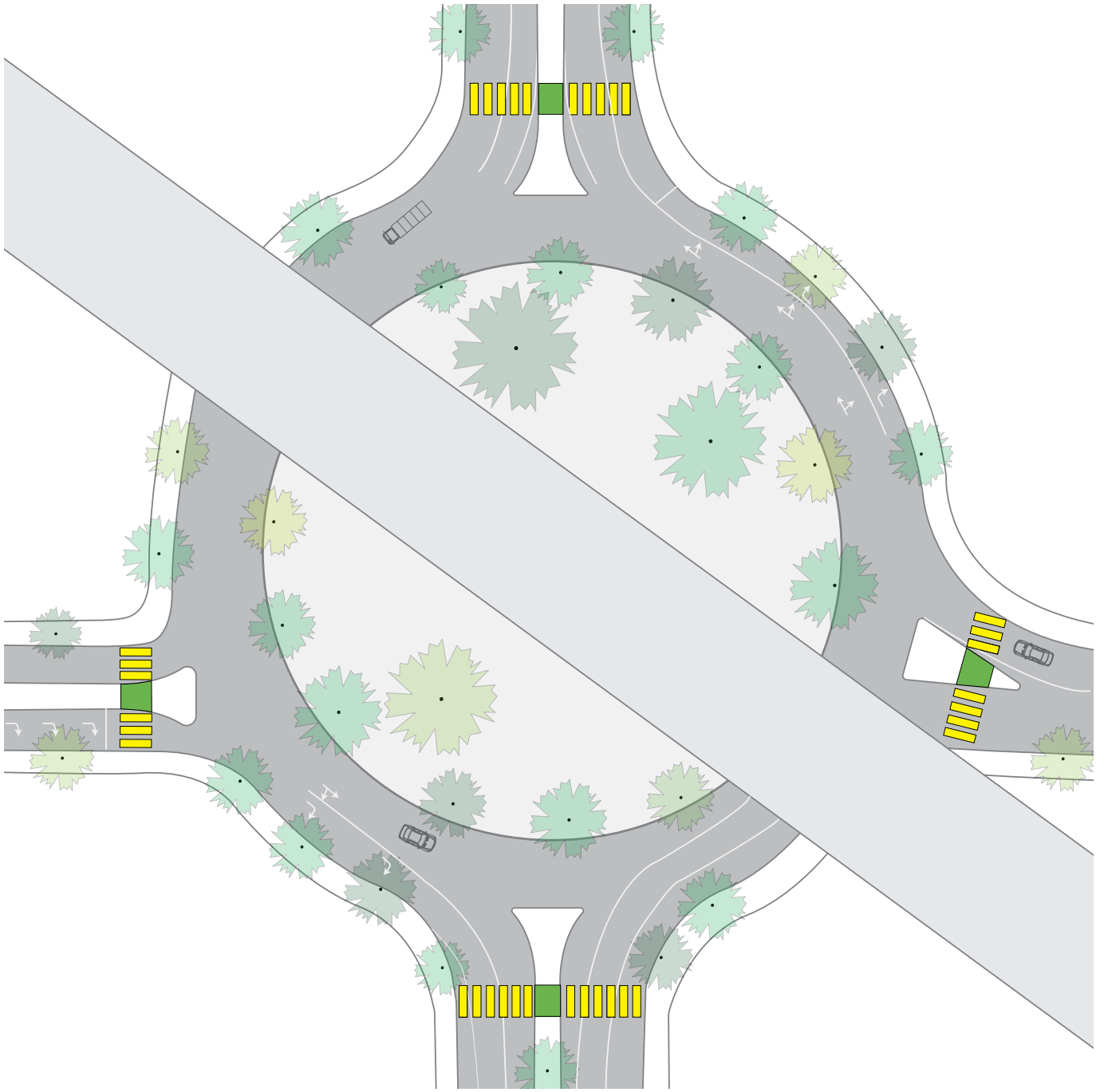

Figure 9: Proposed conditions at Garces Circle

AMTRAK STATION

The existing Amtrak station is well-situated in Downtown, but the design of the station as well as the surrounding streets make it difficult to access on foot.

Existing Plans

The Amtrak station is mentioned in the ATP and the Vision Plan. The ATP calls for more long-term bike parking at the station as well as a new class I shared-use path along the canal from Green Garden Drive to Fairfax Road. The path does not directly connect to the Amtrak station, but it runs along Q Street and Truxtun Avenue. The Vision Plan recommends the Amtrak station become a mobility hub where multiple forms of transportation are accessible.

The plan also includes a downtown shuttle between the HSR station and the Amtrak station. In addition, the plan proposes adopting a specific plan for the Amtrak District that will

promote denser, more pedestrian-oriented development, transforming the industrial area into a cultural hub, and a pedestrian bridge that will go over the railroad and connect the Amtrak station to future development.

Existing Conditions

The Amtrak station is south of Truxtun between S Street and U Street, situated between industrial uses to the south and mixed-use commercial uses to the north. The station is not sidewalk facing and is separated from Truxtun by the Beale Memorial Library and a parking lot. It can only be accessed north from Truxtun or west from Q Street, but accessing from Q Street requires pedestrians to walk through a parking lot. In addition, the blocks around the station are excessively long, and the street grid is broken up by the tracks. The station is not accessible from the south. While there is some wayfinding to the station, it is automobile centric. There is also an excessive amount of

Figure 10: View of Amtrak Station from S St and Truxtun Ave

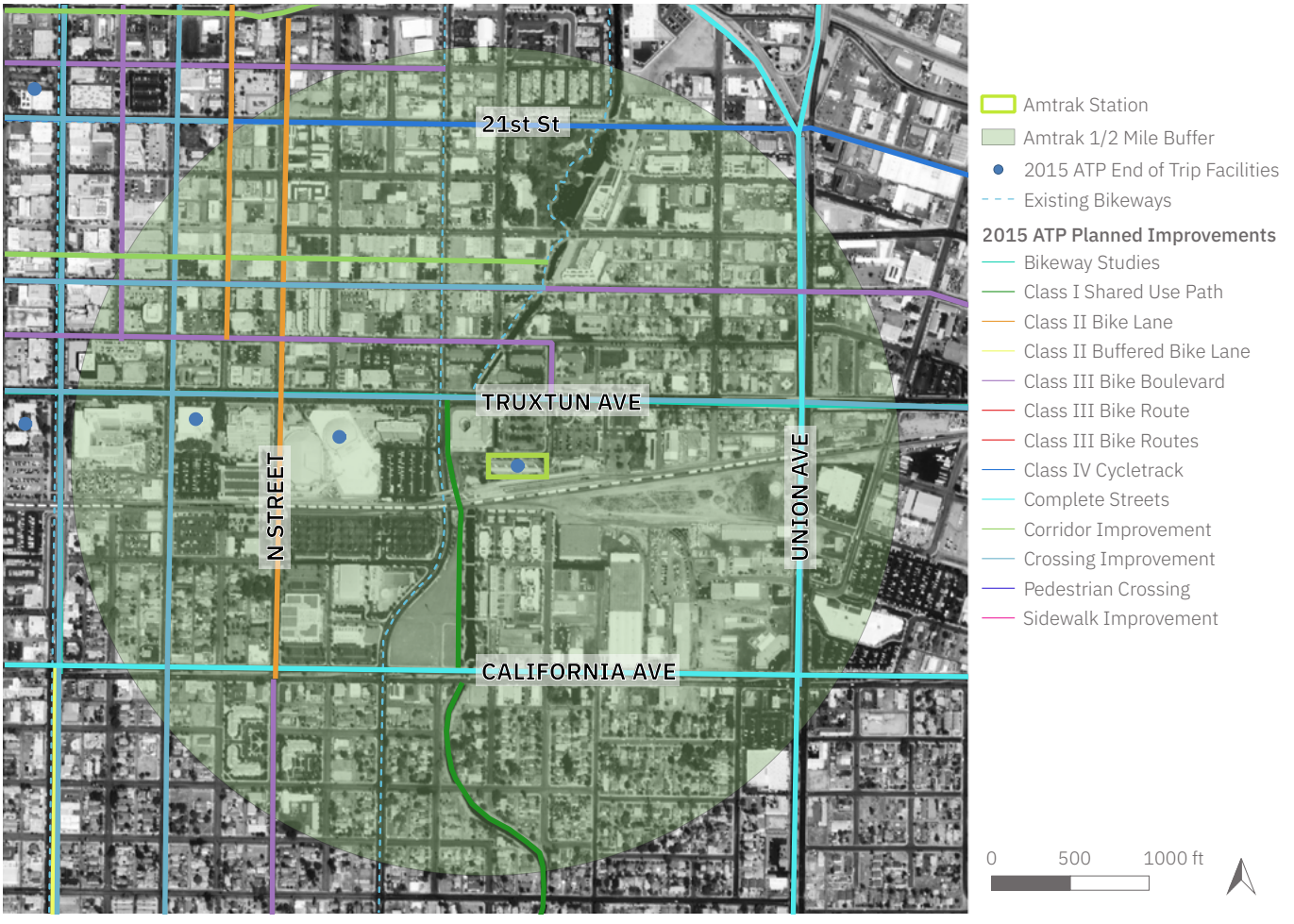

Figure 11: Amtrak Station Area Map

parking surrounding the station.

There are some amenities around the station that enliven the area. The 1.5 mile Mill Creek Linear Park runs west of the station and provides north and south pedestrian connections Downtown. There is also new development in the area, including a senior affordable housing northwest of the station, Mill Creek Village, and the planned Mill Creek Entertainment District between the canal and P Street and California Avenue and the railroad tracks. The area has the potential for transit-oriented development.

Recommendations

Ideally, the Amtrak station would fit the guidelines of transit-oriented development, meaning that the station would be facing a public square. Barring a complete redesign of the station, however, there are some measures that can be taken to make the station more accessible to pedestrians. They are as follows:

- Add pedestrian-oriented wayfinding to the station, particularly for pedestrians coming from the south and east
- Add a pedestrian bridge south of the station from S Street
- Add a fourth crosswalk on Truxtun Avenue

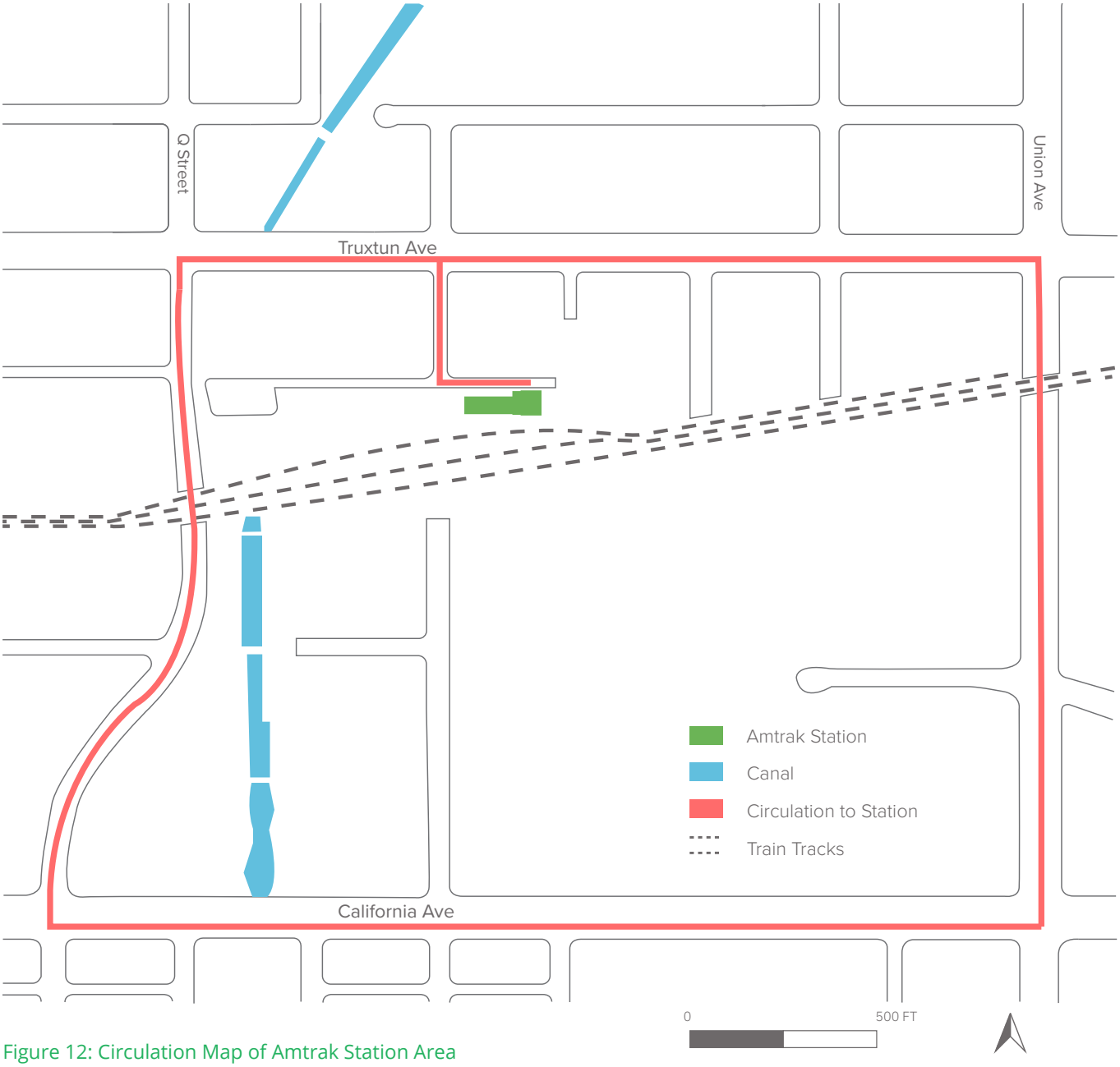

Figure 12: Circulation Map of Amtrak Station Area

and S Street and make crosswalks high visibility
- Add a stop sign and crosswalk at 16th Street and S Street
- Add a crosswalk and advanced stop marking at V Street
- Create direct pedestrian access from Q Street by removing parking directly behind the library and turning it into a sidewalk
- Create a direct connection from the planned shared use canal path to the station
- Coordinate with the City of Bakersfield to determine if a bike-share kiosk is viable.

F STREET AND GOLDEN STATE AVENUE

The intersection of F Street and Golden State Avenue will be the gateway to the planned High-Speed Rail Station. As one of the only places to cross Golden State Avenue, it is important that this intersection be carefully planned in a pedestrian-friendly mindset. Redesigning this intersection will help to link Bakersfield north and south of the highway.

Existing Conditions

The existing conditions of the intersection are treacherous to pedestrians. There currently exists a crosswalk across the western side of Golden State Avenue, but there are no crosswalks on the frontage streets or across F Street. The crosswalk is not ADA compliant, as it forces pedestrians to stand on a planted median with no curb cuts. Limit lines go right up to the crosswalk, and another median intersects the crosswalk, obstructing pedestrian travel. The crosswalk is curved rather than straight across, and the crossing distance is nearly 140'. There are wide turn radii, and there is a right turn slip lane from F Street to Golden State Avenue.

South of Golden State Avenue, on F Street, the sidewalk is surrounded by parking lots and lacks street trees. F Street ends north of the intersection at what is now an empty lot and is the planned location for the HSR station. Currently, there is no sidewalk along this empty lot on Golden State Avenue North Frontage.

Figure 13: Intersection of F Street and Golden State Avenue

Existing Plans

The ATP calls for pedestrian corridor improvements on Golden State Avenue from the Kern River Bikeway Trail to 24th Street. This area encompasses the intersection of Golden State Avenue and F Street. The listed improvements are high-visibility crosswalks, traffic calming measures, and lighting. The plan does not specify where in this corridor the improvements will be made.

The HSR Authority also has a vision for the intersection of F Street and Golden State Avenue. In their Environmental Impact Report (EIR), they provide a site plan of the station area. In this plan, F Street would pass under Golden State Avenue at a depression of 20'-25'. The sidewalk on F Street would be raised and would link to the station plaza.

Recommendations
As a highway intersection, the F Street and Golden State Avenue intersection requires a traffic impact study. While there are several options for re-design, it is important that pedestrians be prioritized. Ideally, Golden State Avenue would be converted into a boulevard. However, if this does not happen, and F Street is rerouted, the following criteria should be considered:

- Connect F Street to a sidewalk along Golden State Avenue North Frontage
- Ensure sidewalks are at least 12'
- Create a buffer between traffic and the sidewalk
- Add pedestrian-scale lighting
- Add a signalized intersection across F Street
- Remove all on and off ramps from the intersection

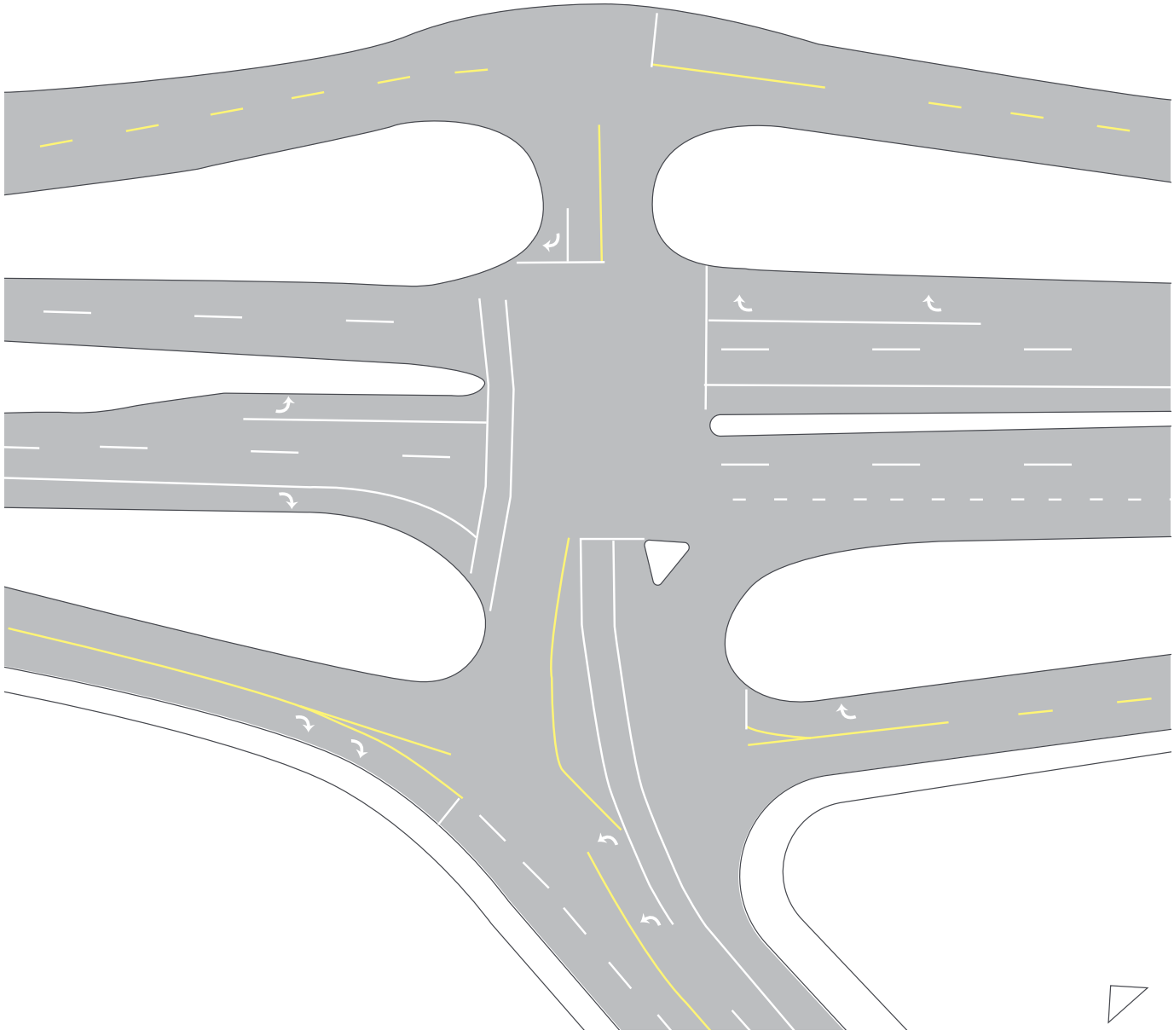

Figure 14: Existing Conditions on F Street/ Golden State Avenue intersection from HSR EIR

CHESTER AVENUE FROM KERN RIVER TO 23RD STREET

Chester Avenue is one of the main commercial thoroughfares in Downtown Bakersfield. Some improvements have been made to Chester Avenue to make it more pedestrian-oriented, but large portions of the corridor remain untreated. With its proximity to the planned HSR station, changes to Chester Avenue can attract more pedestrian traffic, spurring economic growth and creating opportunities for new development.

Existing Conditions

The portion of Chester Avenue within a ½ mile radius of the planned HSR station varies in quality of the pedestrian environment. Chester Avenue intersects with the Kern River Trail north of Golden State Avenue, but between the Kern River Trail and Golden State Avenue, conditions are hostile for pedestrians and cyclists. There are four lanes of travel plus a center turn lane and a largely unplanted concrete median. There is a gap in sidewalk coverage on the west side of Chester Avenue between the Kern River and Columbus Avenue. Where there are sidewalks, widths vary from 6' to 10'. Some areas have street trees, but coverage is sparse, and there is insufficient pedestrian-scale lighting. Uses are primarily industrial, but some commercial and public facilities exist. Many adjacent uses are parking, and there are frequent curb cuts for driveways. There are signalized, striped crosswalks at major-major intersections but not major-minor intersections. At the intersection of West Columbus Avenue and Chester Avenue, there is a striped crosswalk, but the median encroaches on the crosswalk. On the intersection of Chester Avenue and 34th Street, there is a crosswalk on two sides of the intersection.

South of Golden State Avenue, the pedestrian environment on Chester Avenue improves. There is consistent street tree coverage, and medians are planted. In addition, there are regular benches, trashcans, and pedestrian scale lighting as well as curb cuts and bollards at intersections. These elements help create a more cohesive neighborhood character. Signalized intersections are more frequent, but they are simple striped crosswalks. Apart

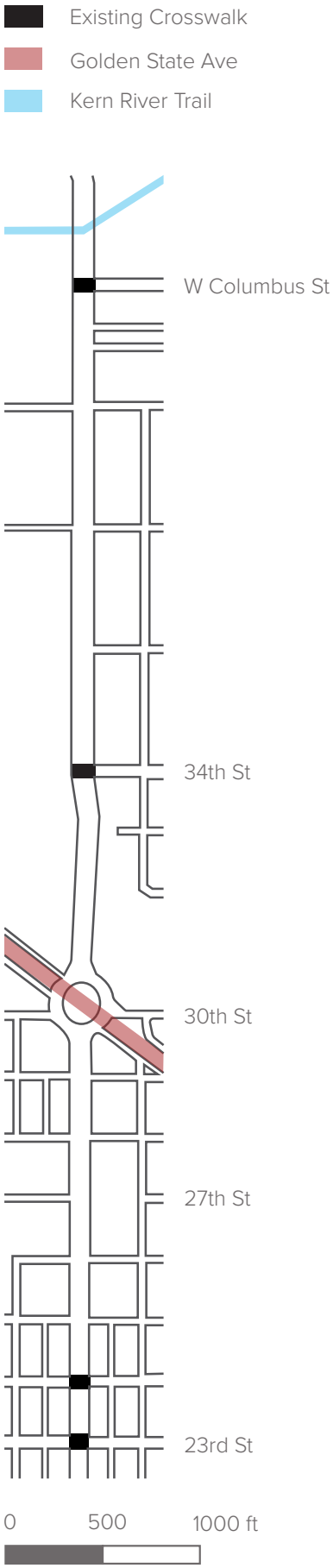

Figure 15: Chester Ave Study Area

from at Chester Avenue and 22nd Street, which is outside of the study range, there are no pedestrian refuge islands and wide curb cuts. Most major-minor intersections still do not have crosswalks, and stop sign limit lines encroach on the pedestrian path of travel. Uses south of Golden State Avenue are commercial, with office commercial west of Chester Avenue and Major Commercial east of Chester Avenue. There is a mix of sidewalk facing buildings and surface parking lots.

Figure 16: Northbound on Chester Ave to Kern River Parkway Trail entrance

Existing Plans
Reimagining Chester Avenue is a key component of the Vision Plan. The plan envisions Chester Avenue as a bustling mixed-use commercial corridor. Denser development, particularly around the station area, and reduced parking will help the street realize this vision. Without identifying specific intersections, the ATP also recommends pedestrian corridor improvements on Chester Avenue, specifically the addition of high-visibility crossings.

Recommendations
In order to link the area north of Golden State Avenue to Downtown Bakersfield, changes should be made to Chester Avenue to create a pedestrian friendly environment on both sides of the highway and maintain its unique character.

- Widen sidewalk between Kern River and West Columbus Street
- Add sidewalk where it is discontinuous between the Kern River Trail and West Columbus Street
- Add wayfinding around the Kern River trail
- Plant street trees in sidewalks and medians where there are none
- Add 3rd crosswalk on 34th Street
- Add pedestrian-scale lighting north of Golden State Avenue (consistent with lighting south of Golden State Avenue)
- Make existing crosswalks high visibility
- Readjust median where it encroaches on the crosswalk on West Columbus Street,
- Add advanced stop markings at all intersections
- Add crosswalks across minor streets

CALIFORNIA AVENUE FROM K STREET TO UNION AVENUE

California Avenue is a major access point for the Amtrak station, as it is the closest corridor south of the station that is continuous and connects major roads east and west of the station. California Avenue connects residential uses south of it to the station. However, the corridor prioritizes automobiles.

Existing Conditions
California Avenue is a major east-west arterial corridor in Downtown Bakersfield. From K Street to Union Avenue, it is abutted by mixed-use commercial and general commercial uses with residential uses south of the strip. The street is about 100’ with 6 travel lanes, a turn lane, and a median. Despite the wide roads and fast travel speeds, sidewalks are only about 7’ with no street trees or other buffers. There are few opportunities to cross the street. From Chester to P Street, there is a signalized crosswalk every two blocks with stop-on-minors on streets without crosswalks, but there are no

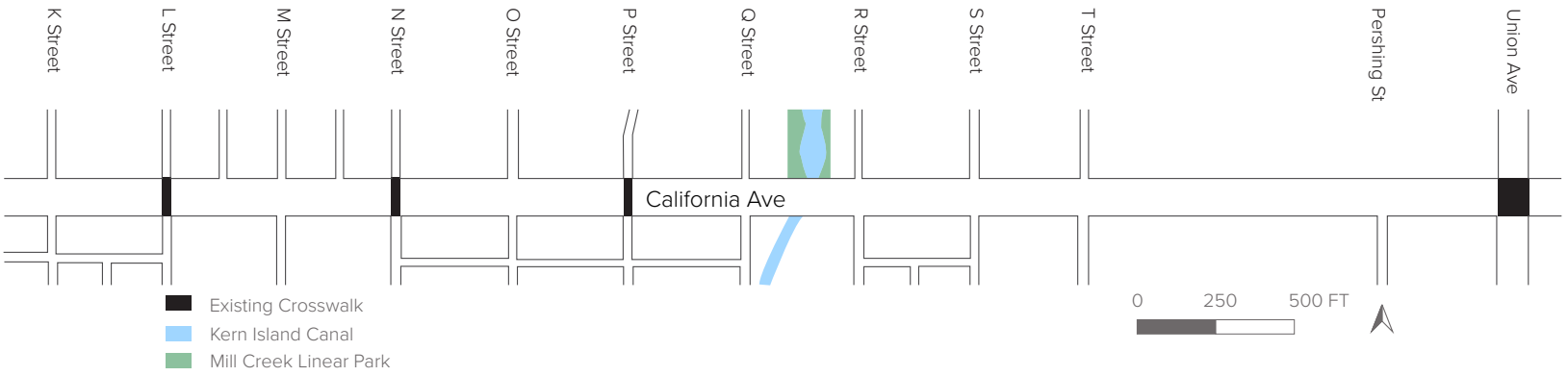

Figure 17: California Ave Study Area

crosswalks between P Street and Union Avenue, a distance of nearly ½ mile. Several streets are also missing curb cuts, making it inaccessible. As with most other streets in Downtown Bakersfield, signalized intersections have striped crosswalks with long crossing distances, and stop-on minors do not have crosswalks and have limit lines that encroach onto the pedestrian right-of-way.

Existing Plans

The ATP identifies California Avenue for a complete streets study. It recommends traffic calming measures and high-visibility crossings. There are additional improvements outlined in the ATP and the BPSP, but they are for areas of California Avenue not within this study area.

Recommendations

As a commercial corridor near a residential area, making changes to increase pedestrian comfort would activate the area and improve the local economy. It is also an important street for access to the Amtrak station, and pedestrian-oriented improvements would encourage people to walk rather than drive to the station. These are the recommendations on how to improve this section of California Avenue:

- Add advanced stop marking and crosswalks across minor streets on K Street, M Street, Q Street, R Street, S Street, T Street, and Pershing Street
- Add high-visibility crosswalks and traffic calming measures on S Street
- Add LPI, bulb-out, and continental crosswalks on L Street, N Street, P Street, and Union Avenue
- Add pedestrian safety islands on California Avenue at P Street, and remove second left turn lane
- Restructure median that is encroaching on crosswalk on Union Avenue
- Expand the sidewalk to at least 10’ along the corridor
- Add street trees along the corridor
- Add lighting improvements along corridor

TRUXTUN AVENUE FROM CHESTER AVENUE TO SONORA STREET

The Amtrak station is adjacent to the east/west corridor Truxtun Avenue. Truxtun Avenue has several civic buildings and some improvements to the pedestrian environment. With additional changes, it has the potential to be a major pedestrian thoroughfare.

Existing Conditions

Truxtun Avenue is a collector road that is zoned for mixed-use commercial uses in the study area. The corridor also has several civic buildings such as the county courthouse, hall of records, city hall south, the convention center, and the Beale Library. The road has bus transit, 6 lanes of traffic and a center turn lane, a median, and street parking. Several of the civic buildings, such as the courthouse and the convention center, have pedestrian plazas with seating and shade trees, medians are planted with mature trees, and there is some street tree coverage on sidewalks. Conditions decline east of V Street, however. There is a bridge over CA-204 that is not accessible to pedestrians and two service roads that intersect with the highway. There is no safe way to cross the highway, and the sidewalk ends on the eastern service road north of CA-204.

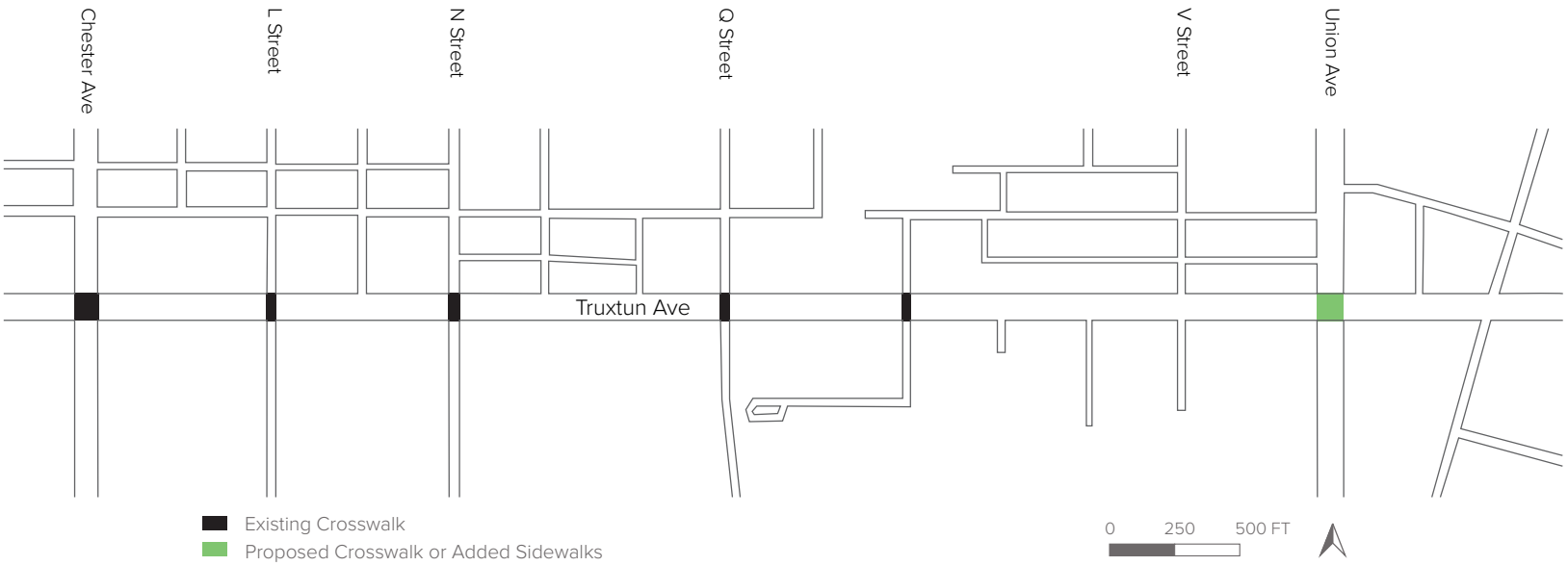

Figure 18: Truxtun Ave Study Area

The intersections at Truxtun Avenue and Q Street and Truxtun Avenue and Chester Avenue have more treatments than other intersections. Though the crosswalks are striped, they are filled in with pavers, differentiating the crosswalks from the roads. The areas around the curbs are also treated with red pavers and bollards, drawing attention to them and protecting them from oncoming traffic, and there are wide curb cuts that lead into both sides of the crosswalk. However, long crossing distances, and a lack of advanced stop markings detract from the pedestrian-friendly environment. Other signalized intersections have low-visibility striped crosswalks, a smaller curb cut that does not lead directly into the crosswalks, and no bollards. On Truxtun Avenue and L Street, the median encroaches onto the crosswalk. Along the corridor, there is a lack of pedestrian-scale lighting.

Existing Plans

The ATP calls for a bikeway study on Truxtun Avenue between Oak Street and Washington Avenue. However, there are no recommendatios for the portion of Truxtun Avenue that falls within this plan's study area.

Recommendations

Though some changes have been made to Truxtun Ave to make it more pedestrian friendly, several areas require improvements:

- Readjust median where it impedes on the sidewalk at Chester Avenue and L Street
- Add high-visibility crosswalks at L Street, N Street, S Street, and Sonora Street

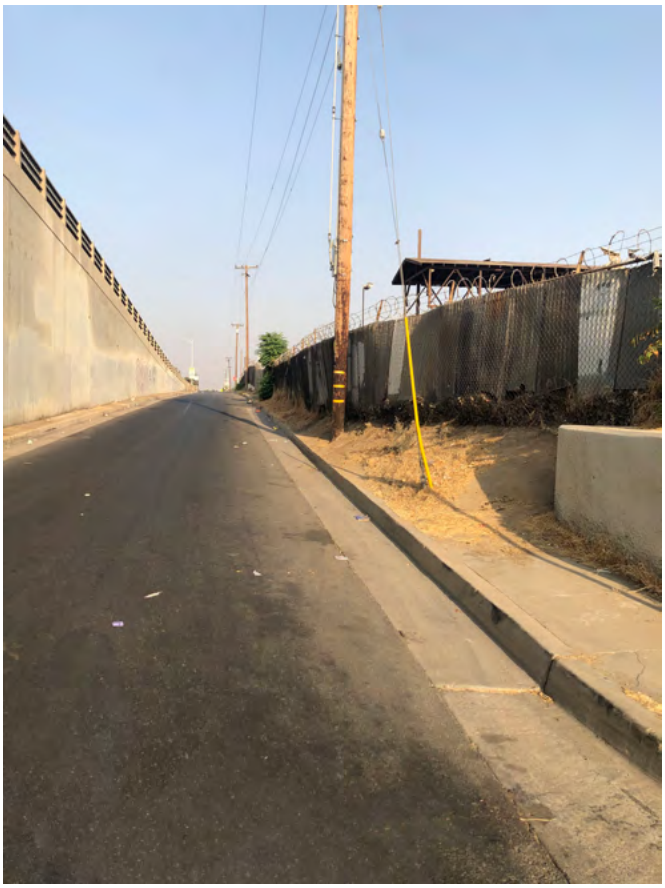

Figure 19: East Truxtun facing Sonora Street

- Add a fourth crosswalk at S Street (Also in Amtrak recommendations)
- Add advanced stop lines at all intersections
- Add curb bump-out + LPIs at Chester Avenue, L Street, N Street, Q Street, S Street,
- Add a signalized crosswalk at CA-204 intersection or add sidewalks to bridge
- Add a sidewalk on south Truxtun Service Road east of CA-204

Figure 20: Intersection of Truxtun Avenue and Q Street with pedestrian improvements

BUS RAPID TRANSIT FIRST/LAST MILE GUIDANCE

There are plans for a bus rapid transit (BRT) route in Bakersfield and a proposed route, although these are not finalized. The route runs primarily along major streets with existing bus infrastructure, and there are suggested stops near the proposed HSR station and near the Amtrak station. The addition of BRT has the potential to expand the public transit system in a way that is affordable, reliable, and efficient. BRT also activates streets with stations, contributing to the local economy, and improves the environment.

BRT BEST PRACTICES

General Bus Best Practices

- Station/ stops
  - Shade trees
  - Transparent structures/ shelters
  - Seating
  - Distinctive branding + station design including easily understood directions and hours of service
  - Pedestrian-scale lighting
- Location
  - Nearby all-hour activities
  - Nearby bike-share, car-share (create mobility hubs)
  - Direct pedestrian route to transit
  - Low-delay crossings near transit
  - Accessible to people of all ages + abilities
  - BRT- specific best practices

BRT- SPECIFIC BEST PRACTICES

- At level boarding
- Dedicated only bus lanes, typically in the center of the street
- Frequent and reliable service
- Prepaid fair collection
- Stations positioned along key commercial areas
- Priority traffic signals
- Landscaping
- Bike racks and lockers at all stations
- Bus depots at beginning and end of route
- Crosswalks with countdowns to stations

EXISTING CONDITIONS + PLANS

As the proposed BRT route runs along existing bus routes, some infrastructure is already in place, such as sheltered bus stops and crosswalks at major intersections. However, crosswalks tend to be spaced too far apart

and have the minimum possible treatment. In addition, most of the streets on the proposed routes have medians, but they tend to be unplanted.

The Vision Plan outlines a rough plan for BRT implementation. It breaks implementation into two phases: BRT-lite and BRT full. BRT-lite is to be implemented in the first ten years and acts as a pilot for BRT full. The BRT-lite strategy includes increased frequency of trips, transit-priority street lights, pre-paid boarding, and upgrades to Chester Avenue and California Avenue. In addition, the plan aims to leverage these improvements to upgrade route branding. This branding includes well-styled route maps, information about the area on the busses, and clear signage about the route and the bus.

In addition, BRT-lite will include an 8' parking lane, a 5' bike lane protected by an 8' bus shelter island, a 12' bus lane, a 12' drive lane, and a 12' median that turns into a 1' median and 11' turn lane at intersections. In addition, there will be infill mixed-use retail around stations to promote activity at all hours. After HSR arrives, BRT-lite will be upgraded to BRT full. BRT full will have center bus lanes, stations, expedited ticketing, and a 20' center buffer, excluding station areas.

RECOMMENDATIONS

To optimize the benefits of the BRT, the route and its surrounding facilities must be well-designed. The recommendations are as follows:

Station Location

- Conduct public outreach to determine stop locations
- Position stations near other transit (such as the HSR station, Canal multi-use path, and Amtrak)
- Locate stations near key commercial hubs with all-hours uses
- Locate stations further apart than regular bus stops

Route Design

- Conduct public outreach to determine route
- Have a dedicated lane
- Have street trees and other landscaping around stations and the route
- Have pedestrian-level lighting at stations and on the route

Station Design

- Conduct public outreach to determine station design
- Have shade and wind screens at the stations
- Very secure bike parking at the stations!
- Have comfortable seating at stations
- Have real-time information displays
- Have distinctive branding for stations, buses, maps, and wayfinding
- Water refilling stations

Service

- Ensure frequent and reliable service
- Have interior bicycle racks in buses

Surrounding Area

- Have high-visibility crosswalks around stations
- Widen sidewalks on the route to at least 10-12'
- Have street trees + street furniture
- Implement HAWKs where no traffic signals exist
- Have median refuge islands and curb extensions at wide intersections
- Ensure well marked and level driveways
- Ensure continuous sidewalks and curb cuts in surrounding residential areas
- Implement wayfinding to BRT route in surrounding areas

HIGH-SPEED RAIL STATION SITE PLANNING

The planned location of the HSR station presents many challenges. It is not in the core Downtown area but rather on the outskirts, and Golden State Avenue creates a barrier to access. Currently, the only opportunities to cross Golden State Avenue near the station are on F Street and Garces Circle, and both heavily prioritize automobiles and present serious safety concerns for pedestrians. While the High-Speed Rail Authority has plans to modify both of these intersections, additional opportunities to cross Golden State Avenue that prioritize pedestrians are recommended.

ACCESS

Currently, there are three proposed access points to the station. These include F Street, a new 34th Street overpass off of Chester Avenue, and another entrance south of the railroad on Chester Avenue. The station is located north of Golden State Avenue, and anyone coming or going from Downtown will have to cross the freeway at F Street or Garces Circle.

Although plans are not final, the High-Speed Rail Authority has proposed improvements to both of these intersections. F Street will be converted from an at-grade intersection to a grade-separated underpass that is 20'-25' depressed. F Street will include sidewalks raised about 5' above street level. It will also intersect with a proposed on and off ramp.
While these changes to F Street are an improvement over the current conditions, they are not sufficient. Both a ramp on F Street as well as a depressed crossing will detract from the pedestrian percepti

The Vision Plan also imagines Garces Circle as a pedestrian plaza and mentions the possibility of removing 3 of the 7 roads that flow into the circle. At this stage, there are no concrete plans for how Garces Circle will be treated. However, the two service roads on the west side of the circle will likely be closed with the construction of the new on and off ramps at F Street. At this time, the service road on the east side of the station is not planned for removal. This change will improve conditions for pedestrians slightly, as there will be 5 roads rather than 7 feeding into the circle, but more drastic changes are necessary to make the circle truly pedestrian friendly.

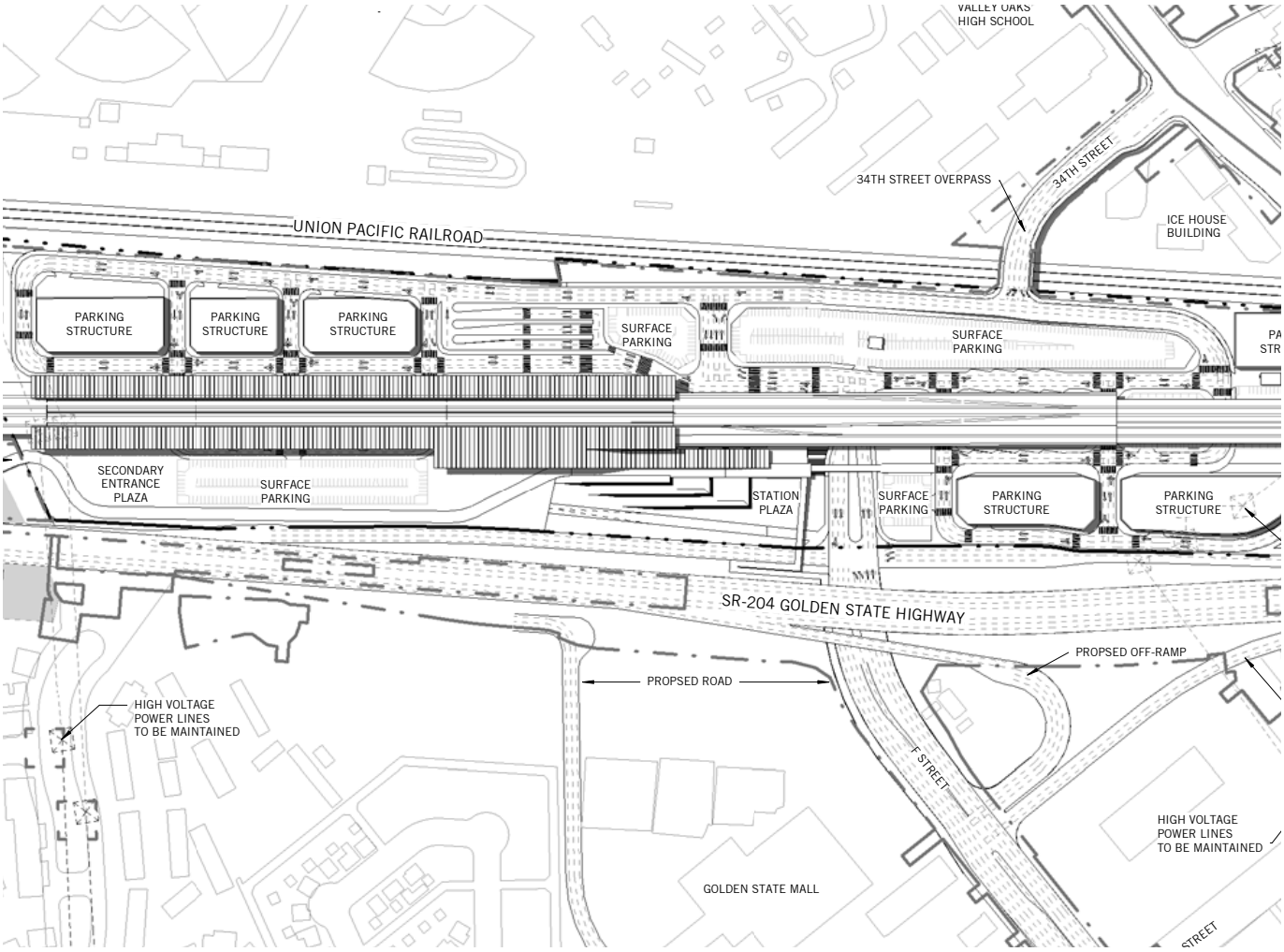

Figure 21: Section of Site Context Roof Plan for HSR Station. Source HSR Environmental Impact Report

There are several ways that access across the highway could be increased. The best way to do this would be to convert Golden State Avenue from a highway to a boulevard and add crossing opportunities at every intersection. Turning Golden State Avenue into a boulevard has the potential to allow for the same capacity of traffic while reconnecting the urban grid, increasing real estate value, promoting transit-oriented development, and creating an open space that can be shared with pedestrians and cyclists. In addition, ensuring that people of all ages and abilities will be able to cross Golden State Avenue will increase the value of the surrounding area and prevent collisions.

Several freeways have been successfully converted into boulevards. In West Sacramento, CA-275 was redeveloped as a boulevard, Tower Bridge Gateway. Completed in 2011, the project reconnected Sacramentans to the riverfront. The project added 20' wide landscaped sidewalks on either side of the boulevard, bicycle lanes, and new at-grade intersections at 5th Street and 3rd Street. It also eliminated an underpass at 3rd Street. The changes led to new housing, commercial, and office developments as well as added bus stops.

In order to convert Golden State Avenue into a boulevard, several steps would need to be taken. First, the project would need support from elected officials, community organizations, and the public. Secondly, a study would need to be conducted to determine feasibility of the project as well as the pros and cons of various alternatives. If the project moved forward, a design process with public participation would commence to develop plans. Though the specifics would be determined through the study and outreach, the plan should include frequent intersections with high-visibility

signalized crossings and other features such as curb extensions, pedestrian refuge islands, leading pedestrian intervals (LPIs), and bollards. In addition, the plan should include extensive streetscaping as well as sidewalks and bike facilities on the service roads.

If it is chosen not to convert Golden State Avenue to a boulevard, an additional crossing that only services pedestrians and bicyclists could be added. One possible solution is to convert the alleyway between Spruce Street and Pine Street into a multi-use path and extend it over Golden State Avenue as a bridge. It could then connect to the planned multi-use path that runs alongside the station, creating direct pedestrian and bicycle access over Golden State Avenue.

STATION DESIGN

The design of the High-Speed Rail station will also influence pedestrian access. The station is still in the early stages of design, but there are several ways it could be made more accessible:

- Construct a sidewalk facing, at-grade main entrance
- Limit parking (preferably no parking at the station)
- Create a clear pedestrian path to the station from each of the three access points
- Ensure pedestrians do not need to walk through parking lots
- Create public indoor and landscaped outdoor space at the station
- Provide public restrooms and water fountains
- Provide comfortable seating
- Ensure station has high transparency from the street level for pedestrians and cyclists
- Include wayfinding to and from the station in the surrounding area
- Ensure high-visibility crosswalks around the station
- Create a clear pedestrian path to the planned BRT route
- Include biking amenities such as parking to encourage active transportation

Figure 22: Union Station in Los Angeles. Source: Tony Hoffarth / CC BY-NC-ND 2.0

NEXT STEPS & IMPLEMENTATION

ACTORS

In order to implement the recommendations outlined in this report, several jurisdictions need to be involved. These include the City of Bakersfield, the High Speed Rail authority, Kern Council of Governments, the County of Kern, Caltrans, the Downtown Business Development Corporation (DBDC), and Golden Empire Transit (GET). In addition to proposed changes to the physical environment, certain steps will be helpful in creating meaningful change.

NEXT STEPS AND PRIORITIES

While the construction of the High-Speed Rail station in Bakersfield presents an opportunity for significant reinvestment in the public realm, the project is still years off. In the meantime, improvements to the existing Amtrak station area should be prioritized. With attractions, such as the Mill Creek Linear Park and the planned Mill Creek Entertainment District, transit-oriented design strategies have the potential to transform the neighborhood and offer a precedent for the High-Speed Rail station. Garces Memorial Circle should also be prioritized. While more significant changes will be made to the circle in conjunction with the High-Speed Rail, the intersection is a major barrier to pedestrians and cyclists.

Interim design strategies can be used to more quickly and inexpensively improve the pedestrian experience. Curb extensions can widen the pedestrian right-of-way and shorten crossing distances through bollards, planters, or temporary curbs, and parklets can create activity hubs that attract pedestrians.

ADDITIONAL ACTIONS

In addition to the site, BRT, and public realm recommendations outlined in this report, there are additional actions that can be taken to improve pedestrian access to transportation in Bakersfield.

Action	Actor
Create a parking plan that prioritizes district parking and limits surface parking, particularly around transit.	City of Bakersfield
Create a Downtown Bakersfield Streets plan with guidance on the public realm.	City of Bakersfield, Downtown Bakersfield Development Corporation
Modify zoning to allow for denser, transit oriented development near transit.	City of Bakersfield
Conduct a traffic study on Golden State Avenue to determine alternatives to the highway/ the possibility of converting it to a boulevard.	California Department of Transportation, City of Bakersfield, HSR Authority, Kern COG
Conduct a traffic study to determine the possibility of adding pedestrian crossing at the intersection of Truxtun Ave and CA-204.	California Department of Transportation, City of Bakersfield, HSR Authority, Kern COG
Ensure appropriate ingress and egress locations for the HSR station.	HSR authority
Conduct outreach to determine BRT branding, station design, and route.	Golden Empire Transit District
Establish a Community Revitalization and Investment Authorities (CRIA) to fund improvements through tax-increment financing.	City of Bakersfield, Kern County
Form an agreement to limit parking near the planned HSR station.	City of Bakersfield, HSR Authority

Intervention	Average Cost
High visibility crosswalk	$2,500 each
Wayfinding	$ 500 each
Advanced limit line	$20 per linear foot
Stop sign	$320 each
Added sidewalk	$92 per linear foot
Street trees	$400 per tree
Human scale lighting	$2500 per light
Curb cuts	$5,000 each
Pedestrian refuge island	$10,000 each
Readjust median	$5,000 each
Curb extension	$13,000 each
Bollards	$7,000 each
Traffic signal	$250,000

Project	Cost Estimate
Garces Memorial Circle*	$80,020
Amtrak Station	$1,069,460
F Street and Golden State Avenue*	$272,200
Chester Avenue Corridor	$293,740
California Avenue Corridor	$1,641,120
Truxtun Avenue Corridor	$651,500

*estimate does not include the cost of changes planned by the HSR Authority

POSSIBLE FUNDING SOURCES

There are several possible funding sources for these projects, many of which are outlined in the Kern County ATP. These funding sources include public and private grants as well as tax increment financing. In addition, funds should be diverted away from projects such as road and highway expansions that detract from the pedestrian environment and character of the city and towards more active transportation projects.

There are billions of dollars of state funds eligible for bicycle and pedestrian projects that are typically used for projects that prioritize cars, as outlined in the California Transportation Commission (CATC) chart Funding Programs That May Include Active Transportation Elements.

Finally, investment in the new high-speed rail station should include funds allocated to pedestrian planning. Improving the pedestrian environment in Downtown Bakersfield will help make the addition of the high-speed rail station more successful.

While there is a more extensive list of funding sources in the ATP and Vision Plan, the following are identified as appropriate for the recommendations in this report:

Program Name	Organization	Description
Active Transportation Program (ATP)	Caltrans	The ATP consolidates the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S). The goal of the program is to increase active transportation in California, and cities can apply for grants from the fund.
Community Development Block Grants (CDBG)	U.S. Department of Housing and Urban Development (HUD)	Grant given to communities to fund local community development projects related to affordable housing, anti-poverty programs, and infrastructure development
Transformative Climate Communities (TCC) program	California Strategic Growth Council (SGC)	Funds development and infrastructure projects that provide environmental, economic, and health benefits for disadvantaged communities in California
Developer impact fee	City of Bakersfield, Kern County	Local governments impose a fee on new developments to pay for public services to the new development
Enhanced infrastructure financing district (EIFD)	City of Bakersfield, Kern County	A form of tax-increment financing. Incentivizes development by freezing property tax increases + paying the money that would have been received from increased property value to a developer to finance a project
Smart Growth	Environmental Protection Agency (EPA)	Sometimes offers grants that help communities grow while protecting the environment
Better Utilizing Investments to Leverage Development (BUILD) grant	US Department of Transportation (USDOT)	Formerly TIGER grants, this grant funds road, rail, transit, and port projects with national significance. Could be used to turn Golden State Avenue into a boulevard
Transportation Alternatives Set-Aside Program (TA Set-Aside)	USDOT, administered through Federal Highway Administration (FHWA)	Formerly the TAP program, the TA Set-Aside funds state transportation projects, including pedestrian facilities
State Transportation Improvement Program (STIP)	CATC	Allocates future transportation funds for highway and transit improvements, including bicycle and pedestrian upgrades.
State Highway Operations and Protective Program (STOPP)	Caltrans Office of Shopp Management	Funds repairs and improvements to the state highway system, and could be used to fund bicycle and pedestrian facilities part of the project scope and pertaining to the right of way

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Tower Bridge Gateway (2011). City of Sacramento.

Design Flexibility in Multimodal Design (2014). State of California Department of Transportation.

APPENDIX

Garces Circle			
Recommendation	**Units**	**Cost Per Unit**	**Total Cost**
continental crosswalks	4	$ 2,500.00	$ 10,000.00
wayfinding	2	$ 500.00	$ 1,000.00
advance stop markings	135	$ 20.00	$ 2,700.00
pedestrian refuge islands	4	$ 10,000.00	$ 40,000.00
street trees	10	$ 400.00	$ 4,000.00
lighting	5	$ 2,500.00	$ 12,500.00
sidewalk	85	$ 92.00	$ 7,820.00
underpass mural	1	$ 2,000.00	$ 2,000.00
			$ 80,020.00

Amtrak Station			
Recommendation	**Units**	**Cost Per Unit**	**Total Cost**
wayfinding	2.00	$ 500.00	$ 1,000.00
pedestrian bridge	1.00	$ 1,000,000.00	$ 1,000,000.00
crosswalks	290.00	$ 120.00	$ 34,800.00
stop sign	1.00	$ 320.00	$ 320.00
advanced stop marking	57.00	$ 20.00	$ 1,140.00
new sidewalk	350.00	$ 92.00	$ 32,200.00
			$ 1,069,460.00

F Street and Golden State Avenue			
Recommendation	**Units**	**Cost Per Unit**	**Total Cost**
street lights	6	$ 2,500.00	$ 15,000.00
signal	1	$ 250,000.00	$ 250,000.00
crosswalk	60	$ 120.00	$ 7,200.00
			$ 272,200.00

Chester Avenue Corridor			
Recommendation	**Units**	**Cost Per Unit**	**Total Cost**
widen sidewalk	120	$ 92.00	$ 11,040.00
wayfinding	1	$ 500.00	$ 500.00
Street trees	320	$ 400.00	$ 128,000.00
crosswalk	14	$ 2,500.00	$ 35,000.00
lighting	32	$ 2,500.00	$ 80,000.00
median	1	$ 5,000.00	$ 5,000.00
advance stop markings (stop signs)	450	$ 20.00	$ 9,000.00
advance stop markings (stop lights)	1260	$ 20.00	$ 25,200.00
			$ 293,740.00

Garces Circle			
Recommendation	**Units**	**Cost Per Unit**	**Total Cost**
continental crosswalks	4	$ 2,500.00	$ 10,000.00
wayfinding	2	$ 500.00	$ 1,000.00
advance stop markings	135	$ 20.00	$ 2,700.00
pedestrian refuge islands	4	$ 10,000.00	$ 40,000.00
street trees	10	$ 400.00	$ 4,000.00
lighting	5	$ 2,500.00	$ 12,500.00
sidewalk	85	$ 92.00	$ 7,820.00
underpass mural	1	$ 2,000.00	$ 2,000.00
			$ 80,020.00

Truxtun Avenue from Chester Avenue from Sonora Street			
Recommendation	**Units**	**Cost Per Unit**	**Total Cost**
readjust median	2	$ 5,000.00	$ 10,000.00
high-visibility crosswalk	17	$ 2,500.00	$ 42,500.00
advanced stop	150	$ 20.00	$ 3,000.00
advanced stop lights	2000	$ 20.00	$ 40,000.00
curb bump-out	20	$ 13,000.00	$ 260,000.00
signalized crosswalk	1	$ 250,000.00	$ 250,000.00
sidewalk	500	$ 92.00	$ 46,000.00
			$ 651,500.00

RESPONSE TO COMMENTS

Page 4 (page 3 in document numbering)

- *Should the Ladder example include a description/title at the top like the other 2 to the left?*
  - Corrected

Page 5 (page 4 in document numbering)

- Recommendation: add an image/figure to this section for visual representation.
  - Corrected
- Recommendation: Add a map that indicates where there are sidewalks gaps specifically
  - Due to time constraints, we are unable to complete this request
- Recommendation: Utilize a Heat map/collision map to indicate the collision areas.
  - Due to time constraints, we are unable to complete this request

Page 10 (page 9 in document numbering)

- Recommendation: Provide a description of what Agency/Research and methodology (such as best practices) was utilized to come up with the suggestions listed under "Needed improvement".
  - Suggestions came from NACTO Urban Street Design Guide (2013). This information has been added to the report on page 8.

Page 13 (page 12 in document numbering)

- Any consideration about the possibility of implementing a Safe Routes to School Project? It can complement active transportation efforts.
  - This recommendation has been added to the report.

Page 15 (page 14 in document numbering)

- Recommendation: If not done so already, include green bike lanes (painted) for higher visibility.
  - This was part of the plan and has been added to the report

Page 16 (page 15 in document numbering)

- Recommendation: Please be more specific about the referenced area(s). When i first read this part, I interpreted it as there are no sidewalks along the reference streets at all. But I believe this section is referencing the immediate area only (Garces circle) and not the entire roads. Please provide clarity.
  - This refers to the Garces Circle only and has been clarified in the report

Page 17 (page 16 in document numbering)

- Did/will the Vision Plan Study the vehicle circulation impacts of removing the three frontage roads? If not, it should be considered with appropriate stake holders.
  - Yes this is studied in the Environmental Impact Report

Page 18 (page 17 in document numbering)

- Has there been consideration of adding other amenities such as showers for people who choose to travel via active transportation?
  - To the project team's knowledge, this has not been considered.
- Recommendation: consider coordinating with the City of Bakersfield to determine if a bike-share kiosk is viable given the proposed density near the stations. This can provide first-mile/ last-mile commuter options for those who do not own an automobile or for those who prefer alternative transportation.
  - This recommendation has been added to the report

Page 32

- Recommendation: include biking amenities to encourage more active transportation.
  - This recommendation has been added to the report. See bike parking plan for more detailed analysis