KERN RIVER VALLEY
Transportation Development Plan

Final Report

May 2015

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1 EXECUTIVE SUMMARY

INTRODUCTION

The Kern River Valley Transportation Development Plan (TDP) represents an eight-month planning effort focused on the development of a five-year plan for public transportation in the Kern River Valley. Based on discussions with Kern Council of Governments and Kern Transit staff, the primary goals for this effort include the following:

- **Optimizing Current Fixed-Route Services:** There is a belief that numerous opportunities exist to improve existing fixed-route services with a goal of reducing redundancy and aligning services to better meet customer needs. There was consensus among the group that numerous locations in the service area are "over-served" by transit given the existing local demand and population. Any future service recommendations should consider the unique markets that exist in the Kern River Valley including the regional intercity markets, the intra-Kern River Valley markets, and the large number of seniors and disabled who currently live in the service area. There is no interest in expanding the service to new areas at this time. In addition, the recent service changes focused mainly on schedule changes; stop/route changes were not modified in a significant manner.
- **Evaluating Next Steps for General Public Dial-A-Ride:** The general public Dial-A-Ride service currently provides service throughout the Kern River Valley. Due to high demand for this service, requests for service are often denied. Currently, the fares for the service are inexpensive compared to fixed-route fares. The service is available to all members of the general public (ADA-eligibility not required). Dial-A-Ride-related complaints are those most often fielded by Kern Transit customer service representatives. The TDP evaluates how to ensure the Dial-A-Ride is being deployed in an efficient and operationally sustainable manner.
- **Investigating a Transit Center at Lake Isabella:** Currently, the primary transfer point in Lake Isabella is a simple, one-directional bus stop in front of the Kern River Valley Senior Center. This study investigates the future potential of a simple transfer center in Lake Isabella including potential usage, amenities, and bus bay needs. However, specific detail with regard to siting, site planning, or other detailed analysis would not be required as part of this effort.
- **Analyzing Fare Structure:** Fare structure analysis is related to this project, but is not a primary focus, as fares will be investigated as part of a separate Kern Transit study.

In addressing the goals above, the plan outlines recommendations related to service and operations, policies, marketing, and future capital investment. The majority of the recommendations put forth in this plan can be implemented as a result of maximizing efficiency and shifting existing resources. Capital investments and increased service operations will require additional resources, and should be considered if additional funding becomes available.

KEY FINDINGS

The existing conditions analysis illuminated key findings about transit needs and service within the Kern River Valley. The qualitative and quantitative review of the existing transit services and conditions highlighted the need for user improvements, such as reduced transfer times, clarification of bus stops, and infrastructural enhancements. The following were identified as key findings:

- Opportunity for more customer-focused schedules to reduce wait times between transfers
- Larger role in the community for transit that includes connections to jobs and educational institutions
- Need to determine different operational strategies for Dial-A-Ride service, as the service often faces capacity constraints
- Bus stops should reflect accurate pickup locations, and amenities should be provided at high priority bus stops
- Limited pedestrian networks (sidewalks) are detrimental to accessing fixed-route services
- The current transit center location is a limitation for those wanting to access retail services in Kern Valley Plaza
- Lack of 0f Sunday service within the Kern River Valley is another limitation for job access and errands

SUMMARY OF SERVICE ALTERNATIVES

Based on the key findings mentioned above, the service alternatives were formulated to address the key issues. Service alternatives fall broadly into two categories: resource neutral and service expansion. The resource-neutral recommendations can be implemented assuming the current level of funding, drivers, and vehicles, whereas the service expansion options will require additional funding for implementation. The resource-neutral service alternatives include:

- Interlining Routes 220/225
- Introducing Dial-A-Ride zones
- Offering Sunday service
- Modifying the schedule for school-focused services)
- Co-marketing a Ridematching/Vanpool program

These resource-neutral alternatives are intended to maximize efficiency of the current transit service. Interlining Routes 220/225 and Dial-A-Ride zones may not provide additional service so much as they provide better scheduling from a customer's perspective. Basic lifeline Sunday service could be made possible by eliminating low productivity Saturday service and responds to public interest received at meetings throughout the planning process. In addition to these resource-neutral alternatives, the expanded service alternatives include the following:

- Increasing Sunday service frequencies
- Offering more frequent weekday service

In addition to these operational alternatives, several capital enhancements were also explored including bus stop improvements and relocation or enhancement of the transit center.

In addition to these service/operations and capital improvement suggestions, various supportive policies are also explored in this plan including recommendations related to performance

standards, marketing, and fare policy. Each of these recommendations is formulated based on the key findings and public feedback, and is crafted to provide benefits to customers and Kern Transit.

ORGANIZATION OF REPORT

This report is broken down into the following chapters:

- **Existing Conditions (Chapter 2)** provides a general description of the study area including the communities of the Kern River Valley. This section also investigates demographic information relevant for transit service planning such as income, age, commute patterns, and residential and employment density. The existing services section describes the various transit service that operate within and to/from the Kern River Valley will be described in detail. This includes both fixed-route and Dial-A-Ride services.
- **Community Feedback (Chapter 3)** presents information gathered from various outreach efforts conducted in the first phase of the study. This section includes high-level themes based on community input and feedback. A full description of feedback can be found in Appendix A.
- **Service Recommendations (Chapter 4)** provides a detailed description of resource-neutral service recommendations and policies to be implemented, in addition to expanded service recommendations. The expanded service recommendations assume additional resources and build upon the resource-neutral alternatives.
- **Capital Plan (Chapter 5)** provides enhancement options for physical transit infrastructure in the Kern River Valley, such as bus stops and transit centers. This chapter provides option for levels of bus investments via tiers, and multiple options for transit center locations.
- **Financial Plan (Chapter 6)** describes the current funding sources and a general description of the capital investment required to implement the recommended alternatives. Information from Kern Transit's most recent budget is also included.
- **Implementation Plan (Chapter 7)** provides a timeline and general categorization of each of the service recommendations put forth in previous chapters. This chapter identifies immediate next steps and lead agencies/parties for each recommendation.

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2 EXISTING CONDITIONS

INTRODUCTION

This chapter provides a comprehensive evaluation of transportation needs and demographic changes in the Kern River Valley, beginning with a history of recent changes and previous plans that complement transit efforts in the region. In addition to the community profiles and demographic data, the existing conditions chapter provides an analysis of existing transit services within the valley and connecting services to Bakersfield and Ridgecrest. The chapter includes qualitative and quantitative information pertaining to the performance of transit service and provides a high-level assessment of potential areas to improve upon within the five-year planning horizon.

RECENT CHANGES

Within the past few years, Kern Transit has undergone several changes including a major rebranding effort (switching from Kern Regional Transit to Kern Transit) and rolling out revised services in September 2014 (service changes included minor route changes and scheduling changes to improve on-time performance). Additional service changes were implemented in January 2015.

While other concepts have been discussed among Kern Transit staff, no other service changes are currently slated for implementation until recommendations from the TDP effort are adopted. In addition, Kern Transit will be investigating fare structure changes under a separate fare analysis in 2015.

With respect to new infrastructure investments, Kern Transit recently selected Routematch as the vendor to handle future computer-aided dispatching (CAD) and automatic vehicle location (AVL) software. Changes were implemented in April 2015 and will be used on both Dial-A-Ride and fixed-route vehicles.

EXISTING PLANS

This section provides an overview of the existing plans, policies, and regulations that affect circulation patterns in Kern River Valley. Relevant findings from each of the plans are provided in this section.

Kern River Valley Specific Plan (2011)

The Kern River Valley Specific Plan, adopted in 2011, describes policies affecting land use, circulation, open space and recreation, economic development, and sustainability factors. This comprehensive planning effort projected the future growth of the valley to increase by 3,140

people by 2030. The Circulation Element in the plan describes the need to address future development and tourism, as both are expected to increase traffic on local roads. Among the issues addressed are the needs to pave Kelso Valley Road, extend turn lanes into the Isabella Reservoir campgrounds, reduce the speed limits, increase pedestrian infrastructure such as crosswalks and signage, and make improvements to rural roads. Among the policies, the most relevant to transportation includes the requirement to consult with Kern Regional Transit (now Kern Transit) to incorporate appropriate transit amenities into new development projects. The Circulation Element also calls for a multi-use loop trail around Lake Isabella, bicycle lockers and showers in local agencies, and the encouragement of alternative modes of transportation to reduce greenhouse gas emissions.

Kern County Bicycle Master Plan (2012)

The Kern County Bicycle Master Plan focuses on the unincorporated areas of the county, including Kern River Valley. The plan highlights the Kern River Bike Path as the premier existing facility in the county, but only three miles are outside of Bakersfield. Kern River Valley is a popular location among cycling enthusiasts, and the plan calls for a 30.1-mile Class I bike path around Lake Isabella to continue encouraging bicycle usage in the area. The plan also recommends a shoulder bicycle path along SR-178 from Bakersfield to Kern River Valley, a 26.4-mile path, and a 1.8-mile Class II facility along Kelso Road. In total, the plan calls for 71.4 miles of bicycle facilities in Kern River Valley. Challenges for bicycle infrastructure in the area include multijurisdictional coordination with the USDA Forest Service, Bureau of Land Management, Caltrans, Department of Fish and Game, Kern County Planning, and Kern County Parks and Recreation.

Kern River Specific Trails Plan (2003)

The Kern River Specific Trails Plan, approved in 2003, provides a comprehensive approach to the planning of multi-use trails in Kern River Valley. The plan identifies the existing facilities, and proposes bicycle facilities that would enhance the multimodal network. The proposed facilities include all types of on-street bicycle facilities (I-III), equestrian trails, pedestrian trails, and multi-use paths.

COMMUNITY PROFILE

Overview

The Kern River Valley is a 173-square mile unincorporated region of Kern County, approximately 40 miles northeast of Bakersfield, CA. The valley is bordered by the Sierra Nevada Mountain Range, including Greenhorn Mountains, Piute Mountains, and Scodie Mountains. The study area is centered on Lake Isabella, and is known for its agricultural and wilderness environment.

There are many unincorporated communities surrounding Lake Isabella that make up the Kern River Valley including Bodfish, Kernville, Onyx, Weldon, Wofford Heights, Mountain Mesa, Squirrel Mountain Valley, and South Lake (which is included in Weldon's statistics in the report). The Kern River Valley is represented by an array of employment industries, including educational services, health care, and social assistance (18.2%); agriculture, forestry, fishing, and mining (17.3%); retail trade (10.4%); and arts, entertainment, recreation, and food services (8.3%),

among others.[1] These economic indicators align with the valley's topography and proximity to the Sierra Nevada Mountain Range. However, the Regional Housing Data Report also indicated unincorporated Kern County communities are facing a jobs-deficit with a ratio of 1.07 in 2010 and 1.13 in 2013. A balanced jobs-housing ratio would be approximately 1.3 to 1.4.

While there has been a slight increase in the ratio of jobs to housing since the Great Recession, the report projects an 11% decrease by 2023. This would signify that residents of unincorporated areas such as Kern River Valley must travel further to jobs, or into nearby regional hubs, such as Bakersfield and Ridgecrest. Transportation networks are critical components to reaching employment centers and regional hubs, especially in Kern River Valley, due to the fact that there are two primary roads in the area. The east-west corridor, SR-178, allows travel from Bakersfield to Ridgecrest, while the north-south route, SR-155, facilitates travel from Kernville to Lake Isabella. SR-178 is a two-lane, undivided highway past Lake Isabella toward Ridgecrest, and partially a four-lane highway with a painted median toward Bakersfield. SR-155 is a two-lane, undivided state road with limited access as well. Both present unique opportunities for transportation links to regional hubs.

Population

The Kern River Valley consists of eight communities: Bodfish, Kernville, Lake Isabella, Onyx, Mountain Mesa, Squirrel Mountain Valley, Weldon, and Wofford Heights. There were 13,458 people living in these communities in 2010. Figure 2-1 describes the population size of each community in more detail. Lake Isabella is the largest community in the region, while Onyx remains the smallest community in the Kern River Valley.

Figure 2-1 Population by Place

Community	Population
Bodfish	1,956
Kernville	1,395
Lake Isabella	3,466
Onyx	475
Mountain Mesa	777
Squirrel Mountain Valley	547
Weldon	2,642
Wofford Heights	2,200

Source: City-Data.com (2010)

Notes: South Lake statistics are included in Weldon

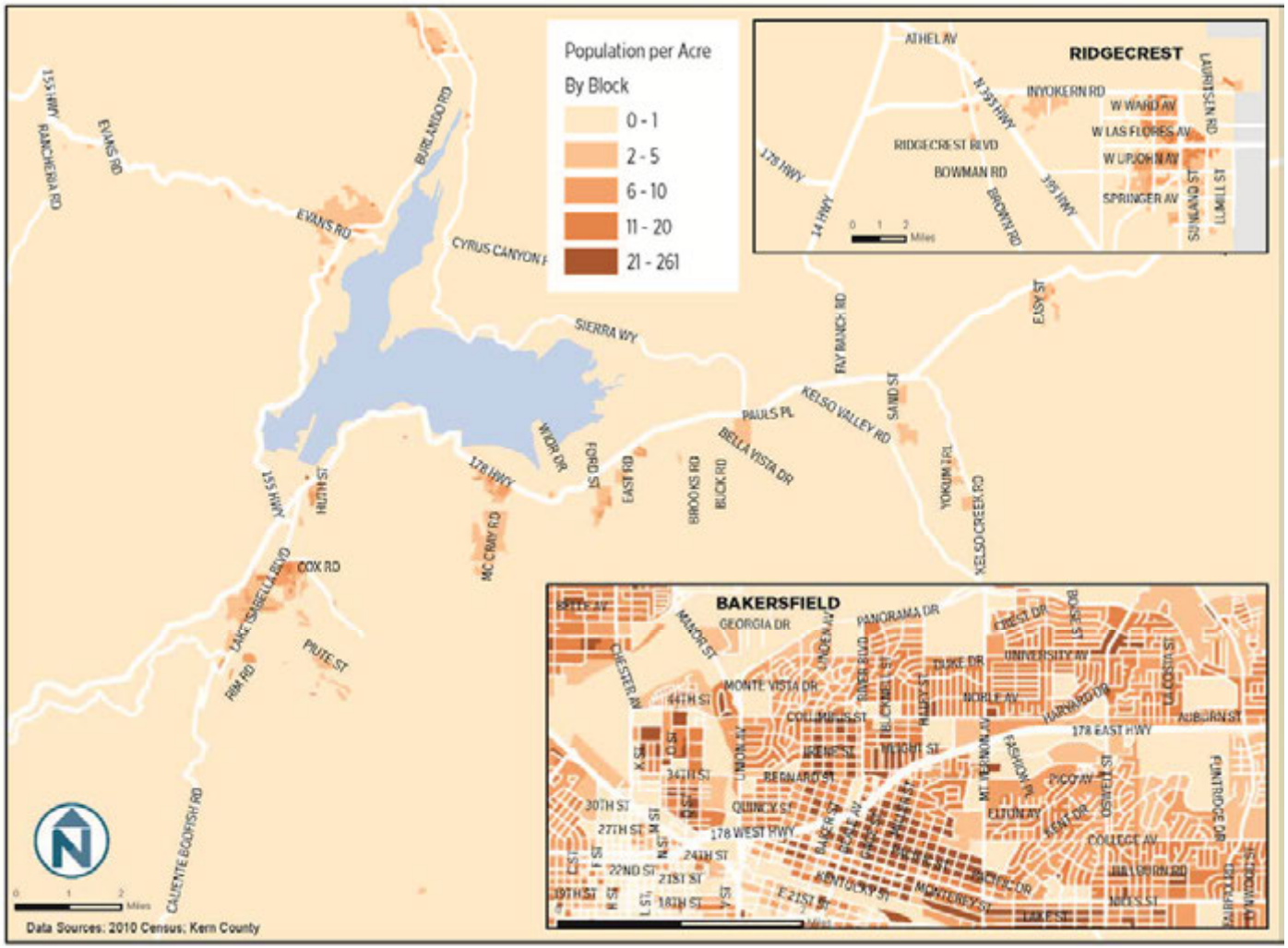
Population and Employment Density

The population total is 13,458 people at an average population density of 337 people per square mile. Areas such as Onyx are low density at 41 people per square mile, whereas places like Mountain Mesa are higher density at 903 people per square mile. The density reflects the

[1] Kern Council of Governments. (2014). Regional Housing Data Report. Retrieved from http://www.kerncog.org/images/docs/rtp/Regional_Housing_Data_Report_20141103.pdf

topography as a mountainous region, but also the agricultural and rural nature of this area. Figure 2-2 provides an overview of the population density in the Kern River Valley (and comparisons to nearby Bakersfield and Ridgecrest), which corresponds with the existing communities. This figure also highlights the large areas that are undeveloped and uninhabited within the Kern River Valley. These areas are unlikely to generate any regular transit ridership. However, there may be an opportunity to generate recreational ridership at local sites such as trailheads, boat launches, picnic areas, and others.

Figure 2-2 Kern River Valley Population Density



Age

The median age in Kern River Valley varies from 47.2 years old in Lake Isabella to 58.3 years old in Wofford Heights and Squirrel Mountain Valley. The median age for the entire valley is 52.7 years old. See Figure 2-3 for specific age breakdowns by community.

Figure 2-3 Age by Community

Place	Under 18	19-24	25-34	35-49	50-64	65+
Bodfish (n=1,956)	19%	7%	8%	16%	25%	25%
Kernville (n=1,395)	13%	5%	6%	15%	31%	30%
Lake Isabella (n=3,466)	19%	9%	9%	17%	25%	21%
Onyx (n=475)	17%	6%	5%	19%	29%	24%
Mountain Mesa (n=777)	20%	7%	9%	15%	22%	28%
Squirrel Mountain Valley (n=547)	12%	4%	5%	12%	32%	35%
Weldon (n=2,642)	18%	7%	9%	15%	26%	26%
Wofford Heights (n=2,200)	13%	5%	5%	13%	27%	37%

Source: 2009 ACS Estimates

The retired age category (65+) is an important indicator for public transportation, as many seniors seek alternative options to driving as they age. Of note, some communities have predominantly older populations: 67% of Squirrel Mountain Valley's population is 50 and older; 50% of Mountain Mesa is 50 and older; and 64% of Wofford Heights is 50 and older. Figure 2-6 illustrates the senior population density in the Kern River Valley. However, given the generally low population density throughout the study area, there are no specific areas that one can identify with the greatest density of seniors.

Disability

Disability status is tracked in the Census, but only available by census tract. Kern River Valley is divided into two census tracts: 52.01 and 52.02. Approximately 5,189 residents in Kern River Valley had disability status in 2000, which encompasses 39% of the total population. Of these, the majority are of working age (21 to 64 years old), with a significant number of disabled individuals in retirement age. Disability status is an important indicator for transportation, as it presents varying needs from the transportation system, which may include wheelchair access, lifts, and Dial-A-Ride service, depending on the disability. See Figure 2-4 for disability by age and census tract.

Figure 2-4 Disability Status by Census Tract

Census Tract	5 to 20 Years Old	21 to 64 Years Old	65 Years and Older
52.01 (n=1,964)	8%	52%	41%
52.02 (n=3,225)	6%	56%	38%

Source: 2000 Census

Journey to Work

Travel characteristics are indicators of the success of a transportation system. A successful transportation system should balance all modes of travel, increase mobility and access, contribute to quality of life, and provide options for residents. This section reviews current travel characteristics associated with Kern River Valley in an effort to measure its current performance.

Journey-to-work mode splits are integral to understanding transportation habits and patterns in Kern River Valley. As shown in following figure, residents of Kern River Valley typically drive alone. Kern River Valley commuters use alternative modes of transportation, including public transportation, walking, bicycling, and working from home, at much lower rates. In addition, Kern River Valley's second-most popular mode of transportation is carpooling. In the older populations (as noted in Figure 2-3) such as Wofford Heights and Squirrel Mountain Valley, carpooling is much more prevalent. Carpooling may be associated with older populations because abilities change with age. These trends, below in Figure 2-5, provide context for understanding the way people travel within the Kern River Valley.

Figure 2-5 Journey to Work, Mode Split

Census Tract	Drive Alone	Carpool	Public Transit	Bicycle	Walk	Work From Home	Other
52.01	73%	11%	0.4%	0%	2%	10%	4%
52.02	71%	6%	0.2%	2%	4%	2%	2%

Source: 2009 ACS Estimates

Figure 2-6 uses Census data to interpret typical work destinations for those living in Lake Isabella (Kern River Valley's largest community). The majority of individuals reported staying within Lake Isabella for work, or traveling to Bakersfield. Kernville and Mountain Mesa were next in terms of employment destinations, followed by other valley communities.

Figure 2-6 Senior Population Density

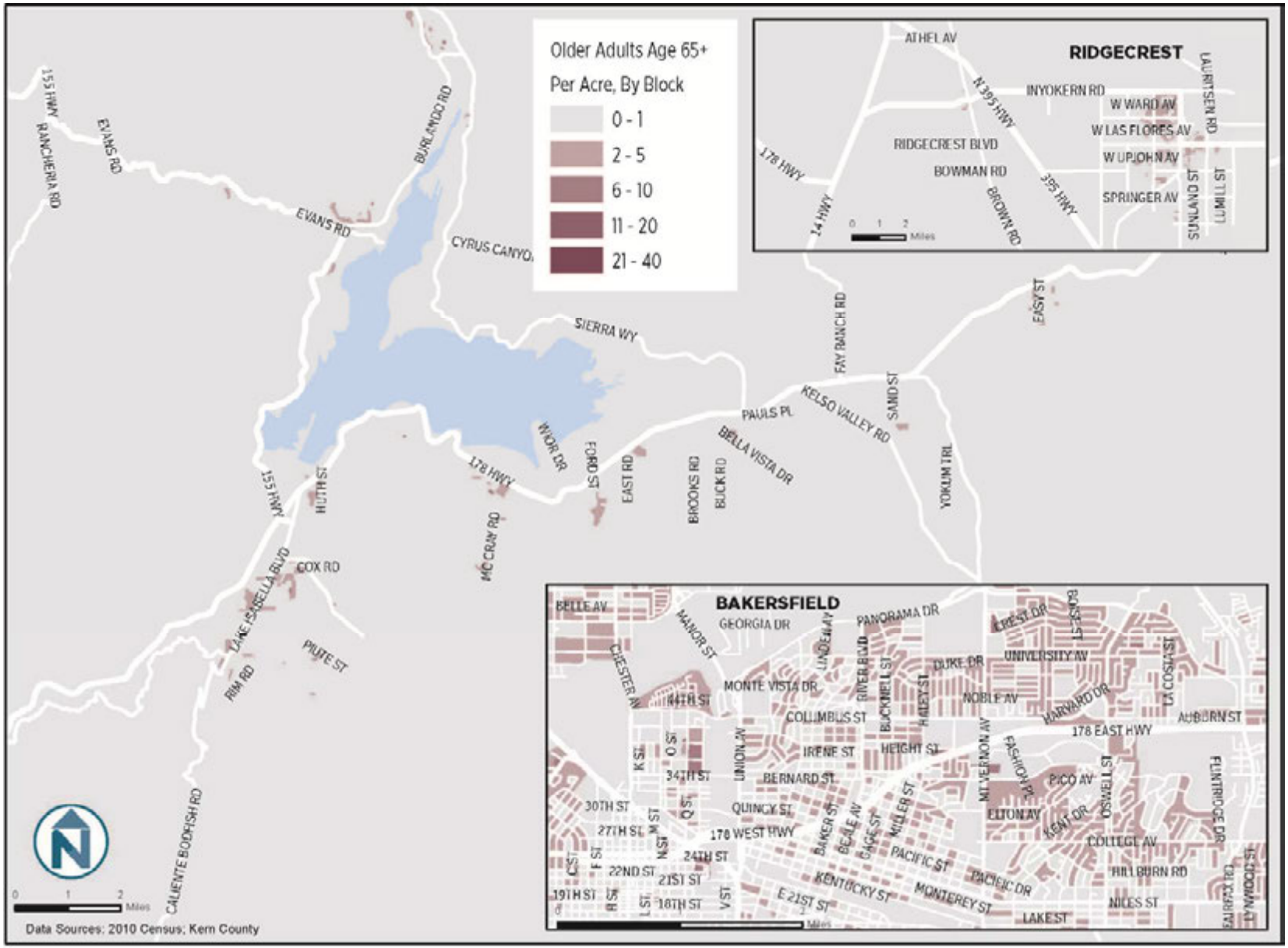
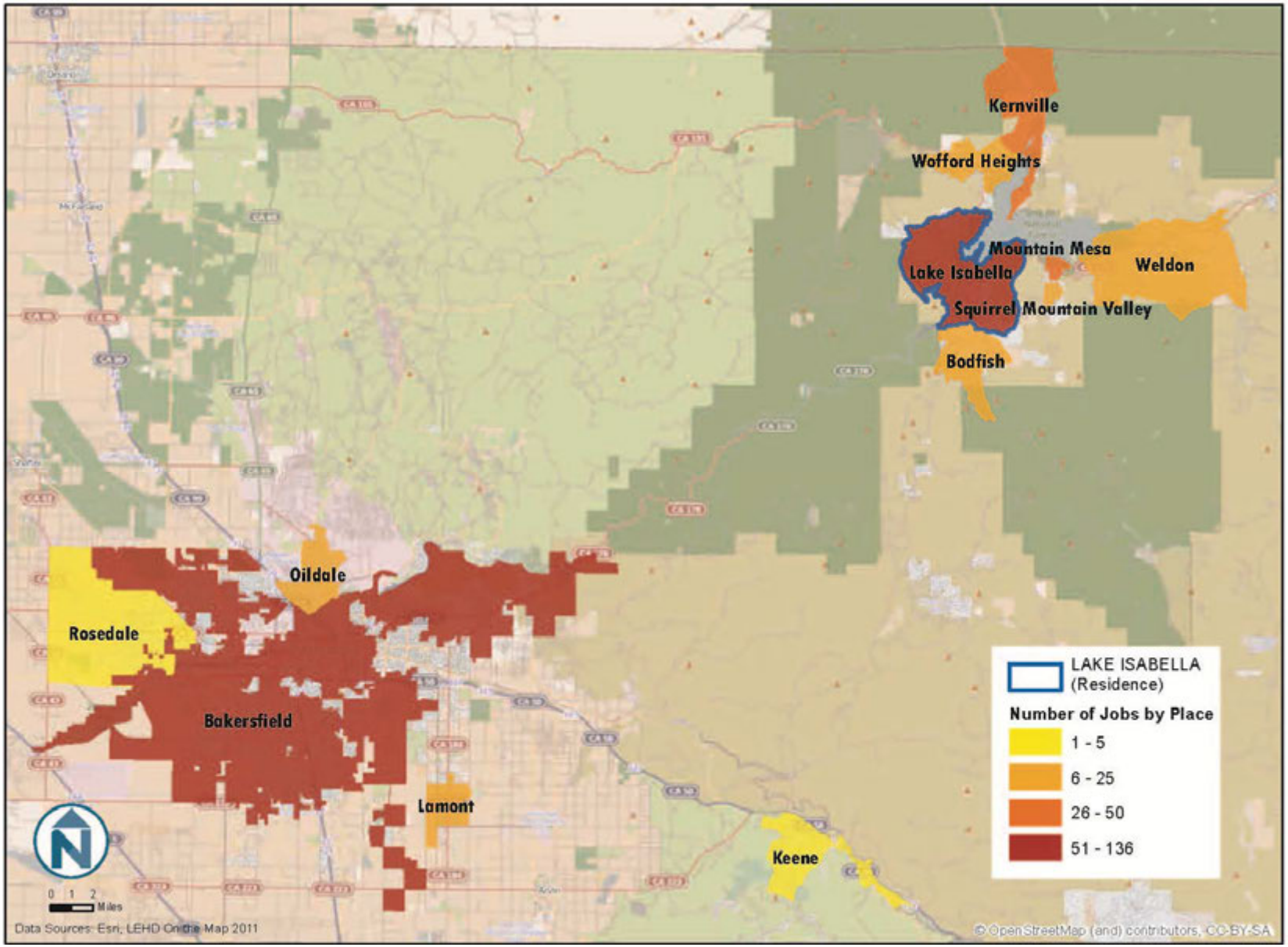


Figure 2-7 Journey to Work Data (Lake Isabella)



Vehicle Ownership

Vehicle ownership plays an integral role in determining the transit dependence of the population. Vehicle ownership is a component of the Census, and measured by census tract for unincorporated areas. The majority of households in Kern River Valley have access to two or more vehicles. Of the 21 people who reported using public transportation for commuting, seven are from households with three or more vehicles, and 14 are from households with two vehicles. Considering the average household is between 2 and 3 people, these households are not considered to be transit dependent from a statistical perspective, but may be transit dependent based on other factors. Figure 2-8 outlines vehicle ownership by household and census tract.

Figure 2-8 Vehicle Ownership (by Household) by Census Tract

Census Tract	No Vehicles	1 Vehicle	2 Vehicles	3+ Vehicles
52.01 (n=1,745)	0.4%	20%	46%	34%
52.02 (n=3,347)	4%	15%	39%	41%

Source: 2009 ACS Estimates

Combining this information with the journey-to-work data, it is evident that alternative transportation is an underrepresented mode of transportation. With less than 5% of the population biking, walking, and using public transportation combined, there is an indication that these modes are uncomfortable, inconvenient, or unreliable in the Kern River Valley.

Income

The majority of Kern River Valley households are of moderate income, with the median income for the valley at $32,104. In comparison, the median household income in Kern County and the state of California are $47,368 and $58,931, respectively. In 2009, approximately 22.4% of Kern County residents were living in poverty. In the community of Lake Isabella, 27.1% of residents were living in poverty as of 2012. However, only 9.7% of Kernville residents were living in poverty in the same year. The economic demographics are widely variable in Kern River Valley. See Figure 2-9 for income by community.

Figure 2-9 Income by Community

Community	Median Household Income
Bodfish	$21,390
Kernville	$53,140
Lake Isabella	$19,836
Onyx	$35,543
Mountain Mesa	$34,228
Squirrel Mountain Valley	$39,759
Weldon	$29,980
Wofford Heights	$24,326
Median Income	$32,104
CA Median Income	$58,931

Source: City-Data.com (2012)

EXISTING SERVICES

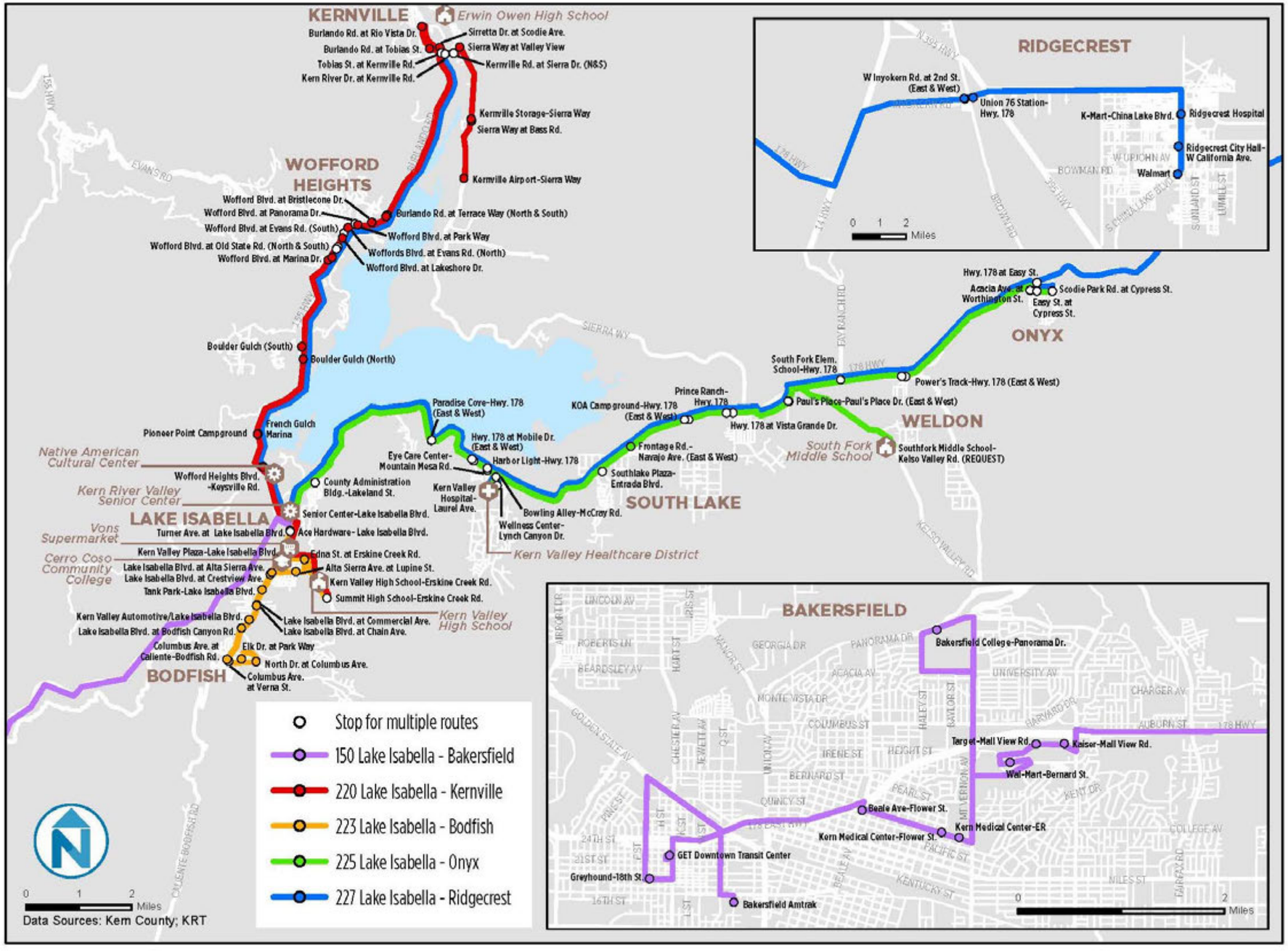
Service History

Kern Transit has been operating in the Kern River Valley since the 1980s. The service provides a role in connecting people within the unincorporated communities and Bakersfield to the southwest and Ridgecrest to the east. Service has remained largely the same for the past several decades. However, in recent years, services to Alta Sierra were discontinued due to low ridership. Figure 2-10 provides an overview of the service area (which corresponds with this plan's study area). Transit service in the Kern River Valley operates daily. However, most routes operate six days per week, with one route operating three days per week.

The Kern River Valley area is served by fixed-route buses and Dial-A-Ride service, operated by Kern Transit. Kern Transit operates 17 fixed routes in Kern County, three fixed routes within the Kern River Valley, and two that originate in Kern River Valley with connections to Ridgecrest and Bakersfield. Each of the routes operates in Lake Isabella, making it a convenient transfer location (Kern River Valley Senior Center). The routes provide service to Bakersfield, Bodfish, Kernville, Onyx, Wofford Heights, and Ridgecrest.

Each of the five routes connects with additional Kern Transit routes that provide bus service south to Lancaster and Frazier Park, west to Taft and Lost Hills, and southeast to Boron. Kern Transit has external connections to Golden Empire Transit, Amtrak, and Greyhound in Bakersfield, Antelope Valley Transit Authority and Metrolink in Lancaster, Eastern Sierra Transit Authority and City of Ridgecrest's public transportation.

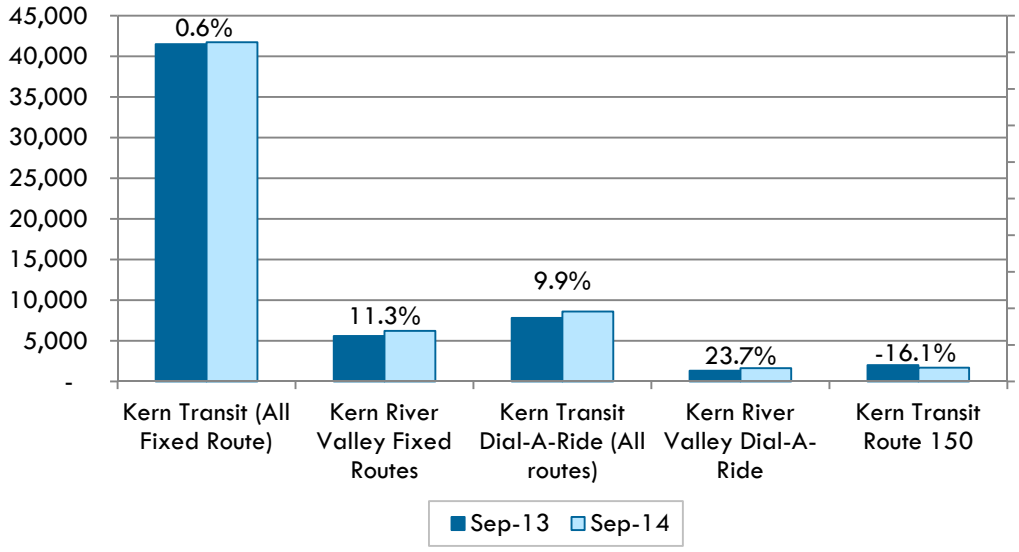
Figure 2-10 Kern River Valley Service Map



System Performance

The following section provides performance characteristics of Kern Transit's systemwide fixed routes, in Kern River Valley, and routes connecting to Bakersfield. Kern Transit fixed-route bus ridership has increased by 0.6% systemwide with the Dial-A-Ride increasing by 9.9% between September 2013 and September 2014. Ridership increased by 11.3% on routes within the Kern River Valley. During the same time period, Route 150 ridership decreased by 16.1%.

Figure 2-11 Ridership Changes (September 2013-2014)



Fixed Route Performance Summary

Based on current service levels, Kern Transit routes in the Kern River Valley operate approximately 24 revenue hours on an average day and an additional seven hours including service to Bakersfield (for a total of 31 average daily revenue hours). Kern River Valley routes do not operate on Sunday. These figures are reflected in Figure 2-12.

Figure 2-12 Kern Transit Resources in the Kern River Valley (Weekday)

	Kern River Valley (220,223,225)	Route 227 (Lake Isabella to Ridgecrest)	Route 150 (Lake Isabella to Bakersfield)
Average Daily Revenue Hours	27.12	10.67	12.3

Source: Kern Transit (July 2014 Data) assuming 22 service days (Monday-Saturday) and 30 service days (Monday-Sunday)

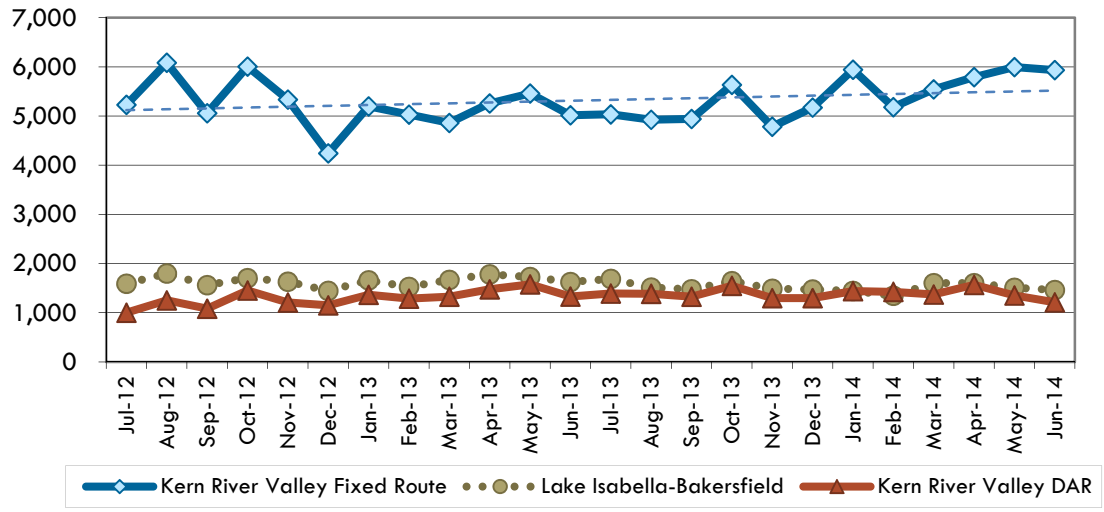
The following performance statistics outline standard metrics for transit services. Figure 2-13 provides a comparison of service characteristics between Kern Transit routes (systemwide) and those within the Kern River Valley and Route 150 (Lake Isabella-Bakersfield). Annual performance data is not yet available for Route 227, which provides services between Lake Isabella and Ridgecrest. In general, Kern River Valley routes operate at a lower cost per passenger in comparison to other Kern Transit routes, but at a higher cost per revenue hour. Route 150 has a farebox recovery ratio of nearly 24%, rivaling urban fixed-route systems.

Figure 2-13 Fixed-Route Performance in FY 2014

Metric	Systemwide	Kern River Valley	Route 150 (Lake Isabella to Bakersfield)
Operating Cost/ Passenger	$10.42	$8.07	$9.86
Operating Cost/ Revenue Hour	$72.20	$72.63	$72.63
Passengers/ Revenue Hour	6.93	9.05	7.37
Farebox Recovery Ratio	13.61%	11.33%	23.84%
Subsidy/ Passenger	$9.04	$7.14	$7.57

Over the past two years, ridership on fixed-route services in the Kern River Valley has steadily increased while ridership on the Dial-A-Ride and Route 150 to Bakersfield fluctuated with relative consistency (Figure 2-14). Overall, the Kern River Valley fixed routes are experiencing an increase in ridership.

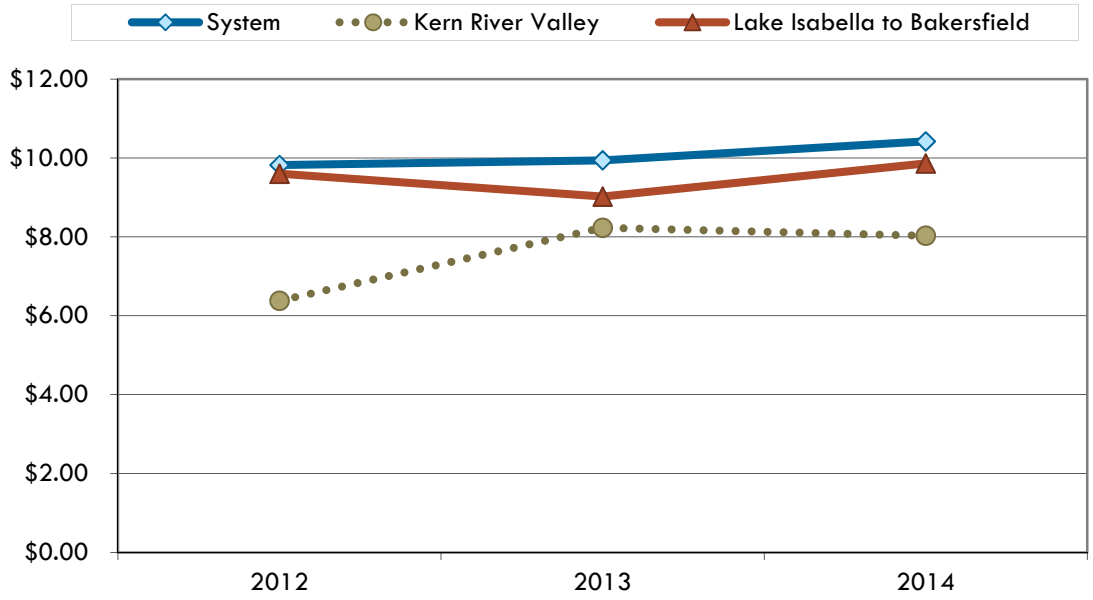
Figure 2-14 Kern River Valley Ridership (July 2012-June 2014)



The following figures show the fixed route transit performance characteristics over time based on annual changes from 2012, 2013, and 2014.

The operating cost per passenger has increased since 2012 across all categories. The Lake Isabella to Bakersfield route is the only category in which costs decreased in 2013. In the same year, costs significantly increased for Kern River Valley, and slightly increased for Kern Transit as a whole.

Figure 2-15 Operating Cost per Passenger



The operating cost per revenue hour stayed consistent for Kern River Valley routes and Route 150 as reflected in Figure 2-16. It is unclear why systemwide operating costs per revenue hour decreased in 2013, to again rise in 2014.

Figure 2-16 Operating Cost per Revenue Hour

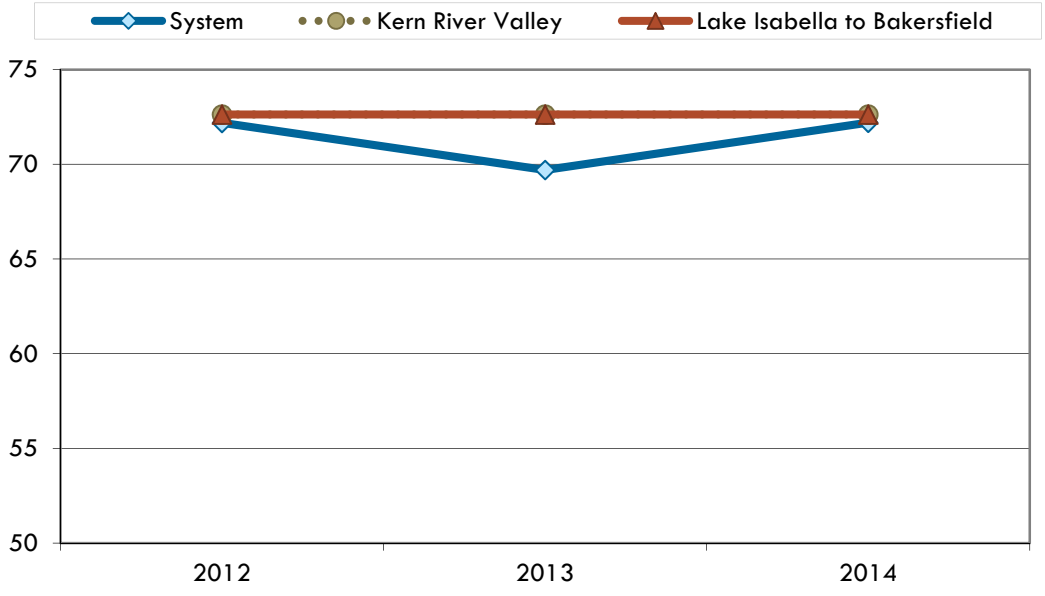


Figure 2-17 outlines the changes in passengers per revenue hour across the Kern River Valley fixed route, Dial-A-Ride, and Route 150. Generally, fixed route productivity has been on an

upward trend. Route 150's passengers per revenue hour statistics show a decline from July 2012 to June 2014. Dial-A-Ride service productivity is also shown here for reference. It has been relatively consistent (between 2-4 passengers per revenue hour) since July 2012.

Figure 2-17 Passengers per Revenue Hour

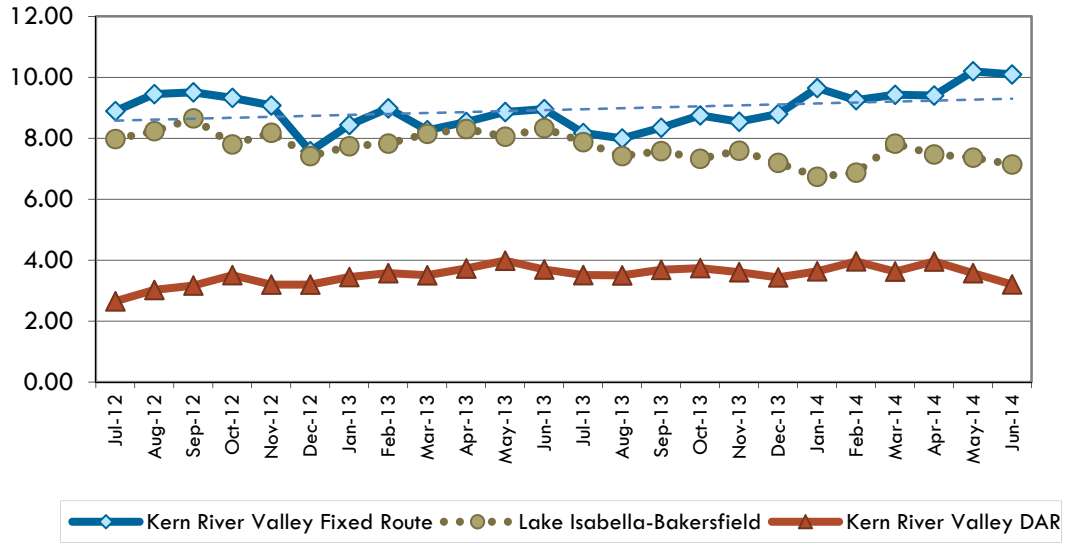


Figure 2-18 shows that generally, the farebox recovery ratio has declined over the past three years. However, Route 150's farebox recovery ratio has maintained a range within approximately 25%. Alternatively, Kern River Valley routes and Kern Transit systemwide have declined, but are consistently between 10%-15%.

Figure 2-18 Farebox Recovery Ratio

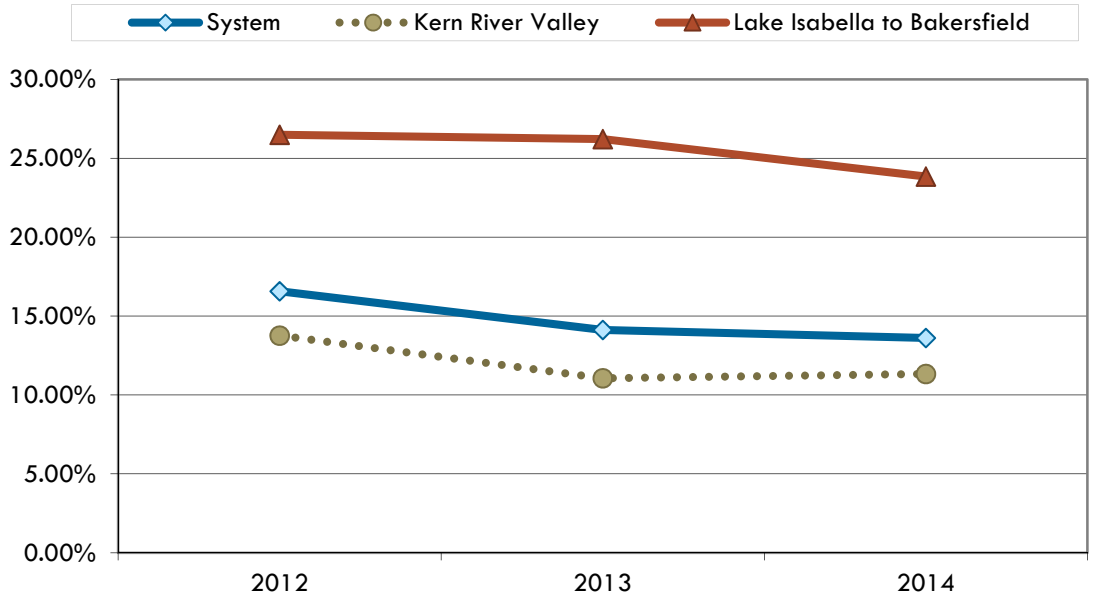
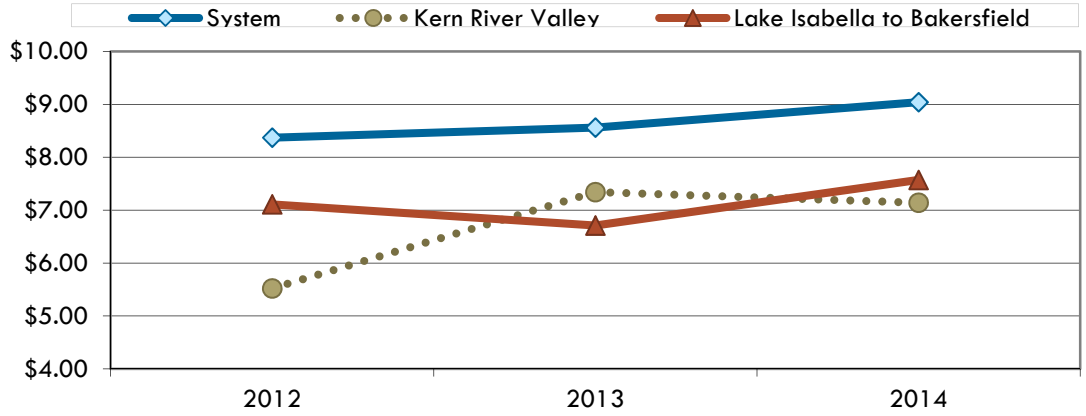


Figure 2-19 provides a sample of the subsidy per passenger for Kern River Valley services as compared to Kern Transit systemwide. Both Kern River Valley fixed-route services operate at a lower subsidy per passenger than the Kern Transit on average.

Figure 2-19 Subsidy per Passenger



Fixed Route Characteristics

This section describes in detail each of the seven routes serving the Kern River Valley. Given recent service changes and the timing of the most recent stop-by-stop ridecheck (2010), data is either be organized by (1) individual routes or (2) categorized between Kern River Valley routes and Route 150.

Figure 2-20 presents a cross-section of each of the Kern Transit fixed routes that operate in the Kern River Valley. Daily ridership levels vary by route and range from as few as 3.9 passengers per trip to over 7 passengers per trip. Route 227 (Lake Isabella-Ridgecrest) is a relatively new route and should be given time to grow a ridership base before being compared to other routes.

Figure 2-20 Summary of Kern River Valley Fixed Route Services

Route Number	Round Trips per Day (Weekday)	Average Weekday Daily Ridership	Average Weekend Daily Ridership	Average Passengers per Trip (Weekday)
Route 150 Lake Isabella-Bakersfield	4	74.1	43.5 (Sat) 29.0 (Sun)	9.3
Route 220 Kernville-Lake Isabella	8.5	79.2	62.8 (Sat)	4.6
Route 223 Lake Isabella-Bodfish (Loop)	8	61.8	36.8 (Sat)	7.7
Route 225 Lake Isabella-Onyx	8.5	118.0	90.8 (Sat)	6.9
Route 227 Lake Isabella-Ridgecrest	3	23.1	-	3.9

Routes 220, 225: Based on September 2014 Ridership Data

Notes: Route 227 began operations in August 2014. It operates Monday, Wednesday, and Friday only.

Summary of Service Span

Figure 2-21 provides a snapshot of a typical weekday for Kern Transit services in the Kern River Valley. The figure highlights when services operate throughout the day, their frequency, and when services "line up" for transfers at the Kern River Valley Senior Center. Kern River Valley Routes 220, 223, and 225 operate 8-9 trips per day per direction with the highest frequency. Route 150 operates four trips per day with approximately three hours between trips. The highest density of trips occurs during the mid-day (between 9:00 a.m. and 3:00 p.m.).

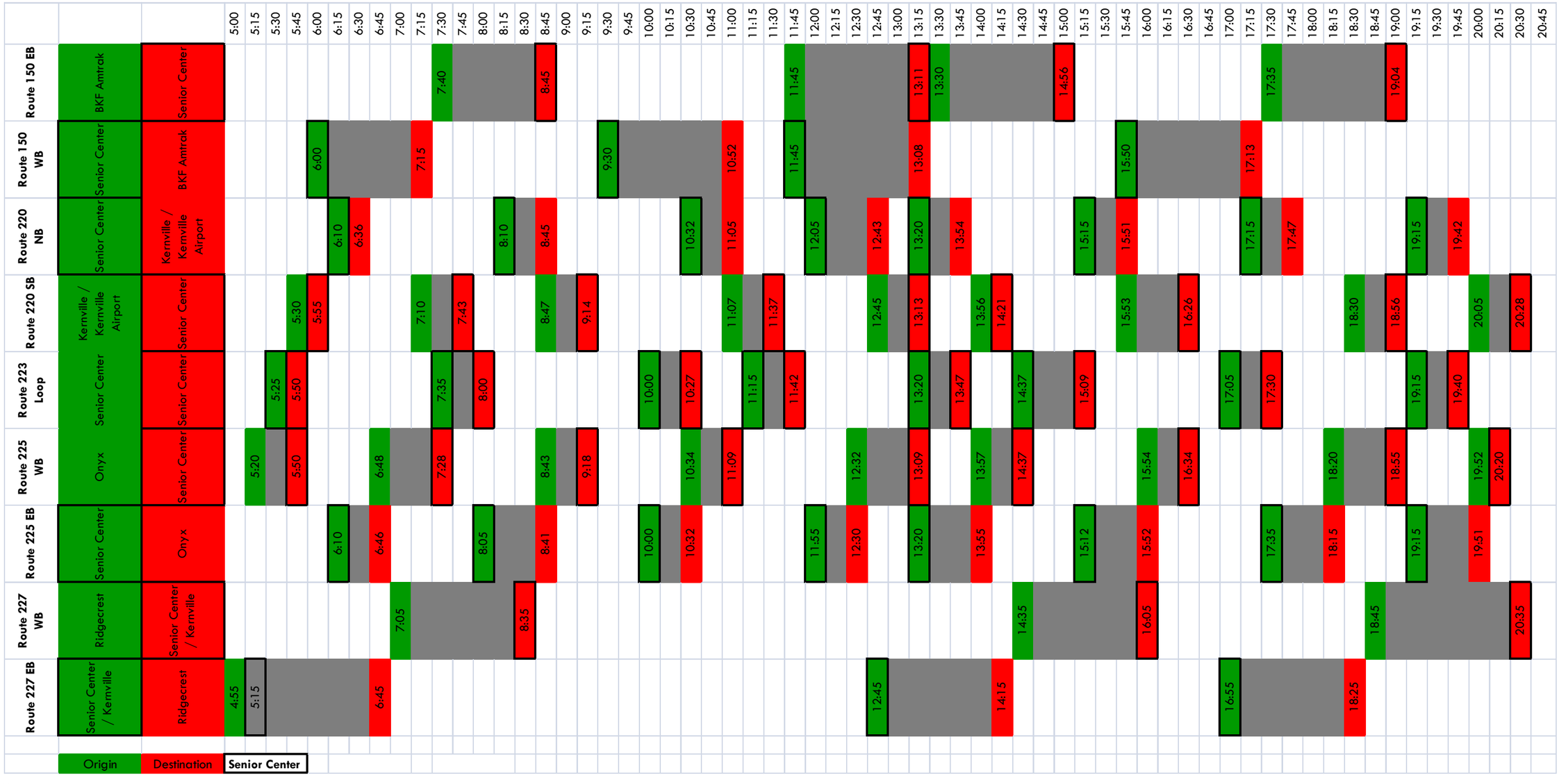
Figure 2-22 provides a similar visual of the service span after January 2015 service changes. Most notably, Routes 220 and 225 will now directly serve the Kern Valley Plaza on several trips per day. While this service is limited, it will allow people across the valley to access the Kern Valley Plaza shopping center without transferring at the Senior Center.

General Boarding Patterns

As part of the 2010 Kern Regional Transit Service Analysis, a stop-by-stop ridecheck was conducted for each route operating at the time. This ridecheck did not include Route 227 that began operation in August 2014. Figure 2-23 through Figure 2-30 describe existing boarding patterns for routes within the Kern River Valley and Route 150 (Lake Isabella-Bakersfield). Each figure describes boarding activity by average weekday or weekend and direction of travel. Note that regular service along Evans Road is no longer in operation, nor is service along Kelso Valley Road. Service to Southfork Middle School is still available by request along Evans Road. In addition, the ridecheck was conducted when the Kern River Valley service operated as a single route between Onyx, Kernville, Bodfish and Lake Isabella. However, despite the changes in route structure, the boarding activity still reflects transportation demand in the study area.

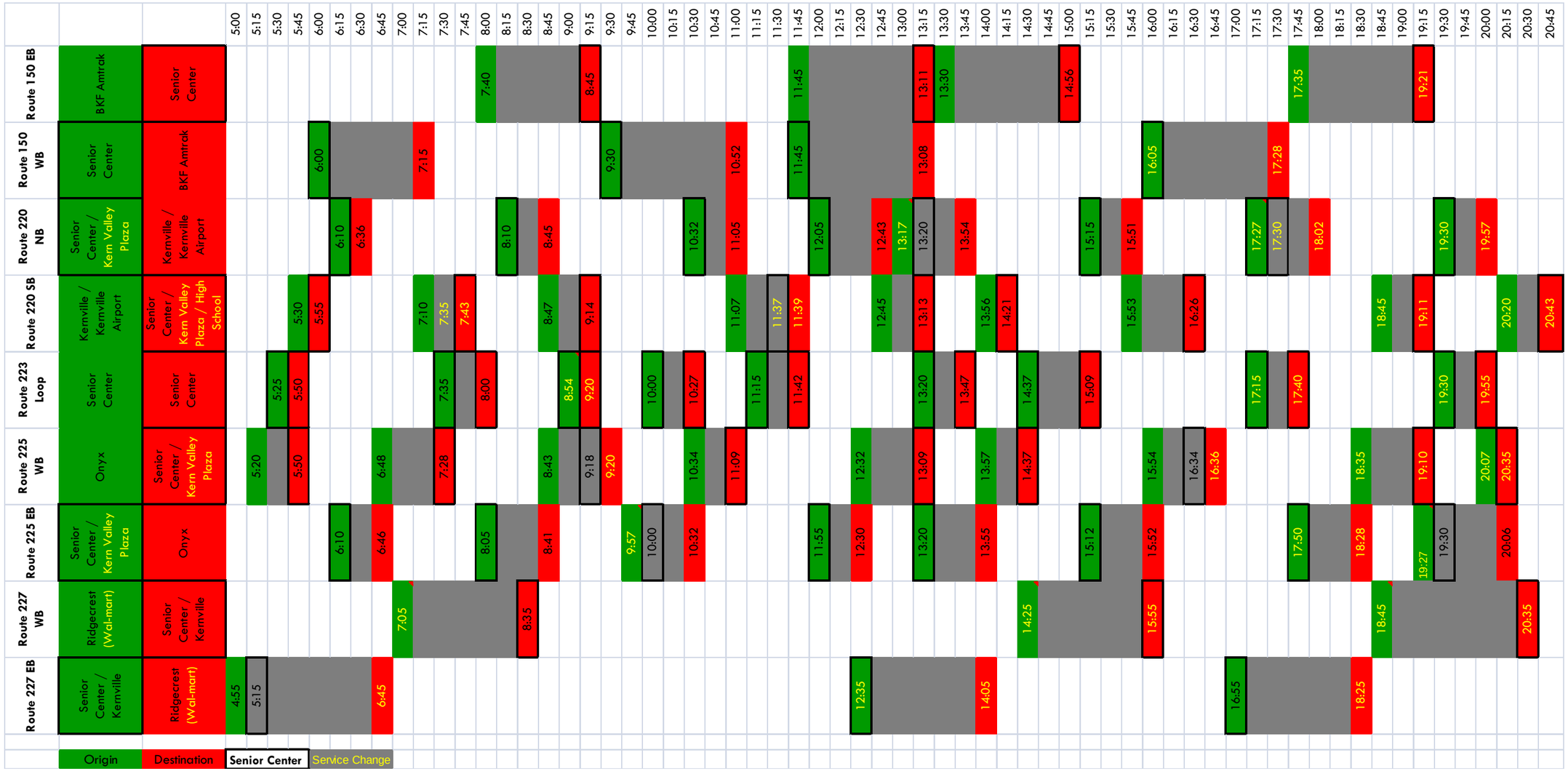
Generally, boarding activity is relatively balanced throughout the service area. Based on operator interviews and community feedback, boarding activity today was found to be consistent with ridecheck data. Segments with low-performing stops include bus stops associated with recreational facilities such as Campgrounds and Picnic Areas. However, these stops are not a deviation off of the main route.

Figure 2-21 Current Service Span by Route (Before January 1, 2015)



Notes:
EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound
Route 227 operates Monday, Wednesday and Friday only
Times are reported in 24h format (e.g. 3:00 p.m. = 15:00)

Figure 2-22 Current Service Span by Route (After January 1, 2015)



Notes:
EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound
Route 227 operates Monday, Wednesday and Friday only
Times are reported in 24h format (e.g. 3:00 p.m. = 15:00)

Figure 2-23 Kern River Valley Ridership – Eastbound (2010)

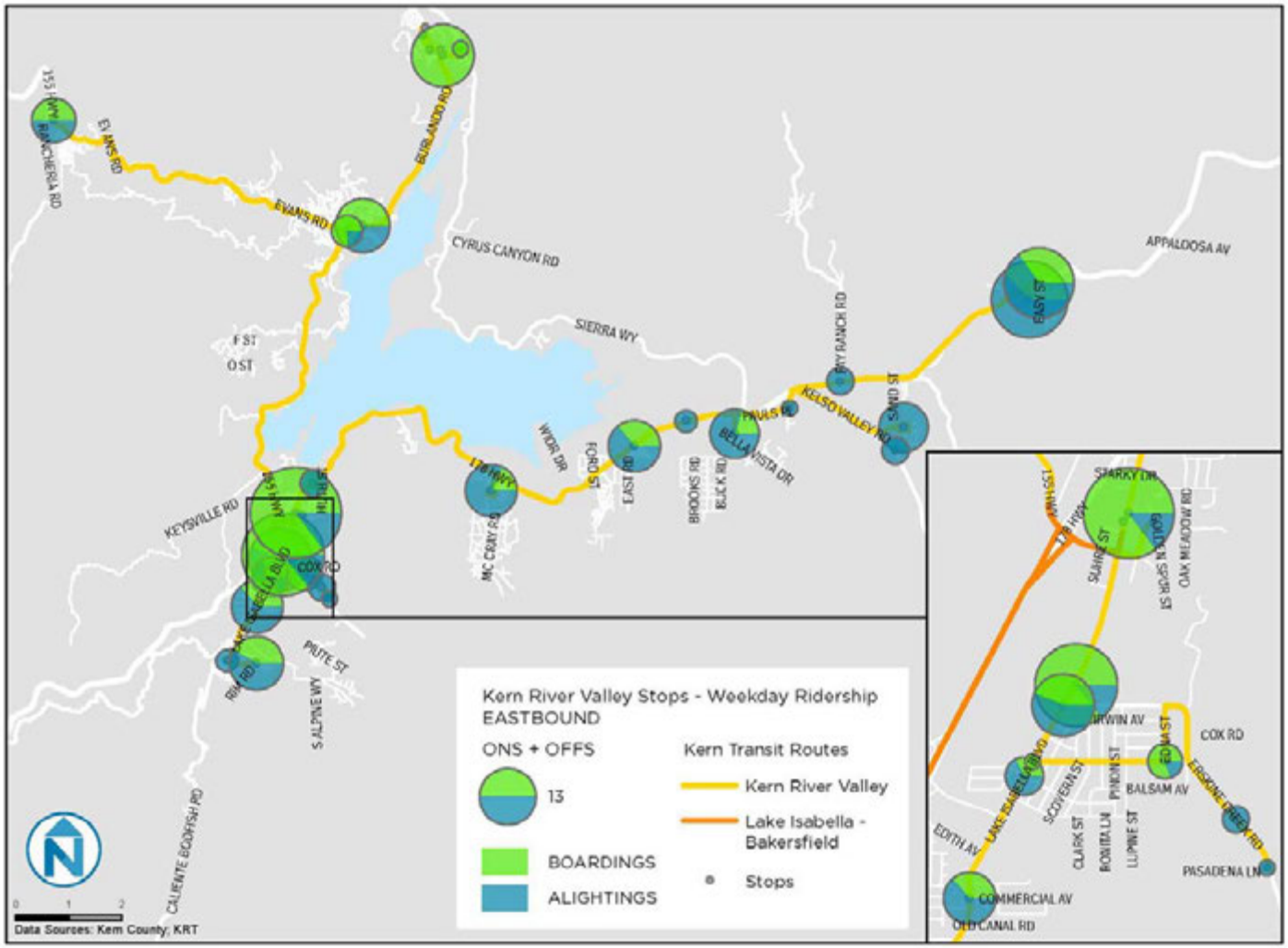


Figure 2-24 Kern River Valley Ridership – Saturday Eastbound (2010)

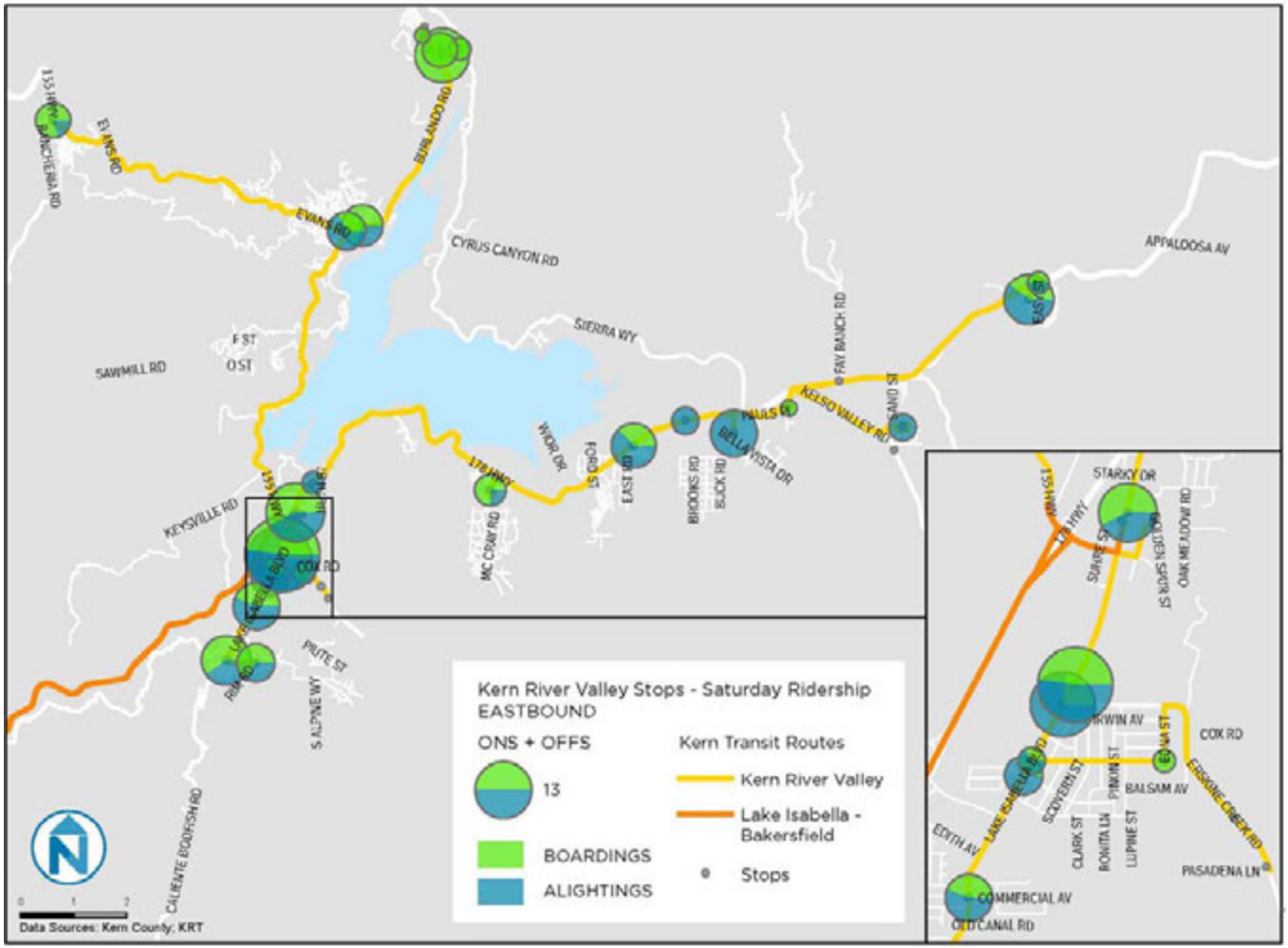


Figure 2-25 Kern River Valley Ridership – Westbound (2010)

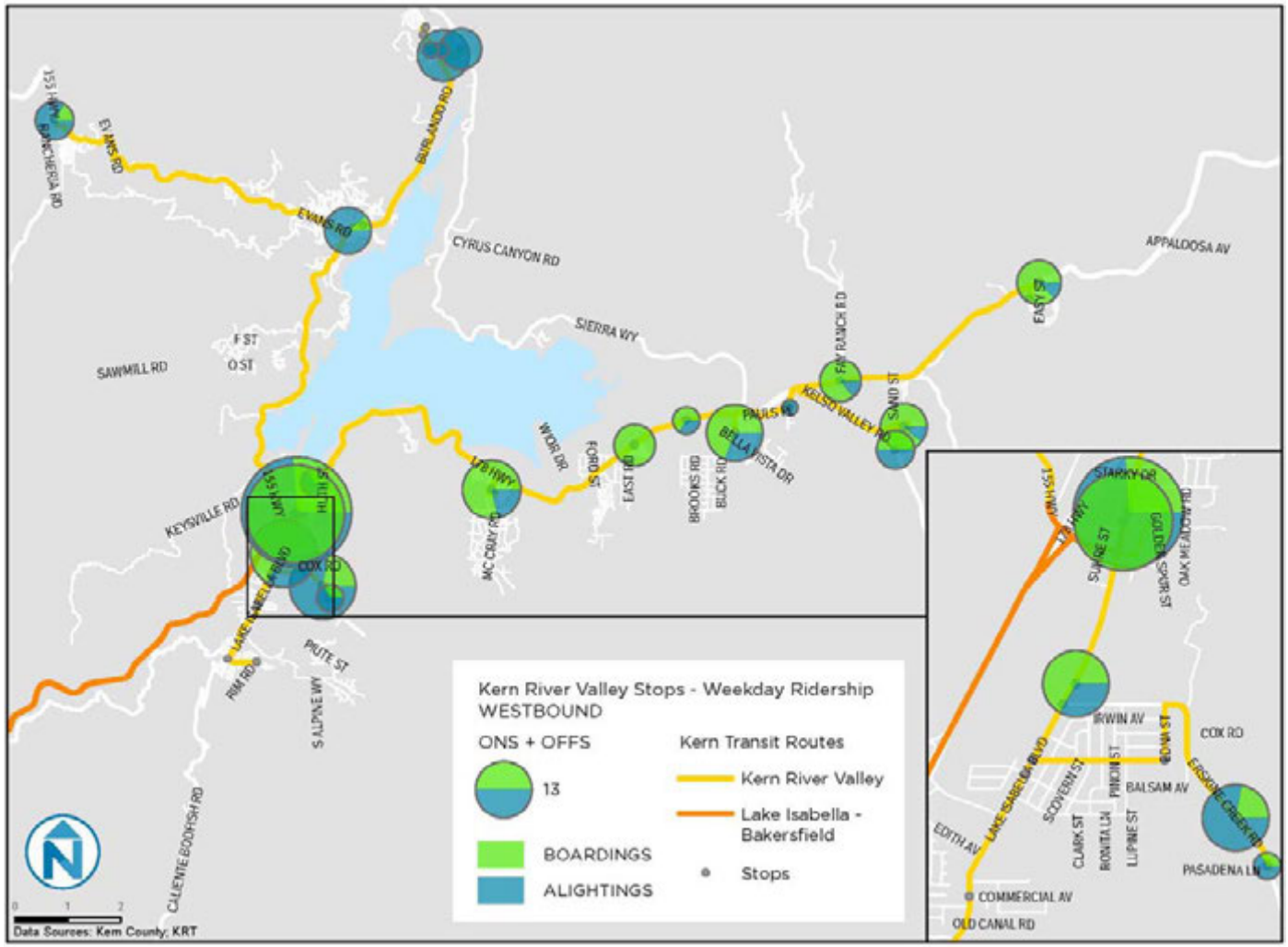


Figure 2-26 Kern River Valley Ridership – Saturday Westbound (2010)

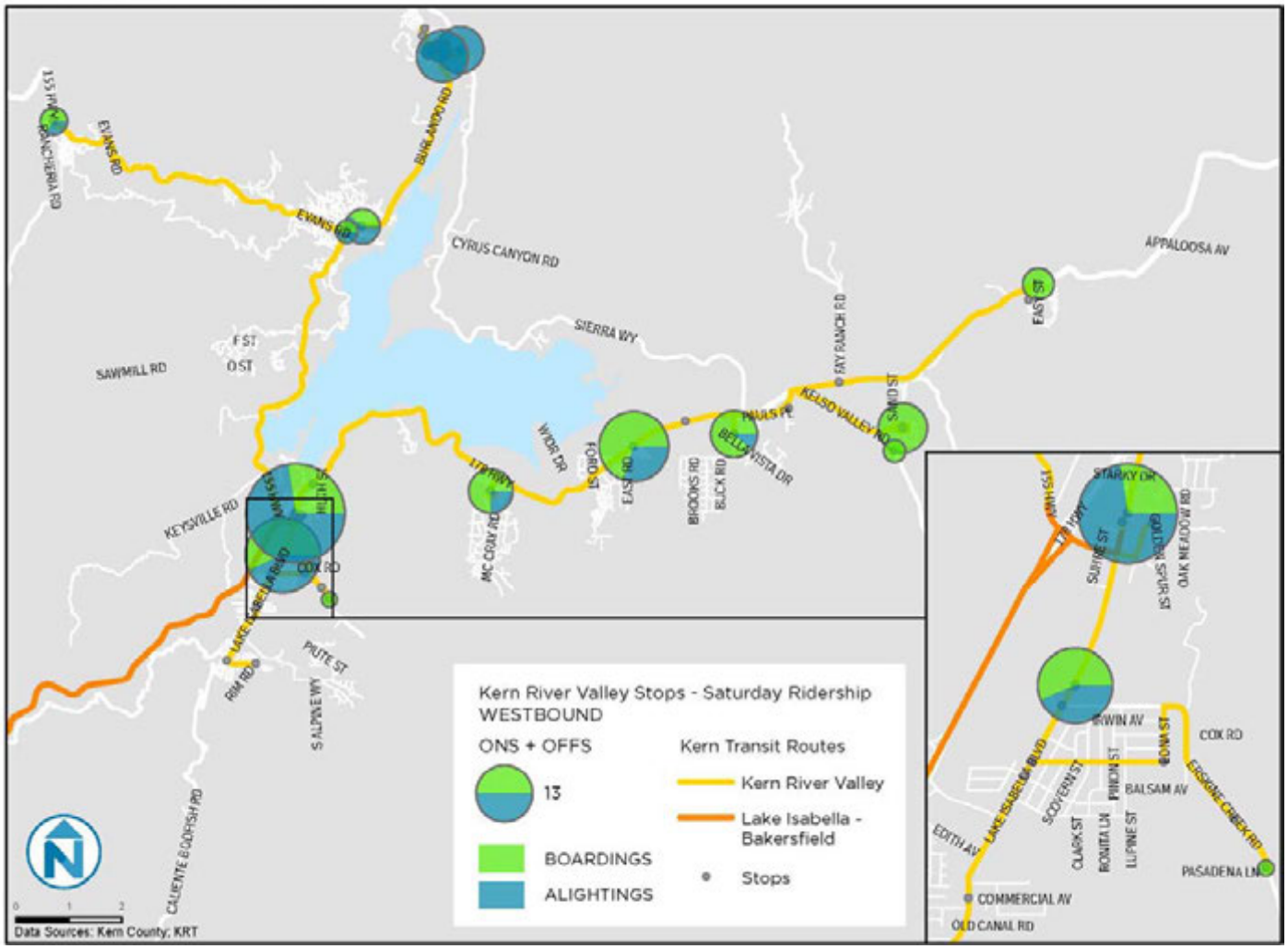


Figure 2-27 Lake Isabella – Bakersfield – Eastbound (2010)

Figure 2-28 Lake Isabella – Bakersfield – Saturday Eastbound (2010)

Figure 2-29 Lake Isabella – Bakersfield – Westbound (2010)

Figure 2-30 Lake Isabella – Bakersfield – Saturday Westbound (2010)

Based on the data collected in 2010, Figure 2-31 shows the bus stops with the highest activity in the Kern River Valley. Note this figure does not include boarding activity in Bakersfield or Ridgecrest on the routes that serve these cities.

Figure 2-31 Bus Stops With Highest Activity in Kern River Valley

Bus Stop	Average Daily Boardings
Lake Isabella Senior Center	77 (including 40 to Bakersfield)
Lake Isabella, County Administration Bldg[2]	30
South Fork School	18
Wofford Heights Blvd & Panorama	16
Onyx, Easy Street	16
Kern Valley Plaza	12
Mountain Mesa - Kern Valley Hospital	11
Wofford Heights Blvd & Evans Rd.	9
South Lake Plaza	9
Vista Grande (Weldon Post Office)	9

Source: 2010 Kern Regional Transit Service Analysis

Additional Service Changes

Unrelated to the development of this plan, Kern Transit made service changes in August 2014 and January 2015.

- **August 2014:** Some minor schedule revisions and elimination of "flag stops" where riders could be picked up or dropped off at any location along the route. Transit service between Lake Isabella and Ridgecrest was initiated at this time.
- **January 2015:** Revisions to Routes 220 and 225 to serve the Lake Isabella Von's and adjacent shops in Lake Isabella. In addition, the Ridgecrest Wal-Mart will now be served as part of Route 227.

[2] No Westbound Boardings due to location at end of route

Current Route Profiles

Each Kern River Valley route is described in greater detail below including the current fare, service characteristics (when information is available), and performance based on standard transit performance metrics.

Route 150: Lake Isabella-Bakersfield

Figure 2-32 Route 150 Lake Isabella-Bakersfield Profile

At A Glance			
Fare-Regular		$2.75	
Fare-Discounted		$1.75	
Weekday Boardings		74.1	
Avg Weekday Boardings per Trip		9.3	
Trips per Day	Weekday	Eastbound: 4	Westbound: 4
	Weekend (Saturday, Sunday)	Eastbound: 4,3	Westbound: 4,3
Span	Mon-Fri	6:00 A.M. to 7:04 P.M.	
	Weekend	8:20 A.M. to 7:20 P.M.	

Description

Route 150 operates daily from Kern River Valley Senior Center to Amtrak Station in Bakersfield. The route provides connections to Kern Transit 100, 110, 115, 120, 130, 140, 142, 145, Medical Dial-A-Ride, and Golden Empire Transit (GET) routes in Bakersfield.

The route stops at major destinations in Bakersfield such as Target, Bakersfield College, Kern Medical Center, GET Downtown Transit Center, Greyhound Station, and Amtrak Station. The route operates via SR-178, Mall View Road, Mt. Vernon Avenue, Panorama Drive, Haley Street, Flower Street, Chester Avenue, F Street, and Golden State Avenue. Many of these stops are served both on the inbound and outbound trip to/from Bakersfield.

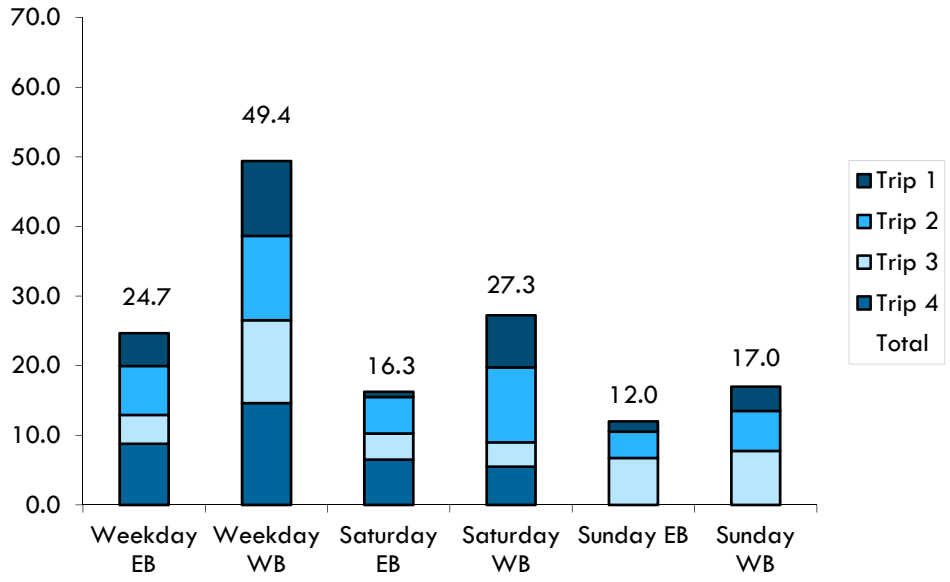
In the future, Route 150 will provide residents of the Kern River Valley a direct, timed connection to California High-Speed Rail service in Bakersfield, connecting the Valley to the other major cities throughout the state.

Ridership Characteristics

Route 150 carries nearly 75 passengers per weekday, 45 on Saturdays and 30 on Sundays. For unclear reasons, the route is significantly more popular in the westbound direction (average 12.4 boardings per trip towards Bakersfield) versus the eastbound (6.2 boardings per trip). During the weekday, its four weekday westbound trips are roughly equally popular. However, the final eastbound trip (departs at 5:35 p.m.) is generally the most popular on any given day. This boarding data is found in Figure 2-33. In September 2014, five trips exceeded 25 boardings (maximum bus capacity is 30). In addition, 25 trips operated empty (15% of trips).

Figure 2-33 describes ridership by trip, day, and direction for Route 150 with the most popular service in the weekday westbound (toward Bakersfield) direction.

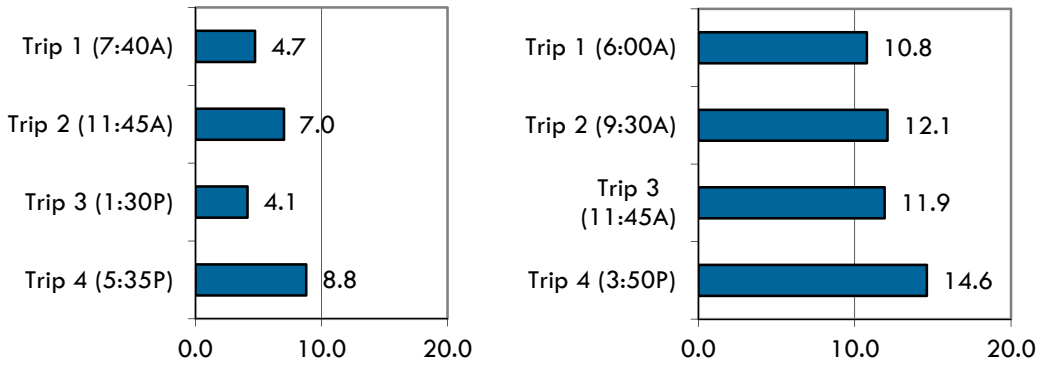
Figure 2-33 Route 150 Average Boardings (by Trip, Day, Direction)



Source: Kern Transit Ridership Data – September 2014

Figure 2-34 presents Route 150 ridership data based on trip. Evening trips (after 3:00 p.m.) in both directions are the highest ridership trips throughout on weekday service days. Interestingly, the final westbound (toward Bakersfield) trip is the most popular Route 150 trip, indicating that riders either reside outside of the study area or are getting other means of transportation back to the Kern River Valley in the evening. The popularity of the final trip indicates that additional evening service might be warranted on this route.

Figure 2-34 Route 150 Eastbound (left) and Westbound (right) Weekday Ridership by Trip



Route 220 Lake Isabella-Kernville

Figure 2-35 Route 220 Lake Isabella-Kernville Profile

At A Glance			
Fare-Regular		$1.00	
Fare-Discounted		$0.75	
Weekday / Saturday Boardings		79.1 / 62.8	
Boardings per Trip		4.7	
Approximate Round Trip Time			
Trips per Day	Weekday	Northbound: 8	Southbound: 9
	Weekend (no Sundays)	Northbound: 8	Southbound: 9
Span	Mon-Fri	6:10 A.M. to 8:28 P.M.	
	Weekend (no Sundays)	6:10 A.M. to 8:28 P.M.	

Description

Route 220 operates from Kern River Valley Senior Center to Kernville, with some trips traveling to the Kern Valley Airport. The route provides connections to Kern Transit 150, 223, 225, and 227 at the Senior Center.

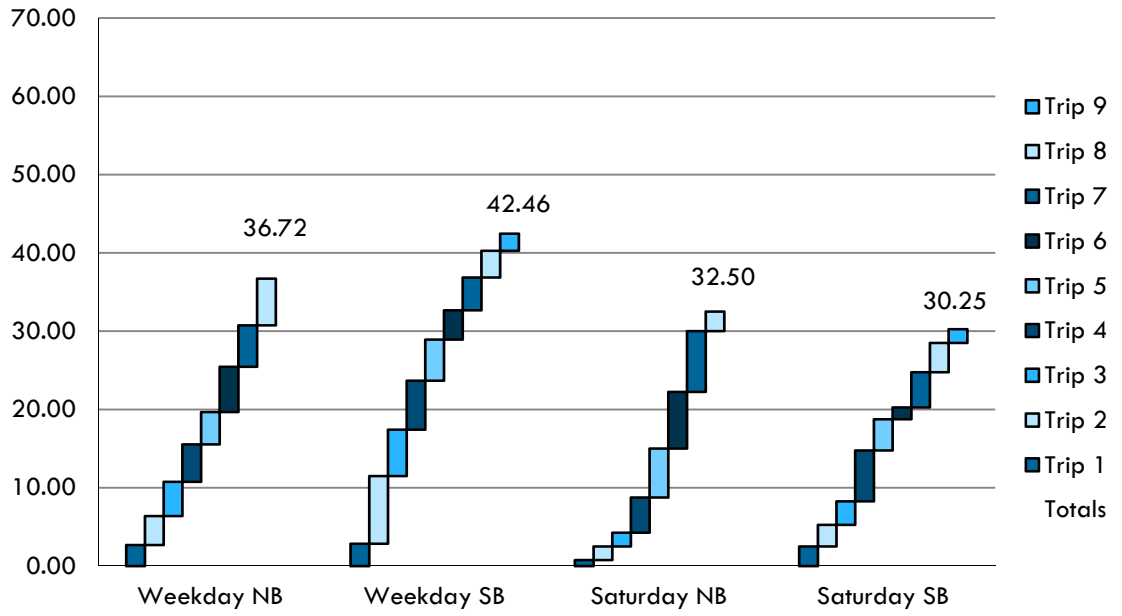
The route stops at several destinations in Kern River Valley such as Kern Valley Airport, Kernville (Sierra Way/Valley View Drive), Wofford Heights, Hungry Gulch, French Gulch Marina, Lake Isabella, and Kern Valley High School. The route operates via SR-155 for the majority of its length, with additional stops along Sierra Way, Burlando Drive, Kernville Road, Panorama Drive, Evans Road, Lakeshore Drive, and Wofford Boulevard.

There is no Sunday service on this route.

Ridership Characteristics

Route 220 ridership is relatively consistent between weekday and Saturday service. On weekdays, the majority of riders seem to take advantage of trips during the commute periods traveling southbound in the morning, then northbound in the evening. Figure 2-36 provides a cross section of Route 220 ridership based on day, direction, and trip. The final weekday northbound trip (Trip 8, leaving at 7:15 p.m.) is the highest ridership trip of all weekday northbound trips, indicating that additional evening service may be warranted. Saturday service is most popular during the mid-day trips.

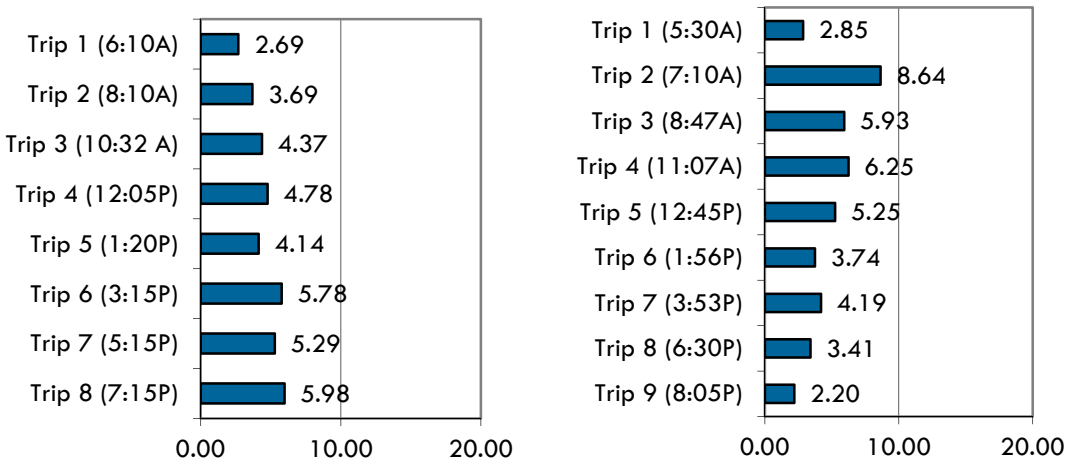
Figure 2-36 Route 220 Average Boardings (by Trip, Day, Direction)



Source: Kern Transit Ridership Data – September 2014

Figure 2-37 provides a summary of Route 220 by weekday trip. In general, ridership volumes in the morning and mid-day lean slightly southbound (towards Lake Isabella). In the afternoon, ridership volumes are skewed slightly northbound. However, there is not a significant directionality skew on this route. The final northbound trip (Trip 8) is the highest ridership route in that direction, indicating that additional evening service may be warranted.

Figure 2-37 Route 220 Northbound (left) and Southbound (right) Weekday Ridership by Trip



Route 223 Lake Isabella-Bodfish

Figure 2-38 Route 223 Lake Isabella-Bodfish Profile

At A Glance		
Fare-Regular		$1.00
Fare-Discounted		$0.75
Weekday Boardings		61.8
Boardings per Trip		7.7
Approximate Round Trip Time (based on schedule)		
Trips per Day	Weekday	Loop: 8
	Weekend (no Sundays)	
Span	Mon-Fri	5:25 A.M. to 7:40 P.M.
	Weekend (no Sundays)	5:25 A.M. to 7:40 P.M.

Description

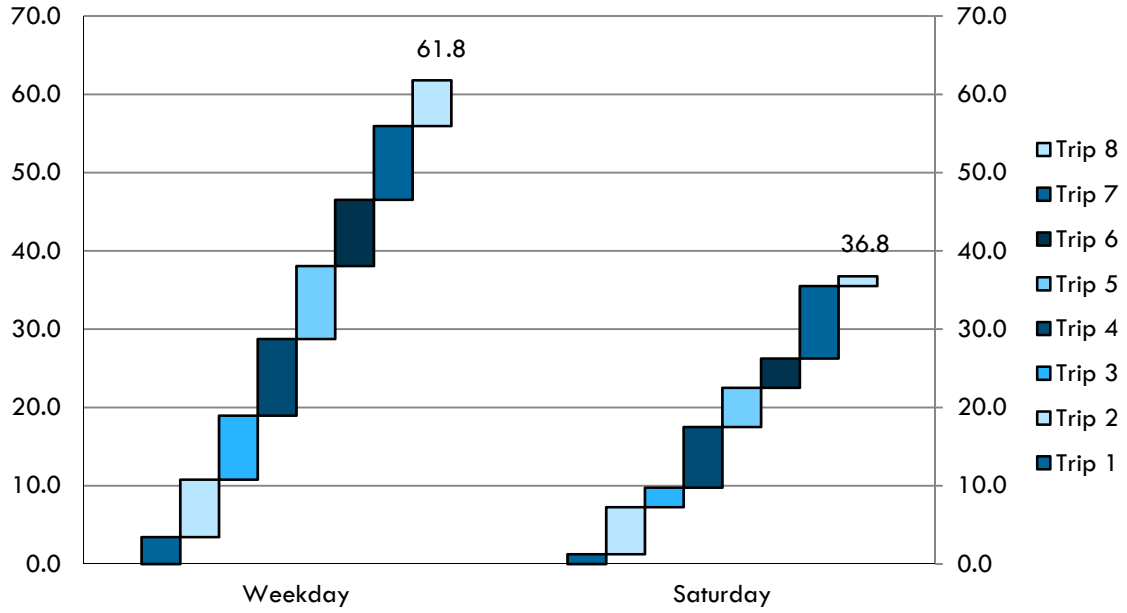
Route 223 operates from Kern River Valley Senior Center to Bodfish in a loop. The route provides connections to Kern Transit 150, 223, 225, and 227 at the Senior Center.

The route stops at major destinations in Kern River Valley such as Kern River Valley Senior Center, Kern Valley High School (one trip serving the 3:15 p.m. bell), Tank Park, and Valley Plaza. As of December 2014, this is the only route to provide services to Valley Plaza that includes Vons, Rite Aid and numerous other retail services. The Valley Plaza stop is within the parking lot in front of Rite Aid. The route operates on Lake Isabella Boulevard, with additional stops along North Drive, Columbus Avenue, and Alta Sierra Avenue. There is no Sunday service on this route.

Ridership Characteristics

Weekday ridership is relatively consistent throughout the service day with the highest ridership levels mid-day and at the day's end. Students at Kern Valley High School may also contribute to these ridership numbers (Trip 6). During the month of September, Trips 3 and 4 (10:00 a.m., 11:15 a.m., respectively) on Wednesdays approached approximately 22 boardings, this level of activity may come close to the vehicle's 18 passenger capacity. Saturday ridership is somewhat skewed with few riders taking the final trip of the day (7:15 p.m., Trip 8). This information is reflected in Figure 2-39.

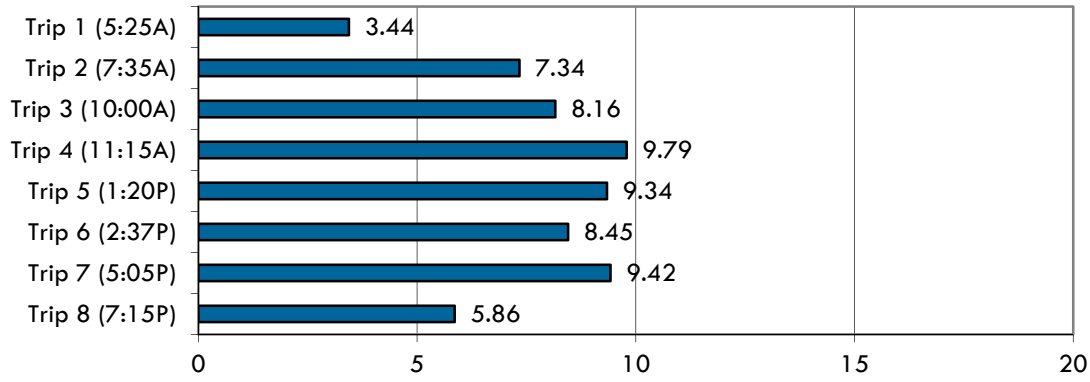
Figure 2-39 Route 223 Average Boardings (by Trip, Day, Direction)



Source: Kern Transit Ridership Data – September 2014

Figure 2-40 highlights Route 223 ridership by trip. Ridership is relatively consistent between 7 a.m. and 5:30 p.m. Trip 6 makes a deviation to pick-up students at the Kern River Valley High School on Erskine Creek Road. However, ridership on this trip does not exceed other trips; ridership is actually lower than the two adjacent trips.

Figure 2-40 Route 223 Weekday Ridership by Trip (Loop Route)



Route 225 Lake Isabella-Onyx

Figure 2-41 Route 225 Lake Isabella-Onyx Profile

At A Glance			
Fare-Regular		$1.00	
Fare-Discounted		$0.75	
Weekday Boardings		118.0	
Boardings per Trip		6.6	
Approximate Round Trip Time (based on schedule)			
Trips per Day	Weekday	Eastbound: 8	Westbound: 9
	Weekend (no Sundays)	Eastbound: 8	Westbound: 9
Span	Mon-Fri	5:20 A.M. to 8:20 P.M.	
	Weekend (no Sundays)	5:20 A.M. to 8:20 P.M.	

Description

Route 225 operates from Kern River Valley Senior Center to Scodie Park in Onyx. The route provides connections to Kern Transit 150, 220, 223, and 227 at the Senior Center. Route 227 duplicates Route 225's stops on its way to and from Ridgecrest.

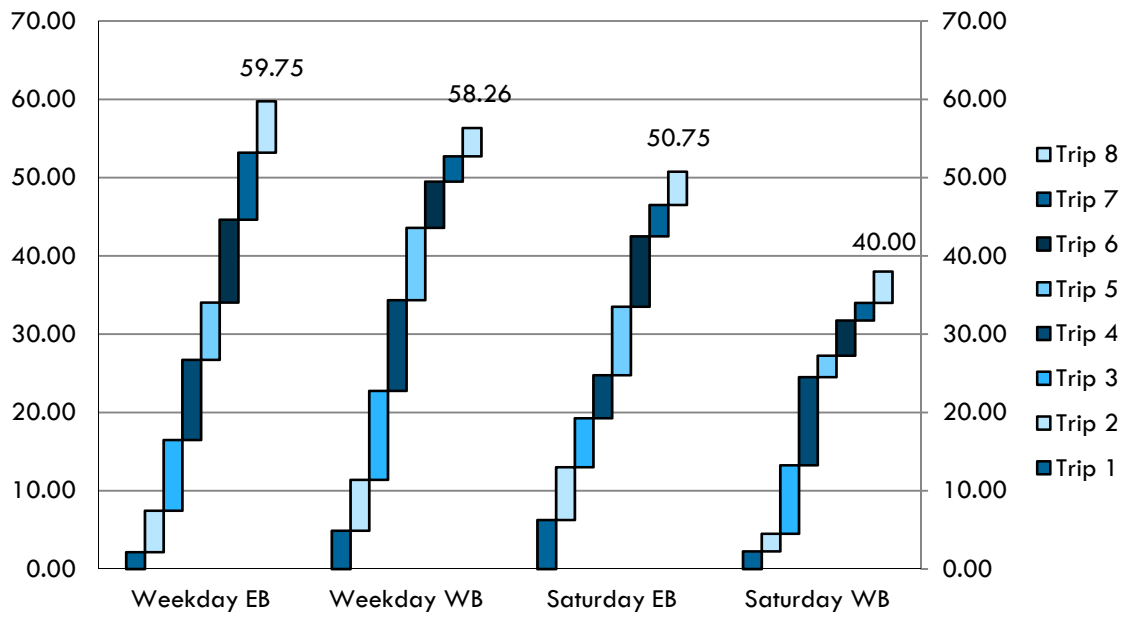
The route stops at major destinations along SR-178 such as County Administration Building, Paradise Cove, Kissack Cove, Kern Valley Hospital, and South Lake Plaza. The route operates primarily along the highway, Mountain Mesa Road, McCray Road, Lynch Canyon Road, Frontage Road, and Vista Grande Drive. There is no Sunday service.

Ridership Characteristics

Route 225 generates relatively consistent ridership on weekdays with the majority of ridership occurring during commute and mid-day hours (Trips 2-6). Saturday eastbound ridership (50.8 riders per day) is relatively consistent with weekday ridership, whereas Saturday westbound ridership is significantly lower (40 riders per day). The reason for the skew of westbound versus eastbound ridership is unknown.

Over the course of September 2014, 38% (8 of 21 trips) of Trip 9 runs operated empty. In terms of capacity constraints, Tuesday and Thursdays seems to be the highest ridership days on this route. (Route 227 to Ridgecrest provides additional service on this corridor Monday, Wednesday and Friday).

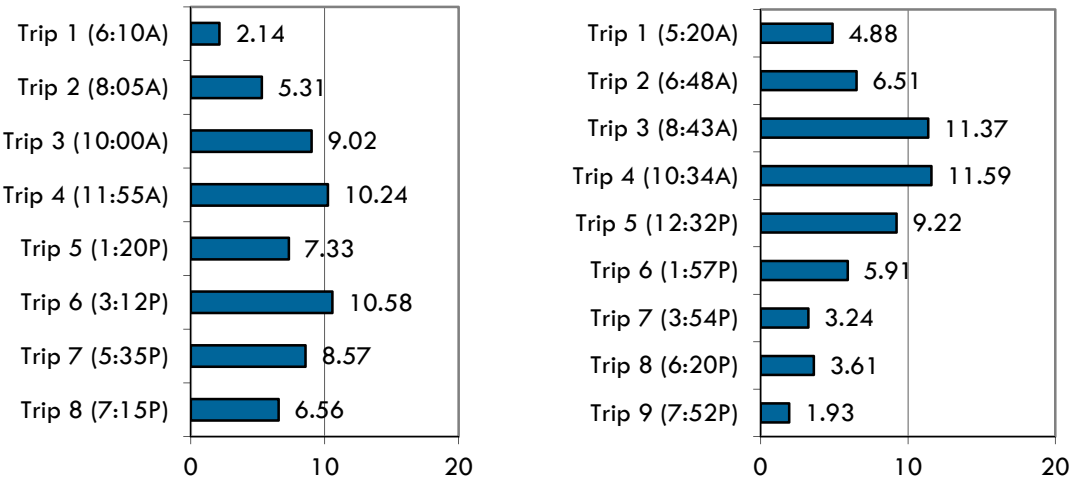
Figure 2-42 Route 225 Average Boardings (by Trip, Day, Direction)



Source: Kern Transit Ridership Data – September 2014

Figure 2-43 highlights Route 225 ridership by trip. In general, this route carries more westbound (towards Lake Isabella) riders in the morning and mid-day with a pronounced demand curve peaking around 10:30 a.m. Eastbound ridership (towards Onyx) is steadier throughout the day. However, most trips occur between 10:00 a.m. and 6:00p.m.

Figure 2-43 Route 225 Eastbound (left) and Westbound (right) Weekday Ridership by Trip



Route 227 Lake Isabella-Ridgecrest

Figure 2-44 Route 227 Lake Isabella-Ridgecrest Profile

At A Glance			
Fare-Regular		$3.00	
Fare-Discounted		$1.50	
Weekday Boardings		7.7	
Boardings per Trip		3.9	
Approximate Round Trip Time (based on schedule)			
Trips per Day	Weekday (Monday, Wednesday, Friday only)	Eastbound: 3	Westbound: 3
	Weekend	0	
Span	Mon-Fri	4:55 A.M. to 8:35 P.M.	
	Weekend	N/A	

Description

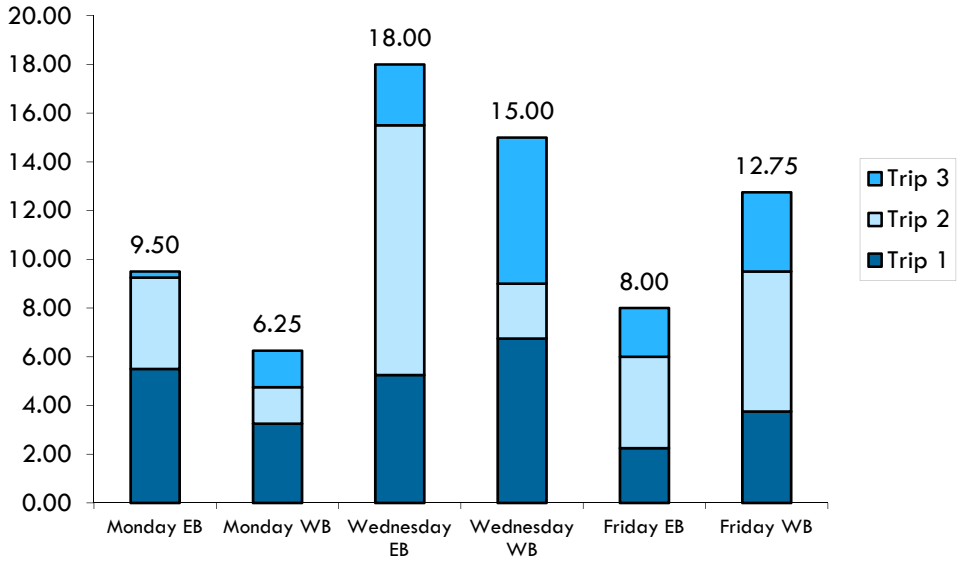
On Mondays, Wednesdays, and Fridays, Route 227 operates from Kernville to Ridgecrest (select trips), passing through Lake Isabella, Onyx, and Inyokern. The route provides connections to Kern Transit 150, 220, 223, 225, and 230. This route is new as of August 2014 and may still be in a phase of building ridership (note, ridership data is from September 2014 data).

Mirroring Route 225, the route stops at major destinations including Kern River Valley Senior Center, County Administration Building, Kern Valley Hospital, South Lake Plaza, Southfork School, Scodie Park, and Ridgecrest City Hall. The route operates primarily along the SR-155 and SR1-178, Mountain Mesa Road, McCray Road, Lynch Canyon Road, Frontage Road, Inyokern Road, and Ridgecrest Boulevard.

Ridership Characteristics

Figure 2-45 provides a summary of Route 227's ridership by day of the week. Currently, Wednesdays are most dominant ridership days for the service with nearly double the average ridership as compared to Monday and Friday. The majority of ridership occurs on Trips 1 and 2 in both directions with 30% of Trips 3 operating empty (mostly on Mondays). The first eastbound trip (Trip 1) begins its trip in Kernville whereas other eastbound trips begin in Lake Isabella. This is presumably because Route 220 does not operate at this time in the morning. The final westbound trip (Trip 3) similarly serves Kernville while others terminate at the Senior Center.

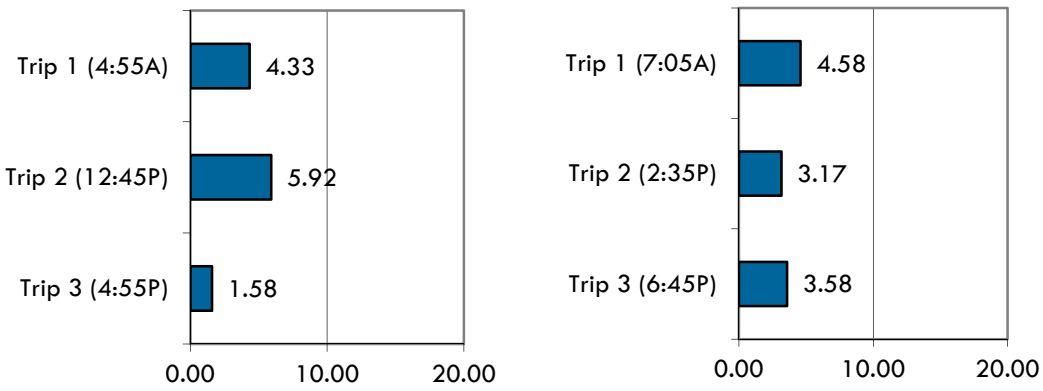
Figure 2-45 Route 227 Average Boardings (by Trip, Day, Direction)



Source: Kern Transit Ridership Data – September 2014

Figure 2-46 highlights the trip-by-trip ridership of Route 227. In the eastbound direction (towards Ridgecrest), ridership is greater in the morning and on the mid-day trip. The final eastbound trip has very limited ridership (less than two passengers). Westbound (towards Lake Isabella) ridership is relatively balanced throughout the day.

Figure 2-46 Route 227 Eastbound (left) and Westbound (right) Weekday Ridership by Trip



Dial-A-Ride Services

Overview

The Kern River Valley Dial-A-Ride operates Monday through Friday between 6:30 a.m. and 6:30 p.m. and Saturday between 7:45 a.m. through 6:30 p.m. The service is open to the general public throughout the study area. Currently, the Lake Isabella Dispatch handles all Dial-A-Ride requests for service. Service is generally guaranteed for those making reservations at least one day in advance. Same day service is provided, as space is available. The service currently operates with two vehicles, which limits its responsiveness and capacity given the large service area.

Dial-A-Ride service is provided in areas of the Kern River Valley highlighted as part of their Service Guide. Generally, service is provided in the vicinity of the primary communities in the Kern River Valley (Kernville, Wofford Heights, Lake Isabella, Bodfish, Mountain Mesa, South Lake, Weldon, and Onyx). Service is provided on paved and maintained roads only.

Figure 2-47 provides a comparison of general service characteristics of the Kern River Valley Dial-A-Ride as compared to Kern Transit Dial-A-Ride as a whole. In general, the Kern River Valley service operates at a lower cost and higher productivity.

Figure 2-47 Dial-A-Ride Performance in FY 2014

Metric	System DAR	Kern River Valley DAR
Operating Cost/ Passenger	$23.51	$20.06
Operating Cost/ Revenue Hour	$73.72	$72.63
Passengers/ Revenue Hour	3.14	3.62
Farebox Recovery Ratio	3.86%	4.25%
Subsidy/ Passenger	$22.62	$19.22

The following figures present the Kern River Valley Dial-A-Ride service characteristics over the past few years. In terms of operating cost per passenger, there has been a downward trend since 2012. As of fiscal year 2013-2014, the cost per passenger for the Kern River Valley service was near $20.00 per passenger (Figure 2-48). This downward trend in cost per passenger is likely related to the increase in passenger productivity. Figure 2-49 highlights the increase in passengers per revenue hour for the Kern River Valley service from 2.6 in 2012 to 3.6 in 2014.

Figure 2-50 highlights the Kern River Valley Dial-A-Ride's farebox recovery ratio (4.25%), which exceeds the average for Kern Transit Dial-A-Ride services (3.86%).

Figure 2-48 Operating Cost per Passenger

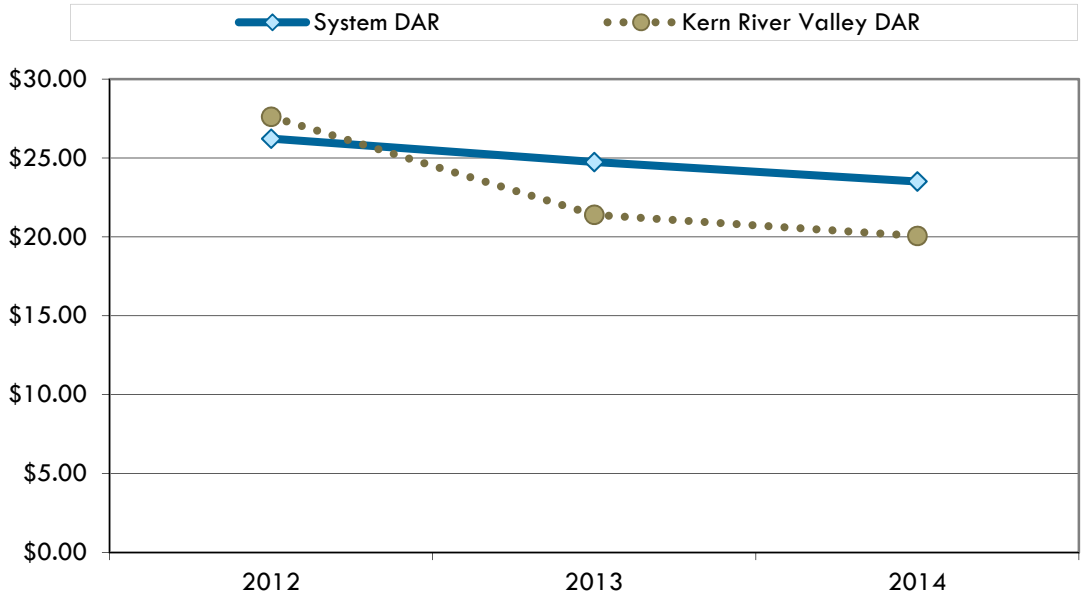


Figure 2-49 Passengers per Revenue Hour

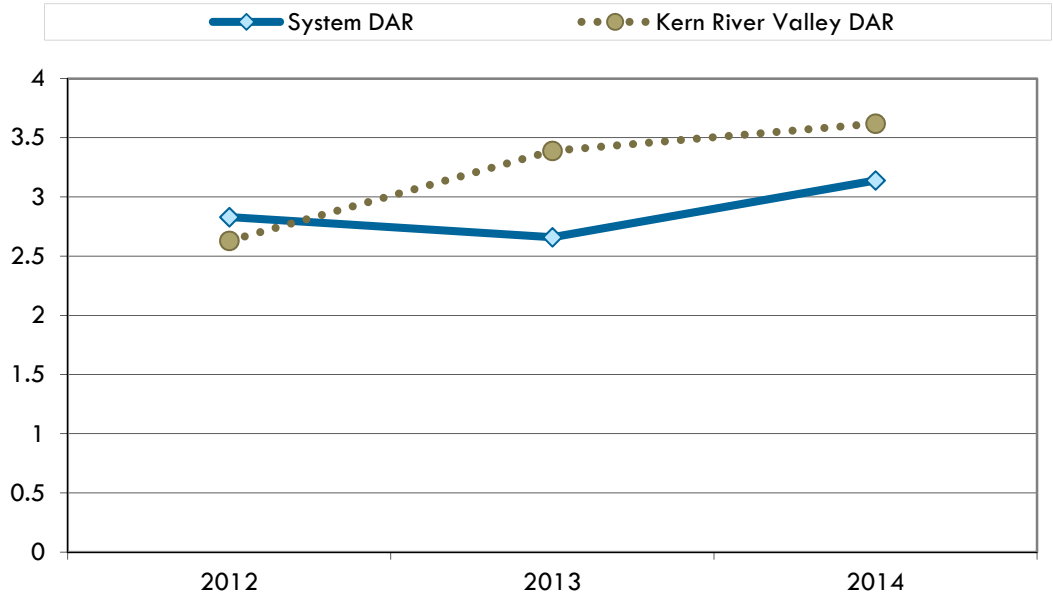
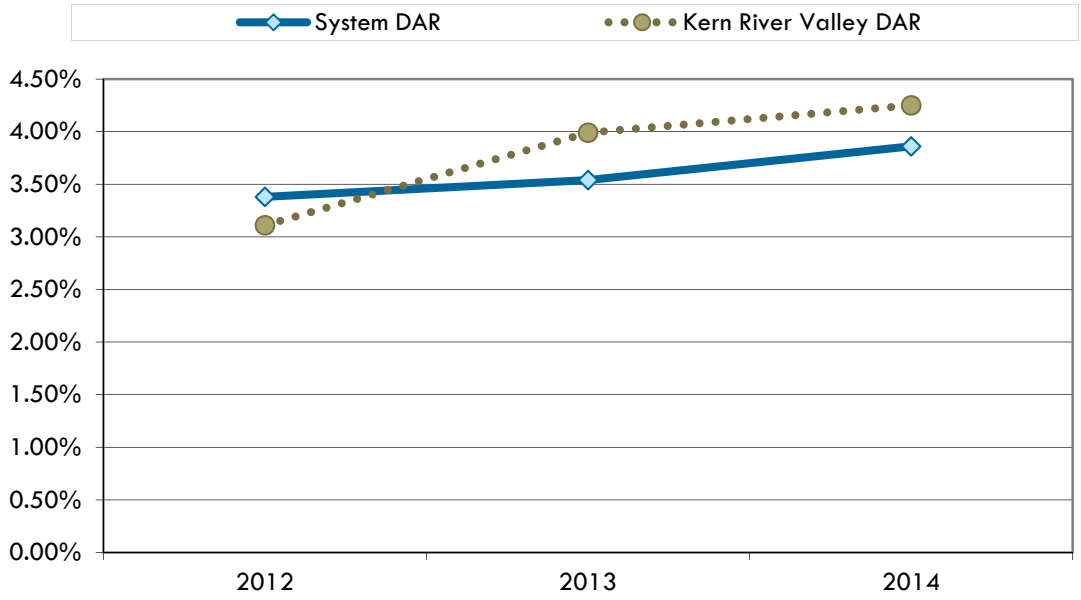


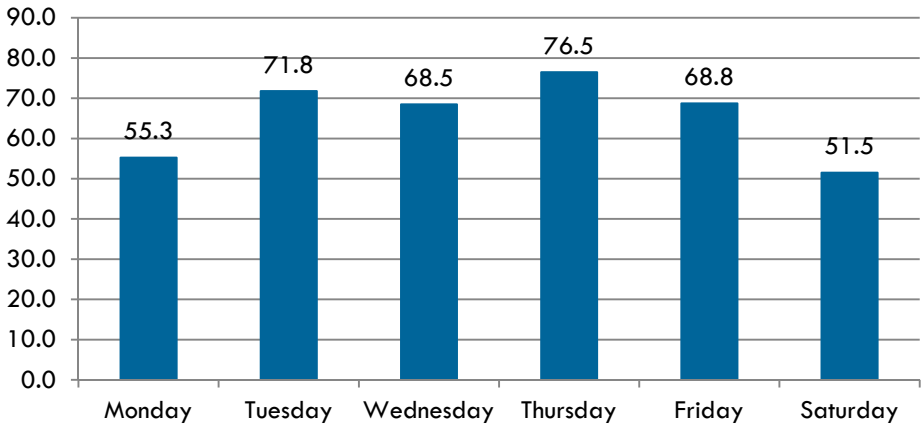
Figure 2-50 Farebox Recovery Ratio



Ridership

Dial-A-Ride ridership is highest on Tuesday through Friday with slightly less demand on Monday and Saturday. Based on feedback from riders and operators, the Dial-A-Ride service is used to support trips that are not easily served by the fixed route system. Trips range from medical appointments, school trips, and worker commute trips. Ridership (September 2014) is highlighted in Figure 2-51.

Figure 2-51 Average Dial-A-Ride Ridership by Day (September 2014)



Source: Kern Transit

Based on one week of Dial-A-Ride manifests from February 2015, information was collected about rider origins and destinations. Lake Isabella is home to a number of resources for the Kern River Valley, such as grocery stores, schools, civic institutions, and cultural centers. As a result, it

is no surprise it has the most Dial-A-Ride activity. 65% of individuals using the Dial-A-Ride service are traveling within the community of Lake Isabella reflecting that many riders use the service as a local community circulator. 17% of passengers who travel from other communities (Mountain Mesa, Kernville, etc.) are traveling to destinations in Lake Isabella. The remaining 18% of passengers are traveling exclusively outside of Lake Isabella. Common trip pairings for the latter include Kernville/Kernville, Bodish/Kernville, and Bodfish/Wofford Heights. It should be cautioned that all Dial-A-Ride manifests as of February 2014 are still recorded using pencil and paper, and some geocoding errors are possible in the translation of these points to the map shown in Figure 2-52.

Passenger Fares

In the Kern River Valley, Kern Transit has a flat-rate fare structure and some free transfers between routes. Fares vary based on distance with all services within the Kern River Valley being the same fare. Service from the Kern River Valley to Bakersfield and Ridgecrest has higher fares.

Fare Structure

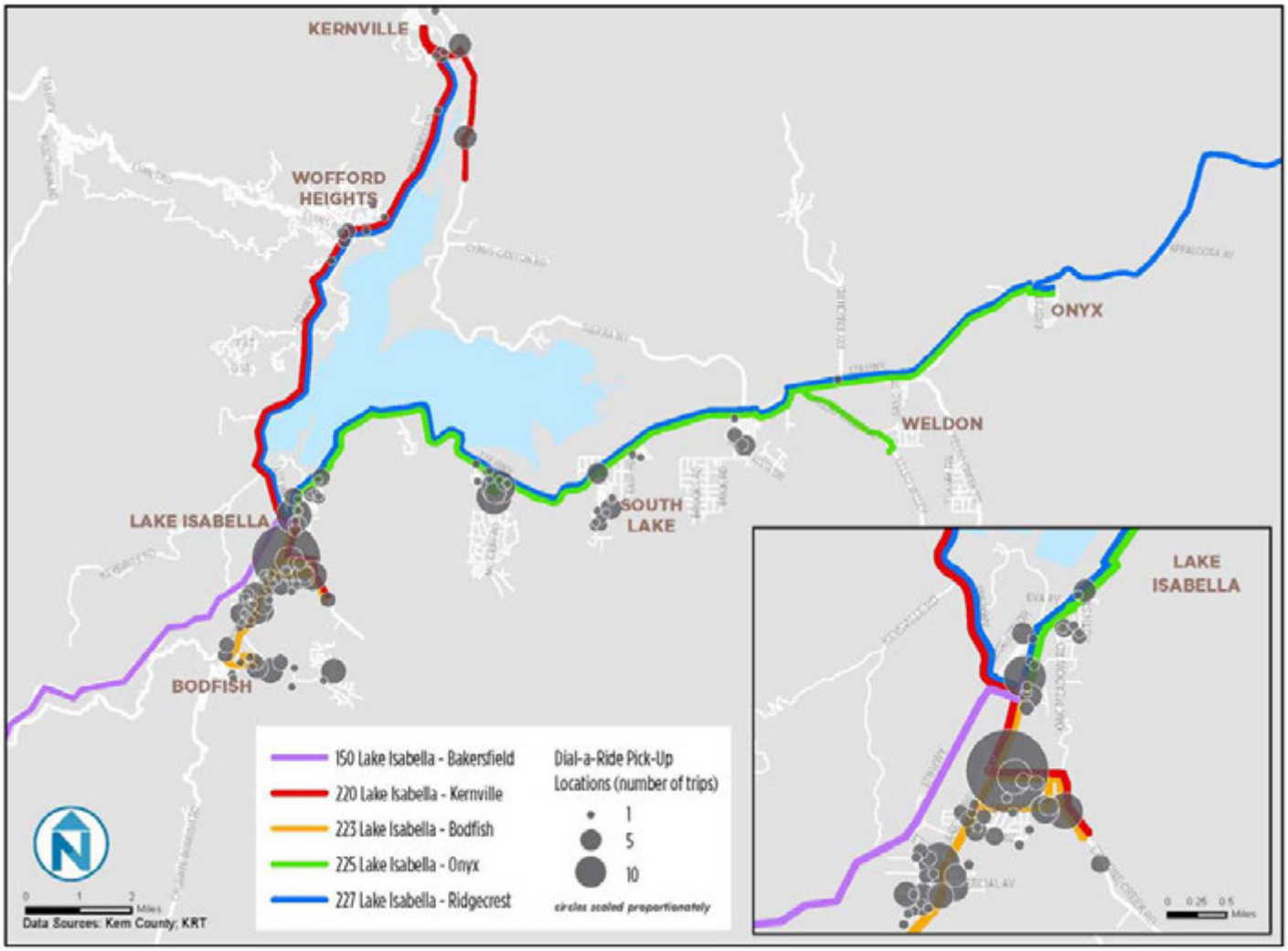
Fare categories are as follows and apply to both fixed route and Dial-A-Ride.

- **Standard Fares** includes individuals aged 16-61 with no disabilities.
- **Reduced Fares** includes seniors 62 and older, persons with disabilities, and youth aged 5-15. Seniors and persons with disabilities must show operators a Reduced Fare Card. A Reduced Fare Card can be obtained from Kern Transit in person or by mail through the submittal of an application that also shows proof of age (government ID) or proof of disability.
- **Free Fares** which includes children four years of age or younger. Up to two children may ride free with a fare paying adult.

Passengers can pay with cash (exact change only) or using pre-paid fare tickets. Fare ticket booklets can be purchased from Kern Transit by mail or in person at Kern Transit (in Bakersfield). A 5% discount is available for bulk purchases and is provided for convenience. Kern Transit does not offer any multi-ride passes (e.g., weekly or monthly passes). Fare tickets come in standard denominations of $0.25, $0.50, $0.75, $1.00, $2.00, and $3.00.

It is of particular note that Dial-A-Ride services are offered at the same price as fixed-route services within the Kern River Valley. Figure 2-53 summarizes Kern River Valley fares.

Figure 2-52 Dial-A-Ride Pick-Up Locations



Source: Kern Transit – Kern River Valley Dispatch Weekly Dial-A-Ride manifest (February 2015)

Figure 2-53 Kern River Valley Fares

Service Type	Route	Adult Fare	Reduced Fare
Intercity Services	Route 150 Lake Isabella-Bakersfield	$2.75	$1.75
	Route 227 Lake Isabella-Inyokern, Ridgecrest	$3.00	$1.50
	Route 227 Inyokern-Ridgecrest	$1.50	$0.75
Kern River Valley Services	Route 223 Lake Isabella-Bodfish (Loop)	$1.00	$0.75
	Route 225 Lake Isabella-Onyx		
	Route 220 Kernville-Lake Isabella		
Dial-A-Ride Services	Kern River Valley Dial-A-Ride	$1.00	$0.75

Transfers

Passengers must pay the full fare when transferring between most buses. An exception is if an individual is staying on one side of the Valley (e.g., Route 227 to Route 223, or vice-versa). In this situation, the fare is $1.00. Thus, there are effectively two zones in the Kern River Valley.

Figure 2-54 Kern River Valley Transfers

From \ To	150	220	223	225	227	Dial-A-Ride
150		Full fare	Full fare	Full fare	Full fare	Full fare
220	Full fare		Free transfer	Full fare	Full fare[3]	Full fare
223	Full fare	Free transfer		Free transfer	Full fare	Full fare
225	Full fare	Full fare	Free transfer		Full fare[4]	Full fare
227	Full fare	Full fare[3]	Full fare	Full fare[4]		Full fare
Dial-A-Ride	Full fare	Full fare	Full fare	Full fare	Full fare	

Vehicle Fleet

Currently, all Kern River Valley services (with exception of Bakersfield-Lake Isabella service on Sundays) operate from the Lake Isabella Dispatch Yard located in Lake Isabella. From this facility, a maximum of eight vehicles are in operation with one spare. Eight vehicles operate on

[3] The first Route 227 trip in the morning and the last in the evening operates the same route as Route 220 before continuing onto Ridgecrest, thus only one fare is required.

[4] Route 227 operates the same route as Route 225, thus one could take Route 227 without paying a separate fare

Mondays, Wednesday, and Friday (when Route 227 is in service to Ridgecrest). Vehicles have a storage capacity of two bicycles and are equipped with wheelchair ramps. Vehicle capacity ranges from 16-28 passengers (not including the driver and the "jump seat"). Figure 2-55 summarizes the current vehicle fleet.

Figure 2-55 Lake Isabella Dispatch Fleet

Type	Year	Capacity	Quantity
El Dorado Ford E450	2001	16/2	1
Chevrolet Aeroelite	2009	28/2	2
El Dorado Aerotech	2011	16/2	5
El Dorado Aerotech	2012	16/2	1
		Total	9

Source: Kern Transit

Note: Capacity includes seated capacity and the jump seat (16/2) = total of 18 seats

Transit Facilities

On Route Bus Stops

Currently, transit facilities in the Kern River Valley are limited to bus stop signage, benches, and the small shelter at the Kern River Valley Senior Center. Infrastructure is not consistent and varies across the study area. In many areas, bus stops are simple signposts and basic benches. However, some signs and benches are in poor condition and some continue to be located in places where Kern Transit no longer stops. Given the rural conditions of many of the bus stops, concrete bus "pads" do not exist in many locations which can make ramp loading of wheelchairs and other mobility devices difficult. Examples of some of these facilities are shown in Figure 2-56.

Kern River Valley Senior Center

The Senior Center is the most substantial transit stop with a bench and a small shelter that can seat approximately five individuals. However, given the level of transit service, wait times between transfers, and weather conditions, the seating area is inadequate. People are often seen sitting on the grass or along the sidewalk adjacent to the Senior Center. Despite the lack of amenities at the stop, patrons can use the Senior Center's bathroom facilities. From an operational perspective, the Senior Center has limited vehicle capacity given its "single-aisle" layout. Two to three vehicles can load comfortably along the aisle in front of the transit shelter. However, additional vehicles are often forced to park within the parking lot to the south of the shelter. There is no space for passing in the current configuration. In addition, the aisle is adjacent to angled, front-in parking, creating a potential safety concern from vehicles backing out of spaces.

As of May 2015, it is possible that transit operations may be moved from the Senior Center onto adjacent Kneale Avenue. Additional discussion about the implications of this potential change is discussed in further detail in Chapter 5 (Transit Center).

Figure 2-56 Existing Bus Stop Facilities

Bus stop along Highway 178 (left), Bus shelter at County Administration Building (center), Kern River Valley Senior Center (right)

Source: Nelson\Nygaard

KEY FINDINGS

The following section provides a summary of the key findings from existing conditions process and highlights opportunities and service gaps. Key opportunities for improvement (in no particular order) that form the basis for subsequent recommendations are as follows:

- **Opportunity for more customer-focused schedules:** Based on a review of the current schedule, transfer wait times, and customer feedback, there is an opportunity to realign schedules to better meet customer needs. However, the recently established direct service to Kern Valley Plaza is a welcome improvement to many.
- **Larger role in the community for transit (jobs, school):** In parallel with the previous recommendation, there was specific feedback from business leaders and the school district that schedules do not necessarily meet the needs of their users.
- **Need to determine differentiation methods for Dial-A-Ride Service:** Currently, Dial-A-Ride service is oversubscribed, meaning that service quality may be diminished for all users based on current resources available to the Dial-A-Ride service.
- **Rudimentary Bus Stops and Shelters:** In many locations, bus stops are difficult to access and in others; bus stops are out-of date, creating confusing situations for passengers. The current transfer center at the Senior Center has very limited seating and shelter for those waiting to transfer buses.
- **Unsafe Pedestrian Conditions:** In many of the rural bus stop locations, limited pedestrian facilities exist and riders must cross busy highways or walk in the road to access bus stops.
- **Transit Center is a major limitation:** In addition to the limited shelter that is provided at the Senior Center, its footprint is constrained and it cannot of handle more than a few buses at a given time. When buses exceed two or three at the Senior Center, riders must walk through the parking lot to make their transfers.

- **Sunday service is highly desired:** Currently, no Sunday service exists within the Kern River Valley which limits job opportunities for many who do not have access to an automobile.

OPPORTUNITIES / GAPS ANALYSIS

The following are key concepts that were identified. These concepts are further analyzed in Chapter 4 (Service Recommendations).

- **Realign Routes and Schedules to Minimize Transfer Times:** Currently, some routes in the Kern River Valley are aligned for timed transfers while others are not. Potential options include interlining[5] some routes or adjusting route lengths to ensure they meet for a timed transfer on a more regular basis.
- **Evaluate Relocation of the Transit Center:** There has been discussion about the limitations of the current transit center at the Kern River Valley Senior Center. The relocation of this facility could bring the benefit of expanded space for timed transfers and could also place riders closer to important destinations.
- **Evaluate Dial-A-Ride Fares and Policies:** Currently the Dial-A-Ride service is open to the general public and has no fare differential between it and the fixed route service. In the future, as a way to manage demand, additional policies and/or premiums may be invoked to ensure that Dial-A-Ride riders can receive more reliable service.
- **Develop Bus Stop Infrastructure/Amenity Policies:** Currently, bus stops throughout the Kern River Valley are treated as equals. However, some stops are more heavily used than others, while some have a high frequency of special needs users (seniors, disabled). As a result, bus stop improvement policies may be warranted to ensure improvements can be prioritized throughout the service area, including at the transfer center.

[5] Interlining would mean having a route come into the transfer center, and go out as a different route (instead of doing the same route over again). Interlining would be based on rider travel patterns and would be designed to minimize the number of transfers one would need to make to get to their destination.

3 COMMUNITY FEEDBACK

To inform the findings of this study, the Kern River Valley community was engaged across numerous channels to obtain feedback about the existing transit system and gather ideas about potential future recommendations. Understanding that the study area is relatively large, numerous strategies for community feedback were used including:

- **One-on-one stakeholder meetings:** The Project Team contacted 13 members of the community in September, October, and March as a way to gain an understanding of the project area, community concerns, and potential interests and partnerships as part of this project. Stakeholders contacted include (not all individuals responded):
  - Kern Valley Hospital
  - Kern County Court (Ridgecrest)
  - Kern Valley Schools
  - Kern County Supervisor Gleason's Office
  - Kern River Valley Chamber of Commerce
  - Kern River Valley Art Council
  - Senior Meal Program
  - Kern Transit Drivers (Lake Isabella)
  - Tubatulabal Tribe
  - Kern River Valley Revitalization
  - Kernville Chamber of Commerce
  - Individual Bus Riders
  - Cerro Coso College
- **Community survey (paper and online):** From December 1st-December 31st, a paper and online survey were distributed to the community.
- **Transit rider survey (fixed route and Dial-A-Ride):** On December 10th-11th, an on-board survey was distributed to Kern Transit riders at the Kern River Valley Senior Center. Those waiting on the bus and those who were already on-board were provided with surveys.
- **Community meeting (December 10th, 2014):** Approximately 10 attendees provided input and comments during this session held at the Kern River Valley Senior Center. The Project Team captured notes of the conversation and collected email addresses and contact information of those who attended. This meeting was advertised via the Kern Valley Sun, Kern River Radio, various local Facebook pages, and posters were distributed at various Post Offices in the Kern River Valley.
- **Community meeting (March 4th, 2015):** Approximately 20 attendees provided input and comments during this session held at the Kern River Valley Senior Center. The project team captured notes and comments on the presentation of potential service alternatives, and collected contact information of those who attended. This meeting was advertised via the Kern Valley Sun, Kern River Radio, flyering, and various social media outlets.

The following section outlines the key themes that were identified through this process.

Who Rides the Service?

Generally speaking, the ridership in the Kern River Valley was identified to fall into three categories (which are not necessarily mutually exclusive):

- Retirees and seniors: Individuals who may be on a fixed income and increasingly rely on transit services to access senior services and medical appointments because they cannot or choose not to drive on their own.
- Commuters: Individuals who need to access their jobs or school on a regular basis. These individuals may be daily or occasional riders and may or may not have regular access to their own vehicle.
- Low-income: Individuals who rely on the service to access social services and who otherwise have no other means of mobility.

Furthermore, many government services are not located in the Kern River Valley. Thus, individuals wishing to seek certain government services or the Kern County Courts must travel to Bakersfield or Ridgecrest for appointments. During community meetings, members of the public also highlighted seasonal tourism for Sequoia National Park and the Pacific Crest Trail as a potential driver of ridership.

What Works Well

- **Affordable Fares:** Based on community feedback, most individuals felt that Kern Transit fares are affordable. Many fares are $1.00 for routes within the Kern River Valley. A trip to Bakersfield costs $2.75. Given the 45-mile distance covered, the fare is a very price competitive option when compared to driving. However, fares have not been raised in over 10 years; which means fares have not kept up with inflation.
- **Courteous Operators:** All individuals strongly praised Kern Transit operators for their attention to customer service, knowledge of the area, and knowledge of existing riders. Riders were all very appreciative of the efforts Kern Transit operators take to ensure safe, comfortable transit trips.
- **Demonstrated Efforts to Improvement:** In recent months, the public has recognized Kern Transit's efforts to improve service. While there is a sentiment that all changes have not necessarily been positive for all riders, there is an appreciation that some changes are being made and there is a desire for ongoing efforts to improve the service.

Areas for Improvement

- **Service Access:** One of the primary issues for riders is being able to access the service. Some of this challenge relates to the existing lack of safe sidewalk facilities, crosswalks and bus pads (to safely deploy a wheelchair ramp) within the Kern River Valley.
- **Service Reliability:** Riders noted that limited maintenance staff and spare vehicles present challenges when vehicles break down.
- **Service Schedules:** The most common complaint with respect to Kern Transit relates to schedules. In some cases, individuals felt that services could be better scheduled to match worker commutes. Alternatively, some felt the long transfer times at the Senior Center could be better aligned to reduce passenger waits. This was particularly true for those making a transfer at the Senior Center to the Bodfish Loop (to access the Valley

Plaza shopping center). In addition, the lack of evening service presents issues for students at Cerro Coso College taking evening courses. To an extent, some of these issues were resolved in the January 2015 schedule changes, but the community voiced an interest in later service from Bakersfield.

- **Bus Stop Amenities:** Given the high number of passengers that use the Senior Center, many felt that amenities (lighting, seating, etc.) were inadequate. In addition, there was a general frustration that several bus stops, that are no longer in service, had not been removed, causing confusion amongst riders. These out of service stops have since been removed. Many agencies represented at the public meeting in March 2015 indicated the potential for partnerships to build and finance bus stop amenities, including the Kern River Valley Art Council and Rotary Club.
- **School Partner:** While Kern Transit provides service to some schools, some felt that it could play a more important role in serving specific needs for the school district's extracurricular and community programs (which in turn helps many local families).
- **Hospital Partner:** Given many Kern Transit riders take public transportation to medical appointments, Kern Valley Hospital felt there were opportunities for partnering to provide discounted or free fares to their patients**.**
- **Customer Feedback Mechanisms:** Currently, those in the Kern River Valley often call the local dispatch office when they have customer service issues or feedback. However, this is not the intended role for the dispatchers whose primary focus is scheduling trips. In addition, they do not have the capacity to keep track and respond to customer service requests on a regular basis.
- **Confirmation of Existing Stop Locations:** Generally, there is a notion that some of the current bus stops should be relocated based on shifting demand over the past several years. This includes major stops like the Senior Center itself (most of the demand is actually at Valley Plaza) and many minor stops such as those in Onyx. Routes have been extended to stop at Valley Plaza, and a stop in Onyx has been reinstated.
- **Sunday Service:** Across all groups, there was a strong interest and stated need for Sunday service, primarily to access jobs within the community. Kern County's businesses are largely represented by the tourism and service industry, as 54% of businesses identify as the accommodation and food services sector. This sector traditionally conducts more business on weekends as opposed to weekdays.

A broader description of community feedback and survey results can be found in Appendix A of this report.

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4 SERVICE RECOMMENDATIONS

INTRODUCTION

This chapter defines transit service alternatives for the Kern River Valley. The contents are based on the previous chapters, meetings with Kern Transit and Kern Council of Governments staff, and input from the community. Concepts and ideas in this chapter have been reviewed by stakeholders contacted in various stages of the project, members of the public, and transit agency staff for feedback and refinement.

In advance of introducing service alternatives, service guidelines and performance measurement considerations are provided that were used to guide the development of alternatives.

SERVICE GUIDELINES

Transit agencies strive to serve as many local area residents, students, workers, and visitors as they can with available resources. Service features that attract one type of rider may deter other riders, and transit operators must balance these types of competing demands. However, there are certain principles that will improve service for nearly all riders. This section describes the practices that will cater to the majority of riders and balance competing demands. These service guidelines have been strongly considered in the development of all service alternatives.

Service Guidelines

- **Service should be easy to use:** In order to reduce barriers for using transit, the service should be designed so that it is easy to understand from the customer's perspective. In this way, current and potential riders can grasp and use Kern Transit to help them reach their destination with ease. Most of the guidelines in this section are aimed at making the service intuitive, logical, and easy to understand. Simplification is a key value in creating networks that people can navigate easily to make many kinds of trips (locally within the valley, and intercity to Bakersfield and Ridgecrest).
- **Routes should serve major destinations:** The Kern River Valley has a number of local resources that are integral to daily life in the valley. Kern Transit routes should maintain service to major destinations, including schools, Cerro Coso Community College, grocery stores, medical facilities, community centers, and tourist destinations. Each route need not cover all major destinations, but the coverage of major destinations should be a systemwide goal.
- **Connections should have minimal wait times:** Given that distances between destinations vary greatly, particularly for intercity trips, Kern Transit routes should connect regularly and reliably. When trips require transferring between two routes, route

schedules should be developed with a goal to minimize wait times. However, schedules must also include enough "slack" time to accommodate the inevitable delayed bus.

- **Service should be consistent:** A consistent pattern to the schedule is recommended. While headways may vary during the day according to demand, it should not vary from one trip to the next greatly. Whenever possible, routes should also have clockface headways that divide evenly into an hour, such as every 30, 60, or even 90 minutes. Clockface headways are easier for passengers to remember and can help facilitate better transfer connections between routes. Exceptions to this include:
  - Where individual trips must be adjusted away from clockface intervals to meet shift times, work times, transfer connections, or other special circumstances
  - Where the desired headway of service causes round-trip recovery time to be an excessive percentage of the total round-trip vehicle time, leading to inefficient delivery of transit service

MEASURING PERFORMANCE

When considering transit route modifications, it is important to have a framework to evaluate the need for change. To ensure apples-to-apples comparisons, it is important to define route classifications so routes with inherently different characteristics can be evaluated slightly differently. Upon determination of appropriate route classifications, routes can then be evaluated using various industry standard performance metrics. Both route classifications and performance metrics relevant to the Kern River Valley are described in further detail below.

Route Classifications

Route classifications help ensure that routes with fundamentally different designs, purposes, and operating characteristics can be evaluated independently. Some route classifications that suit Kern River Valley services include the following:

Local Circulator: Local circulators are often designed to serve a smaller geographic area with more frequent service. Based on this distinction, local circulators have shorter distances between stops (up to 6-8 stops per mile) and may come on a regular interval throughout the day. Given its relatively small service area and short round-trip travel time, Route 223 from Lake Isabella to Bodfish could be considered a local circulator.

Intercity Connector: Intercity connectors typically have few stops between destinations and span long distances at speeds comparable to automobiles. Intercity connectors typically traverse rural or undeveloped areas and may therefore operate on a combination of highways and arterial streets. Intercity connectors may also have local stop service within cities situated at each end of the route and limited or non-stop service in between cities. As a result, stop spacing may vary from one route to another. Intercity connectors should operate a simple schedule, and have a service span that takes into consideration potential early morning and late night commute patterns. Routes 150, 220, 225, and 227 operate as intercity connectors.

Dial-A-Ride: Generally, dial-a-ride services complement fixed routes by providing transportation to those that are unable to ride fixed-route services for medical, mobility, or other ADA-certified reasons. In the Kern River Valley, fixed-route service is open to the general public and is used for the reasons noted above and often to those who do not have easy access to the fixed-route system. While trip purposes cannot be prioritized based on federal regulations, dial-a-

ride services may prioritize ADA-certified and senior (65+) users through eligibility and fare policies.

Performance Metrics

Performance metrics geared towards transit ensure that agencies have a standardized method to evaluate the effective use of limited resources by creating a rational and transparent evaluation process. Clear route-by-route performance metrics will assist Kern Transit in understanding when future route modifications may be necessary to support struggling or overburdened routes. The following five standards are common to the transit industry and can be used by Kern Transit to measure the effectiveness of transit services, relative to one another, specifically in the Kern River Valley. It should be noted that different service types, (as previously defined) should have different performance standards. For example, a dial-a-ride service and an intercity service will vary in performance, but a lower performing dial-a-ride service has a different purpose than intercity service.

Ridership productivity: Ridership productivity is perhaps the best measure of how well a particular route is performing on a regular basis. Most service types are evaluated based on passengers per revenue hour, which is calculated by dividing the total number of passengers (unlinked trips) by the total number of vehicle revenue hours. Intercity trips to Bakersfield and Ridgecrest are unique in that passengers typically ride for a higher percentage of the one-way route length than on other route types. In many cases, the passengers ride from one end of the route to another end. Therefore, ridership productivity for intercity routes is based on passengers per revenue trip.

Passenger loads: While passengers per revenue hour and passengers per trip are the important measures of overall route performance, they do not provide insight into the conditions along specific segments of the route. Managing passenger loads is crucial in maintaining customer satisfaction, schedule reliability, and safe operations. Passenger load data can highlight where capacity issues are creating routine standing loads or pass-by situations, and where seating capacity is going unused. Depending upon individual circumstances, service level modifications or vehicle assignment modifications may be appropriate for peak loads.

Cost-effectiveness: Cost-effectiveness is typically expressed in terms of operating costs per passenger or subsidy per passenger. Operating cost per passenger is calculated by dividing all operating and administrative costs by total passengers (unlinked trips). Subsidy per passenger is a further refinement of this measure and is calculated by subtracting revenue generated by fares from gross operating and administrative costs, and dividing by total passengers.

Schedule reliability: Schedule reliability is a measure of how well a particular route adheres to its schedule. It suggests whether a customer can count on a bus being there when the schedule says it will be. For most systems, buses are considered on time if they depart at a designated time point between zero and 5 minutes later than the scheduled departure time. Buses should never depart a time point ahead of schedule unless operators are given explicit permission to do so. Potential impacts on on-time performance include inadequate running times, traffic conditions, or construction. A high number of boardings on a particular trip or at a specific stop may also affect schedule reliability if recovery time is insufficient to absorb the added time.

Schedule efficiency: As mentioned prior, schedule efficiency can be maximized by reducing deadhead to/from the dispatch yard or another route, or when laying over at the end of a route while the operator takes his/her scheduled recovery. Schedule efficiency can be improved by

reducing either of these, and shifting time to revenue hours. Schedule efficiency is measured by calculating the ratio of revenue hours to total hours. Typical ratios for non-regional express service are within 85-90%.

SERVICE ALTERNATIVES

Service Criteria

Service criteria identify high-level goals and assumptions for the development of service alternatives and take cues from the previously noted Service Guidelines. In developing service alternatives and associated concepts, the following key objectives are taken into consideration.

- **Plan will be Resource Neutral:** Service alternatives have been developed assuming a revenue-neutral future over the plan's horizon (five years). However, guidance is provided in case additional funding becomes available.
- **Focus on Reducing Transfer Wait Times:** While many current transfers at the Kern River Valley Senior Center are timed to reduce wait time, there are still many connections that require long waits between trips. Service alternatives seek means to reduce these transfer wait times between all routes.
- **Connecting Riders with Key Destinations:** Related to reducing wait times, service alternatives will strive to more efficiently connect riders with their desired destinations (with or without transfers). Most notably, the Kern Valley Plaza in Lake Isabella was frequently noted as a common destination.
- **Optimize Existing Services:** When possible, duplicative services will be reduced as a way to provide more overall service in a more efficient manner across the study area.
- **Potential to Relocate Transit Center:** One major assumption in each alternative is the concept of moving the current Kern Transit center from the Senior Center to a new location (yet to be constructed) that provides additional space for bus circulation, offers rider amenities, and places it closer to key destinations and residential locations. Each of the alternatives will show potential transit center locations, including Kern Valley Plaza and the corner of Elizabeth Norris Road and Lake Isabella Boulevard. Criteria and considerations for moving the transit center are presented in the next chapter.

Resource-Neutral Alternatives

The alternatives in this section assume that resources for transit will remain the same over the next five years. The concepts presented here are discrete and they may be implemented together or as separate elements.

The Kern River Valley's topography and road network highly dictate and define logical paths for transit service. In the proposed alternatives, destinations have not been modified, nor have routes themselves been lengthened or truncated. However, different strategies in connecting those locations are presented. This also takes into consideration the region's popular Dial-A-Ride service, which itself covers a very large service area and often faces capacity constraints.

Interline Route 220-225

The term "interline" is frequently used in the transit industry to describe a situation where a bus route terminates and is then used as the origin of a different route. From the customer

perspective, they might be changing routes, but they remain on the same bus. Conceptually, such a practice may also reduce transfer wait times since there are no missed transfers and typically, dwell times are limited to reduce overall operational costs.

One way to reduce transfer delays connecting the entire Kern River Valley (Kernville to Onyx, via Lake Isabella and vice versa) is to interline Routes 220 and 225. Again, this does not change the areas served by either route. However, it does change the existing schedules and in general, reduces wait times between the two routes throughout the day. Given the limited transit resources in the valley, it is currently not possible to ensure perfectly seamless transfers between these two routes and other connecting routes; however, interlining the services and rescheduling other routes will, in aggregate, provide better transfer times than the current schedule. This is in tandem with the potential of moving the transit center closer to Kern Valley Plaza, which will reduce the need to transfer buses for many passengers.

Although in general service areas will remain largely the same, there will be some notable changes aside from the schedule to ensure this alternative remains resource neutral:

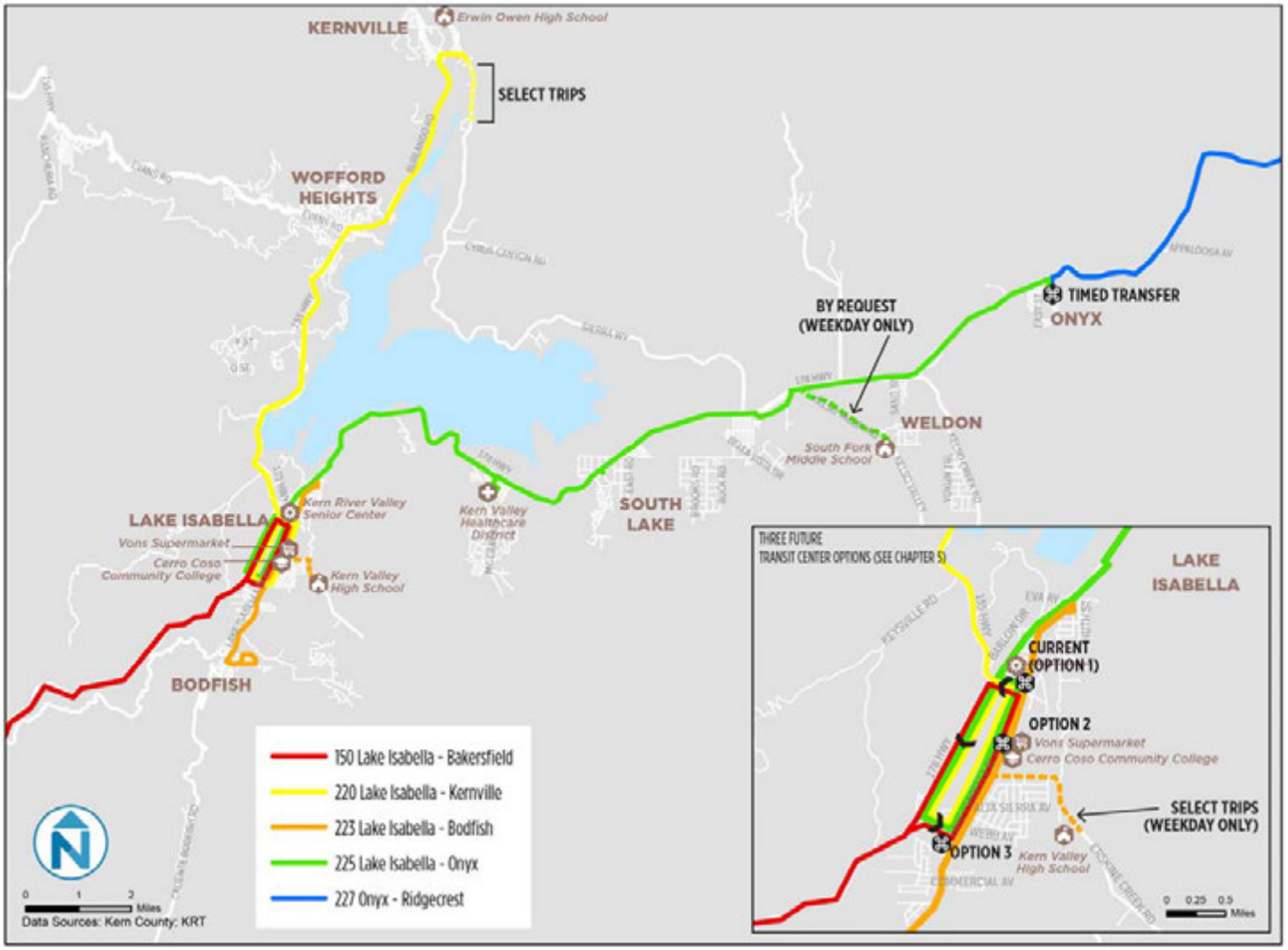
- Given that Route 220 and 225 will now be served by one vehicle (interlined service), the transfer for Route 227 has been moved to Onyx, which helps reduce duplicative service along Highway 178, providing resources for other services. Future transfers to/from Route 227 will be timed to provide a seamless connection all the way from Ridgecrest to Kernville (via Lake Isabella).[6]
- Some early morning and late evening trips are suggested for elimination due to low ridership, and those resources are placed in other portions of the day where there is higher demand. Suggested eliminated trips include the following:
  - Route 225: 6:10 a.m. eastbound, 8:07 p.m. westbound (Tuesday/Thursday)
  - Route 220: 8:20 p.m. southbound
- In this alternative, there are no proposed changes to the Dial-A-Ride service areas (however, this could be paired with Dial-A-Ride policy changes described later).
- In the event the transit center is relocated, the Senior Center will no longer be directly served by Routes 220 and 225. Individuals wishing to travel to the Senior Center would transfer at the new transit center. However, a special trip would be made on these routes for trips before and after lunch at the Senior Center (roughly trips between 11 a.m. and 1 p.m.)

Figure 4-1 shows the conceptual route alignment which remains largely unchanged. However, circulation in Lake Isabella would be modified based on the construction of a new transit center (Shown in the figure as Option 1, 2, 3)[7].

[6] Another alternative that was not analyzed at this time is interlining Routes 225 and 227, meaning that an eastbound Route 225 could also serve the eastbound Route 227 trip and vice versa.

[7] For a more detailed analysis of transit center options, please see Chapter 5.

Figure 4-1 Proposed Interline of Route 220-225



Resource Requirements

This alternative was developed with a resource-neutral goal in mind. At a conceptual level, the service design meets this need based on revenue hours. However, additional modifications may need to be made once factoring in deadhead hours and other labor requirements.

Figure 4-2 provides a summary of revenue hours based on the existing and proposed schedules and the total number of trips for each route in each direction. With the combination of Route 220 and Route 225 resources, the number of trips remains almost the same. Route 223 has an increase in the number of daily trips. Route 150 is not included as it is expected that the resources and number of trips remain the same. Based on revenue hours, the combination of Route 220 and 225 result in an increase in revenue hours. Route 223 also experiences an increase in revenue hours. However, this is offset by a decrease in revenue hours for Route 227 (operating Monday, Wednesday, and Friday only).

Figure 4-2 Existing and Proposed Resource Requirements (Revenue Hours)

	Route Number			
Existing	220	225	223	227
WB/NB Revenue Hours	4:27	5:24	3:59	4:50
EB/SB Revenue Hours	4:10	4:54		4:38
Subtotal	*8:37*	*10:18*	*3:59*	*9:28*
WB/NB Trips	8	9	9	3
EB/SB Trips	9	8		3
Proposed Alternative	220 / 225	-	223	227
WB/NB Revenue Hours	10:10		4:31	3:57
EB/SB Revenue Hours	8:47			3:57
Subtotal	*18:58*		*4:31*	*7:54*
WB/NB Trips	9 / 9		10 / 11	3
EB/SB Trips	8 / 9			3

Figure 4-3 provides a comparison of the proposed schedule requirements on a daily basis and a weekly basis as compared to the revenue hours within the existing schedule. A weekly basis is shown because any resource savings from Route 227 only occurs on three days per week whereas any resource coverage (Routes 220, 223, 225) occurs six days per week. Given the proposed schedule, a 1:11 surplus in revenue hours remains with the proposed schedule on a weekly basis which could be used for limited additional service (one additional trip). These findings should be further reviewed with the transit vendor to ensure accuracy.

Figure 4-3 Proposed Resources Requirements Compared to Existing

	220/225	223	227
Daily (Route 227: Monday, Wednesday, Friday)	+0:03	+0:32	-1:34
Monday-Saturday (Weekly)	+0:18	+3:12	-4:42
Monday-Saturday (Weekly, All Routes)			-1:11

Source: Revenue hour difference based on existing Kern Transit schedules and proposed schedules

Transfer Wait Time

Given resource limitations, timed transfers cannot be provided on every route connection. However, a primary goal of this alternative is to reduce the prevalence of long transfer wait times in connections across the Valley. In the past, this was particularly true in making trips between Route 225 and Route 220 (and vice versa). Figure 4-4 provides a high-level analysis on transfer wait times on various connections based on the existing schedule and a proposed, conceptual schedule. Green circles indicate wait times of 30 minutes or less, yellow shows 60 minutes or less, and red circles show wait times over one hour. With proposed schedule changes, approximate transfer wait times across the service would be reduced from 37 minutes to 17 minutes on average.

Figure 4-4 Approximate Transfer Delay (Existing-Top, Proposed-Bottom)

EXISTING SCHEDULE		5:00 a.m. - 9:00 a.m.		9:00 a.m. - 3:00 p.m.		3:00 p.m. - 8:30 p.m.	
Kern River Valley Routes - Northbound and Westbound Direction							
	Sample Trips	Average	Max	Average	Max	Average	Max
223 > 220	Bodfish > Kernville	0:15	0:20	0:09	0:23	0:58	1:50
225 > 220	Onyx > Kernville	0:31	0:42	0:46	1:12	0:36	0:51
225 > 223	Onyx > Bodfish	0:07	0:07	0:17	0:40	0:29	0:39
227 > 220	Ridgecrest > Kernville			1:57	1:57	1:32	1:32
Kern River Valley Routes - Southbound and Eastbound Direction							
220 > 225	Kernville > Onyx	0:18	0:22	0:22	0:43	0:51	1:24
223 > 225	Bodfish > Onyx	0:12	0:20	0:16	0:37	0:04	0:10
220 > 223	Kernville > Bodfish			0:23	0:46	0:34	0:49
220 >227	Kernville > Ridgecrest			0:56	0:56	0:29	0:29
Kern River Valley Routes - Transfers to Bakersfield							
220 > 150	Kernville > Bakersfield	0:05	0:05	0:11	0:16	1:44	1:44
223 > 150	Bodfish > Bakersfield	0:10	0:10	0:06	0:10	0:56	0:56
225 > 150	Onyx > Bakersfield	0:10	0:10	0:23	0:36	1:28	1:28
Kern River Valley Routes - Transfers from Bakersfield							
150 > 220	Bakersfield > Kernville			0:58	1:47	0:14	0:19
150 > 223	Bakersfield > Bodfish			0:42	1:15	1:14	2:19
150 > 225	Bakersfield > Onyx			0:40	1:12	0:12	0:16

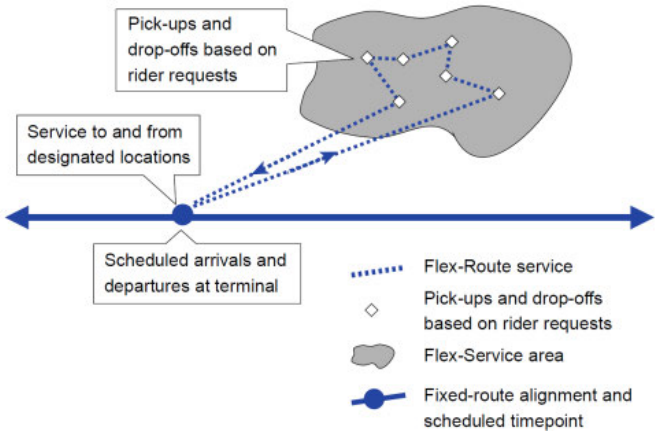
CONCEPTUAL SCHEDULE		5:00 a.m. - 9:00 a.m.		9:00 a.m. - 3:00 p.m.		3:00 p.m. - 8:30 p.m.	
Kern River Valley Routes - Northbound and Westbound Direction							
	Sample Trips	Average	Max	Average	Max	Average	Max
223 > 220	Bodfish > Kernville	0:07	0:09	0:11	0:18	0:10	0:30
225 > 220	Onyx > Kernville	0:11	0:12	0:19	0:23	0:58	1:22
225 > 223	Onyx > Bodfish	0:38	1:25	0:51	1:08	0:23	0:32
227 > 225	Ridgecrest > Kernville	0:04	0:04			0:09	0:09
Kern River Valley Routes - Southbound and Eastbound Direction							
220 > 225	Kernville > Onyx	0:10	0:10	0:20	0:30	0:40	1:00
223 > 225	Bodfish > Onyx	0:05	0:05	0:18	0:25	0:14	0:20
220 > 223	Kernville > Bodfish	0:07	0:15	0:15	0:15	0:16	0:32
220 >227	Kernville > Ridgecrest			0:00	0:00	0:01	0:01
Kern River Valley Routes - Transfers to Bakersfield							
220 > 150	Kernville > Bakersfield	0:05	0:05	0:15	0:20	0:02	0:02
223 > 150	Bodfish > Bakersfield	0:00	0:00	0:07	0:15	1:40	1:40
225 > 150	Onyx > Bakersfield	0:05	0:05	0:23	0:38	0:02	0:02
Kern River Valley Routes - Transfers from Bakersfield							
150 > 220	Bakersfield > Kernville			0:18	0:22	0:05	0:05
150 > 223	Bakersfield > Bodfish	0:10	0:10	1:26	1:54	0:15	0:15
150 > 225	Bakersfield > Onyx			0:21	0:40	0:05	0:05

Proposed preliminary schedules can be found in Appendix C (based on a proposed Valley Plaza transfer location).

Dial-A-Ride Zones

Another potential service modification to reduce overlap of services between fixed-route and Dial-A-Ride services includes the introduction of Dial-A-Ride Zones. In this alternative, the Dial-A-Ride service would be broken up into two separate zones with a timed-transfer point at the proposed transit center.

Figure 4-5 Zone Service Diagram



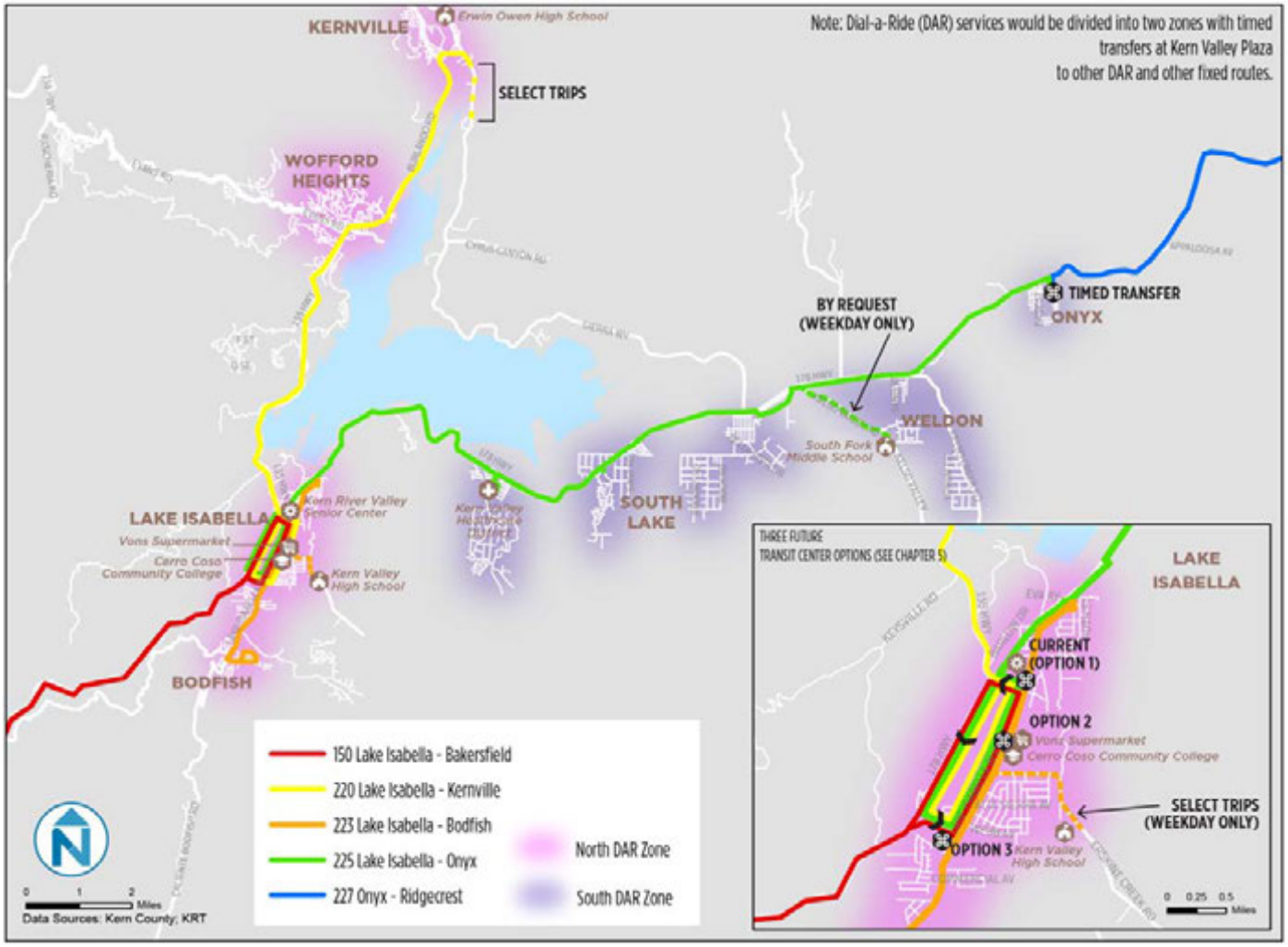
The proposed zones would include a North Lake zone (Kernville to Bodfish) and a South Lake zone (Onyx to Mountain Mesa). Dial-A-Ride passengers traveling between the two zones would have a timed-transfer and could also access other routes at the transit center. It is presumed the existing two vehicles providing Dial-A-Ride service in the Kern River Valley would be split: one vehicle for each zone.

This proposal would formalize current demand patterns that show that most Dial-A-Ride trips do not cross the lake (e.g., very few trips from Kernville to Mountain Mesa, or similar).

Resource Requirements

Zone services would not necessarily have an impact on fixed-route services since they would still operate independently. This alternative is further illustrated in Figure 4-6. Dial-A-Ride zones would require training and coordination at the Lake Isabella Dispatch.

Figure 4-6 Proposed Dial-A-Ride Zones



Sunday Service

Currently, one of the most pressing needs from Kern River Valley residents and current riders is Sunday service within the Valley. The addition of Sunday service requires additional resources, including dispatching staff currently not available on Sundays in the Kern River Valley. However, as a way to redistribute resources, it is possible to reduce underperforming Saturday service to provide lifeline (minimal) levels of Sunday service. In reviewing current Saturday transit trips, there are seven Kern River Valley trips that carry less than two passengers per trip (on average).[8] In addition, there are two Route 150 (Bakersfield) trips that, on average, carry less than two passengers per trip (between Saturday and Sunday). Thus, it is possible that as many as nine transit trips could be shifted from these low-productivity times in order to provide basic Sunday service within the Kern River Valley.

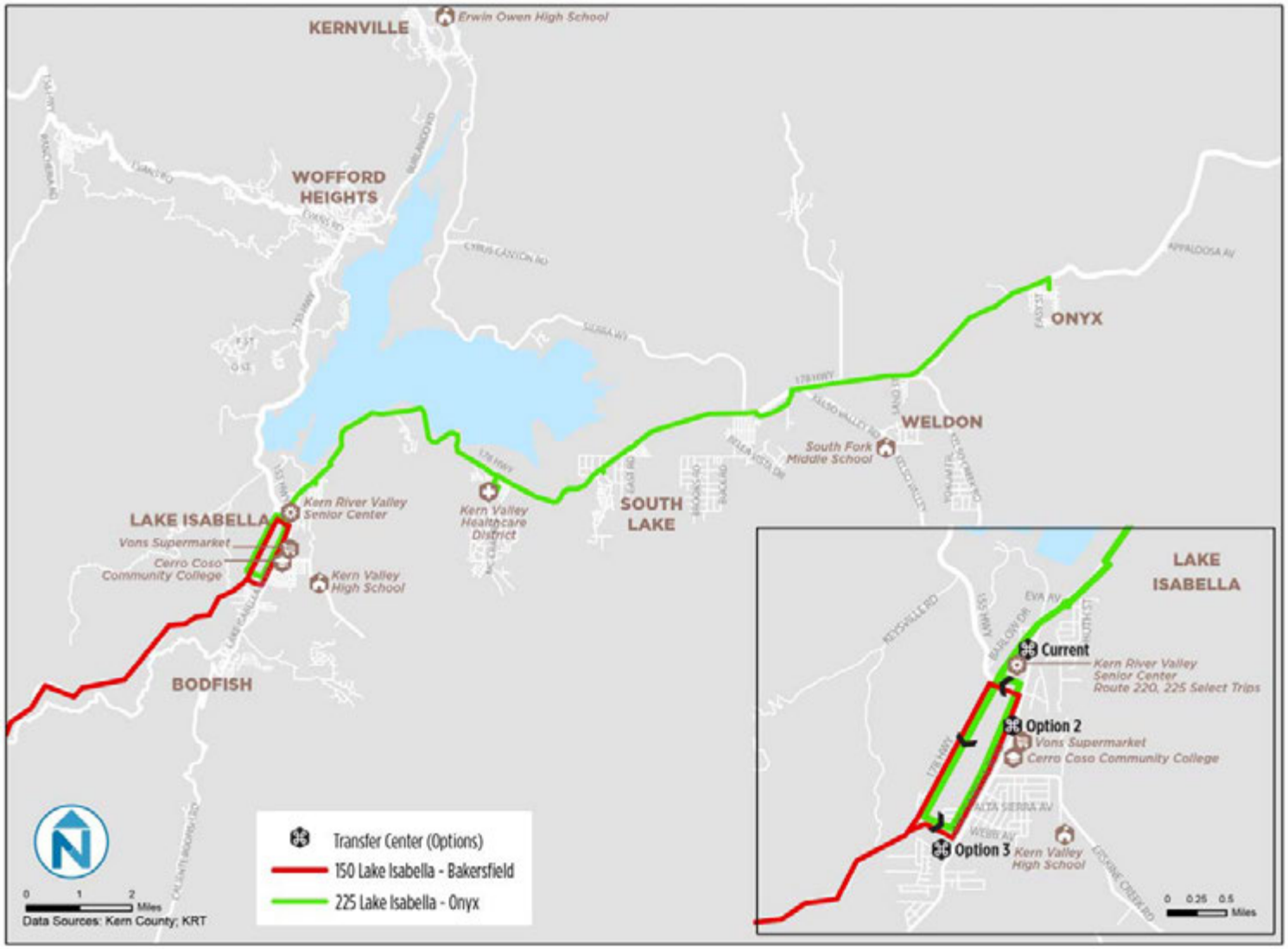
Assuming that only a lifeline level of service could be provided, service should ensure linkages to connect to Route 150 to Bakersfield. As a strategy to avoid operational costs associated with additional dispatching (no Lake Isabella dispatchers on Sunday), Route 150 vehicles arriving from Bakersfield (also dispatched in Bakersfield) could be used to provide service within portions of the Kern River Valley on Sundays. While transit service throughout the entire valley would be preferable, limited resources may dictate that only portions of the service area have Sunday service. Based on existing weekend ridership data, more weekend demand exists between Lake Isabella and Onyx than elsewhere. Thus, this corridor would be the first priority in terms of providing Sunday service. In this scenario, Route 150 trips from Bakersfield would change to Route 225 upon reaching Lake Isabella and then would provide a round trip between Lake Isabella and Onyx. This would add approximately 1:20 to the existing Route 150 round trip travel time and would include other slight service modifications. Potential schedule shifts for both Route 150 and Route 225's limited Sunday service are shown in Figure 4-7. Generally, trips are shifted slightly later in the day due to the additional services. However, existing ridership shows that the final trip of the day is the most popular, indicating that later service may actually generate additional riders. This service area is shown in Figure 4-8.

Figure 4-7 Potential Sunday Service Modifications Route 150 / Route 225

	Route 150 EB – Bakersfield Departure	Route 150 EB Senior Center Arrival	Route 225 EB Departure	Route 225 WB Departure	Route 150 WB Senior Center Departure	Route 150 WB Bakersfield Arrival
Trip 1						
Current	6:45 a.m.	8:00 a.m.			8:20 a.m.	8:55 a.m.
Proposed	6:45 a.m.	8:00 a.m.	8:20 a.m.	9:00 a.m.	9:40 a.m.	10:55 a.m.
Trip 2						
Current	10:25 a.m.	11:45 a.m.			12:00 p.m.	1:15 p.m.
Proposed	11:15 a.m.	12:30 p.m.	12:50 p.m.	1:30 p.m.	2:10 p.m.	3:25 p.m.
Trip 3						
Current	4:30 p.m.	5:45 p.m.			6:05 p.m.	7:20 p.m.
Proposed	4:00 p.m.	5:15 p.m.	5:35 p.m.	6:15 p.m.	6:55 p.m.	8:10 p.m.

[8] Route 220 NB (Trips 1-3), SB (Trips 6,9) Route 223 (Trips 1,8)

Figure 4-8 Preliminary Sunday Service Option



In time, if additional resources become available, it would be desirable to provide a longer Sunday service day and provide services to Bodfish and Kernville, matching Monday-Saturday services. However, Saturday and Sunday services may operate at a lesser frequency as compared to weekday trips.

School-Focused Services

The schools in Kern River Valley have a school bus option for student trips before and directly after school but depend on public transit service for afterschool athletic and recreational summer programs. Grants to sustain these programs often have public transit written into the grant application as a means of transporting children to and from school for participation in the activities.

To help cater to this afterschool demand, fixed-route schedule adjustments to accommodate requested stops would benefit many Kern River Valley families. South Fork Middle School is currently a stop-by-request on Route 225. While the middle school only requires limited service, the current schedule does not serve the most popular demand time (between 5:00-5:30 p.m.). Current trips travel within the area approximately at 4:00 p.m. and 6:30 p.m. These trips are either too early or too late to meet the largest demand of afterschool program students. A schedule refinement that would enable a school pick-up around 5:30 p.m. (at both South Fork Middle School and Kern Valley High School) will help students participate in tutoring, athletic programs, and other afterschool activities. During summer months, a bus around 12:30 p.m. would help community members and students return home after summer school and swim programs.

Ongoing Monitoring of Ridgecrest Service

Route 227 to Ridgecrest was implemented in August 2014, and service is limited to three days per week, with three trips on each day. The route does not have weekend service. In the first few months of operation, Route 227 averaged 3.9 passengers per trip, and 23.1 passengers daily. The current ridership may warrant service modifications, especially given that the morning trips are largely underused. Ridership should be monitored (every six months) as it may require time for the ridership base to grow.

Ridematching/Vanpool Program Co-Marketing

Simply, there are many trips within the Kern River Valley service area that will not be able to be fulfilled by transit. Some of these trips may be able to be met with other self-organized transportation strategies such as ridematching or vanpooling. CommuteKern currently serves as an information and connection portal for commuters, employers, and institutions around the County. Through CommuteKern, riders may obtain information on various commute modes such as carpooling, vanpooling, ridematching, transit, and non-motorized transportation options. Interested individuals may register for the site and connect with rideshare matches specific to their commute. The benefits to employers and institutions includes access to the Guaranteed Ride Home program where taxi services and rental cars (where available) are reimbursed through the program for unexpected illnesses, later work hours, or family emergencies.

A resource such as CommuteKern can prove useful for colleges or employers in the area for evening hours when transit is no longer in operation. Vanpools, in particular, would be useful for such institutions as the schedule would be customizable for student or employee schedules. Kern

Transit could partner with CommuteKern to conduct joint marketing to ensure potential riders know about their other options when transit service is not operating.

Expanded Service Levels

Over the course of this plan, it is not anticipated that additional funding will be available for transit operations. However, if additional funds were to become available, it is suggested these funds be used towards the following service enhancements.

Sunday Service Frequencies

If expanded operational resources become available, those funds could be directed toward expanding Sunday frequencies to match demand levels. Based on the no new-resource scenario, Sunday trips would be provided as a lifeline service levels by "borrowing" low productivity Saturday trips. However, if expanded resources became available, those funds could be used to expand Sunday service to provide more abundant service levels. It is unlikely that Sunday ridership demand will warrant a similar level of service as a typical weekday, and ridership demand is currently unknown since no local service operates within the Valley. However, Saturday service can serve as a proxy for potential Sunday demand levels. Currently, Saturday ridership for each route trails the weekday ridership levels. However, demand is strongest between 8:00 a.m. and 5:00 p.m. As a result, Sunday service could include four to five trips for each Kern River Valley route (220, 223, 225) in both directions, which should be scheduled to meet each of the Route 150 trips to/from Bakersfield. The estimated cost for this service expansion is provided in Figure 4-9, which includes potential annual operating cost to hire a transit dispatcher to oversee Sunday services.

Figure 4-9 Potential Costs of Sunday Service Expansion

Cost	Additional Revenue Hours	Annual Cost (52 Sundays)[9]
Operator Cost per Hour	+16.2 (5 round trips)[10]	$61,180
Dispatching Costs	+ 10 hours	$8,900

Regular Weekday Headways

One of the most effective transit service enhancements is providing regular "clockface" headways that leave on a standard interval; every 30, 60, or 90 minutes in the case of intercity services. Currently, most Kern River Valley transit routes depart at odd times because of the limited resources and constraints of the system. However, if additional funds became available in the future, it may allow a few more transit trips and schedule flexibility that could enable regular headways, most likely every 90 minutes that could make remembering schedules more convenient for customers and create additional timed transfers opportunities.

If estimating for regular 90 minute headways, this would approximate to 10 trips per route (as compared to today's 8-9).

[9] Revenue cost per hour $72.63

[10] Based on existing revenue hours per round trip

Figure 4-10 Potential Costs of Regular Weekday Headways

Cost	Additional Hours of Service	Annual Cost (255 weekdays)
Operator Cost per Hour	12.9	$238,900

Limited Evening Service

Currently, service operates regularly until approximately 7-8 p.m. within the valley. Given ridership demand levels, additional evening fixed-route service is not warranted. However, ridership levels suggest that the final Route 220 northbound trip and the final Route 150 westbound trip could be shifted to depart slightly later to accommodate additional riders. In addition, there may be opportunity to create additional evening services that are structured differently to help provide trips for evening students at Cerro Coso Community College or other evening/night transportation trips within the Valley. Potential opportunities include establishing vanpool programs (see previous section) and investigating rider subsidies to use taxi or transportation-network company (Uber, Lyft) types of services to meet infrequent demand (at a lower cost per trip as compared to fixed route services).

POLICY CONCEPTS

Several policy additions and modifications are proposed that could aid, support, and complement the previously mentioned service alternatives.

ADA Paratransit Service Introduction

Kern Transit in the Kern River Valley currently does not formally provide complementary ADA paratransit service. While its services are intercity, the regularity and all-day service span of its services may suggest that a complementary paratransit service may be warranted. If this were to be pursued, it would change the nature of the system's existing approach to on-demand, door-to-door transportation. Currently, nearly the entire Kern River Valley is considered to be part of a large Dial-A-Ride zone, including homes greater than three-quarters of a mile off of the main fixed route. If shifting to an ADA paratransit service, the service area could be limited to the three-quarter mile distance from Kern Transit's routes and stops. This would reduce the on-demand service area. In tandem, Kern Transit could enforce more strict requirements for using the service. However, it would also place a burden for Kern Transit to conduct eligibility screenings for all potential riders with disabilities and enforce these policies. Typically, ADA paratransit services charge up to twice the regular fixed-route base fare given the high cost of operation per passenger and door-to-door nature of the service. It should be noted that some agencies have forgone their ADA paratransit service requirement by simply operating flex routes in rural areas.

Fare Modifications[11]

Given the length of time since the last fare increase (believed to be at least three decades), a fare increase evaluation is warranted to keep pace with inflation. Current fares of $1.00 for intercity service (within one fare zone) are low relative to the distances of many of the Kern River Valley

[11] Kern Transit anticipates conducting a more formal systemwide fare study within the next year, which will provide more in-depth recommendations with respect to fares.

routes. However, this lower fare might be warranted for shorter trips (between Bodfish and Lake Isabella). In addition, as a demand management tool and to ensure fare equity, Dial-A-Ride trips or any trip that requires a deviation off of the main route may warrant a premium fare. Conceptual fare structures could include distance-based fare "zones" similar to the different fares for trips to Bakersfield or Ridgecrest. In addition, a Dial-A-Ride or flex route trips could include premium fares or a "deviation fee" for each deviation. This type of policy encourages riders to choose fixed-route service first. It also ensures that those receiving a "premium" level of front door service also pay a small fee for that benefit. To ensure equitable access for disadvantaged groups, fares could be structured to continue to ensure discounts for seniors or disabled riders. A detailed fare study will be conducted separately by Kern Transit in 2015.

Transfer Policies

Currently, transfers are allowed within fare zones, allowing individuals to complete their trip for $1.00. However, trips spanning two different sides of the lake do not allow for transfers, thus doubling the cash fare to $2.00. This may be warranted given the longer distances but it penalizes those who make shorter trips but cross a fare boundary. For example, a trip between Mountain Mesa and Wofford Heights is 13 miles and costs $2.00. However, Kernville to Bodfish is 14 miles and costs $1.00.

Assuming that zone-based fares are not implemented, and given that each of the proposed alternatives relies on transfers and that transfers are currently already issued on some routes, free transfers could be expanded to all routes and be paired with a modest fare increase. In addition, transfers may be applied to higher fare routes (Route 150, 227) with an upcharge (paying the difference) or be charged the full fare. Transfers should be limited to one use, collected by the driver, and should only be accepted at the transit center or in Onyx for Route 225-227 transfers.

While transfers have their benefits in helping passengers complete their trip, they open up additional potential for fraudulent use if resold or given away. An alternative is to charge a nominal fee for transfers ($0.25) which may reduce distribution of unnecessary transfers.

Fare Products and Distribution

Currently, Kern Transit allows fare payment using cash or ticket (sold in cash increments) and is provided at a nominal discount. Tickets can be purchased at the Kern Transit base on Lake Isabella Boulevard. However, this location is not necessarily convenient for the average transit rider. To improve customer convenience, it is suggested that transit ticket books be sold at Vons or at the Senior Center. A final set of fare products can be agreed upon only after a fare structure and related fare policies are defined.

MARKETING AND CUSTOMER SERVICE

Recreational Marketing

Kern Transit has participated in marketing events in the past whereby they provide free transportation for special events. For the past few years, Kern Transit provided free round-trip rides to Whiskey Flat Days from Lake Isabella to Kernville. The event provided an opportunity to market the transit service to potential new customers, while also providing a community benefit. Kern Transit has the opportunity to investigate additional opportunities for recreational marketing, given the seasonal tourism for Pacific Crest Trail hikes and additional scenic outings.

Such events would have to be coordinated for the entire public, given funding regulations, but it would provide an opportunity to boost local economy, market transit service to a new customer base, and be an active member in community events.

Customer Service and Feedback

Currently, Kern Transit customer service is routed through the main office in Bakersfield. On occasion, calls may reach the dispatcher in the Valley. However, the dispatcher's responsibilities do not currently include customer service. Kern Transit should investigate opportunities for collecting and tracking feedback for customer service, including calls, mail, and online mechanisms that may facilitate opportunities for the Kern River Valley. During public meetings, members of the public felt they had little means of obtaining information and providing feedback directly. In addition, the dispatch office has been responsible for selling transit passes. It is recommended that Kern Transit explore options such as a customer service representative or an expansion of the dispatcher role in the Kern River Valley to be responsible for customer-facing activities.

Marketing Materials

As it relates to customer service and feedback, Kern Transit riders provided extensive feedback over the course of this planning effort. One of the comments that was reiterated a number of times was related to the marketing materials. While the new Kern Transit maps provide an easy-to-understand guide of the routes and schedules, the paper stock is not durable for ongoing usage of the maps, thus requiring more maps to be printed in the long term.

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5 CAPITAL PLAN

The purpose of this chapter is to describe any key capital elements that support the proposed service alternatives including bus stops and potential new transit centers. Costs associated with these elements are described in the Financial Plan (Chapter 6).

On-Route Bus Stop Enhancements

There are many locations around the Kern River Valley that may warrant bus stop improvement to ensure safety and to enhance general rider experience. However, this need must be balanced with available space, bus stop jurisdiction, and the realities of available funding. Bus stop amenity guidance should apply to all bus stops where Kern Transit stops. Along Caltrans' right-of-way, coordination efforts should be in place to ensure that any major road improvement projects may include benefits for transit operations and riders.

Enhancement Priorities

In terms of providing transit amenities at bus stops, a tiered system is recommended to provide priority for bus stop improvements. A tiered structure is described in Figure 5-1. All stops should meet Tier 1 criteria. Subsequent tiers would be based on ridership thresholds that build upon one another. Thus, no Tier 2 elements should be constructed in the absence of Tier 1.

Currently, the most recent stop-by-stop ridecheck information comes from 2010, which is likely consistent with general ridership patterns of today. However, Kern Transit should pursue collecting more up-to-date boarding information to validate the most active stops. This can be done by a more quantitative ridecheck or a more informal discussion with drivers who are likely familiar with the busiest stops. Based on the 2010 existing conditions report, the most frequently used stops are shown in Figure 5-2. These stops should be considered highest priority for enhancements. Special consideration should also be taken for bus stops with sensitive populations such as the stop in front of Kern Valley Hospital, the Senior Center, or locations with known high activity (e.g., Transit Center).

Figure 5-1 Bus Stop Enhancement Tiers

Tier	Elements	Guidance
Tier 1 – Information, Accessibility	▪ Bus stop signage ▪ Safe (from vehicle traffic) boarding areas ▪ Kern Transit contact information ▪ Safe paths of travel to/from the bus stop ▪ Ability to pull up directly adjacent to curb (where available)	No stop should be considered unless Tier 1 elements are provided. All existing stops should provide Tier 1 elements.
Tier 2 – Lighting and Seating[12]	▪ Street lighting ▪ Lighting ▪ Fixed lighting from buildings ▪ Benches ▪ Bicycle parking (secured or racks)	Lighting may be provided by direct or indirect lighting. Direct lighting refers to lights installed directly at a stop for the express purpose of illuminating the stop. Indirect lighting can come from sources like overhead streetlamps or lights from an adjacent building. Benches should be placed near the boarding area.
Tier 3 – Shelters, Street Furniture	▪ Bus shelters ▪ Trash receptacles ▪ Detailed route schedule information	Consider installing shelters at bus stops that have an average of 15 or more boardings per day or serve sensitive populations (seniors, people with disabilities). Shelters should be designed to serve a functional purpose such as provide shade or provide protection from rain and wind. Trash receptacles should be designed with security and ease of maintenance in mind.

Figure 5-2 Bus Stops with Highest Activity in Kern River Valley (2010 Ridecheck)

Bus Stop	Average Daily Boardings
Lake Isabella Senior Center (Transit Center)	77 (including 40 to Bakersfield)
Lake Isabella, County Administration Bldg	30
South Fork School	18
Wofford Heights Blvd & Panorama	16
Onyx, Easy Street	16
Kern Valley Plaza	12
Mountain Mesa - Kern Valley Hospital	11
Wofford Heights Blvd & Evans Rd.	9
South Lake Plaza	9
Vista Grande (Weldon Post Office)	9

[12] Understanding that the Kern River Valley is in unincorporated Kern County, bus stop enhancements do not necessarily need all be in the form of capital improvements. Bus stop seating may be in the form of an existing retaining wall, or a bus shelter may take the form of a nearby tree. Presuming a bus stop meets Tier 1 requirements, a stop may be slightly moved or adjusted to take advantage of existing infrastructure or foliage (when allowed).

Figure 5-3 Example Bus Stops Photos

The above examples are various bus stop designs which reflect different contexts, yet provide rider amenity in the form of seating, shelters, clear path of access to the bus (and surrounding pedestrian network), and have varying levels of sophistication.

Community Partnerships

Bus stops and site-specific enhancements are aspects of the transit system where the community can easily contribute and take a role in providing improvements. For example, community resources and even labor could be used to help purchase and install bus stop seating, lighting, and shelters. Based on meetings in the Kern River Valley, a clear community interest exists in contributing to such improvements. Efforts should be taken to ensure an ongoing dialogue with the community to determine the best process and partnerships to enable these improvements to come to fruition. In addition, it should be clear that improvements do not necessarily need to be expensive, but should be safe for users and require limited maintenance.

The following are examples of strategies where the community could become involved in enhancing the transit rider experience (assuming all necessary permits and approvals are met):

- Shelters
- Seating / bus stop furniture
- Landscaping
- Painting bus loading zone curbs

Figure 5-4 "Bus Cube" Benches (Rochester, NY)

As an interim, lower-cost strategy to increase seating and bring awareness to the transit system, "bus cubes" were designed and distributed around Rochester, which lacked seating at many stops. For more information: http://reconnectrochester.org/blog/2014/11/do-it-yourself-bus-stop-seat-cube/

Transit Center Options

To support the proposed service alternatives, this study investigated several alternatives with respect to a relocated/revised transit center. The current location (Senior Center) does not meet Kern Transit needs in terms of vehicle capacity and customer amenities. More specifically:

- The current bus platform has limited number of spaces for buses and does not allow for passing
- Passengers are sometimes required to board in the parking lot, creating an unsafe situation for pedestrians (potential conflict with vehicles)
- Seating (and covered shelter) is limited given the number of waiting passengers
- Parked buses can block disabled parking spaces in front of the Senior Center
- The current location could be more centrally located, placing more riders within walking distance of key destinations

Transit Center Guidance:

Similar to service guidelines in Chapter 4, plans for a revised or relocated transit center should consider the following key guidelines:

- **Safe Access for Pedestrians and Cyclists:** Transit centers are hubs for transferring passengers and they generate significant demand from those arriving by car, bicycle, or

on foot. As such, transit centers should provide safe paths of travel for those arriving from the street and placed near intersections when possible, presuming that pedestrians will need to safely cross the street (in a marked crosswalk) to access the facility. Efforts should be taken to ensure that the most vulnerable users (pedestrians and cyclists) are not placed in any dangerous situations simply to access the transit center.

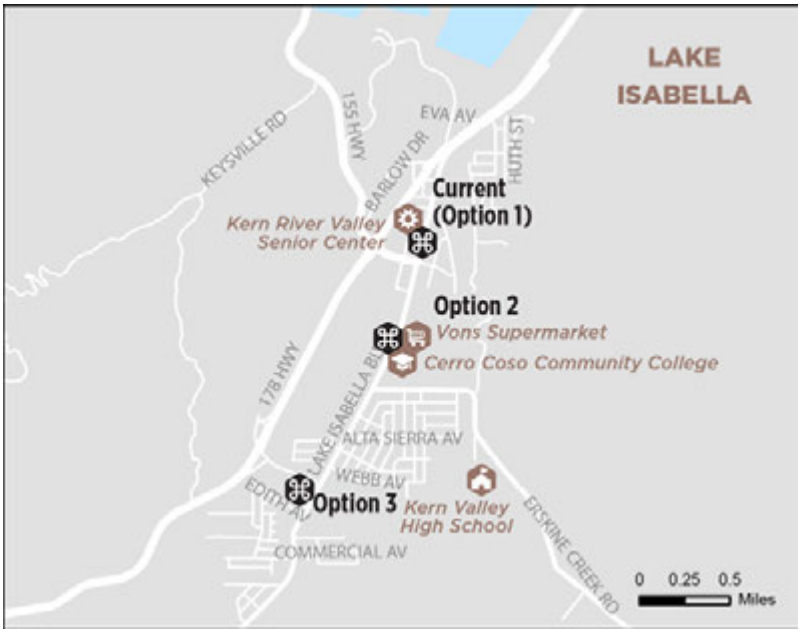
- **Safe Circulation within Facility:** Within the transit facility itself, a regular interval of bus traffic is presumed. Any facility should be designed to ensure buses can circulate safely and that regular pedestrian traffic within the facility will be clearly marked through crosswalks or other delineation. Similarly, if private vehicles are also allowed within the facility, driving and parking aisles should be designed to enforce low speeds.
- **Passenger Security:** The primary element for a transit center security is visibility. While this is not a challenge during the day, early morning or late evening trips may occur in the dark. Thus, lighting (direct or from adjacent street lighting) should be ample enough to illuminate the transit center area, ensuring those waiting can be seen and can see any suspicious activity. Lighting can be supplemented through the use of security cameras or emergency call buttons if necessary.
- **Protection from Climate and Elements: The** Kern River Valley is known for its often pleasant, but sometimes unforgiving weather. For those who may require long waits at a transit center, shelter and some type of climate protection should be provided. This may be in the form of shade from the sun, coverage from rain, or vertical elements to shield the wind. The amount of protection should factor in the number of estimated riders at any given time, which in this case could be as many as 15-20 riders waiting for a trip to Bakersfield or a busy transfer "pulse."
- **Basic Amenities:** Finally, a transit center is often the most used transit facility as nearly all riders pass through it. Given its usage, and the likelihood that riders will be waiting at the facility, basic amenities should be provided such as rider information, benches, and trash receptacles. Restrooms and water fountains are also recommended but also must take into consideration ongoing maintenance and cleaning.

Three transit center locations have been explored as part of this plan:

- **Option 1:** Maintaining the transit center at the existing location with some modifications and site enhancements
- **Option 2:** Moving the transit center to a new facility adjacent to Kern Valley Plaza
- **Option 3:** Moving the transit center to a new facility adjacent to the intersection of Lake Isabella Boulevard and Elizabeth Norris Road.

Each of these options is explored below.

Figure 5-5 Transit Center Location Options



Kneale Avenue – Adjacent to Senior Center (Option 1)

A preliminary option for an enhanced transit center would be to maintain the current location at the Senior Center. As of April 2015, due to ongoing instances of transit vehicles impeding access to disabled vehicle spaces, bus operations are slated to move onto Kneale Avenue, adjacent to the Senior Center. While reducing the opportunity for vehicle conflicts, this option places riders further away from the Senior Center, bus shelters, and seating. In addition, it requires riders to travel through the parking lot, without marked crossings, to meet vehicles.

If the transit center is to remain at the Senior Center, it is strongly recommended that bus stop information, shelters, and seating be relocated to be adjacent to the relocated stop along Kneale Avenue. In addition, a marked crosswalk with traffic calming elements should be installed to reduce opportunities for collisions between pedestrians and potentially fast-moving vehicles in the parking lot.

Interim (Pilot) Treatments

If the transit center is to remain, and more substantive improvements are not feasible, an interim approach is suggested to accelerate potential transit center improvements using lower-cost materials. By using striping, planters, and more temporary materials, it is possible to construct improvements with similar benefits at a fraction of the cost. While these improvements are not intended to be long-term, installing them sooner will help gain an understanding of what works and what doesn't and will provide an interim solution in the absence of resources to construct a more permanent solution. A few examples of such strategies are provided. In these examples, striping, planter boxes, and a repurposed shipping container have been used to provide transit center amenities, including a waterproof/windproof shelter for waiting riders. It is anticipated these types of improvements could be implemented within a six-month timeframe, with more permanent installations within one year.

Figure 5-6 Interim Treatments at Senior Center Transit Center

Using temporary materials, the current transit center can be enhanced, providing additional seating, shelter, bicycle racks. The top photo provides an example of repurposing several parking spaces to place a retrofitted shipping container, planter boxes, and bicycle racks. This area is demarcated using striping and rubber parking bumpers. The bottom photo shows a similar approach, presuming the bus stop moves to Kneale Avenue.

Kern Valley Plaza Location (Option 2)

From a location standpoint, relocating the transit center from the Senior Center to just north of the Kern Valley Plaza Shopping Center is the most desirable new location.

Based on community feedback and a high-level analysis of placing more potential riders within walking distance to transit, moving the transfer point closer to the Kern Valley Plaza Shopping

Center would allow for the construction of a more suitable transit center, place all routes within walking distance to significant retail, Cerro Coso Community College, and the most populated area of Lake Isabella (and the entire Kern River Valley).

Preliminary conversations with Kern Transit staff suggest such a facility would hold the following characteristics:

- Total of four bus bays with capacity for three 20' transit vehicles and one 32' transit vehicle (Bakersfield)
- Capacity for one to two extra vehicles (such as for transit staff or maintenance)
- Potential option for one additional bus bay in case a Dial-A-Ride zone service vehicle would also use the facility

To ensure the facility is within walking distance, it is suggested to be placed directly north of the Kern Valley Plaza Shopping Center on the east side of Lake Isabella Boulevard. This location would ensure that passengers would not need to cross any major streets to access shopping destinations.

Potential amenities that could be considered include the following:

- Shelter and benches to accommodate at least 30 passengers
- Trash receptacles
- Bicycle racks
- Lighting
- Solar-powered power outlets
- A partnership with Kern Plaza to gain access to restroom facilities

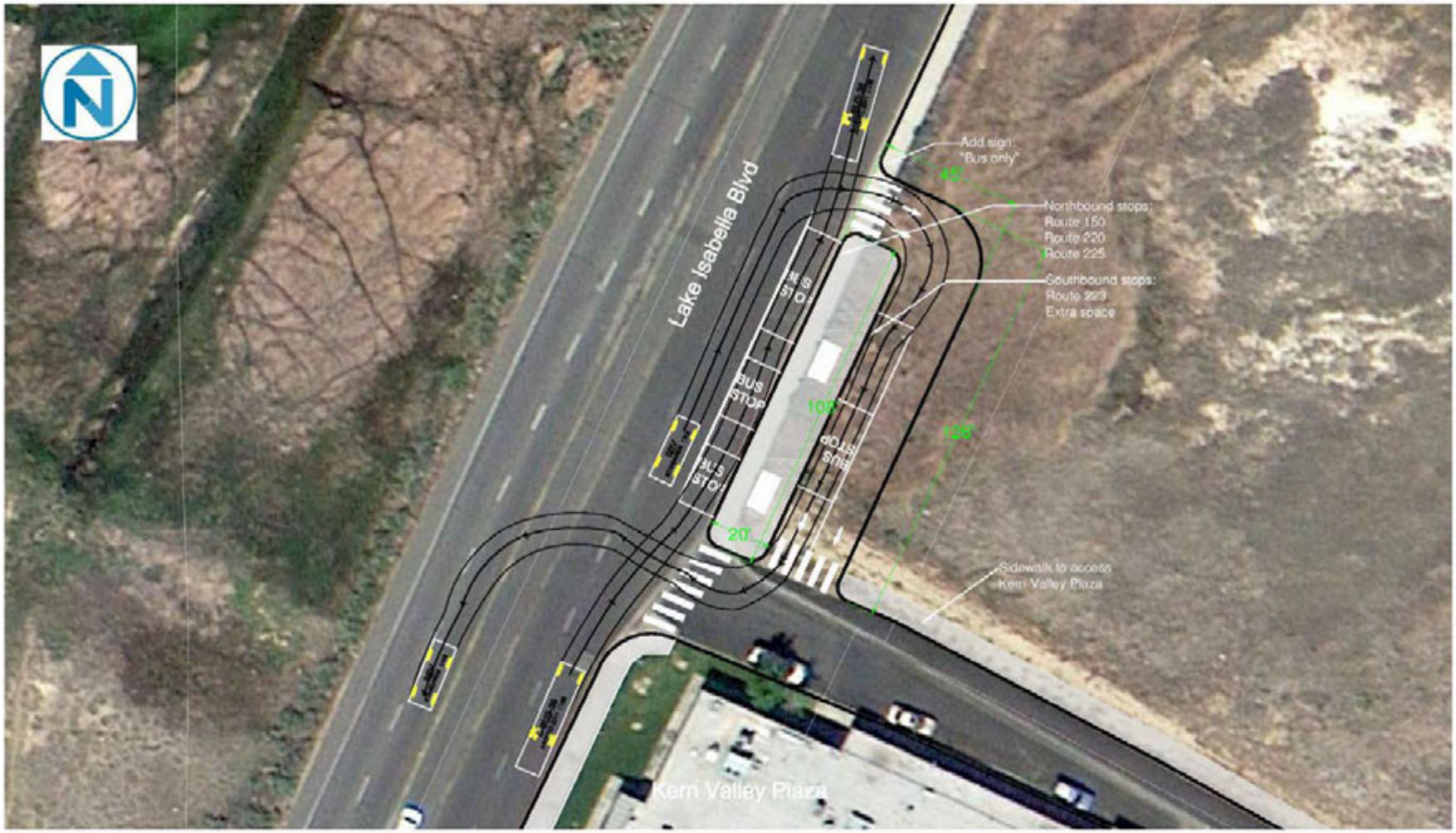
Despite many benefits, the major drawback with this option is that a portion would be located on private land that would require acquisition. A conceptual diagram of this facility is illustrated in Figure 5-7. This diagram illustrates the general layout, including a configuration that enables a portion of the facility to be within existing county right-of-way. However, some private land would still be required for the full build-out as shown.

Elizabeth Norris and Lake Isabella Boulevard (Option 3)

A third location is a small parcel of land on the southwest corner of Elizabeth Norris Road and Lake Isabella Boulevard. This location was selected due to its current ownership by the County, thus not requiring the acquisition of any land. While this location offers the opportunity for an expanded transit facility and is within closer walking distance to the developed majority of Lake Isabella, it does not have any nearby destinations.

If this site were to be selected for a new transit center, it would hold similar capacity and amenity characteristics as the Kern Valley Plaza option. However, given there is no adjacent retail, restrooms would be suggested on-site during service hours.

Figure 5-7 Proposed Kern River Valley Transit Center



Lake Isabella Transit Center
Approx. 5620 Lake Isabella Blvd (at Kern Valley Plaza)
Lake Isabella, CA

CONCEPTUAL
NOT FOR CONSTRUCTION

NELSON NYGAARD

Summary

At this time, all three options are viable candidates for a future transit center. Each location has unique benefits and constraints. Key tradeoffs include the following:

- Population within walking distance
- Location relative to pedestrian network (and safe crossings)
- Space for vehicle/bus circulation and rider amenities
- Proximity to key Kern River Valley destinations
- Site ownership (Kern County)
- Costs of construction

Figure 5-8 describes some of these tradeoffs between each of the proposed options using a qualitative three star rating.

Figure 5-8 Transit Center Option Comparison

	Senior Center Option 1	Valley Plaza Option 2	Elizabeth Norris Option 3
Population within one mile[13]	★ 723	★★★ 1,924	★★ 1,420
Location relative to pedestrian network (and safe crossings)	★★★ Sidewalks and relatively near signalized crossing	★★★ Sidewalks and limited need to cross Lake Isabella Blvd.	★ No adjacent sidewalks but close to signalized crossing
Space for vehicle/bus circulation and rider amenities	★★ One-way circulation only, space for amenities if repurposing existing parking	★★ Space for vehicle circulation, but constrained due to right-of-way	★★★ Ample space for circulation and facilities
Proximity to key Kern River Valley destinations	★★ Senior Center, retail	★★★ Shopping, community college	★ No nearby destinations
Site ownership	★★★ Kern County property	★★ Kern County property (within right-of-way) and private property	★★★ Kern County property
★- not desirable ★★- adequate ★★★- desirable			
Relative Costs[14]	$	$$$	$$

There is a clear need for the existing transit center to be improved from its current state. We recommend that Kern Transit further investigate each of these options, knowing each of their

[13] Based on Sitewise Report – 2010 Census

[14] Based on a conceptual costs including land acquisition, planning, design, and construction

respective strengths and weaknesses. In the interim, short-term improvements can be made at the Senior Center until a final transit center location can be selected.

Natural Gas Vehicle/Fueling Feasibility

An initial interest in this study included the investigation of a natural gas fueling station in the Kern River Valley. Such a facility would allow vehicles to use compressed natural gas (CNG) or liquefied natural gas (LNG) for vehicles, which emit 90% less particulate mass than diesel. This environmental benefit is of particular interest in improving the air quality in Kern County.

The challenges associated with implementing a CNG/LNG fleet in the Kern River Valley are many. In addition to the higher cost of vehicles themselves (about $25,000 to $50,000 more than diesel buses), CNG/LNG vehicles need access to the fuel itself. One option involves constructing CNG/LNG fueling stations within the Kern River Valley, which includes new pumps and training maintenance crews. A basic small system CNG/LNG fueling depot can easily cost $2 million or more to install. In addition to the high capital costs, CNG/LNG fueling facilities require access to existing CNG/LNG infrastructure (pipelines) which currently do not exist in the Kern River Valley. Another option is to have the fuel shipped on a regular basis (most likely from Bakersfield), which in itself may be costly and somewhat offsets any air quality improvements due to the additional vehicle emissions from fuel shipments.

As a result of these significant hurdles, the use of natural gas vehicles in the Kern River Valley is not recommended at this time.

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6 FINANCIAL PLAN

FUNDING SOURCES

Kern Transit receives funding from a variety of sources typical of transit service providers of its size. These include locally based funding sources, passenger fares, as well as federal assistance. Kern Transit also received a small fraction of revenue (<1%) from rental income and the sale of fixed assets in the last fiscal year.

The Federal Transportation Authority's 5311 (Formula Grants for Other than Urbanized Areas) is allocated to rural transit programs that support populations of less than 50,000. The funding goals include enhancing access to health care, shopping, education, employment, public services, and recreation. For a small region such as the Kern River Valley, Kern Transit facilitates access to each of these types of services through the fixed-route and Dial-A-Ride service. Funding can be used for capital, operating, and administrative expenses for public transportation projects that meet the needs of rural communities. The allocation of funding also has matching requirements, which vary based on capital or operating uses: 20% for transit capital and 50% for transit operations. The Congestion Mitigation and Air Quality Improvement (CMAQ) Program is also a federally funded program that provides capital funding for transit. Kern Transit has traditionally used CMAQ funds for vehicle replacements.

Proposition 1B (Public Transportation Modernization, Improvement, and Service Enhancement Account) is a California State funding source that provides grants to transit operators over a 10-year period. The funding grants may be used for transit rehabilitation, safety or modernization improvements, capital service enhancements or expansions, new capital projects, bus rapid transit improvements, or rolling stock procurement, rehabilitation, or replacement. The State's Office of Emergency Services (OES) is another source of funding, which provides funding for various capital projects including transit facilities.

The largest revenue source for Kern Transit is the Transportation Development Act (TDA), which is administered by the State of California and allocated locally for public transportation. The allocations are based on population, taxable sales, and transit performance. Funding requirements include a 10% minimum farebox recovery ratio for non-urbanized areas. The local TDA funds represent approximately 35% of Kern Transit's $16 million budget.

Another consistent funding source is fare revenue. In FY 2014/2015, fare revenue was set for approximately 5% of the total budget. Fare revenues amounts to approximately $880,000 of the total approved budget. As mentioned previously in this report, fares have not increased recently and are extremely price-competitive in comparison to other modes. Figure 6-1 illustrates the breakdown of Kern Transit revenue sources.

Figure 6-1 Kern Transit Revenue Sources

Funding Source	Percentage of Funding
FTA Section 5311 Operating	19.6%
Prop 1B (PTMISEA)	29.2%
Sales & Use Tax (Local TDA)	35.3%
Fare Revenue	5.3%
OES Reimbursements	3%
Other (Rental income, sale of fixed assets, interest)	<1%
Depreciation Applied	7%

The service alternatives presented in this report assume revenue sources listed above will remain consistent throughout the life of the plan, and costs for the primary set of alternatives are cost-neutral.

FIXED-ROUTE SERVICES

Operational Costs

Alternatives listed under the resource neutral section of the service alternatives are intended to not incur any additional operational costs beyond current costs of service. All proposed changes could be completed through schedule modifications and shifting of existing resource to align with the proposed alternatives.

Capital Costs

Although the resource neutral alternatives do not incur any additional operational costs, there are several capital costs that fall within the five-year plan horizon. These include replacement of vehicles, bus stop enhancements, and the potential to renovate or reconstruct a new transit center in the Kern River Valley. Each of these capital costs are described in further detail.

Vehicle Replacement

During the TDP planning period (2015-2020), all nine vehicles based in the Kern River Valley are due for replacement, some more immediately than others. Five vehicles (the majority of the fleet) will require replacement in 2018. Vehicles of the type that are used in the Kern River Valley have an estimated five-to-seven-year vehicle life (or approximately 100,000-200,000 service miles).[15] This vehicle replacement schedule is based on an estimation of a seven-year life on each of these vehicles. Figure 6-2 presents the current age and estimated year of replacement for eight of the nine vehicles (one vehicle is included as part of the Dial-A-Ride vehicle replacement). It is assumed that replacement vehicle costs are $110,000 (in 2015 dollars), escalated at 2% per year.

[15] 2007. Useful Life of Transit Buses and Vans. Federal Transit Administration. Report VA-26-7229-07.1

Figure 6-2 Kern River Valley Vehicle Inventory and Replacement Year

Type	Year	Age (Years)	Quantity	Year of Replacement
El Dorado Ford E450	2001	14	1	Immediate (see Dial-A-Ride Capital Costs)
Chevrolet Aeroelite	2009	6	2	2016
El Dorado Aerotech	2011	4	5	2018
El Dorado Aerotech	2012	3	1	2019
		Total	9	

Bus Stop Enhancements

As part of the service plan, no new stops have been suggested and as a result, there are no new capital funds associated with creating new bus stops. However, there are numerous existing stops that require enhancements for basic access and safety improvement to achieve the "Tier 1" status described in the previous section. In addition, it is recommended that Kern Transit conduct a bus stop audit in the Kern River Valley in order to determine what stops/locations warrant immediate improvements. This audit can be paired with any new data regarding stop-by-stop ridership. Such a study is anticipated to be a nominal cost for staff labor. Assuming the system's estimated 72 bus stops (within the Kern River Valley region), and an estimated time of 30 minutes per bus stop (including travel time between stops), this will likely take approximately 36 hours of effort.

Transit Center Improvements

Based on the three options presented, potential transit center costs may vary widely due to the range in both soft costs (planning, environmental review, etc.) and hard costs (materials, construction, etc.). Overall costs of any of the options will be heavily based on local construction labor costs and any other anomalies such as the cost of construction in a more rural area of Kern County. As a result, detailed costs are not presented in this report. However, for purposes of determining order of magnitude costs, the potential hard and soft costs of each option are presented in Figure 6-3.

Figure 6-3 Transit Center Cost Considerations

	Option 1 Kneale Avenue	Option 2 Kern Valley Plaza	Option 3 Elizabeth Norris Road
Soft Costs	▪ Minimal	▪ Conceptual and Final Engineering ▪ Planning and Environmental Review	▪ Conceptual and Final Engineering ▪ Planning and Environmental Review
Hard Costs	▪ Bus stop amenities ▪ Restriping / Pedestrian crossings from Senior Center ▪ Expansion of boarding/waiting area	▪ Construction of boarding island/moving curbs ▪ Land acquisition ▪ Bus stop amenities ▪ Sidewalks to Kern Plaza ▪ Restriping of roadway	▪ Construction of bus circulation area (pavement, boarding areas, crossings to street) ▪ Bus stop amenities ▪ Restrooms

Summary of Costs

Some key assumptions that were used in the development of the fixed-route cost summary include the following:

- No increase in revenue hours over the plan period
- Ridership increases at 1% per year (based on past overall increases within the Kern River Valley)
- Contractor service cost increases based on existing contractual agreement with service provider
- Administrative costs increase with inflation at 2% per year (including vehicle costs)
- Passenger fare revenues based on an average cost per passenger based on ridership
- Other operational revenues based on past Kern Transit revenue allocation (based on proportion of revenue hours between Kern River Valley services and other services)
- Vehicle replacements estimated at $110,000 in the plan's first year
- Additional contractor costs based on monthly fixed administration cost of $46,494 in plan's first year, increasing annually based on existing contractual agreement

Figure 6-4 presents a summary of planned operational and capital costs over the plan's five years.

Figure 6-4 Kern River Valley – Fixed-Route Service Financial Summary

	FY 2015/2016	FY 2016/2017	FY 2017/2018	FY 2018/2019	FY 2019/2020
Operating Costs					
Service Hours[16]	12,066	12,066	12,066	12,066	12,066
Ridership[17]	101,973	102,993	104,023	105,063	106,114
Administrative Costs[18]	$382,999	$398,472	$422,862	$457,720	$505,359
Contractor Service Costs[19]	$491,669	$491,669	$507,234	$523,522	$540,414
Additional Contractor Costs[20]	$76,228	$78,377	$80,597	$82,887	$85,253
Other Costs (Bus Stop Audit, Transit Center Planning)	$10,000	$40,000			
Total Operating Costs	$960,896	$968,519	$1,010,693	$1,064,129	$1,131,026
Capital Costs					
Vehicle Replacements		$228,888		$595,338	$121,449
Bus Stop Enhancements	$15,000	$15,000	$15,000		
Transit Center - Interim Enhancements[21]	$25,000				
Total Capital Costs	*$40,000*	*$243,888*	*$15,000*	*$595,338*	*$121,449*
Total Costs	$1,000,896	$1,212,407	$1,025,693	$1,659,467	$1,252,475
Revenues					
Passenger Revenues	$122,368	$123,592	$124,828	$126,076	$127,337
FTA 5311 Operating	$443,526	$443,526	$443,526	$443,526	$443,526
FTA 5311 Capital[22]	$0	$183,110	$0	$476,270	$97,159
Prop 1B PTMISEA / OES	$40,000	$15,000	$15,000	$0	$0
Transportation Development Act and Other Local Funds	$395,002	$447,178	$442,339	$613,595	$584,453
Total Operating Revenues	$1,000,896	$1,212,407	$1,025,693	$1,659,467	$1,252,475

[16] Includes Routes 150, 220, 223,225, 227

[17] Increasing at 1% annually

[18] Based on existing Kern Transit administrative costs (excluding any costs that are directly associated with another portion of the Kern Transit service area), proportional to the Kern River Valley's share of fixed-route revenue hours.

[19] Based on estimated marginal cost per revenue hour of $40.75 (increasing annually based on existing contractual agreements).

[20] Based on estimated monthly fixed contractor administration fee of$46,494 (increasing annually based on existing contractual agreements), proportional to the Kern River Valley's share of fixed route revenue hours.

[21] It is presumed that some initial funds could be used to conduct immediate interim improvements at the transit center.

[22] Vehicle replacements only.

Based on these ridership and cost estimates, Figure 6-5 presents key performance metrics for Kern River Valley fixed-route performance. Of particular note, it is anticipated that Kern Transit service in the Kern River Valley will continue to achieve its farebox recovery ratio, but in later years, farebox recovery ratio levels diminish to near 11.2%, suggesting that a fare increase is warranted in the future.

Figure 6-5 Kern River Valley – Fixed Route Performance Metrics

	FY 2015/2016	FY 2016/2017	FY 2017/2018	FY 2018/2019	FY 2019/2020
Farebox Recovery	12.87%	12.76%	12.35%	11.85%	11.26%
Cost/Passenger	$9.32	$9.40	$9.72	$10.13	$10.66
Subsidy/Passenger	$8.12	$8.20	$8.52	$8.93	$9.46
Cost/Hour	$78.81	$80.27	$83.77	$88.20	$93.74
Avg fare/Passenger	$1.20	$1.20	$1.20	$1.20	$1.20
Passengers/Hour	8.5	8.5	8.6	8.7	8.8

Expanded Service Levels

Over the course of this plan, it is not anticipated that additional funding will be available for transit operations. However, if additional funds were to become available, it is suggested these funds be used towards the following service enhancements as suggested in the service alternatives section of the plan.

Figure 6-6 Service Expansion Cost Considerations

Service Expansion	Resource Considerations
Expanded Sunday Service	▪ Dispatching costs (operations) ▪ Revenue hours (operations)
Regular Weekday Headways	▪ Revenue hours (operations) ▪ Expansion vehicles (capital)
Limited Evening Service (fixed-route and Dial-A-Ride)	▪ Dispatching costs (operations) ▪ Revenue hours (operations)

DIAL-A-RIDE SERVICES

Operational Costs

Similar to the fixed-route services, it is not intended that Dial-A-Ride services be modified in any way over the next five years that would change existing resource requirements. Future suggested policies are in fact intended to reduce the strain on the existing Dial-A-Ride service. However, these changes would not necessary change the service's schedule or number of resources deployed at any given time.

Capital Costs

The Kern River Valley Dial-A-Ride service uses similar vehicles to those in fixed-route service. As a result most vehicle replacement costs have already been included as part of the fixed-route capital costs with exception of one vehicle at a cost of $110,000 in Year One of the plan. There may be ongoing capital costs associated with dispatching upgrades or other technology-based enhancements.

Summary of Costs

Figure 6-7 presents a summary of planned operational and capital costs for the Dial-A-Ride services over the plan's five years.

Figure 6-7 Kern River Valley – Fixed-Route Service Financial Summary

	FY 2015/2016	FY 2016/2017	FY 2017/2018	FY 2018/2019	FY 2019/2020
Operating Costs					
Service Hours	5,526	5,526	5,526	5,526	5,526
Ridership	19,471	19,666	19,862	20,061	20,262
Contractor Service Costs[23]	$225,185	$225,185	$232,313	$239,773	$247,510
Additional Contractor Costs[24]	$34,912	$35,897	$36,913	$37,962	$39,046
Administrative Costs[25]	$175,414	$182,500	$193,671	$209,636	$231,455
Total Operating Costs	*$435,511*	*$443,582*	*$462,897*	*$487,371*	*$518,010*
Capital Costs					
Vehicle Replacements	$110,000	$0	$0	$0	$0
Total Costs	$545,511	$443,582	$462,897	$487,371	$518,010
Revenues					
Passenger Revenues	$16,161	$16,323	$16,486	$16,651	$16,817
FTA 5311 Operating	$203,135	$203,135	$203,135	$203,135	$203,135
FTA 5311 Capital	$88,000	$0	$0	$0	$0
Local Sales Tax and TDA Funds	$238,214	$224,124	$243,276	$267,585	$298,058
Total Operating Revenues	$545,511	$443,582	$462,897	$487,371	$518,010

Assumptions are largely similar to fixed-route service assumptions.

[23] Based on estimated marginal cost per revenue hour of $40.75 (increasing annually based on existing contractual agreements).

[24] Based on estimated monthly fixed contractor administration fee of$46,494 (increasing annually based on existing contractual agreements), proportional to the Kern River Valley's share of Dial-A-Ride revenue hours.

[25] Based on existing Kern Transit administrative costs (excluding any costs that are directly associated with another portion of the Kern Transit service area), proportional to the Kern River Valley's share of Dial-A-Ride revenue hours.

- No increase in revenue hours over the plan period
- Ridership increases at 1%
- Other costs increase with inflation at 2% per year
- Other revenues based on past Kern Transit revenue allocation (based on proportion of revenue hours between Kern River Valley services and other services)

Based on these ridership and cost estimates, Figure 6-8 presents key performance metrics for the Kern River Valley Dial-A-Ride.

Figure 6-8 Kern River Valley – Fixed-Route Performance Metrics

	FY 2015/2016	FY 2016/2017	FY 2017/2018	FY 2018/2019	FY 2019/2020
Farebox Recovery Ratio	3.71%	3.68%	3.56%	3.42%	3.25%
Cost/Passenger	$22.37	$22.56	$23.31	$24.29	$25.57
Subsidy/Passenger	$21.54	$21.73	$22.48	$23.46	$24.74
Cost/Hour	$78.81	$80.27	$83.77	$88.20	$93.74
Average Fare/Passenger	$0.83	$0.83	$0.83	$0.83	$0.83
Passengers/Hour	3.5	3.6	3.6	3.6	3.7

7 IMPLEMENTATION PLAN

This chapter discusses immediate next steps to implement various service recommendations outlined in the previous chapters, including resource neutral recommendations such as modifications to fixed-route services, Dial-A-Ride zones, Sunday service, school-based services, and long-term improvements related to expanding service and increasing frequencies. In addition, the next steps for various service and fare policies are also discussed in this chapter.

The implementation plan provides guidance in several key areas including marketing and public information, service operations, capital investments, and policies. To transition from the current system to include improvements on the fixed-route and Dial-A-Ride services, close coordination must occur between the various transportation partners including Kern Transit, Kern Council of Governments, CommuteKern, and local schools, and the transportation vendor.

The recommendations are organized in the following categories:

- Service/Operations
- Policies
- Marketing
- Capital Investments

Each of these categories is described below and are grouped into the following time horizons:

- Short: 1-2 years from adoption of plan
- Medium: 2-4 years
- Long: 5+ years

Service/Operations

Resource-neutral alternatives presented in this report can occur in the short-term by coordinating with the vendor, First Transit, to make slight route modifications, schedule adjustments, and shifting resources to Sunday service from Saturday service. The expanded service options would require seeking additional funding, and there would be several tasks involved to introduce enhanced service. Additional resources needed for increased frequencies (on weekends and weekdays) include a Sunday dispatcher in Kern River Valley, additional drivers, and additional vehicles (for weekday service and evening service).

While conceptual plans have been prepared for this plan, further plan refinement is necessary for expanded service options. This includes finalizing running times and developing a final schedule. Additional training will be needed for the Dial-A-Ride dispatchers, as the transition to zones requires additional coordination (and customer communication) in the proposed services areas.

Policies

The policy options presented should be considered during Kern Transit's upcoming fare study, as the majority of the policies are related to fares and fare media. Given the history of fare increases in the Kern River Valley, and the public's willingness to pay more for certain types of service, fares should be adjusted as a result of the upcoming fare study.

The discussion of ADA paratransit service has broader requirements and regulations through the Americans with Disabilities Act that should be discussed with Kern Transit management. Introducing ADA paratransit service would require maintaining the same service hours as the fixed-route buses, ensuring vehicle requirements for accessibility, enacting an eligibility process, maintaining costs that do not exceed twice the fare that would be charged on fixed route, and providing service within three-quarters of a mile of the fixed routes.

Marketing

Marketing and public information is critical to inform existing and potential riders about the service. Continual improvement of marketing materials and services provides an opportunity to revisit transit information, including the availability and distribution of written materials. Recent website and rider guide improvements have vastly improved information that is available to riders across the County in a clean, attractive format. Recommendations in this plan related to marketing build upon these successes.

Future marketing efforts focus on three key items: improving durability of marketing materials, providing a conduit to enable ongoing customer feedback within the Kern River Valley, and seeking opportunities to build partnerships and increase the visibility of Kern Transit in the Kern River Valley. It is also of value to support local tourism by providing transportation services for major tourist events and potential tour-like services, partnering with local community groups.

Capital Investments

Improvements to the transit system include infrastructural investments at bus stops and at the transit center in order to ensure a safe, convenient, and comfortable transit experience for the riders. Capital investments at bus stops and at the transit center can be done gradually as funding is available—especially for bus stops. All bus stops should have basic information and accessibility prior to continuing on with Tier 2 improvements at select bus stops. In addition, Tier 3 enhancements at bus stops should be reserved (at least initially) for the high priority, high usage bus stops.

The transit center will require more capital investment than bus stops, and as such, requires discussion among Kern Transit staff for the optimal location. Minor improvements can be made in the short- to medium-term at the Senior Center, but long-term investments should look into locating the transit center closer to Kern Valley Plaza in order to help people reach their destinations.

Figure 7-1 presents an implementation timeline for the recommendations presented in this report. The implementation timeline is divided into the following timeframes:

Figure 7-1 Implementation Timeline

	Recommendation	Next Steps	Lead/Partner
Service/Operations			
Ongoing	Ongoing monitoring of Ridgecrest service	Ongoing monitoring of trip-by-trip performance of Ridgecrest service to determine if modifications are necessary to schedule and frequency of route.	Kern Transit
Short-Term	Interlining Route 220-225	Develop new schedules that interline routes 220-225, marketing to riders, deploying new service and schedules	Kern Transit /service vendor
Short-Term	Dial-A-Ride zones	Coordinate with service vendor to organize DAR rides according to zones, marketing to riders, deploying new service and schedules	Kern Transit /service vendor
Short-Term	Limited Kern River Valley Sunday services (shifting resources from Saturday trips)	Extend Route 150 to Onyx for limited Sunday service (uses existing Bakersfield dispatch), reduce some Saturday services, marketing to riders, deploying new service and schedules	Kern Transit/service vendor
Short-Term	School-focused services	Adjust schedule to meet the preferred school time	Kern Transit /service vendor
Long-Term	Sunday service increased frequencies	Seek additional funding opportunities for dispatcher and drivers to enabled expanded Sunday service (building off of preliminary short-term improvements)	Kern Transit
Long-Term	Regular weekday headway frequencies	Seek additional funding opportunities for vehicles and drivers	Kern Transit
Long-Term	Limited evening service	Develop partnerships with local service providers (taxi, transport-network companies) with potential of rider subsidy	Kern Transit /Kern Council of Governments
Policies			
Medium-Term	ADA/Paratransit service introduction	Determine position on pursuing ADA/paratransit service and research requirements for such service	Kern Transit / Kern Council of Governments
Short-Term	Fare modifications	Initiate Fare Study to ensure consistent policies across Kern Transit	Kern Transit

	Recommendation	Next Steps	Lead/Partner
Medium-Term	Transfer policies	Transfer policies to be analyzed as part of Fare Study	Kern Transit
Short-Term	Fare products and distribution	Investigate potential to sell Kern Transit fare products (tickets) at Vons (in conjunction with any recommendations stemming from the proposed fare study)	Kern Transit
Marketing			
Ongoing	Recreational events marketing	Identify Kern River Valley cultural and community events that provide good partnership opportunities for Kern Transit (potential public tours or similar)	Kern Transit, Community Groups
Short-Term	Customer service and feedback mechanisms	Explore mechanisms for handling customer service calls and public feedback mechanisms in Kern River Valley	Kern Transit/service vendor
Short-Term	Marketing materials	Procure new maps with more durable paper stock	Kern Transit
Medium-Term	Ridematching/vanpool program co-marketing	Identify specific markets that may benefit most from vanpool/carpool program and provide informational materials	Interested parties (Cerro Coso College, commuters to Bakersfield), CommuteKern
Capital Investments			
Short-Term	Tier 1 bus stop enhancements	Assess basic level of information and accessibility at all bus stops (conduct preliminary bus stop audit)	Kern Transit or consultant
Medium-Term	Tier 2 bus stop enhancements	Seek additional funding/resource opportunities for lighting and seating improvements as needed	Kern Council of Governments, Kern Transit, Community Groups
Medium-Term	Tier 3 bus stop enhancements	Seek additional funding/resource opportunities for shelter improvements as needed	Kern Council of Governments, Kern Transit, Community Groups
Short-Term	Transit Center at Senior Center	Pursue interim facility improvements at current Senior Center Transit Center. Evaluate future feasibility of three future transit center options	Kern Transit, Community Groups
Medium-Term	Transit Center at Kneale Ave. (Improved)	If selected as a future Transit Center option, seek additional funding to provide additional enhancements and to make any	Kern Council of Governments, Kern Transit

	Recommendation	Next Steps	Lead/Partner
		interim improvements permanent	
Long-Term	Transit Center at Kern Valley Plaza	If selected as a future Transit Center option, seek additional funds for land, conduct final design, and for construction	Kern Council of Governments, Kern Transit
Long-Term	Transit Center at Elizabeth Norris and Lake Isabella Blvd	If selected as a future Transit Center option, seek additional funds to conduct final design and construct	Kern Council of Governments, Kern Transit

Appendix A Community Feedback Responses

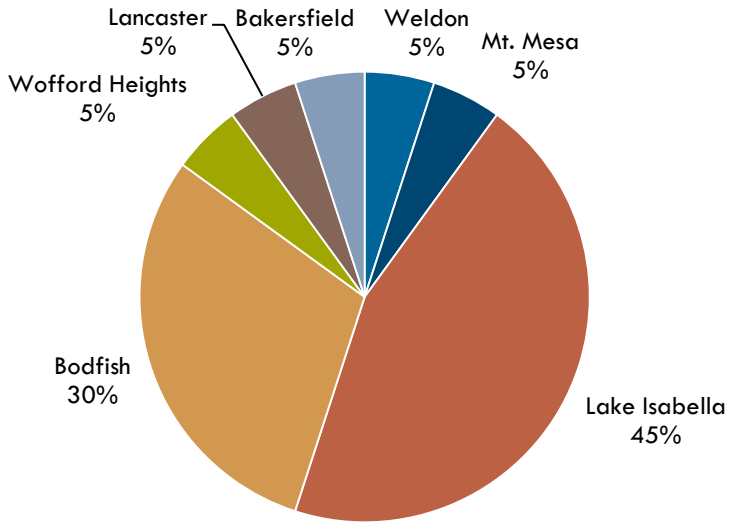
KERN TRANSIT RIDER SURVEY RESULTS

Nelson\Nygaard conducted a rider survey from December 9 to December 11, 2014. The following is a summary of the notable findings from rider surveys pertaining to Kern Transit fixed route and Dial-A-Ride bus services. The surveys were administered on-board and at the Kern River Valley Senior Center. Riders answered a number of questions related to transit use, including: mode of access, frequency of use, trip purpose, and desired improvements. Survey responses have been separated by intercity routes (Route 150), local routes (Routes 220, 223, and 225), and Dial-A-Ride service. A total of 21 surveys were collected for intercity routes, 32 for local routes, and 41 for Dial-A-Ride.

Intercity Routes

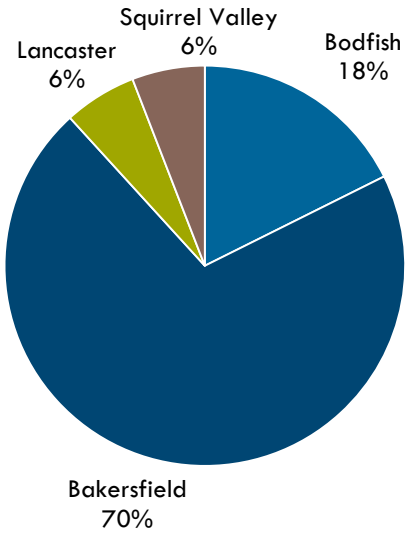
Almost half of survey respondents began their trips in Lake Isabella with Bodfish being the other major point of origin. Other points of origin included the communities of Bakersfield, Lancaster, Mt. Mesa, Weldon, and Wofford Heights. This information for intercity routes is reflected in Figure 1.

Figure 1 Community of Origin



A vast majority of survey respondents indicated that Bakersfield was the final destination of their trip. Other destinations represented in Figure 2 included Bodfish, Lancaster, and Squirrel Valley.

Figure 2 Destination Community



More than half of survey respondents indicated that walking or biking was their primary mode of access to the Route 150 bus. As exemplified in Figure 3, the second most popular method of accessing the bus was getting dropped off by private automobile.

Figure 3 Primary Mode of Access

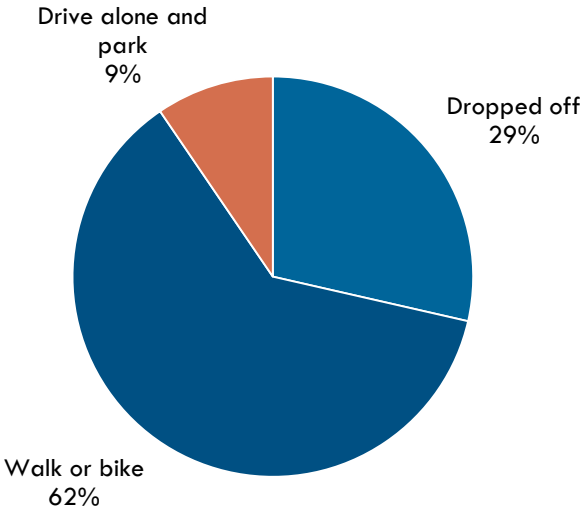
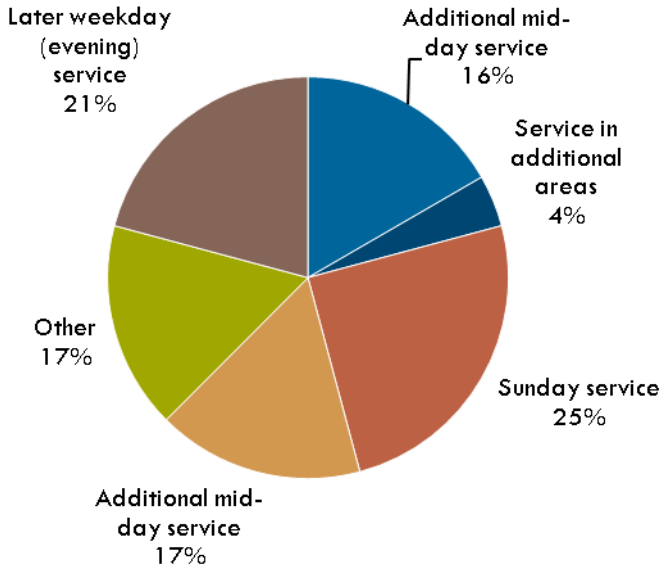


Figure 4 represents the desired service improvements to Kern Transit of the survey respondents. A quarter of respondents indicated that they would most like to see the addition of Sunday

service, while just over 20 percent indicated that they would like to see weekday service operate later.

Figure 4 Desired Service Improvement



As shown in Figure 5, 40 percent of survey respondents indicated that they ride Kern Transit one to two times a week while a quarter of respondents indicated using the service less than once a week. Only 15 percent of respondents indicated that they utilize Kern Transit five or more times a week.

Figure 5 Frequency Riding Kern Transit

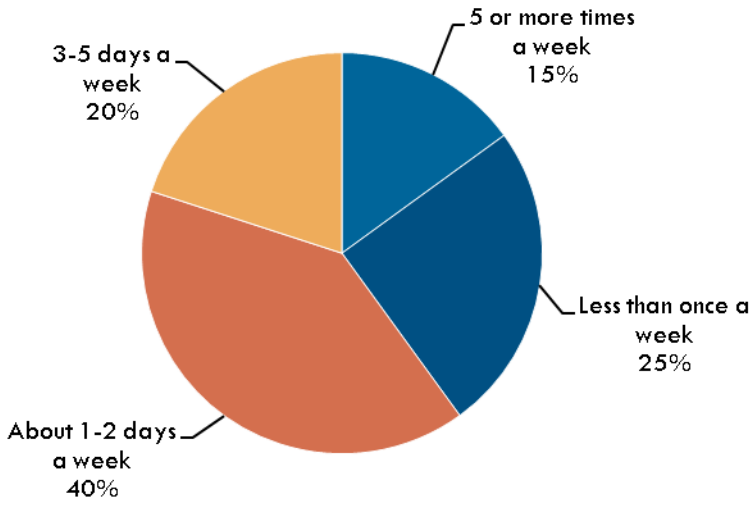


Figure 6 shows the most common trip purpose identified by survey respondents was medical visits, with shopping comprising just under a quarter of responses. Less than 15 percent of respondents indicated that they were commuting to work or school.

Figure 6 Purpose of Trip

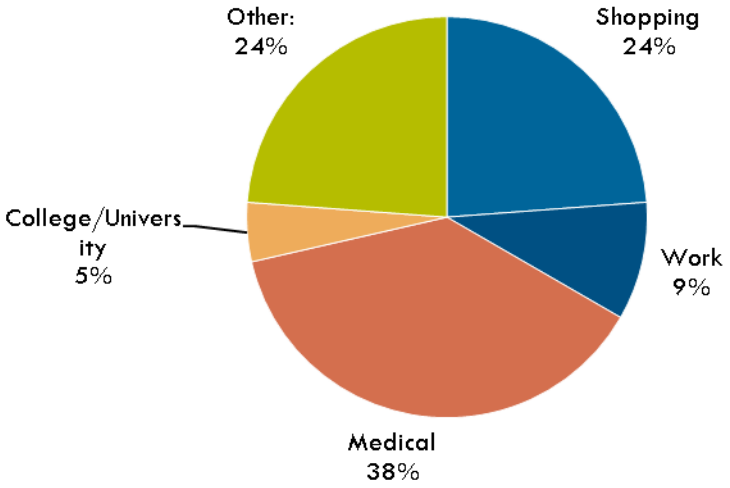
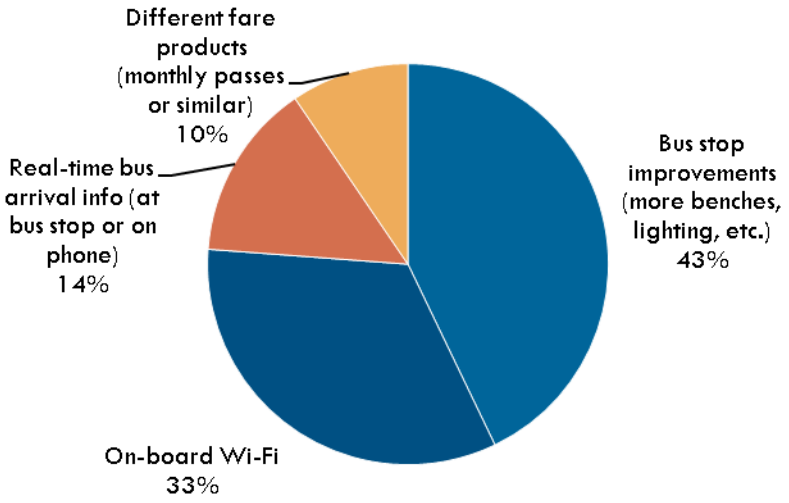


Figure 7 describes rider preferences for future amenities that would make their transit experience more enjoyable. 43 percent of survey respondents indicated that they would most like to see improvements at bus stops such as more seating and enhanced lighting and signage. On-board Wi-Fi, favored by a third of survey respondents, was the second most popular choice.

Figure 7 Preferred Amenity Enhancement



As shown in Figure 8, slightly under half of those surveyed on the Route 150 bus indicated that they have used the Kern River Valley Dial-A-Ride in the last sixth months.

Figure 8 Kern River Valley Dial-A-Ride Use in Last Six Months

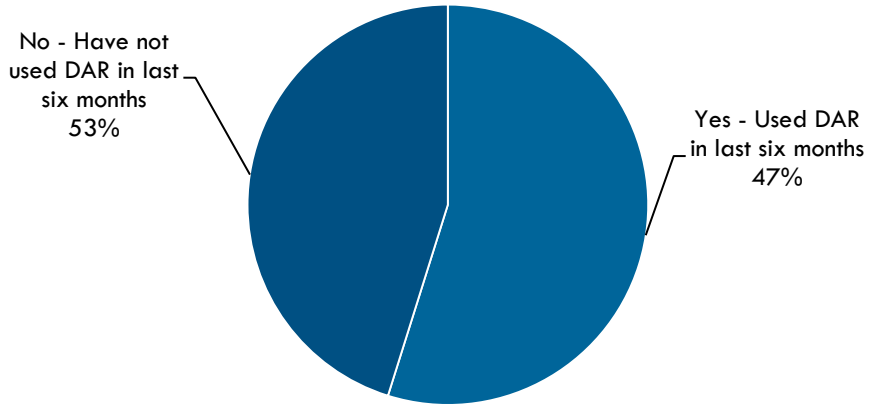


Figure 9 shows the distribution of answers to the question "Would you be willing to transfer from one bus to another to complete your trip if it meant more frequent service?" Two-thirds of respondents indicated "Yes," that they would be willing to transfer if it meant that buses operate more often.

Figure 9 Willing to Transfer if Service Operated More Frequently

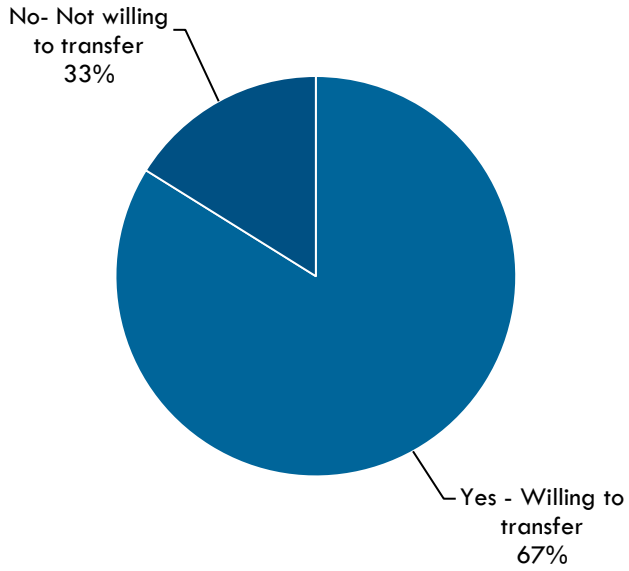
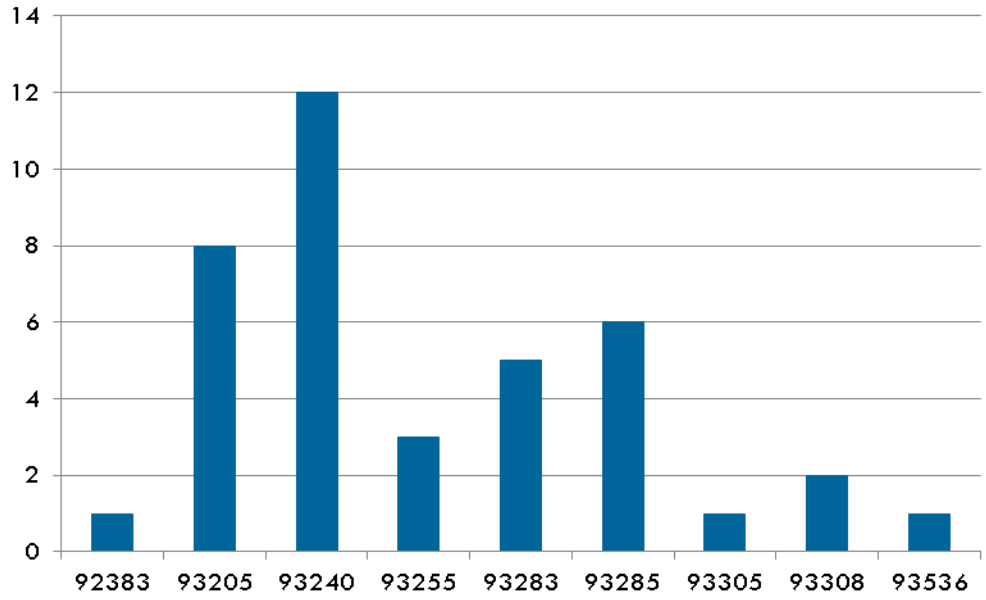


Figure 10 shows the distribution of home ZIP codes of survey responses collected on the Route 150 bus. The most heavily represented ZIP codes were 93240 (Lake Isabella/Mountain Mesa) and 93205 (Bodfish).

Figure 10 Respondent ZIP Codes



Local Routes

Figure 11 describes the communities of origin for survey responses collected on local routes (220, 223, and 225) in the Kern River Valley. A quarter of respondents indicated beginning their journeys in Lake Isabella, while other popular points of origin included Weldon, Onyx, and Wofford Heights.

Figure 11 Community of Origin

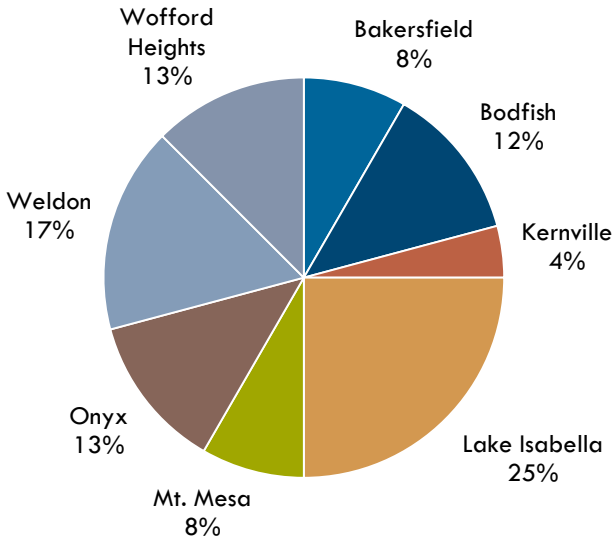


Figure 12 represents the distribution of communities indicated as trip destinations by survey responses collected on local routes. Lake Isabella was the primary destination indicated, with other popular destinations including Weldon and Wofford Heights.

Figure 12 Destination Community

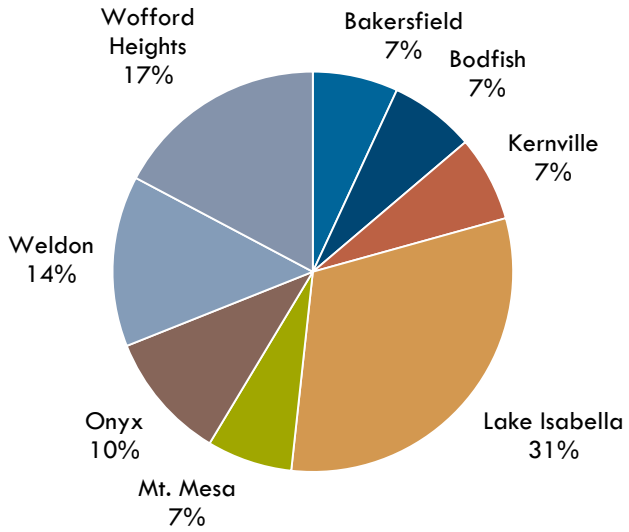


Figure 13 indicates the primary mode of access used by survey respondents to utilize local Kern Transit routes. An overwhelming majority (75 percent) noted non-motorized modes such as walking and biking as their primary mode of access.

Figure 13 Primary Mode of Access

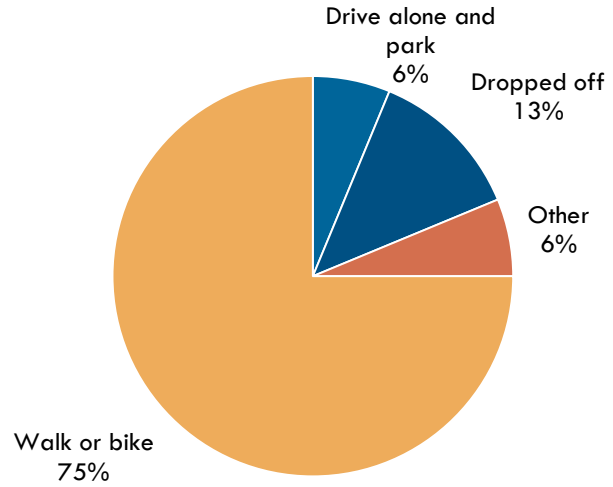
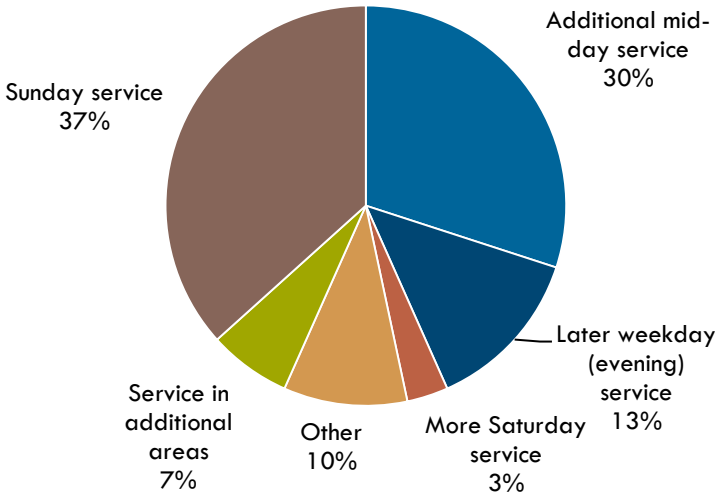


Figure 14 represents desired service improvements to Kern Transit of the survey respondents on local routes. More than a third of respondents indicated that they would most like to see the addition of Sunday service; while 30 percent indicated that they would like to see additional mid-day service.

Figure 14 Desired Service Improvement



As shown in Figure 15, more than half of survey respondents on local routes indicated that they ride Kern Transit three to five days a week. Slightly under a fifth indicated that they ride Kern Transit less than once a week.

Figure 15 Frequency Riding Kern Transit

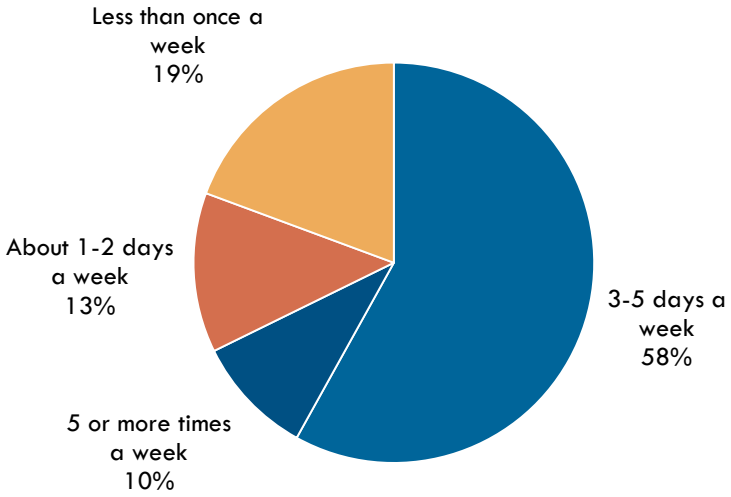


Figure 16 describes the most common trip purpose identified by survey respondents on local routes was commuting to work, with shopping comprising just under a quarter of responses.

Figure 16 Purpose of Trip

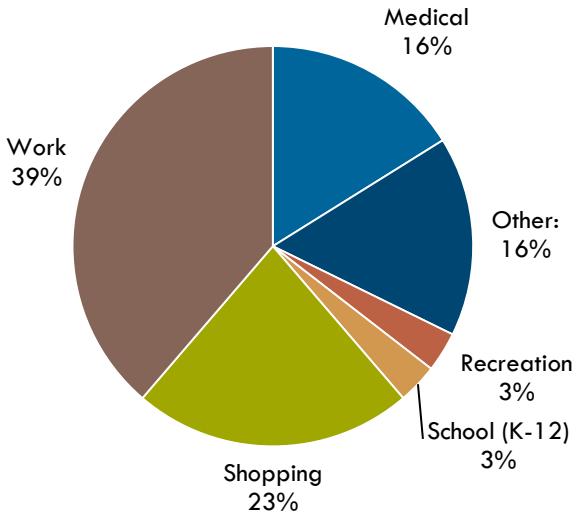


Figure 17 describes responses of what would make survey respondent's transit experience more enjoyable. 46 percent of survey respondents indicated that they would most like to see improvements at bus stops such as more seating and enhanced lighting and signage. On-board Wi-Fi, favored by 27 percent of survey respondents, was the second most popular choice.

Figure 17 Preferred Amenity Enhancement

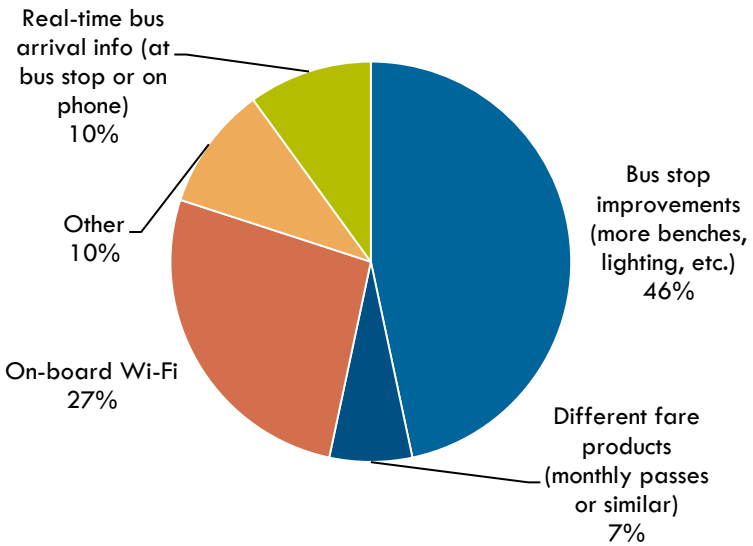


Figure 18 shows that slightly over half of those surveyed on the Route 150 bus indicated that they have not utilized Kern River Valley Dial-A-Ride in the last six months.

Figure 18 Kern River Valley Dial-A-Ride Use in Last Six Months

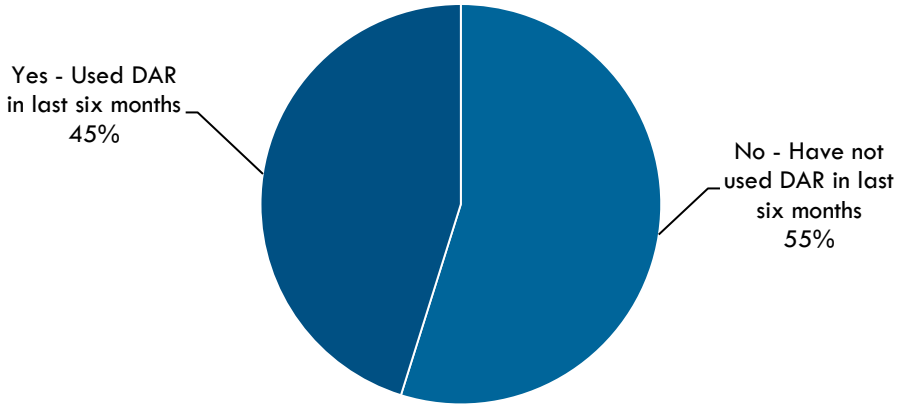


Figure 19 shows the distribution of answers to the question "Would you be willing to transfer from one bus to another to complete your trip if it meant more frequent service?" An overwhelming majority of respondents (84 percent) indicated "Yes," that they would be willing to transfer if it meant that buses operate more often.

Figure 19 Willing to Transfer if Service Operated More Frequently

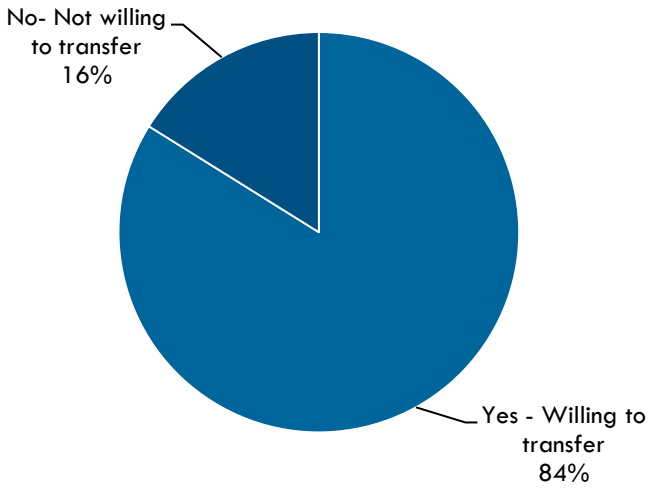
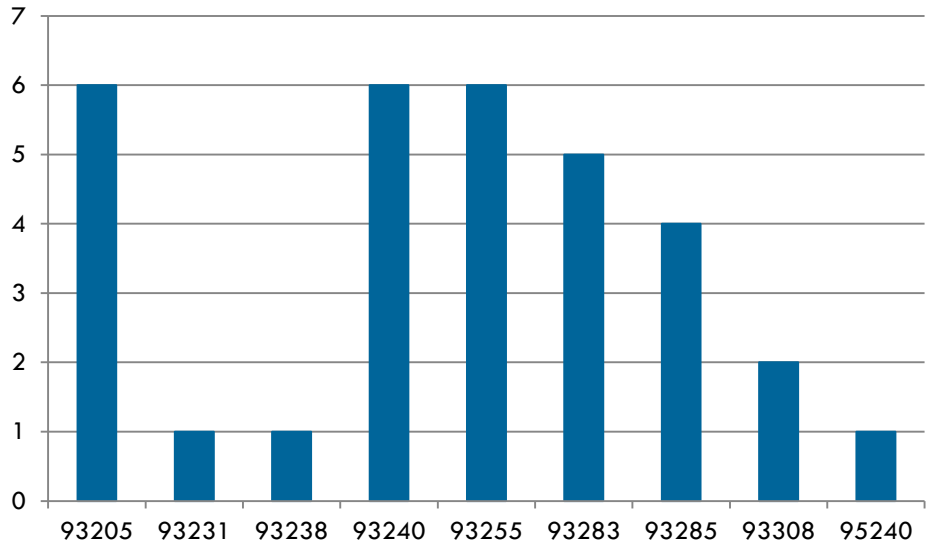


Figure 20 shows the distribution of home ZIP codes of survey responses collected on local route buses. The most heavily represented ZIP codes were 93205 (Bodfish), 93240 (Lake Isabella/Mountain Mesa), and 93255 (Onyx).

Figure 20 Respondent ZIP Codes



Dial-A-Ride

Figure 21 reflects the communities of origin for survey responses collected on Dial-A-Ride services in the Kern River Valley. More than half of respondents indicated beginning their journeys in Lake Isabella, while other points of origin represented by more than one rider included Bodfish, South Lake, and Weldon.

Figure 21 Community of Origin

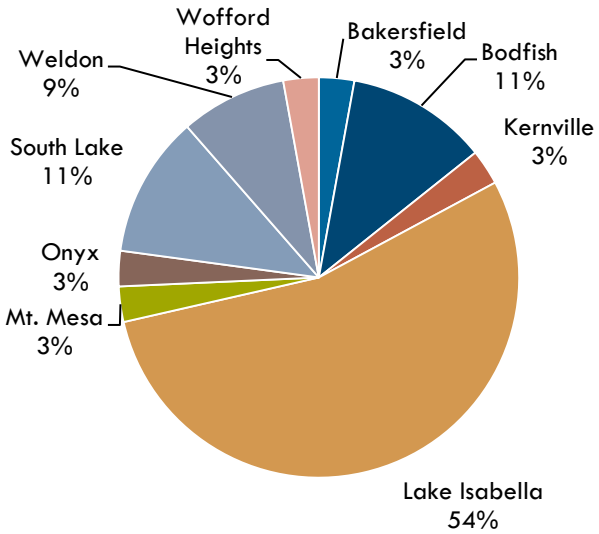
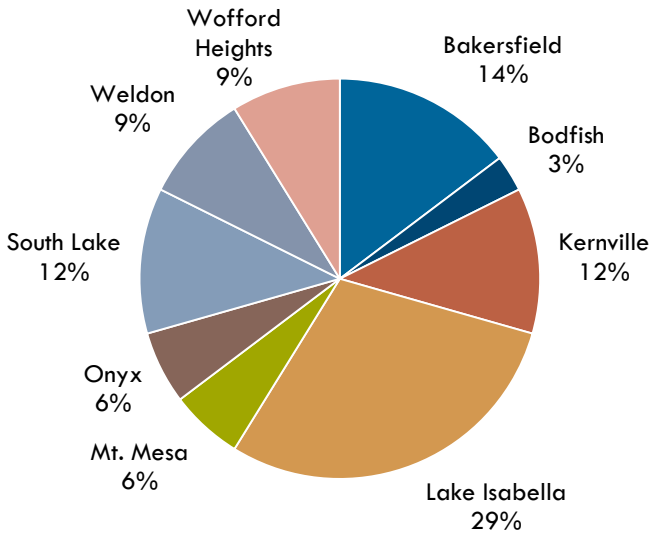


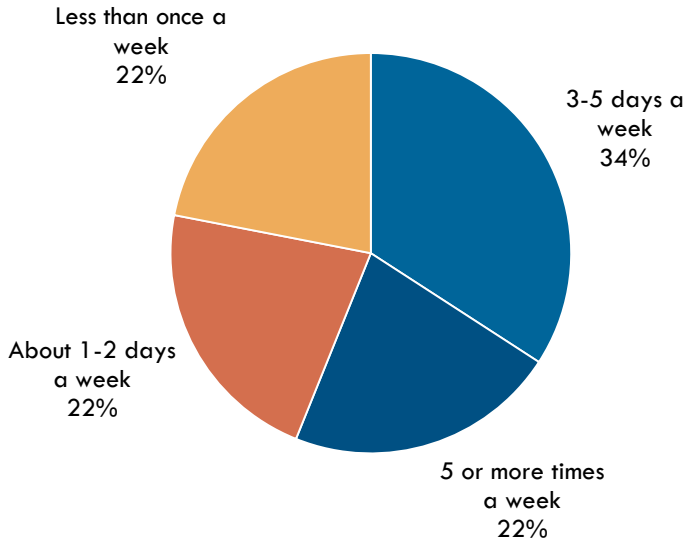
Figure 22 represents the distribution of communities indicated as trip destinations by survey responses collected on Dial-A-Ride services. Lake Isabella was the primary destination indicated with other popular destinations including Bakersfield, Kernville, and South Lake.

Figure 22 Destination Community



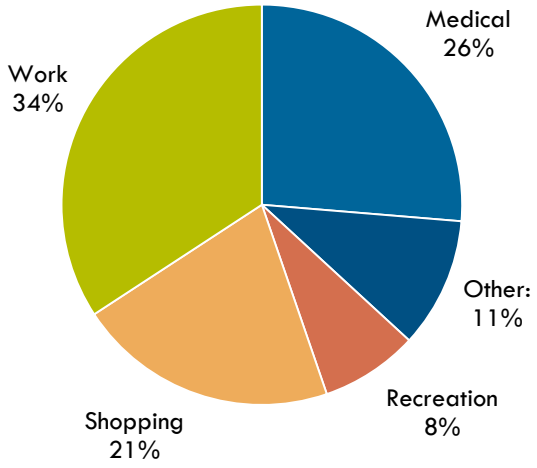
As shown in Figure 23, more than a third of survey respondents indicated that they ride Kern River Valley Dial-A-Ride three to two five days a week. Occurrence of other frequencies was evenly distributed amongst those surveyed at 22 percent.

Figure 23 Frequency Riding Dial-A-Ride



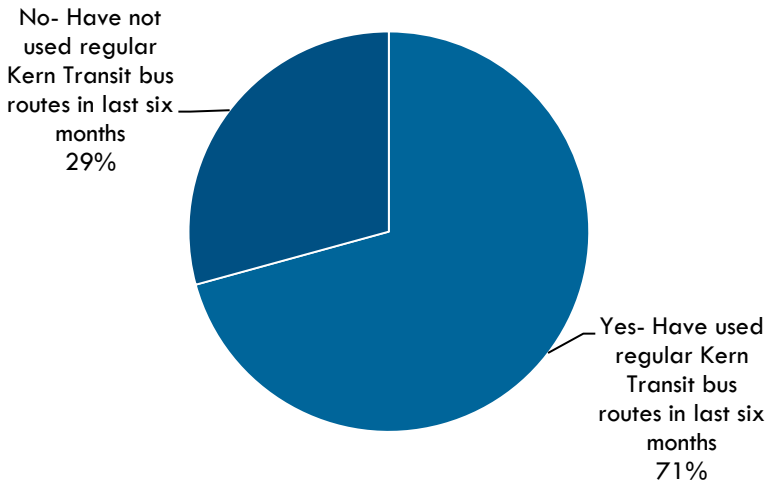
As shown in Figure 24, the most common trip purpose identified by survey respondents on Kern River Valley Dial-A-Ride services was commuting to work, with medical trips comprising just over a quarter of responses.

Figure 24 Purpose of Trip



As shown in Figure 25, a vast majority of surveyed Dial-A-Ride users indicated that they have used regular Kern Transit bus routes in the last six months.

Figure 25 Kern Transit Fixed Route Use in Last Six Months



As represented by Figure 26, an overwhelming majority (70 percent) of those surveyed indicated that they have not used Dial-A-Ride to access regular Kern Transit bus routes.

Figure 26 Use of DAR to Access Kern Transit Routes

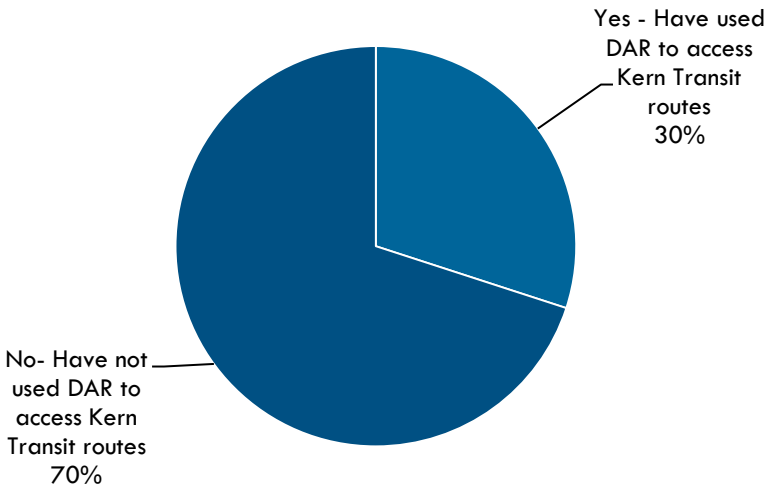


Figure 27 shows the distribution of answers to the question "If Dial-A-Ride had not been available for this trip, would you have taken a regular Kern Transit bus route? Opinion was split with just over half of respondents indicating that they would not use Kern Transit for their trip if Dial-A-Ride service was not available.

Figure 27 Willing to take Kern Transit Fixed Route Bus if DAR not Available

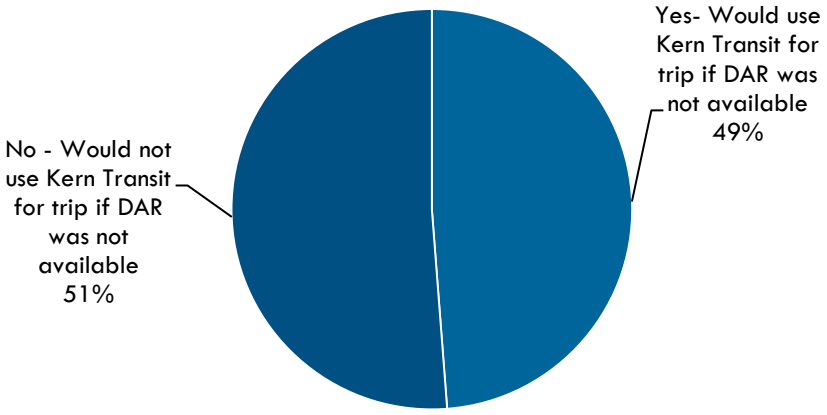


Figure 28 shows the distribution of preferences that surveyed Dial-A-Ride users have for the service over regular fixed route Kern Transit buses. Nearly half of respondents indicated that they live too far away from a bus stop, while over a quarter indicated that regular buses do not meet their schedule.

Figure 28 Primary Reason for Preference for DAR Over Fixed Route Bus

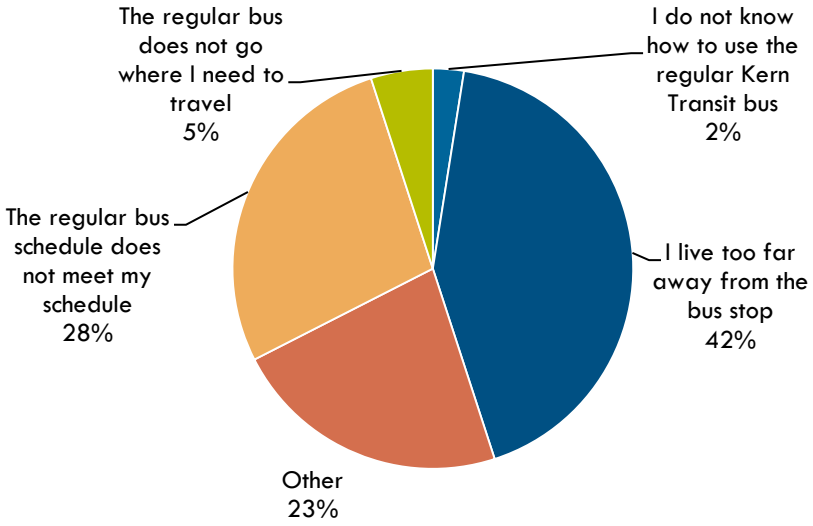
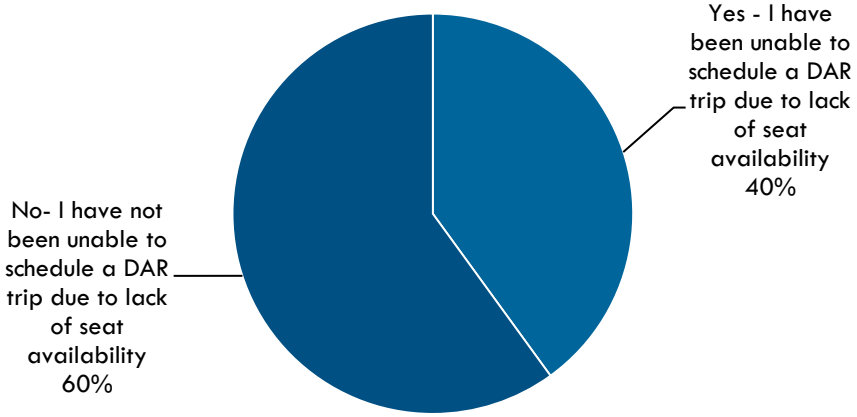


Figure 29 describes the split of users who have been unable to schedule a Dial-A-Ride at some point due to lack of seat availability. More than half of respondents (60 percent) indicated that this has not happened to them.

Figure 29 Unable to Schedule DAR Due to Lack of Availability



When asked which of the service improvements shown in Figure 30 would make their Dial-A-ride experience more favorable, a majority of survey respondents indicated that they would like to see better availability for same-day reservations. Other improvements included less crowded vehicles and greater ease at scheduling trips.

Figure 30 Desired Service Improvement

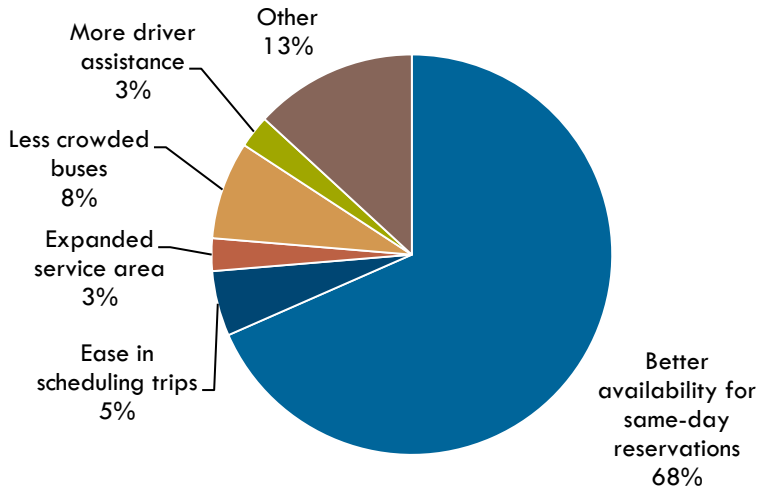
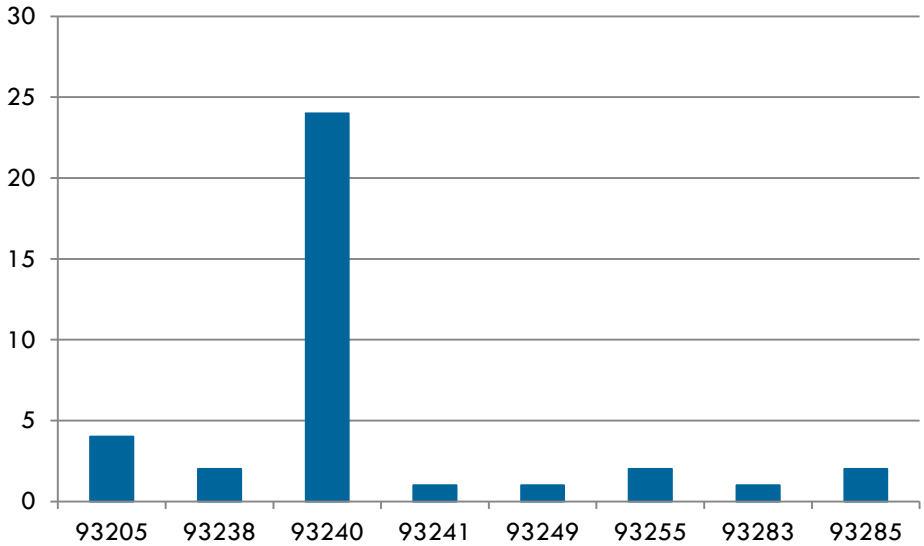


Figure 31 shows the distribution of home ZIP codes of survey responses collected on the Dial-A-Ride service. The most heavily represented ZIP code was 93240 (Lake Isabella/Mountain Mesa).

Figure 31 Respondent ZIP Codes



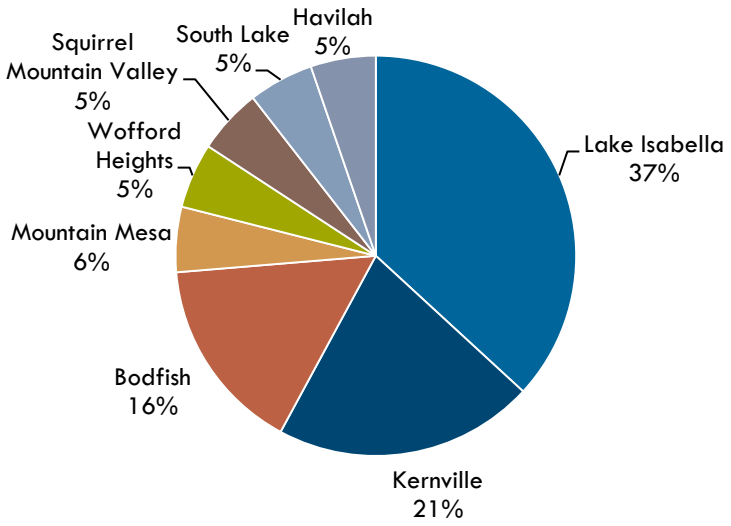
KERN TRANSIT COMMUNITY SURVEY RESULTS

Nelson\Nygaard conducted a community survey during December 2014. The following is a summary of the notable findings from the survey which was administered using a paper mail-back survey and online. The paper survey was available at community destinations such as the Kern River Valley Senior Center, Vons, various Kern River Valley Post Offices. The survey was advertised on Kern River Radio and the Kern Valley Sun. Riders answered a number of questions related to transit use, including: community of residence, transit usage, normal travel modes, factors for increased desire to use transit, employment status, age, and income. A total of 19 community surveys were collected.

Community of Residence

Most of the community surveys were filled out by people living in Lake Isabella, Kernville, and Bodfish. The remaining were evenly represented by members of Mountain Mesa, Wofford Heights, Squirrel Mountain Valley, South Lake, and Havilah. Lake Isabella is home to the main transfer center, the Kern River Valley Senior Center, and is home to various resources for the entire valley. This information is reflected in Figure 32.

Figure 32 Community of Residence



Of those surveyed, 63% reported they have used Kern Transit in the past (Figure 33). Of those 63%, the majority have used the regular bus routes this past month, as opposed to Dial-a-Ride. Only 11% use dial-a-ride exclusively (Figure 34).

Figure 33 Kern Transit Users

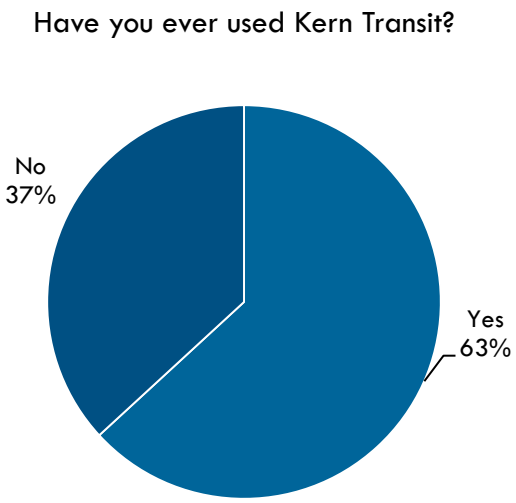
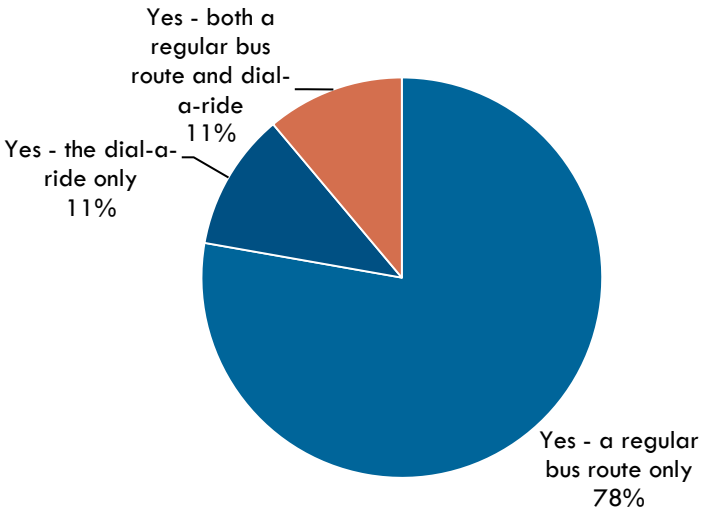
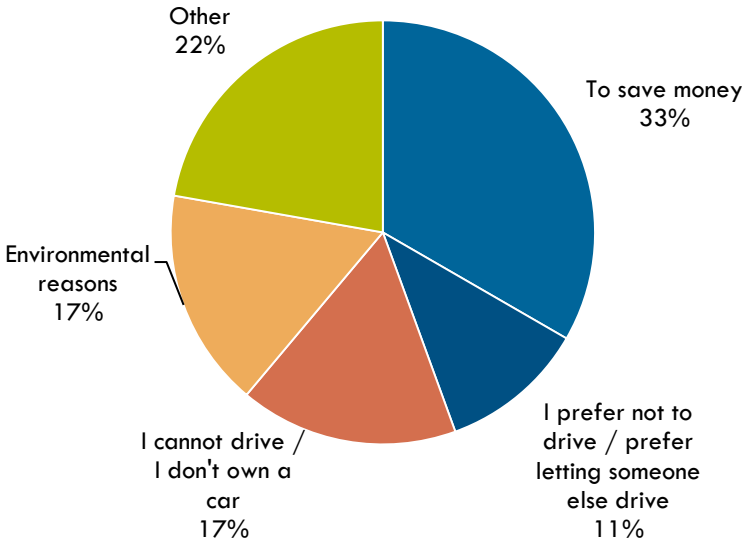


Figure 34 If Yes, Have you used Kern Transit in the last month?



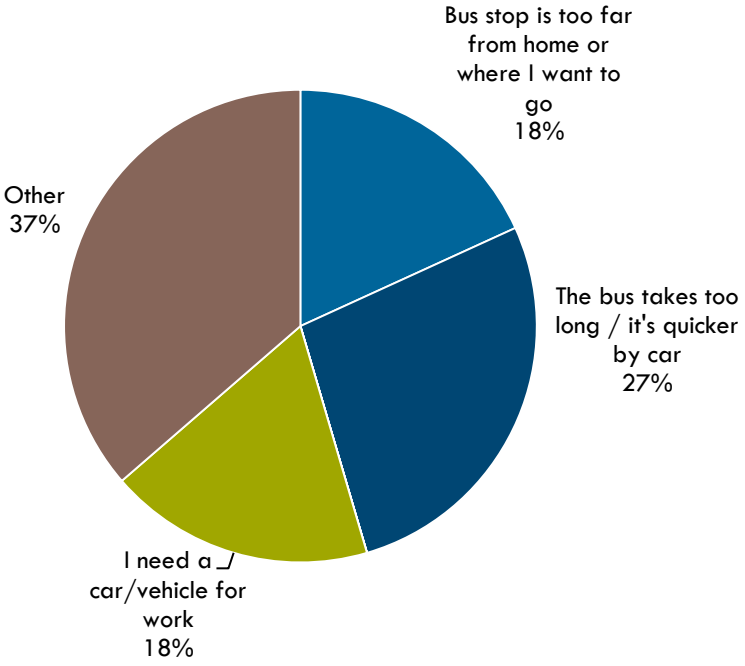
Of those that have used Kern Transit in the past month, 33% ride Kern Transit to save money, while 17% do so for environmental reasons or lack of access to a vehicle. The respondents that stated "Other" indicated only having one vehicle per household or having car maintenance issues. The primary reasons for using Kern Transit are captured in Figure 35.

Figure 35 What is the primary reason you used Kern Transit?



The remaining 37% of respondents indicated they did not use Kern Transit. The reasons for not using transit were varied. Figure 36 shows the breakdown of responses, of which many stated traveling by car is faster than traveling by bus. The community members that indicated "Other" noted that exposure to germs, lack of knowledge of the bus routes and schedules, and personal vehicle access were primary reasons for foregoing use of the transit system. The bus service itself was not indicated as a reason for not using the bus system.

Figure 36 Why don't you use Kern Transit?



Community members traveling outside the Kern River Valley typically drive alone to places such as Bakersfield, Ridgecrest, and beyond. Roughly one third of the population carpools or shares a ride with other people when making such trips outside the community. Only 10% of residents use Kern Transit, while none indicated walking or bicycling to these destinations. The lack of bicycling and walking to these destinations is understandable as travel is 42 miles to Bakersfield and 62 miles to Ridgecrest. Figure 37 shows the responses for outside travel.

Figure 37 How do you normally travel between the Kern River Valley and places outside the area?

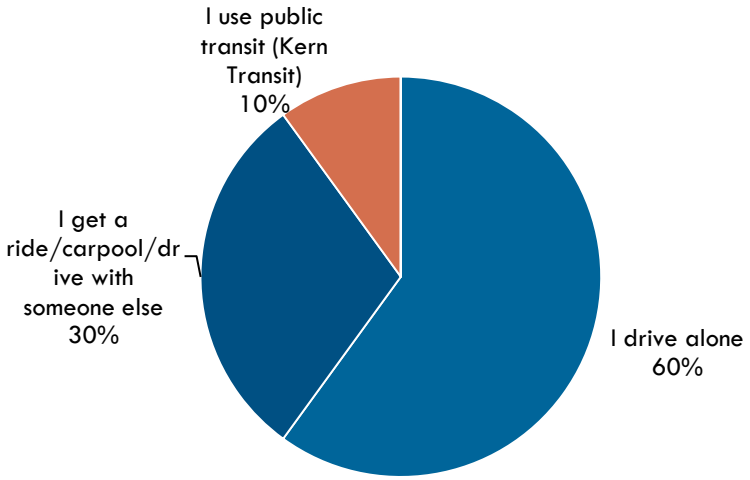
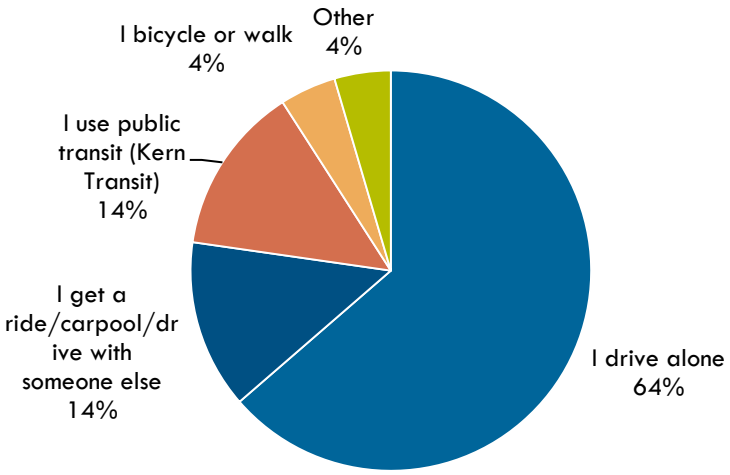


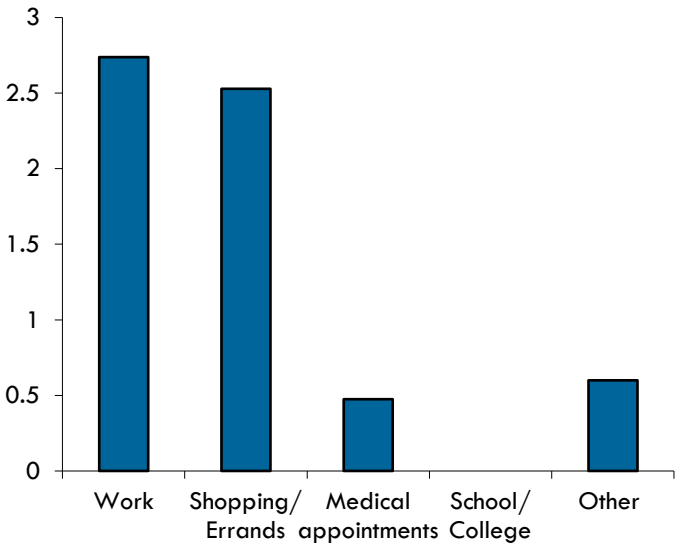
Figure 38 describes survey respondent's modes of travel within the Kern River Valley. Most residents surveyed drive alone to local destinations, while 14% carpool and use Kern Transit. Only 4% of residents bike or walk to nearby locations.

Figure 38 How do you normally travel within the Kern River Valley?



The community members surveyed most frequently take trips for work and shopping/errands. Work trips averaged 2.73 per week and shopping/errands averaged 2.52 per week. None of the residents that completed the survey indicated traveling for educational purposes, as seen in Figure 39. The individuals traveling for work travel to Lake Isabella, Kernville, Ridgecrest, Bodfish, and Mountain Mesa. All of the respondents travel to Lake Isabella, Bakersfield, or Kernville for shopping and errands, and noted Vons in Lake Isabella (Kern Valley Plaza) as a common destination. Medical appointments are commonly held in Bakersfield, Mountain Mesa and Wofford Heights, among respondents. Kernville, South Lake, and Lake Isabella were destinations listed among the "Other" types of trips for social, entertainment, and post office trips.

Figure 39 How many of the following types of trips do you make on a weekly basis?



The following figures describe community preferences for local transit enhancements. Residents were asked to choose either/or in the pair. In responding to Pair A, residents had a strong preference for more frequent service along major corridors as opposed to less frequent service in larger geographic areas. In Pair B, residents had a strong preference for more frequent morning and late-afternoon services as opposed to all-day service. The responses are shown in Figure 41.

Figure 40 Pair A: Local Community Transit Enhancement Preferences,

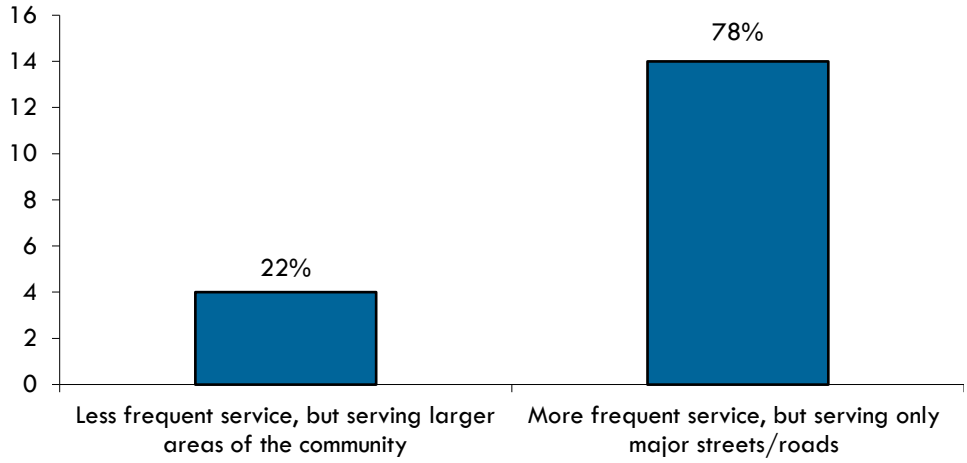
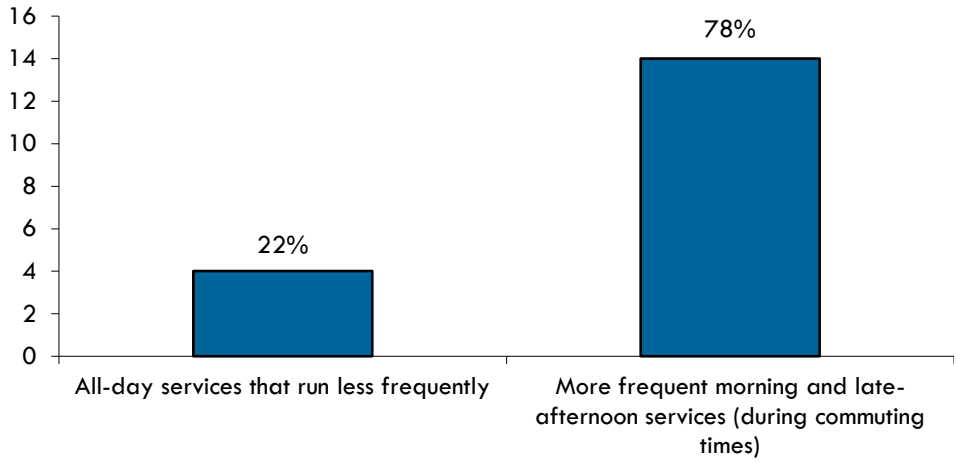
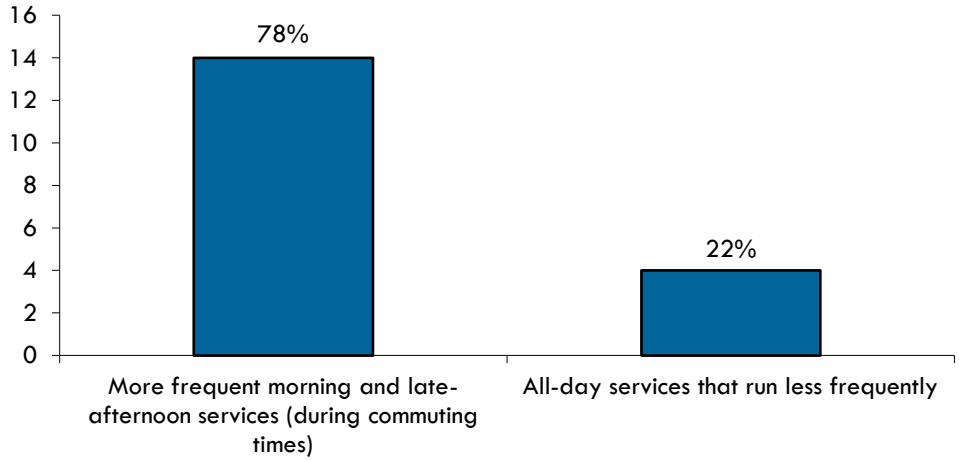


Figure 41 Pair B: Local Community Transit Enhancement Preferences



In Figure 42, residents indicated their preferences for intercity transit to/from Bakersfield and Ridgecrest. The majority of respondents preferred more frequent morning and late-afternoon services, indicating a preference for expanding commute time service.

Figure 42 Intercity Transit Enhancement Preferences



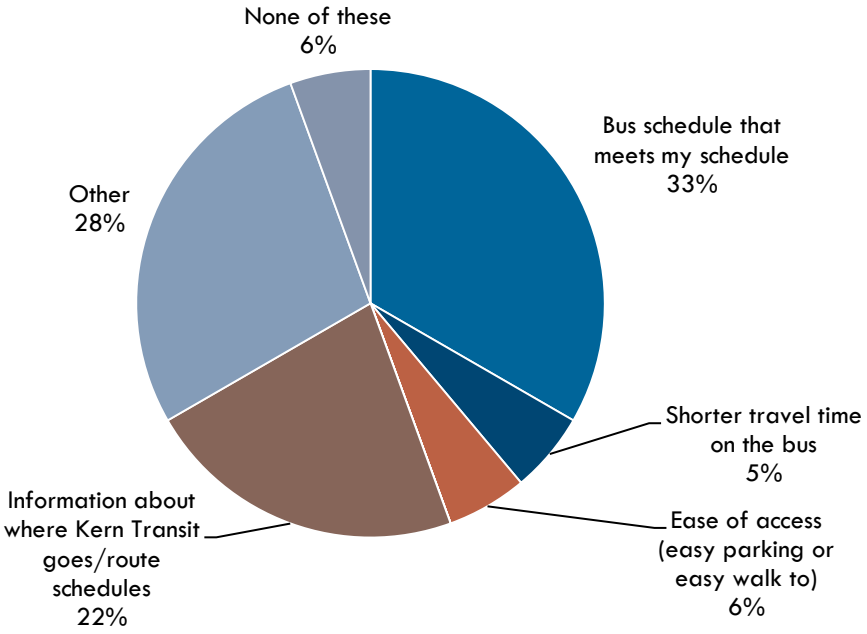
In addition to service changes, residents were asked about broader enhancements that might encourage more frequent use of Kern Transit. Bus schedule changes were a priority for 33% of the respondents, indicating a preference for a schedule that met their needs. Another 22% indicated a need for more information on routes and schedules, given the recent service changes. No respondents indicated that a lower cost/fare or additional bus comfort would encourage them to ride transit.

The respondents that indicated "Other" mentioned a need for the following:

- More stops
- Free passes for seniors/disabled
- Additional Dial-a-Ride buses
- Increased evening service hours
- Routes that serve jury duty

These responses are shown in Figure 43.

Figure 43 Priority Enhancements to Encourage Transit Usage



The remaining questions were demographic questions and optional, but garnered responses. The majority of respondents were employed either at home (6%) or outside the home (47%). The next largest demographic were retired individuals (35%), and unemployed individuals (12%). No students responded to the survey.

Figure 44 Employment Status

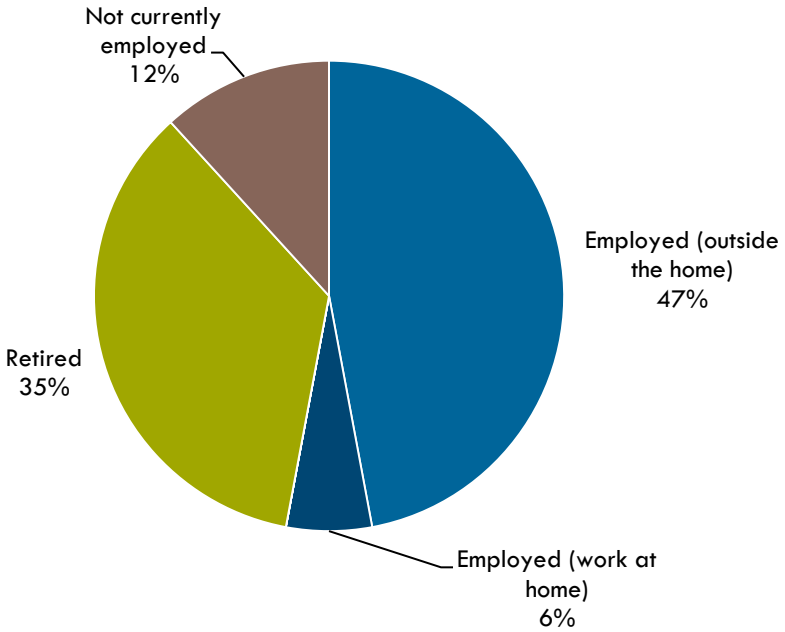
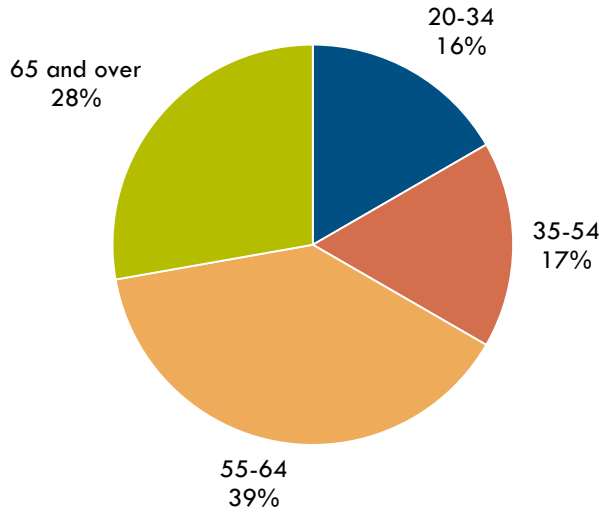


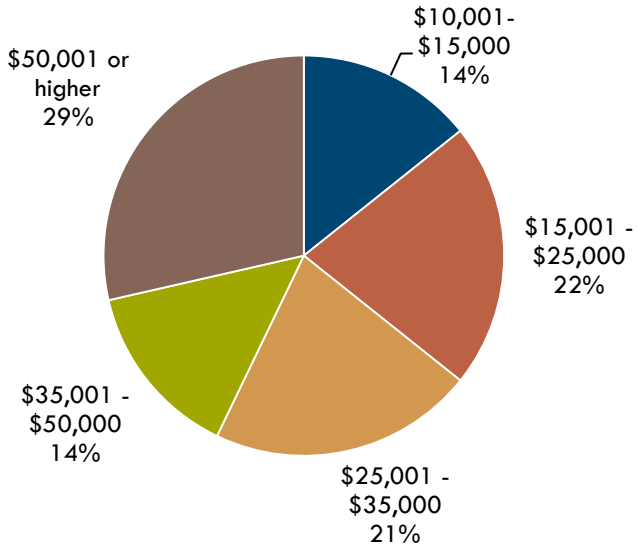
Figure 45 depicts the approximate age of the respondents, with a significant amount in the 55-64 category (39%) and 65 and older (28%). The remaining were adults of working age from 20-54 (33%).

Figure 45 Approximate Age



The approximate household income of the survey respondents can be found in Figure 46. The categories are evenly represented, with the plurality of respondents in income bracket $50,001 and higher.

Figure 46 Approximate Household Income



Appendix B Survey Instruments

Kern River Valley Transit Survey

You only need to complete this survey once. If you are offered this survey on another trip, you do not need to fill it out. Thank you!

1) What is the name of the route you will be riding today?

- ☐ 150: Lake Isabella-Bakersfield
- ☐ 220: Lake Isabella-Kernville
- ☐ 223: Lake Isabella-Bodfish
- ☐ 225: Lake Isabella-Onyx
- ☐ 227: Lake Isabella-Ridgecrest

2) In what city/community did you begin your trip?

_____

3) Did you transfer to this bus from another bus/train?

☐ No ☐ Yes →

If yes, please provide route name or number _____

4) In what city/community will you end your trip?

_____

5) Will you transfer to another bus/ train to get to your final destination?

☐ No ☐ Yes →

If yes, please provide route name or number _____

6) How do you typically get to the bus stop?

- ☐ Drive alone and park
- ☐ Dropped off
- ☐ Walk or bike
- ☐ Carpool
- ☐ Other _____

7) Kern Transit is looking at ways to improve service. What ONE improvement would you most like to see? ***(Please mark only your top priority.)***

- ☐ Earlier weekday service
- ☐ Later weekday (evening) service
- ☐ More Saturday service
- ☐ Sunday service
- ☐ Additional mid-day service
- ☐ Service in additional areas → Where?

_____

- ☐ Other (please specify):

_____

8) How often do you typically ride Kern Transit?

- ☐ Less than once a week
- ☐ About 1-2 days a week
- ☐ 3-5 days a week
- ☐ 5 or more times a week

9) What is the purpose of this trip? (If you are returning home, what was the purpose of your trip)

- ☐ Work
- ☐ Shopping
- ☐ Medical
- ☐ School (K-12)
- ☐ College/University
- ☐ Recreation
- ☐ Other: _____

10) Which of the following amenities would make your transit experience more enjoyable? Please choose the ONE that you prefer most.

- ☐ Real-time bus arrival info (at bus stop or on phone)
- ☐ On-board Wi-Fi
- ☐ Bus stop improvements (more benches, lighting, etc.)
- ☐ Different fare products (monthly passes or similar)
- ☐ Other _____

11) In the last six months, have you also used the Kern River Valley Dial-A-Ride?

☐ No ☐ Yes →

Why do you sometimes choose the Dial-A-Ride?

_____

12) In general, would you be willing to transfer from one bus to another to complete your trip IF it meant more frequent service (buses operate more often)?

☐ Yes ☐ No

13) Do you have any other comments or feedback?

14) Please provide your home ZIP Code _____

Thank you for filling out our survey!
Please return this to a designated surveyor, bus driver or at the Lake Isabella Senior Center when complete.

FIXED ROUTE SURVEY

Kern River Valley Dial-A-Ride Survey

You only need to complete this Dial-A-Ride survey one time. If you are offered this survey on another Dial-A-Ride trip, you do not need to fill it out. Thank you!

1) How often do you typically ride the Dial-A-Ride System?

☐1 Less than once a week ☐2 About 1-2 days a week
☐3 3-5 days a week ☐4 5 or more times as week

2) In the last six months, have you also used any of the Kern River Valley regular bus routes?

☐1 No ☐2 Yes

3) In what city/community did you begin your trip?

4) Do you ever use the Dial-A-Ride to access other Kern Transit routes?

☐1 No ☐2 Yes →

If yes, please provide Route name or number _____

5) In what city/community will you end your trip?

6) If Dial-A-Ride had not been available for this trip, would you have taken a regular Kern Transit bus route?

☐1 No ☐2 Yes →

7) Why do you prefer to ride Dial-A-Ride as compared to the regular bus service?

☐1 I live too far away from the bus stop
☐2 The regular bus does not go where I need to travel
☐3 The regular bus schedule does not meet my schedule
☐4 The regular bus route requires me to transfer to/from another bus to reach my destination
☐5 I do not know how to use the regular Kern Transit bus
☐6 Other _____

8) What is the purpose of this trip? (If you are returning home, what was the purpose of your trip)

☐1 Work ☐2 Shopping
☐3 Medical ☐4 School (K-12)
☐5 College/University ☐6 Recreation
☐7 Other: _____

9) Which of the following amenities would make your transit experience more enjoyable?
Please choose the ONE that you prefer most.

☐1 Real-time bus arrival information (when will the bus arrive?)
☐2 On-board Wi-Fi
☐3 Different fare products (passes or similar)
☐4 Other _____

10) Have you ever been unable to schedule a Dial-A-Ride trip due to a lack of seat availability?

☐1 No ☐2 Yes →

If yes, when did you schedule your trip?

☐3 One-day or more in advance
☐4 Same-day reservation
☐5 Other _____

11) How could the Dial-A-Ride service improve?
Which ONE improvement would you most like to see?
(Please mark only your top priority.)

☐1 Less crowded buses
☐2 More direct services (shorter travel time)
☐3 Better availability for same-day reservations
☐4 Expanded service area to _____
☐5 More driver assistance
☐6 Ease in scheduling trips
☐7 Other _____

12) Do you have any other comments or feedback? (feel free to use other blank space on this form)

13) Please provide your home ZIP Code _____

Thank you for filling out our survey!
Please return this to a designated surveyor, bus driver or at the Lake Isabella Senior Center when complete.

DIAL A RIDE SURVEY

Kern Council of Governments

WIN A $25 VON'S GIFT CARD!

KERN RIVER VALLEY TRANSPORTATION SURVEY

We'd like to ask you a few questions about your typical travel habits in the area and how Kern Transit could help. Your participation will inform staff on any potential future service changes that would benefit the Kern River Valley. Thank you for your participation and input! To be entered to win one of six $25 Vons Gift Cards, please complete the full survey and provide us your contact information at the end.

1. **In what community do you currently live?**
   - ☐ a. Bodfish
   - ☐ b. Kernville
   - ☐ c. Lake Isabella
   - ☐ d. Mountain Mesa
   - ☐ e. Onyx
   - ☐ f. South Lake
   - ☐ g. Squirrel Mountain
   - ☐ h. Weldon
   - ☐ i. Wofford Heights
   - ☐ j. Other _____

2. **Have you ever used Kern Transit?**
   - ☐ a. Yes
   - ☐ b. No -> Please skip to question 5.

If you answered "yes" to question number 2:

3. **Have you used Kern Transit in the past month (regular bus route or Dial-a-Ride?)**
   - ☐ a. Yes- regular bus route only
   - ☐ b. Yes- dial-a-ride only
   - ☐ c. Yes- both a regular bus route and dial-a-ride

4. **What is the primary reason you use Kern Transit? (check all that apply)**
   - ☐ a. To save money
   - ☐ b. I cannot drive / don't own a car
   - ☐ c. I prefer not to drive / letting someone else drive
   - ☐ d. Environmental reasons
   - ☐ e. Other_____

5. **If you asnwered "no" to question number 2, why don't you use Kern Transit? (please check all that apply)**
   - ☐ a. Bus stop is too far from home or where I want to go
   - ☐ b. The bus takes too long / it's quicker by car
   - ☐ c. The bus doesn't run during the times I need it
   - ☐ d. Bus service is not frequent enough / wait times too long
   - ☐ e. I need a car/vehicle for work
   - ☐ f. Other _____

6. **How do you normally travel between the Kern River Valley and places outside the area, like Ridgecrest, Bakersfield, or another city?**
   - ☐ a. I drive alone
   - ☐ b. I get a ride/carpool/drive with someone else
   - ☐ c. I use public transit (Kern Transit)
   - ☐ d. I bicycle or walk
   - ☐ e. Other_____

7. **How do you normally travel within the Kern River Valley?**
   - ☐ a. I drive alone
   - ☐ b. I get a ride/carpool/drive with someone else
   - ☐ c. I use public transit (Kern Transit)
   - ☐ d. I bicycle or walk
   - ☐ e. Other _____

8. **Tell us more about the types of trips you make on a weekly basis?**

Type of Trip	On a typical week, how many days do you travel to the following places?							Where? (what community)
Work	1	2	3	4	5	6	7	
Shopping/Errands	1	2	3	4	5	6	7	
Medical Appointment	1	2	3	4	5	6	7	
School or College	1	2	3	4	5	6	7	
Other (please describe)	1	2	3	4	5	6	7	

9. **In terms of local community transit service (within the Kern River Valley), which is more important to you?**

Pair A
- ☐ a. More frequent service, but serving only major streets/roads **OR**
- ☐ b. Less frequent service, but serving larger areas of the community

Pair B
- ☐ a. More frequent morning and late-afternoon services (during commuting times) **OR**
- ☐ b. All-day services that run less frequently

10. **In terms of intercity transit services (to/from Bakersfield, Ridgecrest, etc.), which is more important to you?**
    - ☐ a. More frequent morning and late-afternoon services (during commuting times) **OR**
    - ☐ b. All-day services that run less frequently

11. Which of the following would encourage you to use transit or use it more frequently than you do today? Please mark only your top priority.

- ☐ a. Bus schedule that meets my schedule
- ☐ b. Shorter travel time on the bus
- ☐ c. Ease of access (easy parking or easy to walk to)
- ☐ d. Lower cost/fare
- ☐ e. Comfort of buses/seating
- ☐ f. Information about where Kern Transit goes/ route schedules
- ☐ g. Other (please describe)_____
- ☐ h. None of these

12. What is your current employment status?

- ☐ a. Employed (outside the home)
- ☐ b. Employed (work at home)
- ☐ c. Student (K-12)
- ☐ d. Student (College, technical school, training program)
- ☐ e. Retired
- ☐ f. Not currently employed
- ☐ g. Other_____

13. What is your approximate age? [optional]

- ☐ a. 19 and under
- ☐ b. 20-34
- ☐ c. 35-54
- ☐ d. 55-64
- ☐ e. 65+

14. What is your approximate annual household income (for all members of your household)? [optional]

- ☐ a. $10,000 or less
- ☐ b. $10,001-$15,000
- ☐ c. $15,001-$25,000
- ☐ d. $25,001-$35,000
- ☐ e. $35,001-$50,000
- ☐ f. $50,001 or higher

15. Do you have any other feedback for the study? [optional]

To be entered to win the Vons gift card, please provide a name (first name, last initial is fine), contact phone number or email address.

_____

_____

When you complete this survey, please fold on the dotted lines, provide postage and mail to the printed address. Thank you for your participation!

For additional questions please email our consultant team at psupawanich@nelsonnygaard.com

PLEASE SEAL HERE

Nelson\Nygaard
Attn: Kern River Valley Transit Plan
116 New Montgomery St., Ste. 500
San Francisco, CA 94105

PLACE STAMP HERE

_____

_____

_____

PLEASE SEAL HERE

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Appendix C Conceptual Schedules

ROUTE 220 / 225

	Monday - Saturday/Lunes - Sábado										
Route	***Southbound***										
220	Kern Valley Airport - Sierra Way						11:07 AM			3:40 PM	
220	Sierra Way at Bowman Rd.						#			#	
220	Valley View Dr. at Sierra Way	**4:45 AM**	**5:30 AM**	**7:00 AM**	**8:40 AM**	**9:53 AM**	**11:10 AM**	**12:40 PM**	**2:10 PM**	**3:43 PM**	**6:45 PM**
220	Kernville Rd. at Sierra Dr.	M/W/F Only	#	#	#	#	#	#	#	#	#
220	Siretta Dr. at Scodie Ave.		#	#	#	#	#	#	#	#	#
220	Burlando Rd. at Rio Vista Dr.		#	#	#	#	#	#	#	#	#
220	Burlando Rd. at Tobias St.		#	#	#	#	#	#	#	#	#
220	Tobias St. at Kernville Rd.		5:35 AM	7:05 AM	8:45 AM	9:58 AM	11:15 AM	12:45 PM	2:15 PM	3:48 PM	6:50 PM
220	Burlando Rd. at Terrace Way		#	#	#	#	#	#	#	#	#
220	Wofford Blvd. at Bristlecone Dr.		#	#	#	#	#	#	#	#	#
220	Wofford Blvd. at Panorama Dr.		#	#	#	#	#	#	#	#	#
220	Wofford Blvd. at Evans Rd.		#	#	#	#	#	#	#	#	#
220	Hwy. 155 at Old State Rd.		5:43 AM	7:13 AM	8:53 AM	10:03 AM	11:23 AM	12:53 PM	2:23 PM	3:56 PM	6:58 PM
220	Wofford Blvd. at Marina Dr.		#	#	#	#	#	#	#	#	#
220	Hungry Gulch Rd. at Hwy. 155		#	#	#	#	#	#	#	#	#
220	Pioneer Point Campground - Hwy. 155		#	#	#	#	#	#	#	#	#
220	Hwy. 155 at Keysville Rd.		#	#	#	#		#	#	#	#
	Senior Center						special trip				
	Kern Valley Plaza		5:55 AM	7:25 AM	9:05 AM	10:15 AM	11:40 AM	1:05 PM	2:35 PM	4:08 PM	7:10 PM
	Eastbound										
	Kern Valley Plaza		**6:15 AM**	**7:35 AM**	**9:35 AM**	**10:25 AM**	**12:00 PM**	**1:25 PM**	**2:55 PM**	**5:08 PM**	**7:30 PM**
	Senior Center							special trip			
225	Paradise Cove - Hwy. 178			#	#	#	#	#	#	#	
225	Hwy. 178 at Mobile Dr.			#	#	#	#	#	#	#	#
225	Eye Care Center - Mountain Mesa Dr.			#	#	#	#	#	#	#	#
225	Kern Valley Hospital - Laurel Ave.			#	#	#	#	#	#	#	#
225	Wellness Center - Lynch Canyon Rd.			#	#	#	#	#	#	#	#
225	Bowling Alley - McCray Rd.			#	#	#	#	#	#	#	#
225	Southlake Plaza - Entrada Blvd.			7:50 AM	9:50 AM	10:40 AM	12:16 PM	1:46 PM	3:11 PM	5:23 PM	7:45 PM
225	Frontage Rd. at Navajo Ave.			#	#	#	#	#	#	#	#
225	KOA Campground - Hwy. 178			#	#	#	#	#	#	#	#
225	Hwy. 178 at Vista Grande Dr.			#	#	#	#	#	#	#	#
225	Paul's Place			#	#	#	#	#	#	#	#
225	Southfork Middle School - Kelso Valley Rd.			REQUEST	REQUEST					REQUEST	
225	Southfork Elementary School - Hwy. 178			8:04 AM	10:04 AM	10:54 AM	12:30 PM	2:00 PM	3:25 PM	5:37 PM	7:59 PM
225	Power's Track - Hwy. 178			#	#	#	#	#	#	#	#
225	Easy St. at Hwy. 178			#	#	#	#	#	#	#	#
225	Scodie Park Rd. at Cypress St.			8:11 AM	10:11 AM	11:01 AM	12:36 PM	2:06 PM	3:31 PM	5:44 PM	8:06 PM
	Monday - Saturday/Lunes - Sábado										
	Westbound										
225	Scodie Park Rd. at Cypress St.	**5:20 AM**	**6:52 AM**	**8:12 AM**	**10:12 AM**	**11:02 AM**	**12:37 PM**	**2:07 PM**	**3:32 PM**	**5:45 PM**	**8:03 PM**
225	Acacia Ave. at Worthington St.	#	#	#	#	#	#	#	#	#	M/W/F Only
225	Power's Track - Hwy 178	#	#	#	#	#	#	#	#	#	
225	Southfork Elementary School - Hwy. 178	5:26 AM	6:58 AM	8:18 AM	10:18 AM	11:08 AM	12:44 PM	2:14 PM	3:39 PM	5:51 PM	
225	Southfork Middle School - Kelso Valley Rd.	#	#	#	#	#	#	#	REQUEST		
225	Paul's Place	#	#	#	#	#	#	#	#	#	
225	Prince Ranch - Hwy. 178	#	#	#	#	#	#	#	#	#	
225	KOA Campground - Hwy. 178	#	#	#	#	#	#	#	#	#	
225	Frontage Rd. at Navajo Ave.	#	#	#	#	#	#	#	#	#	
225	Southlake Plaza - Entrada Blvd.	5:39 AM	7:11 AM	8:31 AM	10:31 AM	11:21 AM	12:57 PM	2:27 PM	3:52 PM	6:04 PM	
225	Kern Valley Hospital - Laurel Ave.	#	#	#	#	#	#	#	#	#	
225	Wellness Center - Lynch Canyon Rd.	#	#	#	#	#	#	#	#	#	
225	Bowling Alley - McCray Rd.	#	#	#	#	#	#	#	#	#	
225	Harbor Light - Hwy. 178	#	#	#	#	#	#	#	#	#	
225	Hwy. 178 at Mobile Dr.	#	#	#	#	#	#	#	#	#	
225	Paradise Cove - Hwy. 178	#	#	#	#	#	#	#	#	#	
	Senior Center					special trip					
	Kern Valley Plaza	5:55 AM	7:27 AM	8:47 AM	10:47 AM	11:42 AM	1:13 PM	2:43 PM	4:08 PM	6:20 PM	
	Northbound										
	Kern Valley Plaza	**6:05 AM**	**7:39 AM**	**9:10**	**11:00 AM**	**12:02 PM**	**1:33 PM**	**3:03 PM**	**5:30 PM**	**7:30 PM**	
	Senior Center						special trip				
220	Hwy. 155 at Keysville Rd.	#	#	#	#	#	#	#	#	#	
220	French Gulch Marina - Hwy. 155	#	#	#	#	#	#	#	#	#	
220	Nuui Cunni - Hwy. 155	#	#	#	#	#	#	#	#	#	
220	Boulder Gulch - Hwy. 155	#	#	#	#	#	#	#	#	#	
220	Wofford Blvd. at Marina Dr.	#	#	#	#	#	#	#	#	#	
220	Hwy. 155 at Old State Rd.	6:22 AM	7:56 AM	9:27 AM	11:17 AM	12:20 PM	1:55 PM	3:20 PM	5:47 PM	7:47 PM	
220	Wofford Blvd. at Lakeshore Dr. (Post Office)	#	#	#	#	#	#	#	#	#	
220	Wofford Blvd. at Evans Rd.	#	#	#	#	#	#	#	#	#	
220	Wofford Blvd. at Park Way	#	#	#	#	#	#	#	#	#	
220	Burlando Rd. at Terrace Way	#	#	#	#	#	#	#	#	#	
220	Kern River Rd. at Kernville Rd.	#	#	#	#	#	#	#	#	#	
220	Siretta Dr. at Scodie Ave.	#	#	#	#	#	#	#	#	#	
220	Burlando Rd. at Rio Vista Dr.	#	#	#	#	#	#	#	#	#	
220	Burlando Rd. at Tobias St.	#	#	#	#	#	#	#	#	#	
220	Tobias St. at Kernville Rd.	6:31 AM	8:05 AM	9:36 AM	11:26 AM	12:28 PM	2:04 PM	3:29 PM	5:56 PM	7:56 PM	
220	Kernville Rd. at Sierra Dr.	#	#	#	#	#	#	#	#	#	
220	Valley View Dr. at Sierra Way	6:36 AM	8:10 AM	9:41 AM	11:31 AM	12:33 PM	2:09 PM	3:34 PM	6:01 PM	8:01 PM	
220	Sierra Way at Bowman Rd.				#			#			
220	Kern Valley Airport - Sierra Way				11:35 AM			3:38 PM		8:05 PM	

ROUTE 223

	inbound transfer												
	outbound transfer												
	Route 150 transfer												
Segment	223 Lake Isabella-Bodfish												
	Monday - Saturday/Lunes - Sábado												
	Kern Valley Plaza			7:40 AM	9:05 AM	10:30 AM	11:15 AM	12:50 PM	2:10 PM	4:40 PM		7:10 PM	7:40 PM
	Lake Isabella Blvd. at Crestview Ave.			#	#	#	#	#	#	#		#	#
	Tank Park-Lake Isabella Blvd.			#	#	#	#	#	#	#		#	#
	Lake Isabella Blvd. at Chain Ave.			#	#	#	#	#	#	#		#	#
	Kern Valley Automotive-Lake Isabella Blvd.			#	#	#	#	#	#	#		#	#
	Columbus Ave. at Verna St.			#	#	#	#	#	#	#		#	#
0:10	North Dr. at Columbus Ave.	5:40 AM	7:20 AM	7:50 AM	9:15 AM	10:40 AM	11:25 AM	1:00 PM	2:20 PM	4:50 PM	5:10 PM	7:20 PM	7:50 PM
	Elk Dr. at Park Way	#	#	#	#	#	#	#	#	#	#	#	
	Columbus Ave. at Caliente/Bodfish Rd.	#	#	#	#	#	#	#	#	#	#	#	
	Lake Isabellla Blvd. at Bodfish Canyon Rd.	#	#	#	#	#	#	#	#	#	#	#	
0:05	Lake Isabella Blvd. at Commercial Ave.	5:45 AM	7:25 AM	7:55 AM	9:20 AM	10:45 AM	11:30 AM	1:05 PM	2:25 PM	4:55 PM	5:15 PM	7:25 PM	
	Lake Isabella Blvd. at Alta Sierra Ave.	#	#	#	#	#	#	#	#	#	#	#	
	Alta Sierra Ave. at Lupine St.	#	#	#	#	#	#	#	#	#	#	#	
	Edna St. at Erskine Creek Rd.	#	#	#	#	#	#	#	#	#	#	#	
0:09	Kern Valley High School - Erskine Creek Rd.										5:24 PM		
0:05	Kern Valley Plaza	5:50 AM	7:30 AM	8:00 AM	9:25 AM	10:50 AM	11:35 AM	1:10 PM	2:30 PM	5:00 PM	5:29 PM	7:30 PM	
0:05	Kern Valley Plaza	5:55 AM	7:35 AM	8:05 AM	9:30 AM	10:55 AM	11:42 AM	1:15 PM	2:40 PM	5:05 PM			
	County Admin. Building - Lakeland St.	#		#	#	#	#	#	#				
0:03	Senior Center - Lake Isabella Blvd.	5:58 AM	7:38 AM	8:08 AM	9:33 AM	10:58 AM	11:45 AM	1:18 PM	2:43 PM	5:08 PM			
0:02	Kern Valley Plaza	6:00 AM	7:40 AM	8:10 AM	9:35 AM	11:00 AM	11:47 AM	1:20 PM	2:45 PM	5:10 PM			
0:05	Kern Valley High School - Erskine Creek Rd.		7:45 AM										

ROUTE 227

227 Lake Isabella-Ridgecrest Monday, Wednesday & Friday/Lunes, Miércoles y Viernes				
Eastbound				
Scodie Park Rd. at Cypress St.	5:46 AM	12:36 PM	5:45 PM	
Acacia Ave. at Worthington St.	#	#	#	
White Blanket - Hwy. 178	#	#	#	
Frank St. at Hwy. 178	#	#	#	
West Inyokern Rd. at 2nd St.	6:30 AM	1:20 PM	6:29 PM	
Union 76-West Inyokern Rd.	#	#	#	
Ridgecrest Hospital - China Lake Blvd.	#	#	#	
Carriage Inn - China Lake Blvd.	#	#	#	
Kern County Superior Court	6:41 AM	1:31 PM	6:40 PM	
Ridgecrest City Hall - California Ave.	#	#	#	
Wal-Mart - China Lake Blvd.	6:45 AM	1:35 PM	6:44 PM	
Subtotal	0:59	0:59	0:59	
Kernville to Onyx	1:00			
Total Hours	**1:59**	**0:59**	**0:59**	**3:57**

Westbound				
Wal-Mart-China Lake Blvd.	7:09 AM	2:24 PM	7:04 PM	
Ridgecrest City Hall-California Ave.	#	#	#	
Kern County Superior Court	7:13 AM	2:28 PM	7:08 PM	
K-Mart-China Lake Blvd.	#	#	#	
Ridgecrest Hospital - China Lake Blvd.	#	#	#	
Union 76-West Inyokern Rd.	#	#	#	
West Inyokern Rd. at 2nd St.	7:24 AM	2:39 PM	7:19 PM	
Frank St. at Hwy. 178	#	#	#	
White Blanket - Hwy. 178	#	#	#	
Scodie Park Rd. at Cypress St.	8:08 AM	3:23 PM	8:03 PM	

Transfers										
Eastbound 225 Arrivals at Scodie Park	8:11 AM	10:11 AM	11:01 AM	12:36 PM	2:06 PM	3:31 PM	5:44 PM	8:06 PM		
timed transfer										

Transfers										
Westbound 225 Departures at Scodie Park	5:20	6:52	8:12	10:12	11:02	12:37	14:07	15:32	18:20	20:03

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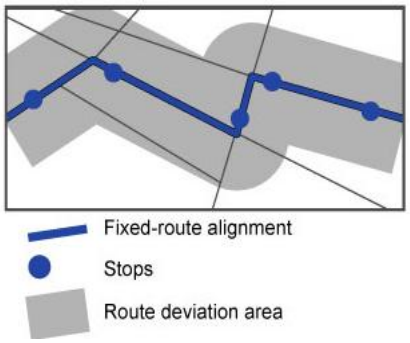
Appendix D Other Alternative Concepts

Flex Route

Flex routes (route deviation) are a slight variation on a traditional fixed route service and typically operate a pre-determined path, but allow for deviations up to a given distance (typically one-half or three-quarters of a mile) from the route to pick up or drop off passengers.

Flex routes are often used to extend the range of transit service and to eliminate the need to provide complementary ADA paratransit service in addition to fixed route service. However, as a tradeoff, are limited in their potential productivity (passengers per revenue hour) due to the scheduled time required for route deviations off the primary route.

Figure 47 Flex-Route Diagram



Conceptual Diagram of Flex Route Service

As a way to reduce duplication of services between fixed route services and Dial-a-Ride services in the Kern River Valley, Dial-a-Ride services could be folded into the fixed route service. This would increase the amount of resources available for the fixed route services which could provide additional frequency or longer service periods. However, the new flex route services would also have longer end-to-end running times due to mid-route deviations and modified timepoints.

This alternative could include variations where only certain trips are flex routes while others continue to operate on a fixed route and schedule. In addition, any flex route service would likely also include fare differentials for deviations for pick-ups or drop offs. This is described in more detail in a later section.

Resource Requirements

If flex route types of services were implemented in the Kern River Valley, it would be assumed that existing fixed route service would be augmented by the Dial-a-Ride resources. Currently, this could result in 1-2 additional buses being available for fixed-route use. A major question that remains is the amount of extra time that would be required to be built into the flex route schedule to accommodate all Dial-a-Ride trips. In March, we hope to meet with Dial-a-Ride dispatchers to develop a more accurate picture of where pick-ups and drops offs occur. Until then, it is difficult to fully grasp how much fixed route service would need to be modified to accommodate deviated pick-ups off the fixed route. Currently, Dial-a-Ride accommodates between 50-80 pick-ups on any given weekday.

Proposed flex route deviation zones are described below and would likely mirror current Dial-a-Ride service areas.

Proposed Flex Routes (With Deviation Zones Colored)