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Network Study Report

SunLine Transit Redesign and Network Analysis

Thousand Palms, California



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Executive Summary

This transit redesign and network analysis study aims to better position SunLine for success in the twenty-first century by emphasizing system and service reliability, and passenger convenience. As bus service is enhanced to grow ridership, the agency's financial bottom line would improve through a series of needed fare increases.

Key recommendations of this study include:

- Making SunLine's system faster, more direct and more efficient to attract new riders;
- Streamlining SunLine's route structure to focus more resources on the system's most productive bus corridors;
- Replacing traditional bus service with lower-cost microtransit service in sparsely populated and/or low-transit-demand areas;
- Simplifying the fare structure and increasing fares to improve financial performance;
- Updating the service standards policy to support performance-driven transit and emerging service delivery models; and
- Implementing the recommendations of the 2016 SunLine Transit Facilities Master Plan.

Transit Redesign

The transit redesign would consolidate SunLine's existing 16 routes into 9 routes and 5 microtransit service areas. The annual resources needed for the redesign—in terms of hours of operation and peak vehicle service requirements—would be similar to the level of resources expended in 2018. The redesign service headways would also be shortened and standardized.

While additional resources may be needed for the proposed Route 111-X pilot service and student tripper services, the recommended new SunLine satellite facility in Coachella would help reduce overall operating hours reducing the non-revenue distance traveled. Incremental improvements to bus operating speeds will also help reduce peak vehicle service requirements.

The following is a summary of proposed route modifications:

Route 111. SunLine would add service on this trunk route to improve headways to every 15 minutes during morning and afternoon peak periods and every 20 minutes during off-peak midday and night periods. On weekends, it would operate every 20 minutes. The Route 111-X pilot service would skip stops to decrease end-to-end travel times.

Route 2. Existing Routes 14 and 30 between Desert Hot Springs and Cathedral City would be combined into one route, realigned in downtown Palm Springs, and renamed Route 2. Service headways would improve to every 15 minutes during morning and afternoon peak periods and every 20 minutes during off-peak midday and night periods. On weekends, it would operate every 20 minutes.

Route 3. Extend and rename existing Route 15 to connect 4th Street/Cholla Drive in Desert Hot Springs to Langlois Road/Aurora Road. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

Route 4. Combine and rename existing Routes 24 and 32 to connect Palm Springs with Palm Desert Town Center Mall. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

Route 5. Rename existing Route 20, which would operate between Desert Hot Springs and Palm Desert Town Center Mall, providing service to activity centers on Cook Street. It would operate every 40 minutes, 7 days a week.

Route 6. Extend existing Route 54 to 5th Street in Coachella to create the new Route 6 as part of a new simplified service in Indio and Coachella. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

Route 7. Existing Route 70 would be maintained in the redesigned transit system as Route 7. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

Route 8. Combine existing Routes 80, 81, 90, and 91 in Indio, Coachella, Thermal, and Mecca to improve operational efficiency, route directness and make SunLine's system easier to navigate. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

Route 9. A new fixed-route Route 9 would provide bus service between North Shore, Mecca, and 100 Palms every 60 minutes, 7 days a week.

Commuter Link 220. This express bus service between Palm Desert and Riverside would be discontinued.

Microtransit service. Lower-cost microtransit service would eventually replace fixed-route bus service on new Route 9. Operating either as a circulator or as an on-demand service, this new service would connect riders to SunLine's fixed-route bus service. Microtransit may be used in Indio and in the southern end of Cathedral City and Palm Desert to expand the ridership catchment area. Also, SunLine will begin operating the seasonal Palm Springs BUZZ circulator service in 2019. This service will operate three trolley vehicles during the peak winter and spring tourist season.

Table ES-1 shows the existing and proposed routes and service headways. Figure ES-1 shows SunLine's redesigned fixed bus route system.

Table ES-1. Transit Redesign Service Frequency

Existing Network		Redesigned Network	
Route	Frequency ¹	Route	Frequency ²
111	20/20	111	15/20/20
14/30	20/40	2	15/20/30
15	60/60	3	20/30/30
24/32	50/60	4	20/30/30
20	60/0	5	40/40/40
54	45/0	6	20/30/30
70	45/90	7	20/30/60
80/81/90/91/95	60/60	8	20/30/60
91/95	60/180	9	60/60/60

¹ weekday/weekend

² peak/off-peak/weekend

Simplified Fare Structure

The recommended fare structure would reduce the number of fare categories. Bus-to-bus passenger transfers and the use of paper transfers would remain; however, the fee charged for transfers would be eliminated. This simplified fare structure is designed to grow ridership by making fares easier to understand. This new fare structure may also improve bus operations by making the fare easier to pay. The higher fare would also improve SunLine's farebox recovery ratio.

The proposed fare structure would consolidate the adult and youth fare categories into a general fare category. The employer pass would no longer be offered because it is underutilized. Paratransit fares would be consolidated to one fare for all trips within the SunLine service area. The base cash fare would be increased from \$1 to \$1.75 in three phases. The first phase would coincide with the initial transit redesign service improvements. The next two phases may occur in 1- or 2-year increments. Prices for day passes, 10-ride passes, and 31-day passes would also increase at similar rates. Table ES-2 shows the current and proposed fare structure.

Table ES-2. SunLine Incremental Fare Increase Program

Fare Type	Current Fare	Phase 1	Phase 2	Phase 3	% Change ¹
General Fixed Route					
Cash	\$1.00	\$1.25	\$1.50	\$1.75	75%
Seniors/Disabled Fixed Route					
Cash	\$0.50	\$0.60	\$0.75	\$0.85	70%
Youth					
Cash		\$0.85		Consolidate adult and youth Eliminate employer pass Eliminate transfer fee	
SunDial Paratransit					
Cash – same city cash	\$1.50	\$2.50	\$3.00	\$3.50	133%
Cash – city to city	\$2.00	\$2.50	\$3.00	\$3.50	75%

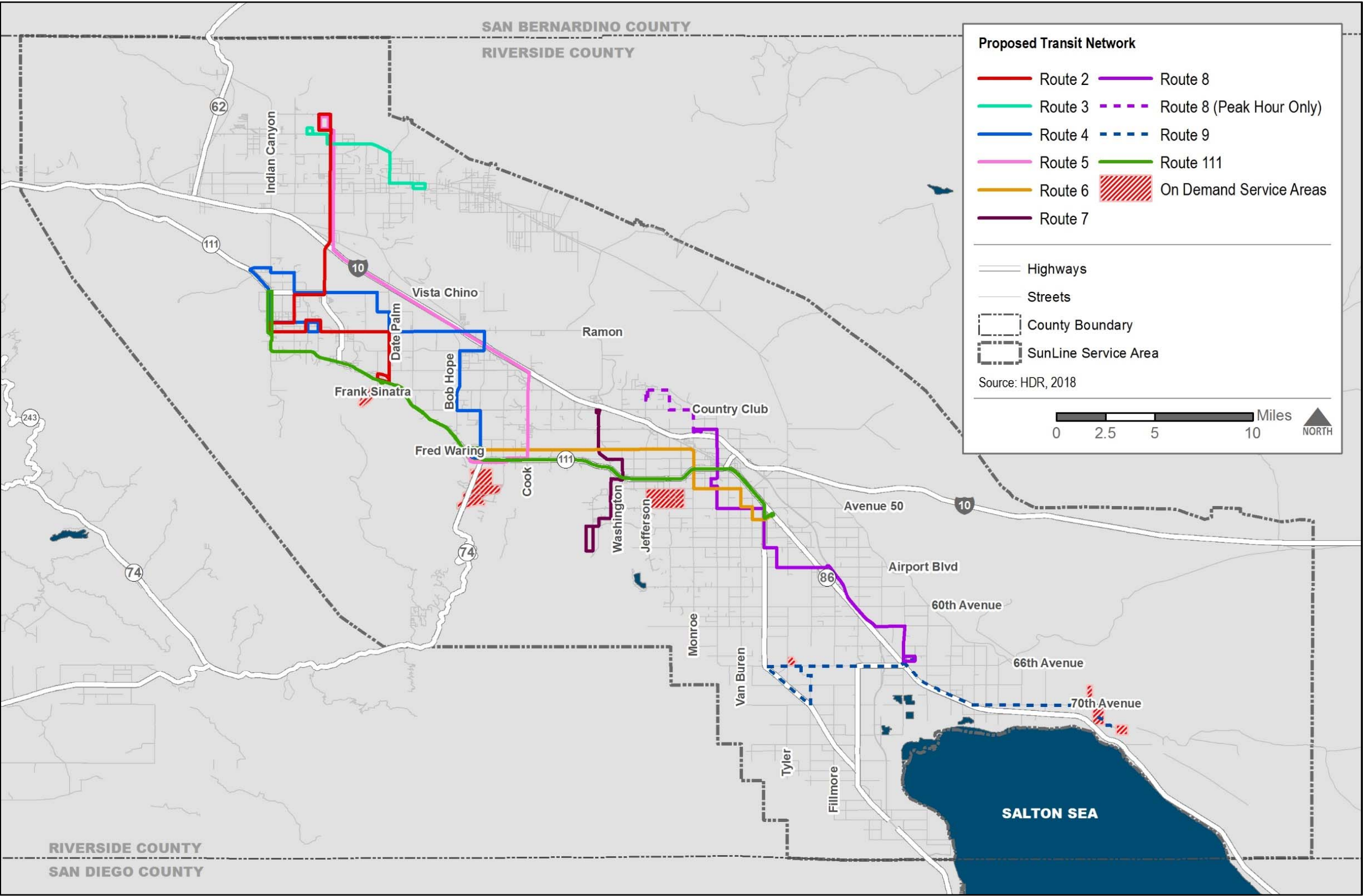
¹ Phase 3 is compared with current fares.

Service Standards Policy

The SunLine transit redesign focuses transit agency resources on its most productive routes. Rural areas with lower ridership demand would be served by microtransit. SunLine's service standards policy should reflect adoption of a performance-driven service delivery model in response to new travel markets and evolving travel behavior. These goals should emphasize leadership in meeting the region's multimodal mobility needs. Key service standards policy recommendations include:

- Adopt benchmarks for system headway, reliability, speed, ease of use, and safety;
- Identify standards that support community goals such as environmental benefits, congestion mitigation, and economic development; and
- Conduct biannual reviews of service standards and performance measures for consistency with regional, state, and federal regulations.

Figure ES-1. SunLine Transit Redesign Bus Service





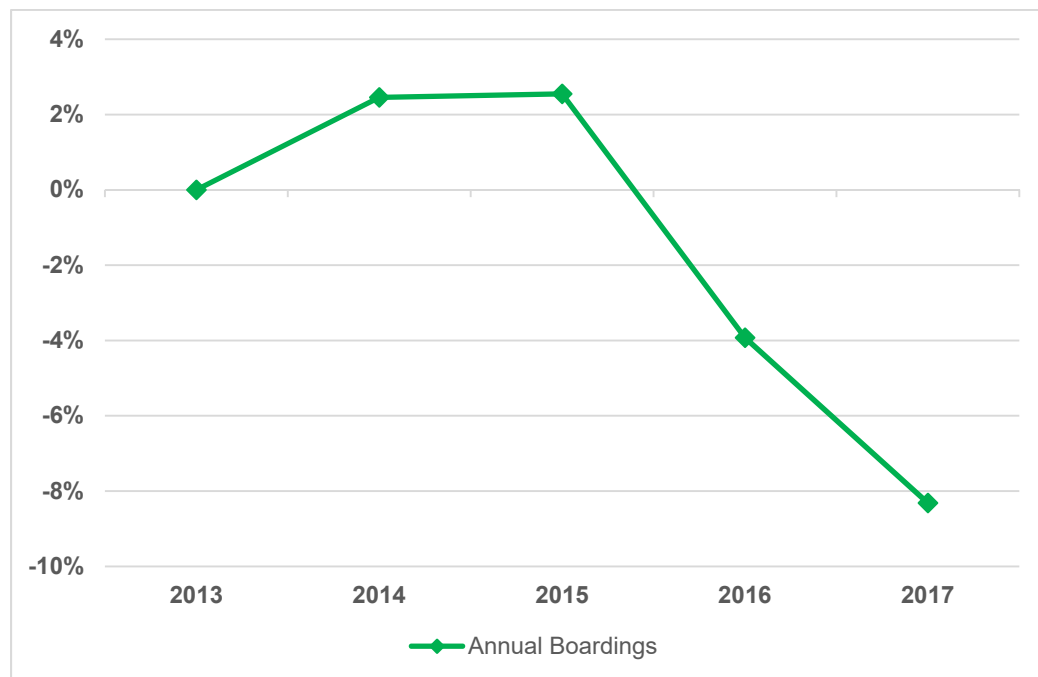
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1 Introduction

Public transit ridership is declining across North America. Several factors have been cited as contributing to this decline. New technologies and changing demographics are transforming the transit market. Subprime auto lenders are making car ownership possible for low-income families who previously may have depended on public transit. In California, Assembly Bill 60 has allowed more than 1 million undocumented immigrants to obtain special driver's licenses. Smart phones make low-cost rides from transportation network companies such as Lyft and Uber readily available. Between 2016 and 2017, transit ridership fell in 31 out of 35 major U.S. transit markets (TransitCenter 2018).

The SunLine Transit Agency—which serves riders in the Coachella Valley in Riverside County, California—is experiencing a similar ridership decline. Figure 1-1 shows that between 2013 and 2017 ridership declined by 8 percent. At the same time, the cost of operating SunLine's fixed-route bus services increased.

Figure 1-1. SunLine Fixed-route Passenger Boardings, Fiscal Year 2013 to 2017



Source: SunLine, 2018

To address declining ridership, public transit providers in Houston, Portland, Columbus, Ohio, and other metropolitan areas have redesigned their bus networks to straighten circuitous routes and to improve headways. These redesigned bus networks are outperforming their peers in transit ridership (TransitCenter 2018).

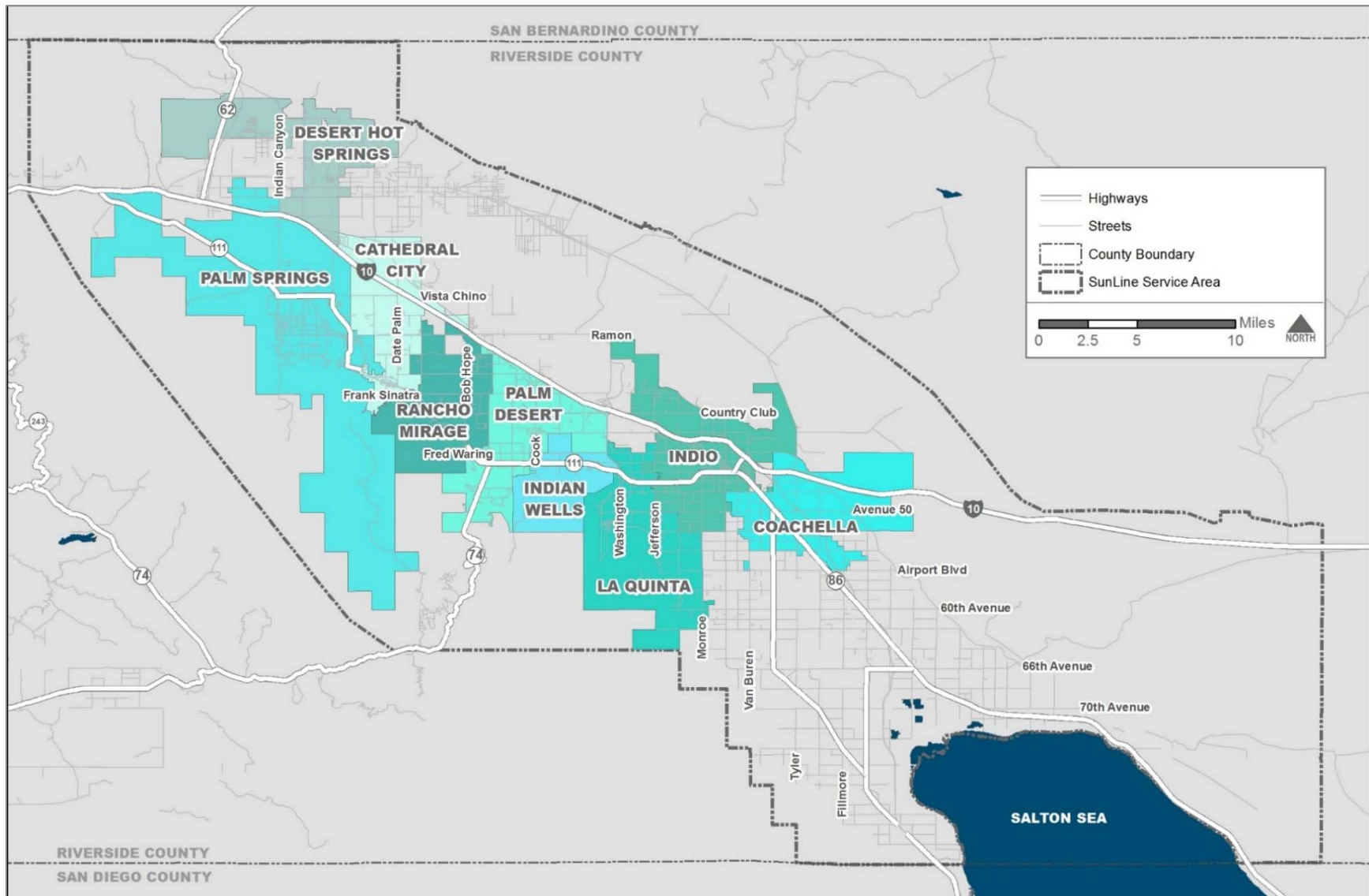
This transit redesign and network analysis study identifies strategies to redesign SunLine's transit system to reduce headways and to improve travel times and system efficiency. It also recommends incremental fare increases to improve SunLine's financial picture.

This final report documents the life of the study, from the existing conditions evaluation to the final transit service recommendations, and is organized into the following sections:

- Section 2 documents SunLine's existing conditions.
- Section 3 describes peer transit systems.
- Section 4 describes community outreach for the study.
- Section 5 presents the transit redesign recommendations.
- Section 6 discusses fare policy.
- Section 7 identifies the transit redesign implementation strategy.
- Section 8 discusses the policy framework and service standards.
- Section 9 provides a funding analysis.

The SunLine service area is illustrated in Figure 1-2.

Figure 1-2. SunLine Service Area



Source: HDR, 2018

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2 Existing Conditions

The study team's first step in the SunLine transit redesign and network analysis study was to prepare an overview of SunLine's existing transit services and facilities to help identify how performance and efficiency could be improved through the transit redesign effort. This section includes the following elements:

- review of previous studies
- service area socioeconomic data
- identification of activity centers
- review of existing transit service

2.1 Previous Studies

The study team reviewed previous SunLine policy and planning studies to develop an understanding of the communities the agency serves and its operating environment. A brief summary of each study is provided below. Table 2-1 summarizes key findings and recommendations from the reports.

2.1.1 SunLine 2005–2006 Comprehensive Operational Analysis

The 2005–2006 SunLine Comprehensive Operational Analysis was intended to evaluate SunLine services and demographic patterns in the region to ensure that fixed-route and paratransit services were meeting the needs of SunLine customers. The Comprehensive Operational Analysis included stakeholder input and an assessment of market conditions and service performance (as of 2005/2006), which was used to develop a service plan that could be implemented to increase SunLine service. Recommendations proposed in the service plan include realigning or discontinuing several routes, adding new routes, and increasing service headways and spans.

2.1.2 Fiscal Year 2015–2016 Annual Countywide Performance Report

The Fiscal Year (FY) 2015–2016 Riverside County Transportation Commission Annual Countywide Performance Report evaluated the performance of the transportation services/agencies in Riverside County by focusing on performance measures such as farebox recovery, trips per capita, and transit coverage. According to the report, in 2016, SunLine had a farebox recovery rate of 22.6 percent (which meets the State-approved minimum of 17.8 percent) and a population coverage level (percentage of residents living within $\frac{3}{4}$ mile of a fixed-route service) of 82 percent. The report also noted that SunLine had fewer intra-system transfers in FY 2015–2016 compared with FY 2014–2015, which can be attributed to the fact that SunLine adjusted some of its services to improve connectivity for its riders and reduce the number of transfers required.

2.1.3 Fiscal Year 2017–2018 SunLine Short Range Transit Plan

The FY 2017–2018 Short Range Transit Plan (S RTP) provides an overview of the existing SunLine system, including existing service, route performance, planned service changes, and financial characteristics. The S RTP is updated annually and helps SunLine identify the transit services and improvements required to meet the needs of its customers. It also provides direction for future service planning activities and capital projects. A key finding presented in the S RTP is that ridership on SunLine’s fixed-route service decreased by approximately 7 percent from the previous year, while paratransit service increased by 7 percent. This is consistent with expected growth patterns in the Coachella Valley, which anticipate that the senior population will experience the highest percentage of future growth in the region.

Table 2-1. Key Findings/Recommendations from Review of Previous Studies

Study	Key Finding/Recommendation
SunLine 2005–2006 Comprehensive Operational Analysis	<ul style="list-style-type: none"> Major origin-destination pairs include: <ul style="list-style-type: none"> Cathedral City to Palm Desert Palm Springs to Palm Desert Indio to Palm Desert La Quinta to Palm Desert La Quinta to Indio Coachella to Indio Most trips in the system occur along the State Route 111 corridor. Eighty percent of the SunLine system’s transfers are for service to or from Line 111. System service headways are inconsistent, and the analysis showed that the more frequent a service was, the more likely that line was to be successful. Many of SunLine’s passengers are low-income. The highest concentrations of residents in poverty in the region are located near Desert Hot Springs, Cathedral City, Indio, and Coachella. Most SunLine riders use the service at least 5 days per week, and work is the top trip purpose. The College of the Desert in Palm Desert is a significant trip generator in the Coachella Valley. Average stop spacing throughout the system is approximately a half-mile. Improving headways of service would generate additional ridership and better serve existing passengers. Service spans should be increased to 4 am to midnight on most routes. Transit service improvements should focus on major travel patterns.
FY 2015–2016 Riverside County Transportation Commission Annual Countywide Performance Report	<ul style="list-style-type: none"> SunLine had a fixed-route farebox recovery rate of 22.6 percent in FY 2015–2016. SunLine has an 82 percent population coverage level (percentage of residents living within ¾ mile of public fixed-route transit service).

Table 2-1. Key Findings/Recommendations from Review of Previous Studies

Study	Key Finding/Recommendation
FY 2017–2018 SunLine Short Range Transit Plan	<ul style="list-style-type: none"> • SunLine’s service area covers 1,120 square miles of the Coachella Valley. • Most of the system operates from 5 am to 11 pm on weekdays and 5 am to 10 pm on weekends. In 2017, on-time performance ranged from 66 percent (Commuter Link 220) to 93 percent (Line 30). • The senior population will see the highest percentage of future growth, which will greatly increase SunLine’s SunDial Americans with Disabilities Act (ADA) paratransit costs. • SunLine’s most successful routes are Lines 14, 30, and 111, which together account for 64 percent of daily passenger boardings. The top three trip purposes are for work, shopping, and school. • There are strong trip patterns from: <ul style="list-style-type: none"> ○ La Quinta to Indio ○ Coachella to Indio ○ Desert Hot Springs to Palm Springs • The City of Palm Desert is a key destination for transit trips within the Coachella Valley (because it is the home of the main campus of the College of the Desert). • Shared ride, on-demand mobility pilot programs should be implemented to better serve low-income individuals.

Source: HDR, 2018

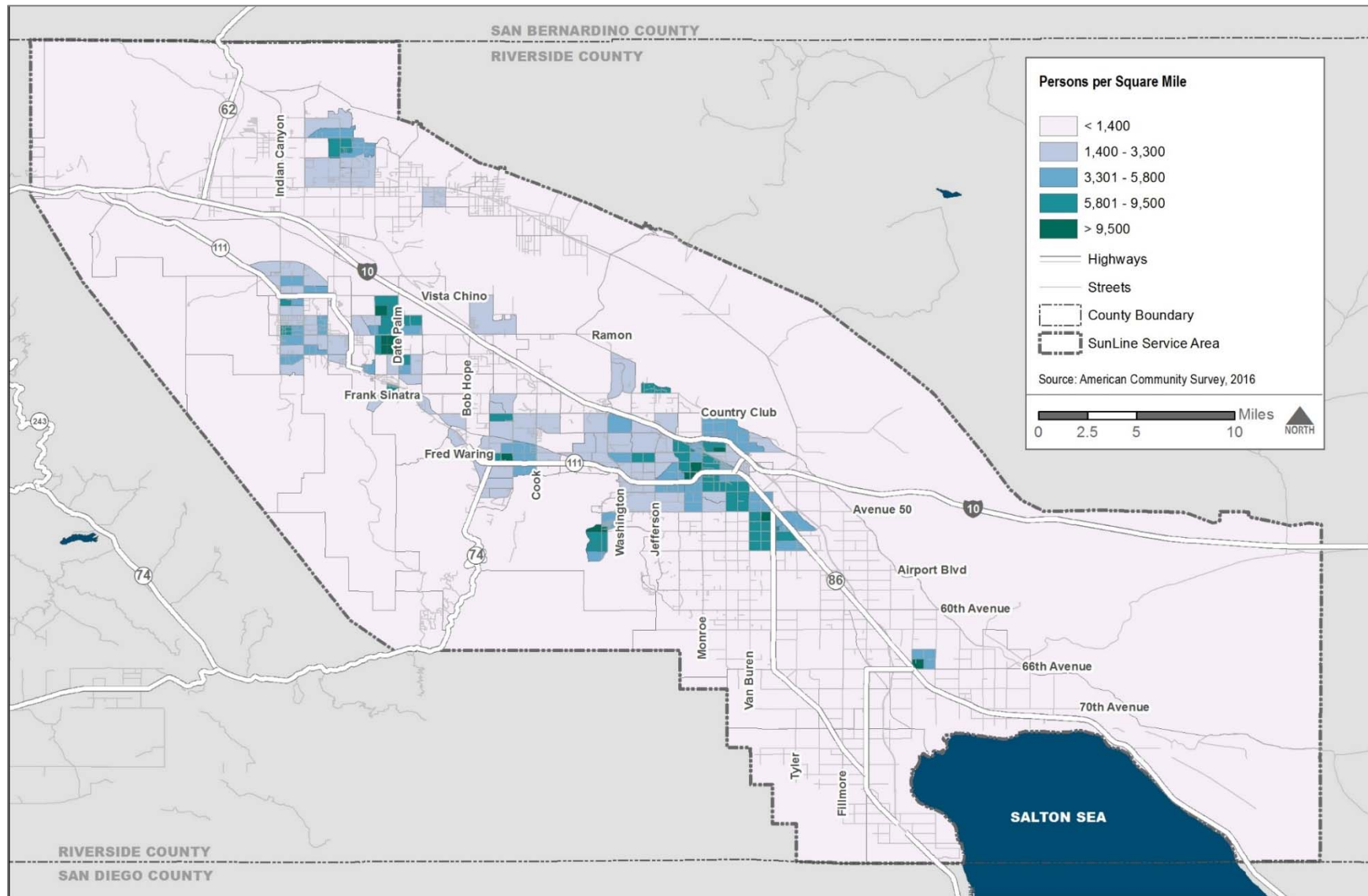
2.2 Socioeconomic Profile

Existing demographics in the study area were documented using 2016 American Community Survey (ACS) and Longitudinal Employer-Household Dynamics data. The demographics are illustrated using density, which is a good indicator for transit analysis. The figures on the following pages illustrate current demographic conditions in the study area for the following categories:

- population density
- employment density
- population under 18 density
- population 65 and over density
- minority population density
- low-income household density
- persons with disabilities density
- zero-auto household density
- cumulative transit propensity

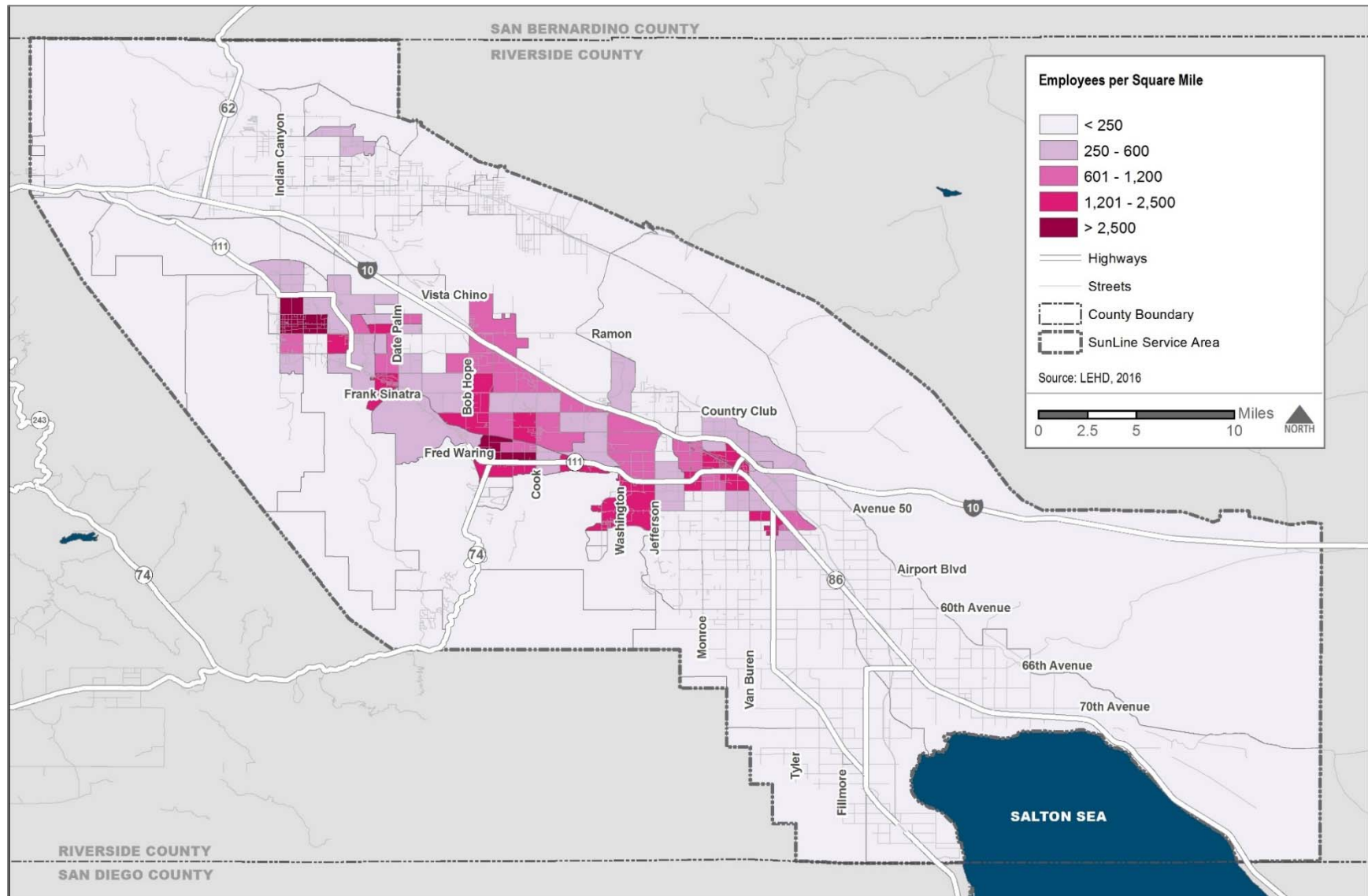
In general, the demographic data show that medium and high densities for most categories are concentrated in south Coachella, central Indio, Cathedral City, central Palm Springs, and Desert Hot Springs. A high-level discussion of the trends observed for each demographic category is provided in the following sections.

Figure 2-1. Population Density



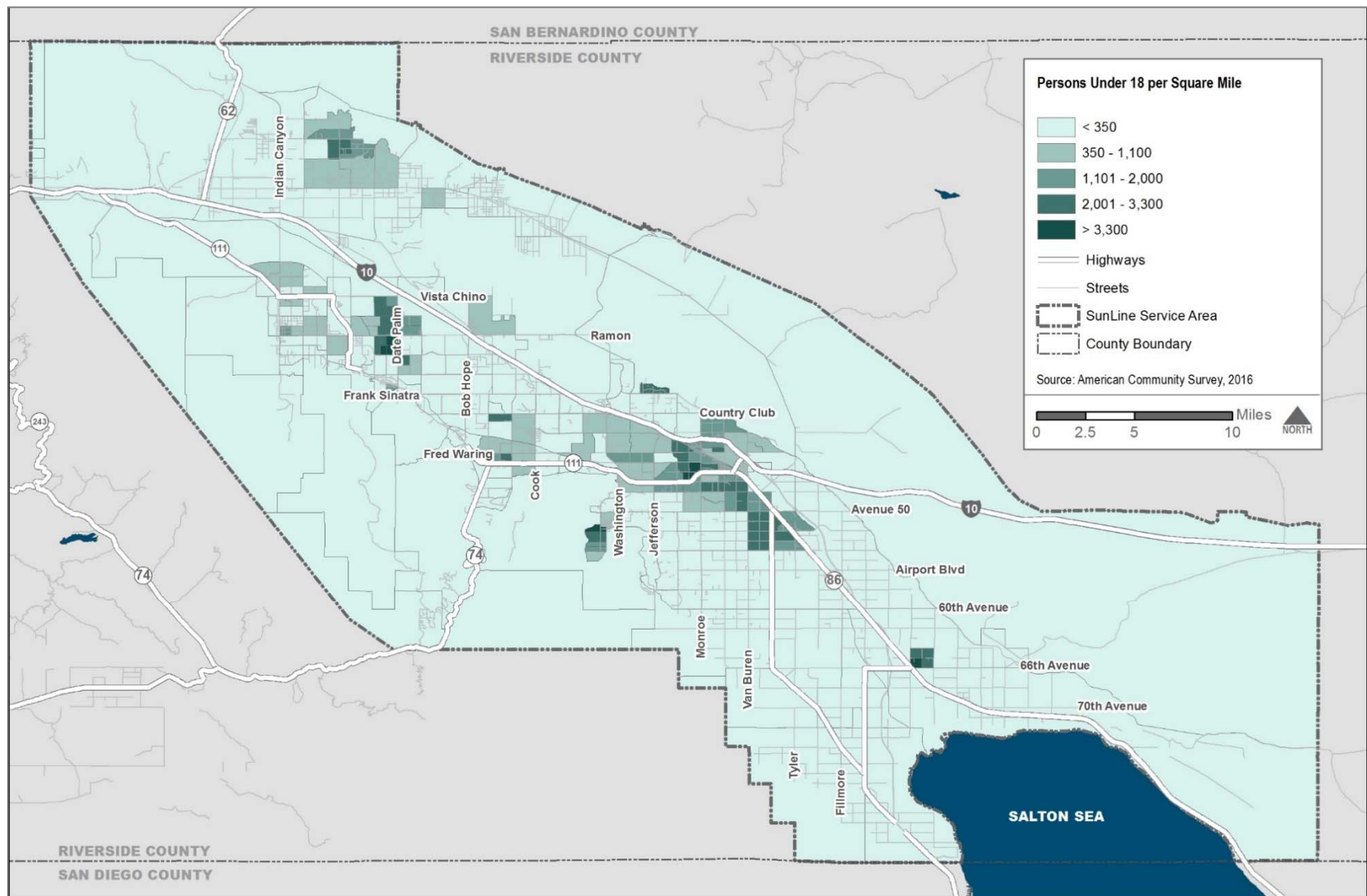
Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

Figure 2-2. Employment Density



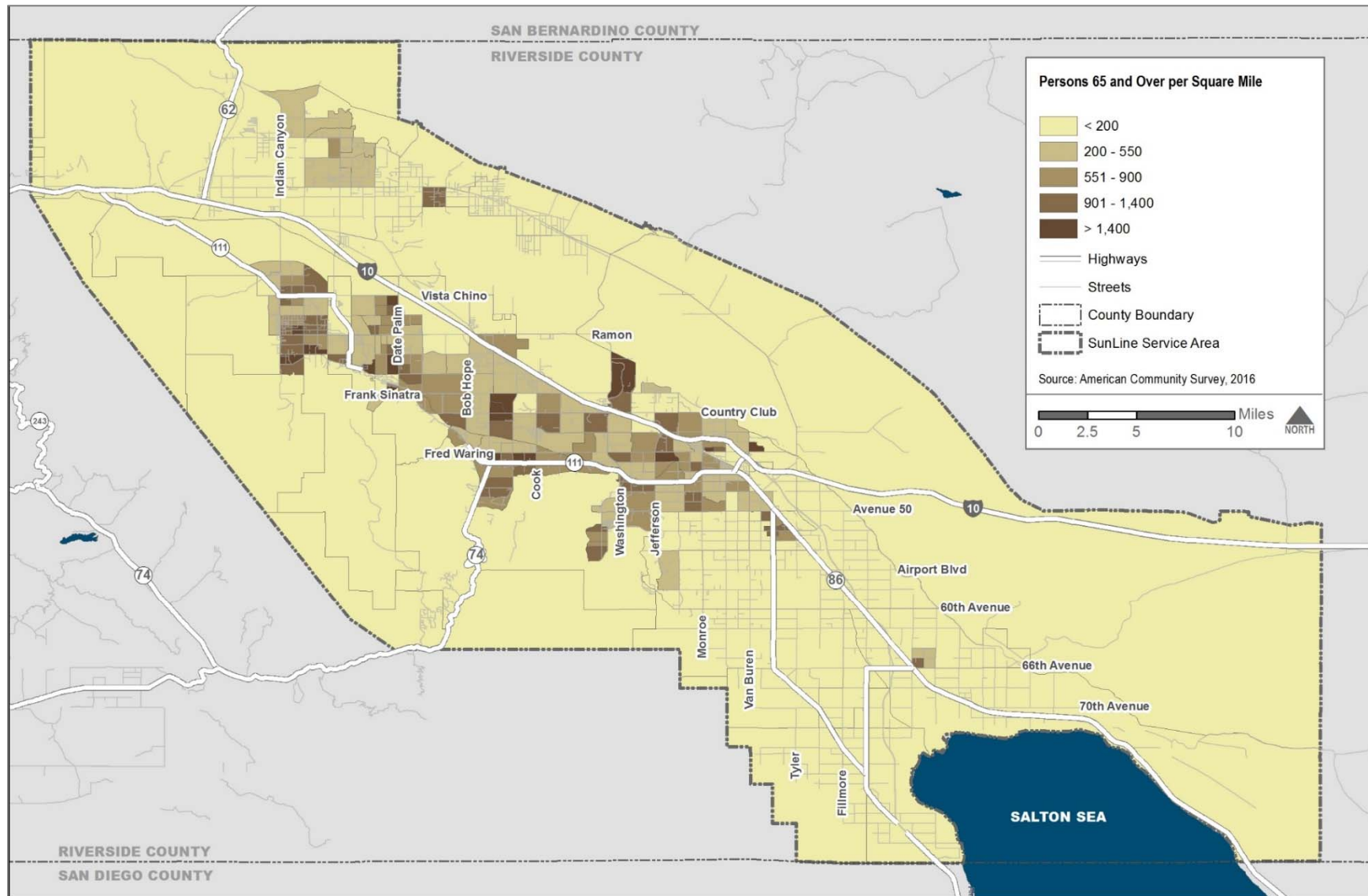
Source: U.S. Census Bureau, 2016 Longitudinal Employer-Household Dynamics data

Figure 2-3. Population Under 18 Density



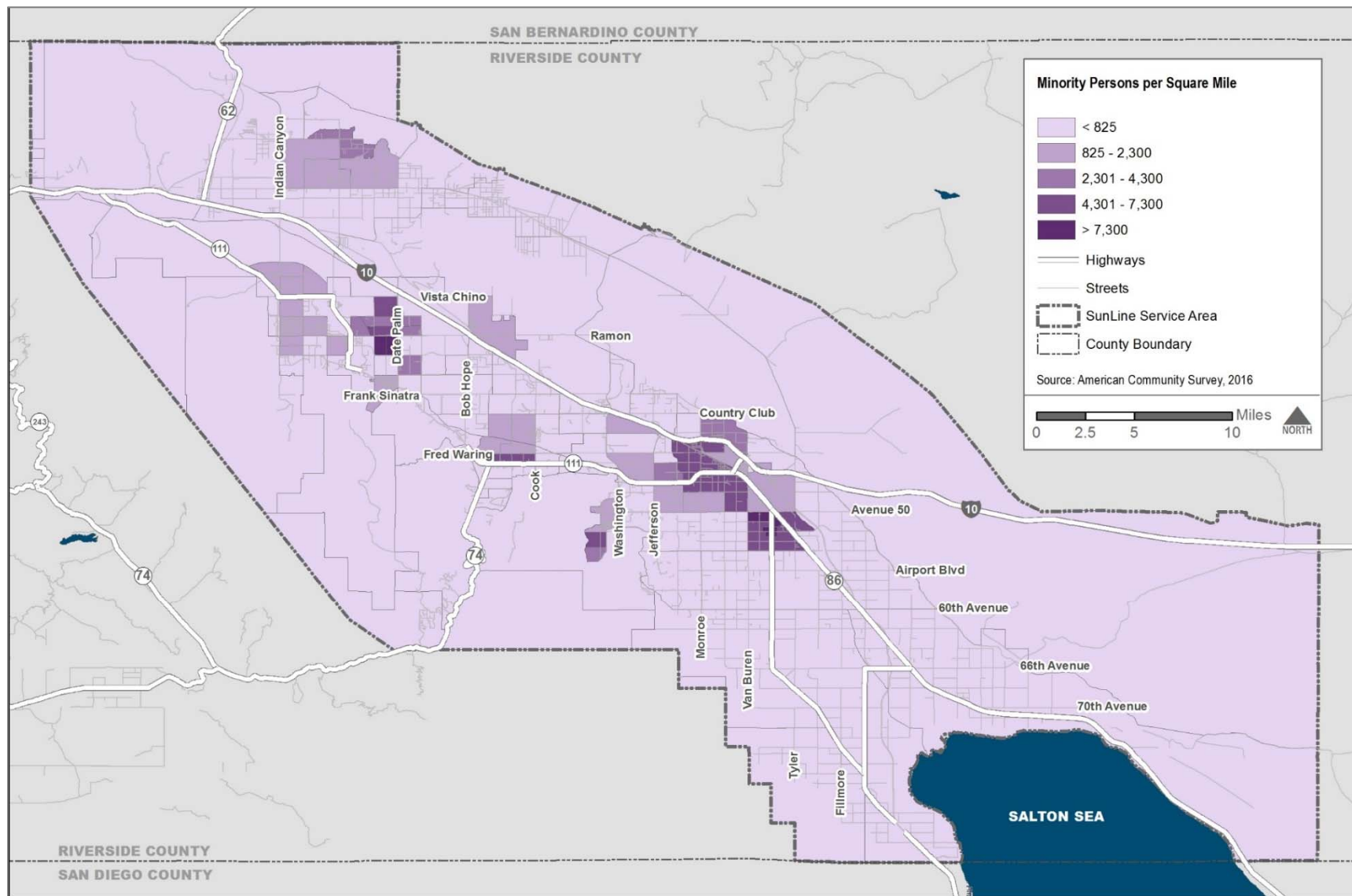
Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

Figure 2-4. Population 65 and Over Density



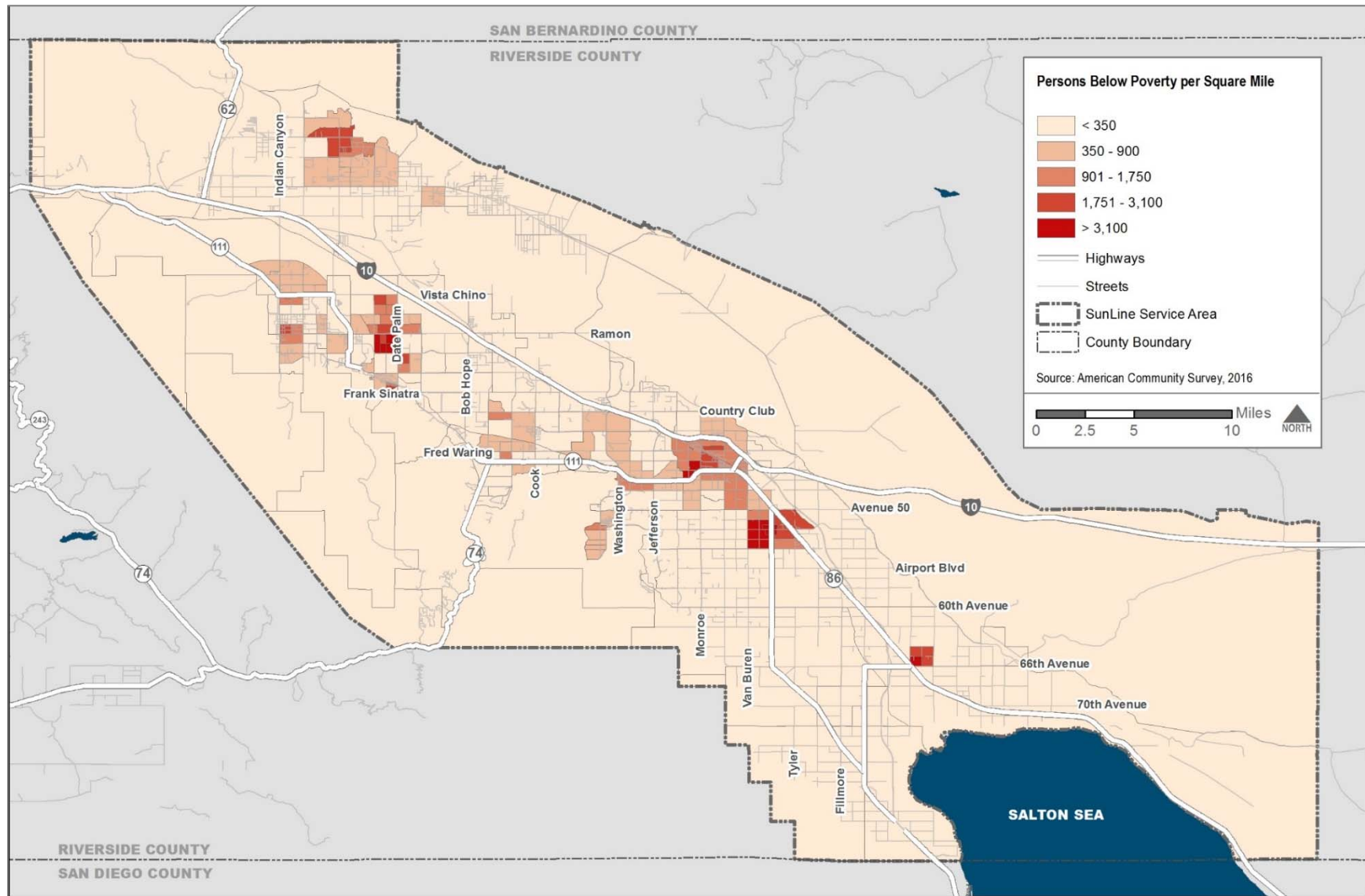
Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

Figure 2-5. Minority Population Density



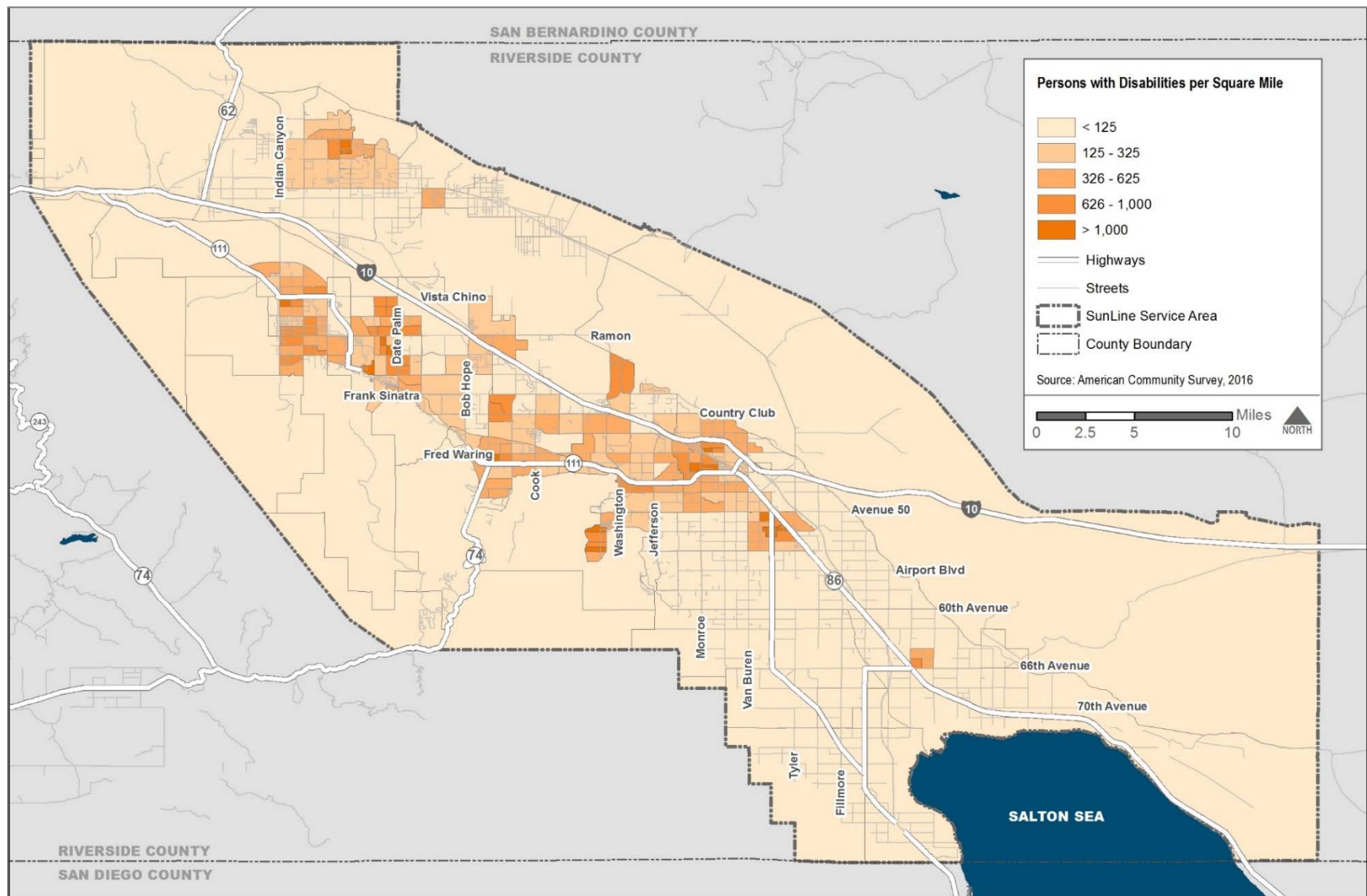
Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

Figure 2-6. Low Income Household Density



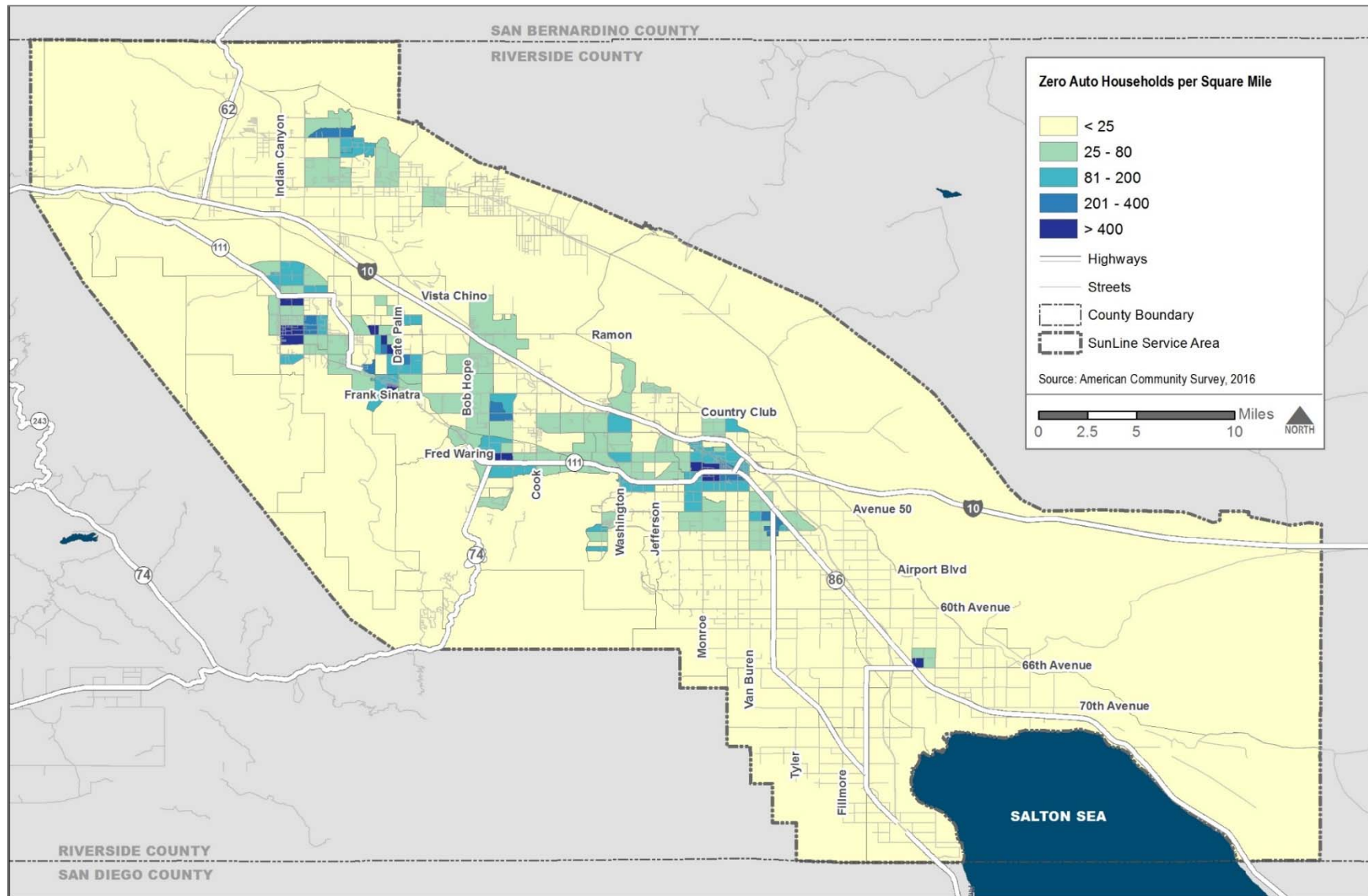
Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

Figure 2-7. Persons with Disabilities per Square Mile



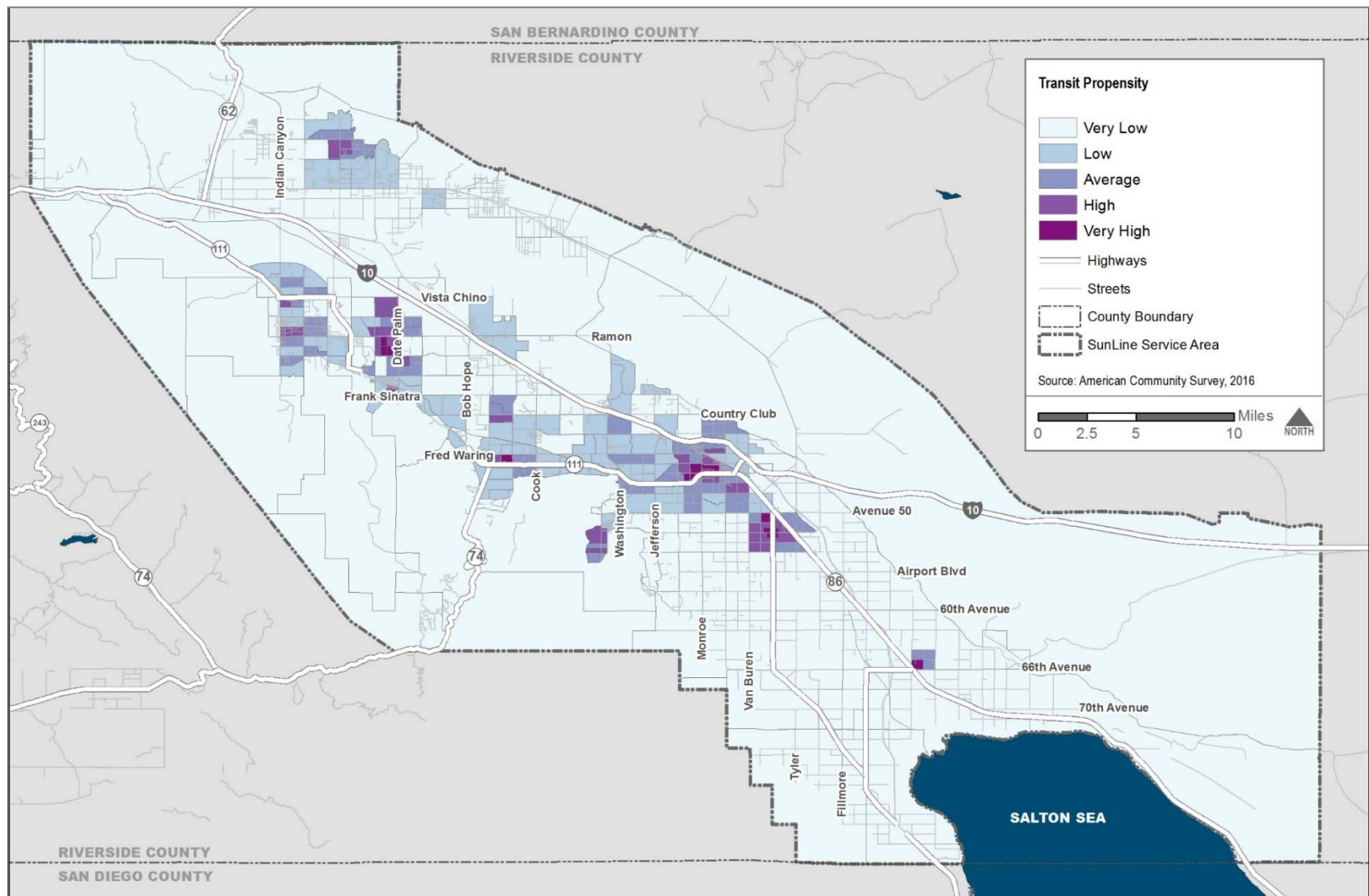
Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

Figure 2-8. Zero-auto Household Density



Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

Figure 2-9. Cumulative Transit Propensity



Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

2.2.1 Population Density

According to an analysis of 2016 ACS data, the total population in the SunLine service area is 438,587. Population density—expressed as persons per square mile—combined with a mixture of land uses, helps determine whether people choose alternative modes of transportation such as biking, walking, or using transit for their daily needs. High population density concentration areas are categorized as having multifamily housing, such as apartments or condominiums, or dense single-family housing. As illustrated in Figure 2-1, densities for this measure are highest along the Interstate 10 (I-10) and State Route 111 (SR-111) corridors in Coachella and Indio. Much of the remaining portions of the study area have a low population density, with a few pockets of medium- to high-density areas in Palm Desert, Cathedral City, and Palm Springs.

2.2.2 Employment Density

Areas with high employment densities act as common origins and destinations for transit trips. As illustrated in Figure 2-2, the highest employment densities are concentrated in central Palm Springs and Palm Desert, with additional medium- to high-density clusters in Cathedral City, Rancho Mirage, La Quinta, and Indio.

2.2.3 Population Under 18 Density

Individuals 18 years of age or younger often rely on public transit to reach school or other activities. According to an analysis of 2016 ACS data, approximately 23.2 percent (101,608) of the population in the SunLine service area is under 18. As illustrated in Figure 2-3, the highest densities for this measure are concentrated along the I-10 and SR-111 corridors in Coachella and Indio. There are a few additional areas with medium to high densities scattered throughout the study area, including Desert Hot Springs, Cathedral City, La Quinta, and Mecca, an unincorporated community southeast of Coachella.

2.2.4 Population 65 and Over Density

Individuals who are 65 years of age or older may also rely on public transit either to reach various appointments or social engagements. According to an analysis of 2016 ACS data, approximately 21.5 percent (94,157) of the population in the SunLine service area is 65 years of age or older. As illustrated in Figure 2-4, the highest densities for this measure are fairly evenly distributed throughout the central portion of the study area, generally bounded by the I-10 corridor to the north and the SR-111 corridor to the south. Other high-density pockets outside this area include the Desert Crest Community east of Desert Hot Springs and Sun City Palm Desert.

2.2.5 Minority Population Density

Minority status is another factor that often indicates higher transit propensity. For this analysis, the minority population is the total population less the non-Hispanic white population. According to an analysis of 2016 ACS data, the minority population accounts for approximately 58.8 percent (257,721) of the total population in the SunLine service area. As illustrated in Figure 2-5, the highest densities for this measure are primarily

concentrated in the southern portions of Coachella and central Indio. Other mid- to high-density areas occur along the Date Palm Drive corridor in Cathedral City, Desert Hot Springs, and the western portion of La Quinta.

2.2.6 Low-income Household Density

Income is a strong influencer in mobility decisions. Research indicates that low-income households are less likely to own vehicles, resulting in a greater reliance on alternative mobility options such as public transit. According to an analysis of 2016 ACS data, approximately 20.5 percent (89,605) of the population in the SunLine service area has incomes below the federal poverty line. As illustrated in Figure 2-6, the highest densities of households below poverty are situated along the SR-111 and Chavez Street corridors in south Coachella, central Indio, Cathedral City, Desert Hot Springs, and Mecca.

2.2.7 Disabled Population Density

Individuals with disabilities often have mobility limitations and thus rely on public transit. According to an analysis of 2016 ACS data, approximately 15.9 percent (53,427) of the population in the SunLine service area has some disability. As illustrated in Figure 2-7, higher densities for this measure are fairly evenly distributed throughout the central portion of the study area, generally bounded by the I-10 corridor to the north and the SR-111 corridor to the south. Other high-density pockets outside this area include Desert Hot Springs and the Desert Crest Community to the east, the western portion of La Quinta, and Sun City Palm Desert.

2.2.8 Zero-auto Household Density

Households with no or limited access to vehicles rely on transit to reach their destinations. According to an analysis of 2016 ACS data, approximately 5.8 percent (9,540) of households in the SunLine service area do not have an automobile. As illustrated in Figure 2-8, higher densities for this measure are fairly evenly distributed throughout the central portion of the study area, generally bounded by the I-10 corridor to the north and the SR-111 corridor to the south. Areas with particularly high zero-auto household densities include central Indio, the western portion of Palm Desert, central Palm Springs, and Desert Hot Springs.

2.2.9 Cumulative Transit Propensity

Greater densities for the sociodemographic factors described above translates into a higher propensity for using public transit. Identifying such propensity can be accomplished by combining the demographic categories into one cumulative measure. The cumulative transit propensity measure combines the existing density values for all demographic categories to illustrate the areas where existing transit need is greatest. As illustrated in Figure 2-9, the areas of “high” and “very high” transit propensity are primarily concentrated in south Coachella, central Indio, Cathedral City, central Palm Springs, and Desert Hot Springs.

2.3 Existing Activity Centers

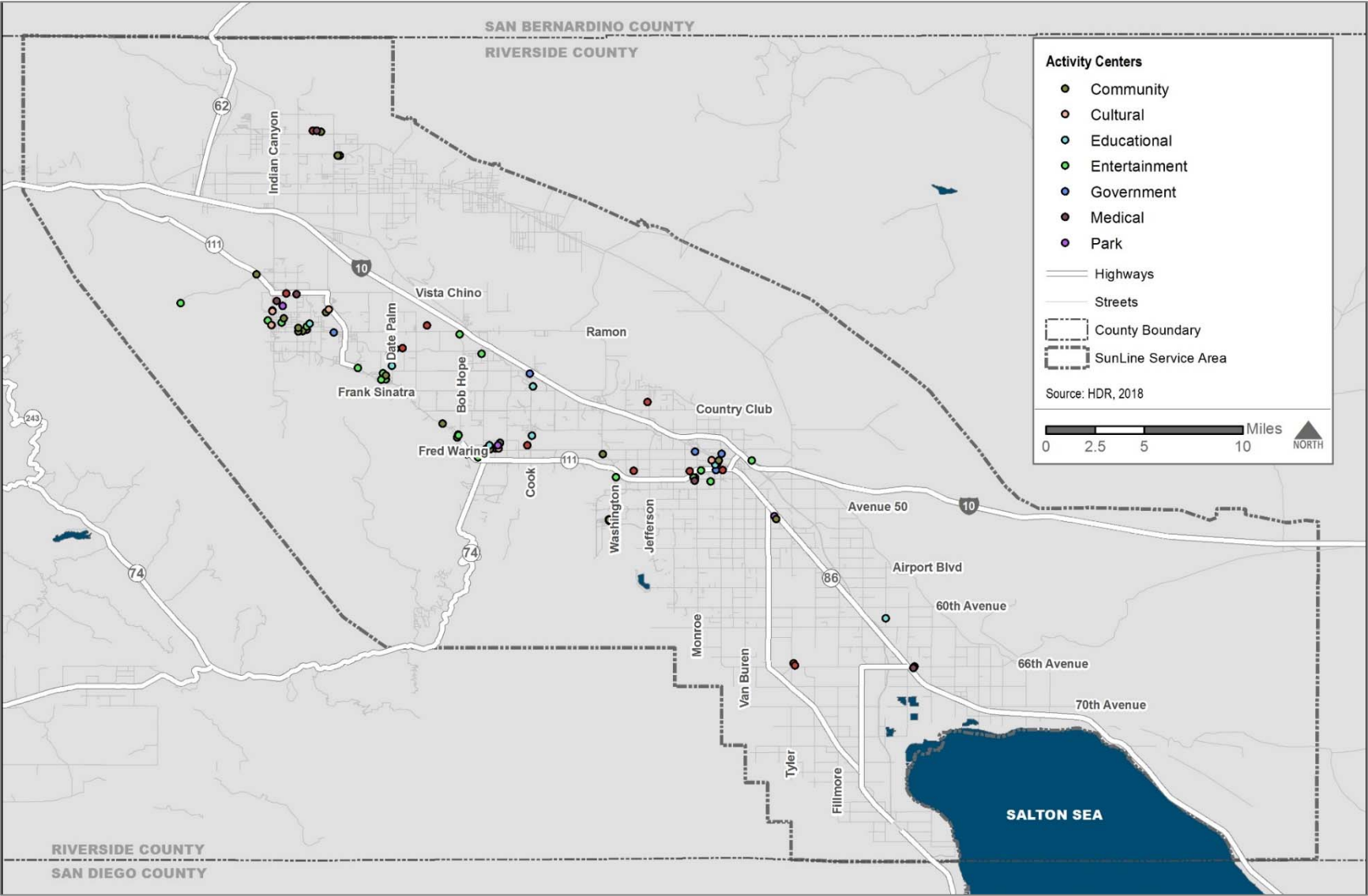
Activity centers are sites that act as common origins and destinations for transit trips. These include regional shopping centers, educational facilities, medical facilities, civic facilities, etc. The study area includes a variety of activity centers ranging from business districts to educational facilities and regional medical centers. Examples of activity centers in the study area include Westfield Palm Desert Mall, Desert Regional Medical Center, California State University of San Bernardino (Palm Desert Campus), University of California Riverside, and College of the Desert, to name just a few. Existing activity centers in the study area are illustrated in Figure 2-10.

2.3.1 Origin and Destination Data

SunLine's 2014 origin and destination data were reviewed to identify trip characteristics and a demographic profile of transit users in the Coachella Valley. Notable findings from this analysis include:

- Home and work were the most common trip origins and destinations. Forty-six percent of those surveyed said their trip began at home, while 16 percent listed their workplace as their origin. Similarly, 37 and 20 percent listed home and work as their destination, respectively.
- A majority of respondents (82 percent) walked to access transit services.
- A majority of respondents (77 percent) use SunLine services multiple times a week. Forty-two percent indicated they use transit every day, 23 percent said they use it 4 to 5 days a week, and 12 percent said they use it 2 to 3 days per week.
- Fifty-six percent of respondents use transit because they do not own a car, while 16 percent said they do so because they can't drive. Only 11 percent indicated they own a car but choose to use transit.
- Thirty-six percent of respondents selected "other" as their race, with a majority (93 percent) of these identifying as Hispanic/Latino.
- Forty percent of respondents indicated they spoke Spanish at home
- A large proportion of respondents live in low-income households. The largest share of respondents (32 percent) reported a household income under \$10,000. Twenty-two percent reported a household income between \$10,000 and \$24,999.

Figure 2-10. Activity Centers



Source: HDR, 2018

2.4 Existing Transit Service

The study team also prepared an overview of SunLine's existing transit services and facilities, to help identify where service performance and efficiency could be improved in subsequent steps of the transit redesign effort. The existing transit network is illustrated in Figure 1-2.

2.4.1 Transit Services and Facilities

Existing transit service in the study area consists of local bus, commuter/express bus, and paratransit service (Figure 2-11). Additionally, SunLine's taxi voucher, vanpool, and rideshare programs provide additional transportation options to residents throughout the Coachella Valley. Each of these service types is described briefly in the following sections.

Local Bus

SunLine currently operates 15 local routes in its service area. The local bus network is broken down into trunk routes and connector or feeder routes. Trunk routes are generally defined as those that serve highly traveled corridors with shorter headways and include Lines 14, 30, and 111. Connector/feeder routes are those that operate in less dense areas and connect to trunk routes. These routes generally operate at longer headways and include Lines 15, 20, 21, 24, 32, 54, 70, 80, 81, 90, 91, and 95. SunLine replaced Line 53 with Line 21 in January 2018.

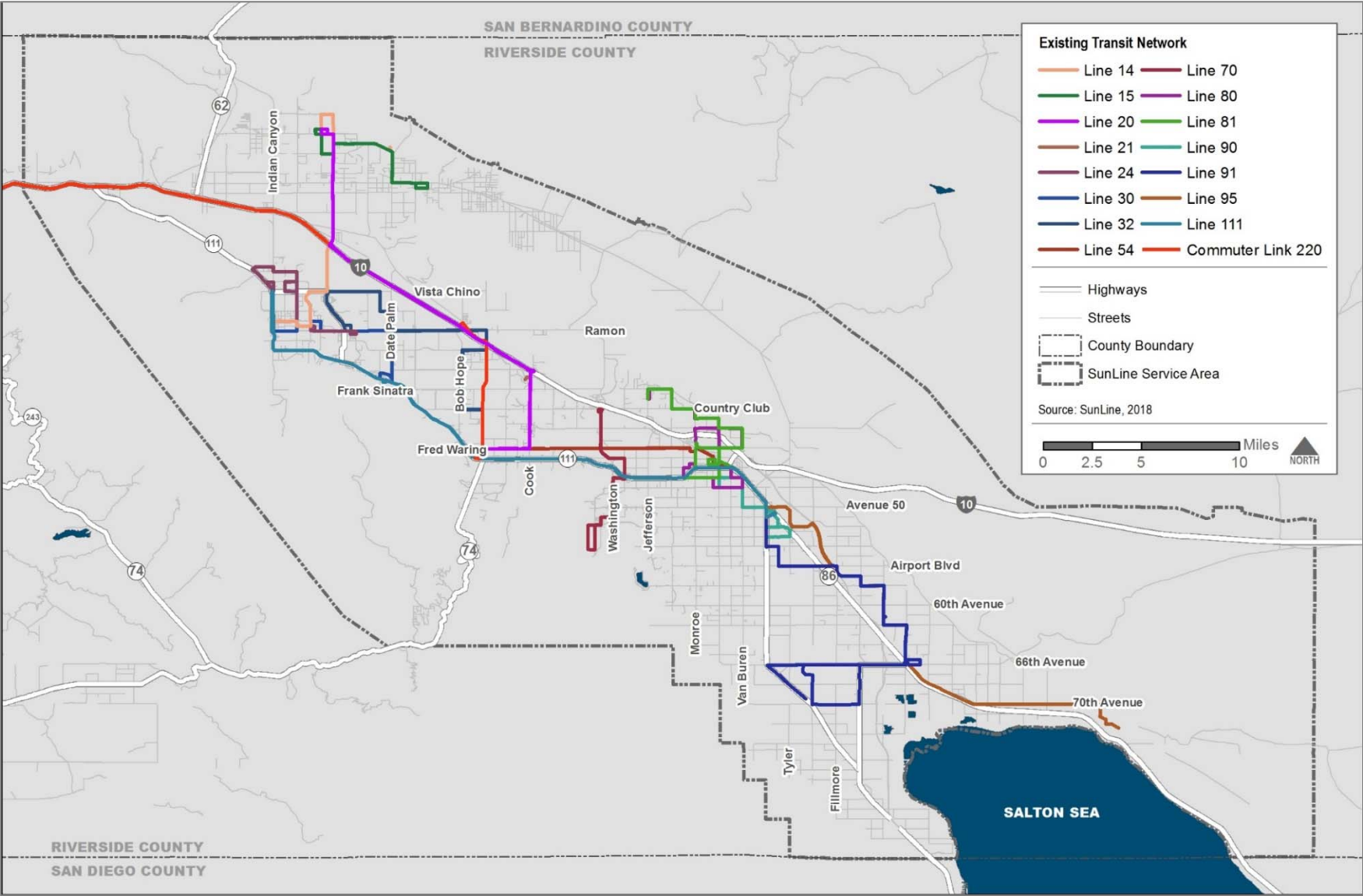
Commuter/Express Bus

Commuter bus routes are those tailored to serve specific travel markets, typically during peak travel periods. SunLine currently operates one commuter route, the Commuter Link 220. Providing service from Palm Desert to Riverside, Commuter Link 220 operates three westbound and three eastbound trips each weekday.

SunDial Paratransit

SunLine also operates federally mandated paratransit services. Called SunDial, this service is a shared-ride, origin-to-destination transportation option that is provided to people with disabilities who are unable, or who have limited ability because of their disability, to use fixed-route buses. All public transit agencies that provide fixed-route bus and rail service are required by the Americans with Disabilities Act (ADA) to provide this service. SunDial service is available only within $\frac{3}{4}$ of a mile of local fixed routes, and days and hours of operation are based on that of the local fixed-route network. Commuter express and deviated services such as the Link 220 and Line 95 do not require ADA service coverage.

Figure 2-11. Existing Transit Network



Source: SunLine, 2018

Taxi Voucher Program

SunLine also offers a taxi voucher program that provides taxi service to seniors 60 years or older and persons with disabilities at a reduced price. After completing an application process, qualified passengers are given a smart payment card that can be loaded with up to \$75 per month. SunLine, in turn, provides matching funds up to \$75. Passengers can check their balance on SunLine's website at any time. The program is intended to provide additional transportation options to senior passengers and those with disabilities.

Vanpool

SunLine's recently established vanpool program, SolVan, allows qualifying groups of 5 to 15 commuters to lease vehicles through Enterprise Rideshare and receive a \$400 subsidy each month. The program is ideal for groups of passengers with long commutes, and similar origins and destinations. Passengers share the cost of the lease, gas, toll fees, and parking fees (if applicable) but are not responsible for maintenance or insurance costs.

Rideshare

In partnership with Inland Empire Commuter, SunLine helps commuters start or join an existing carpool that meets their commuting needs. Users visit the Inland Empire Commuter website or call the help line to find a carpool match for free.

Park-and-rides

SunLine currently maintains a transit hub with parking near its headquarters in Thousand Palms. It is served by Commuter Link 220.

2.4.2 Operating Characteristics

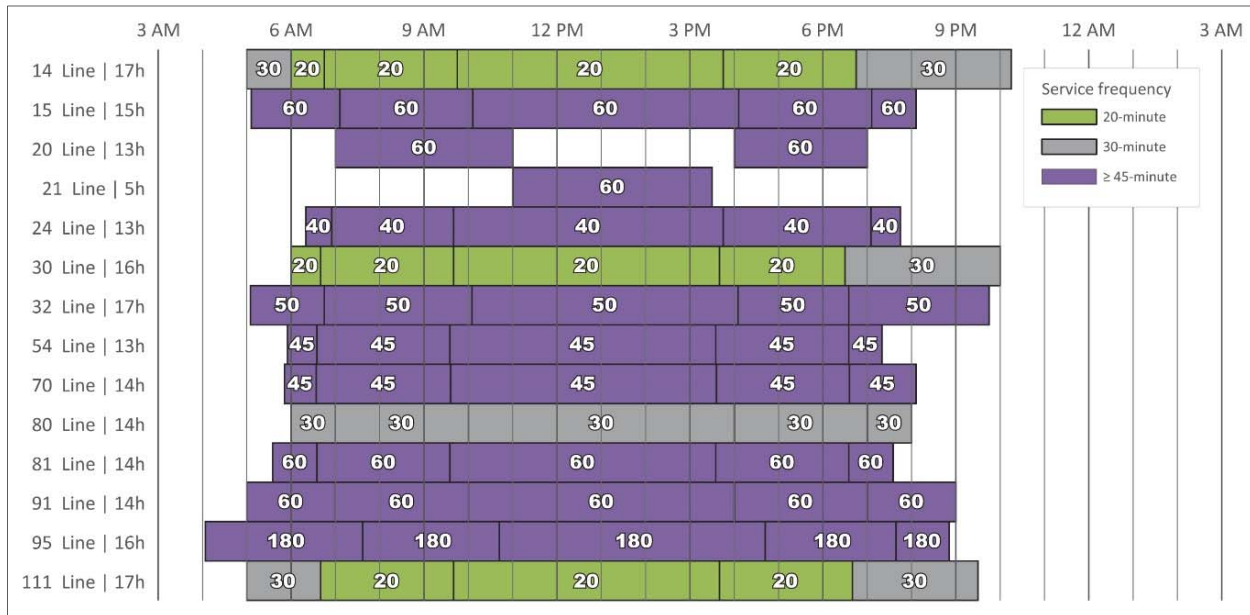
The operating characteristics for existing fixed-route transit services are summarized in Table 2-2. Additionally, service span and headways by time of day are illustrated in Figure 2-12 through Figure 2-14.

Table 2-2. Transit Service Hours and Headway

Route	Weekday			Saturday/Sunday	
	Service Hours	Headway		Service Hours	Headway
		Peak	Off-Peak		
Local					
Line 14 – Palm Springs/Desert Hot Springs	5:00 am–11:15 pm	20	20–30	5:45 am–10:45 pm	40
Line 15 – Desert Hot Springs/Desert Edge	5:00 am–8:45 pm	60	60	6:45 am–7:45 pm	60
Line 20 – Desert Hot Springs/Palm Desert	AM peak: 5 southbound/4 northbound trips PM peak: 4 northbound/3 southbound trips			No service	
Line 21 – Town Center/Gerald Ford	11:00 am–4:00 pm	N/A	60	No service	
Line 24 – Palm Canyon and Stevens	6:15 am–8:30 pm	40	40	6:15 am–7:30 pm	60
Line 30 – Palm Springs/Cathedral City	5:45 am–10:45 pm	20	20–30	6:15 am–9:45 pm	40
Line 32 – Palm Springs/Palm Desert	5:15 am–10:45 pm	50	50	7:00 am–10:45 pm	60
Line 54 – Indio/Palm Desert	6:00 am–8:00 pm	45	45	No service	
Line 70 – Bermuda Dunes/La Quinta	5:15 am–8:45 pm	45	45	5:15 am–9:30 pm	90
Line 80 – Indio Southbound Loop	6:00 am–8:45 pm	60	60	6:00 am–8:45 pm	60
Line 81 – Indio Northbound Loop	5:30 am–8:30 pm	60	60	5:30 am–8:30 pm	60
Line 90 – Coachella/Indio	5:00 am–10:00 pm	60	60	5:00 am–9:00 pm	60
Line 91 –Coachella/Mecca/Oasis/Indio	5:00 am–10:00 pm	60	60	5:30 am–10:45 pm	60
Line 95 – North Shore/Coachella	4:00 am–10:00 pm	180	180	4:00 am–10:00 pm	180
Line 111 – Palm Springs/Coachella	5:00 am–11:00 pm	20	20–30	5:30 am–11:00 pm	20–30
Commuter/Express					
Commuter Link 220	AM peak: 2 westbound/1 eastbound trips PM peak: 2 eastbound/1 westbound trips			No service	

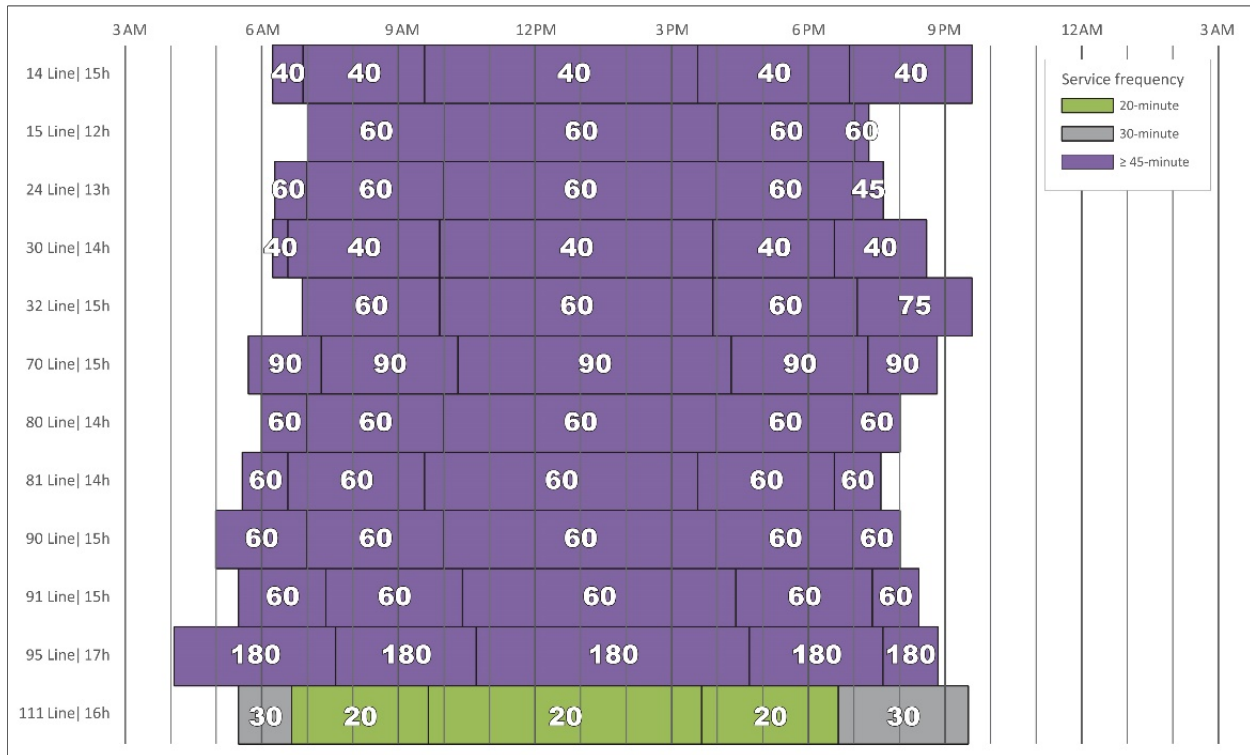
Source: SunLine, 2018

Figure 2-12. Weekday Service Span and Headway by Hour¹



Source: Remix, 2018

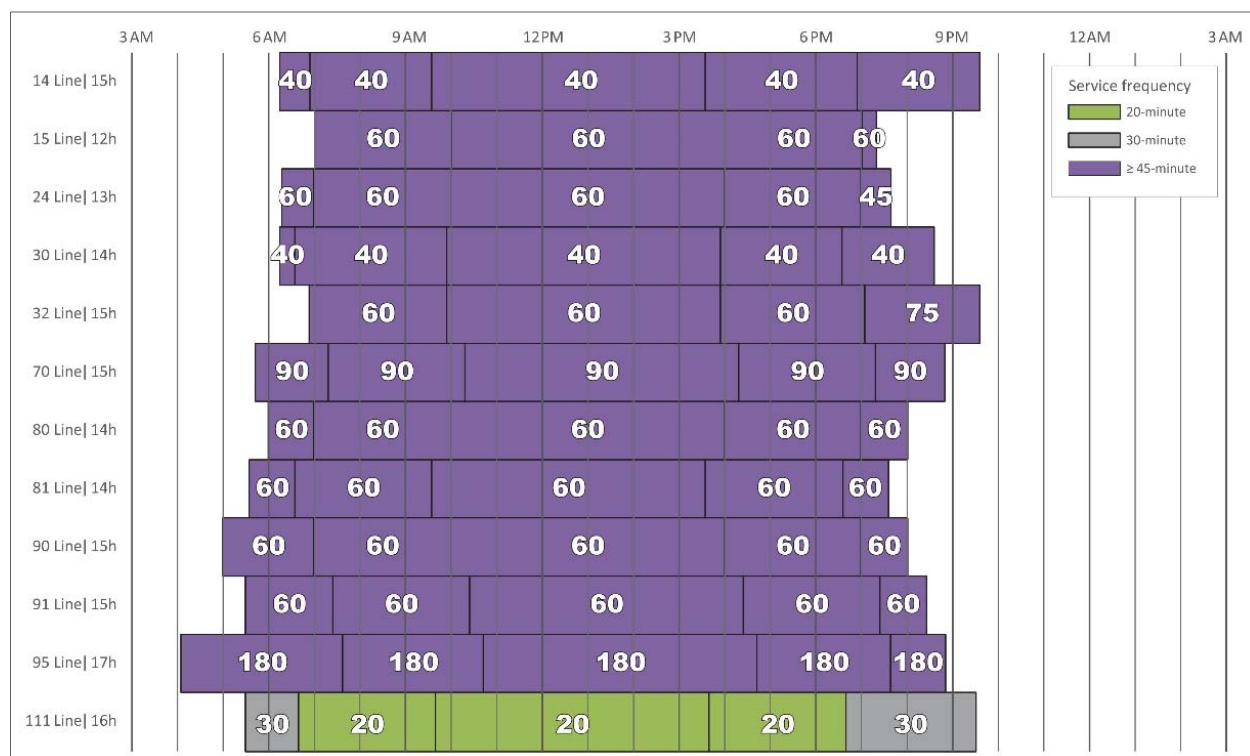
Figure 2-13. Saturday Service Span and Headway by Hour



Source: Remix, 2018

¹ Routes 21, 24, 70, 80, and 81 have trippers added during select periods of the day. For example, trippers are added to routes along schools to accommodate a large influx of students and personnel heading to or from school.

Figure 2-14. Sunday Service Span and Headway by Hour



Source: Remix, 2018

2.4.3 Transit Performance

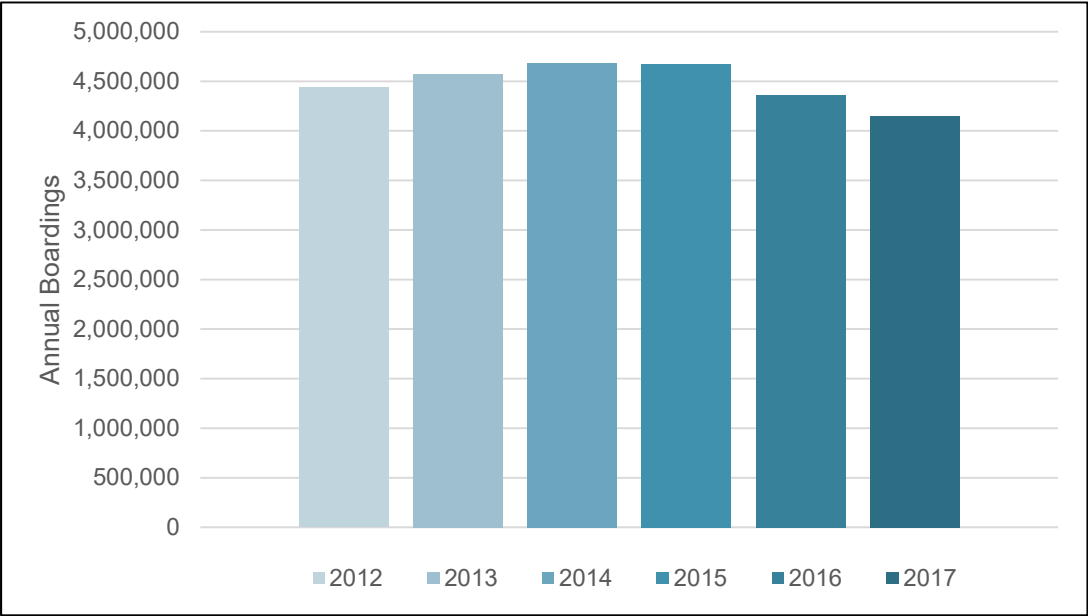
Ridership data for existing transit service is reported in monthly and annual ridership reports, and the SRTP. System-wide annual boardings, vehicle revenue miles, vehicle revenue hours, boardings per revenue mile, and boardings per revenue hour for 2015 and 2017 are summarized in Table 2-3. Figure 2-15 through Figure 2-17 compare total boardings, boardings per revenue mile, and boardings per revenue hour for fixed-route services over the past 5 years.

Table 2-3. Transit System Performance, FY 2015–2017

Service	Boardings		Revenue Miles		Revenue Hours		Boardings/ Revenue Mile		Boardings/ Revenue Hour	
	2015	2017	2015	2017	2015	2017	2015	2017	2015	2017
Fixed route	4,674,654	4,151,467	3,084,147	3,467,184	216,738	238,374	1.5	1.2	21.6	17.4
On-demand	153,183	164,802	1,077,696	1,031,486	68,216	68,943	0.1	0.2	2.2	2.4
Total	4,827,837	4,316,269	4,161,843	4,498,670	284,954	307,317	1.2	1.0	16.9	15.3

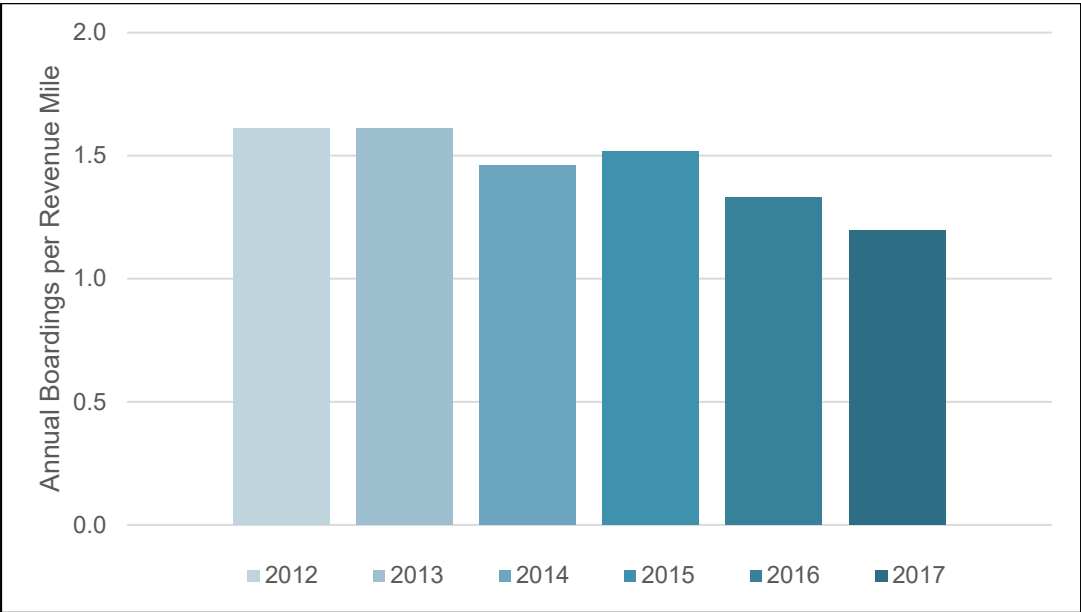
Source: National Transit Database, 2015–2017

Figure 2-15. Fixed Route Annual Passenger Boardings, 2012–2017



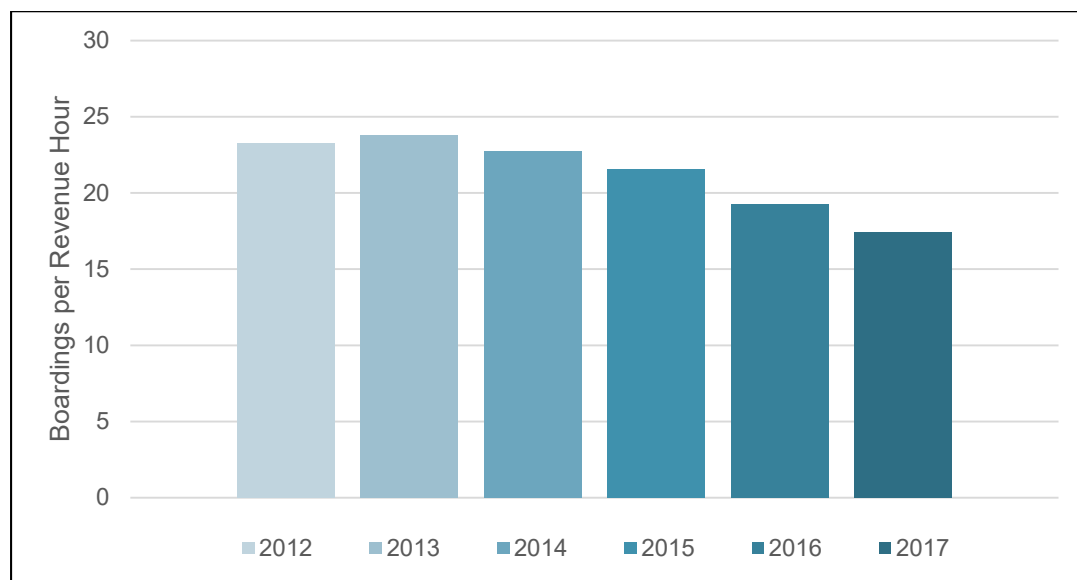
Source: National Transit Database, 2012–2017

Figure 2-16. Fixed Route Passenger Boardings per Revenue Mile, 2012–2017



Source: National Transit Database, 2012–2017

Figure 2-17. Fixed Route Passenger Boarding per Revenue Hour, 2012–2017



Source: National Transit Database, 2012–2017

As illustrated in Figure 2-15, annual passenger boardings peaked in 2014, remained relatively stable in 2015, and declined by 5 percent between 2016 and 2017. This decline mirrors national trends, with most major transit agencies witnessing declines in annual ridership. While no one factor can explain the national decline in transit ridership, contributing factors that have been cited include lower gas prices, an increase in car ownership among groups typically considered transit-dependent, safety perception and transit network companies, such as Uber and Lyft (Manville, Taylor, & Blumenberg, 2018).

Route-level performance data are summarized in Table 2-4. Metrics such as cost per passenger and passengers per hour shed insight on the efficiency and utilization of routes. Line 30 has the lowest cost per passenger, at \$3.10, while the Commuter Link 220 is the most expensive, at \$69.22 per passenger. Sixty-eight percent of SunLine's routes cost under \$10.00 per passenger.

Table 2-4. Route-level Performance, FY 2015–2016

Route	Average Daily Passengers (Weekday)	Annual Passengers	Passengers per Hour ¹	Passengers per Mile ¹	Cost per Passenger
Local					
Line 14	2,075	649,594	22.1	1.5	\$5.76
Line 15	340	105,161	19.2	1.2	\$6.91
Line 20	38	9,844	8.67	0.3	\$65.96
Line 24	546	163,163	17.4	1.3	\$7.69
Line 30	2,294	723,006	26.0	2.8	\$3.10
Line 32	861	270,723	16.1	1.0	\$8.38
Line 53 ²	193	55,249	8.0	0.6	\$12.75
Line 54	347	89,248	13.1	0.8	\$9.53
Line 70	631	187,962	19.6	1.5	\$5.79
Line 80	479	149,255	27.4	2.5	\$3.44
Line 81	276	86,760	15.7	1.7	\$5.17
Line 90	577	189,798	16.0	1.2	\$6.09
Line 91	618	198,391	12.6	0.6	\$13.64
Line 95	127	36,295	7.0	0.4	\$25.35
Line 111	4,340	1,430,780	21.8	1.6	\$6.04
Commuter/Express					
Commuter Link 220	53	13,677	4.1	0.1	\$69.22

Source: SunLine FY 2017–2018 Short Range Transit Plan

Note: Line 21, which began service in January 2018, has been active less than a year and is not shown.

¹ Based on annual mileage and ridership (FY 2015–2016 SRTP data)

² SunLine discontinued Line 53 service in January 2018.

As illustrated in Table 2-4, SunLine's trunk routes have the greatest number of average daily passengers on weekdays. Trunk routes play a vital role in connecting regional destinations and constitute the backbone of the network by linking to most other local routes. With over 20 passengers per hour, trunk routes have more passengers per hour than most routes, but local routes 15, 24, and 70 perform similarly and all have over 17 passengers per hour. Route 80 has the most passengers per hour overall, with approximately 27 riders per hour on weekdays.

Service reliability is an essential quality for passengers who depend on transit to get them to their destinations. On-time performance is one measure of service reliability. As summarized in Table 2-5, system-wide on-time performance increased 4.6 percent in 2017 to 87.9 percent. Line 30 had the highest on-time performance value, with 93.2 percent of trips arriving on time, while Line 54 had the lowest value, with 83.2 percent of trips arriving on time.

Table 2-5. On-Time Performance by Route, 2015–2017

Route	2015	2016	Percentage Change	2017	Percentage Change
Line 14	85.9%	86.7%	0.9%	89.0%	2.6%
Line 15	93.1%	91.8%	–1.4%	91.4%	–0.4%
Line 20	—	80.4%	N/A	83.5%	3.8%
Line 24	81.1%	79.4%	–2.1%	87.4%	10.2%
Line 30	92.5%	92.8%	0.4%	93.2%	0.4%
Line 32	85.1%	82.0%	–3.6%	84.4%	2.9%
Line 53 ¹	83.0%	86.8%	4.5%	92.7%	6.9%
Line 54	84.2%	82.0%	–2.6%	83.1%	1.4%
Line 70	91.2%	86.7%	–4.9%	88.0%	1.5%
Line 80	83.9%	86.1%	2.7%	86.7%	0.6%
Line 81	79.5%	85.5%	7.6%	90.2%	5.5%
Line 90	78.8%	83.9%	6.4%	88.4%	5.3%
Line 91	80.0%	84.9%	6.1%	86.2%	1.5%
Line 95	88.9%	82.7%	–7.0%	90.9%	9.9%
Line 111	84.0%	82.4%	–1.9%	83.6%	1.5%
Commuter Link 220	78.3%	58.0%	–25.9%	—	N/A
Total	84.6%	84.1%	–0.7%	87.9%	4.6%

Source: SunLine, 2018

Note: Line 21, which began service in January 2018, has been active less than a year and is not shown.

¹ SunLine discontinued Line 53 service in January 2018.

2.4.4 Service Efficiency

This section provides an overview of fixed-route service efficiency for several common metrics. As summarized in Table 2-6, total operating costs increased 15 percent in 2016 while fare revenues decreased 5 percent, leading to a 17 percent reduction in the farebox recovery rate. The values for the remaining metrics increased as well, including operating expense per passenger trip (23 percent), operating expense per revenue mile (8 percent), and operating expense per revenue hour (10 percent).

Table 2-6. Fixed Route Service Efficiency Metrics

Efficiency Metric	2015	2016	Percentage Change
Operating expenses	\$22,720,870	\$26,054,758	15%
Fare revenues	\$3,018,126	\$2,871,930	-5%
Farebox recovery ratio	13.3%	11.0%	-17%
Operating expense per capita	\$52.52	\$60.25	15%
Operating expense per peak vehicle	\$420,800	\$457,100	9%
Operating expense per passenger trip	\$4.86	\$5.98	23%
Operating expense per passenger mile	\$0.68	\$0.84	24%
Operating expense per revenue mile	\$7.37	\$7.96	8%
Operating expense per revenue hour	\$105	\$115	10%

Source: National Transit Database, 2015–2016

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3 Peer Systems

Five peer agencies were selected to provide a comparison for SunLine’s operating and service performance metrics. Operational, financial, and ridership data from the 2016 National Transit Database show how SunLine performs relative to systems with similar service types and operating characteristics. The agencies selected for analysis included:

- Golden Empire Transit (Golden) – Bakersfield, California
- Laredo Transit Management (Laredo) – Laredo, Texas
- Transit Authority of Omaha (Omaha) – Omaha, Nebraska
- Omnitrans (Omni) – Riverside-San Bernardino, California
- Spokane Transit Authority (Spokane) – Spokane, Washington

3.1 Service Area Characteristics

As shown in Table 3-1, SunLine has the largest service area among its peers, but the size of the population served is in the bottom half. Using the demographic and operating cost data identified in Table 3-1, transit investment per capita can be determined for each city. Values for this metric are intrinsically linked to the transit-supportive nature of a city’s built environment and the availability of transit-dedicated funding. SunLine is second in this group of peers after Spokane, investing over \$70 per resident per year.

Table 3-1. Service Area Characteristics, 2016

Agency	Service Area (square miles)	Number of Routes	Annual Operating Cost	Service Area Population	Cost per Capita
SunLine	1,120	16	\$31,617,862	432,416	\$73.12
Golden	138	16	\$26,022,402	492,067	\$52.88
Laredo	66	22	\$14,574,740	236,091	\$61.73
Omaha	271	28	\$27,243,750	561,920	\$48.48
Omni	545	32	\$72,407,154	1,487,235	\$48.69
Spokane	164	37	\$59,338,978	409,271	\$144.99

Source: National Transit Database, 2016

3.2 System Performance Measures

By most measures, the system performance data shown in Table 3-2 put SunLine on equal footing with its peer agencies. The biggest difference between SunLine and its peers is the farebox recovery rate.² While SunLine's farebox recovery rate is lower than its peers, its cost per revenue hour and passenger mile are also lower than its peer group. This means SunLine delivers service on a more efficient cost per revenue hour and cost per revenue mile basis.

² The FY 2015–2016 Riverside County Transportation Commission Annual Countywide Performance Report identified in Table 2-1 includes other revenue sources such as the compressed natural gas revenue and emissions credits that are not part of the National Transit Database formula. This means the Riverside County Transportation Commission farebox recovery rate is higher than what the National Transit Database reports.

Table 3-2. Peer Agency Annual Operating and Performance Metrics, 2016

Metric	Revenue Miles	Revenue Hours	Boardings	Boardings per Revenue Mile	Boardings per Revenue Hour	Operating Expenses per Revenue Mile	Operating Expenses per Revenue Hour	Operating Expenses per Passenger Mile	Farebox Recovery Ratio
SunLine									
Fixed route	3,274,830	226,020	4,358,966	1.33	19.29	\$7.96	\$12.71	\$0.84	11.00%
On-demand	1,087,619	69,687	164,024	0.15	2.35	\$5.11	\$4.71	\$2.84	5.90%
System total	4,362,449	4,522,990	4,522,990	1.04	15.30	\$7.25	\$10.82	\$0.96	10.10%
Golden Empire Transit									
Fixed route	3,848,798	305,387	5,457,266	1.42	17.87	\$6.32	\$15.37	\$1.23	19.30%
On-demand	481,389	34,003	62,660	0.13	1.84	\$3.49	\$4.65	\$3.78	9.40%
System total	4,330,187	339,390	5,519,926	1.27	16.26	\$6.01	\$14.30	\$1.29	18.60%
Laredo Transit Management									
Fixed route	1,705,954	147,586	3,007,941	1.76	20.38	\$7.09	\$21.21	\$1.27	25.90%
On-demand	258,691	27,020	47,529	0.18	1.76	\$9.61	\$1.37	\$9.51	1.50%
System total	1,964,645	174,606	3,055,470	1.56	17.5	\$7.42	\$18.14	\$1.49	21.70%
Transit Authority of Omaha									
Fixed route	4,064,778	289,451	3,623,070	0.89	12.52	\$6.01	\$13.94	\$1.82	16.50%
On-demand	748,612	63,149.00	110,145	0.15	1.74	\$3.73	\$4.18	\$4.41	9.40%
System total	4,813,390	352,600	3,733,215	0.78	10.59	\$5.66	\$12.19	\$1.94	15.80%
Omnitrans									
Fixed route	8,733,290	635,371	12,379,517	1.42	19.48	\$6.85	\$19.23	\$0.93	20.40%
On-demand	2,586,992	170,361	433,954	0.17	2.55	\$4.87	\$9.67	\$2.04	13.10%
System total	11,320,282	805,732	12,813,471	1.13	15.9	\$6.40	\$17.21	\$1.03	19.10%

Table 3-2. Peer Agency Annual Operating and Performance Metrics, 2016

Metric	Revenue Miles	Revenue Hours	Boardings	Boardings per Revenue Mile	Boardings per Revenue Hour	Operating Expenses per Revenue Mile	Operating Expenses per Revenue Hour	Operating Expenses per Passenger Mile	Farebox Recovery Ratio
<i>Spokane Transit Authority¹</i>									
Fixed route	5,477,713	397,122	10,261,816	1.87	25.84	\$8.38	\$18.93	\$1.19	16.40%
On-demand	2,515,454	162,433	467,286	0.19	2.88	\$5.08	\$3.99	\$3.07	5.10%
System total	7,993,167	559,555	10,729,102	1.34	19.17	\$7.34	\$14.59	\$1.37	13.90%

Source: National Transit Database, 2016

¹ Van-pool service is reported as a separate line item for the Spokane Transit Authority and was not included in the analysis.

4 Community Outreach

The study team conducted outreach to both the SunLine communities and its riders to better understand community goals for transit service. The outreach included interviews with most members of the SunLine Board of Directors and an online survey targeted to SunLine riders.

4.1 Online Survey

The nine-question online survey gathered input on transit priorities. The survey was available through the SunLine Transit Agency web portal. It was publicized both on the SunLine website and by agency press releases and reported on a Los Angeles business news site (MyNewsLA.com, 2018). The survey was active for 39 days from July 9, 2018, to August 17, 2018, and received 46 responses.

A summary of the SunLine user survey questions and responses is shown in Appendix A. In general, most respondents supported shorter service headways on high-performing routes and alternative service delivery options such as microtransit for lower-performing routes.

4.2 Board of Directors Interviews

The study team conducted telephone interviews with eight members of the SunLine Board of Directors. Each director represents a different community served by SunLine. Key takeaways from the board member interviews include:

- Fare increases would be acceptable if accompanied by increased service.
- Transit wait times should be decreased by exploring on-demand service options.
- A cashless payment alternative is needed.
- Bus shelter spacing should be evaluated for safety and placement.

A summary of the Board of Directors interviews is included in Appendix A.

4.3 Tribal Interviews

The study team also interviewed Margaret Park, who represents the Agua Caliente Band of the Cahuilla Indians. She noted that SunLine has been a dependable partner for the Agua Caliente, having provided bus stop shelters at its casino locations. She said that a potential fare increase would probably not affect tribal members, but may affect workers at the tribal casinos. Improved headways on productive routes such as Route 111 would benefit the tribe. A summary of her interview is included in Appendix A.

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5 Transit Redesign

The goal of the SunLine transit redesign is to reallocate resources to productive fixed-route lines and develop sustainable solutions for areas with less ridership demand. The redesigned bus network would avoid route overlap and connect or lengthen routes to minimize transfers. In addition to redesigning the route structure, service headways would be improved and standardized. On-demand service would be introduced for low-demand areas or time periods.

5.1 Network Planning Guidelines

The study team reviewed the current route network in terms of community coverage, directness of travel, level of service and route performance, and ridership to identify route, service, and ridership gaps to provide a foundation to redesign the current route structure and identify any required transfer nodes.

5.1.1 Bus Network

Research indicates that land use patterns are the starting point of any public transportation system (White, 2017), and the SunLine bus system reflects the character of the Coachella Valley. Community aspirations and geographic factors such as the street and sidewalk layouts, land use, population and employment density, and the location of important activity centers have all worked together to shape existing transit service.

The guiding principles of this bus system redesign is to improve connectivity and flow by making bus routes direct, frequent, and fast. Bus routes should connect major groups of customer origins and destinations. The focus of the system redesign is not on one route; rather, it is a holistic look at the entire network.

Route alignments should be simple and easy to understand. Service should be direct in both directions and avoid being circuitous. Open loops and duplication of coverage should also be avoided.

Route transfers should be planned for the same stop or intersection. On-street transfers are generally more efficient than off-street transfers in terminals.

5.1.2 Bus Stops

As updates are made to the bus system, stop spacing and location should also be reviewed. Passenger safety and convenience are top priorities when siting bus stops. Bus stops should be located in pairs at the far side of intersections to minimize mid-block pedestrian activity on busy arterial streets. As well, stops should be provided in pairs to accommodate both inbound and outbound travel.

5.2 Ultimate Network Redesign

Following these network planning guidelines and goals, the study team has evaluated the current route network and prepared an optimized network that can be implemented in increments over the next 5 years. The study team recommends combining SunLine's

16 existing routes into an ultimate network of 8 routes with 5 on-demand service areas. Additional network redesign recommendations include:

- compressing the span of service
- standardizing and shortening service headways
- increasing bus speeds
- implementing the recommendations of the 2016 SunLine Transit Facilities Master Plan

Implementation strategies are discussed later in Section 7.

Figure 5-1 shows SunLine's existing bus system. Figure 5-2 shows the ultimate redesigned bus system that may be implemented in phases. Table 5-1 compares the existing SunLine route service headway with the service headways of the proposed new routes.

Table 5-1. Transit Redesign Service Frequency

Existing Network		Redesigned Network	
Route	Frequency ¹	Route	Frequency ²
111	20/20	111	15/20/20
14/30	20/40	2	15/20/30
15	60/60	3	20/30/30
24/32	50/60	4	20/30/30
20	60/0	5	40/40/40
54	45/0	6	20/30/30
70	45/90	7	20/30/60
80/81/90/91/95	60/60	8	20/30/60
91/95	60/180	9	60/60/60

¹ weekday/weekend

² peak/off-peak/weekend

Figure 5-1. Existing SunLine Bus System

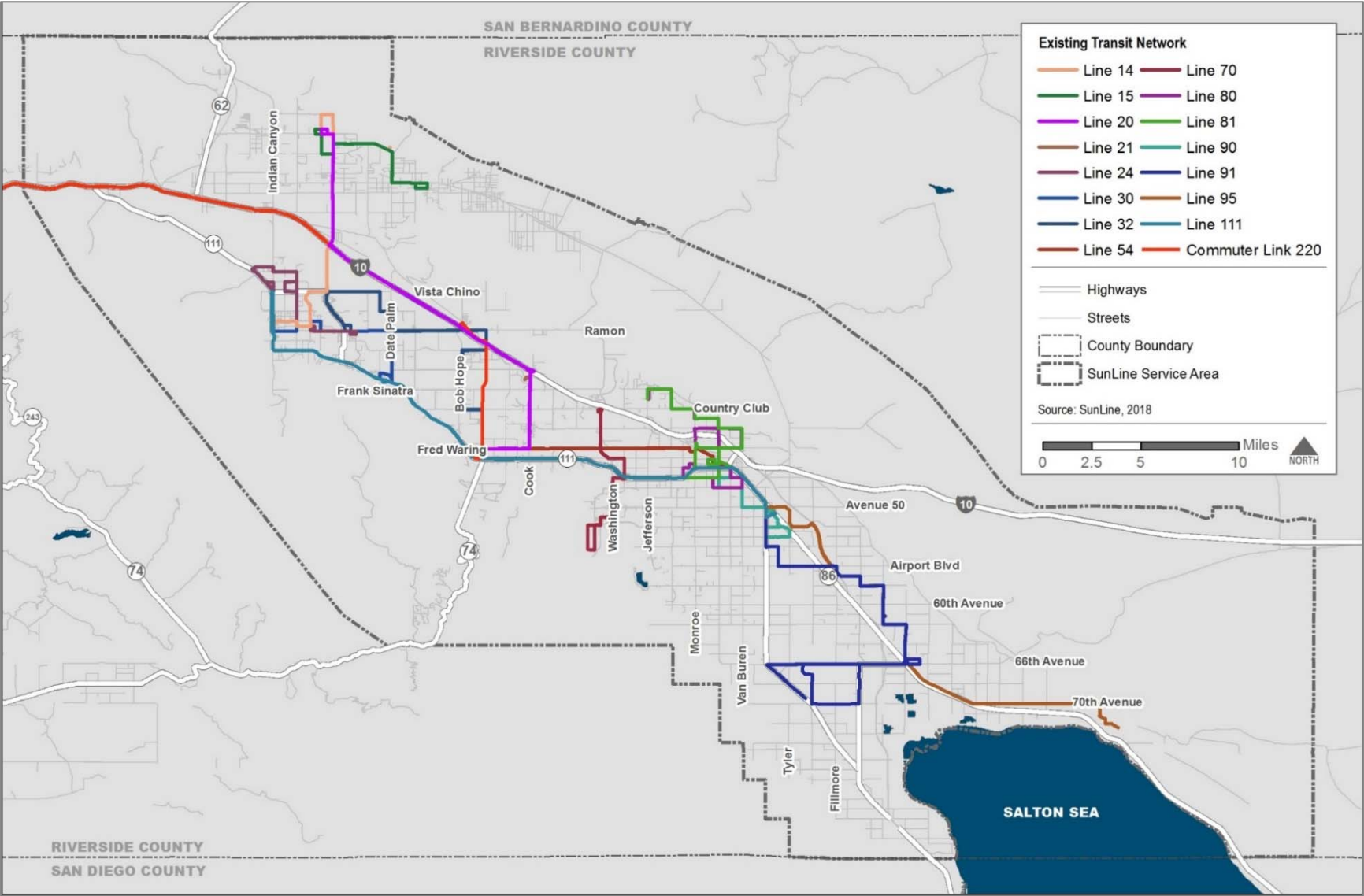
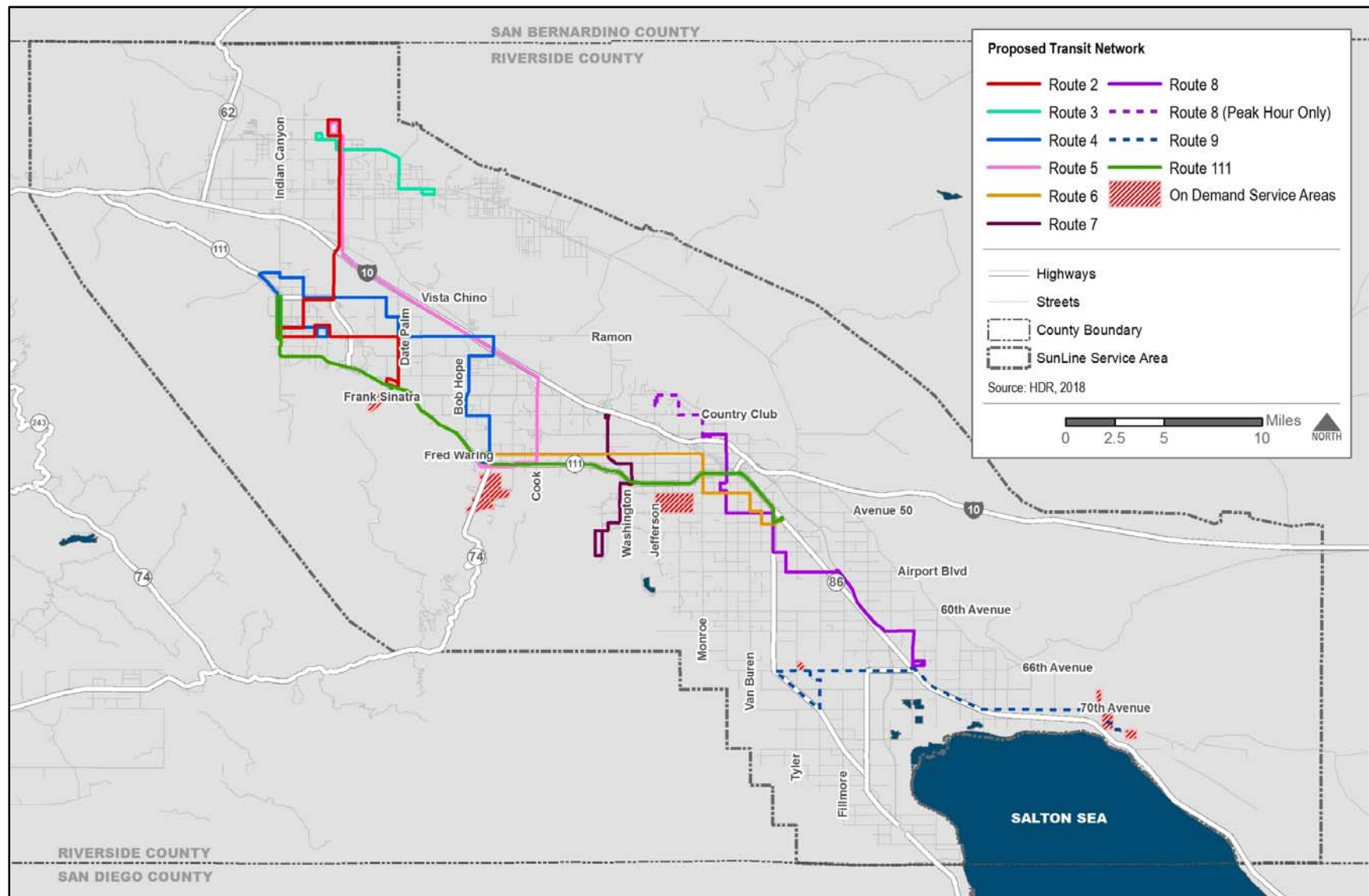


Figure 5-2. Redesigned SunLine Bus System



5.2.1 Route 111

As the Coachella Valley's top-performing bus route, Route 111 would continue its role as the backbone of the SunLine system. It would operate along SR-111 between Vista Chino in Palm Springs and 5th Street in Coachella.

Service headways would improve to every 15 minutes during morning and afternoon peak periods and every 20 minutes during off-peak midday and night periods. On weekends, it would operate every 20 minutes.

While service headways would improve with the transit redesign, SunLine and its regional partners should explore transit signal priority measures on SR-111 to improve operating speeds. SunLine should also review bus stop spacing and location.

Over the long term, portions of the SR-111 corridor may be suitable for high-capacity service such as bus rapid transit (BRT). BRT or rapid bus service may operate in mixed traffic or a bus-only lane; however, the defining characteristic of successful service is the implementation of transit priority measures (traffic signal priority and queue jump lanes) to reduce delay and improve transit travel times. Other measures to reduce delay include off-board fare collection and platform-level boarding.

To test suitability for potential high-capacity transit service, SunLine plans to implement the Route 111-X service in 2019. Funded by a federal grant, this 2-year pilot of limited-stop service will improve bus travel times along SR-111 by skipping stops.

5.2.2 Route 2

Existing Route 14 and existing Route 30 are also high-performing routes. Route 2 would combine this existing service between Desert Hot Springs and Cathedral City. Combining these two routes is aimed at reducing transfers and making SunLine's system easier to navigate. The combined route would be realigned in downtown Palm Springs.

Service headways would improve to every 15 minutes during morning and afternoon peak periods and every 20 minutes during off-peak midday and night periods. On weekends, it would operate every 20 minutes. Stop spacing and location should be reviewed.

5.2.3 Route 3

As new Route 3, the existing Route 15 would be extended to connect 4th Street/Cholla Drive in Desert Hot Springs to Langlois Road/Aurora Road. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

5.2.4 Route 4

Route 4 would combine existing Route 24 and existing Route 32 to connect Palm Springs with Palm Desert Town Center Mall. Combining these routes would make SunLine's system easier to navigate and produce operational efficiency. Stop spacing and location should be reviewed.

Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

5.2.5 Route 5

As new Route 5, existing Route 20 would operate between Desert Hot Springs and Palm Desert Town Center Mall, providing service to activity centers on Cook Street. It would operate every 40 minutes, 7 days a week.

5.2.6 Route 6

Existing Route 54 would be extended to 5th Street in Coachella to create the new Route 6. Route 6 would be part of simplified service in Indio and Coachella. It would also help eliminate transfers for many Route 54 passengers that live in Coachella.

Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

5.2.7 Route 7

Providing service to La Quinta, the existing Route 70 would be maintained in the redesigned transit system as new Route 7. Potential exists to extend the route north of I-10. Stop spacing and location should be reviewed.

Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes.

5.2.8 Route 8

New Route 8 would combine five routes in Indio, Coachella, Thermal, and Mecca to reduce transfers, improve travel directness and improve operational efficiency. Route 8 would connect to Route 111 and Route 5. It would also provide a link between proposed on-demand service to the North Shore and 100 Palms areas.

Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 60 minutes.

5.2.9 Route 9

This new Route 9 would provide bus service between North Shore, Mecca, and 100 Palms every 60 minutes, 7 days a week. It may be replaced by microtransit service in the future.

5.2.10 Microtransit Service

Lower-cost microtransit service may replace fixed-route bus service on the new Route 9. Operating either as a circulator or as an on-demand service using smaller vehicles such as vans or sedans, this new service would connect riders to SunLine's fixed-route bus

system. Microtransit may also be used in Indio and in the southern end of Cathedral City and Palm Desert to expand the ridership catchment area. Potential microtransit service areas are shown in Figure 5-2.

5.3 Fixed-route Resource Requirements

With modest improvements to bus operating speeds, most of the ultimate fixed-route bus network could be accomplished with resources similar to the existing SunLine bus fleet and operating budget. Table 5-2 shows the weekly fixed-route bus needs for the redesigned network. Table 5-3 shows an annual comparison of the redesigned annual fixed-route operations and SunLine's existing operations. Additional buses may be required to implement the Route 111-X service and provide school trippers. However, efficiencies realized through the redesign would mean significant service enhancements primarily using existing SunLine resources.

Table 5-2. Network Redesign Weekly Fixed Route Bus Needs

Schedule Type	Start	End	Revenue Hours	Peak Buses
Weekday	6:00 am	10:00 pm	711	61
Saturday	7:00 am	9:00 pm	538	42
Sunday	7:00 am	9:00 pm	372	29

Table 5-3. Network Redesign Annual Fixed Route Bus Needs

Schedule Type		Redesigned Network		Existing	
		Revenue Hours	Peak Buses	Revenue Hours	Peak Buses
Weekday	251 days	178,461	61		
Saturday	52 days	27,976	38		
Sunday	62 days	23,064	23		
Total	365 days	229,501	61	226,020	57

5.4 Palm Springs BUZZ

In January 2019, SunLine will begin operating the seasonal Palm Springs BUZZ circulator service. This service will operate three trolley vehicles between noon and 10 p.m. on Thursday, Friday, and Saturday during the peak winter and spring tourist season. SunLine projects 117,500 annual riders.

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6 Fare Policy

This chapter reviews fare policy for SunLine and a group of similar-sized California peer agencies. It also outlines recommendations for simplifying SunLine's fare structure to reduce the number of fare categories and eliminate the transfer fee. The simplified fare structure is designed to help grow ridership by making fares easier to understand and pay. The higher fares would also improve SunLine's farebox recovery ratio.

6.1 SunLine Existing Fare Structure

In 2002, SunLine raised its base cash fare from \$0.75 to \$1.00. In 2011, a SunLine fare study recommended both eliminating the \$0.25 transfer fare and incrementally raising the base cash fare to \$1.50. These recommendations were not implemented.

Table 6-1 shows the existing SunLine fare structure. The purpose of this fare structure is to differentiate fares for specific transit customers and trip types. The multiplier column shows the ratio of the base cash fare to the pass price and is the point where the pass fare per trip matches the per-trip cash payment. The multipliers show how SunLine is targeting specific market segments with discounts to increase ridership and revenue for the system. For example, SunLine provides a discounted 31-day youth pass for students using transit.

Table 6-1. Existing SunLine Fare Structure

Fare Type	Price	Multiplier	Fare Type	Price	Multiplier
Adult			Other		
Cash	\$1.00	—	Transfers	\$0.25	—
Day pass	\$3.00	3.0	CV employer pass	\$24.00	—
10-ride	\$10.00	10.0	University pass	\$24.00	—
31-day pass	\$34.00	34.0			
Youth			Commuter Link 220 Cash		
Cash	\$0.85	—	General cash Zone 1 or 2	\$3	—
Day pass	\$2.00	2.4	General cash Zones 1 & 2	\$6	—
10-ride	\$8.50	10.0	Senior cash Zone 1 or 2	\$2	—
31-day pass	\$24.00	28.2	Senior cash Zones 1 & 2	\$4	—
Seniors/Disabled			Commuter Link 220 Pass		
Cash	\$0.50	—	General day pass	\$14	—
Day pass	\$1.50	3.0	General 30-day pass	\$150	—
10-ride	\$5.00	10.0	Senior day pass	\$10	—
31-day pass	\$17.00	34.0	Senior 30-day pass	\$100	—

Source: SunLine, 2018

6.1.1 Cash Fares

In addition to the \$1.00 fare for adult riders, SunLine enforces a \$0.25 fee for transfers. The transfer pass is good for unlimited rides within 2 hours of purchasing, and is valid only on the day issued. Transfers are issued only upon boarding.

The base cash fare for seniors, which SunLine defines as individuals 60 years of age and older, and individuals that qualify for the ADA, is \$0.50 on all fixed-route services. The fare complies with the Federal Transit Administration's (FTA) Half Fare rule, which requires agencies receiving federal funds to offer fares to persons 65 or over and disabled travelers at a level no more than half the base cash fare. Medicare cards, Department of Motor Vehicle driver's license or senior ID cards, ADA certification cards, or SunLine Half Fare ID cards are accepted as proof of age or disability.

A discounted youth fare of \$0.85 is also available for children between the ages of 5 and 17. Children 4 years of age and younger ride free with a paid adult cash fare (maximum of two children).

The Commuter Link 220 fares are based on a zone structure. There are two zones. Fare for traveling within one zone is \$3.00 and fare for traveling between the two zones is \$6.00. Fares for seniors are \$2.00 for one zone and \$4.00 between zones.

6.1.2 Fare Passes

SunLine currently issues two types of fare passes: the Day Pass and the 31-day Pass. Daily and monthly passes are available for the Commuter Link 220 as well, but are priced and sold separately from the general fixed-route passes.

Day Pass

The SunLine Day Pass is available for \$3.00 and allows for unlimited rides on all fixed routes for the duration of 1 calendar day. In adherence to FTA's Half Fare rule, the Day Pass for seniors and disabled riders is available for \$1.50. The Day Pass for youth riders is \$2.00. The Day Pass for the Commuter Link 220 is \$14 for adults and \$10 for seniors.

31-day Pass

SunLine sells a pass valid for a rolling 31-day period from the date of first use. The 31-day Pass is available for \$34 for general adult riders, \$17 for seniors and disabled riders, and \$24 for youths. The monthly pass for the Commuter Link 220 is a 30-day pass available for \$150 (Commuter Link 220 operates Monday through Friday only). The 30-day pass for seniors taking the Commuter Link 220 is \$100.

Multiple Ride (10-ride)

A 10-ride pass is available for \$10.00 for general adult riders, \$5.00 for seniors and disabled riders, and \$8.50 for youths (ages 5 to 17). There is no discount from the base cash fare for this pass.

Employer Passes

SunLine offers a 31-day pass to businesses in the Coachella Valley that have 5 or more employees interested in using transit. The pass can be used for unlimited rides on any of SunLine's fixed-route services and is priced at \$24 a month. The pass is \$10 less than the 31-day adult pass and is designed to encourage greater use of alternative modes of transportation.

6.1.3 Fare Use Analysis

This section examines in more detail how the different fare media offered by SunLine are used by its passengers. Table 6-2 shows SunLine usage by fare type for its 2016 to 2017 fiscal year that began on July 1, 2016, and ended on June 30, 2017.

Table 6-2. Utilization by Pass Type

Fare Type	Price	Uses per Pass	Average Fare	Pricing Multiplier	Actual Discount
Adult					
Day pass	\$3.00	3.7	\$0.81	3.0	18.7%
10-ride	\$10.00	8.5	\$1.18	10.0	-18.1%
31-day pass	\$34.00	41.7	\$0.82	34.0	18.4%
Youth					
Day pass	\$2.00	3.0	\$0.66	2.4	20.5%
10-ride	\$8.50	8.3	\$1.03	10.0	-21.2%
31-day pass	\$24.00	31.5	\$0.76	28.2	10.5%
Seniors					
Day pass	\$1.50	5.2	\$0.29	3.0	42.1%
10-ride	\$5.00	8.8	\$0.57	10.0	-14.3%
31-day pass	\$17.00	58.3	\$0.29	34.0	41.6%
Other					
Employer pass	\$24.00	39.1	\$0.61	24.0	38.7%
University pass	\$24.00	32.9	\$0.73	24.0	27.1%
Commuter Link 220					
General day pass	\$14.00	3.4	\$4.11	— ¹	—
Senior day pass	\$10.00	1.5	\$6.66	—	—
Commuter Link 220 Pass					
General 30-day pass	\$150.00	10.4	\$14.42	—	—
Senior 30-day pass	\$100.00	7.3	\$13.70	—	—

Source: SunLine, 2018

¹ Multiplier and actual discount not available for blended FY 2016–2017 fare box data for “Zone 1 or 2” and “Zone 1 and 2” pass types.

Table 6-3 summarizes SunLine boardings by fare category for the 2016 to 2017 fiscal year. This table shows that 36 percent of riders paid the full cash fare. Day passes with the lowest average fare accounted for 21 percent of boardings. Just 1.3 percent of riders used the 10-ride pass, where the average actual fare is greater than the cash fare. Nearly 4 percent of riders fell into the non-full fare category that includes jury duty, safe house, free rides, and incomplete fares. Free rides accounted for 76 percent of these non-full fares; incomplete fares were 21 percent of the non-full fares.

Table 6-3. Boarding Summary by Fare Category

Fare Type	Percentage
Cash	35.9%
Day Pass	20.9%
10-Ride	1.3%
31-Day Pass	25.4%
Transfers	10.0%
Non-Full Fare	3.6%
Employer Pass	1.6%
University Pass	1.1%
Commuter Link 220	0.2%
Total	100%

Source: SunLine, 2018

Table 6-4 provides a more detailed look at SunLine's boardings by fare category for FY 2016 to 2017.



Table 6-4. Detailed Boardings by Fare Category

Fare Type	Boardings	Percentage
Adult		
Cash	1,027,352	25.3%
Day pass	188,894	4.6%
10-ride	37,431	0.9%
31-day pass	316,062	7.8%
Youth		
Cash	127,490	3.1%
Day pass	201,561	5.0%
10-ride	9,851	0.2%
31-day pass	192,675	4.7%
Seniors		
Cash	304,514	7.5%
Day pass	459,385	11.3%
10-ride	10,000	0.2%
31-day pass	522,552	12.9%
Other		
Transfers	405,770	10.0%
Non-full fare	145,352	3.6%
Employer pass	63,885	1.6%
University pass	45,115	1.1%
Commuter Link 220		
Cash Zone 1 or 2	2,115	0.1%
Cash Zones 1 & 2	2,193	0.1%
Commuter day pass	46	0.0%
Commuter 30-day pass	311	0.0%
Commuter Link 220 Senior		
Cash Zone 1 or 2	1,054	0.0%
Cash Zones 1 & 2	1,995	0.0%
Commuter day pass	70	0.0%
Commuter 30-day pass	58	0.0%
Total	4,065,731	100%

Source: SunLine, 2018

6.1.4 SunLine Rider Survey

In the 2014 SunLine Transit Agency Rider Survey, 97 percent of riders responding to the question said that SunLine's fare cost meets or exceeds expectations. This high level of satisfaction related to cost is unusual, and provides an opportunity to increase the current fare structure. However, the survey also asked whether riders would support a higher fare for increased bus services. For this question, 35 percent of those who responded said they would be willing to pay more for better service.

6.2 Peer Fare Structure

The study team compared SunLine's fare structure with a group of California transit agencies:

- Riverside Transit Agency (RTA)
- Omnitrans (San Bernardino County)
- San Joaquin Regional Transit District (Stockton)
- Golden Empire Transit (Bakersfield)

6.2.1 Socioeconomic Profile

Table 6-5 shows three measures that provide a general comparison of the peer agency socioeconomic conditions:

- percentage of zero-auto households
- educational attainment
- poverty status

These measures show that the socioeconomic profile of SunLine's service area is similar to its California peers. The portion of the service area households with no automobiles is similar between the peer agencies. The peer comparison also shows similar portions of the population have attained a high school diploma or greater. The ACS estimates also show that similar portions of the population are in poverty status.

Table 6-5. General Socioeconomic Profile

Geographic Area	Percentage Zero-Auto Households	Percentage High School Diploma ⁴	Percentage Poverty Status ⁵
Riverside County	4.8%	80.5%	16.5%
SunLine Service Area ¹	6.0%	77.3%	21.4%
RTA Service Area ²	4.6%	80.1%	16.0%
San Bernardino County (Omnitran) ³	5.6%	84.9%	19.1%
San Joaquin County (SJRTD) ³	6.9%	82.5%	17.8%
Kern County (GET)	7.0%	73.6%	23.1%

Source: U.S. Census Bureau, 2012 to 2016 ACS 5-year Estimates

¹ Riverside County census tracts touching SunLine bus routes.

² Riverside County census tracts touching Riverside Transit Agency (RTA) bus routes. The RTA and SunLine service areas do not overlap in this analysis.

³ Summary is for the entire county.

⁴ Portion of the population age 25 and older that has attained a high school diploma, GED, or alternative credential.

⁵ Portion of the population with an income in the past 12 months below the poverty level.

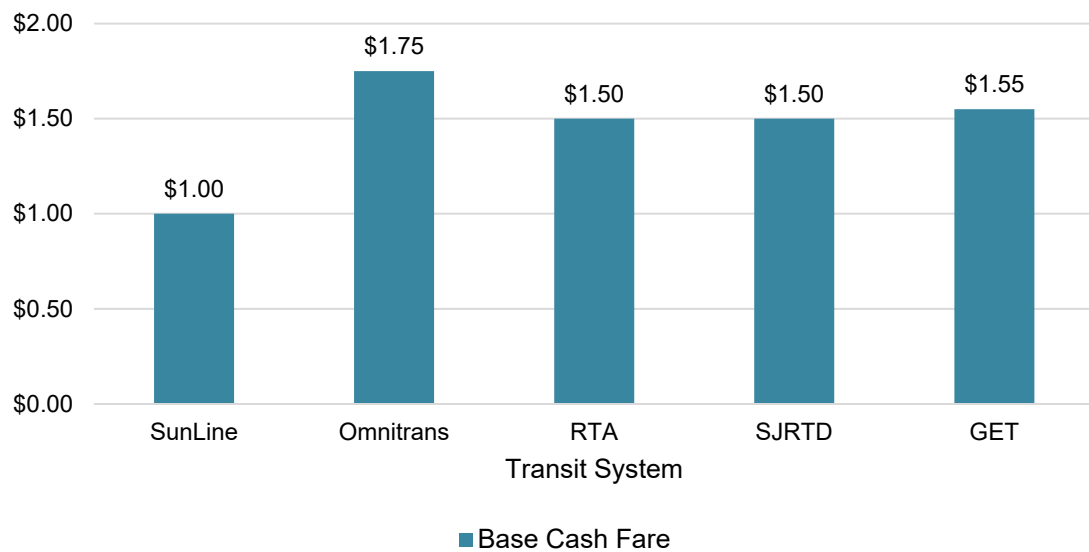
6.2.2 Fare Structure Comparison

Although differences between the socioeconomic profiles are small, all of SunLine's peers have higher fares. This is reflected in the base cash fare, average fare, fare box recovery ratio, and fare revenue per passenger mile.

Base Cash Fare

Figure 6-1 shows the peer group base cash fares for 2018. Base cash fare sets the foundation for pricing all other fares within an agency. As such, it plays a critical role in an agency's fare box recovery ratio. SunLine's base fare of \$1.00 is the lowest among its peers and \$0.46 lower than the average.

Figure 6-1. Base Cash Fare

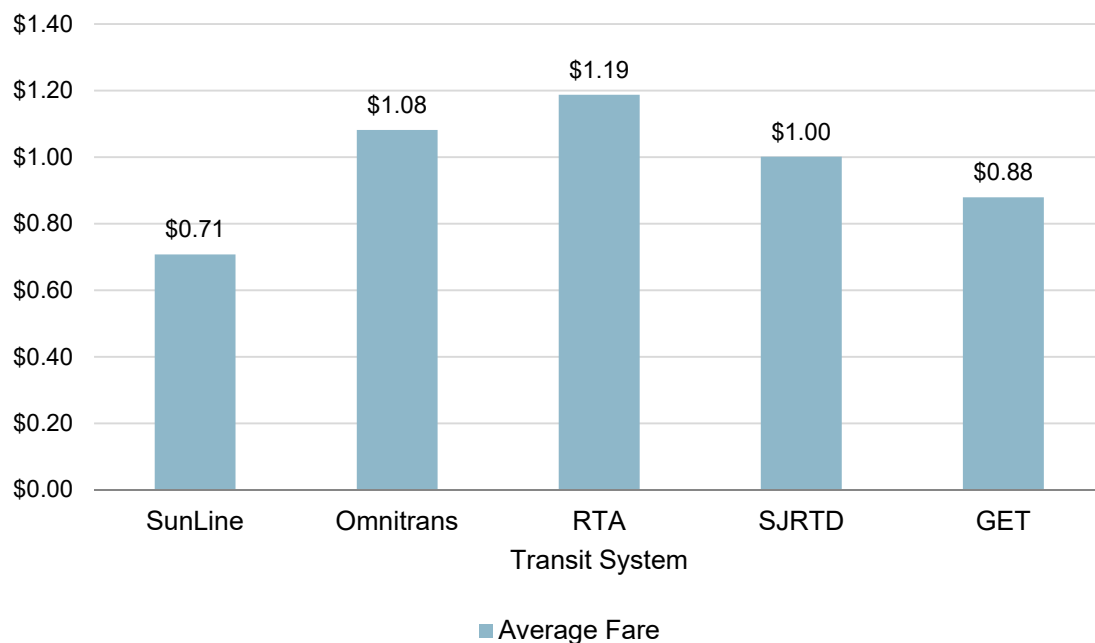


Source: Agency websites, 2018

Average Fare

Average fare is total annual fare revenue divided by total annual passenger boardings. Since its base fare is the lowest in its peer group, SunLine's average fare is also the lowest, as shown in Figure 6-2.

Figure 6-2. Average Fare

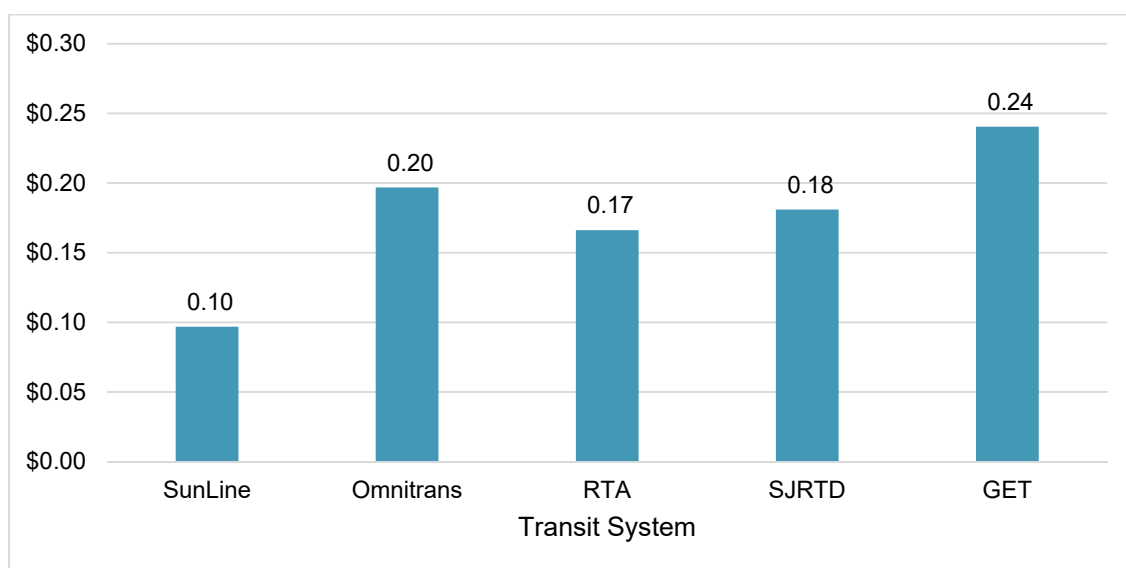


Source: Agency websites, 2018

Fare Revenue per Passenger Mile

The National Transit Database data show that the average SunLine passenger trip length (7.3 miles) is 24 percent longer than its peer group average passenger trip length (5.87 miles). Figure 6-3 shows that the combination of the longer trip lengths and the lowest average fare means that SunLine ranks last in its peer group in terms of fare revenue per passenger mile.

Figure 6-3. Fare Revenue per Passenger Mile



Source: Agency websites, 2018

Pass Multipliers

Table 6-6 shows that SunLine's local bus day pass multipliers are generally higher than its peers. SunLine does provide a greater youth day pass discount than its peers.

Table 6-6. Local Bus Day Pass Comparison

Agency	Multiplier		
	Adult	Youth	Senior
SunLine	3.00	2.35	3.00
Omnitrans	2.86	—	2.86
Riverside Transit Agency	2.67	2.67	2.86
San Joaquin Regional Transit District	2.67	—	2.67
Golden Empire Transit	2.13	2.13	2.13

Source: Agency websites, 2018

Table 6-7 shows that SunLine’s local bus weekly pass multipliers are comparable to its peers. SunLine provides the same multiplier to all of its local bus weekly pass users. The fare type is provided mainly as a convenience for some users, because only 1.3 percent of SunLine riders use this pass.

Table 6-7. Local Bus Weekly Pass Comparison

Agency	Period	Multiplier		
		Adult	Youth	Senior
SunLine	10-ride	10.00	10.00	10.00
Omnitrans	7-day	10.29	8.00	10.67
Riverside Transit Agency	7-day	10.67	10.67	22.86
San Joaquin Regional Transit District	10-ride	6.67	—	—
Golden Empire Transit	15-ride	17.42	17.42	16.25

Source: Agency websites, 2018

Table 6-8 shows that SunLine’s local bus monthly pass multipliers are comparable to its peers. Some peer agencies discount youth and senior monthly passes more, resulting in lower multipliers compared with SunLine. After riders paying a cash fare, monthly pass riders are the most frequent users of the SunLine system.

Table 6-8. Local Bus Monthly Pass Comparison

Agency	Multiplier		
	Adult	Youth	Senior
SunLine	34.00	28.24	34.00
Omnitrans	31.43	23.43	36.67
Riverside Transit Agency	33.33	23.33	32.86
San Joaquin Regional Transit District	43.33	53.33	40.00
Golden Empire Transit	27.10	27.10	26.25

Source: Agency websites, 2018

6.3 Transit Funding and Financing Best Practices

While the fare policy and structure of California peers provides a regional context for SunLine, a goal of this transit redesign and network analysis effort is to provide a holistic review of industry trends and practices. The urban mobility advocate TransitCenter notes that fare policy is an underutilized strategic tool. It cites examples of agencies that have simplified or lowered their fare structure to attract transit riders (TransitCenter, 2018). Several (TCRP, 2003) (Fleishman, 2012) (Litman, 2017) identify guiding principles relevant to fare policy and structure. Such principles include:

- Quality service is a prerequisite for a transit agency to charge a fare;
- Fares should be adjusted annually to minimize price shock; and

- Ridership is more sensitive to service than price.

6.4 Simplified Fare Structure

The goal of this fare policy is to increase SunLine’s revenues with a simplified structure that continues to provide support for low-income individuals. The key fare structure recommendations are summarized below.

Increase base cash fare 75 percent in three increments. SunLine has the lowest base cash fare among its peers. While SunLine operates its service efficiently, SunLine has the lowest average fare, lowest fare revenue per passenger mile, and lowest farebox recovery rate of its peers. Improving its farebox recovery rate would give SunLine a dedicated funding source as it builds for the future, reducing the need for State and federal grants to grow its system.

Charge adults and youth the same fare. Combining adult and youth fares would simplify SunLine’s fare structure by reducing the number of fare types. Children age 6 years and younger may ride free.

Eliminate the transfer fee. Research indicates that most transit agencies are eliminating transfer fees. With SunLine’s redesigned network, many passengers would continue to require a transfer between routes to reach their destination. Rather than require a transfer fee, paper transfer tickets would be issued to allow riders use a second bus. The transfer ticket is good for 2 hours.

Develop a post-secondary school universal pass (U-Pass). Through an agreement negotiated with the schools, SunLine would prorate the price of the U-pass over the entire student body based on an estimate of the total fare revenue that would be generated by individual users purchasing a monthly pass. This would allow SunLine to maintain expected revenues while allowing students to pay a lower fare price, thereby helping to attract students who might not choose transit otherwise. This negotiated U-pass would eventually replace SunLine’s current Haul Pass program, which is funded by a grant.

Escalate SunDial paratransit fares. As SunLine incrementally increases its base cash fare, it would also increase its SunDial paratransit fare. The fare for an ADA paratransit user cannot be more than twice the fixed-route base cash fare.

Table 6-9 shows the 5-year incremental fare increase program.

Review fares annually. Fares should be reviewed annually to assess the ridership impact, examine revenue by fare categories and fare media, and provide a peer comparison with other transit fares, such that decisions regarding changes in fare policy are well-informed.

Make fare adjustments as frequently as possible. Fares should be adjusted annually to address inflation and to deliver a more gradual change to riders. Fares that are frozen for several years and then adjusted through a large disproportionate increase result in a “shock” to riders that may negatively affect the agency image and ridership.

Table 6-9. SunLine Incremental Fare Increase Program

Fare Category	Current Fares	Phase 1	Phase 2	Phase 3	% Change ¹
General					
Cash	\$1.00	\$1.25	\$1.50	\$1.75	75%
Seniors/Disabled					
Cash	\$0.50	\$0.60	\$0.75	\$0.85	70%
Youth					
Cash	\$0.85	Consolidate adult and youth Eliminate employer pass Eliminate transfer fee			

¹ Phase 3 compared to current fares.

Calculate the SunLine internal rate of inflation to establish required fare adjustments. Fare increases should be based on SunLine’s internal rate of inflation (goods, labor, and fuel), rather than the inflation of a general Consumer Price Index. The Consumer Price Index measures the inflation on a basket of goods and services unrelated to transit service and competing transportation modes.

To help low-income passengers access transit services and offset fare increases, SunLine may target fares for Coachella Valley residents who meet low-income guidelines. The U.S. Department of Labor’s Lower Living Standard Income Level is often used by transit agencies to determine eligibility for reduced fares. It identifies income levels by family size that are adjusted annually based on changes in the Consumer Price Index.

6.5 Redesign Ridership Impact

The ridership impacts of SunLine’s fare increases and transit service improvements would be difficult to estimate since fare and service changes would occur simultaneously.

On one hand, typical elasticity-based ridership and revenue models would show SunLine’s 5-year incremental fare increases resulting in a ridership decrease. However, empirical studies of fare increase and service expansion elasticity show that service has a higher value than price (Litman, 2017). The monetary fare is small portion of the total cost of the trip when considered in the terms of the value of a rider’s time.

Chapter 12 of the Transit Cooperative Research Program Report 95 (TCRP, 2004) notes that the actual response of customers to fare changes depends on many variables. Mode of transit, service area size, time-of-day, and other factors all can provide some explanation for differences in ridership responses.

Another consideration is SunLine’s high percentage of low-income, transit-dependent customers that are less price sensitive than choice riders. The 2014 SunLine rider survey shows that only 11 percent of SunLine’s riders are choice riders. Most of SunLine’s riders choose transit because they don’t own a car or can’t drive. Those who do not qualify for

the low-income pass would pay a higher fare, but these riders would also benefit from the higher quality of transit service and may ride more often.

A goal of the redesign is improve service to attract new choice riders. The best example of ridership response to the type of transit redesign recommended for SunLine comes from cities such as Seattle and Houston. These cities have overhauled their transit networks and invested in faster, more frequent bus service that has resulted in increasing transit ridership.

6.5.1 Title VI Requirements

For its requirements under Title VI of the Civil Rights Act of 1964, SunLine has a Disparate Impact Policy and Disproportionate Burden Policy to ensure low-income and minority populations are not adversely affected by service changes.

- **Disparate Impact Policy:** A disparate impact occurs when the impact of proposed service or fare changes on minority populations is 20 percent greater than the impact on non-minority populations.
- **Disproportionate Burden Policy:** A disproportionate burden occurs when the impact of proposed service or fare changes on low-income populations is 20 percent greater than the impact on non-low-income populations.

The SunLine service area would not change with the proposed transit redesign. The proposed fare increase would not impose a disparate impact on minority populations because the fare increase would be system-wide and affect all of SunLine's ridership in the same manner. Similarly, the system-wide nature of the proposed fare increase would not impose a disproportionate burden on low-income riders.

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7 Implementation Strategy

The SunLine transit redesign and network analysis study recommends short-, mid-, and long-range improvements. Short-range improvements may be implemented beginning in 2019, while the timeline for long-range improvements may be out to 2030.

7.1 Short-range Improvements

The short-range improvement recommendations lay the groundwork for the first incremental fare increase and bus network redesign steps. The short-range recommendations are outlined briefly below.

Public outreach. The first step of the transit redesign implementation would be a 6-month public outreach effort. The first steps of this program would be outreach to regional planning organizations and member cities to build support for the redesign effort. Next, SunLine would reach out to its riders to explain the fare changes and service enhancements ahead.

Raise transit fares. Implement the first phase of the three-phase fare increase program.

Eliminate the transfer fee. The first step of the SunLine transit redesign would be the removal of the \$0.25 transfer fee. This would effectively lower the fare for many of SunLine's riders.

Route 111. SunLine would add service on this trunk route to improve headways to every 15 minutes during morning and afternoon peak periods and every 20 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes. SunLine is planning to add the Route 111-X pilot service with improved corridor travel times.

Route 2. Existing Routes 14 and 30 between Desert Hot Springs and Cathedral City would be combined into the new Route 2 route and would be realigned in downtown Palm Springs. Service headways would improve to every 15 minutes during morning and afternoon peak periods and every 20 minutes during off-peak midday and night periods. On weekends, it would operate every 30 minutes. Stop spacing and location should also be reviewed to identify potential efficiencies.

Route 3. Combine existing Routes 24 and 32 to connect Palm Springs with the Palm Desert Town Center Mall into the new Route 3. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 60 minutes.

Route 4. Existing Route 70 would be maintained in the redesigned transit system as the new Route 4. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 60 minutes.

Commuter Link 220. This express bus service between Palm Desert and Riverside would be discontinued.

7.2 Mid-range Improvements

Moving past the first year of implementation, SunLine would continue its three-phase program of incremental fare increases. It would implement on-demand service and consolidate the East Valley lines. The mid-range recommendations are outlined below.

Raise transit fares. Continue implementation of the three-phase fare increase program.

Microtransit service. Replace under-performing routes such as Route 95 with lower-cost microtransit service that connects riders to SunLine's fixed-route bus service. SunLine could use microtransit service to develop new markets in selected neighborhoods. Potential microtransit service areas are shown in Figure 5-2.

Route 5. Extend existing Route 54 to 5th Street in Coachella to create the new Route 5 as part of new simplified service in Indio and Coachella. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 60 minutes.

Route 6. Combine five existing routes in Indio, Coachella, Thermal, and Mecca as the new Route 6 to improve operational efficiency and make SunLine's system more direct and easier to navigate. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 60 minutes.

Route 7. Extend existing Route 15 to connect 4th Street/Cholla Drive in Desert Hot Springs to Langlois Road/Aurora Road as the new Route 7. Service headways would improve to every 20 minutes during morning and afternoon peak periods and every 30 minutes during off-peak midday and night periods. On weekends, it would operate every 60 minutes.

Coachella Satellite Facility. Following the recommendations of the 2016 SunLine Transit Facilities Master Plan, the Coachella satellite transit facility should be completed.

7.3 Long-range Improvements

Over the long-range 10-year planning horizon, SunLine should focus on optimizing system performance and enhancing service on Route 111. The long-range recommendations are outlined briefly below.

Route 111 Bus Rapid Transit. As the population grows in Coachella and Indio, this corridor would become a more suitable candidate for true bus rapid transit service. SunLine and its member cities should begin implementing transit speed and reliability improvements such as transit signal priority, queue jump lanes, and bus-only lanes to reduce bus travel times on this corridor.

Bus network optimization. Working with its partners, SunLine should implement transit speed and reliability improvements such as transit signal priority, queue jump lanes, and bus-only lanes to reduce bus travel times on high ridership trunk lines such as Routes 2 and 3.

7.4 Microtransit Service Alternatives

Microtransit service uses vehicles smaller than the traditional 40-foot urban bus. This allows for potentially lower operating costs and greater route flexibility. For SunLine, microtransit is recommended to serve low-demand areas such as North Shore and 100 Palms.

This service option could also be used to introduce transit into areas such as the southern ends of Cathedral City and Palm Desert. This service could function either as a scheduled circulator serving a fixed route with defined stops, or as an on-demand service with flexible routing. Either option would provide service to transfer to the fixed-route bus system.

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8 Policy Framework and Service Standards

The SunLine transit redesign focuses transit agency resources on its most productive lines. Rural areas with lower ridership demand would be served by an on-demand microtransit solution. SunLine's service standards and policy should reflect its adaptation of efficient service delivery models in response to new travel markets and evolving travel behavior. These goals should emphasize leadership in meeting the region's multimodal mobility needs.

8.1 Policy Coordination

A key transit redesign recommendation is for SunLine to review its service standards and performance measures every 2 years to ensure they are consistent with agency goals and regional, State, and federal mandates.

At the federal level, the Fixing America's Surface Transportation Act promotes several important goals, including safety, state of good repair, performance, and program efficiency. The Act establishes performance-based planning requirements that align federal funding with key goals, and provides guidance on tracking progress toward these goals.

In response to this federal initiative, SunLine's Metrics program monitors numerous performance indicators across its business lines on a quarterly basis to help improve productivity.

At the state and regional levels, transit service standards and performance measures promote system performance for meeting any State Transportation Improvement Program requirements and regional Transportation Improvement Program requirements, goals, and objectives.

At the local level, transit service standards and performance measures promote a base level of service and expectations for policymakers and the public, setting the benchmark for system headway, reliability, speed, ease of use, and safety. Standards and measures may also support community goals such as environmental benefits, congestion mitigation, and economic development.

Appendix B shows the SunLine service standards policy updated to support the transit redesign.

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9 Funding Analysis

The chapter summarizes the operating and capital revenue sources used by SunLine and its peer agencies. The peer agencies listed below reflect the transit systems that were included in the previously completed peer reviews for the fare policy analysis and the system analysis.

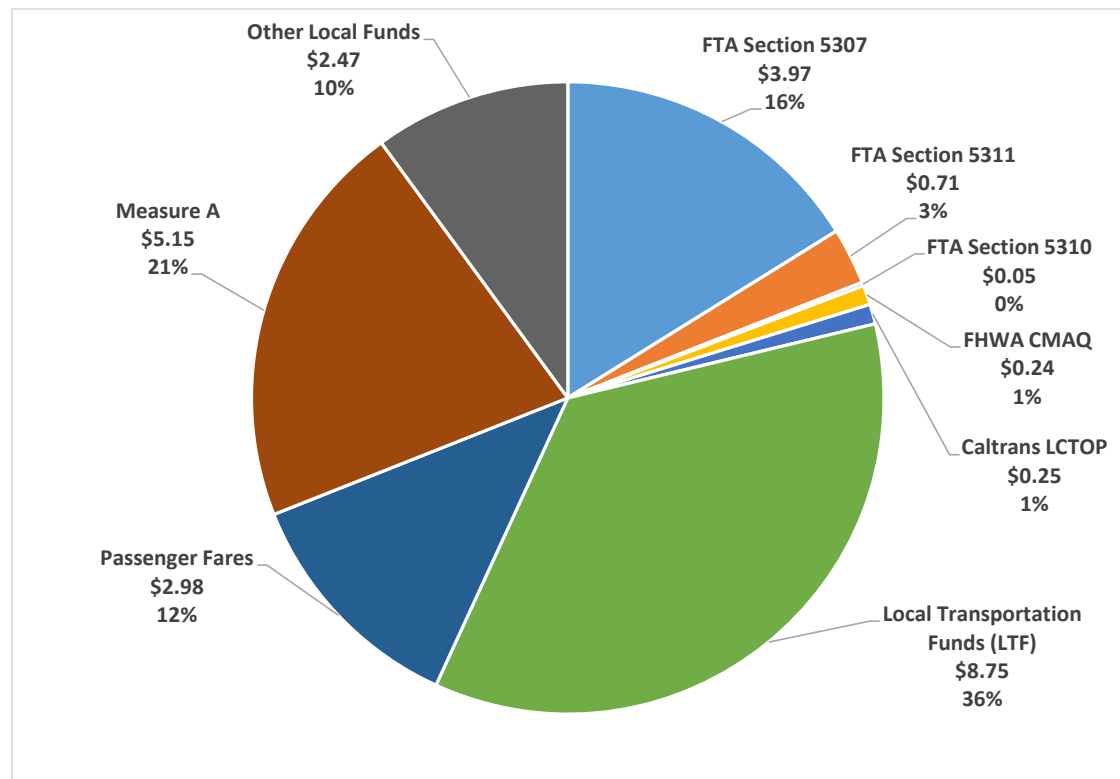
- Omnitrans – Riverside-San Bernardino, California
- Riverside Transit Agency (RTA) – Riverside, California
- San Joaquin Regional Transit District (SJRTD) – Stockton, California
- Golden Empire Transit (GET) – Bakersfield, California
- Laredo Transit Management – Laredo, Texas
- Transit Authority of Omaha – Omaha, Nebraska
- Spokane Transit Authority – Spokane, Washington

It is important to note that while the levels and sources of funding used for operations tend to be relatively consistent from year to year, annual capital funding levels and sources can vary significantly—depending on the capital projects and grant sources occurring in a particular year.

9.1 Operating Revenues

Figure 9-1 illustrates the key revenue sources used by SunLine to fund annual operating and maintenance (O&M) costs as documented in the FY 2017–2018 S RTP. As shown in Figure 9-1, approximately 43 percent of revenues are from local sources, including passenger fares, Measure A sales tax revenue, and other local sources. Another 37 percent of revenues are State sources, which include Local Transportation Funds (LTFs) and Low Carbon Transit Operations Program (LCTOP) funds. The remaining 20 percent of revenues are from federal sources, consisting of FTA formula funds and Federal Highway Administration Congestion Mitigation and Air Quality Improvement (CMAQ) program funds.

Figure 9-1. SunLine Existing Operating Revenue Sources



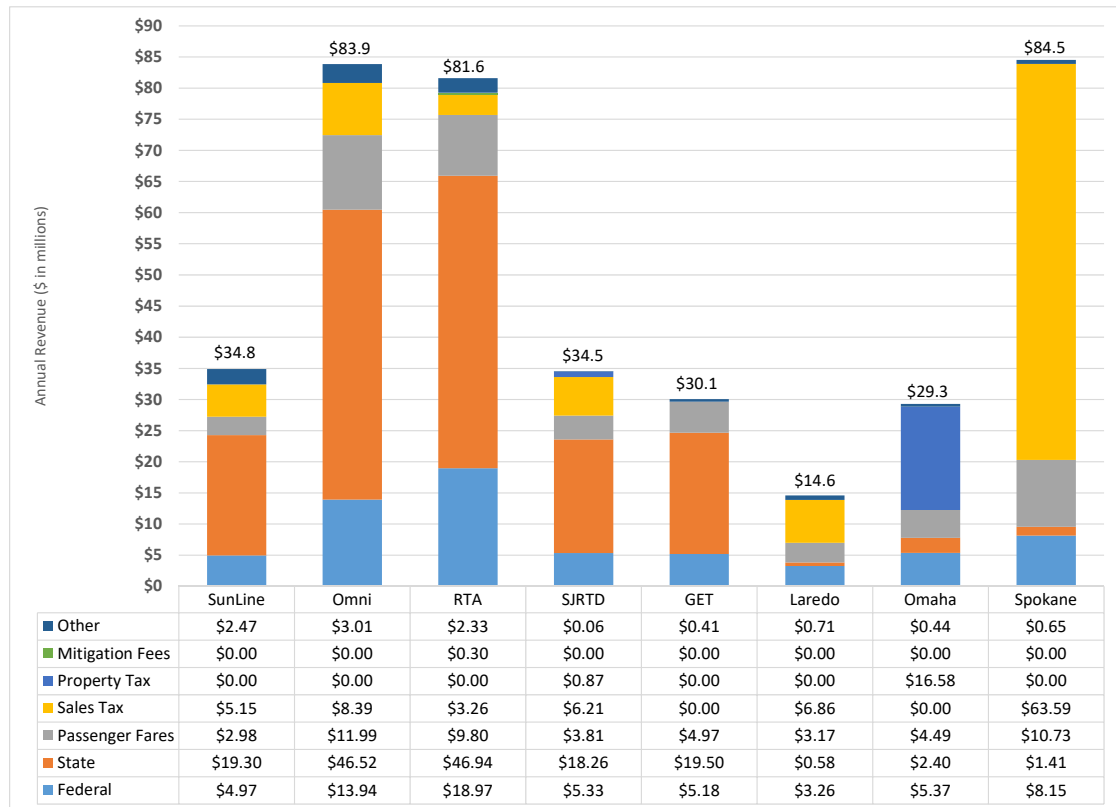
Source: SunLine Transit Agency FY 2017–2018 SRTF

Figure 9-2 and Figure 9-3 provide an overview of the total level of O&M funding used by SunLine compared with the seven peer agencies. As shown in Figure 9-2, annual O&M costs for the agencies range from approximately \$14.5 million to \$83.9 million. With a total annual O&M cost of \$34.9 million (in 2018), SunLine is below the peer average of \$51.2 million. Figure 9-3 summarizes the percentage share by funding source and illustrates the relative reliance of each agency on the following:

- fare revenue
- federal funds
- State funds
- local sources (including dedicated taxes)

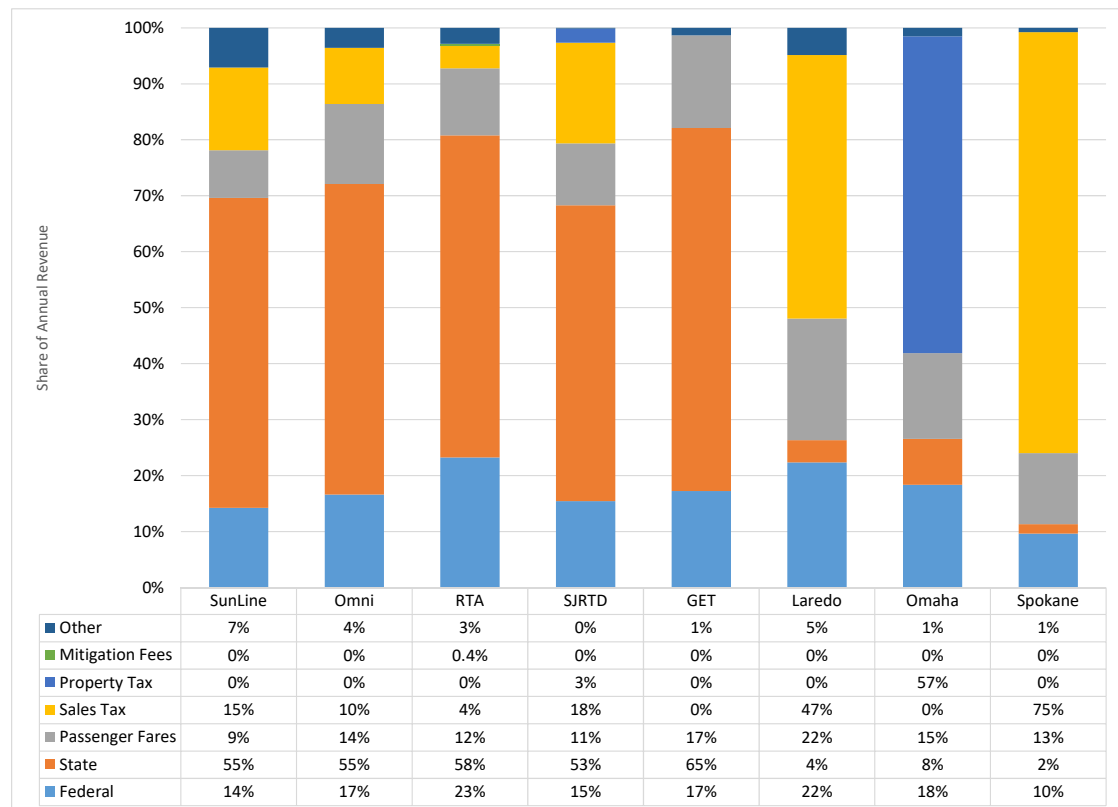
Additional discussion of each source is provided after Figure 9-3.

Figure 9-2. Summary of Funding Used for O&M (\$, in millions)



Source: Agency annual budgets, annual financial reports, and short range transit plans

Figure 9-3. Summary of Funding Used for O&M (%)

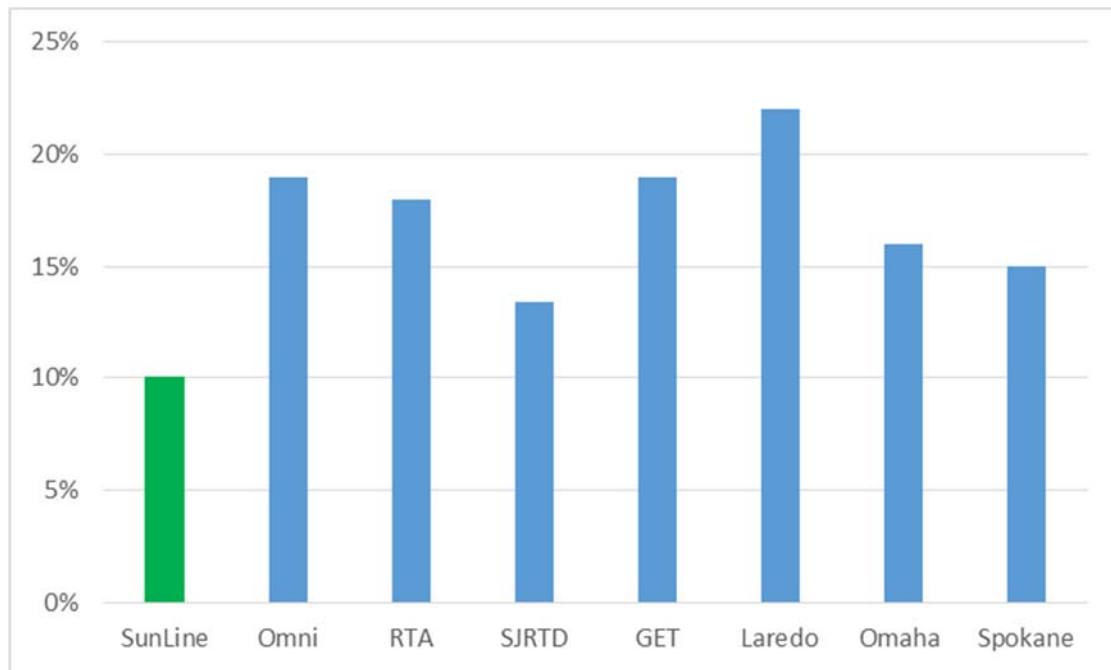


Source: Agency annual budgets, annual financial reports, short range transit plans, National Transit Database

9.2 Fare Revenue

Transit agencies collect fares for the fixed-route, paratransit, and contract services they provide. The extent to which fares cover O&M costs is referred to as the farebox recovery rate. As shown in Figure 9-4 and Table 3-2 in Section 3, the farebox recovery rate for the seven peer agencies ranges from 10 to 22 percent, with an average of 17 percent. SunLine’s system-wide farebox recovery rate of 10 percent is below the peer average.

Figure 9-4. System Farebox Recovery Rate Comparison



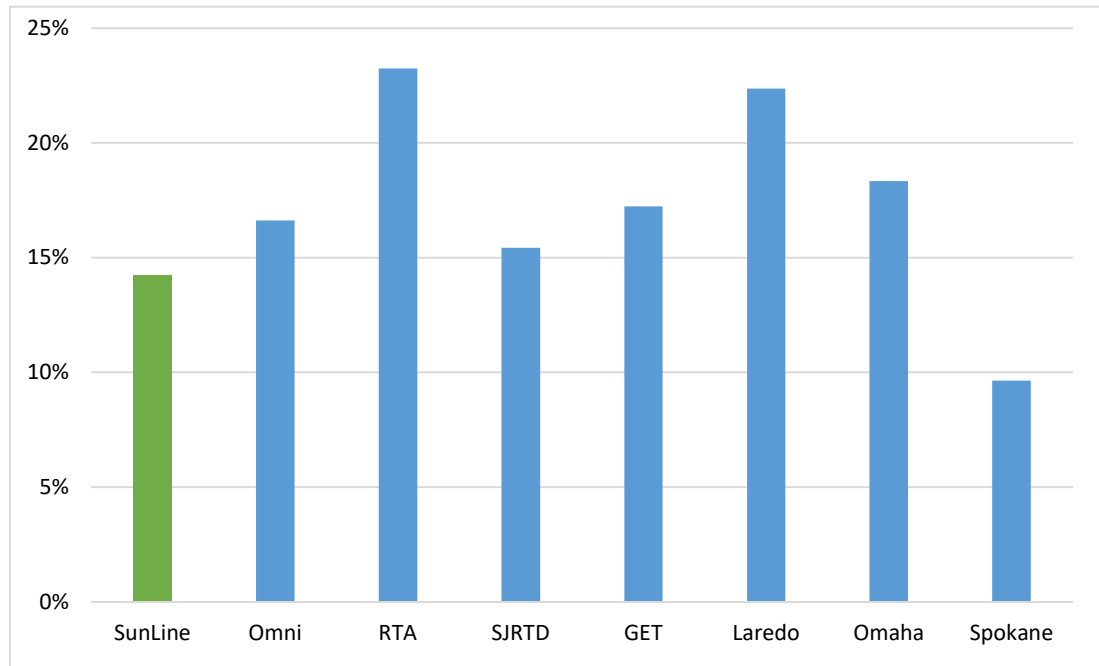
Source: 2016 National Transit Database Agency Profiles

9.3 Federal Funds

Transit agencies receive grant funds from a variety of federal programs, notably the FTA’s formula grant programs. Under federal transportation authorizing legislation, the Section 5307 Urbanized Area Formula Program is the formula grant program that provides the largest share of funding that may be used for eligible O&M costs (preventive maintenance expenses). Additionally, smaller FTA formula grant programs, including Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities and Section 5311 Formula Grants for Rural Areas, provide funding for eligible operating expenses. Finally, Federal Highway Administration CMAQ funds can be “flexed” to support transit operating costs associated with the implementation of a new service or expansion of an existing service. CMAQ funds can provide funding for 5 years following the start of the new service or expansion of service. As shown previously in Figure 9-1, SunLine currently uses all of these federal formula funds to cover a portion of eligible O&M expenses.

As shown in Figure 9-5, the reliance on federal funds for O&M expenses among the seven peer agencies ranges from 10 to 23 percent and averages 17.6 percent. With a federal share of 14 percent, SunLine is below the peer average.

Figure 9-5. Federal Funds as a Percentage of Total O&M Sources

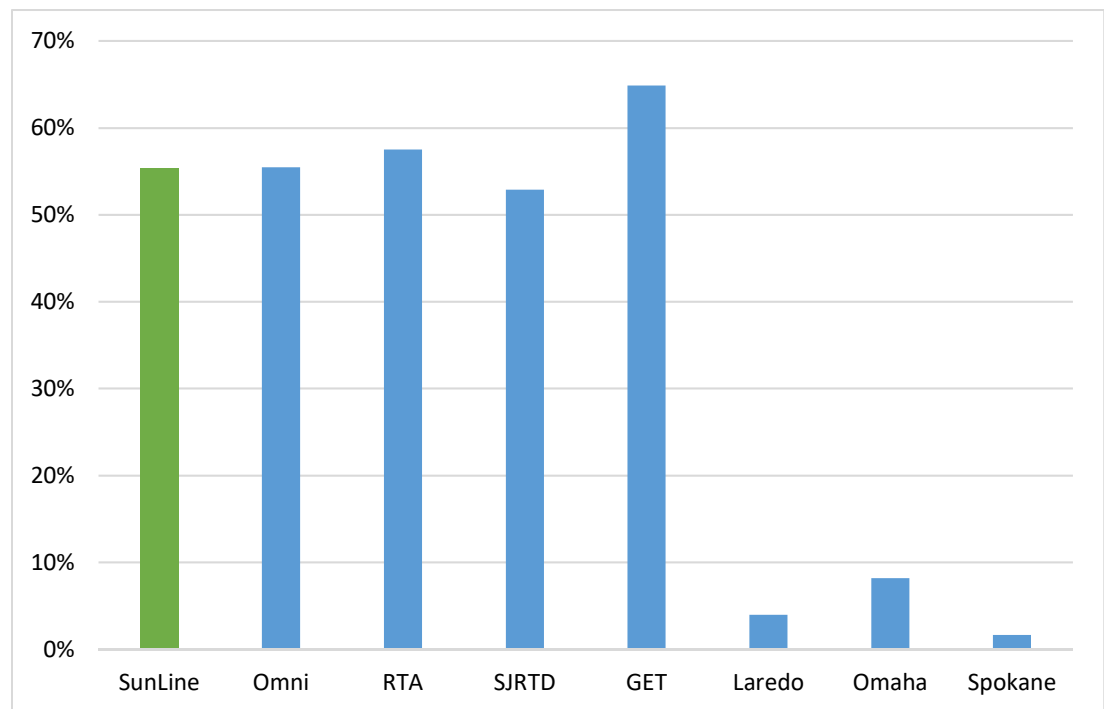


Source: Agency annual budgets, annual financial reports, short range transit plans, National Transit Database

9.4 State Funds

As shown in Figure 9-6, California agencies benefit from the State's continued investment in transit operating assistance through the Transportation Development Act, which provides two major sources of funding for public transportation: the LTF and the State Transit Assistance (STA) fund. Local agencies have the discretion to use the LTF and STA funds to either support ongoing O&M costs or capital expenses. Among the California agencies, State funding provides between 53 and 65 percent of total annual O&M funding. For the non-California peer agencies, State funding is significantly lower and ranges from 2 to 8 percent. For SunLine, LTF funding provides approximately 55 percent of total annual O&M revenue.

Figure 9-6. State Funds as a Percentage of Total O&M Sources



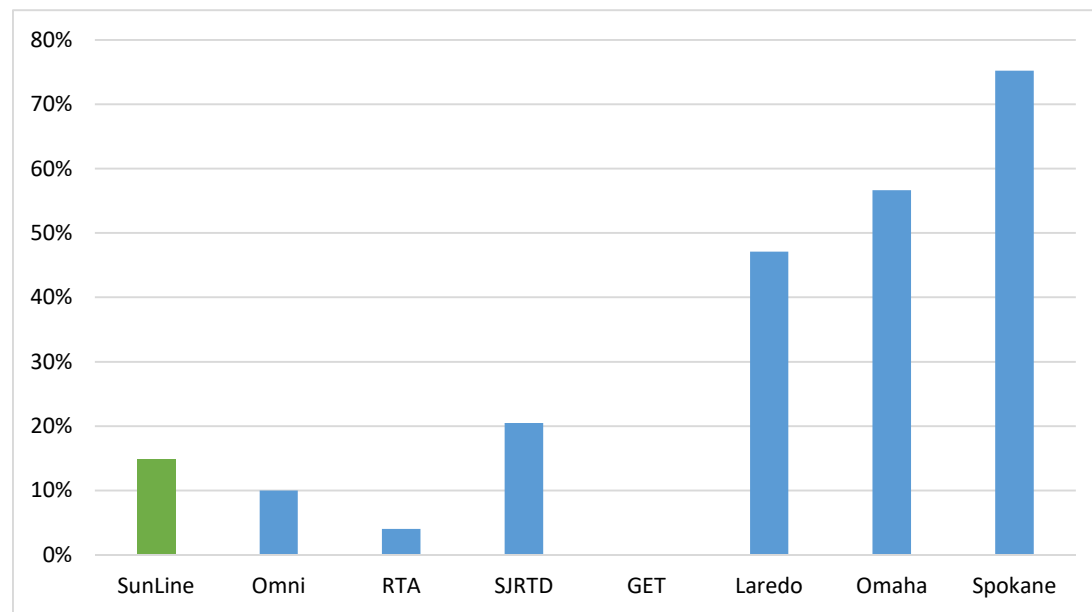
Source: Agency annual budgets, annual financial reports, short range transit plans, National Transit Database

9.5 Local Funds

Sales tax and property tax revenues are the largest local funding sources for SunLine and the peer agencies. Among the California agencies, SunLine, Omnitrans, RTA, and SJRTD all receive sales tax revenue based on a voter-approved measure that provides between 4 and 20 percent of total annual O&M revenue. In addition to sales tax, SJRTD also receives a portion of San Joaquin County's property tax (approximately \$0.9 million per year). While not reflected in Figure 9-7, in addition to sales tax revenue, RTA receives approximately \$0.3 million from the Transportation Uniform Mitigation Fee fund administered by the Western Riverside Council of Governments. GET is the only California peer agency that does not have a local dedicated tax, which is also reflected in the fact that the share of State funding for GET is highest among the California peer agencies, shown in Figure 9-6.

Compared to the California agencies, local taxes represent a significantly higher share of total funding for Laredo, Omaha, and Spokane. This is attributable to California's higher State operating assistance, which results in higher local need among non-California peer agencies. Local taxes provide between 47 and 75 percent of total operating revenues in non-California peer agencies (Figure 9-7).

Figure 9-7. Local Dedicated Taxes as a Percentage of Total O&M Sources



Source: Agency annual budgets, annual financial reports, short range transit plans, National Transit Database

9.6 Capital Revenues

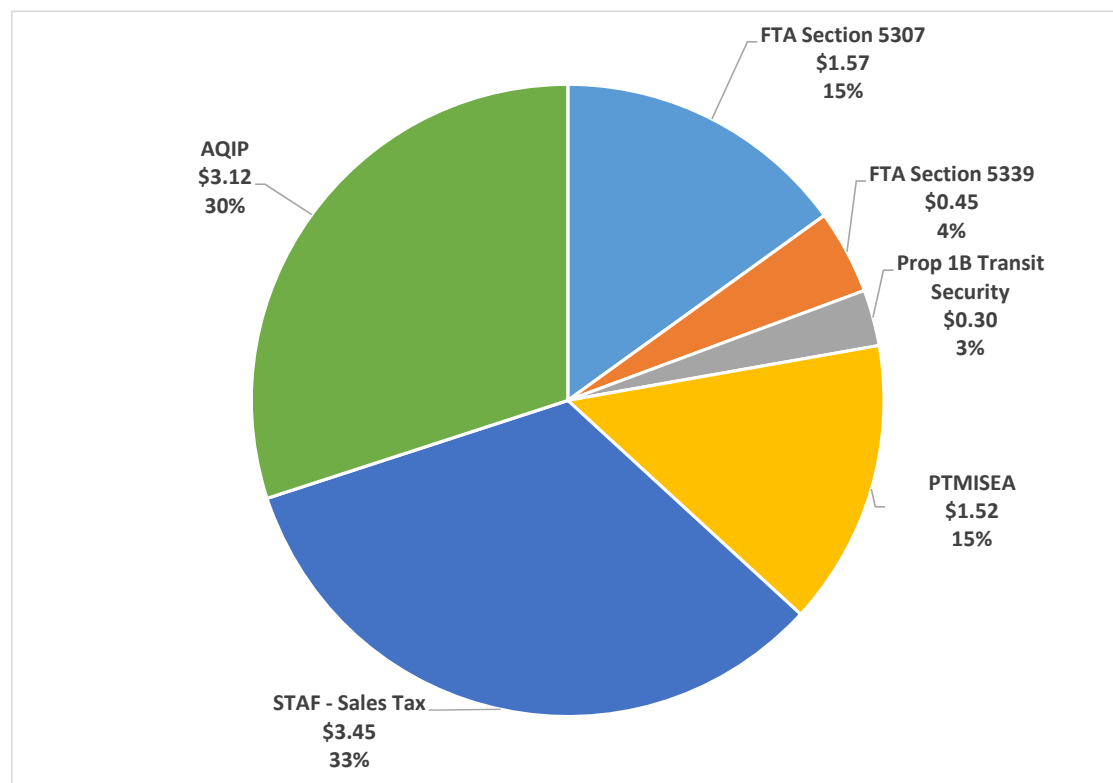
Figure 9-8 summarizes SunLine’s capital revenue sources as documented in the FY 2017–2018 SRTP. As shown in Figure 9-8, for the \$10.4 million program, approximately 81 percent of revenues are from State sources, including the following:

- Proposition 1B – Transit Security;
- Proposition 1B – Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA) Program funds;
- STA funds; and
- California Air Resources Board’s Air Quality Improvement Program (AQIP).

The remaining 19 percent comes from federal sources, consisting of FTA Section 5307 Urbanized Area formula funds and Section 5339 Bus and Bus Facilities formula funds.

For the capital revenue peer comparison, the analysis reflects information from the FY 2016 National Transit Database for each agency. Because the capital plan information in publicly available documents for each agency (budgets, annual financial statements, and short range plans) varies considerably, the National Transit Database reports were selected to conduct a direct comparison between the peer agencies.

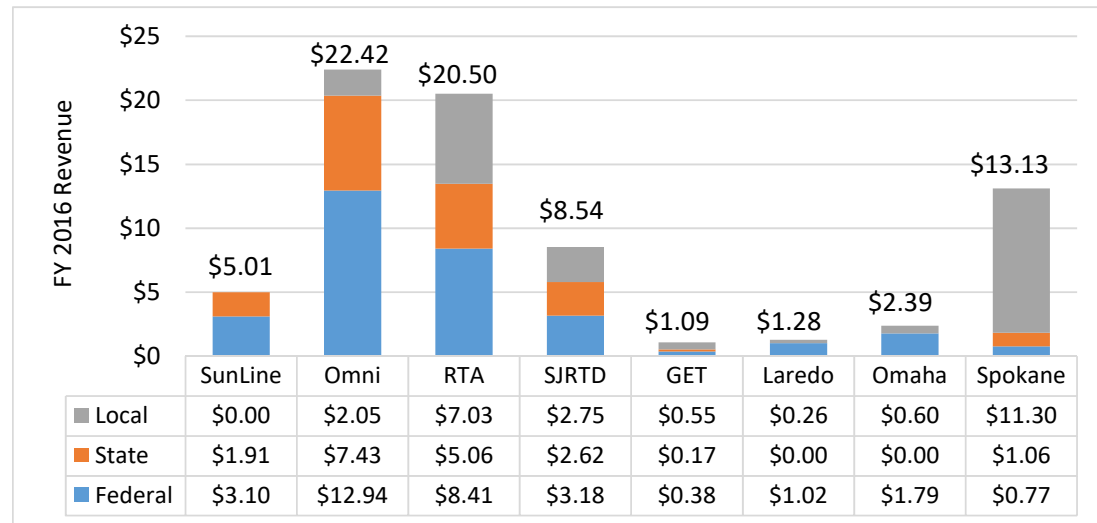
Figure 9-8. SunLine Capital Revenue Sources



Source: Agency annual budgets, annual financial reports, short range transit plans, National Transit Database

As shown in Figure 9-9, in FY 2016, capital expenses ranged from \$1 million to \$22.4 million among the peer agencies, with SunLine's capital expenses totaling \$5 million.

Figure 9-9. FY 2016 Capital Revenue Sources (in millions)



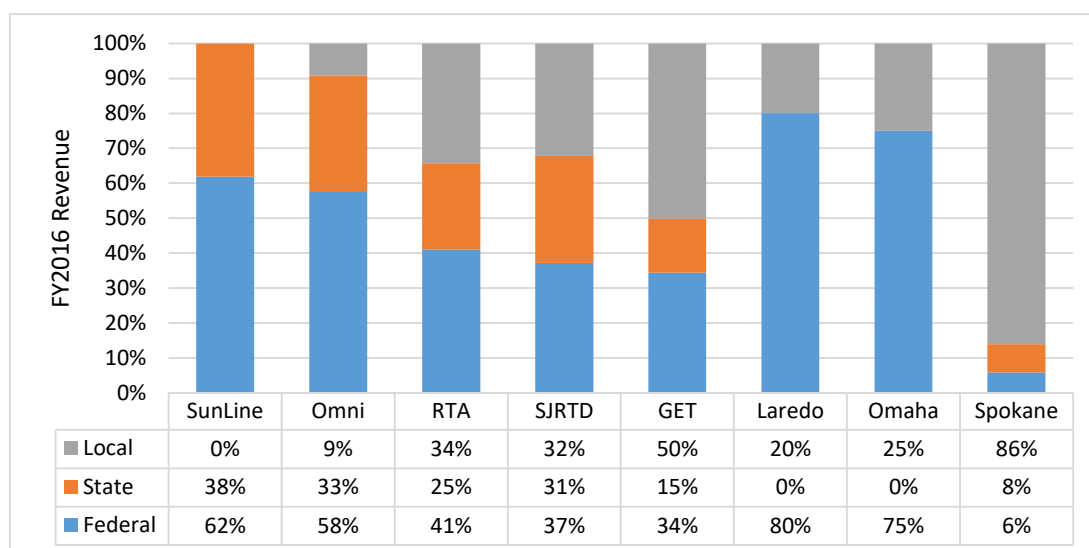
Source: Agency annual budgets, annual financial reports, short range transit plans, National Transit Database

Figure 9-10 shows the source of capital revenues of peer agencies in FY 2016. Among California agencies, the State's investment in transit capital programs is between 15 and 38 percent of total capital revenues.

With the exception of Spokane and GET, federal funding programs were the largest revenue sources among peer agencies and accounted for 37 to 80 percent of total capital revenues. Federal funding accounted for just 6 percent of Spokane's total capital revenue and 34 percent of GET's total capital revenue.

SunLine's capital funding reported to the National Transit Database in 2016 was 62 percent federal sources and 38 percent State sources.

Figure 9-10. FY 2016 Capital Revenue Sources (percentage share)



Source: Agency annual budgets, annual financial reports, short range transit plans, National Transit Database

9.7 Potential Supplemental Revenue Sources

This section describes potential supplemental funding sources that have been used or considered by transit agencies across the country to support ongoing O&M and capital improvement plans.

- **Local Jurisdiction Participation:** Revenue from a city or county's general fund is used to support implementation and operation of local projects and multijurisdictional projects as part of a cost-sharing arrangement.
- **Private Participation:** Agencies work with private developers or property owners to pay for a portion of the capital costs associated with the benefit of providing access to their property/location. This could include costs associated with the station/stop or costs related to pedestrian/bicycle access.
- **Land Contribution or Other Asset Sales:** Revenue is generated from the disposition of excess land owned by SunLine, cities, or local agencies, including right-of-way contributions. Disposition agreements by affected agencies would need to dedicate proceeds from sales toward a capital improvement project.
- **Hotel/Motel Tax:** Tax is levied on the gross receipts of lodging within the area served by an improvement project or transit service. A portion of revenues could be contributed toward an element of the capital or operating costs.
- **Vehicle Registration Fee:** Increased vehicle registration fee provides a defined percentage of capital or operating funding for the elements of a transit project or service.
- **Value Capture:** Revenue from an assessment district is generated from a fee on properties in a specified area that is used to pay a portion of the capital improvements made within and specifically benefiting that area. In an assessment district, a connection between benefit received and cost charged is essential, in that

assessments charged in these districts must be proportional to and no greater than the benefit to the assessed property.

- **Parking Tax:** A parking fee is a tax or surcharge levied on paid parking. The fee could be applied within specific corridors or within a city's limits for the use of off-street commercial or employer-provided parking spaces and/or for the use of public parking meters. If applied within the corridors, there would be some degree of relationship between traffic and parking within the corridor relative to parking requirements and parking fee. If applied citywide, the relationship between the parking fee and capital and/or operating costs within specific corridors would be less direct. More likely, a citywide parking fee would be used to fund a variety of transportation improvements.
- **Rental Car Surcharge:** Taxes or surcharges are imposed on rental cars that are leased, either through a countywide gross receipts tax on rental car companies (typically passed along to the customer) or a Customer Facility Charge assessed per rental car contract at airports. A portion of the rental car surcharge could be potentially contributed toward a portion of capital or operating costs for a transit project or a service.

10 References

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Appendix A. Public Involvement

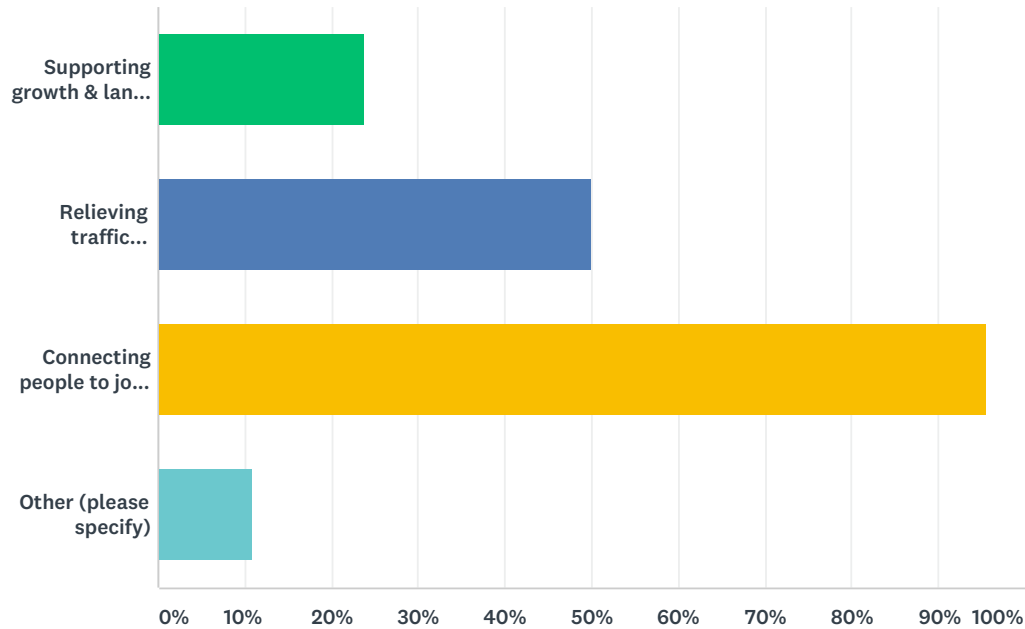
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SunLine User Survey

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Q1 What should SunLine's role be within your community? Check all that apply.

Answered: 46 Skipped: 0

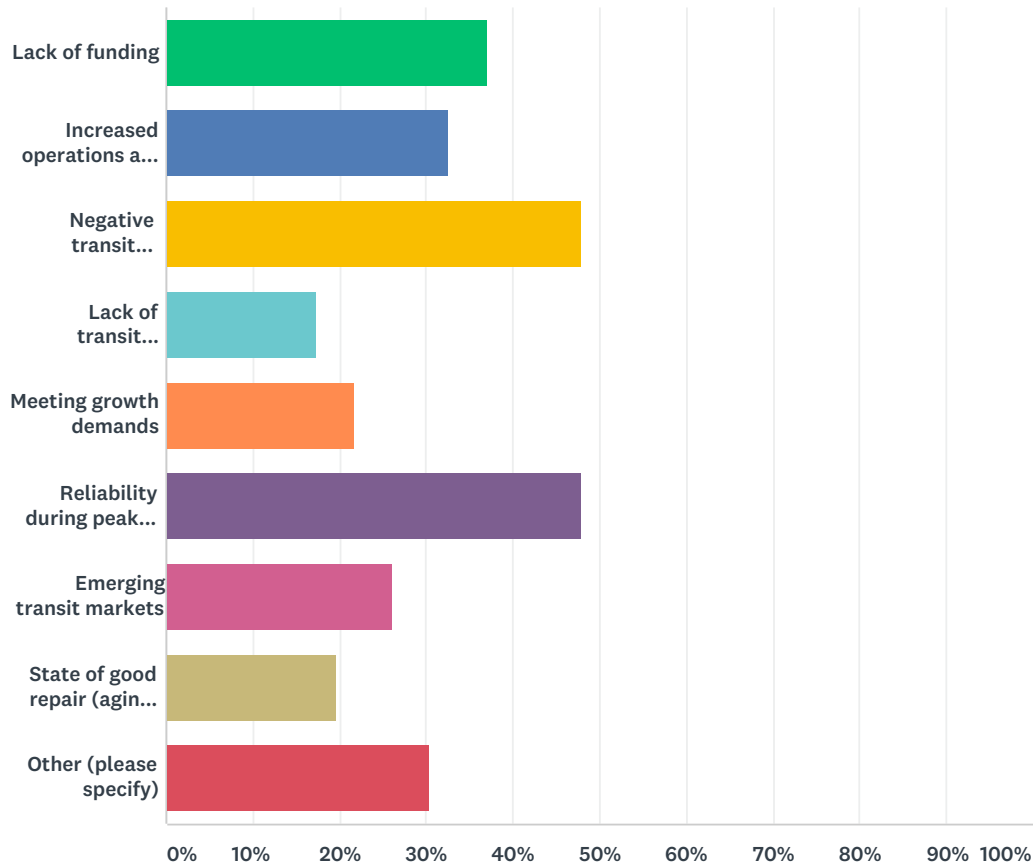


ANSWER CHOICES	RESPONSES	
Supporting growth & land use priorities	23.91%	11
Relieving traffic congestion	50.00%	23
Connecting people to jobs, recreation, education, and health centers	95.65%	44
Other (please specify)	10.87%	5
Total Respondents: 46		

#	OTHER (PLEASE SPECIFY)	DATE
1	Wouldn't it be amazing if SunLine can take folks directly to Downtown L.A. where jobs actually pay? It would be the biggest boost to our communities. If they can reach their job they will buy homes and dig roots in our communities	7/18/2018 10:45 AM
2	super markets, transit to and from home to major line pick up locations.	7/18/2018 9:58 AM
3	efficient, easy, and eco friendly transportation for the environmentally conscious person.	7/17/2018 8:09 PM
4	reducing carbon imprint	7/17/2018 4:22 PM
5	Meet transportation needs of seasonal tourists	7/17/2018 1:09 AM

Q2 Please pick the top 3 challenges that you see for SunLine TODAY.

Answered: 46 Skipped: 0



ANSWER CHOICES		RESPONSES	
Lack of funding		36.96%	17
Increased operations and maintenance costs		32.61%	15
Negative transit perception		47.83%	22
Lack of transit advocacy		17.39%	8
Meeting growth demands		21.74%	10
Reliability during peak congestion periods		47.83%	22
Emerging transit markets		26.09%	12
State of good repair (aging infrastructure)		19.57%	9
Other (please specify)		30.43%	14
Total Respondents: 46			

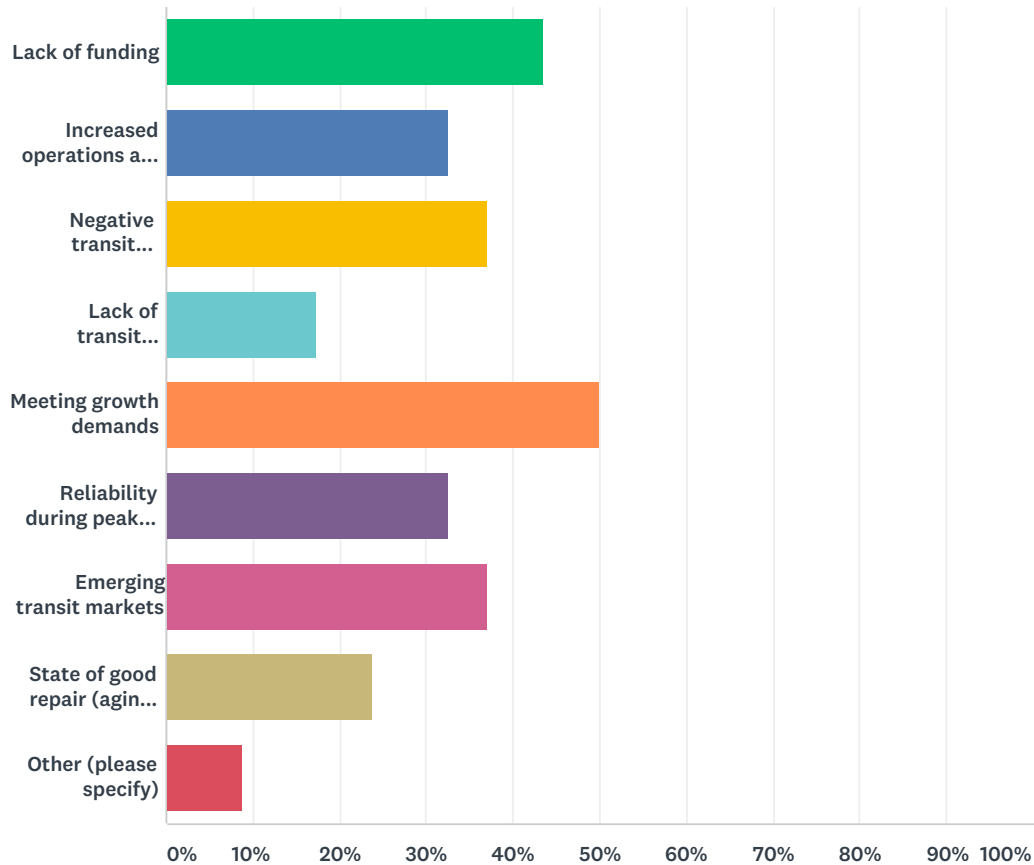
#	OTHER (PLEASE SPECIFY)	DATE
1	connecting people in the Pass area more frequently to connect with other agencies.	8/7/2018 1:29 PM
2	Transportation pass 10ish pm	7/31/2018 10:05 PM

SunLine User Survey

3	Change, ex.(I have a \$5 and I just want a ride to my place of business or recreation and do not get change/fare back.)	7/22/2018 7:19 PM
4	Sunline treat operators unfair	7/20/2018 9:51 PM
5	We need to think outside the box, get people out of and back to the Desert without depending on cars, gas and stress. To beach cities during the summer. To San Diego, Los Angeles, Orange County.	7/18/2018 10:45 AM
6	If you want people to use the lines, put them where they are needed.	7/18/2018 9:43 AM
7	Evolving from a big-vehicle, fixed route model to a more nimble on-demand-smaller-vehicle need to compete with Uber and Lyft	7/18/2018 8:55 AM
8	targeting transportation-insecure groups	7/17/2018 4:22 PM
9	Drivers being rude	7/17/2018 1:51 PM
10	lack of connectivity with other service of transit agencies	7/17/2018 10:22 AM
11	Inconvenience location of bus stops	7/17/2018 3:09 AM
12	Lack of year-round population	7/17/2018 1:09 AM
13	Highly fragmented/diffused residential and business destinations, seasonal economy, hot summers	7/16/2018 5:34 PM
14	Lack of ridership	7/9/2018 4:29 PM

Q3 Please pick the top 3 challenges that you see for SunLine in the FUTURE.

Answered: 46 Skipped: 0



ANSWER CHOICES		RESPONSES	
Lack of funding		43.48%	20
Increased operations and maintenance costs		32.61%	15
Negative transit perception		36.96%	17
Lack of transit advocacy		17.39%	8
Meeting growth demands		50.00%	23
Reliability during peak congestion periods		32.61%	15
Emerging transit markets		36.96%	17
State of good repair (aging infrastructure)		23.91%	11
Other (please specify)		8.70%	4
Total Respondents: 46			

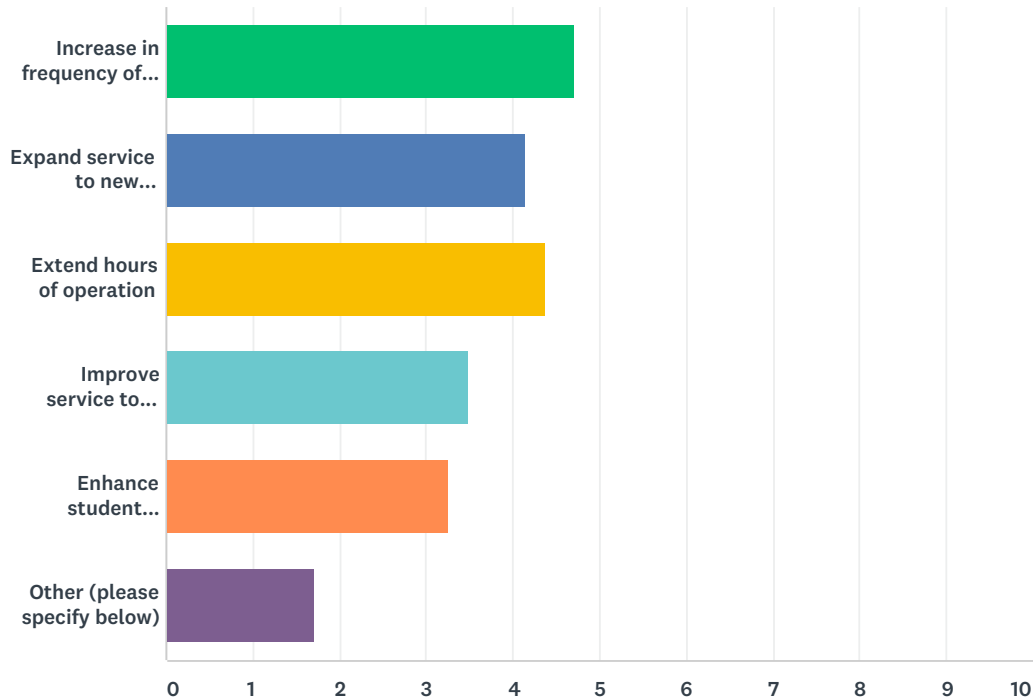
#	OTHER (PLEASE SPECIFY)	DATE
1	Transportation pass 10ish pm	7/31/2018 10:05 PM

SunLine User Survey

2	Drivers being rude	7/17/2018 1:51 PM
3	Fragmented/diffused destinations, seasonal economy, high poverty	7/16/2018 5:34 PM
4	frequency of weekend routes	7/15/2018 3:59 PM

Q4 Please prioritize the below transit improvement options (1 being top priority):

Answered: 44 Skipped: 2



	1	2	3	4	5	6	TOTAL	SCORE
Increase in frequency of existing service	47.37% 18	15.79% 6	13.16% 5	10.53% 4	10.53% 4	2.63% 1	38	4.71
Expand service to new corridors/markets	22.50% 9	27.50% 11	12.50% 5	20.00% 8	15.00% 6	2.50% 1	40	4.15
Extend hours of operation	22.50% 9	32.50% 13	17.50% 7	15.00% 6	12.50% 5	0.00% 0	40	4.38
Improve service to seniors and disabled	5.13% 2	10.26% 4	38.46% 15	23.08% 9	20.51% 8	2.56% 1	39	3.49
Enhance student accessibility and affordability	7.32% 3	14.63% 6	14.63% 6	24.39% 10	39.02% 16	0.00% 0	41	3.27
Other (please specify below)	7.14% 2	3.57% 1	7.14% 2	0.00% 0	0.00% 0	82.14% 23	28	1.71

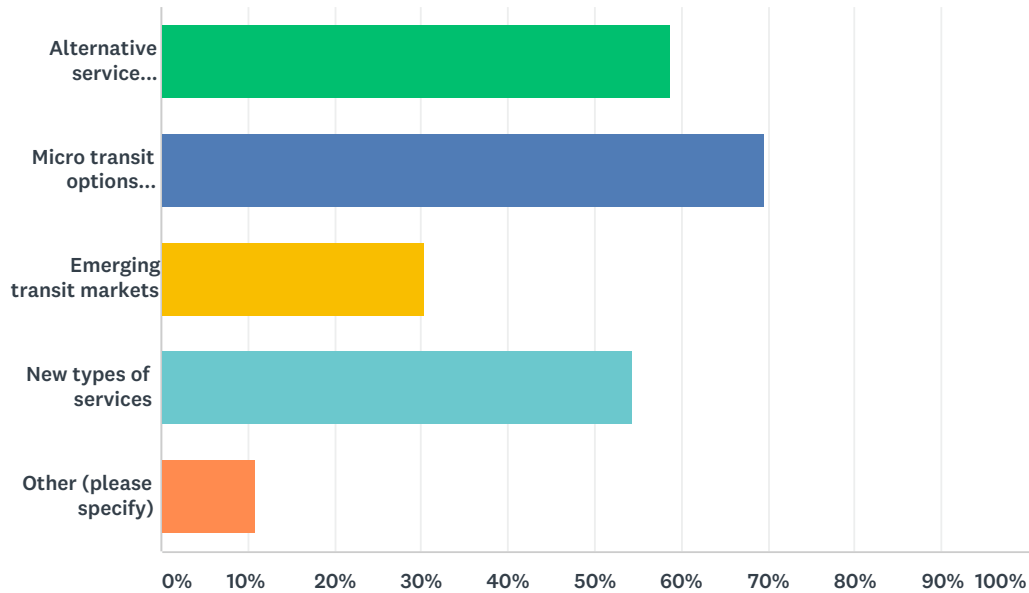
Q5 Other transit improvement options not listed above:

Answered: 27 Skipped: 19

#	RESPONSES	DATE
1	None at this time	8/7/2018 1:29 PM
2	We need a monorail system out her, something on the order of what they have at Disneyland to replace the 111 line.	8/6/2018 9:45 AM
3	For non scheduled /posted stops bus should not be earlier than 5 mins from projected time	7/31/2018 10:05 PM
4	More zero emissions busses	7/26/2018 8:55 AM
5	Give drivers more breaks and treat them fairly, if their happy then the passengers will recieve great customer service	7/20/2018 9:51 PM
6	No other improvements	7/18/2018 2:42 PM
7	Have you considered a light-rail trolley line? It would replace the buses along the 111 Route and allow bus connections along the way. Tourists would love it, as would residents.	7/18/2018 9:43 AM
8	Visioning a more flexible model that moves students and other clients where they need to be in under 90 minutes, perhaps combining Sunline service with other providers, and linking all through an inter-agency/provider app.	7/18/2018 8:55 AM
9	targeting transportation insecure public and incentivizing them.	7/17/2018 4:22 PM
10	get drivers that are not rude	7/17/2018 1:51 PM
11	Connection to other transit options. (Metro link, etc.)	7/17/2018 1:30 PM
12	more connections to Metrolink San Bernardino and Riverside	7/17/2018 10:22 AM
13	.	7/17/2018 8:57 AM
14	Increase reliability	7/17/2018 7:21 AM
15	More locations closer to home maybe around 42 Avenue in palm desert. Instead of all the way on Cook St and Joni Dr in Palm Desert	7/17/2018 3:09 AM
16	Fill the void left by the decision to discontinue the Buzz service.	7/17/2018 1:09 AM
17	Better online tracking reliability, maybe an individual app designed for smartphones.	7/17/2018 12:03 AM
18	Additional feeder routes from areas not serviced	7/16/2018 7:36 PM
19	We need to look at a some kind of high speed rail, possibly a monorail, that connects key hubs in PS (Convention Center), CC (City Center), Rancho Mirage (The River), PD (Mall & El Paseo Stops), La Quinta (111 Business District) and Indio (Downtown). Also need zero tolerance ordinances for graffiti: First offense mandatory \$1,000 fine, 6 months driver's license suspension, and 240 hours of community service. Second offense 6 months in jail or juvenile detention.	7/16/2018 5:34 PM
20	customer service	7/16/2018 11:38 AM
21	express services needed Dial-A-Ride service needed for Seniors	7/16/2018 11:14 AM
22	more hubs for improved connections	7/15/2018 3:59 PM
23	Adding the 111 express	7/10/2018 7:52 AM
24	Improve marketing to change negative perception; social media, radio, billboards, celebrity sightings on bus, etc.	7/9/2018 4:29 PM
25	Improved service to Service Members	7/9/2018 4:26 PM
26	Consider rebuilding the service system to provide more frequent service and less territory coverage.	7/9/2018 4:24 PM
27	Implement Smart Card technology for fare collection.	7/9/2018 11:55 AM

Q6 Looking into the future, which options are you interested in seeing SunLine Service include? Check all that apply.

Answered: 46 Skipped: 0

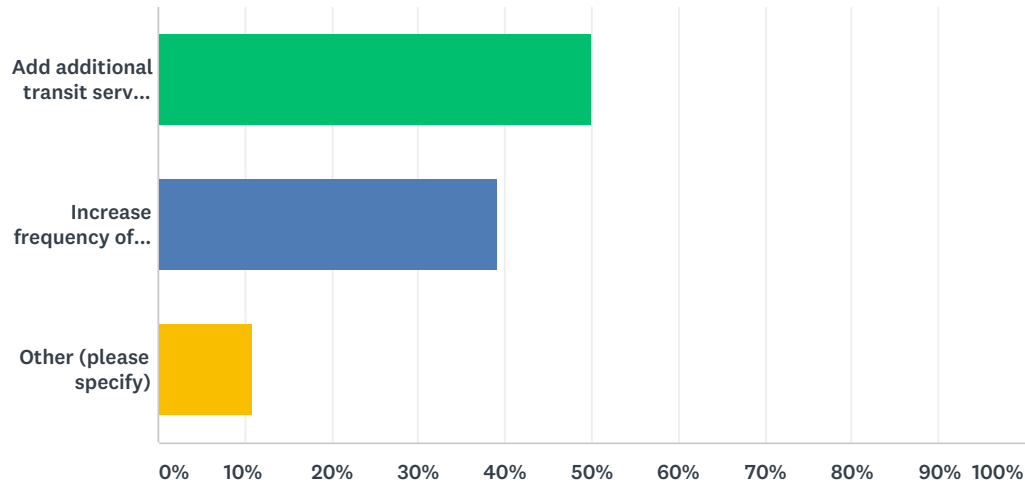


ANSWER CHOICES	RESPONSES	
Alternative service delivery options (e.g. shared transit – partnerships with taxi companies and carpool services)	58.70%	27
Micro transit options (community based van/shuttle services or circulators)	69.57%	32
Emerging transit markets	30.43%	14
New types of services	54.35%	25
Other (please specify)	10.87%	5
Total Respondents: 46		

#	OTHER (PLEASE SPECIFY)	DATE
1	Mobile payment options	7/26/2018 8:55 AM
2	Traffic. STOP THE MADNESS. If buses would open the horizons there would be less cars with one rider in them	7/18/2018 10:45 AM
3	easy to use app to make it easy for the transportation novice to know how to navigate the sublime system.	7/17/2018 8:09 PM
4	increased connctions with Amtrak, Greyhound, Metrolink	7/17/2018 10:22 AM
5	Valley Monorail PS to Indio	7/16/2018 5:34 PM

Q7 How should SunLine respond to projected growth within your community?

Answered: 46 Skipped: 0

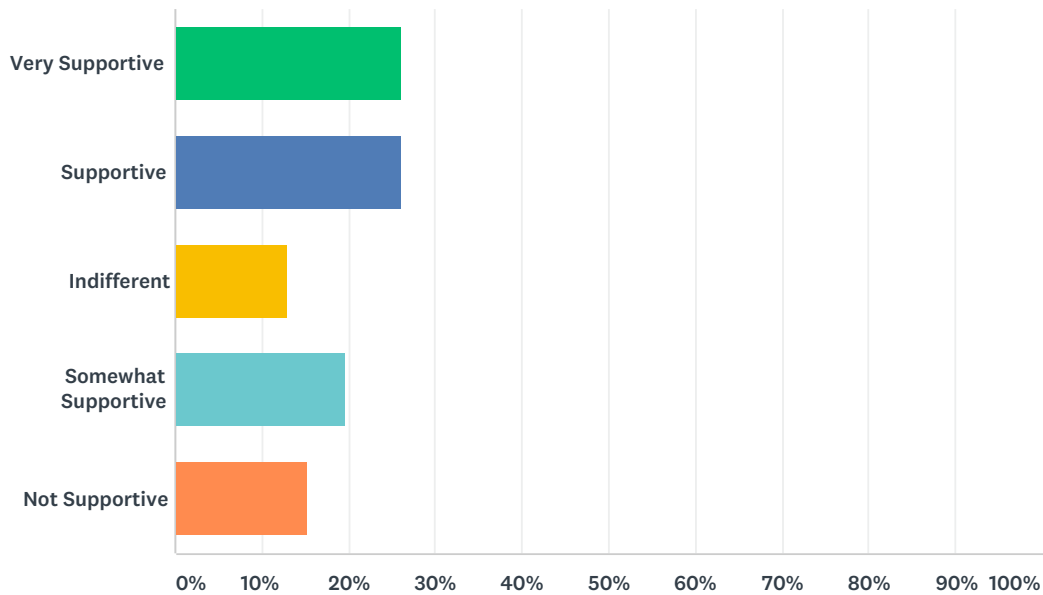


ANSWER CHOICES	RESPONSES	
Add additional transit service corridors	50.00%	23
Increase frequency of service of high ridership routes	39.13%	18
Other (please specify)	10.87%	5
TOTAL		46

#	OTHER (PLEASE SPECIFY)	DATE
1	As stated: monorail!	8/6/2018 9:45 AM
2	Grow and Thing outside the box - expand to to places outside of Desert Communities. Oceans, Los Angeles for workers, San Diego, etc.	7/18/2018 10:45 AM
3	Study what types of services will be needed in growth areas and design a transit service model to best serve that need. Not sure that fixed route large vehicles will be what is most needed.	7/18/2018 8:55 AM
4	Actually we're looking at a population decline as companies replace unskilled workers with automation. So SunLine is going to have to appeal to a more affluent rider, if and when we can create better jobs. But for the short term, we're going to see a decline in population.	7/16/2018 5:34 PM
5	Educate potential riders on how easy service is to use.	7/9/2018 4:29 PM

Q8 How supportive are you of SunLine utilizing resources to focus on high performing routes while scaling back on low performing routes?

Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Very Supportive	26.09%	12
Supportive	26.09%	12
Indifferent	13.04%	6
Somewhat Supportive	19.57%	9
Not Supportive	15.22%	7
TOTAL		46

Q9 Is there anything else that you want to add?

Answered: 24 Skipped: 22

#	RESPONSES	DATE
1	I trust the markets to determine what routes to maintain or dispose of, very cognizant of the idea "we can and we can't please everybody"	8/6/2018 9:45 AM
2	I realize the volume of people riding the bus...and a person s hygiene is hard to address and control... and people should not be discriminated against or prohibited from riding the bus because of body odor but at times the smell is just so overwhelming and it seems to just linger...and penetrates into the seats... Perhaps a continuous deodorizer filtering through the air conditioning of the bus will provide a temporary resolution throughout the day... thats all i got... Thank you for the service you provide...	7/31/2018 10:05 PM
3	Wider coverage with smaller vehicles	7/26/2018 8:55 AM
4	While cutting back on low performing routes is understandable, it affects people negatively. Lower performing routes need more advertising, working with businesses/schools along that route or the city to try to increase ridership before a cut is considered.	7/22/2018 9:19 AM
5	Low performing routes perhaps lack Marketing or efficiency of service	7/21/2018 11:40 PM
6	Make riding the bus more safer, i see a lot of bad people that are rude and aggressive to other passengers and even to the driver especially those under the influence.	7/20/2018 9:51 PM
7	Very friendly drivers!	7/18/2018 2:42 PM
8	Build it and they will come.	7/18/2018 10:45 AM
9	As a senior citizen it is impossible at this time to use the system to efficiently navigate routes and timing to places I need to go to at the times I need.	7/18/2018 9:58 AM
10	1. Don't make the mistake that a low-use route is not needed. The essence of public transit is not to win a popularity contest but to provide for its citizens. 2. We need more routes. I live in Palm Desert along Portola but no stop. That's a major street. 3. Market Sunline so that even the suburbanites who come to live here will want to use it. Let's eliminate the cars and get more of an urban feel into our communities.	7/18/2018 9:43 AM
11	We work with students who live in the east valley and are public transit dependent. Current example - it is taking one of our students 2 hours to get from her home near the Salton Sea to our office in Palm Desert in the morning and 3 hours to return home leaving our office at 5:30pm and arriving home at 8:40pm. There has GOT to be a more efficient way to get around.	7/18/2018 8:55 AM
12	develop van pools for COD and other major employers	7/17/2018 4:22 PM
13	Get drivers that are not rude.	7/17/2018 1:51 PM
14	Clean the buses from the inside so they smell nice and please don't sabotage line 91	7/17/2018 10:00 AM
15	My son relies on Sunbus for transportation. Reliability has been an issue, such as the bus arriving so early so that he misses it, or is exceptionally late, making him miss connections or work time.	7/17/2018 7:21 AM
16	Get more locations	7/17/2018 3:09 AM
17	Bus operators are, by and large, professional, courteous and friendly. Please continue to be kind and mindful of the homeless and the less fortunate. Thank you.	7/17/2018 1:09 AM
18	No	7/16/2018 7:36 PM
19	Be aware that people are often in favor of more mass transit for people OTHER than themselves, as they perceive this will clear the roads for them to drive their own private vehicles on demand. We have a lot of elderly/retired people who won't take a bus after dark under any circumstances. We have a large east valley population that works on demand in the tourist industry in Palm Springs -- often needed to work within 30 minutes. So the poverty-stricken workforce can't get there if they live in Coachella. Transit needs to be designed in with high density workforce housing close to the job centers, e.g. we need 2,500 efficiency apartments (\$350/month) for single adults in DHS or Sky Valley with an express bus ride to the PS Convention Center.	7/16/2018 5:34 PM

SunLine User Survey

20	add more frequent times add express on 111	7/16/2018 11:14 AM
21	Sunline is an amazing place to work.	7/10/2018 7:52 AM
22	Safe, reliable, and easy-to-use service rocks!	7/9/2018 4:29 PM
23	I would be cautious of scaling back low performing routes as those may be life lines for some transit users.	7/9/2018 4:26 PM
24	SunLine does a great job in transporting people to where they want to go.	7/9/2018 11:55 AM



SunLine Board of Directors Interviews

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Date: Thursday, July 19, 2018

Project: SunLine Transit Redesign and Network Analysis

Task: Public Involvement Program

To: Ken Potts – SunLine Transportation Authority

From: HDR – Michael Gorton

Subject: **Task 2.5 Stakeholder Communication – SunLine Board of Directors Interviews**

Background

The SunLine Transit Redesign and Network Analysis has been underway since December 26, 2017. SunLine Transit Agency is conducting a comprehensive network analysis and redesign study of its transit operations in the Coachella Valley region to identify areas of improvement for fixed route and paratransit bus systems. The study provides an opportunity for SunLine to evaluate existing services and adapt to evolving community needs and travel behaviors, resulting in an improved transit system that will carry us successfully into the 21st century. As part of the study, SunLine is seeking feedback from policy makers and tribal representatives to provide valuable input for developing a plan that meets the short-, mid-, and long-term transit improvement needs of our communities. The questions were drafted by HDR with input from SunLine Transit and approved on June 13.

Objective

This memorandum summarizes the eight interviews of SunLine Transit's Board of Directors, who represent the larger Coachella Valley community. The telephone interviews took place between June 15 and June 18.

Board Member	Area Represented	Date Interviewed
Russell Betts	Desert Hot Springs	6/19/18
Greg Pettis	Cathedral City	6/15/18
Kathleen Kelly	Palm Desert	6/18/18
Troy Strange	Indio	6/18/18
Emmanuel Martinez	Coachella	6/18/18
Robert Radi	La Quinta	6/19/18
Lisa Middleton	Palm Springs	6/19/18
V. Manuel Perez	Riverside County	6/18/18



Key Takeaways

Fare increases would be accepted if accompanied by increased service.

While many SunLine riders rely on the low fare, fare increases would be accepted if rolled out in parallel to a marketing campaign that explains increases in efficiencies and service. SunLine constituents have voiced interest in more frequent and reliable service.

Wait times for service could be decreased by exploring on-demand service delivery options.

SunLine employs one of the preeminent sustainable fleets. Certain routes are served by vehicles that are too large for the number of travelers. Residents want quicker, more reliable timings, especially for Route 111. This could be achieved by using lower-capacity vehicles or on-demand transit service for certain lower-performing routes.

SunLine accepts only exact cash fares. Ridership could increase if there were alternative options for purchasing rides.

SunLine's current fare is \$1.00, which can be purchased only in cash per trip. SunLine should explore options for setting a flat rate fare for ease of use and pilot programs to encourage purchase of passes and pass vending machines at high-capacity stops.

Bus shelter spacing should be evaluated for safety and placement.

Most SunLine passengers start as pedestrians. Long wait times during extreme summer weather deter SunLine residents from using public transportation. SunLine should reevaluate shelter options for bus stops. Additionally, SunLine should map bus stop pairs to assess safety.



Interview Summaries

Interview conducted on June 19, 2018, with Russell Betts, Chair

How can SunLine better work to advance transit within your community/organization?

Frequency of service should increase to 15 minutes. Increased ridership could open funding opportunities for state-funded cap/trade grants for housing developments. Bus shelters should be repositioned to eliminate jaywalking. They should be placed in a Z-pattern for efficiency and not farther than 30 feet from a crosswalk.

Routes should be analyzed to align with frequented shopping destinations. Route 14, for example, travels to an unpopular mall. SunLine should consider a line to the Gene Autry/Ramon shopping hub.

SunLine should consider rerouting Line 20; it is primarily a school bus. The route used to serve the Monterey Marketplace Shopping Center at Monterey/Interstate 10.

Make the website more dynamic. Currently, there is a trip planner, but it should answer the most basic questions on the homepage or with one click.

The Valley could pursue a spoke-and-hub approach to feed access to main trunk lines. The current approach has little flexibility if one does not own a car. Additionally, residents should be able to have multitrip flexibility; allow for trips throughout the Valley, not just to one stop and back.

Lastly, SunLine should garner more rider input. While the bus system has a reputation for safety and cleanliness, information from routine riders could enhance the experience.

What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

SunLine should invest in where travelers go and what activities travelers do once they arrive via train. Infrastructure to feed the proposed commuter rail station should be prioritized over funding commuter rail itself. The focus should be on increasing mobility to and from the commuter rail stations.

As both Desert Hot Springs and the East Valley grow, they will compete for transportation resources. If anywhere in the SunLine service area has population to justify a new route, then it should be prioritized.

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

There may be resistance to fare increases, but it needs to be raised. Gradual yearly increases should be mapped out. Additionally, bus operators do not carry any change. If operators or the farebox cannot make change, SunLine must make fare payment easier, otherwise you are left with overpaying. SunLine could invest in a more efficient bus ticketing system with an informational marketing program to teach riders.

HDR should compute the overhead cost of discounted fares; if the overhead for a discounted fare potentially results in a loss, SunLine should not pursue it.



SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

Depends on whether the new arrangement results in lost routes, such as Line 15 or Line 20. The study should consider a spoke-and-hub program as well as circulator service on the Hacienda. If bus lines are removed, SunLine should attempt to maintain coverage using alternative measures, such as small vans or self-driving buses. SunLine should review government and privately funded pilot programs for alternative transportation options.

Is there anything else that you would like to add?

SunLine should prioritize surveying habitual riders. Additionally, HDR should survey SunLine employees who are the day-to-day operators of the system. The ReThink Transit effort should also survey riders on where they think improvements should be made.



Interview conducted on June 15, 2018, with Greg Pettis

How can SunLine better work to advance transit within your community/organization?

SunLine could better serve Coachella Valley residents who travel within Cathedral City. Currently, the Agency serves long-distance riders. It's unclear whether residents know all of their transportation options. SunLine should make more of an effort to market Line 15 and Line 20 within Cathedral City. For example, Landau Boulevard—there are three schools and two or three senior residential complexes, yet no bus service on the street. Transit service on north-to-south work trips within Cathedral City is also needed.

What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

The biggest challenge is the time it takes to get from one end of the Valley to the other. SunLine needs to expand the number of vehicles to achieve more frequency. Because development has occurred to the edge of right-of-way, the time for acquisitions for a dedicated transportation lane or center median for Line 111 has passed. SunLine could consider a local and express service for the 111. The express service should have 10-minute headways in addition to the existing regular service.

Additionally, SunLine should prioritize an express service on Ramon Road from Airport to Thousand Palms. To promote tourism and reduce traffic congestion, alternative transportation options could be studied, including a monorail system along Palm Canyon. Light rail could be difficult as the area changes between light and heavy density development. These options would be expensive and require additional right-of-way on State Route 111. There has been no serious discussion between Valley communities.

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

Cathedral City residents range from lower, middle class to poverty level, and any rate increase would drastically affect their ability to ride the bus. Mr. Pettis said that residents may be willing to pay for quicker, more reliable service in addition to the regular service. Fare increases should be linked to good discount rates for monthly passes so more frequent riders get the benefit. The cash fare should be an easy-to-pay round number, not something like \$1.15. SunLine should provide ticketing machines at key stops in each city, similar to MetroLink where people can buy their passes before boarding the bus.

SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

Residents want quicker times with more service and more reliable service. Riders in Mecca, Thermal, and Oasis can wait hours to catch a bus. Whenever Cathedral City talks about its needs, Thousand Palms is part of the equation.

Development of the downtown transfer station into more of a transportation hub by the Senior Center would go along with providing service to help people get in and out of downtown. This aligns with city's focus on Route 111 through Thousand Palms.

Cathedral City's transfer station was originally located at Monte Hall and Route 111; however, there were complaints about homeless people. Moving the transfer hub was a good move for SunLine and the



businesses. As a result, SunLine is facilitating a development agreement for an apartment complex with a residential developer.

SunLine should establish Transit Oriented Development guidelines; however, the area doesn't have the service levels to sustain that. In an effort to promote ridership, Cathedral City has reduced parking requirements and will allow taller buildings on the 111. Currently, the permits hold no height requirement.

Is there anything else that you would like to add?

SunLine should focus on marketing. It does well in reaching out to lower-income riders but should map a plan to reach out to moderate and upper-income residents. SunLine could pursue a campaign allowing free service once a week to expand the transit market and attract choice riders.



Interview conducted on June 18, 2018, with Kathleen Kelly

How can SunLine better work to advance transit within your community/organization?

There hasn't been recent Palm Desert resident engagement to help form answers to these questions. SunLine should engage residents, targeting the changing Coachella Valley demographic. Residents range from poverty level to working class. Palm Desert recently approved a new rental complex with a substantial number of units, all of whom could be potential riders. The demographic is young families; however, current bus schedules doesn't facilitate use in Palm Desert. Within Palm Desert, there isn't a lot of circulation. Line 21 has very limited hours. SunLine should prioritize the Route 111 corridor. Not many residents know how user-friendly the bus system is.

What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

Frequently in our board conversations, we emphasize that we are a transit authority, not a bus company. Typical Coachella Valley development patterns are not always suitable for public transit to meet residents' transportation needs. Getting to the bus (first mile and last mile) is not easy for many residents.

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

Why would an enterprise looking for more customers think about raising prices? Perceptions about ease of use are a big impediment to increasing ridership. Having a flat fare, around \$1, could help simplify ease of use. Fare increases should increase ease of use. Increasing fares would be a hardship for many residents in Coachella Valley, including many in Palm Desert. To the extent that we have the lowest fares on the planet, I would say hooray—it doesn't mean that we are a step behind but rather that we are engaged with our community. When the Board reviews the total operating budget and the portion supplied by fares, we see more negatives than positives. Fare increases should parallel with new services and promotional outreach. Asked about a potential half-price fare for low-income residents, Board Member Kelly said a discounted fare would present many hurdles because undocumented residents may not qualify.

SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

This premise asks, do we abandon people with other needs, or do we find other ways to meet them? SunLine should facilitate point-to-point transportation that feeds into major corridors. Many residents drive because they believe they don't have an alternative. Integrating bicycle travel is challenging because of the right-of-way and summer heat. Santa Monica is an example where scooter sharing is overtaking bike sharing, in some more populated cities.

Is there anything else that you would like to add?

The transit study should highlight the impact of fare increases as they relate to operational capacity, so Board Members can share that information with their constituents.



Interview conducted on June 18, 2018, with Troy Strange, Vice Chair

How can SunLine better work to advance transit within your community/organization?

Improvements in frequency and first mile/last mile could boost ridership. Residents can live far away from bus routes, and we need an efficient way to get them to the stops and shelters. SunLine should investigate rideshares, depending on how far the ride is. If SunLine wants to improve ridership, they should make it cool: inform people that they are saving energy and reducing greenhouse gases. Currently, bus transportation holds a negative connotation in Indio where riding a bus is just what you do.

What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

The biggest challenge is reaching outlying areas with cost-effective public transportation. We're sending out 40-foot buses for five people—we need a way to put this \$400,000 cost to a better use serving these areas. From a regional perspective, the Mecca, North Shore lines are served by large transport vehicles. There could be a cost savings by providing smaller vehicles to areas that don't have large ridership but still need service. Additionally, if the Valley were agreeable, it would be best to have a dedicated transit lane and investigate traffic signal prioritization.

Is there a role for public transit serving special events? One of the lessons the SunLine Board has discussed is from the high winds during the past Coachella Fest when Walmart allowed recreational vehicles to camp in its parking lot. Could SunLine set up "Park & Ride" locations at local businesses throughout the city for campers during special events?

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

The current \$1 base cash fare seems like a very good value. It's difficult to determine the impact of a transit fare increase because everything adds up for the low-income families that SunLine serves.

SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

I'm a believer in doing what you do well as often as you can. Stick to your strengths and do that well. Adjust/revive areas where we're weak. If we can increase and improve service frequency and look for efficient ways to get people to and from the bus stops, it would help ridership.

Is there anything else that you would like to add?

We need a campaign to improve how we use transit as the population grows. We need to figure out ways to get people on public transit—starting with getting high school students to ride public transit. We need to grow the culture of public transportation.

We have to do more regional planning involving SunLine and other regional agencies. We need to find ways to minimize and mitigate potential traffic resulting from population growth. At the general planning level, how does this play into the entire region? The cities will have to get on board and work collaboratively to be more cohesive around mobility. We need traffic signal prioritization for transit. We also need to improve our built environment to create more walkable, mobile, active communities with bike shares and ride shares.



Interview conducted on June 18, 2018, with Emmanuel Martinez

How can SunLine better work to advance transit within your community/organization?

SunLine has done a good job managing its limited resources, but more can be done. SunLine should increase small stations, improve bus stops, and provide more consistency with bus shelters. All bus stops should have shelters to protect against intense heat and long wait times. Coachella is a commuter town populated with low-income families and individuals, especially those with no access to vehicles. SunLine should prioritize coordination and participation with cap-and-trade grants and climate dollars from state and federal grants to integrate transit within high-density housing areas. SunLine should prioritize a transit hub for the East Valley. Currently, there is a small hub located at 5th and Vine Street. The Coachella City Council is excited to develop plans for Downtown, including a library and senior center.

What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

SunLine needs to prioritize more rural areas of the East Valley, including the unincorporated areas of North Shore and Oasis. Coachella has asked SunLine for services to North Shore. Additionally, SunLine should coordinate with government agencies to investigate sustainable programs. Coachella recently installed bike lanes. SunLine should start an inclusionary conversation between the Cities at a lower staff level to take into consideration the needs of the SunLine Transit Agency. It is important to look at these other models that may bring service efficiencies while filling the community's mobility needs.

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

Fare increases would definitely see some pressures because of demographics and disposable incomes of families with higher levels of poverty. The East Valley has less affluent residents compared to the West. SunLine needs to balance the revenue increases with the new services in the community, otherwise residents will only feel the pressure without understanding the tradeoff. We need to consider the amount of any fare increase and how the new money is tied back into new services for the community. We need to be sensitive to those needs.

SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

SunLine should investigate more frequent service in smaller vehicles to North Shore. SunLine should study other transportation models, such as smaller vehicles, and consider how the agency can sustain its operation.

Is there anything else that you would like to add?

SunLine should foresee future needs for projected growth. Coachella is projected to be the most populated city in the Valley and, therefore, represents the biggest demand for SunLine services. Cities are moving toward multimodal, more walkable, interconnected communities, and moving away from vehicles.



Interview conducted on June 19, 2018, with Robert Radi

How can SunLine better work to advance transit within your community/organization?

First, we need to understand the geographic challenges of the community itself. La Quinta's geographic configuration consists of private golf courses and developments with some lower-income communities who do not qualify for assistance but do take public transportation. Line 70 easily moves residents throughout the corridor, but La Quinta needs circulation service and more frequent auxiliary support into the 70. La Quinta Cove is hard to reach. While Line 70 is doing a fairly good job, it needs a circulator to get people to the stops.

What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

Weather and distance are the biggest challenges in the Coachella Valley. The typical bus stop without a shelter does little to provide relief during the very hot months. Lack of shelters during extreme wind and dust discourages people from using public transportation. Large pockets of residents live far away from trunk lines, making walking and biking to the stops a challenge.

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

If SunLine increases fares or fees it should accompany service updates with added value. The issue is not about increasing fares, it is how to frame the communication to residents about the value SunLine is adding. Will service enhancements save travel time?

SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

Residents should only have to walk half a mile maximum to reach a bus stop. SunLine should focus on increasing frequency, so residents will make public transportation part of their daily routine, turning them into long-term customers. Currently, SunLine's resources are not being used appropriately—sometimes large, costly vehicles are used to transport minimal riders. SunLine should reimagine the corridor by looking at alternative vehicles and different routes to value engineer its limited resources.

Is there anything else that you would like to add?

Imagining the Valley in 5 years, we need to move toward a complete street transportation system that encourages more walking and biking in the city of La Quinta. How do we create this flow? The Tampico Corridor, 111, Jefferson, and Washington are all not touched by public transit. The overall culture in the area is to transition residents into public transportation. Currently, the La Quinta corridor is not being served by public transportation; brainstorming is needed to identify the right type of vehicles to service the area. We need to create a blended system where public transportation is part of their life but not because riders have no other option.

The SunLine Board needs to be part of the master planning of each city as they grow, and be able to identify various funding sources at a state and federal level. There should be a connection between the Valley focused on walkability and sustainability. For example, in the city of Coachella, a new



transportation hub is being developed near the 6th Street DPSS building. Additionally, SunLine should coordinate planning with a new development near La Entrada.



Interview conducted on June 19, 2018, with Lisa Middleton

How can SunLine better work to advance transit within your community/organization?

The City of Palm Springs would like to transfer the BUZZ routes to SunLine. Palm Springs hosts the three highest-use routes in the Coachella Valley. The biggest recommendation would be a reorganization of the routes. Additionally, SunLine should employ a marketing strategy to inform residents about the routes, which, in turn, will increase ridership. Ninety percent of the people who don't use the bus regularly couldn't tell you what the bus routes are. We need to get the information out so people know what routes are out there.

What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

From a Valley-wide standpoint, SunLine needs to do a better job of defining routes, connections, and frequency and take a step back to look at today's service to make sure routes match up with the markets.

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

Fare increases are going to be the most difficult for lower-income residents. As a result, some individuals will show resistance to change. The Valley should explore passes, such as the San Francisco MUNI, with subsidized passes based on income level. Individual cities may be able to provide a subsidy for their residents.

SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

It would be beneficial to explore public transit options that use a smaller vehicle and operate more frequently. The area has seen a transition from taxi to Uber/Lyft and the lessons learned is that the public has jumped on traveling through ride shares. They enjoy the idea of having a "person" pick them up instead of a taxi. SunLine should alter the look and feel of riding the bus, in an effort to get people out of their vehicles.

Is there anything else that you would like to add?

SunLine should examine ridership in Coachella Valley in relationship to other metropolitan areas ask if the right type of vehicles is being used.



Interview conducted on June 18, 2018, with V. Manuel Perez

How can SunLine better work to advance transit within your community/organization?

One of the top issues is that many of SunLine's stops don't have shade structures or benches. This study won't be relevant if SunLine is working to advance transit that's not convenient. No shelter from the extreme heat stops potential riders from utilizing our service. We need to look at how we can improve the 30- to 50-minute wait times.

There was discussion about how SunLine could support special events, such as the Coachella Festival, but SunLine's options are limited because it cannot provide charters in direct competition with private providers. What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

SunLine needs to ensure lower wait times and target specific populations, such as veterans. Instead of vanpool, how can SunLine move our veterans directly to and from the Loma Linda hospital and/or local clinics? SunLine should plan to support ecotourism in the area. This could include direct trips to and from designated meeting points using van pools.

SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

This is a delicate balance knowing that we have the lowest-income residents regionally, but we have to think about some sort of cost recovery. Residents would pay more if the SunLine experience was more convenient. Bay Area residents tolerated increased fares because the system is convenient, on-time, with low wait times. People would pay more if they received more when it comes to convenience. Perhaps we should have some sort of means test to assist low-income individuals.

SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

SunLine is a vast area, with pockets of affluence and poor, rural areas on the east side and more populated west side, all of which are subjected to the same extreme weather. We should teach children about the benefits of public transportation. Considering those challenges, we need to appreciate SunLine for overcoming and sustaining this long, especially through the work of the 111 Music Festival and the Student Art Contest. SunLine has one of the most environmentally friendly fleets in the nation, using clean natural gas and fuel cells. SunLine should tout this work to the community.

Is there anything else that you would like to add?

SunLine needs to be involved in the master planning process of cities as they grow. There needs to be walkable connections for sustainable transit. In the city of Coachella, there is a new mixed-use transit hub planned on 6th Street near the Department of Public Social Services building that will include apartments. At La Entrada on the west side of Interstate 10, we need to make sure that the development has a connection to public transportation.

As far as funding, we need to figure out what additional state and federal sources are available to support public transportation, including funding specifically for veterans transportation.



Tribal Interviews

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Meeting Minutes

Project: SunLine Transit Redesign and Network Analysis

Subject: Agua Caliente Band of the Cahuila

Date: Tuesday, September 18, 2018

Location: SunLine Transit Agency

Attendees: Margaret Park, Agua Caliente Band

Ken Potts, SunLine

Diego Rojo, SunLine

Luis Salcido, SunLine

Michael Gorton, HDR

Mr. Potts started the meeting by introducing Ms. Park and the SunLine team. He said the purpose of the meeting was to continue the dialogue between SunLine and the Tribe to further a mutual understanding of the transportation needs and issues of the Coachella Valley.

Mr. Gorton noted that SunLine had conducted a number of similar interviews with policy makers using a standard set of questions. Before turning to the questions, Mr. Gorton asked Mr. Park to provide background on the Agua Caliente Band of the Cahuila Indians and its history in the Coachella Valley.

Ms. Park said the Agua Caliente Band of the Cahuila Indians is a federally recognized tribe established in 1876 on lands left over from the United States' land grant to the Southern Pacific Railroad. The reservation lands are a checkerboard pattern of over 32,000 acres.

The reservation boundaries do not change, although some land has been sold. Portions of the Palm Springs Airport on tribal lands. When Palm Springs, Rancho Mirage, and Cathedral City were incorporated, the tribe entered into land use contracts with the jurisdictions. The tribe has delegated land use decisions to the jurisdictions, but the tribal council has underlying authority in the event of a dispute. Ms. Park said the Tribe works with the jurisdictions for the highest and best use of its lands.

Streets are managed by the local jurisdictions, but Indian Reservation Roads Program funds that administered by the Bureau of Indian Affairs and the Federal Lands Highway Program can be used as federal matching dollars.

The Tribe is planning to open its third casino in 2020 in Cathedral City. This 65,000 square-foot facility will be located at the intersection of Date Palm Drive and East Palm Canyon Drive. At its facility in downtown Palm Springs, the Tribe has demolished a hotel to build a cultural center and spa. She said there approximately 2,500 casino and tribal government employees.

After Ms. Parks provided this overview of tribal activities, Mr. Gorton moved to the SunLine interview questions:

- 1) How can SunLine better work to advance transit within your organization?

Mr. Park said that SunLine has been a good partner for the Tribe. This has included collaboration on bus shelters at the casinos. Other than continuing to consult and collaborate, she is not sure what more SunLine can do for the Tribe at this point.

- 2) What is SunLine's biggest challenge supporting and expanding mobility options in Coachella Valley?

The biggest challenge to improving mobility options is improving bus frequency, Ms. Parks said. Other items include supporting the continuing expansion of College of the Desert and the Coachella Valley Link, or CV Link. As envisioned, the CV Link is a proposed 50-mile regional path system using the Whitewater River channel that will be accessible to bicyclists, pedestrians and low-speed electric vehicles. Mr. Rojo said that SunLine is considering bike share at trail exits that can be used in conjunction with public bus service.

- 3) SunLine's base fare is lowest among its peers. SunLine is considering an incremental program of service enhancements combined with gradual fare increases aimed at service efficiencies and increasing revenue. What are the issues you see related to transit fare increases in your community?

The proposed incremental fare increase would probably not affect tribal members, but may affect the tribal casino workers, Ms. Park said.

- 4) SunLine is actively working on reallocating underperforming services into its top performers by improving the frequency and coverage on those lines. The agency is also launching more innovative alternatives in those areas where bus service has not been productive. The team believes that less frequent service in larger corridors is no longer what the public is looking for in transit. Do you think this is a good approach in your community? What other factors do you believe should be considered when serving your city?

Ms. Park said that the Tribe's lands are in the western, more densely populated, portion of the SunLine service area. Improving frequency on productive routes like Line 111, Line 30, and Line 14 would benefit the Tribe, she said.

- 5) Is there anything else that you would like to add?

Ms. Park suggested that SunLine should reach out to the Coachella Valley Association of Governments as part its transit redesign and network analysis effort.

Appendix B. Service Standards Policy

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PURPOSE

The purpose of the Service Standards Policy is to provide a policy framework for guidance of staff in the design, operation, and management of SunLine's transit services. The standards are designed to support the agency's mission, vision, and goals, and consequently create a resource-efficient system that provides effective service to all users.

The service standards and performance measures should be reviewed every 2 years and updated as appropriate to ensure they are consistent with SunLine's evolving goals, as well as regional, State, federal mandates.

POLICY

Scope

The provisions of this policy shall apply to all SunLine staff in the design, operation, and management of SunLine's transit services.

Objectives

SunLine's Service Standards Policy objectives shall:

- a. Promote the continuous improvement of transit service throughout the Coachella Valley and the maximization of mobility benefits to the community.
- b. Support the agency in meeting federal Title VI of the Civil Rights Act of 1964 (Title VI) requirements in avoiding arbitrary discriminatory decisions regarding provision of transit service.
- c. Support the agency in meeting local, State, and federal requirements and standards outlined in policies such as the State Transportation Improvement Program, regional Transportation Improvement Program, Fixing America's Surface Transportation Act, etc.

PROCEDURE

Background

SunLine is the sole provider of regular scheduled fixed-route (SunBus) and complementary Americans with Disabilities Act of 1964 (ADA) Paratransit (SunDial) service for the Coachella Valley in southern California.

SunLine Transit Agency is a Joint Powers Authority established in 1977 to provide public transit services to nine member cities and seven Riverside County unincorporated communities. It is governed by a Board of elected officials, one from each of the nine member cities, plus the county supervisor.

The stated vision, mission, and goals of the agency are as follows:

Vision

- SunLine Transit Agency effectively and efficiently connects communities and is therefore the regional transportation mode of choice.

Mission

- To provide safe, cost-effective, accessible, and environmentally conscious public transportation services that meet the needs of the Coachella Valley, and that are positioned to adapt with emerging technologies, service delivery models, and evolving travel markets and travel behavior.

Goals

- To provide high-quality transportation services that are safe, efficient, and effective.
- To provide leadership for the region's multimodal mobility needs.
- To be a leader in emerging transit technologies and service delivery models.
- To increase customer focus, grow ridership, and ensure regional economic development and competitiveness.
- To provide opportunities to develop the SunLine employee of the future.

Service Area and Transit Network

SunLine has a 1,120-square mile service area from the State Route 111/Interstate 10 junction in the northwest to the Imperial County border in the southeast, bounded by mountains to the north and south. The agency currently serves the nine member cities (from west to east) of Desert Hot Springs, Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, plus the seven unincorporated communities of Thousand Palms, Bermuda Dunes, Desert Edge, Thermal, Mecca, Oasis, and North Shore.

SunLine operates a range of services:

- SunBus provides Coachella Valley with fixed-route bus service. The following are general service characteristics of the services provided by SunLine:
 - Local Lines – connect riders to higher headway transit services.
 - Trunk Lines – operate in corridors that are expected to meet a higher level of performance.
 - On-demand – connects lower ridership rural markets with local and trunk lines.
- SunDial provides transportation service required by the ADA for individuals with disabilities who are unable to use the SunBus fixed-route service; the system must be comparable with the fixed-route system.
- Half Fare Taxi Voucher Program is a curb-to-curb, premium demand response service designed to transport residents of the Coachella Valley who are 60 years of age and older. It is provided through local taxi operators and is available 24 hours a day, year round. The continuation of this program is contingent upon grant funding.

Service Standards Overview

This section sets service standards for service design, service performance, service quality, and service warrants.

- **Design Standards:** Refer to the design of transit services with regard to service tiers, headway, service span, stop and route spacing, route alignment, connectivity, and stop amenities.
- **Performance Standards:** Used to evaluate the performance of existing transit services to continuously improve productivity and sustainability.
- **Quality Standards:** Used to maintain and improve the consistency and reliability of service delivery as well as the passenger experience.
- **Warrants Standards:** Provide a way to determine which areas within the service area would have both the passenger demand and performance potential to produce cost-effective transit service.

Service Design Standards

The SunLine bus system reflects the character of the Coachella Valley. Community aspirations and geographic factors such as the street and sidewalk layouts, land use, population and employment density, and the location of important activity centers have all worked together to shape existing transit service.

SunLine's service design is based on the principle that bus routes should be direct, frequent, and fast. Bus routes should connect major groups of customer origins and destinations. System design should not focus on one route, but rather look holistically at the entire network.

Route alignments should be simple and easy to understand. Service should be direct in both directions and avoid being circuitous. Open loops and duplication of coverage should also be avoided.

Transfers should be planned to occur at the same stop or intersection. On-street transfers are generally more efficient than off-street transfers in terminals.

Service Tiers. The SunLine transit network is classified into four tiers that define the service level and performance expectations for each service:

- **Trunk Lines** – Routes 111 and 2
- **Local Lines** – Routes 3, 4, 5, 6, 7
- **On-demand Service** – Rural transit
- **SunDial** – Paratransit service

Trunk Lines are designed to move riders efficiently between Coachella Valley's main urban centers.

Local Lines are designed to move passengers within Coachella Valley's urban centers and provide connecting service to a trunk line.

On-demand Service provides a link between Coachella Valley's rural areas and bus lines connecting to urban centers.

SunDial is SunLine's paratransit service for individuals qualifying for ADA services and who are unable to use traditional SunLine services.

The following are key service planning operating parameters for fixed-route service for effective service delivery:

- service headways and span of service
- stop spacing
- route spacing
- route alignment
- connectivity
- stop amenities

Minimum service level specifications or warrants are responsive to the service tiers, network connectivity, and ridership/demand requirements. Minimums may be exceeded where supported by demand and prioritized for funding of such higher service levels.

Service Headway and Service Span Standards

Service headway is a leading factor that attracts and retains riders to a transit system. Headway defines the time between successive buses and how long customers wait for bus service in relation to the time when they arrive at the stop. While short headway service is desirable, different ridership and service types warrant different levels of transit service.

Similar to service headway, service span affects the passenger travel options. Routes with similar network roles should have similar spans in order to facilitate travel throughout the SunLine network. For both headway and span, it is important to balance convenience for passengers with ridership, funding and resource constraints. Table B-1 shows headway and span by service type.

Table B-1. Headway and Span by Service Type

Service Type	Headway			Span of Service		
	Weekday Peak/Off-peak	Saturday	Sunday	Weekday	Saturday	Sunday
Trunk	15/20 minutes	30 minutes	30 minutes	6:00 AM–10:00 PM	7:00 AM–9:00 PM	7:00 AM – 9:00 PM
Local	20/30 minutes	30 minutes	30 minutes	6:00 AM – 10:00 PM	7:00 AM–7:00 PM	7:00 AM – 7:00 PM
On-demand	Based on demand	Based on demand	Based on demand	6:00 AM – 10:00 PM	7:00 AM–7:00 PM	7:00 AM – 7:00 PM
SunDial	Based on demand	Based on demand	Based on demand	6:00AM – 7:00 PM	6:00AM – 7:00 PM	9:00 AM – 6:00 PM

These are minimum standards established by SunLine and can be revised where sustainable (that is, where ridership demand warrants, performance measures can still be met, and increased funding can maintain operation).

Stop Spacing Standard

The Stop Spacing Standard defines planned or desirable distance between bus stops. This involves balancing access to service and bus operating speeds and passenger travel time. Close stops (<0.25 mile) allow more riders to access the system because of the short walking distances to stops. However, more frequent stops create longer trips for riders (that is, slower service speed). Stops farther apart (>0.25 mile) create longer walking distances but more infrequent stops, higher speeds, and, therefore, faster bus trips.

Based on industry best practices, SunLine generally follows a 0.25-mile stop spacing standard to provide riders with access to the system; however, the stop spacing standard varies slightly by service type to align with other service standards and performance goals.

Bus stops should be located in pairs at the far side of intersections to minimize mid-block pedestrian activity on busy arterial streets. As well, stops should be provided in pairs to accommodate both inbound and outbound travel. Table B-2 summarizes the recommended bus stop spacing by service type.

Table B-2. Recommended Stop Spacing

Service Type	Stop Spacing Range (miles)
Local	0.20–0.50
Trunk	0.25
On-demand	>0.25

Route Duplication Standard

Route duplication can create redundant service competing for the same passengers. Although some duplication may exist, it shall be minimized to generate efficiency. Two different travel markets could exist together in a way that some service duplication is warranted.

Route Alignment Standard

SunLine fixed-route lines are designed to provide service using direct pathways between urban centers. Route deviations and out-of-direction movements shall be avoided to optimize route and system-level performance. However, there may be times where line deviations are needed because of significant trip generators, construction, special events, and/or inclement weather.

Connectivity Standard

Route transfers should be planned for the same stop or intersection. On-street transfers are generally more efficient than off-street transfers in terminals. The transit redesign implements clock-face headways to facilitate transfers.

Bi-directionality Standard

All routes should be designed to provide bi-directional service, allowing users to board a return trip in the same vicinity as where they alighted their inbound bus.

Stop Amenities Standard

SunLine provides amenities (a bench and waste container) at all stops where a sidewalk exists (and sufficient space is available).

All stops with at least 50 average daily passenger boardings should have a shelter installed, unless prevented by local conditions (such as available space or design issues, as determined in consultation with each City or the County).

New bus stops will be installed as mandated by ADA guidelines. As funding permits, the agency will upgrade existing stops to meet the standards set forth by ADA.

Service Performance Thresholds

SunLine regularly reviews service performance of routes to adjust service supply to demand within the capacities of the agency. A quartile-based performance threshold is recommended to compare and measure the relative performance of individual routes. This tool will allow SunLine to identify the top 25 percent and bottom 25 percent performing routes.

Passengers per revenue hour is the recommended key performance indicator (KPI) for evaluating SunLine's service. It measures service effectiveness or productivity based on ridership (passenger boardings) generated for each revenue hour of service operated.

Service Quality Standards

Service quality standards contribute to the reliability and consistency of service delivery. Riders may first be attracted to transit service based on headway and span. Choice riders may continue to use services because they can reliably get to their destinations on time. Unreliable service often results in decreased ridership. Service quality standards are proposed to be measured using the following operational and passenger experience metrics:

- on-time performance (service reliability)
- percent service delivered (service reliability)
- miles between service interruption (service reliability)
- load standards (service comfort)
- average fleet age (service comfort)
- bus deployment policy

Each suggested metric is discussed in more detail below.

On-time Performance: This KPI measures service reliability as defined by adherence to the published service schedule. "On-time" is when a trip departs a time-point within a range of 0 minutes early to 3 minutes late. To achieve targeted on-time performance, service running times must be calibrated regularly based on existing conditions. SunLine has a relatively uncongested operating environment, which helps support a high KPI for on-time performance. The on-time performance target is 90 percent for all services. This target helps show riders that 9 out of every 10 trips will arrive at the scheduled time.

Runtime variants also affect service speed and reliability. Runtime is the time allotted in a transit schedule for a route to travel from one time point to another time point, or from

end-of-line to end-of-line. Calibrating the runtime for the day of the week and hour of the day (for example, peak vs. non-peak) helps routes and the overall system adhere to or surpass the adopted on-time performance. It is important to review runtime variants regularly because roadway traffic conditions are ever-changing.

Miles between Service Interruptions: This KPI measures service reliability as defined by revenue miles between service interruptions, regardless of cause. SunLine’s standard is 5,000 miles.

Load Standards: This service quality KPI establishes load standards for various vehicle types and is measured for each trip operated. While it may be acceptable for some riders to stand on the bus for short distances or time periods (for example, under 2 miles and/or 10 minutes) during peak periods, it is generally accepted that seating should be available for all riders during normal off-peak conditions. Table B-3 show load standards.

Table B-3. Load Standards

Service Period	Maximum Consistent Load Factor
Peak	Average over 133% of seated load = 50 passengers
Off-peak	Average 100% of seated load = 38 passengers

Any vehicle operating at high speeds on state highways requires all passengers to be seated, reducing the maximum load on these services to 100 percent of seated capacity.

Average Fleet Age: The age of the vehicle fleet affects performance and reliability of transit services as well as system attractiveness to customers. SunLine’s standard for average fleet age is no greater than 10 years. Adhering to the average fleet age standard will help ensure a reliable and comfortable passenger experience.

Bus Deployment Policy

Bus deployment specifies the type of vehicle that should be used to operate individual routes. The type of vehicle deployed on a route depends primarily on ridership demand and trip loads. Using incorrectly sized vehicles on routes can unnecessarily add operating cost to a route or result in overcrowding issues. Table B-4 shows the bus deployment policy.

Routes 111, 2, and 3 should use 40-foot buses given the higher passenger volumes.

Other lines should use either 40- or 32-foot buses based on ridership demand.

Table B-4. Bus Deployment

Service Type	Vehicle Type
Trunk lines	40-foot buses
Local lines	32- or 40-foot buses depending on ridership demand
On-demand service	15-passenger van or sedan

SunLine will review the bus deployment policy every 2 years beginning in 2018, and will make necessary adjustments as the fleet is updated and to ensure compliance with Title VI requirements.

SunLine Transit Agency is in full compliance with Title VI of the Civil Rights Act of 1964 that protects people from discrimination based on race, color, and national origin in programs and activities receiving federal financial assistance. SunLine ensures equitable distribution of its assets in delivery of transit services to the people of Coachella Valley.

Buses are assigned according to successful completion of maintenance functions without regard to route assignment, or vehicle age, except in size considerations as outlined above. Additionally, fuel cell buses are assigned to routes with shorter distances and/or durations that are within the acceptable range capacity of those vehicles.

Adequate numbers of buses are assigned to routes with high demand to avoid instances of overcrowding or passenger standees. All SunLine buses are fully air conditioned and are 100 percent accessible to persons with disabilities.

Warrants Standards

Warrants standards provide a way to determine which areas within the large service area will have both the passenger demand and performance potential to produce cost-effective fixed-route transit service. To ensure the financial sustainability of the agency, SunLine will introduce only those new services that operate above the lower-performing route quartile or with productivity that is within 15 percent of the system average.

Planning new services around these guidelines will help ensure successful performance of new routes. Providing a set of guidelines for which areas warrant all-day fixed-route service will help SunLine respond to future community requests for new service.

Network Role

New services should be evaluated for their place in the overall transit network. Each new route in the network will have a unique role, whether it is facilitating transfers with existing services, introducing service coverage to a recent development, or providing connections between current routes and major destinations. While successful new routes connect with existing services, they should not duplicate existing service or compete for passengers.

Market Opportunities

There is a strong correlation between service performance, surrounding population, and employment densities—the more people with access to a route, the higher the route's potential ridership. Population-dense areas tend to coincide with mixed-use neighborhoods, walkable environments, and higher populations of transit-friendly constituencies such as students, seniors, zero-vehicle households, and low-income populations.

The minimum population and employment density for the introduction of new all-day fixed-route transit service is an average of 10 people/jobs per acre within a half mile of the proposed route:

$$\frac{\text{Sum of population and jobs within } \frac{1}{2} \text{ mile of route}}{\text{Sum of population and employment acres within } \frac{1}{2} \text{ mile of route}} \geq 10$$

At densities over this minimum threshold, transit has the opportunity to play a meaningful role in public mobility. Areas with densities below this minimum threshold are not considered supportive of fixed-route service and should not be subjected to further analysis. Areas in this category that have unmet needs may be served by alternative options to fixed-route service.

Unmet Mobility Needs

SunLine should strongly consider the mobility needs of transit-dependent populations when evaluating where to operate service. In assessing the area's demand for transit service, it is important to examine the presence of these demographic groups and identify any present unmet needs.

Key Destinations

Key destinations likely to generate higher demand for transit service include major area schools, colleges, universities, hospitals, retail/commercial/entertainment centers with more than 10 people/jobs per acre, and open residential communities (not gated), and those with relatively lower income and vehicle ownership levels.

Evaluating New Services

New lines should be monitored to determine whether they are reaching the desired performance standards. The line should first be evaluated after 6 months to determine whether it meets more than two-thirds of its performance standards. New services not meeting the minimum standards at the end of an 18- to 24-month trial period are subject to corrective action or discontinuation.

In some cases, trial periods for new services may vary based on the requirements of grant funding. For example, if a grant provided 3 years of funding for a route that did not meet standards, this route may still be operated for the full 3-year period.

Major Service Change

According to the provisions of the Title VI (FTA C4702.1B), no person in the United States shall, on the grounds of race, color, or national origin, be excluded from, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

To comply with FTA C4702.1B, SunLine has implemented the following policy regarding the Title VI Analysis of proposed affected routes and/or schedule changes prior to the implementation of any significant service changes or fare increases.

A mandated service change occurs no more than three times a year, unless necessitated by service adjustments and/or other operational requirements. A major service change is defined by SunLine as any permanent service change (6 months or longer duration) of 25 percent or more increase or decrease in revenue hours and/or revenue miles, span of service, or alignment miles for a given route or the network overall for any day type (weekday, Saturday, Sunday, and holiday). Such changes require a public hearing and SunLine Board approval before implementation.

Under Title VI requirements, SunLine also identifies a Disparate Impact Policy and Disproportionate Burden Policy to ensure low-income and minority populations are not adversely affected by service changes:

- **Disparate Impact Policy:** A disparate impact occurs when the impact of proposed service or fare changes on minority populations is 20 percent greater than the impact on non-minority populations.
- **Disproportionate Burden Policy:** A disproportionate burden occurs when the impact of proposed service or fare changes on low-income populations is 20 percent greater than the impact on non-low-income populations.

Reporting and Management

To monitor KPIs adequately, data will be reviewed monthly or quarterly, as most appropriate. The Board of Directors will receive an annual performance report in December.

All services will be monitored for adherence to the productivity, farebox recovery, and subsidy per passenger guidelines and are divided into three tiers based on performance:

- **High-performing service:** performs in the top 25 percent of all routes
- **Average-performing service:** performs in the middle quartiles for routes
- **Low-performing service:** performs in the bottom 25 percent of all routes

High-performing Service – Green (top quartile)

Lines with high performance suggest the need for greater investment because high performance may signal the presence of significant latent demand. This category of service constitutes the top-performing tier of the entire SunLine system. It is very important to maintain a high-quality level of service and to continue further investment. Creating standards for high-performing service prioritizes investment in the core system. Upgrading high-performing lines directs investment where it will be most effective.

The primary form of investment is in service headway. Shortening headways will prevent overcrowding on popular routes and make the service more attractive to a wider pool of potential customers. It will make the service more convenient for both current and future riders. Another investment is providing enhanced high-quality features along the route. Bus bulbs, bus-only lanes, and transit signal priority are all methods for decreasing delay and travel time along a route and improving the customer experience. Upgrading amenities at bus stops also makes services more attractive to riders and enhances the branding of SunLine services. All of these investments make buses more competitive with automobile travel.

Average-performing Services – Yellow (middle quartiles)

Services in this category are adequately fulfilling their roles in the transit network, and no corrective action is required. These routes will be monitored on an ongoing basis to determine how their performance changes over time. While Green tier services should be prioritized for service investment, the same investment strategies can be applied to the Yellow tier services to improve system performance.

Low-performing Services – Red (bottom quartile)

Low-performing services indicate ridership demand may not be high enough to justify the amount of resources being invested. Since SunLine works within the constraints of limited resources, it is important to ensure that the use of each route is being maximized.

Corrective action plans for low-performing services are designed to help improve performance to justify the level of resource investment. For productivity, lines will be considered to be “low-performing” if they do not reach 75 percent of the performance target for its tier. For the farebox and subsidy standards, the line must exceed the minimum threshold.

Corrective Action Plan

The corrective action plan will examine the routing, schedule, route segments, and span of service to diagnose weaknesses in the route’s current operations. Using the information gathered, SunLine will develop a plan for improving performance, which will be implemented in the next feasible service change given the limitations in place regarding public process, public hearing (if required), and annual service change calendar. Areas of consideration follow:

- **Segment-level Analysis:** A segment-level analysis may highlight a specific portion of the line that limits overall performance, causing it to perform below the standard for its tier. If a low-performing segment is identified, it can be modified in an attempt to raise the productivity of the route as a whole.
- **Operational Analysis:** Realigning service to cover only critical segments or eliminating unnecessary delay (for example, deviations) are ways to reduce travel time and save resources, thereby raising performance levels while retaining ridership.
- **Change in Service Levels:** Adjusting the service levels of a low-performing route (for example, by any combination of headway, span, or day of week changes) may help tailor the transit product to its market and subsequently increase productivity.
- **Cost-sharing:** Exploring cost-sharing or public-private partnerships can reduce the amount of subsidy required to operate low-performing services. This is applicable for services that do not meet minimum performance standards yet serve a need identified by businesses, schools, attractions, or other organizations that may be willing to assist with funding operations to continue service.
- **Targeted Marketing:** Marketing tactics can help raise the public awareness of a service in need of improvement. Poor ridership may be a result of a lack of public knowledge of a route, and investing in marketing can help reverse this trend. This is especially the case for targeted market groups like employment centers, shopping districts, schools, hospitals, agencies, and other major destinations.
- **Rider Outreach:** Onboard surveys and rider interviews are methods for gaining valuable information on how a route can be improved. These methods can reveal information about popular destinations that a route may bypass or other aspects of a service that may be holding back ridership growth.

Consequences/Outcomes

Once a corrective action plan is implemented, the route must exceed “low-performing” in two of the three performance metrics for at least one quarter within the first three successive quarters or face further action, which may include line elimination. If a route meets the expectations, the corrective process will be deemed concluded. Subsequent low performance will be reviewed as a new event.

In the event the corrective actions are unsuccessful in raising at least two of the metrics (productivity, farebox recovery, or subsidy per passenger) to above “low-performing” after six consecutive quarters, discontinuation may be necessary to ensure effective use of agency resources.