Lake County
Transit Development Plan - 2023 Update

Final Report

Prepared for the

Lake Area Planning Council

LAKE APC
LAKE AREA PLANNING COUNCIL

May 10, 2023

Prepared by LSC Transportation Consultants, Inc.

Lake County
Transit Development Plan
2023 Update

Final Report

Prepared for

Lake Area Planning Council (APC)
525 South Main Street, Suite G
Ukiah, CA 95482

Prepared by

LSC Transportation Consultants, Inc.
2690 Lake Forest Road, Ste. C
Tahoe City, CA 96145
530-583-4053

May 10, 2023

This page intentionally left blank.

TABLE OF CONTENTS

SECTION *PAGE*

LIST OF TABLES

TABLES *PAGE*

LIST OF FIGURES

FIGURES *PAGE*

Chapter 1
INTRODUCTION

INTRODUCTION

Transportation is a central issue to daily life, allowing people to achieve all of their specific obligations and activities. Transportation considerations are especially important in Lake County, with smaller communities and scattered population centers connected by winding state highways and local roads. Many Lake County residents, moreover, find it challenging, if not impossible to travel by car to access commercial, medical, educational, and social service resources.

Enhancing local mobility helps people access the social and medical services, employment opportunities, and education centers they need, resulting in an improved economy, sense of community, and overall wellbeing across a region. Ensuring people can reach the services they need, both within their own community as well as in the greater Lake County area, is therefore a priority concern. Public transit is a resource that can provide mobility to those in greatest need, such as individuals with a disability preventing them from driving or those who do not have a personal vehicle available. In addition to promoting equity by assisting individuals with limited mobility, public transit can also provide a range of important economic development and environmental benefits.

The Lake Area Planning Council serves as the Regional Transportation Planning Agency (RTPA) for Lake County, and has retained LSC Transportation Consultants, Inc., to prepare an update to the county's Transportation Development Plan (TDP). The TDP serves as an opportunity to analyze the public transit system's current operations and to identify potential changes that, if implemented during the next five years, could improve public transit, so that it can better serve Lake County communities.

This document explains the context for transportation in Lake County, including current and future demographic conditions, recent transportation planning efforts, unmet transit needs across the region, the recent operating history of public transit services, information on connecting services, a summary of public outreach efforts, an evaluation of service alternatives, capital alternatives, funding alternatives, and institutional alternatives. Ultimately, the findings from each chapter will be used to inform improvements and service revisions presented in this final, updated Lake County TDP.

This page intentionally left blank.

Chapter 2
STUDY AREA CHARACTERISTICS

STUDY AREA

Located in Northern California's Coastal Mountains, Lake County's geography is characterized by beautiful and rugged terrain. The northern portion of the county lies within the remote Mendocino National Forest. Clear Lake is an iconic geographic feature in the county and the largest freshwater lake entirely within the state of California. The scenic Mount Konocti looms over the shores of Clear Lake, defining the horizon for many in the region. Considered to be part of California's wine country region, many of the hillsides in southern Lake County are covered with picturesque vineyards.

While beautiful, travel across Lake County is challenging due to the mountainous landscape and water features. Most of the county's residents live in communities near the shores of Clear Lake, but there are also residents who live in communities located in the more mountainous areas of the county. Outside of the county, interregional travel is also difficult due to the expansive Coastal Mountains. There are no interstates in Lake County, rather cities and towns are connected by meandering state routes and local roads. State Routes (SR) 20, 29, 53, and 175 serve as major transportation corridors in Lake County. The entire study area is shown in Figure 1.

There are two incorporated cities in Lake County (the Cities of Clearlake and Lakeport) in addition to about a dozen census-designated places and five unincorporated communities. Seven federally recognized tribal governments are also within the county, representing different bands of the Pomo people. The local economy is primarily based on agriculture, tourism, healthcare, and construction. Lake County is bordered by Mendocino, Sonoma, Napa, Yolo, Colusa, and Glenn Counties.

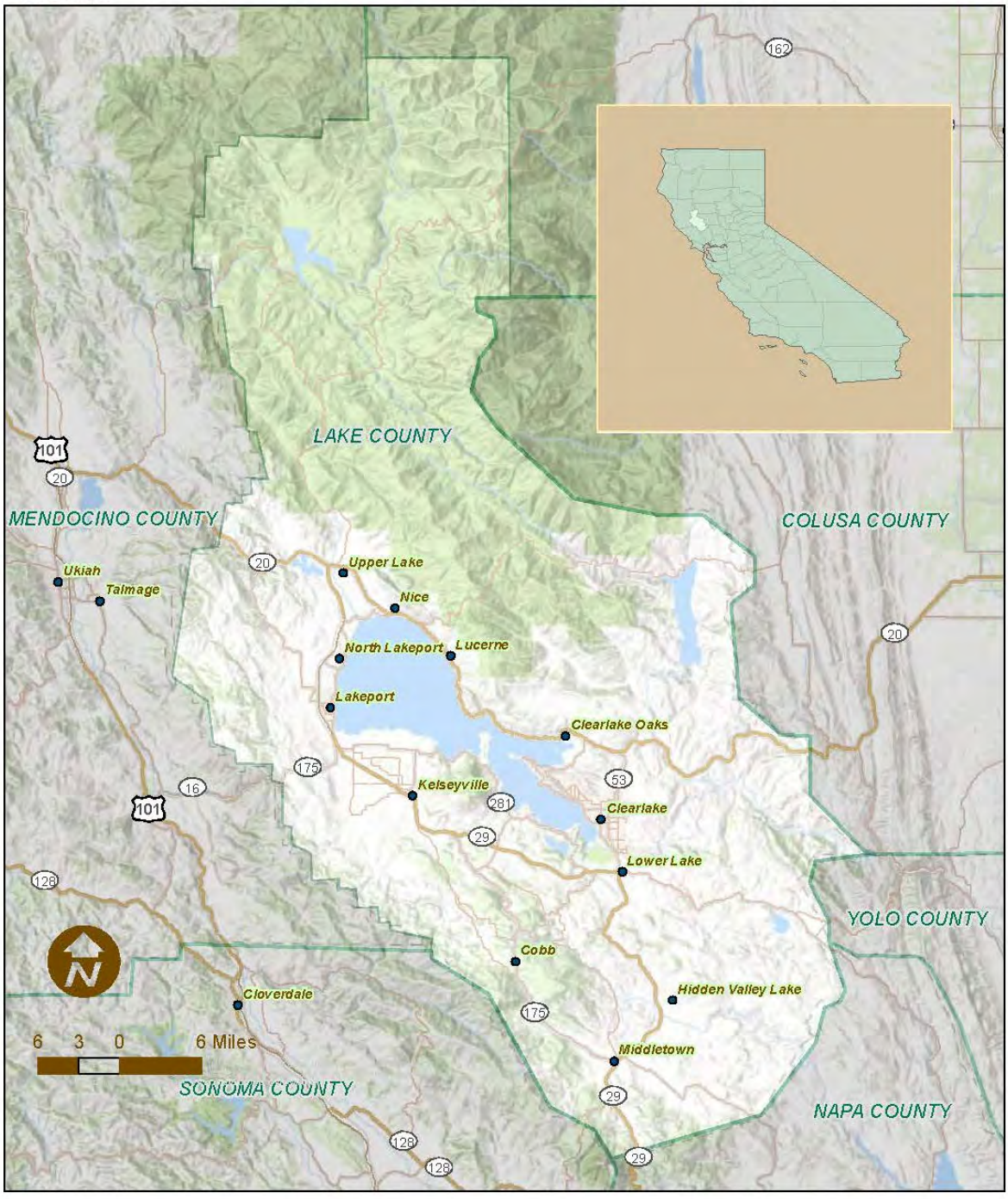
Public transit currently provides service both within and between the communities of Lake County. It is also possible to take public transit to destinations in Mendocino and Napa Counties, from where Lake County residents have the ability to connect to other services which travel south to the Bay Area. The public transit system and fixed routes are further described in Chapter 4.

POPULATION CHARACTERISTICS

Population

The population of Lake County was 68,163 in 2020 according to the US Decennial Census (Table 1). Clearlake, with a population of 16,685, is the largest community in the county (24.5 percent of the overall population) (US Census, 2020). Other large population centers in the study area are Hidden Valley Lake (6,235) and Lakeport (5,026) (US Census, 2020). As seen in Table 1, the census tracts with the largest populations are Census Tracts 10 (Kelseyville/Big Valley Rancheria), 7.02 (Clearlake – East), and 8.02 (Clearlake Highlands) (American Community Survey (ACS), 2020). The least populated census tracts are 11.01 (Glenview/Loch Lomond) and 11.02 (Cobb/Forest Lake).

Figure 1
Site Map



Potentially Transit Dependent Population

Public transit is intended to help everyone meet their transportation needs. Although public transit is available to the entire population living within a service area, a large portion of ridership tends to be drawn from what is known as the "transit dependent" population, a trend that has been found to be consistent nationwide. Youth, senior adults, persons with disabilities, low-income individuals, and households with no available vehicles are all demographic groups considered to be potentially transit-dependent. Obviously, these groups are not exclusive from each other. Table 1 presents the most recent data available estimating the amount of potentially transit dependent individuals within each Lake County census tract, as well as the relative concentrations of these persons compared to the overall population in the census tract.

Youth Population

As most children are not legally able to drive a car, they are considered to be a transit dependent group. This study specifically considers youth between the ages of 5 to 17 because children in this age range are likely unable to drive themselves but are old enough to take the bus to school, work, a friend's house, or other commitments. Many children also ride the bus with their parents and guardians if those individuals rely on public transit themselves. Lake County has a similar concentration of youths ages 5 to 17 compared to the national average (14.4 percent in Lake County versus 16.4 in the US) (ACS, 2020). The youth population is not distributed equally across the county however, with some census tracts having over a quarter of their population ages 5 to 17 while in other census tracts children make up less than five percent of the population.

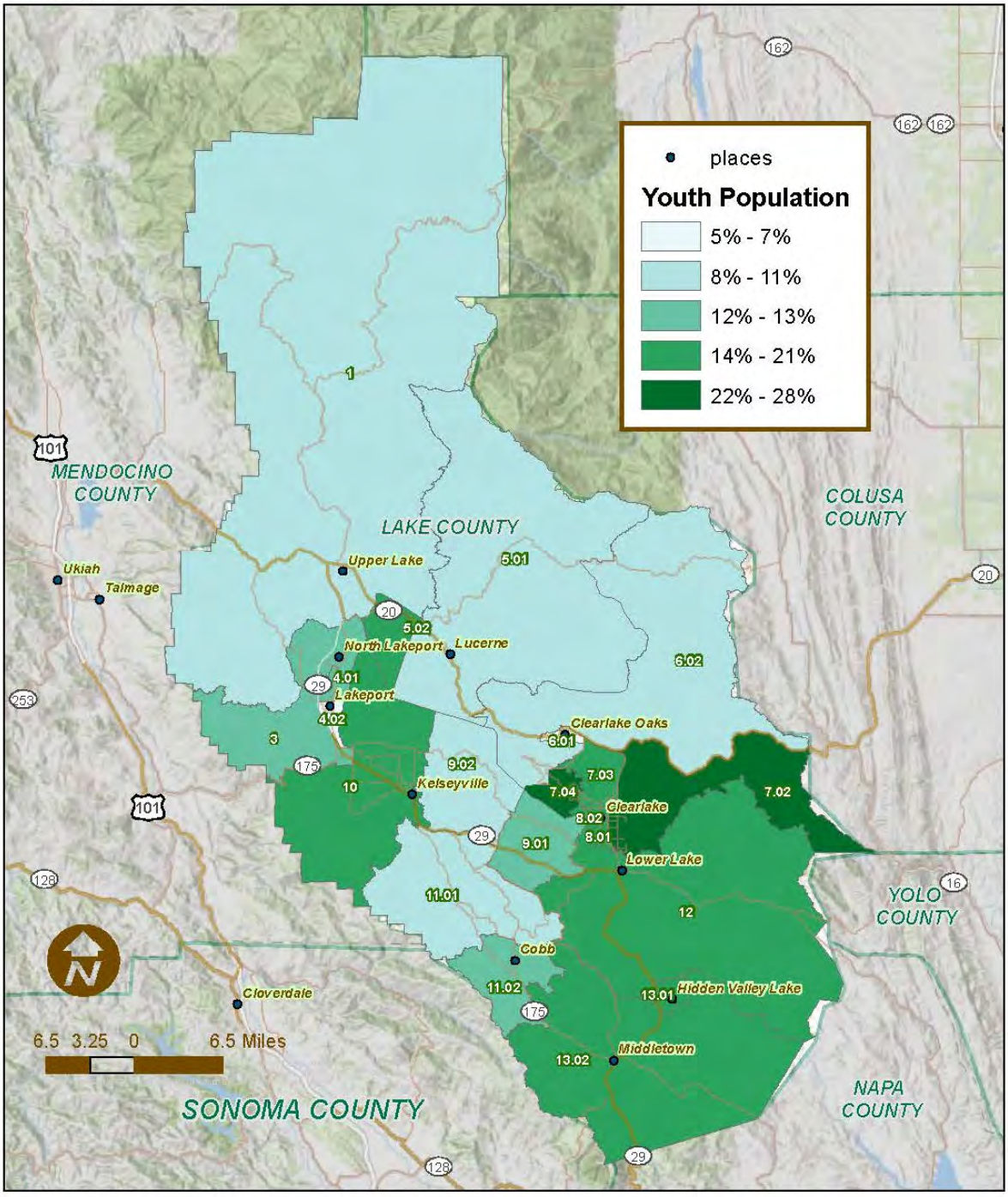
Census Tract 7.02 (Clearlake – East) has the greatest number (1,306) and greatest concentration (27.5 percent) of youth residents out of all the Lake County census tracts. As seen in Figure 2, the only other census tracts with similar concentrations of youths are Census Tracts 7.04 (Clearlake – Northwest) and 13.01 (Hidden Valley Lake). Other census tracts with large numbers of youth are Census Tract 10 (Kelseyville/Big Valley Rancheria) with 1,018 individuals and Census Tract 8.02 (Clearlake Highlands) with 755 individuals (ACS, 2020). The area with the smallest number (96) and concentration (4.1 percent) of youths is Census Tract 6.01 (Clearlake Oaks). This information is presented in Table 1 and Figure 2.

Table 1: Lake County Population Characteristics by Census Tract

Census Tract	Area Description	Total Population	Total Households	Youth (Ages 5 - 17)		Senior Adults (Ages 65+)		Low-Income		Disabled Persons		Zero-Vehicle Households	
				#	%	#	%	#	%	#	%	#	%
1	Upper Lake; North Lake County	3,284	1,230	363	11.1%	759	23.1%	516	15.7%	537	16.4%	40	3.3%
3	Lakeport - West	4,045	1,466	514	12.7%	1,198	29.6%	482	11.9%	618	15.3%	99	6.8%
4.01	Lakeport - North	3,115	1,166	392	12.6%	641	20.6%	174	5.6%	359	11.5%	0	0.0%
4.02	Lakeport - South	2,775	1,294	173	6.2%	855	30.8%	361	13.0%	585	21.1%	181	14.0%
5.01	Lucerne	3,416	1,244	305	8.9%	326	9.5%	636	18.6%	593	17.4%	80	6.4%
5.02	Nice	2,901	981	384	13.2%	588	20.3%	426	14.7%	534	18.4%	140	14.3%
6.01	Clearlake Oaks	2,342	914	96	4.1%	518	22.1%	257	11.0%	563	24.0%	8	0.9%
6.02	Spring Valley; Clearlake Park	2,078	842	194	9.3%	600	28.9%	245	11.8%	286	13.8%	0	0.0%
7.02	Clearlake - East	4,757	1,406	1,306	27.5%	634	13.3%	1,319	27.7%	970	20.4%	73	5.2%
7.03	Clearlake - North	2,416	832	342	14.2%	495	20.5%	559	23.1%	497	20.6%	97	11.7%
7.04	Clearlake - Northweset; Borax Lake	2,158	724	497	23.0%	326	15.1%	556	25.8%	385	17.8%	23	3.2%
8.01	Clearlake - Southwest	2,956	1,129	463	15.7%	593	20.1%	770	26.0%	731	24.7%	173	15.3%
8.02	Clearlake Highlands	4,671	1,815	755	16.2%	792	17.0%	1,250	26.8%	1,182	25.3%	215	11.8%
9.01	Clearlake Rivera	2,598	1,025	373	14.4%	818	31.5%	165	6.4%	584	22.5%	21	2.0%
9.02	Riveria Estates; Soda Bay	4,118	1,644	434	10.5%	1,022	24.8%	511	12.4%	908	22.0%	17	1.0%
10	Kelseyville; Finley; Big Valley Rancheria	6,102	2,271	1,018	16.7%	1,196	19.6%	1,281	21.0%	1,024	16.8%	58	2.6%
11.01	Adams; Glenview; Loch Lomond	1,763	720	140	7.9%	435	24.7%	253	14.4%	298	16.9%	0	0.0%
11.02	Cobb; Forest Lake; Whispering Pines	1,536	581	169	11.0%	249	16.2%	146	9.5%	311	20.2%	0	0.0%
12	Lower Lake	3,414	1,309	494	14.5%	949	27.8%	608	17.8%	570	16.7%	34	2.6%
13.01	Hidden Valley Lake	3,605	1,383	793	22.0%	793	22.0%	207	5.7%	453	12.6%	27	2.0%
13.02	Hidden Valley Lake; Middletown	4,113	1,532	609	14.8%	898	21.8%	325	7.9%	843	20.5%	20	1.3%
	Total County	**68,163**	**25,508**	**9,814**	**14.4%**	**14,685**	**21.5%**	**11,047**	**16.2%**	**12,831**	**18.8%**	**1,306**	**5.1%**

Source: US Decennial Census 2020; American Community Survey 5-year Estimates (2020)

Figure 2
Concentration of Youth Population



Senior Population

Accessible transportation services are critical in helping senior adults live independently as they age. In the context of this study, seniors are considered to be adults ages 65 and older. Over the years, many retirees have found Lake County to be an attractive place to live, resulting in over one fifth (21.5 percent) of Lake County residents now falling into the senior age group as of 2020. Senior adults represent a much greater proportion of the population in Lake County compared to California (14.3 percent) or the US (16 percent) (ACS, 2020). The community with the most people aged 65 years or older is western Lakeport (1,198 residents), which is followed by Kelseyville and the surrounding area (1,196 residents). The Cobb-area is home to the smallest number of seniors (249 residents).

The Lake County census tracts with the greatest concentration of seniors are Census Tract 9.01 (Clearlake Rivera) and Census Tract 4.02 (Lakeport – South); in each area over 30 percent of the population is at least 65 years old (ACS, 2020) As evidenced in Figure 3, other regions with a significant concentration of seniors are western Lakeport (29.6 percent), Spring Valley and Clearlake Park (28.9 percent), and Twin Lakes (27.8 percent). Comparatively, there are far fewer senior adults in the Lucerne area (9.5 percent) or eastern Clearlake (13.3 percent).

Low-Income Population

Due to the expenses associated with owning and maintaining a car, many low-income individuals either do not have a car or choose to ride public transit instead of driving a personal vehicle. In this report, anyone who is below the poverty line as defined by the US Census Bureau is considered to be low-income. At over 16 percent, the poverty rate in Lake County is higher the statewide and nationwide rates of 11.5 and 11.4 percent, respectively (ACS, 2020).

The Clearlake-area has the greatest number and the greatest concentration of low-income individuals (Figure 4). All of the census tracts in Clearlake have at least 24 percent of the population living below the poverty line, representing over 4,600 people (Table 1). There are also a significant number of low-income individuals (1,281) that live in the Kelseyville and Big Valley Rancheria-area (Census Tract 10). North Lakeport (Census Tract 4.01), Hidden Valley Lake (Census Tract 13.01), and Clearlake Rivera (Census Tract 9.01) have the lowest concentrations of low-income individuals in Lake County (all less than 6.5 percent).

Disabled Persons

Public transit is an excellent mobility option for many people with disabilities who may be unable to drive themselves because of a physical or cognitive constraint. According to the 2020 American Community Survey (ACS), 18.8 percent of the Lake County population has a disability. This is a higher rate compared to California (10.7 percent) or the US (12.7 percent). Census Tracts 8.02 (Clearlake Highlands), 10 (Kelseyville/Big Valley Rancheria), and 7.02 (Clearlake – east) have the greatest numbers of disabled persons with 1,182 people, 1,024 people, and 970 people, respectively. As seen in Figure 5, there are multiple areas across Lake County where disabled individuals make up more than 20 percent of the area's overall population. The areas with a large portion of the population living with a disability include Clearlake, Middletown, Cobb, Soda Bay, and Nice (Table 1 and Figure 5).

Figure 3
Concentration of Senior Adults

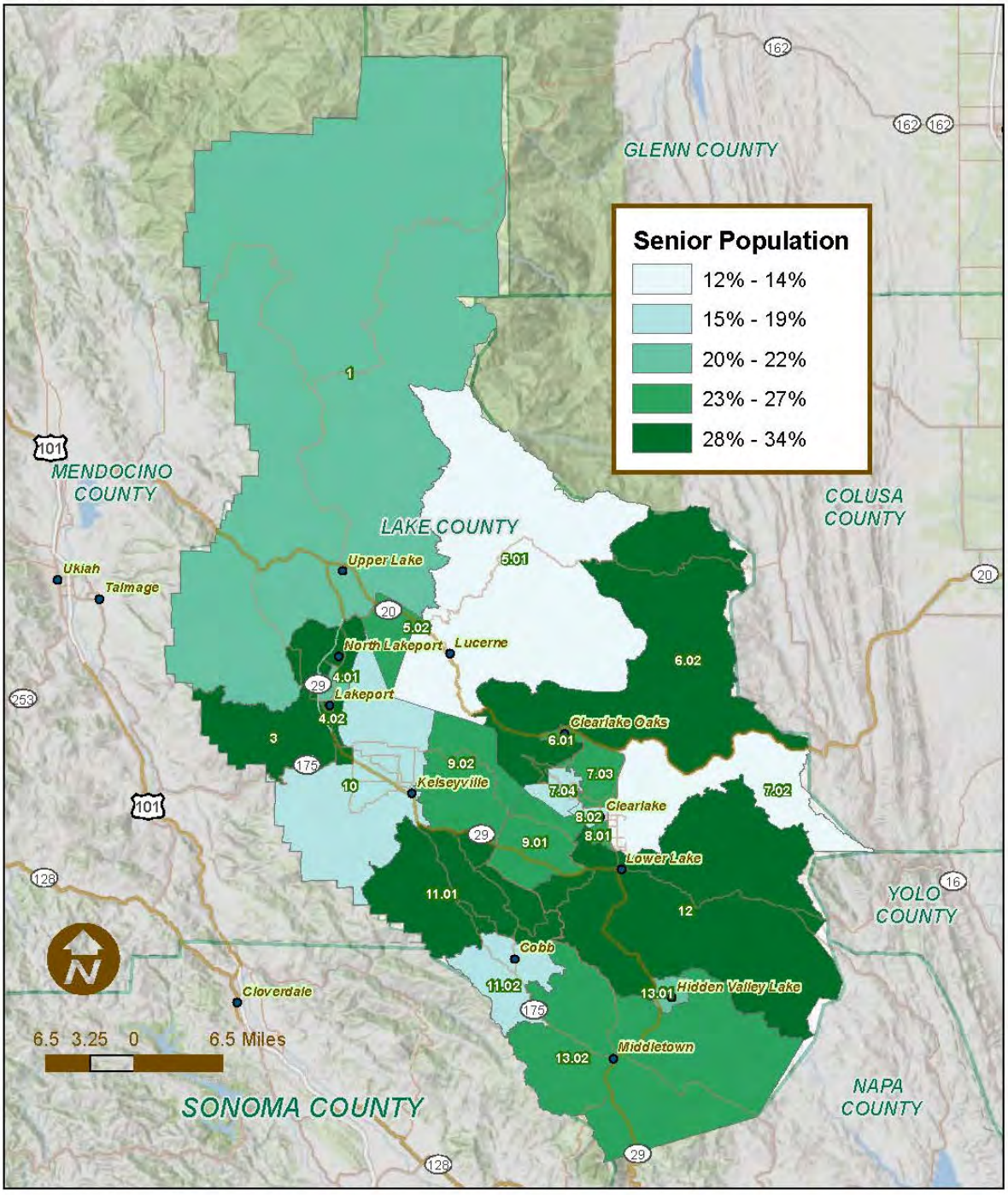


Figure 4
Concentration of Low-Income Individuals

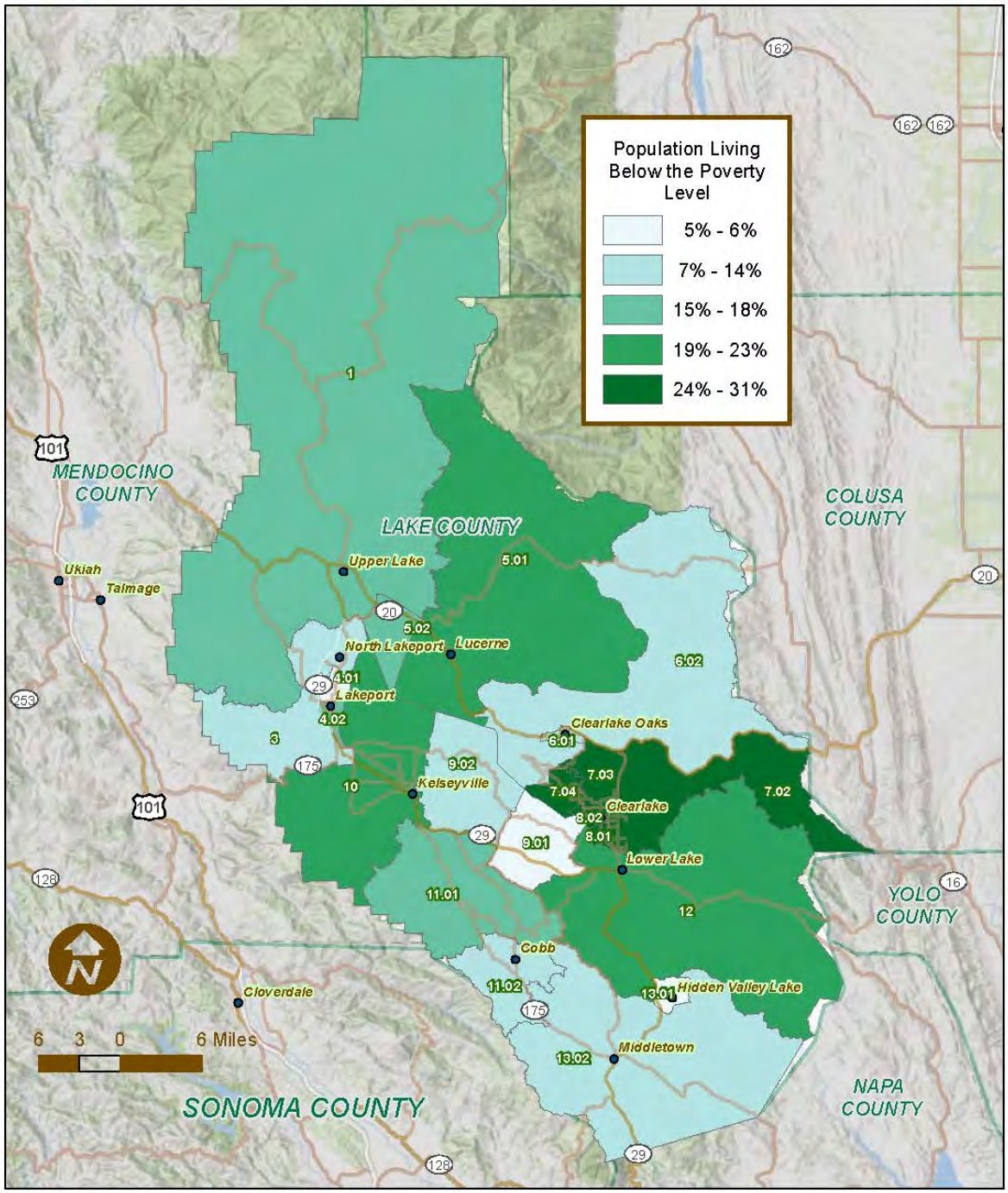
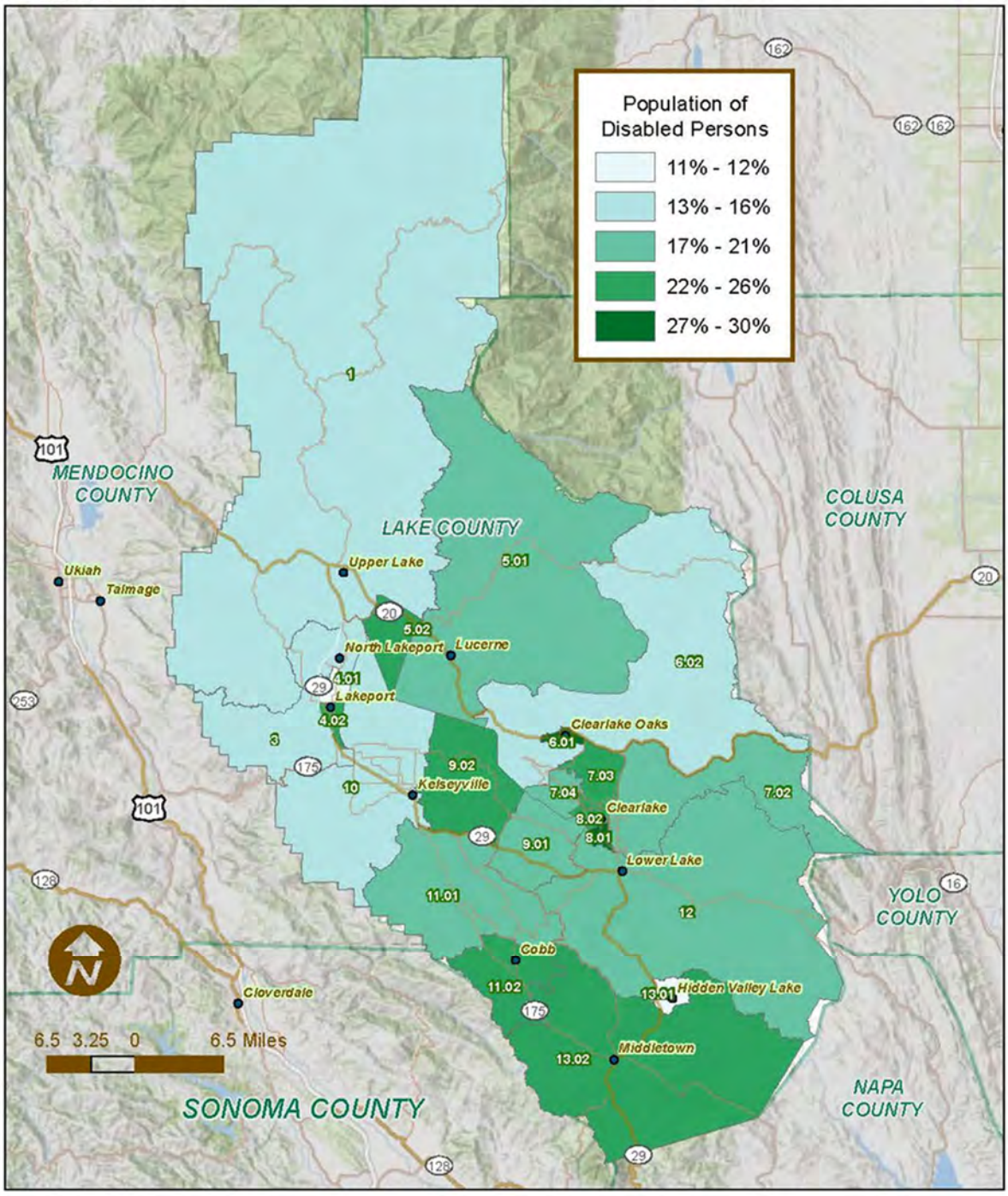


Figure 5
Concentration of Disabled Persons



Zero Vehicle Households

Households without a vehicle available, or zero-vehicle households, are perhaps the most obvious group that is considered part of the overall transit dependent population. For people within these homes, public transit is likely one of the most predictable options available for motorized travel. According to the 2020 ACS, approximately 5 percent of Lake County households do not have a car. This equates to 1,306 homes across the county.

Table 1 shows zero-vehicle household data for each census tract in Lake County. The data indicates that nearly half (47.2 percent) of households without a personal vehicle available are located in Clearlake (Census Tracts 7.02, 7.03, 7.04, 8.01, and 8.02). Nice (14.3 percent), south Lakeport (14 percent), west Lakeport (6.8 percent), and Lucerne (6.4 percent) also have a significant number of zero-vehicle households. It was estimated there were no zero-vehicle households in north Lakeport, Spring Valley/Clearlake Park, Cobb, Forest Lake, or Glenview (ACS, 2020). Figure 6 presents countywide data regarding the number of zero-vehicle households in each census tract.

Transit Needs Index

Lake County's population has a greater proportion of seniors, disabled, and low-income individuals compared to statewide and national averages. Although members of these three demographic groups, as well as children and members of zero-vehicle households, live all across Lake County, it is still important to discern any overarching pattern in where these potentially transit dependent persons live so limited transit resources can be used effectively.

A Transit Needs Index (TNI) was developed to calculate which areas of Lake County have the greatest need for transit services when considering all of the potentially transit dependent demographic groups. The TNI is shown in Table 2. The transit dependent groups within each census tract were ranked on a scale of 1 (very low need) to 5 (very high need) based on the density of said group (number of people per square mile within the census tract) compared to the respective density of that demographic group in other census tracts. For Census Tracts 1 and 5.01, the estimated number of square miles in each tract protected by the Mendocino National Forest was subtracted from the overall size to produce a more accurate density calculation. Each rank score by type was then summed by census tract to determine an overall score which represents the TNI. The complete TNI representing relative transit need is shown in Table 2 and Figure 7.

Both Table 2 and Figure 7 clearly demonstrate that the Lake County census tracts with the greatest overall need for transportation services, according to the density of individuals considered transit dependent, are Census Tracts 8.01 and 8.02 (southwest Clearlake and Clearlake Highlands). As Clearlake is the most populated city in the county, the number of transit dependent individuals living in other census tracts within the city that scored lower on the TNI should still be considered when planning transit services (Table 1). Besides Clearlake, there is a high level of transit need in Lakeport. In southern Lakeport, in particular (Census Tract 4.02), there is a greater density of seniors and disabled individuals and zero-vehicle households compared to most other areas in the county (Table 2). Clearlake Oaks, Nice, and Hidden Valley Lake are the only other communities that demonstrate significant transit needs as calculated by the TNI.

Figure 6
Concentration of Zero Vehicle Households.

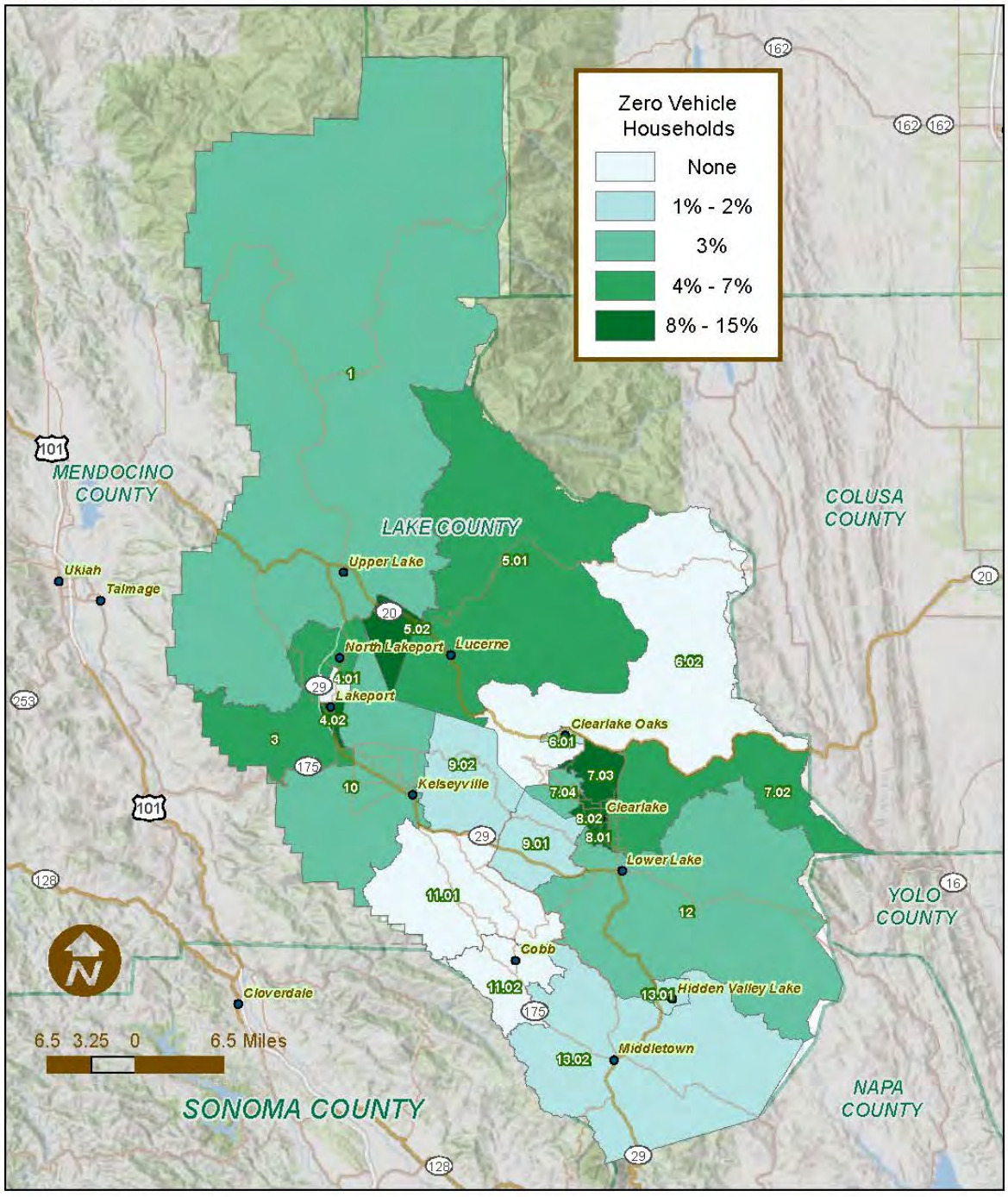


Table 2: Lake County Transit Needs Index

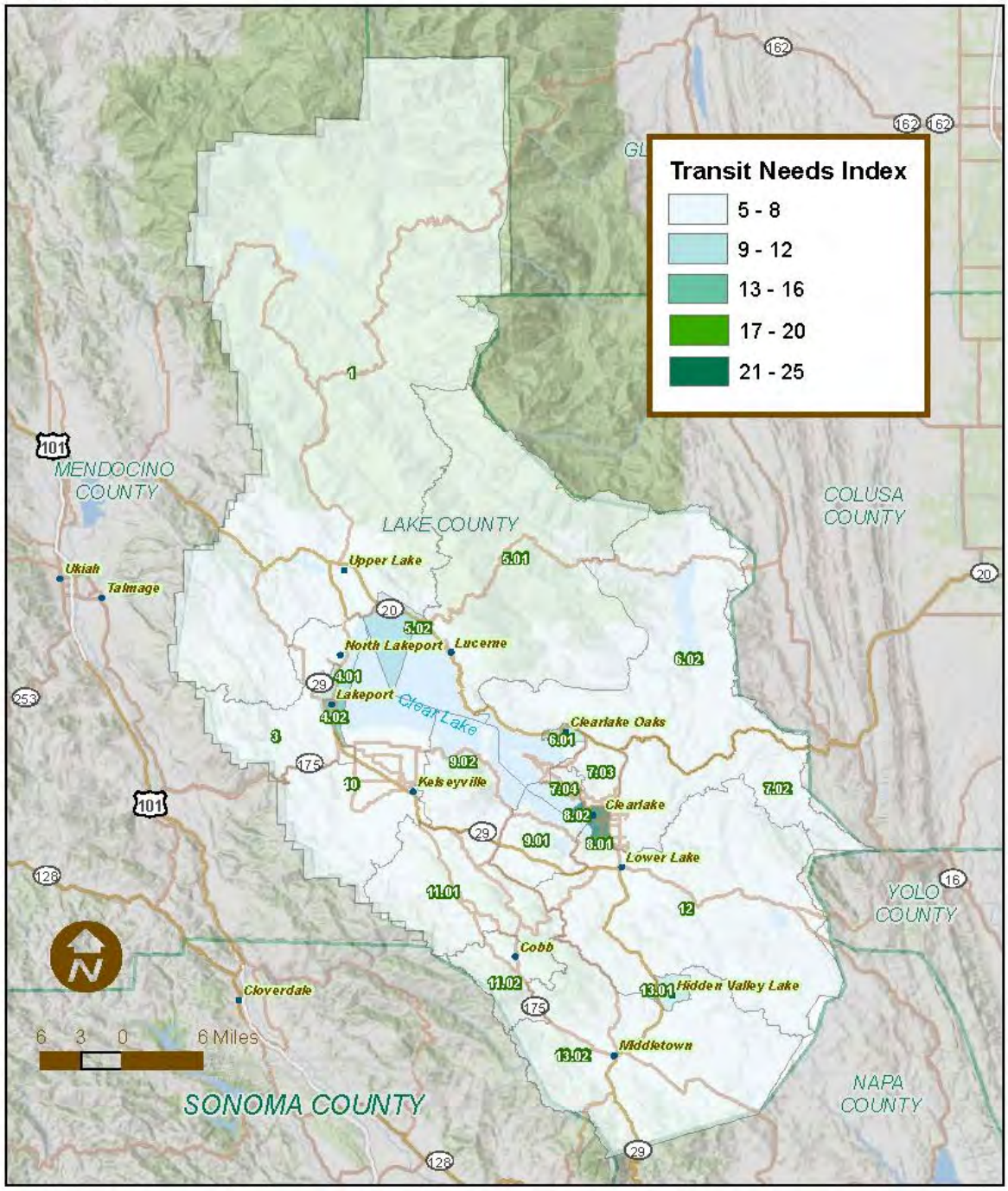
Legend	
1	Very Low Rank
2	Low Rank
3	Medium Rank
4	High Rank
5	Very High Rank

Census Tract	Area Description	Land Area (Sq Mile)	Total Population	Total Households	Rank					Transit Needs Index
					Youth (Ages 5-17)	Senior Adults (Ages 65+)	Low-Income	Disabled Persons	Zero-Vehicle Households	
1	Upper Lake; North Lake County	138.3	3,284	1,230	1	1	1	1	1	**5**
3	Lakeport - West	38.3	4,045	1,466	1	1	1	1	1	**5**
4.01	Lakeport - North	1.7	3,115	1,166	2	4	1	2	1	**10**
4.02	Lakeport - South	1.6	2,775	1,294	1	5	2	3	4	**15**
5.01	Lucerne	29.3	3,416	1,244	1	1	1	1	1	**5**
5.02	Nice	2.4	2,901	981	2	3	1	2	2	**10**
6.01	Clearlake Oaks	1.1	2,342	914	1	4	2	3	1	**11**
6.02	Spring Valley; Clearlake Park	113.6	2,078	842	1	1	1	1	1	**5**
7.02	Clearlake - East	46.9	4,757	1,406	1	1	1	1	1	**5**
7.03	Clearlake - North	8.5	2,416	832	1	1	1	1	1	**5**
7.04	Clearlake - Northweset; Borax Lake	2.3	2,158	724	2	2	2	1	1	**8**
8.01	Clearlake - Southwest	1.1	2,956	1,129	4	5	4	4	5	**22**
8.02	Clearlake Highlands	1.3	4,671	1,815	5	5	5	5	5	**25**
9.01	Clearlake Rivera	16.2	2,598	1,025	1	1	1	1	1	**5**
9.02	Riveria Estates; Soda Bay	21.5	4,118	1,644	1	1	1	1	1	**5**
10	Kelseyville; Big Valley Rancheria	56.1	6,102	2,271	1	1	1	1	1	**5**
11.01	Adams; Glenview; Loch Lomond	52	1,763	720	1	1	1	1	1	**5**
11.02	Cobb; Forest Lake; Whispering Pines	19	1,536	581	1	1	1	1	1	**5**
12	Lower Lake	143.5	3,414	1,309	1	1	1	1	1	**5**
13.01	Hidden Valley Lake	3.2	3,605	1,383	3	3	1	1	1	**9**
13.02	Hidden Valley Lake; Middletown	118.7	4,113	1,532	1	1	1	1	1	**5**

Source: US Decennial Census 2020; American Community Survey 5-year Estimates (2020)

Note: Land areas sourced from the US Census Bureau. Land areas for Census Tract 1 and 5.01 adjusted to reflect land protected by the Mendocino National Forest.

Figure 7
Transit Needs Index



Population Projections

When planning for the future of a transit system it is important to not only consider current characteristics of the population, but also to evaluate population forecasts and trends to predict how transit demand may change over upcoming years. If the youth population is predicted to grow, there may be more demand for transportation services to local schools. On the other hand, if the senior population is predicted to grow there may be increased need for American Disability Act (ADA) paratransit services or an on-demand service. Table 3 presents population projections by age group for Lake County using the projected rates of change generated by the California Department of Finance and 2020 population totals sourced from the US Census Bureau. Highlights include:

- Lake County's population will grow by 3.2 percent from 2020 to 2035. The population is growing by 0.2 annually during this current five-year period, and then will likely grow at a faster annual rate from 2025 to 2030 (0.8 percent) and 2030 to 2035 (0.8 percent).
- Youth between ages 5 and 17 will grow as a group at a slightly faster rate than the overall population, growing by 2.6 percent between 2020 to 2025 and by another 1.8 percent between 2025 to 2030.
- The adult population between the ages of 18 to 24 is currently experiencing slight negative growth but will then grow from 2025 to 2035 by 0.7 percent annually.
- The number of adults 25 to 44 has been increasing, and is expected to grow to 7.1 percent more than 2020 levels by 2025. This age group will continue to grow by 0.8 percent annually in the following decade.
- The adult population between the ages of 45 to 64 will decrease by 13.9 percent from 2020 to 2025 and will continue to decrease by another 7 percent between 2025 and 2030.
- The senior population between the ages 65 and 74 is expected to decrease from 2020 through 2035, with a 2.2 percent decrease predicted between 2020 and 2025 before a much faster rate of decrease after 2025 (24.4 decrease from 2025 to 2035). This age group will experience the most negative growth from 2025 to 2035 (-2.8 percent per year).
- Seniors between the ages of 75 and 84 are growing at the fastest rate (27.7 percent from 2020 to 2025), likely due to the aging of the Baby Boomer generation. This growth is expected to continue through the end of the decade before plummeting to zero percent growth between 2030 to 2035.
- Finally, the senior population ages 85 and above is predicted to grow by 20.5 percent during the current five-year period. This age group is expected to grow at an even faster rate after 2025, with 27.9 percent growth predicted between 2025 and 2030 and 30.7 percent growth predicted in the five years following. This is also the age group that is most likely to become transit dependent.

In all, there will likely be increased need for transit services, especially demand response, paratransit, or non-emergency medical transportation services in upcoming years due to the projected growth of the senior population ages 75 years and older. This age group is forecast to grow by 56 percent from 2020 to 2035.

Table 3: Lake County Population Projections by Age

	Age in Years								Total Population[1]
	0 - 4	5 - 17	18 - 24	25 - 44	45 - 64	65 - 74	75 - 84	85+	
2020	3,891	10,570	5,383	15,598	15,981	9,385	5,443	1,912	68,163
2025	3,949	10,845	5,351	16,706	13,759	9,179	6,951	2,304	69,043
2030	4,044	11,040	5,559	17,374	12,796	8,353	7,653	2,947	69,766
2035	4,088	11,195	5,732	18,051	12,835	6,941	7,653	3,851	70,346
% Change 2020-2025	*1.5%*	*2.6%*	*-0.6%*	*7.1%*	*-13.9%*	*-2.2%*	*27.7%*	*20.5%*	*0.2%*
% Change 2025-2030	*2.4%*	*1.8%*	*3.9%*	*4.0%*	*-7.0%*	*-9.0%*	*10.1%*	*27.9%*	*0.8%*
% Change 2030-2035	*1.1%*	*1.4%*	*3.1%*	*3.9%*	*0.3%*	*-16.9%*	*0.0%*	*30.7%*	*0.8%*
Average Annual % Change 2025-2035	*0.3%*	*0.3%*	*0.7%*	*0.8%*	*-0.7%*	*-2.8%*	*1.0%*	*5.3%*	*0.2%*

Source: California Department of Finance (2020), US Census 2020
Note 1: Population estimates differ from US Census Data due to different data methods.

EMPLOYMENT AND ECONOMY

Lake County was estimated to have an unemployment rate of 10.5 percent in 2020 (ACS, 2020). This represents a significantly higher rate than the state of California (3.9 percent) or the US (3.4 percent). The unemployment rate is likely a contributing factor to Lake County's higher than average rate of low-income persons.

Table 4 shows Lake County's largest employers as estimated by the California Employment Development Department (2022). As evidenced in the table, large employers are primarily located in Clearlake, Lakeport, and Middletown. Casinos represent three of the county's largest employers; Robinson Rancheria Resort and Running Creek Casino are estimated to employ over 250 people while Konocti Vista Casino employs over 100. Lake County's two largest medical providers, Adventist Health and Sutter Lakeside Hospital, are also each estimated to employ over 250 individuals.

COMMUTE PATTERNS AND TRAVEL INFORMATION

Commute Patterns

Understanding commuting patterns allows for transportation services to be designed so that they can be utilized by workers, resulting in less congestion on local roads and better air quality. The US Census Bureau maintains the "Longitudinal Employer-Household Dynamics" dataset, a resource that provides extensive information on where people who live in a set area are employed, as well as data on where a set area's employees live. Lake County commuter data is presented in Table 5 at both the county and the city/town level. As one person may hold multiple positions, datapoints represent jobs and not individuals. The datapoints in Table 5 represent values from 2019, and therefore do not reflect any changes to local commute patterns that may have resulted from the COVID-19 pandemic.

Table 4: Lake County Major Employers

Company	Location	# Of Employees
Adventist Health	Clearlake, CA	250-499
Calpine	Middletown, CA	250-499
Robinson Rancheria Resort - Casino	Nice, CA	250-499
Running Creek Casino	Lakeport, CA	250-499
Sutter Lakeside Hospital	Lakeport, CA	250-499
Bruno's Shop Smart	Lakeport, CA	100-249
Hardester's Markets	Middletown, CA	100-249
Hidden Valley Lake Association	Hidden Valley Lake, CA	100-249
Konocti Vista Casino	Lakeport, CA	100-249
Meadowood Nursing Center	Clearlake, CA	100-249
Safeway	Clearlake, CA	100-249
Twin Pine Casino & Hotel	Middletown, CA	100-249
Lake County Tribal Health	Lakeport, CA	50-99
Lakeport Post Acute	Lakeport, CA	50-99
People Services, Inc.	Lakeport, CA	50-99
Woodland Community College	Clearlake, CA	50-99

Source: California Employment Development Department, Labor Market Info, 2022

It is important to note that the US Census Bureau does not specify which jobs are remote. Therefore, jobs that seems to be unreasonably far from Lake County are likely done via telework. For instance, the 235 Humboldt County jobs held by Lake County residents are likely done mostly remotely.

Where Lake County Workers Live

Most of Lake County's jobs are held by residents of Lake County (70.3 percent). The only other counties which contribute a significant number of workers are Sonoma (6.1 percent of jobs) and Mendocino Counties (4.8 percent of jobs). Looking at the Census Place level, Clearlake, Lakeport and Hidden Valley are the places of residence for the most employees working in Lake County (15.9 percent, 8.3 percent and 4.8 percent, respectively.

Where Lake County Residents Work

Just over half of jobs held by Lake County residents are within the county (52.9 percent). Counties that many residents commute to are Sonoma (11.5 percent of jobs), Mendocino (8.0 percent of jobs), and Napa Counties (4.9 percent of jobs). Data by Census Place shows that 11.8 percent of jobs held by Lake County residents are in Lakeport, 10.4 percent in Clearlake, and 3.8 percent in Kelseyville. The top two communities for residents to be employed in outside of the county are Santa Rosa (4.4 percent of jobs) and Ukiah (3.4 percent of jobs). Jobs held in San Francisco are likely remote.

Table 5: Lake County Local and Regional Commute Patterns, 2019

*Bold indicates Lake County or place within Lake County

Where Employees In Lake County Commute From

Counties	# of Jobs	% of Total	Cities/Towns	# of Jobs	% of Total
Lake	11,006	70.3%	**Clearlake**	2,491	15.9%
Sonoma	962	6.1%	**Lakeport**	1,294	8.3%
Mendocino	753	4.8%	**Hidden Valley Lake**	844	5.4%
Sacramento	252	1.6%	**North Lakeport**	698	4.5%
Contra Costa	211	1.3%	**Clearlake Riviera**	678	4.3%
Napa	167	1.1%	**Kelseyville**	624	4.0%
Solano	167	1.1%	**Lucerne**	408	2.6%
Butte	124	0.8%	**Clearlake Oaks**	298	1.9%
Alameda	123	0.8%	**Nice**	290	1.9%
Tehama	115	0.7%	Santa Rosa	249	1.6%
All other locations	1,767	11.3%	**Soda Bay**	233	1.5%
			Ukiah	207	1.3%
			Middletown	185	1.2%
			Cobb	184	1.2%
			Upper Lake	174	1.1%
			Lower Lake	173	1.1%
			All other locations	6,617	42.3%
Total Number of Jobs	15,647		Total Number of Jobs	15,647	

Where Lake County Residents Work and Commute to

Counties	# of Jobs	% of Total	Cities and Towns	# of Jobs	% of Total
Lake	11,006	52.9%	**Lakeport**	2,455	11.8%
Sonoma	2,387	11.5%	**Clearlake**	2,160	10.4%
Mendocino	1,654	8.0%	Santa Rosa	907	4.4%
Napa	1,028	4.9%	**Kelseyville**	789	3.8%
Sacramento	437	2.1%	Ukiah	705	3.4%
Alameda	404	1.9%	**Lower Lake**	492	2.4%
San Francisco	378	1.8%	**Nice**	430	2.1%
Contra Costa	296	1.4%	**Middletown**	406	2.0%
Humboldt	235	1.1%	**Hidden Valley Lake**	400	1.9%
Santa Clara	230	1.1%	**Upper Lake**	394	1.9%
All other locations	2,746	13.2%	San Francisco	378	1.8%
			North Lakeport	366	1.8%
			Clearlake Oaks	326	1.9%
			Lucerne	260	1.8%
			Sacramento	223	1.1%
			All other locations	10,110	48.6%
Total Number of Jobs	20,801		Total Number of Jobs	20,801	

Source: US Census Bureau LEHD Database, 2019

Note: Bold text indicates locations within Lake County.

Table 6: Lake County Modes of Transportation to Work

Census Tract	Drove Alone	Carpooled	Public Transit	Walked	Bicycled	Worked from Home
					High Value	Low Value
1	77%	11%	0%	4%	0%	8%
3	74%	10%	0%	0%	0%	14%
4.01	71%	11%	0%	0%	0%	15%
4.02	68%	26%	1%	2%	0%	4%
5.01	68%	17%	0%	2%	0%	13%
5.02	80%	12%	0%	0%	0%	8%
6.01	57%	9%	0%	13%	0%	22%
6.02	82%	3%	0%	2%	0%	13%
7.02	61%	17%	4%	6%	0%	11%
7.03	62%	17%	2%	0%	0%	13%
7.04	68%	4%	0%	2%	0%	26%
8.01	71%	3%	6%	2%	3%	14%
8.02	72%	10%	3%	4%	0%	11%
9.01	67%	9%	0%	3%	0%	22%
9.02	70%	13%	0%	3%	0%	13%
10	75%	8%	1%	4%	0%	10%
11.01	46%	6%	0%	5%	0%	44%
11.02	49%	22%	0%	0%	0%	30%
12	85%	4%	0%	0%	0%	11%
13.01	75%	5%	0%	0%	0%	19%
13.02	59%	21%	0%	0%	0%	18%
Total County	**68%**	**11%**	**1%**	**3%**	**0%**	**16%**

Source: US Census American Community Survey, 2020

Modes of Transportation to Work

Table 6 shows that the majority of Lake County residents drive alone to work (68 percent). Another 11 percent carpool, meaning that nearly 80 percent of Lake County workers get to work using a car or similar type of vehicle. Approximately, 16 percent of people are estimated to perform work duties from home (ACS, 2020). Only 1 percent of workers commute via public transit, with Clearlake residents most frequently using the bus to get to work; Census Tracts 7.02 (Clearlake – East), 7.03 (Clearlake – North), 8.01 (Clearlake – Southwest), and 8.02 (Clearlake Highlands) all have a greater proportion of residents who ride public transportation to work compared to the county average. Potential service changes that could encourage greater use of public transit for commuting would generate increased ridership and would likely result in improved traffic conditions and healthier air quality across the region.

MAJOR ACTIVITY CENTERS

Effective transit services move people to and from major activity centers in the service area. Examples of activity centers include medical facilities, schools, grocery stores, social service organizations, parks, and tribal headquarters, or any other location that may generate a large amount of transit ridership. Major activity centers in Lake County were identified in the process of developing this report; Table 7 lists some of these offices and facilities. While this list is not all inclusive, it is still a detailed compilation of locations where residents may want transportation services.

In Lake County, there are many activity centers in Lakeport (the county seat and home to many county government offices) as well as Clearlake. Past studies and public outreach efforts conducted by the Lake Area Planning Council (LAPC) have found that people travel out-of-county for a variety of reasons to many cities and towns. In order to summarize these out-of-county locations more accurately, only the most popular destinations were included in the table. The location of activity centers in reference to existing public transit offerings is considered in Chapter 4.

As shown in Table 7, there are two hospitals in Lake County: 1) Clearlake (Adventist Health Clear Lake) and 2) Lakeport (Sutter Lakeside Hospital). Although there are medical clinics across the county, if someone needs more specialized medical treatments, they likely have to travel to one of the hospitals in either Clearlake or Lakeport. Many people have also reported during past planning efforts that rather than visiting the local hospitals for treatment, they have to travel out of the county for medical appointments. Given the high concentration of seniors in Lake County, there is increased demand for transportation assistance to these medical appointments. It is critical that seniors are able to use the transit system to get to appointments, both within Lake County and in out-of-county destinations. The need for transportation to doctor's appointments may be more pronounced in communities such as Kelseyville, Lower Lake, Middletown, Nice, and Upper Lake where there are large populations of seniors but no hospitals.

Table 7: Major Transit Activity Centers in Lake County

< 0.25 Miles From Bus Stop | > 0.25 Miles From Bus Stop

	Human Service & Tribal Agencies	Seniors	Schools & Youth Programs	Shopping & Recreation	Medical
Clearlake	Habitat for Humanity Lake County Dept. of Mental Health Calvary Food Chapel	Konocti Senior Support Meadowood Nursing Center Orchard Park Assisted Living Walnut Grove Apartments Clearlake Community Senior Center	Woodland Community College Headstart Program - Meadowbrook Lake County Youth Services	Austin Park Burns Valley Mall Walmart	Adventist Health Hospital Adventist Health Family Health Center Tribal Health - South Shore Clinic
Kelseyville		Kelseyville Seniors, Inc.	Kelseyville Unified School District	Kelseyville Food Center	Adventist Health Clinic - Kelseyville
Lakeport	People Services Big Valley Rancheria California Children Services CA Human Development Corp. Employment Development Dept. Lake County Career Center Scotts Valley Band of Pomo	Lakeport Senior Center Rocky Point Care Center	Clear Lake High School Lake County Office of Education Mendocino College	Grocery Outlet Konocti Vista Casino Lakeside County Park Library Park Safeway	Lake County Dept. of Public Health Lakeport Post Acute MCHC - Lakeview Center Sutter Lakeside Hospital Tribal Health - Main Clinic
Lower Lake	Cal WORKS CalFresh Program Lake County Dept. of Social Services		Konocti Unified School District	Anderson Marsh	
Lucerne	Lake County Behavioral Health	Lucerne-Alpine Senior Center	Lucerne Elementary School	Lucerne Harbor	Adventist Health Clinic - Lucerne
Middletown	Catholic Church Charities Middletown Rancheria	Middletown Senior Center	Middletown Unified School District	Hardester's Market Twin Pine Casino	Middletown Tribal Health - Middletown Clinic
Nice	Robinson Rancheria	Sunrise Special Services Foundation		Hinman Park Robinson Rancheria Resort	
Upper Lake	Clover Valley Guest Home Habematoel Pomo of Upper Lake	Upper Lake Senior Support Services	Upper Lake Unified School District	Lake Pillsbury Running Creek Casino Upper Lake Grocery	
Out-of-County Destinations	Oakland, Sacramento, San Francisco, Santa Rosa, St. Helena, Ukiah, Willits				

Source: LSC Transportation Consultants, Inc.; Coordinated Public Transportation Plan: Lake County (2021)

Chapter 3

REVIEW OF RECENT PLANNING STUDIES

RECENT STUDIES AND REPORTS RELEVANT TO THE CURRENT EFFORT

There have been several recent transportation planning studies in Lake County that are relevant to the current Transit Development Plan (TDP) update. These plans, overseen by the Lake Area Planning Council (Lake APC), are briefly summarized below.

Regional Transportation Plan (RTP)/ Active Transportation Plan (ATP), 2022

As Lake County's Regional Transportation Planning Agency (RTPA), the Lake APC is required to develop a long-range Regional Transportation Plan (RTP) every four years in order to qualify for federal and state transportation funding. The most recent update to Lake County's RTP was completed in 2022 in tandem with an update to the county's Active Transportation Plan (ATP). The RTP discusses the condition of state highways, local roads, public transit, tribal transportation, and aviation within Lake County, and then identifies goals and projects for each sector. The ATP chapter outlines projects that will encourage greater rates of walking and bicycling across Lake County.

Some of the goals described for the state highway system and local roads which are also relevant to public transit include improving mobility on state highways, implementing roadway improvements along Lakeshore Drive in Clearlake and South Main Street in Lakeport, and reconstructing roads across the county in need of repair. The ATP chapter also mentions that projects which would improve road conditions should be prioritized. Given that poor road conditions have been noted by Lake Transit riders during past public participation as a detriment to riding the bus, projects to rehab roads may result in increased transit ridership. More short-term projects recommended in the ATP that could impact public transit riders include bicycle and pedestrian improvements along Dam Road Extension and the completion of the Clearlake Transit Center.

Due to the higher-than-average number of transit-dependent individuals in Lake County, the public transit component of the RTP is especially important. Proposed projects were selected to encourage greater Lake Transit ridership. Short-term projects identified consist of purchasing new vehicles, improving bus stop amenities, and completing construction of the Clearlake Transit Center. Long-term projects outlined are the implementation of an electronic fare management system and the development of a transit center in Lakeport.

Regional Transportation Improvement Program (RTIP), 2022

California law requires each RTPA to prepare and adopt a Regional Transportation Improvement Program (RTIP) every other year. The most recent Lake County RTIP addressed how COVID-19 Relief funds would be used to progress various transportation projects. Projects outlined in the RTIP include the eventual completion of the Lake 29 Expressway Project, the installation of guardrails in Clearlake, the installation of a signal controller at the intersection of Highway 53 and Olympic Drive in Clearlake, reconstruction of Green Street in Lakeport, and street corridor improvements along South Main Street in Lakeport and Soda Bay Road in Kelseyville, among others.

Coordinated Public Transportation Plan: Lake County, 2021

The objective of the *Coordinated Public Transportation Plan* (Coordinated Plan) is to determine how existing transportation providers in the county can coordinate their services and pool resources to improve mobility for transit dependent residents. In order for a project to be funded under Federal Transit Administration (FTA) Section 5310, the project must have been included in the Coordinated Plan. Most of the public, social service, private, and interregional transportation services mentioned in the Coordinated Plan will be summarized in Chapter Four of this TDP.

The Coordinated Plan found there was no documented duplication of services in Lake County at the time of the report. Priority strategies for addressing persistent unmet transit needs in the community were identified and summarized by the following goals: support, maintain and enhance Lake County public transportation, improve and expand specialized transportation alternatives through strategic partnerships, and continue development of non-emergency medical transportation (NEMT) solutions. Lake Links, the Consolidated Transportation Services Agency (CTSA), manages a transportation program to provide out-of-county transportation for medical appointments.

Vehicle Miles Traveled (VMT) Regional Baseline Study, 2020

Senate Bill (SB) 743 was signed by former Governor Jerry Brown in 2013, changing how California municipalities are required to analyze the impacts of transportation under the California Environmental Quality Act (CEQA). A key change was that vehicle miles traveled (VMT) became the preferred metric to identify CEQA compliance instead of Level of Service or traffic congestion. Besides discussing methodologies for measuring and assessing VMT in Lake County, the *VMT Regional Baseline Study summarizes* existing data and recommends transportation demand management strategies for reducing VMT generated by transportation projects. Community-scale strategies include providing pedestrian network improvements, traffic calming measures, bicycle network improvements, implementing car-sharing programs, and increasing transit frequency and speed.

The VMT Regional Baseline Study explains that in order to make transit a similarly convenient choice to driving, transit service frequency and speed need to be increased. To effectively serve the dispersed areas of Lake County, the study recommends implementing either a commuter transit service or potentially a demand-responsive transit service targeted at helping people across Lake County avoid driving personal vehicles in areas near transportation projects to mitigate VMT.

Lake Transit Authority Bus Passenger Facilities Plan, 2019

A plan was completed in late 2019 reviewing existing bus passenger facilities in Lake County. Data collected from the bus stop inventory and associated public outreach efforts was used to outline a strategy for future improvements. Design standards recommended in the plan are to be applied to sidewalks and bicycle facilities near the public transit network as well as to bus pullouts, wheelchair loading pads, bus shelters, the location of bus stops, materials, drainage, among other features.

The project team conducted an inventory of existing Lake Transit bus stops to determine good locations for bus stop improvements that could be completed in the short-term, such as fixing a sign, trimming

vegetation to make the stop more visible, or installing benches. Other stops were identified as good candidates for long-term improvements, such as the replacement of bus shelters, installation of lighting, and ADA improvements. Three stops with high ridership were selected as example locations to model how new conceptual designs could be implemented, as well as the associated costs. If improved, these stops, Kit's Corner, Austin Park, and South Main Street at Lakeport Boulevard, would have the potential to greatly enhance the rider experience on Lake Transit.

Lake County Pedestrian Facility Needs Study, 2019

The *Lake County Pedestrian Facility Needs Study*, also referred to as Lake Walks, was developed with the intention to improve the walking experience in Lake County by identifying the ten most important and feasible pedestrian improvements in each of the four study areas across the county. The four study areas were as follows: Clearlake, Lakeport, the unincorporated communities of the county, and the state routes (State Route (SR) 20, SR 29, SR 53, SR 175, and SR 281).

Although no funding was secured for any of the projects at the time the report was completed in 2019, the intention of identifying the priority projects was that then projects would be easier to implement once funded in the future. Many of the projects described in the Lake Walks report are located either along bus routes or nearby, therefore if realized, could encourage greater transit ridership by making it easier and safer for passengers to get to bus stops. Priority projects identified for Clearlake included pedestrian improvements along Huntington Ave and Arrowhead Road, Olympic Drive, Old Highway 53, Lakeshore Drive, and 18th Avenue at Dam Road, among others. Some of the pedestrian improvement projects identified for Lakeport were along Lakeshore Boulevard, South Main Street, Armstrong Street, Martin Street, South High Street, and South Forbes Street. In the unincorporated communities of Lake County, projects in central Lucerne, Lower Lake, downtown Middletown, and Kelseyville were identified for their potential to improve the experience of pedestrians. The Lake Walks plan also describes improvements on each of the state routes in Lake County that if implemented would greatly improve walkability.

Unmet Transit Needs (Fiscal Year (FY) 2019-20 - FY 2021-22)

The Transportation Development Act (TDA) requires that every region complete a formal hearing to assess unmet transit needs in the area prior to using any Local Transportation Funds (LTF). In Lake County, the Lake APC holds this hearing, with input from the Social Services Transportation Advisory Council (SSTAC). Per the definitions adopted by the Lake APC, an "unmet transit need" exists if a significant number of people are unable to reach a destination through existing resources or at a low to moderate cost. Concerns that are found to be both "unmet transit needs" and "reasonable to meet" are addressed in the Lake Transit Authority's (LTA) budget and work plan for the upcoming year. The Lake APC considers an unmet transit need to be "reasonable to meet" if it meets all of the following criteria:

- Funds are available, or there is a reasonable expectation that funds will become available; and,
- Benefits of services, in terms of number of passengers served and the severity of needs, justify costs; and
- With the added service, the transit system as a whole will be capable of meeting the TDA fare revenue/operating cost requirements; and

- Transit services designed or intended to address an unmet transit need shall not duplicate transit services currently provided either publicly or privately; and
- The claimant expected to provide the service shall review, evaluate, and indicate that the service is operationally feasible, and vehicles shall be currently available in the marketplace.

Findings

In FY 2019-20, there were eight potential unmet transit needs considered by the Lake APC and SSTAC. Six of these needs were found to qualify as an unmet need by definition. One unmet need was already being addressed, as the LTA was already planning to implement Non-Emergency Medical Transportation (NEMT) to out-of-county locations later in 2019. In regard to a request for NEMT services after business hours, it was undetermined whether this need was reasonable to meet and further research by either the LTA, Lake Links, or the Lake APC was recommended. Unmet needs that were determined unreasonable to meet but suggested for consideration in the next Lake County TDP included Sunday service and service to Spring Valley. The remaining two unmet needs were not reasonable to meet due to financial constraints and limited demand.

In both FY 2020-21 and FY 2021-22, seven of the eight potential unmet transit needs were the same as in FY 2019-20. The new unmet need considered during both FY 2020-21 and FY 2021-22 was the implementation of on-demand transit service to help seniors, persons with disabilities, and low-income individuals who are unable to use current public transportation services. This was determined to be an unmet need that was unreasonable to meet, however it was suggested that on-demand service alternatives be considered in the upcoming update to the Lake County TDP.

Chapter 4

REVIEW OF EXISTING TRANSPORTATION SERVICES

BACKGROUND

Lake County residents have multiple transportation services available to assist with their mobility needs. These services are provided by both public and private organizations and include fixed route, dial-a-ride (DAR), curb-to-curb, and non-emergency medical transportation options, spanning intra-city and intercity distances. Existing transportation services are reviewed in this chapter.

LAKE TRANSIT AUTHORITY

Administration and Management

The Lake Transit Authority (LTA) was established in 1996 through a Joint Powers Agreement between Lake County and the Cities of Clearlake and Lakeport to provide public transportation services for Lake County residents. The LTA Board of Directors consists of two representatives from the Lake County Board of Supervisors, two city council members from the City of Clearlake, two city council members from the City of Lakeport, and two representatives chosen from the community at large. This is also the same composition as the Lake Area Planning Council (Lake APC) board. The Board of Directors is responsible for making policy decisions. The actual transit service is managed by the LTA transit manager and operated under contract by Paratransit Services, Inc.

OVERVIEW OF LAKE TRANSIT AUTHORITY SERVICES

Lake Transit Fixed Routes

The LTA operates ten fixed routes: four local routes, four intercity routes, and two inter-county routes, as shown in Figure 7. Most of the routes begin weekday service between 6:00 AM to 7:00 AM, and finish between 7:00 PM and 8:00 PM. In March 2022, Saturday service was temporarily suspended, in addition to some other schedule reductions, due to difficulties hiring drivers. This challenge has been experienced by transit operators across the nation. As of the time of writing this report, all schedule reductions remain in place, including the suspension of Saturday service. The following route descriptions describe LTA services as available in August 2022.

Along the fixed routes, Lake Transit provides deviated fixed route service, or “flex stops,” in areas where DAR service is unavailable. Passengers can request for the bus to travel up to one mile off the regular route by making a reservation at least one day in advance.

Route 1 – North Shore (Clearlake to Lakeport)

Route 1 connects Clearlake and Lakeport by traveling along the north shore of Clear Lake, serving Clearlake Oaks, Glenhaven, Lucerne, Nice, and Upper Lake along the route. Westbound service consists of ten runs, beginning at 7:00 AM and ending at 7:16 PM. Eastbound service consists of 11 runs, beginning

at 6:35 AM and ending at 8:50 PM. Route 1 is shown in Figure 8 with the LTA system and in Figure 9 in reference to activity centers identified in Chapter 2.

Figure 8
Lake Transit Routes

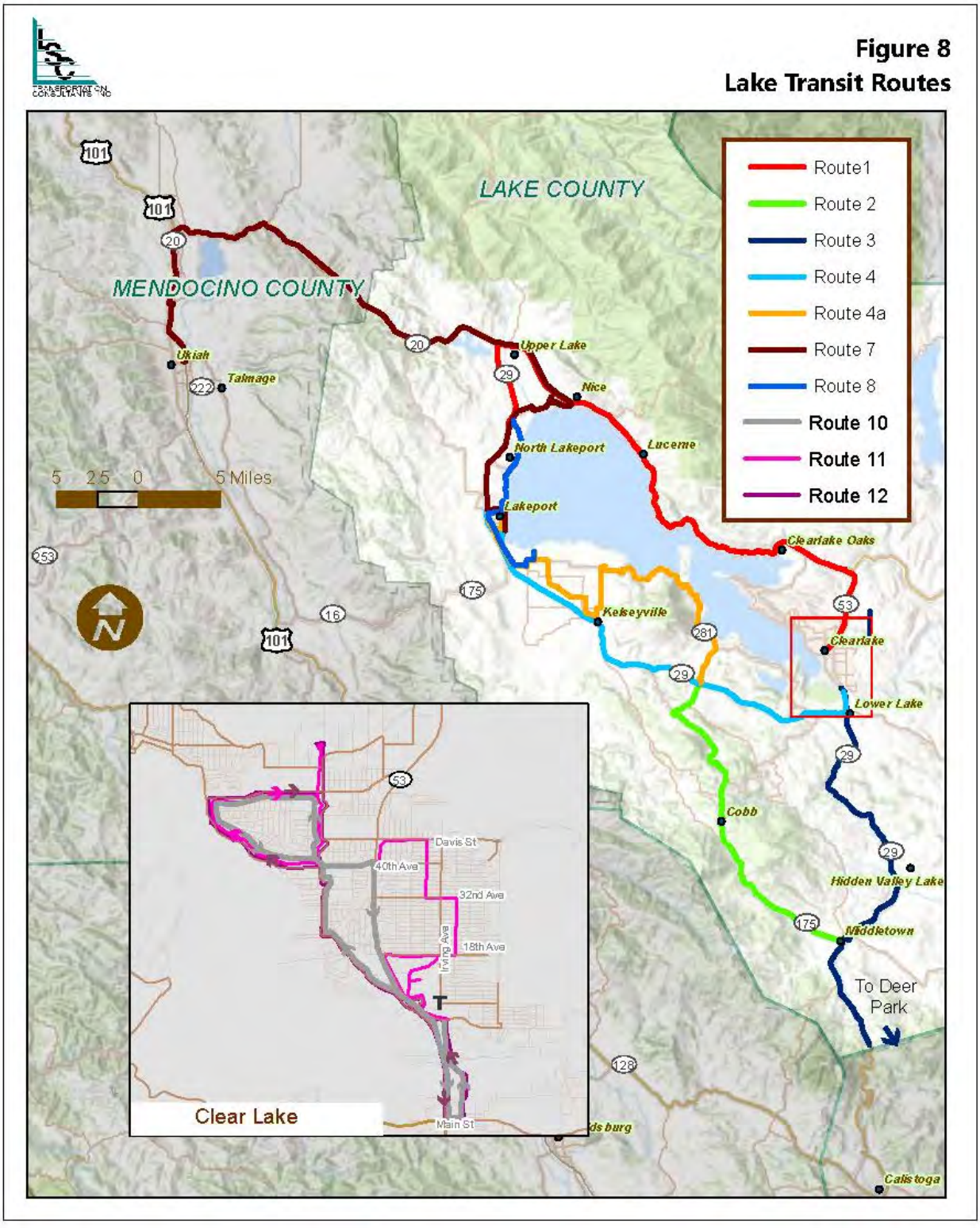


Figure 9
Upper Lake, Lucerne and West Shore Activity Centers

Route 2 – Highway 175 – Kit's Corner to Middletown

Route 2 serves communities along the SR 175 corridor between Middletown and Kit's Corner. At the time of writing, one roundtrip is completed per day, with the northbound run beginning at 10:35 AM and the southbound run ending at 12:26 PM back in Middletown. Route 2 is shown in Figure 8.

Route 3 – Highway 29 – Clearlake to Deer Park

Route 3 provides intercounty service between Clearlake and Deer Park in Napa County via Middletown along SR 29. This route is a valuable resource for Lake County residents, as passengers have the ability to connect to Vine Transit in Napa County, which in turn provides the ability to connect to other services that travel to the Bay Area. Two roundtrips are made daily to Deer Park, while two other roundtrips are made to Calistoga, also in Napa County, and back to Clearlake. Southbound service begins at 6:10 AM in Clearlake and ends at 5:55 PM in Calistoga. Northbound service begins at 7:32 AM in Calistoga and ends at 6:59 PM in Clearlake. This route is partially funded by the Federal Transit Administration (FTA) 5311(f) Intercity Transit Bus Program. The portion of Route 3 within Lake County is shown in Figures 8 and 11.

Route 4 – South Shore (Clearlake to Lakeport)

Route 4 is another service that provides connectivity between Clearlake and Lakeport, but this route travels along the south shore of Clear Lake. Route 4 passes by Kit's Corner and also stops in Kelseyville along the way. Timed transfers with Route 7 to Ukiah are possible. There are eight westbound runs and 7 eastbound runs daily, with westbound service occurring between 6:00 AM to 5:49 PM and eastbound service occurring between 6:45 AM to 7:19 PM. Figures 8 and 10 show Route 4 in reference to other routes and Lake County activity centers.

Route 4a – Soda Bay (Kit's Corner to Lakeport)

In the past, Route 4a has served the Soda Bay area, traveling between Kit's Corner and Lakeport (Figure 10). Service was suspended in March 2022 due to staffing shortages.

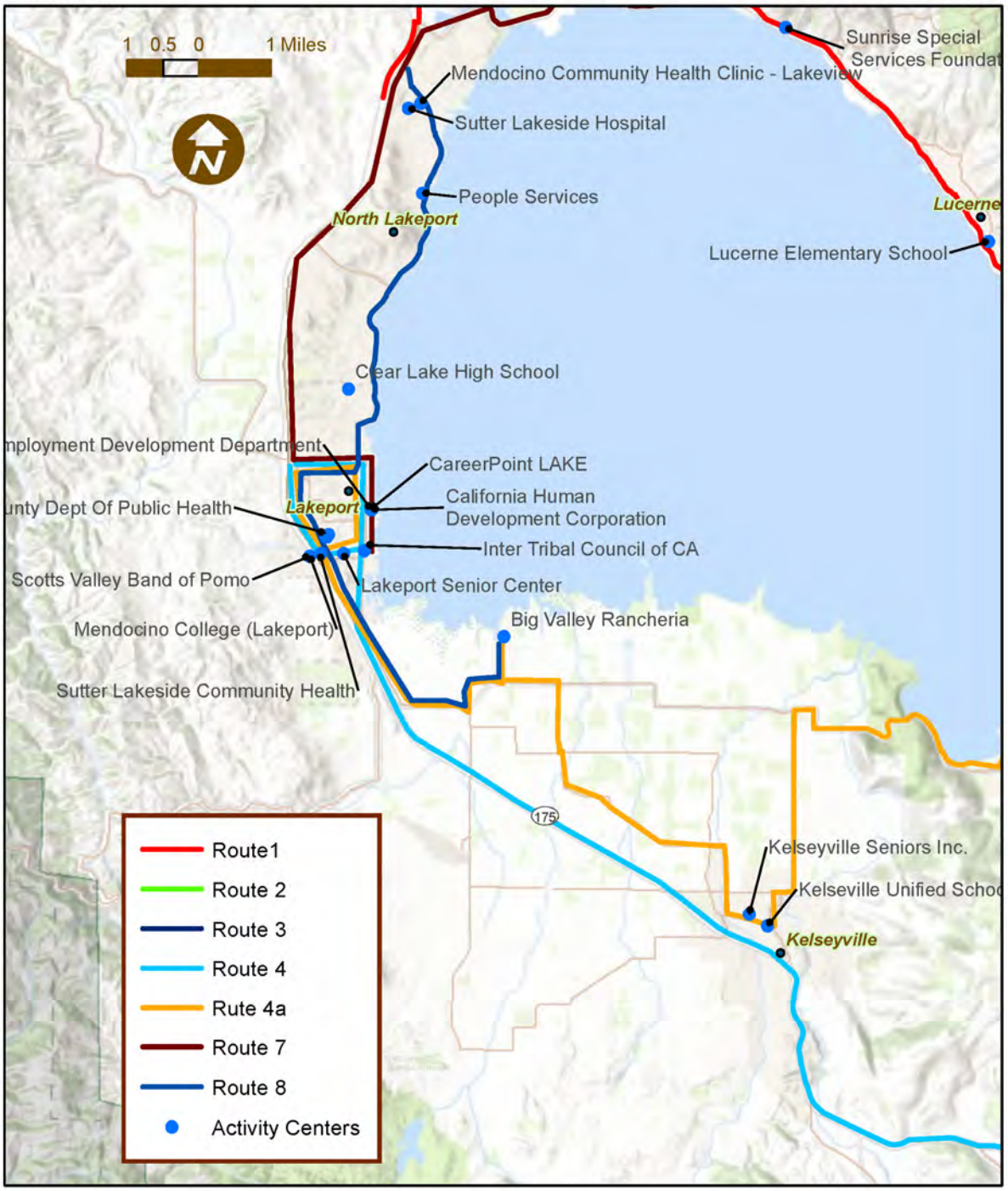
Route 7 – Lakeport to Ukiah

Route 7 completes three roundtrips daily between Lakeport and Ukiah, which is in Mendocino County, via Robinson Rancheria and Upper Lake. There are multiple transfers available to passengers on Route 7: Route 4 in Lakeport, Route 1 in Upper Lake, and Greyhound, Amtrak, and Mendocino Transit Authority in Ukiah. Three roundtrips are completed daily between 8:00 AM to 6:26 PM. This route is partially funded by the Federal Transit Administration (FTA) 5311(f) Intercity Transit Bus Program (Figures 8 and 9).

Route 8 – Lakeport City

Route 8 provides services entirely within the City of Lakeport. Each day, two buses complete roundtrips in opposite directions on hourly headways between Konocti Vista Casino and Sutter Lakeside Hospital beginning at 7:30 AM and ending at 7:50 PM. Route 8 is shown in Figures 8 (other routes) and 10 (activity centers).

Figure 10
Lakeport and West Shore Activity Centers



Route 10 – Clearlake – Clearlake Park/North Loop

Route 10 operates within the City of Clearlake, starting at the Clearlake Walmart and serving Clearlake Park, Old Highway 53, Lower Lake High School, and Lake County Social Services. Route 10 runs on hourly headways between approximately 5:00 AM and 7:30 PM. Figure 11 shows Route 10 in context with Clearlake activity centers identified in Chapter 2.

Route 11 – Clearlake – The Avenues Loop

Route 11 also starts at Walmart and then serves the Clearlake residential neighborhood known as "The Avenues," as well as Walnut Grove Apartments, the Senior Center, Woodland College, and Lakeshore Drive. Route 11 runs along Lakeshore Drive in the opposite direction than Route 10. Route 11 runs on hourly headways between roughly 6:00 AM to 7:30 PM, with one earlier reduced run beginning at 5:30 AM. Route 11 is shown in Figure 11.

Route 12 – Clearlake – Lower Lake/South Loop

The final local Clearlake route is Route 12, which runs along some of the same roads as Routes 10 and 11. Route 12 runs on hourly headways from 11:00 AM until 3:49 PM, starting at Walmart and then travelling south to Lower Lake before returning to Walmart and then traveling north along Old Highway 53 to Austin Park, Burns Valley Mall, and the Senior Center before returning to Walmart again. Figure 11 shows Route 12 with the other Clearlake routes and local activity centers.

Lake Transit Dial-a-Ride (DAR)

LTA offers DAR services in both Clearlake and Lakeport during the same days and hours as local bus routes. DAR requires reservations, with passengers eligible for American Disability Act (ADA) paratransit services receiving priority consideration as long as they call one day or more in advance. Passengers can use DAR for door-to-door service within Clearlake and Lakeport city boundaries.

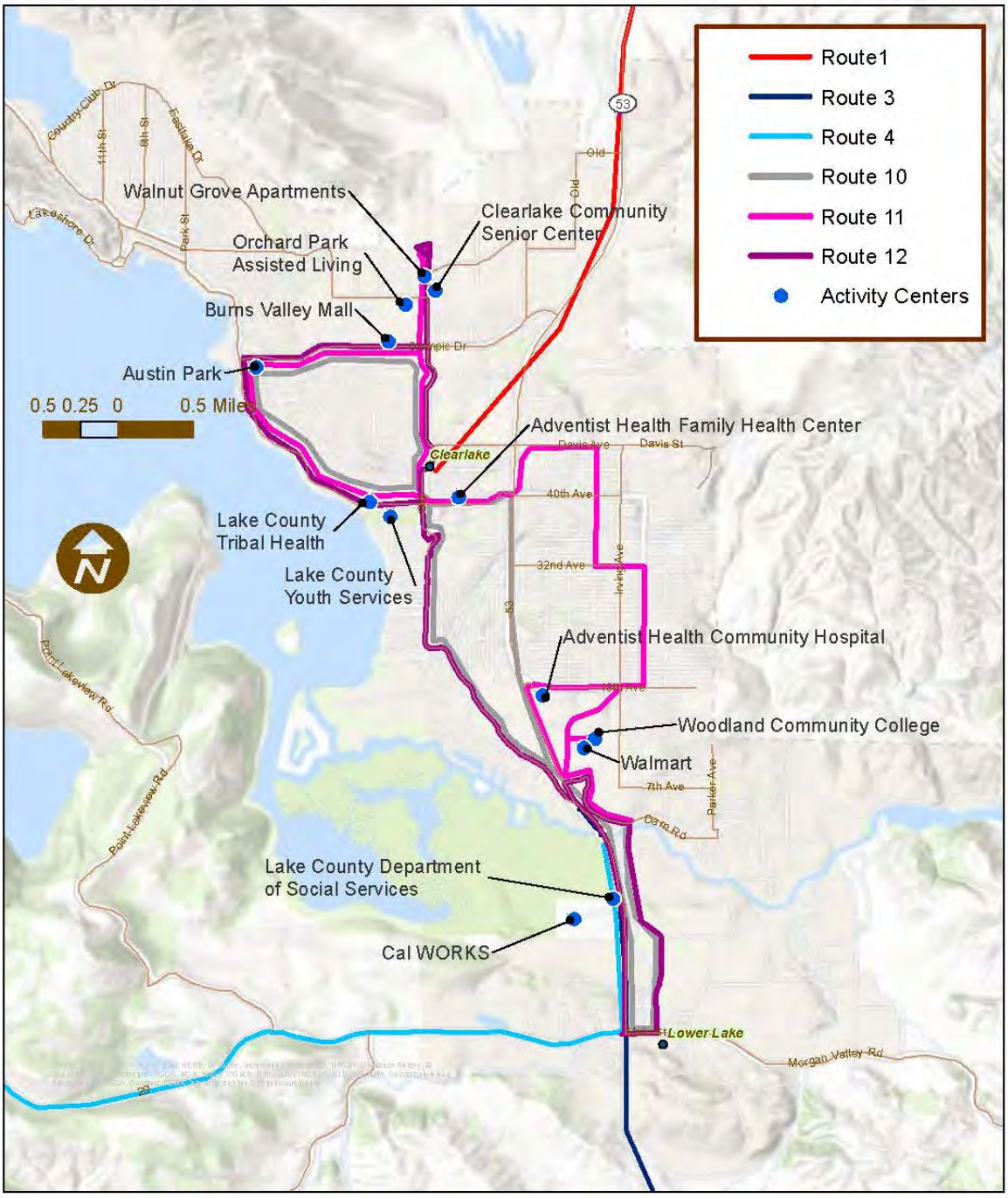
Lake Transit Transfer Opportunities

As summarized in the route descriptions, Lake Transit passengers have the ability to transfer to other routes at key transfer locations across the county. These key locations, and the routes served at each, are described below:

- Walmart (Clearlake): Routes 1, 3, 4, 10, 11, and 12
- Third and Main Street (Lakeport): Routes 4, 4a, 7, and 8
- Kit's Corner (Kelseyville): Routes 2, 4, and 4a
- Sutter Lakeside Hospital (Lakeport): Routes 1 and 8

LTA provides passengers with important opportunities to transfer to other transit services through the intercounty routes (Routes 3 and 7). In Ukiah, passengers can transfer to Mendocino Transit Authority, Greyhound, and Amtrak. From Calistoga and Deer Park, passengers can transfer to Vine Transit. Vine Transit can bring passengers further south to Napa where it is possible to make connections to other services onwards to the Bay Area.

Figure 11
Clearlake Activity Centers



Lake Transit Fare Structure

The Lake Transit fare structure is summarized in Table 8. Passengers are able to pay their fare with cash or by using a bus pass purchased at either Lake Transit or one of the designated locations (all grocery stores) in Cobb, Clearlake, Hidden Valley, Lakeport, Lucerne, Middletown, and Nice. Bus drivers also have the ability to sell Punch Passes and System Weekly Passes. Electronic payment systems have not been implemented at this time, so passengers cannot pay electronically onboard. Further details on Lake Transit fares can be found in the table below.

Table 8: Lake Transit Fare Structure

Cash Fares			
		General Public	Discount[2, 3]
Local	Bus Routes	$1.25	$0.75
	Flex Stop Adds	$5.00	$0.75
Regional - Bus Routes	Bus Routes	$2.25	$1.50
	Flex Stop Adds	N/A	$1.25
Mendocino & Napa Counties	Bus Routes	$5.00	N/A
Dial-a-Ride	Same Day Service	N/A	$3.00
	One Day Advance Reservation	N/A	$2.50

Bus Passes	
Punch Pass - $11 in Fares	$10.00
Monthly Fast Pass - Unimited Rides (in Lake County)	$40.00
System Weekly Pass - Unlimited Rides (Lake, Mendocino, and Napa Counties)	$20.00
Summer Cruisin' Pass- Unlimited Rides between 6/1 to 9/15[4]	$20.00

Source: LTA.

Note 1: Up to two children (age 5 or under) may ride free with a paying adult.

Note 2: Seniors (65+), Disabled, and Medicare card holders are all eligible for discounted fares with supplemental verfication.

Note 3: Up to two children (ages 6 to 12) may ride for a discounted fare when with a paying adult.

Note 4: Only eligible for riders ages 7 to 18.

Note 5: To transfer a route with a higher fare, passengers must pay the difference. Passengers can transfer free of charge to an equal or lower priced route.

LAKE TRANSIT MARKETING EFFORTS

Online Materials

The Lake Transit website contains a plethora of information which can be navigated by clicking on any of the tabs at either the top or bottom of the homepage. These tabs direct visitors to general information, route maps and schedules, DAR information, payment information, and contact information. News bulletins are featured in a side bar on the website, and below the bulletins is another navigation menu to take users to information about Title VI, advertising, related transportation organizations and information, and plans/policies. A Trip Planner tool is included at the very bottom of the website. Although a link to the Lake APC website is provided with other transportation resources, it may be difficult for users to navigate to information about the RTPA from the LTA website. Both the LTA and Lake APC websites have information about public meetings. The Lake APC website has more detailed information about public plans and related studies.

Print Materials

Printable schedules are available for each fixed route on the LTA website. Staff uploaded updated files after the service schedule was changed in February 2022, but as of the time of writing there have been no printable files uploaded reflecting schedule changes made in March 2022. Additionally, Lake Transit has printed riders' guides available at the dispatch office. Flyers are occasionally printed and put on the buses to promote pass deals, public outreach, and service changes.

Phone Information

People can call Lake Transit for general information or to schedule a flex stop or DAR reservation. The phone number is posted on the website, Facebook, and at bus stops. It is also possible to call a specific line to get transit information in Spanish or other languages.

Social Media

LTA established a Facebook account in January 2021 to provide important news updates and information to passengers and local residents. Posts have been used to advertise public outreach, service detours, the Summer Cruisin' Program, and LTA employment opportunities. As of early August 2022, the Facebook account had 181 followers. Currently, LTA does not have any other form of social media (Instagram, Twitter, etc.). The public is allowed to comment on posts, and staff respond to questions left in the comments as time allows.

Outreach Activities and Events

Outreach has been limited across the entire US in recent years due to the ongoing COVID-19 pandemic. While the Lake APC and LTA have continued to conduct public outreach, especially related to current projects, these efforts have mostly consisted of virtual meetings and surveys.

LAKE TRANSIT CAPITAL ASSETS

Vehicles

As of August 2022, the LTA has a fleet of 32 vehicles (vehicle ID 1408 was donated to Adventist Health Clearlake as of May 2022). Table 9 describes the entire LTA fleet. The vehicles range in capacity from six to twenty-nine passengers and the vast majority are wheelchair accessible. Five of the vehicles are due for replacement due to mileage, but there are plans to replace four of these vehicles with funds from 5339 (a) grants. Ten vehicles will need to be replaced during the planning period due to age.

At this point in time, the Lake Transit fleet does not include any electric or hydrogen vehicles. LTA will need to consider the California Air Resources Board (CARB) Innovative Clean Transit Rule requirements for Zero Emission Buses (ZEB), which will go into effect during this planning period (2023-28). As a small transit agency, LTA will be required to submit a ZEB Rollout Plan by July 1, 2023, and by 2026 at least 25 percent of new bus purchases must be ZEBs (CARB, 2019). Funding for zero emission buses was jumpstarted in 2020 when LTA received a grant from the Transit and Intercity Rail Capital Program to design a new transit center in Clearlake. A portion of these grant funds have been allocated for the purchase of four hydrogen buses and the installation of fueling/charging infrastructure for both hydrogen and electric vehicles.

Passenger Amenities

Public outreach efforts over the years have consistently demonstrated passengers' desires for improved maintenance and amenities at LTA bus stops. The Bus Passenger Facilities Plan (2019), described in Chapter 3, compiled an inventory of existing Lake Transit stops and amenities, recommended new or replacement facilities, and listed priority areas for improvements. The Bus Passenger Facilities Plan found that there are 311 unique bus stops served by Lake Transit: 304 in Lake County, 4 in Mendocino County, and 3 in Napa County. Over 80 percent of stops were found to have a sign and 94 percent had a sign mounting pole. Benches provided by either Lake Transit or a nearby organization were present at only 21 percent of stops. Shelters were present at 19 percent of stops. Less than half of stops were found to have adequate lighting, ADA access, or shade. Although a stop may have had an amenity, the amenity itself was not necessarily in a good or usable condition.

Bus stop improvements were recommended based on the amenities and relative passenger activity at the stop. Since the completion of the plan, signpost replacements, bus stop shelter installations, and the implementation of a bus turnout near Austin Park have been completed. The completion of a new transit center within the City of Clearlake, which will replace the transfer site in the Walmart parking lot, will also greatly improve the experience of LTA passengers. This project will include the construction of a transit center at the southwest corner of Dam Road Extension and South Center Drive and pedestrian improvements in the area. The transit center will have bus bays, a climate-controlled waiting area, staff facilities, restroom facilities, bike parking, and park-and-ride spaces. Lake APC was recently awarded a Transit and Intercity Rail Capital grant for this project.

Table 9: Lake Transit Vehicle Fleet

Agency ID	Make	Model	Year	Mileage	Capacity (w/o driver)	Est. Replacement Date: Year	Est. Replacement Date: Miles to replacement	Being replaced with 5399 funds?
1401	Glaval	Legacy	2014	168,736	16	2020	31,264	Yes
1402	Glaval	Legacy	2014	244,361	27	2021	Past due	Yes
1403	Glaval	Legacy	2014	250,504	27	2021	Past due	Yes
1404	Glaval	Legacy	2014	305,082	27	2021	Past due	Yes
1405	Glaval	Legacy	2014	315,029	27	2021	Past due	Yes
1408	Ford	E-350	2014	50,011	8	--	99,989	Donated[2]
1501	Glaval	--	2015	180,566	29	--	19,434	--
1502	Glaval	--	2015	247,185	29	--	Past due	No plans
1601	Glaval	Legacy	2017	85,841	27	2023	114,159	No plans
1602	Glaval	Legacy	2017	179,361	27	2023	20,639	No plans
1701	Goshen	Impulse	2017	160,082	18	2024	39,918	No plans
1702	Goshen	Impulse	2017	159,253	18	2024	40,747	No plans
1703	Goshen	Impulse	2017	124,031	18	2024	75,969	No plans
1704	Goshen	Impulse	2017	153,196	18	2024	46,804	No plans
1705	Goshen	Impulse	2017	154,424	18	2024	45,576	No plans
1706	Goshen	Impulse	2017	167,047	18	2024	32,953	No plans
1707	Goshen	Impulse	2017	149,231	18	2024	50,769	No plans
1708	Goshen	Impulse	2017	148,198	18	2024	51,802	No plans
1709[3]	Mobility Ventures	--	2016	32,207	6	--	67,793	No plans
1710[3]	Mobility Ventures	--	2016	26,146	6	--	73,854	No plans
1711	Glaval	--	2017	104,859	27	--	95,141	No plans
1712	Glaval	--	2017	88,054	27	--	111,946	No plans
1713	Glaval	Legacy	2017	169,279	27	--	30,721	No plans
1801	Glaval	Legacy	2019	47,075	27	--	152,925	No plans
1901[3]	Ford	--	2018	54,332	7	--	45,668	No plans
1902	Starcraft	--	2019	26,323	7	--	173,677	No plans
1903	Starcraft	--	2019	22,224	11	--	177,776	No plans
1904	Glaval	--	2019	21,158	8	--	178,842	No plans
1905	Glaval	--	2019	25,651	--	--	174,349	No plans
1906	Glaval	--	2019	32,381	11	--	167,619	No plans
2101	Glaval	--	2020	5,840	27	--	194,160	No plans
2102	Glaval	--	2020	5,621	27	--	194,379	No plans
2103	Glaval	--	2020	4,893	27	--	195,107	No plans

Source: Lake Transit Fleet Informaton (3/28/22)

Note 1: Mileage checked in 8/2021 for all vehicles except ID #1401 and #1408, which were checked in 2019

Note 2: Donated to Adventist Health Clearlake in May 2022

Note 3: Only used for NEMT program

Operations and Maintenance Facilities

Most Lake Transit buses are stored at the Operations and Maintenance Facility in Lower Lake, with a few vehicles being stored at the Lakeport Yard. LTA includes maintenance work as part of its operations contract with Paratransit Services, Inc. Dispatch is also located at the Lower Lake Facility. Plans have been outlined to enhance security at the Operations and Maintenance Facility in Lower Lake by installing additional outdoor security cameras.

LAKE TRANSIT RIDERSHIP ANALYSIS

LTA ridership, both systemwide and by route, is an important metric to consider when planning any potential changes to the transit system. Ridership metrics are analyzed in this section.

Annual Ridership

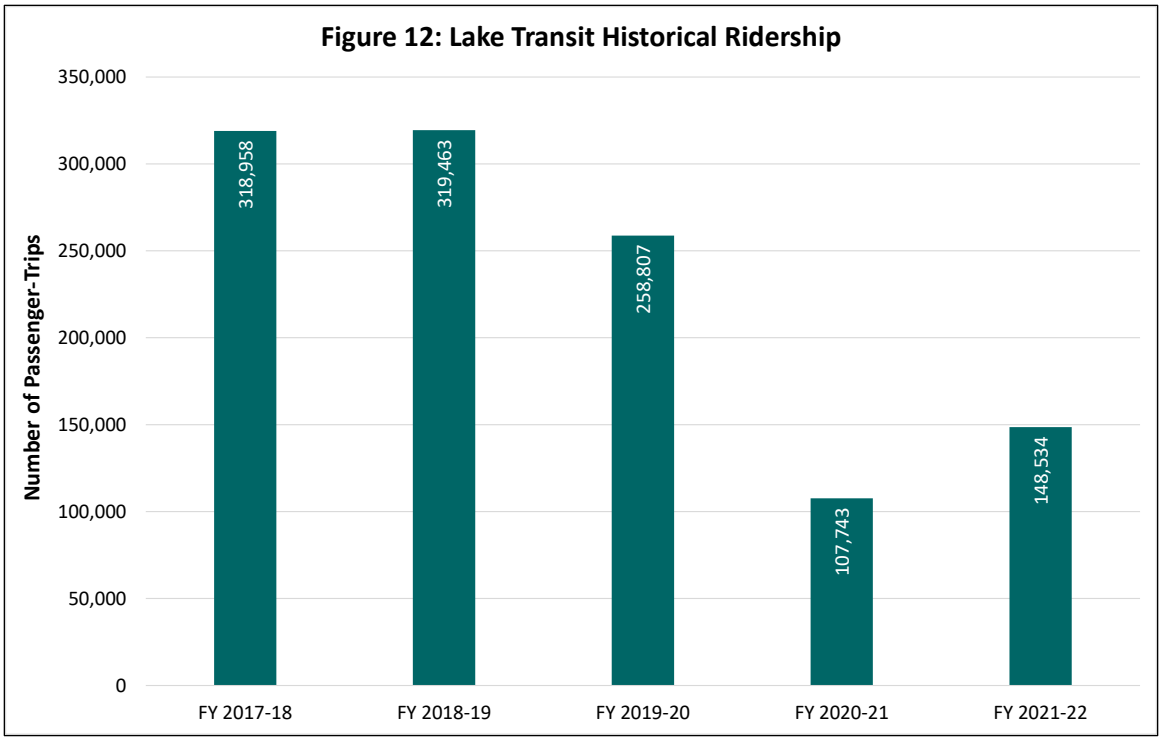
Transit systems across the nation have been experiencing declining ridership for approximately ten years. At first, this decline in ridership was in part due to low interest rates that made it easier for many to purchase a car as well as low gas prices. However, in recent years the COVID-19 pandemic has been the greatest influence on ridership, as people remained home and avoided public settings.

Lake Transit's ridership data for the last five fiscal years reflects the dramatic impacts of the COVID-19 pandemic (Table 10 and Figure 12). Annual systemwide ridership was approximately 319,000 in both Fiscal Year (FY) 2017-18 and FY 2018-19. Then, FY 2019-20 saw a 19 percent decrease in ridership compared to the year prior due to the beginning of the COVID-19 pandemic in March 2020. FY 2020-21, the first full year of the pandemic, saw 58 percent less ridership than just one year before and marked a 66 percent decrease compared to FY 2017-18. However, FY 2021-22 saw a slight rebound in Lake Transit ridership as pandemic restrictions were lifted and vaccines made more widely available. Although ridership increased by 38 percent in FY 2021-22 over FY 2020-21, ridership was still far below pre-COVID levels. Overall, systemwide ridership experienced a net decrease of 53 percent over the five years considered.

Table 10: Lake Transit Historical Ridership
FY 2017-18 - FY 2021-22

	Fiscal Year					Change 2017-18 to 2021-22	
	2017-18	2018-19	2019-20	2020-21	2021-22	#	%
Route 1	73,757	72,565	58,396	24,697	36,775	-36,982	-50.1%
Route 2	3,722	2,668	2,011	35	1,024	-2,698	-72.5%
Route 3	16,215	16,232	10,148	3,072	4,893	-11,322	-69.8%
Route 4	29,807	30,715	24,712	8,365	11,109	-18,698	-62.7%
Route 4a	4,024	4,691	3,009	59	1,026	-2,998	-74.5%
Route 7	12,845	13,119	10,997	4,311	5,839	-7,006	-54.5%
Route 8	37,416	35,675	30,539	12,833	18,622	-18,794	-50.2%
Route 10	62,774	65,657	56,126	28,024	37,106	-25,668	-40.9%
Route 11	45,358	47,416	42,941	21,900	25,895	-19,463	-42.9%
Route 12	24,290	22,502	13,171	--	1,765	-22,525	-92.7%
Clearlake Dial-a-Ride	4,813	4,737	3,865	2,831	2,659	-2,154	-44.8%
Lakeport Dial-a-Ride	3,937	3,486	2,892	1,616	1,811	-2,126	-54.0%
Total Systemwide	**318,958**	**319,463**	**258,807**	**107,743**	**148,534**	**-170,424**	**-53.4%**

Source: Late Transit LTA Compilation Forms, 2017-18 - 2021-22
Note 1: Routes 2, 4a, and 12 were not in operation for either the entirety or a portion of FY 2020-21 and FY 2021-22.



While the decrease in ridership was experienced across all LTA services, some routes were more impacted than others (Table 10 and Figure 13). During the last five fiscal years, the Clearlake DAR experienced only a net 45 percent decrease in ridership while Lakeport DAR ridership declined by 54 percent. Of the local routes in operation throughout the pandemic, Routes 8, 10, and 11, as well as Route 1 experienced a decrease in ridership of between 40 to 50 percent over the past five years. Route 3 saw the greatest decline in annual ridership of those routes which remained in operation throughout the pandemic (about 70 percent). Routes 2, 4a, and 12 saw the greatest decreases in annual ridership because they were not in operation for large portions of FY 2020-21 and FY 2021-22 due to the pandemic or schedule reductions made due to staffing shortages.

Annual Ridership by Month

Ridership by month for January 2018 through June 2021 is presented in Figure 14. As demonstrated by the data, LTA ridership stayed relatively consistent throughout the year prior to the COVID-19 pandemic, meaning most passengers used the service at similar levels throughout the entire year. The months with the lowest ridership were February, July, November, and December. Lower ridership totals in these months may have been due to a combination of factors, including but not limited to school vacations, holidays, and simply less service days in the month.

The beginning of the COVID-19 pandemic is strikingly obvious in Figure 14, where 2020 monthly ridership plummeted from 26,797 individuals in February down to 7,933 individuals in April. The remainder of 2020 saw consistently lower ridership compared to pre-pandemic levels, with most months seeing between 8,000 to 9,000 boardings. Data for 2021 and the first half of 2022 followed very similar patterns, with ridership on an upwards trend in June 2022 but not yet at 2019 levels.

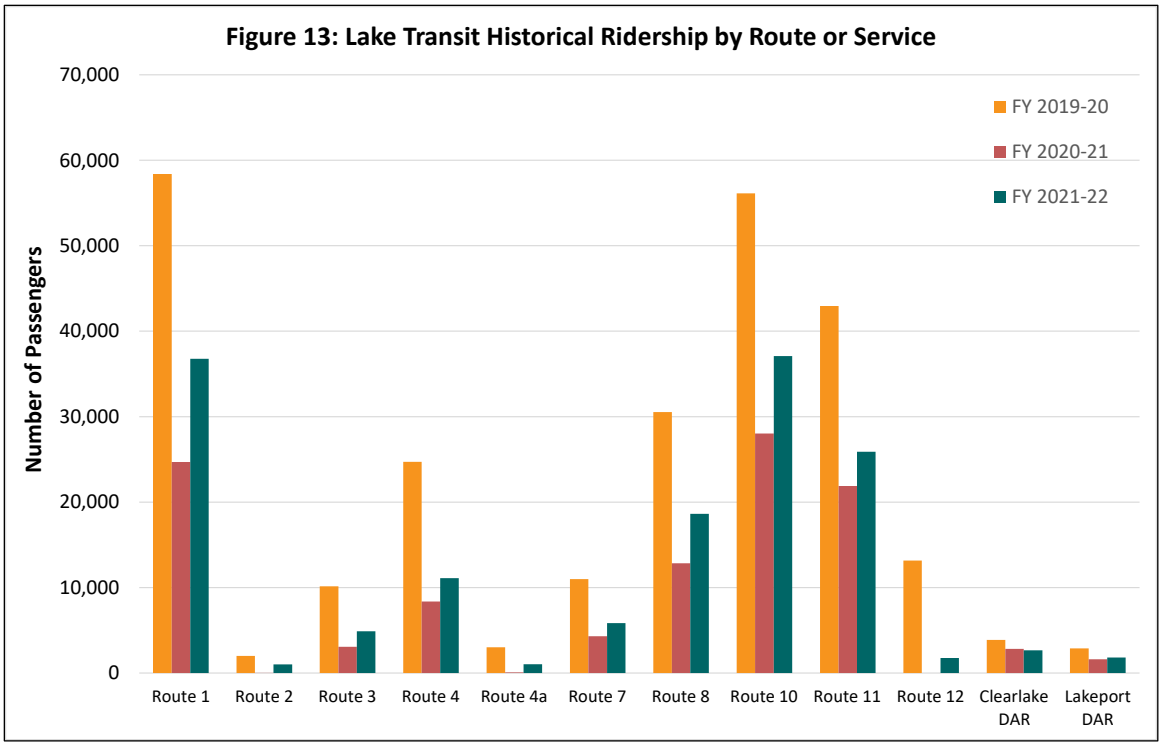


Figure 13: Lake Transit Historical Ridership by Route or Service
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Number of Passengers
FY 2019-20
FY 2020-21
FY 2021-22
Route 1
Route 2
Route 3
Route 4
Route 4a
Route 7
Route 8
Route 10
Route 11
Route 12
Clearlake DAR
Lakeport DAR

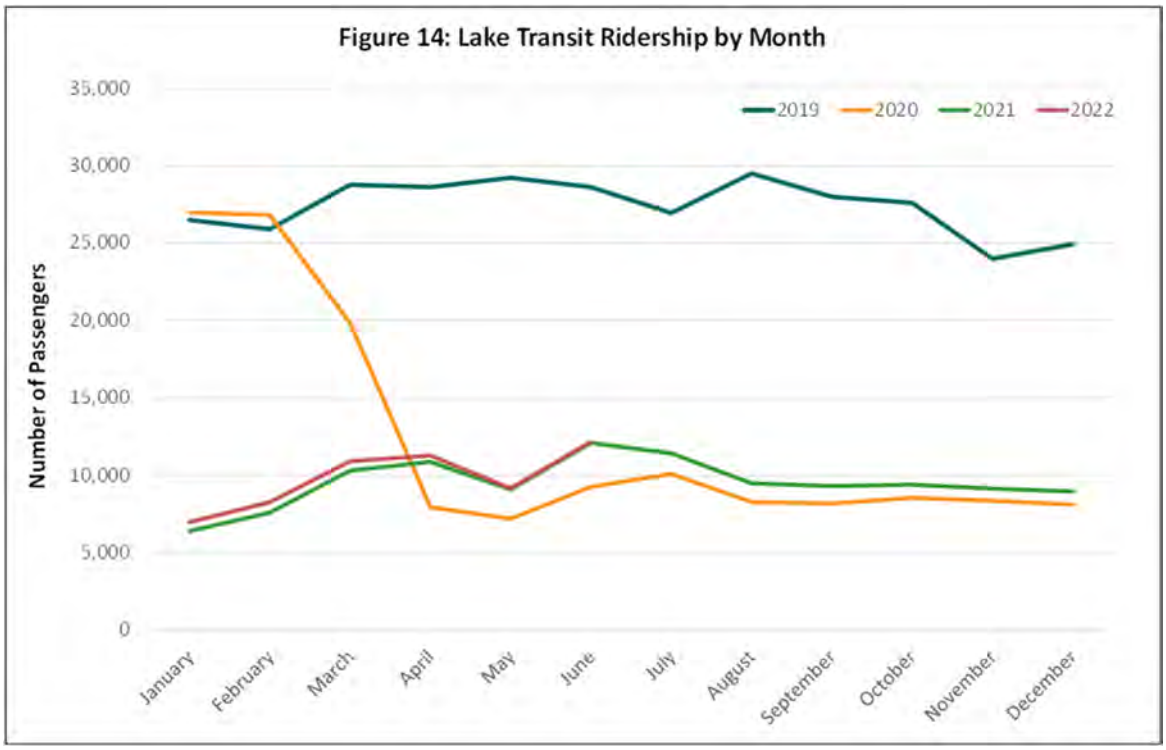


Figure 14: Lake Transit Ridership by Month
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Number of Passengers
2019
2020
2021
2022
January
February
March
April
May
June
July
August
September
October
November
December

Boardings and Alightings by Stop

The LTA system includes 311 bus stops, some of which are used by multiple routes. Drivers stop at these established locations along the routes as well as flex stops and "flag stops," (locations where either the passenger flags down the bus or the passenger talks to the bus driver beforehand to arrange to be dropped off). Understanding where passengers are boarding and alighting most frequently is valuable information that can provide insight on how to potentially implement bus stop improvements as described in the Bus Passenger Facilities Plan (2019). A knowledge of where passengers are most frequently boarding and alighting could also inform future route changes.

To identify bus stops with high levels of passenger activity, trained associates recorded boardings and alightings the week of May 23, 2022, as part of the on-board survey effort. Table 11 presents estimated daily boardings as calculated from the boarding data recorded.

Table 11 shows the stops with the greatest number of estimated daily boardings across the LTA system. Not surprisingly, the Walmart in Clearlake had the greatest activity across the LTA system. Other popular stops among passengers across LTA routes included Sutter Lakeside Hospital, Austin Park, Burns Valley Mall, Robinson Rancheria, and Twin Pine Casino. Highlights of the boarding results are shown in Table 11, and full results by route are included in Appendix A.

LAKE TRANSIT TRAVEL TIME ANALYSIS

To encourage increased transit ridership, passengers need to be able to trust that the bus will arrive at the time they expect. Passengers should also feel confident that they will be able to get to their final destination in a reasonable amount of time and without much hassle throughout the journey. This section first analyzes LTA's on-time performance before then considering how long it takes LTA passengers to travel between various locations in Lake County and how these times compare to typical travel times via car.

On-time Performance

The previous TDP (2015) outlined that a Lake Transit fixed route bus is considered "On-Time" if the bus arrives to the stop one minute early to five minutes late. LTA records on-time performance data for all fixed routes. Because FY 2020-21 data was analyzed, there is no data for Route 12 and there is only one month of data for Routes 2 and 4a. Only data points that represented buses *arriving* to the stop were analyzed. Results are shown in Table 12 and Figure 15.

The routes with the greatest on-time performance, or the greatest number of buses to arrive to the stop on-time, were Routes 2 and 4a. This is likely due simply to the fact that there were less datapoints to analyze. Routes 1, 3, and 11 recorded the worst on-time performance in terms of how many buses arrived on time to the stops, in part because each of these routes saw over 44 percent of buses arrive early. Approximately 20 percent of Route 7 buses arrived 5 minutes late or more. Route 7 has a long travel distance to Ukiah and could be delayed for a number of reasons such as slow vehicles or road construction. One option which could provide a small time cushion would be to reduce the driver break in Lakeport as Route 4 switches to Route 7.

Table 11: LTA Stops with Greatest Boarding and Alighting Activity Across All Routes

Bus Stop	Estimated Average Daily Boardings									
	Route 1	Route 2	Route 3	Route 4	Route 7	Route 8	Route 10	Route 11	Route 12	**Total**
Walmart (Clearlake)	24	0	5	3	0	0	40	24	6	103
Sutter Lakeside Hospital	22	0	0	0	0	29	0	0	0	51
3rd St & Main St (Lakeport)	0	0	0	5	23	15	0	0	0	43
Robinson Rancheria Resort & Casino	13	0	0	0	17	0	0	0	0	31
Burns Valley Mall	0	0	0	0	0	0	14	5	0	19
Austin Park	0	0	0	0	0	0	2	11	4	17
Veteran's Clinic	0	0	0	0	0	0	8	6	0	15
Adventist Health Family Clinic	0	0	0	0	0	0	0	11	0	11
Second St & Lake St (Lower Lake)	0	0	0	0	0	0	8	0	2	10
Safeway (Lakeport)	0	0	0	2	0	8	0	0	0	9
Cypress Ave & Old Hwy 53	0	0	0	0	0	0	9	0	0	9
Grocery Outlet (Lakeport)	0	0	0	6	0	2	0	0	0	8
Clearlake Post Office	0	0	0	0	0	0	5	3	0	8
Lower Lake High School	0	0	0	0	0	0	5	0	2	7
13th & SR 20 (Lucerne)	7	0	0	0	0	0	0	0	0	7
Lakeshore Blvd & Lange St	0	0	0	0	0	7	0	0	0	7
Twin Pine Casino	0	2	4	0	0	0	0	0	0	6
Running Creek Casino	6	0	0	0	0	0	0	0	0	6
11th & Bush St (Clearlake)	0	0	0	0	0	0	5	0	0	5
Lake County Tribal Health - Main Clinic	0	0	0	0	0	5	0	0	0	5
1st Ave & SR 20 (Lucerne)	5	0	0	0	0	0	0	0	0	5
Hospice Service of Lake County (Clearlake)	0	0	0	0	0	0	0	5	0	5
Clearlake Senior Center	0	0	0	0	0	0	0	4	1	5
2nd St & Bush St (Clearlake)	0	0	0	0	0	0	5	0	0	5
Mendo Mill (Clearlake)	0	0	0	0	0	0	4	0	1	5
Valero (Clearlake)	0	0	0	0	0	0	1	3	0	4
Clearlake Apartments	0	0	0	0	0	0	4	0	0	4
33rd Ave & Phillips Ave	0	0	0	0	0	0	0	4	0	4
Safeway (Clearlake)	0	0	0	0	0	0	0	4	0	4
9th & Main St	0	0	0	4	0	0	0	0	0	4
Lakeshore Dr & Old Hwy 53	0	0	0	0	0	0	4	0	0	4
Main St & SR 20 (Upper Lake)	4	0	0	0	0	0	0	0	0	4
Armstrong Road	0	0	1	0	0	0	2	0	0	4
Hidden Valley Water Company	0	0	3	0	0	0	0	0	0	3
Lake Transit	0	0	0	1	0	0	2	0	0	3
Nortpoint Mobile Home Park	0	0	0	0	0	3	0	0	0	3
Baylis Ave & Lakeshore Dr	0	0	0	0	0	0	3	0	0	3
Old Red Cross (Clearlake)	0	0	0	0	0	0	3	0	0	3
Kelseyville Lumber	0	0	0	3	0	0	0	0	0	3
Tower Mart (Lakeport)	0	0	0	0	0	3	0	0	0	3
Hinman Park	3	0	0	0	0	0	0	0	0	3
14th & SR 20 (Lucerne)	3	0	0	0	0	0	0	0	0	3
Orchard Shores	3	0	0	0	0	0	0	0	0	3
Pine St & SR 20	3	0	0	0	0	0	0	0	0	3
40th Ave & Phillips Ave	0	0	0	0	0	0	0	3	0	3
Ridge Lake Apartments - Commons	0	0	0	0	0	0	2	0	0	2
Lincoln Ave Bridge (Calistoga)	0	0	2	0	0	0	0	0	0	2
Bella Vista Apartments (Lakeport)	0	0	0	0	0	2	0	0	0	2
Lake County Social Services (Lower Lake)	0	0	0	0	0	0	0	0	2	2
Nice Post Office	2	0	0	0	0	0	0	0	0	2
Sentry Market	2	0	0	0	0	0	0	0	0	2

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 12: LTA Fixed Routes On-Time Performance

FY 2020-21

Good Performance | Poor Performance

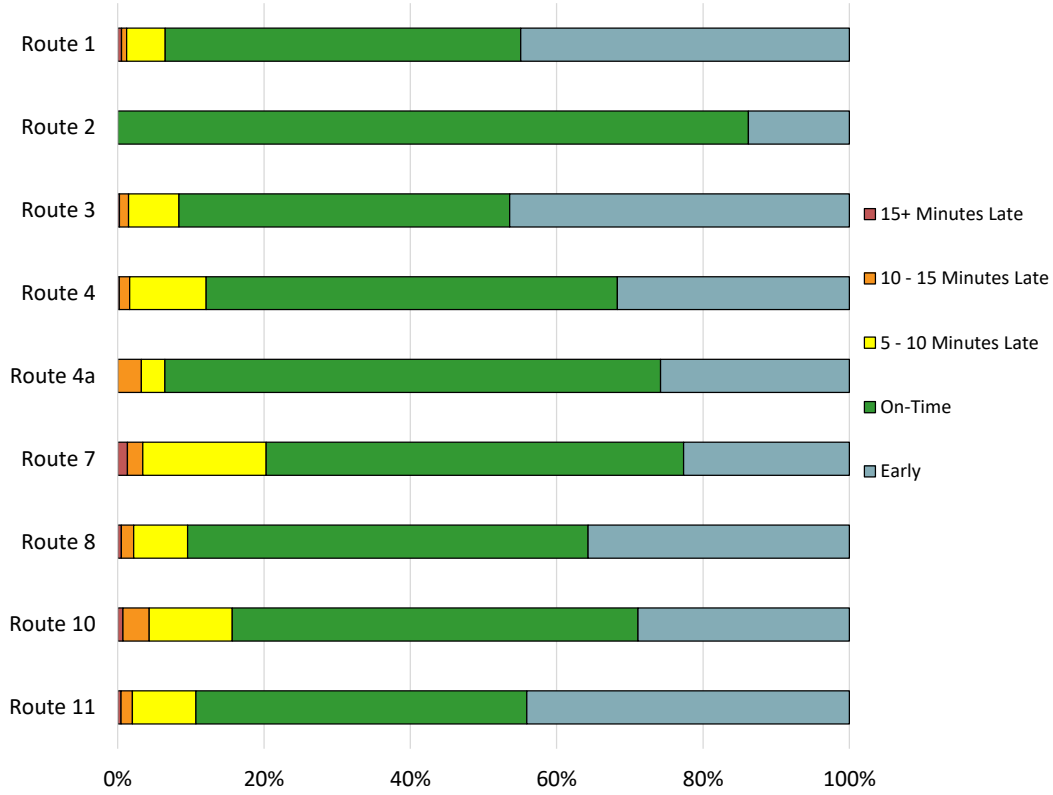
	More than 15 Minutes Late	10 to 15 Minutes Late	5 to 10 Minutes	On-Time[1]	Early
Route 1	0.5%	0.7%	5.3%	48.6%	44.9%
Route 2[2]	0.0%	0.0%	0.0%	86.2%	13.8%
Route 3	0.2%	1.2%	6.9%	45.2%	46.4%
Route 4[2]	0.2%	1.4%	10.5%	56.2%	31.7%
Route 4a	0.0%	3.2%	3.2%	67.7%	25.8%
Route 7	1.3%	2.1%	16.9%	57.0%	22.7%
Route 8	0.5%	1.7%	7.4%	54.7%	35.7%
Route 10	0.7%	3.6%	11.4%	55.4%	28.9%
Route 11	0.5%	1.5%	8.7%	45.2%	44.1%

Source: Lake Transit Authority

Note 1: Per the 2015 LTA Transit Development Plan, buses are considered on-time if they arrive to the stop 1 minute early to 5 minutes late.

Note 2: Routes 2 and 4a were only in operation for one month of the FY. Route 12 did not operate in FY 2020-21.

Figure 15: LTA Fixed Routes On-Time Performance (FY 2020-21)



Source: Lake Transit Authority

Note: Route 2 and Route 4a were only in operation for one month of the FY.

Travel Time Matrix

When evaluating a transit service, it is helpful to consider the travel experience from the perspective of the rider. Three key trip characteristics that influence an individual's opinion of the bus ride are the total travel time, the frequency of service, and the need to transfer between buses.

Travel times, service frequency, and transfers for six LTA bus stop locations (reflecting the Clearlake, Lakeport, and Upper Lake service areas) were analyzed as shown in Table 13. For each trip origin/destination pair, the existing route schedules were used to identify the fastest travel time possible to complete the trip. Once it was determined which buses would provide the fastest travel between each origin/destination pair, the frequency of the buses and whether a transfer was required were recorded.

Note that for many trips, the actual travel times vary between individual trip-departure times, as someone may have to wait for a bus much longer if they leave at a different time. If a transfer is required to reach the destination, a 10-minute penalty was added to the overall travel time to reflect this inconvenience. Tables 13 and 14 present the fastest travel time between each location assuming optimal conditions and no traffic. Key trends noticeable in Table 13 include:

- Individual trip times range from as short as 6 minutes and up to 106 minutes.
- Trips which require a transfer take on average 2.5 times as long as those that do not require a transfer.
- Within Clearlake, the length of the trip is not just dependent on where the person is going but also when they want to depart. There are multiple locations in Clearlake where at least two of the local routes stop, meaning that if someone misses their intended bus at one of these stops, they can wait, and another Clearlake local route will stop within the hour. However, as the routes are different the new bus may not be as direct to the individual's final destination.
- Stops within the City of Clearlake and the City of Lakeport are all served on a 60-minute frequency, with some stops being served on an a more frequent basis due to redundancy in the routes.
- It takes passengers over an hour to get from communities outside of Clearlake to stops in downtown, such as Austin Park, due to the need to transfer at Walmart.

Comparison of Auto and Transit Travel Times

Based on the travel time analysis, transit travel times were compared to auto travel times as calculated by Google Maps (Table 14). The ratio of transit to auto travel time was determined by dividing the values in Table 13 by the typical auto travel time for the same journey. A lower ratio is desirable, as this means the passenger is not sacrificing a large amount of time by taking the bus versus a personal vehicle (if they have one available). Trips with low ratios are those between Sutter Lakeside Hospital to Third and Main Street in Lakeport and between Austin Park and Walmart in Clearlake. The high ratio of travel times between Robinson Rancheria Resort and Casino and the stop at Third and Main Street in Lakeport signifies it is more convenient to travel by car versus the bus.

Table 13: LTA Travel Times, Transfer Requirements, and Service Headways

35 to 60 Minute Frequency	More Than 60 Minute Frequency

Travel Time in Minutes
T = Transfer Required

Origin Stop \ Destination Stop	Walmart (Clearlake)	Lake County Social Services	Austin Park	Robinson Rancheria Resort and Casino	Third and Main Street (Lakeport)	Sutter Lakeside Hospital
Walmart (Clearlake)		9	20	56	60	80
Lake County Social Services	6		11	72 T	45	96 T
Austin Park	12	23		80 T	75 T	104 T
Robinson Rancheria Resort and Casino	55	74 T	85 T		54 T	24
Third and Main Street (Lakeport)	49	54	79 T	19		16
Sutter Lakeside Hospital	76	66 T	106 T	21	10	

Source: LSC Transportation Consultants, Inc.

Table 14: Comparison of Auto and Transit Travel Times

LEGEND	4	Typical Auto Travel Times in Minutes[1]
	2.3	Ratio of Auto Travel Time to Transit Travel Time

Origin Stop \ Destination Stop	Walmart (Clearlake)	Lake County Social Services	Austin Park	Robinson Rancheria Resort and Casino	Third and Main Street (Lakeport)	Sutter Lakeside Hospital
Walmart (Clearlake)		4 *2.3*	8 *2.5*	38 *1.5*	*31* *1.9*	35 *2.3*
Lake County Social Services	*4* *1.5*		*8* *1.4*	*37* *1.9*	*29* *1.6*	*33* *2.9*
Austin Park	9 *1.3*	*10* *2.3*		37 *2.2*	*37* *2.0*	41 *2.5*
Robinson Rancheria Resort and Casino	38 *1.4*	*38* *1.9*	36 *2.4*		*13* *4.2*	8 *3.0*
Third and Main Street (Lakeport)	*31* *1.6*	*29* *1.9*	*35* *2.3*	*14* *1.4*		*10* *1.6*
Sutter Lakeside Hospital	35 *2.2*	*33* *2.0*	39 *2.7*	8 *2.6*	*10* *1.0*	

Source: LSC Transportation Consultants, Inc.

Note 1: Typical auto travel times calculated by using Google Maps

LAKE TRANSIT FINANCIAL REVIEW

Lake Transit Revenue Sources

LTA budgeted $7,042,522 in total revenues for FY 2021-22 (Table 15). Operating revenues were expected to total $4,549,544. LTA's farebox revenue represents passenger fares. Special fares consist of money contributed by the Lake County Social Services Department, the Redwood Coast Regional Center, and the St. Helena Hospital. Auxiliary transportation revenues represent funds earned from advertising fees. In all, revenues from fares, special fares, and advertising were budgeted to total $394,578 in FY 2021-22 (5.6 percent of total revenues). LTA also expected to receive over $1.2 million in operating revenues from the State Transit Assistance (STA), Low Carbon Transit Operations Program (LCTOP), and Federal Transit Administration (FTA) Section 5311 funds.

The greatest source of operations funding planned for FY 2021-22 was the Coronavirus Response and Relief Supplemental Appropriations Act of 2021 (CRRSAA) (15 percent of overall revenues). Lake Transit was also prepared for over $1.3 million in FY 2021-22 funding through different parts of the Coronavirus Aid, Relief, and Economic Security (CARES) Acts I and II. Together, funding from pandemic relief legislation totaled over one third of LTA's budgeted revenues for FY 2021-22.

Capital revenues were budgeted to total $2,492,978 in FY 2021-22, or 35 percent of total revenues. The largest source of capital funds expected was FTA 5339 grant funding allocated for the purchase of new buses (16 percent of total revenues). Transportation Development Act (TDA) Local Transportation Funds (LTF) represented over 12 percent of LTA budgeted revenues for FY 2021-22, making it the third greatest revenue source overall.

Lake Transit Expenses and Cost Allocation

Information regarding Lake Transit's expenses and a cost model developed from these operating expenses are shown in Table 16. In FY 2021-22, operating and administrative costs for LTA services totaled $2.9 million. The most expensive items by far were the operations and maintenance contracts, which cost over $2.4 million in total.

Operating costs were analyzed to assess how varying factors impact said costs. Each cost in Table 16 is allocated to the quantity (vehicle service hour, vehicle service mile or fixed cost) upon which it is most dependent. For instance, fixed costs such as website maintenance do not change depending on the level of service offered while fuel costs are dependent on vehicle service miles. When divided by the total quantity of service budgeted, a cost equation can be developed. For LTA, this equation is:

FY 2021-22 Operating Cost Model = $35.81 x annual vehicle service hours +
$0.59 x annual vehicle service miles +
$1,275,622 in annual fixed costs

Adding the fixed costs plus hourly costs and then dividing by the number of vehicle service hours observed during the year provides an estimated hourly cost for both fixed and hourly expenses. This value, $70.80, is used to estimate allocated operating costs of the various LTA services in Table 18.

Table 15: Lake Transit Authority Budgeted Revenues FY 2021-22

Revenue Items

OPERATING REVENUES	
Farebox Revenue (Acct 7401)	$171,113
Special Fares (Acct 7402)	$147,465
Auxiliary Transportation Revenues	$76,000
Federal Transit Authority (FTA) Section 5311	$406,458
FTA Section 5311 (f)	$526,417
FTA Section 5311 (f) CARES Act Phase 1	$90,767
FTA Section 5311 CARES Act Phase 2	$763,382
FTA Section 5311 (f) CARES Act Phase 2	$495,482
FTA Section 5311 CRRSAA	$1,074,575
Low Carbon Transit Operations Program (LCTOP)	$331,692
State Transit Assistance (STA)	$466,193
CAPITAL REVENUES	
FTA 5339 Capital - Bus Replacement (2017 & 2019)	$1,129,042
Local Transportation Fund (LTF)	$901,386
LTF Carryover (deferred revenue)	$0
State of Good Repair	$99,707
State of Good Repair Carryover	$116,931
Propostion 1B - PTMISEA Carryover	$201,292
Propostion 1B - CTSGP Carryover	$44,620
TOTAL REVENUES	**$7,042,522**

Source: Lake Transit Authority 2021/22 Budget

Table 16: FY 2021-22 Operating/Admin. Cost Model

Item	Total[1]	Fixed	Vehicle Revenue Hours	Vehicle Revenue Miles
Accounting and Legal Services	$6,043	$6,043		
Management Contract	$0	$0		
Operations & Maintenance Contracts	$2,429,077	$1,239,921	$1,189,156	
Printing	$3,539	$3,539		
Promotional Materials	$0	$0		
Advertising/Website	$60	$60		
Promotional Campaigns	$33	$33		
Fuel	$435,234			$435,234
Facility Maintenance, Rents and Leases, and Utilities	$24,795	$24,795		
Fleet Maintenance	$1,231	$1,231		
Total Expenses	**$2,900,012**	**$1,275,622**	**$1,189,156**	**$435,234**
Unit Quantities			34,811	740,155
Cost per Vehicle Service Hour			$35.81	
Cost per Vehicle Service Mile				$0.59
Cost per Vehicle Hour + Fixed Costs			$70.80	

Source: Lake Transit Authority 2021/22 Budget

Note 1: Total costs are based on actual values from FY 2021-22.

LAKE TRANSIT PERFORMANCE ANALYSIS

In this section, ridership levels and service statistics are considered in tandem with financial data to analyze Lake Transit's performance in key metrics that assess the productivity and efficiency of the entire transit system, as well as each route/service.

Performance by Year

Operating characteristics for the entire Lake Transit system over the last three fiscal years are presented in Table 17, Figure 16, and Figure 17. As previously discussed, Lake Transit ridership decreased drastically in just the last three years. However, data from FY 2021-22 indicates that Lake Transit ridership has begun to slowly rebound from the low levels experienced in FY 2020-21 (Figure 11). LTA decreased service levels in FY 2020-21 in response to reduced ridership during the pandemic, helping LTA lower operating costs in a year with reduced fare revenues. Lake Transit then increased service levels in FY 2021-22 to near the same levels as FY 2019-20, resulting in vehicle service hours and vehicle service miles only decreasing by 5 percent over the three years considered.

Table 17 shows how LTA operating costs increased by 9 percent over the last three fiscal years while fare revenues decreased by 33 percent. It is important to note that fare revenues in this table do not include auxiliary fare revenues generated from sources such as advertising. Although costs increased and revenues decreased, Lake Transit did an excellent job of keeping budget increases below the rate of inflation, estimated by the California Department of Industrial Relations as having been 12.8 percent from June 2019 to April 2022.

Table 17: LTA Operating Characteristics
FY 2019-20 - FY 2021-22

				Change 2019-20 to 2021-22	
	FY 2019-20	FY 2020-21	FY 2021-22	#	%
Vehicle Service Hours	36,404	20,726	34,811	-1,592	-4%
Vehicle Service Miles	786,273	428,038	740,155	-46,118	-6%
Passenger-Trips	258,807	107,743	148,534	-110,273	-43%
Allocated Operating Costs	$2,650,969	$2,215,450	$2,900,012	$249,044	9%
Allocated Fare Revenue	$443,254	$263,638	$296,498	-$146,756	-33%
Operating Subsidy	$2,207,715	$1,951,811	$2,603,514	$395,799	18%
Cost per Passenger-Trip	$10.24	$20.56	$19.52	$9.28	91%
Subsidy per Passenger-Trip	$8.53	$18.12	$17.53	$9.00	105%
Farebox Return Ratio	16.7%	11.9%	10.2%	-6.5%	-39%
Passenger-Trips per Hour	7.11	5.20	4.27	-2.84	-40%
Passenger-Trips per Mile	0.33	0.25	0.20	-0.13	-39%

Source: LTA Compilation Forms, FY 19-20 - FY 21-22; LTA Financial Summary 2019-20 - 2021-22

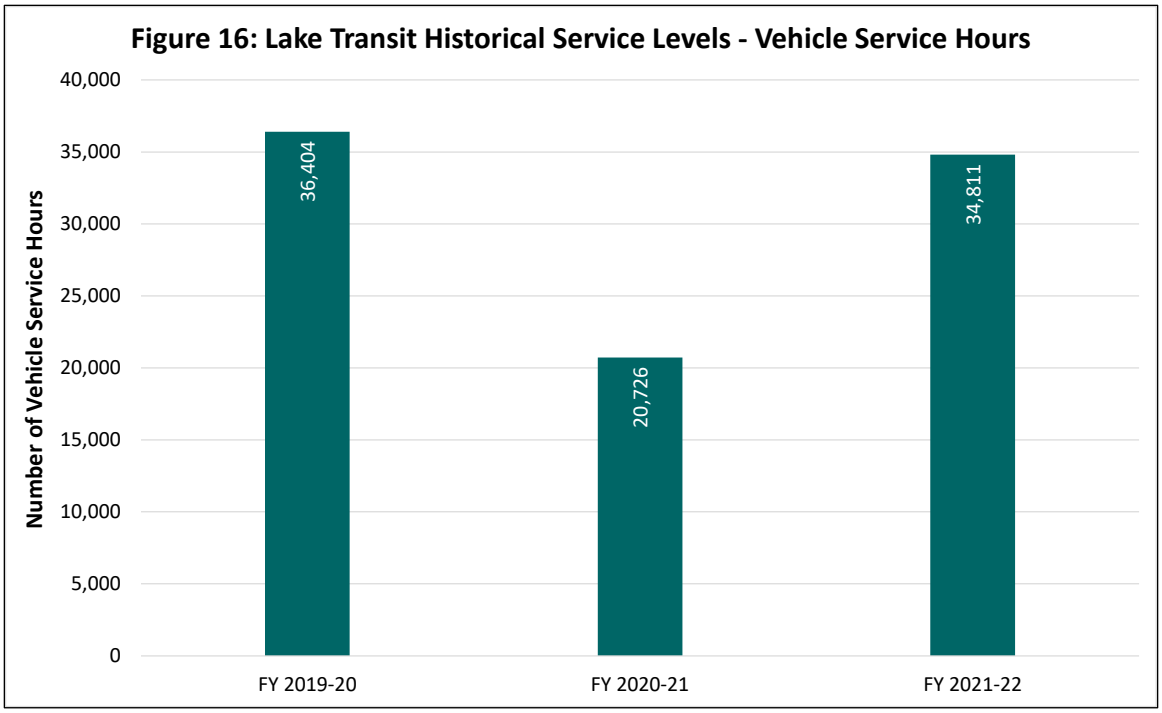


Figure 16: Lake Transit Historical Service Levels - Vehicle Service Hours
Number of Vehicle Service Hours
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
36,404
20,726
34,811
FY 2019-20
FY 2020-21
FY 2021-22

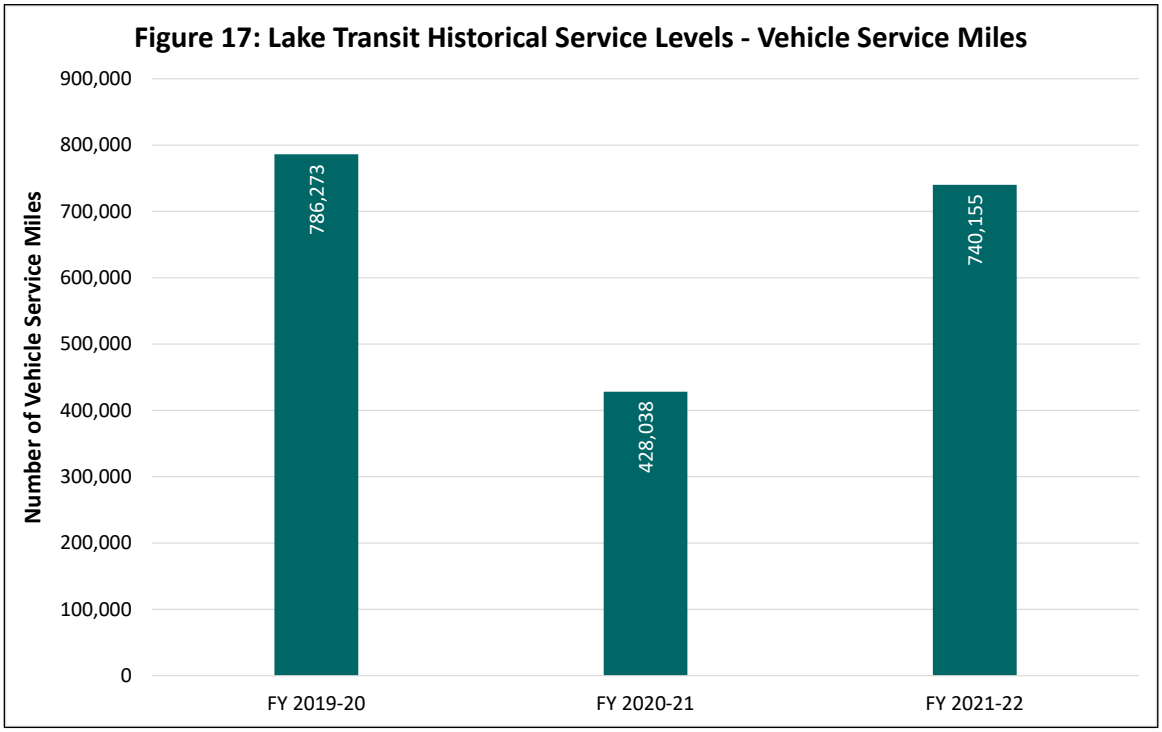


Figure 17: Lake Transit Historical Service Levels - Vehicle Service Miles
Number of Vehicle Service Miles
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
786,273
428,038
740,155
FY 2019-20
FY 2020-21
FY 2021-22

Systemwide, the number of passenger-trips completed per vehicle service hour and per vehicle service mile decreased at a slightly lesser rate than ridership (40 percent and 39 percent decreases, respectively) due to the slight decrease in service levels over time. The cost per passenger-trip and subsidy per passenger-trip both increased greatly over the three years due to decreased ridership and increased costs, but both of these metrics did decrease in FY 2021-22 over the previous year due to the return of some ridership. Notably, although Lake Transit's farebox return ratio has dipped below the organization's minimum standard of 15 percent since FY 2020-21 the farebox ratios have still remained above the TDA's minimum standard of 10 percent for rural transit systems.

Performance by Route

Operating Costs by Route

Operating costs by route were calculated by applying the cost model developed in Table 16 to FY 2021-22 operating statistics for each LTA service. As seen in Table 18, Route 1 was the most expensive Lake Transit route in FY 2021-22 ($640,831), followed by Route 8 ($422,988). Route 1 was substantially more expensive than Route 4, the only other intercity route in operation the whole year, because it completed double the amount of vehicle service hours and miles. Due to reduced schedules, Routes 2, 4a, and 12 each generated less than $100,000 in costs and were the cheapest routes. Routes 3, 7, 10, and 11 all generated between $200,000 to $300,000 in operating costs.

Fare Revenue by Route

It is important that each route generate revenues to offset operating costs and lower the operating subsidy required per passenger-trip. Allocated fare revenues, as presented in Table 18, represent the estimated sum of cash fares, COVID-19 subsidized fares, college fares, and special fares collected on that route. The overall pattern of fare revenues by route follows the same pattern as ridership by route, with Routes 1 and 10 receiving the greatest number of fares of all the LTA services (over $70,000 each). Route 1 collected more fare revenue than Route 10, likely because tickets cost more. Routes 2, 4a, and 12 generated the smallest amount of fares because they weren't in operation for all of FY 2021-22. Besides the fixed routes with reduced service levels, the two DAR services (Clearlake and Lakeport) collected the least amount of revenues (about $5,000 or less, each).

Operating Cost Per Passenger-Trip

Operating cost per passenger-trip is an indicator of the financial efficiency of the transit system, route, or service. During FY 2021-22, operating cost per passenger-trip varied from $7.90 to $127.07 across the LTA routes, with the total systemwide cost per passenger-trip equaling $19.52 (Table 18). Routes 2 and 4a were the two most expensive routes in terms of operating costs per passenger-trip, a result of low ridership during the few months these routes were in operation. If these two routes are excluded from calculations, then the cost per passenger-trip for all other fixed routes equaled $17.18 in FY 2021-22. The DARs cost per passenger-trip equaled $52.56.

Table 18: LTA Operating Characteristics by Route

FY 2021-22

	Route 1	Route 2	Route 3	Route 4	Route 4a	Route 7	Route 8	Route 10	Route 11	Route 12	Lakeport DAR	Clearlake DAR	Total
Vehicle Hours	7,396	1,479	2,606	3,647	1,129	2,289	5,243	3,682	3,723	559	1,376	1,681	34,811
Vehicle Miles	199,310	43,226	77,082	97,646	29,015	70,061	88,058	55,311	44,222	6,984	13,747	15,450	740,155
Passenger-Trips	36,775	1,024	4,893	11,109	1,026	5,839	18,622	37,106	25,895	1,765	1,811	2,659	148,534
Allocated Operating Costs	$640,831	$130,115	$229,837	$315,611	$97,003	$203,274	$422,988	$293,215	$289,621	$43,662	$105,491	$128,126	$2,900,012
Allocated Fare Revenue	$72,564	$2,046	$15,134	$22,206	$2,257	$14,721	$34,856	$70,609	$50,077	$2,363	$4,645	$5,020	$296,498
Operating Subsidy	$568,267	$128,069	$214,703	$293,405	$94,746	$188,553	$388,132	$222,606	$239,544	$41,298	$100,846	$123,106	$2,603,514
Cost per Passenger-Trip	$17.43	$127.07	$46.97	$28.41	$94.54	$34.81	$22.71	$7.90	$11.18	$24.74	$58.25	$48.19	$19.52
Subsidy per Passenger-Trip	$15.45	$125.07	$43.88	$26.41	$92.34	$32.29	$20.84	$6.00	$9.25	$23.40	$55.69	$46.30	$17.53
Farebox Return Ratio	11.3%	1.6%	6.6%	7.0%	2.3%	7.2%	8.2%	24.1%	17.3%	5.4%	4.4%	3.9%	10.2%
Passenger-Trips per Hour	4.97	0.69	1.88	3.05	0.91	2.55	3.55	10.08	6.96	3.16	1.32	1.58	4.27
Passenger-Trips per Mile	0.18	0.02	0.06	0.11	0.04	0.08	0.21	0.67	0.59	0.25	0.13	0.17	0.20

Source: LTA Compilation Forms FY 2021-22; LTA Financial Summary 2021-22

Route 10 had the lowest cost per passenger-trip at $7.90. Together, the Clearlake local routes were the most efficient with a total cost per passenger-trip of $9.67. The Lakeport local route (Route 8) was noticeably more expensive compared to the Clearlake local routes at $22.71 per passenger-trip. Route 1 had the lowest cost per passenger-trip of any of the intercity or intercounty routes.

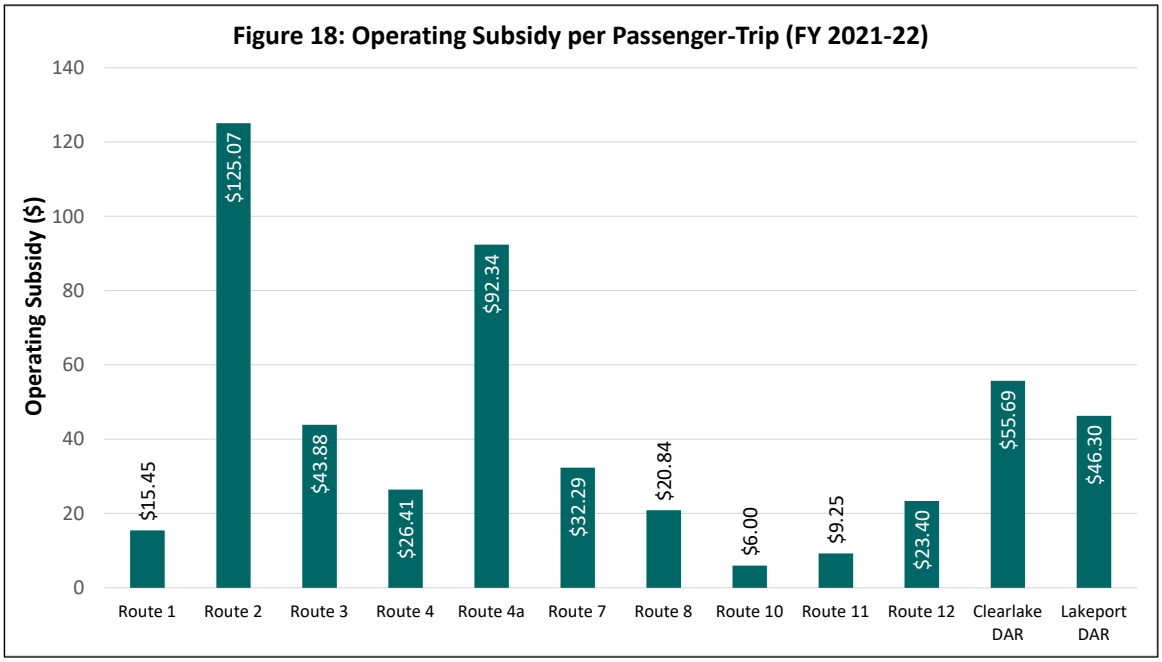
Subsidy per Passenger-Trip

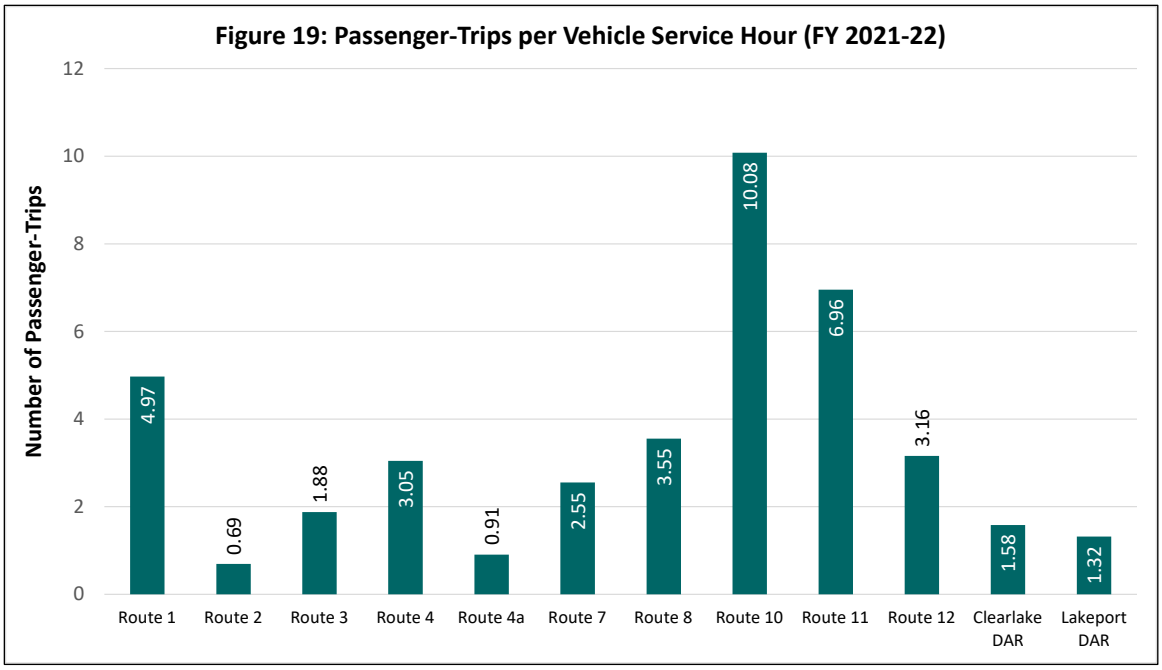
The operating subsidy per passenger-trip signifies the portion of trip costs that LTA is required to fund using federal, state, and other external sources. The systemwide subsidy per passenger-trip was $17.53 in FY 2021-22 (Table 18). Much like operating costs per trip, Routes 10 and 11 had the lowest subsidies per passenger-trips ($6.00 and $9.25, respectively). The subsidy per passenger-trip across all three of the Clearlake local routes was $7.77, significantly lower than the systemwide subsidy per trip of $17.53. Route 1 had the third-lowest subsidy per trip ($15.45). As seen in Figure 18, the most expensive subsidies per trip, in order from most expensive to least, were Route 2 ($125.07), Route 4a ($94.54), and the Lakeport DAR ($55.69).

Passenger-Trips per Vehicle Service Hour

As shown in Table 18 and Figure 19, Route 10 generated the greatest number of passenger-trips per hour out of all the LTA services (10.08), followed by Route 11 (6.96). The third most productive route was Route 1 with 4.97 passenger-trips per hour. The other fixed routes in operation the entire year (Routes 3, 4, 7, and 8) generated between 1.75 to 3.75 passenger-trips per hour. A generally accepted industry standard for fixed route systems (prior to COVID-19) was 10 passenger-trips per hour. Following typical industry trends, the two DAR services had the lowest passenger-trips per hours besides the fixed routes with schedule reductions (Figure 19). This is expected as many DAR trips carry only one to two passengers.

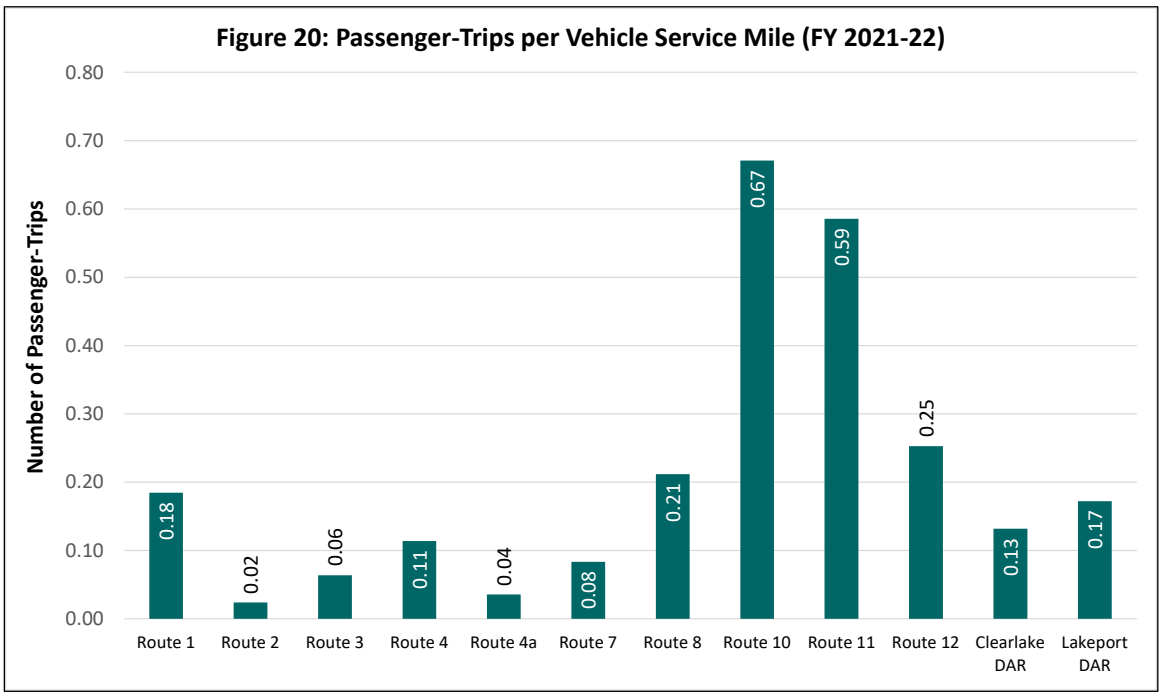
Figure 18: Operating Subsidy per Passenger-Trip (FY 2021-22)





Passenger-Trips per Vehicle Service Mile

In FY 2021-22, passenger-trips per vehicle service mile ranged from 0.02 trips (Route 2) to 0.67 trips (Route 10). The local routes were the four highest performing routes for this metric, with the three Clearlake local routes demonstrating the greatest performances (0.25-0.67) followed by Route 8 (0.21). Route 1 had the most passenger-trips per mile of any of the intercity, intercounty, or DAR services (0.18). Passenger-trips per vehicle service mile data for the various LTA services are shown in Table 18 and Figure 20.



LAKE LINKS

Lake Links is a nonprofit agency which serves as the Consolidated Transportation Service Agency (CTSA) for Lake County. The primary responsibility of the CTSA is to assist with the coordination of social service transportation services in order to increase the number of alternative transportation options available for seniors, disabled persons, and low-income individuals. Lake Links administers two important programs that help Lake County residents get to medical appointments: the Pay-Your-Pal program and Medi-Links.

The Pay-Your-Pal program consists of Lake Links reimbursing designated drivers that drive qualified riders to and from medical appointments at a rate of $0.40 per mile. The Medi-Links program provides Non-Emergency Medical Transportation (NEMT) services for Lake County residents who need to get to medical appointments outside of the county. Reservations need to be made at least 7 to 10 days in advance, and all rides for the following week must be scheduled by Wednesday at 4:00 PM. Drop-off locations are primarily at hospitals and medical clinics.

Table 19 shows operating and performance data for the Medi-Links service in FY 2021-22. There were nearly four times as many trips requested to Santa Rosa versus Ukiah, resulting in over five times as many vehicle service hours, over six times as many vehicle service miles, and over five times as much fare revenues on the NEMT Santa Rosa service compared to the NEMT Ukiah service (Table 19). While this data suggests that Santa Rosa is definitely a more popular destination for Medi-Links passengers compared to Ukiah, there may be other out-of-county destinations that medical patients are still struggling to get transportation to. Given that the Lake County population will age drastically in coming years, expanding the Medi-Links program and NEMT services available to the public would be greatly beneficial. The most recent Regional Transportation Plan included expanding NEMT as one of its priorities for public transit improvements in upcoming years.

Table 19: Medi-Links Operating and Performance Data
FY 2021-22

	NEMT Ukiah	NEMT Santa Rosa	Total
One-way Passenger Trips	113	441	554
Vehicle Hours	294	1,585	1,879
Vehicle Miles	7,257	47,433	54,690
Operating Cost	$25,583	$137,694	$163,277
Fare Revenues	$866	$4,664	$5,530
Cost per Passenger-Trip	$226.40	$312.23	$294.72
Subsidy per Passenger-Trip	$218.73	$301.66	$284.74
Cost per Hour	$87.02	$86.87	$86.90
Passenger-Trips per Hour	0.4	0.3	0.3
Passenger-Trips per Mile	0.02	0.01	0.01

Source: Medilinks Financial Data

In terms of performance, Medi-links is much less cost effective to operate than regular LTA service. This is due to the fact that very few passengers are carried at one-time, and each trip is a significant distance. As shown in Table 19, operating subsidy per passenger-trip was on the order of $218 for NEMT Ukiah and $301 for NEMT Santa Rosa.

OTHER TRANSPORTATION PROVIDERS

There are many other transportation options available in Lake County besides LTA services. The most recent *Coordinated Public Transportation Plan* developed for Lake County discusses many of these services and how to best coordinate their efforts. Most of these transit providers are social service organizations that provide transportation assistance to their clients, members, or patients. There are also private organizations that offer transportation services to the public, for a fare. Alternative transportation providers to LTA are summarized below. Organizations that do not provide transportation but instead purchase LTA tickets for their clients, such as the Lake County Department of Social Services, or deliver goods, like the Live Oak and Lucerne Senior Centers, are not included in this section.

Adventist Health Clear Lake

Adventist Health Clear Lake purchased a patient transportation vehicle in 2016 to help patients get to medical appointments. Adventist Health Clear Lake acquired two more vehicles through a partnership with LTA; one vehicle was acquired in 2017 and another in May 2022. The eight-passenger minibus has been extremely helpful in transporting patients who have difficulties traveling (Coordinated Plan, 2021). A back-up fund was also established to cover cab and bus fares if the patient vehicles are unavailable.

Apple Taxi

This taxi service based out of Lakeport provides on-demand transportation services for a fee. The company operates 24 hours, 7 days a week (Coordinated Plan, 2021), with rides available on a first-come, first-serve basis.

Clearlake Cab Company

Clearlake Cab Company is a taxi service in Clearlake that serves the city and nearby areas of Lake County (Coordinated Plan, 2021). People can arrange for a ride between 7:00 AM to 12:00 AM from Sunday to Thursday and from 7:00 AM to 2:00 AM on Friday and Saturday. Service to both Sacramento and San Francisco Airports is available if scheduled ahead of time.

Disabled American Veterans (DAV)

The DAV program transports veterans from both Lake and Napa Counties to the San Francisco VA Medical Center. Volunteer drivers begin by picking up veterans at the police station in Clearlake, continuing on to stop in Lower Lake, Middletown, and Napa. The return trip is made once every veteran has finished his or her medical appointment. Only one round-trip is made daily, and reservations are required to utilize the service (Coordinated Plan, 2021).

Kelseyville Unified School District (KVUSD)

The KVUSD provides transportation to help students get to school. The KVUSD fleet consists of 15 school buses that operate nine routes during the school year.

Lake County Limousine Service

Limousine rentals are available through Lake County Limousine from Wednesday to Friday, 10:30 AM to 6:00 PM, and on Friday and Saturday from 10:30 AM to 4:00 PM (Coordinated Plan, 2021).

Lake County Taxi

Another taxi service that provides transportation services, Lake County Taxi, is available from 7:00 AM to 9:00 PM from Sunday to Thursday and from 7:00 AM to 2:00 AM on Friday and Saturday (Coordinated Plan, 2021).

Lake County Office of Education (LCOE)

LCOE provides transportation through a collaboration between the Healthy Start Program and First 5 Lake County, a local nonprofit organization supporting young children. Children are able to receive a referral for dental treatment through the partnership, and then Healthy Start provides transportation from school sites to either the dental clinic in St. Helena or to Oakland Children's Hospital (Coordinated Plan, 2021).

Lake Family Resource Center

Lake Family Resource Center provides programs to help Lake County families. Programs include Early Head Start, teen services, a rape crisis center, and housing services. Clients involved with either the Early Head Start or the Teen Parenting programs can prearrange transportation if needed (Coordinated Plan, 2021).

Lakeview Health Center

Lakeview Health Center is a branch of the Mendocino Community Health Clinic located in Lakeport. In addition to providing Lake Transit bus passes or gas vouchers, the Lakeview Health Center also provides transportation assistance for patients using their Care-a-Vans (Coordinated Plan, 2021). The vans are available on weekdays and can carry five to six passengers at a time. They do not have wheelchair lifts.

Maria's Midnight Rides

Maria's Midnight Rides is a private taxi service that operates 24 hours, 7 days a week (Coordinated Plan, 2021). Rates start at $2.50 per mile within the county.

People Services, Inc.

People Services, Inc. is a non-profit organization that provides services to persons with developmental disabilities living within Lake County. Transportation is available for individuals actively attending either their day or work programs. People Services. Inc. also organizes transportation to serve ambulatory and non-ambulatory trip referrals, as well as to out-of-county medical appointments. People can also organize transportation to day events in the local community.

Redwood Coast Regional Center (RCRC)

The RCRC is one of CA's nonprofit regional centers serving individuals with developmental/intellectual disabilities through a contract with the California Department of Developmental Services. RCRC assists individuals and their families by paying for both public and private transportation. RCRC has offices in Lakeport and Ukiah, as well as other further locations.

Sutter Lakeside Hospital

Sutter Lakeside Hospital has an existing partnership with LTA to help patients unable to reach their clinics. Through the partnership, the hospital provides non-emergency medical transportation to patients living in Finley, Kelseyville, Lakeport, Lucerne, Nice, and Upper Lake.

Tribal Health Consortium

The Tribal Health Consortium is an organization that aims to improve the health of Native Americans living in Lake County by providing affordable and culturally sensitive health services and programs (Coordinated Plan, 2021). The Tribal Health Consortium provides transportation services to eligible patients so that they can attend appointments at any of the health centers within Lake County, as well as to appointments at referred providers out of the county. Transportation is only available to individuals who can provide proof of Indian Eligibility, have no transportation alternatives, and reside in the established delivery area.

Veterans Administration Shuttle

Provided through the San Francisco Veteran's Administration (VA) Clinic, the VA Shuttle transports veterans from the VA Clinic in Clearlake to San Francisco on weekdays for appointments. A shuttle leaves Clearlake twice a day, and Veterans have the option to take three different return shuttles later in the day (Coordinated Plan, 2021). Trips in both directions required a transfer in Santa Rosa.

This page intentionally left blank.

Chapter 5

REVIEW OF LTA GOALS, OBJECTIVES, AND STANDARDS

PURPOSE

It is important to have a clear set of goals and objectives in order to direct an organization's progress. Performance measures and standards are tools that can be used to determine whether an organization is actually meeting its goals, opening the door for a conversation about whether to continue with current practices or if changes are needed. Sometimes changes may be needed to actual business practices, while other times it may be necessary to reevaluate the goals and performance measures altogether.

For transit agencies, the process of establishing goals can be difficult because sometimes the goals are contradictory. For instance, goals intended to maximize cost effectiveness can tend to focus services on the largest population centers, while goals intended to maximize the availability of public transit services can tend to disperse services to outlying areas. A public transit agency must balance the trade-offs between achieving different objectives in order to meet its overall mission.

Lake Transit is a public agency dedicated to providing mobility to all Lake County citizens (Lake Transit, 2022). Given its status as a public transit organization, it is important that LTA have an adopted set of goals and associated performance measures that can provide transparency about whether or not the organization is meeting its goals, spending funds well, and providing useful and equitable service.

The COVID-19 pandemic significantly impacted the entire world, including public transit agencies. In the new post-COVID era, it is essential that public transit services, as well as the goals and standards used to evaluate these services, are assessed to determine if they are still reasonable given the new setting for transportation. In this chapter, LTA performance in FY 2021-22 is analyzed in the context of the performance standards established in the 2015 TDP and new standards are recommended.

SUMMARY OF LTA GOALS AND STANDARDS

2008 LTA Transit Development Plan (TDP) Study

The 2008 TDP recommended four goals to guide LTA in providing excellent transit service to Lake County residents. These goals were reviewed and adopted by the LTA Board. The goals consisted of the following:

- Service efficiency goal: to maximize the level of services that can be provided within the financial resources associated with the provision of transit services.
- Service effectiveness goal: to maximize the ridership potential of LTA service.
- Service quality goal: to provide safe, reliable, and convenient transit services.
- Planning and management goal: to evaluate strategies which help management maximize productivity while meeting the transit needs of the community and develop a transit program that supports comprehensive planning goals.

For each goal, the 2008 TDP recommended three to fourteen performance measures to track progress towards achieving that goal. These performance measures were updated in the 2015 TDP.

2015 LTA Transit Development Plan (TDP) and Marketing Plan

The 2015 LTA TDP found that there had been little to no tracking of the performance measures presented in the 2008 TDP since it had been approved. Therefore, the 2015 TDP presented a new performance monitoring framework. This framework recommended performance measures based on the monitoring requirements of the Transportation Development Act (TDA) and the Title VI program, with a few optional but recommended measures included as well. The 2015 TDP also suggested that the LTA should begin estimating fares and costs per route to be measure performance in the future.

Rather than recommend a single measure for each performance standard like in the previous TDP, the 2015 TDP recommended that the LTA adopt a minimum and target measure for each standard category, resulting in a range of performance that is acceptable. The 2015 TDP also recommended that LTA performance be considered by new service categories:

- Local Fixed Routes: Routes 8, 10, 11, and 12
- Rural Routes: Routes 2 and 4a
- Regional Routes: Route 1
- Intercity Routes: Routes 3, 4, and 7
- Dial-a-Ride (DAR): Clearlake DAR and Lakeport DAR

The performance standards recommended for the LTA to monitor also required by the TDA were operating cost per vehicle service hour, farebox recovery ratio, passengers per vehicle service hour, and operating cost per passenger-trip. Standards recommended required by Title VI included on-time performance, vehicle load, vehicle headway, service availability, and vehicle assignment policy. Additional recommended standards were administrative cost as a percentage of total operating cost, miles between road calls, and miles between preventable accidents.

LTA STANDARD PERFORMANCE REVIEW

Operating and performance data for the entire LTA system as well as each LTA route/service was considered in Chapter 4 of this report (Tables 12, 17, and 18; Figures 15, 16, 17, 18, 19, and 20). The data analyzed in Chapter 4 is now considered below in reference to the LTA performance standards established in the 2015 TDP. Tables 20a, 20b, and 20c show whether Lake Transit performance in FY 2021-22 (and on-time data in FY 2020-21) met the target or minimum performance standards.

Lake Transit performance related to vehicle assignment policy, vehicle loads, miles between preventable accidents, and miles between road calls is not included in any of the tables due to a lack of available data for these standards. It is recommended that LTA eliminate these standards due to difficulties with tracking. For all other standards, information is included in the tables about whether the performance standard is still recommended as of this 2022 TDP update, and if it is recommended what the updated measures should be. The following is a brief overview of the data presented:

- Operating costs per vehicle service hour is a key indicator of a transit system's cost efficiency. Systemwide, LTA's operating costs per vehicle service hour totaled $83.31 in FY 2021-22 (Table 20a). The 2015 TDP recommended a target standard of $65 per hour and a minimum standard of $75 per hour, but also recommended that these standards be updated annually to reflect inflation as measured by the California Consumer Price Index (CPI). Using the California Department of Industrial Relations' CPI Calculator, inflation in Lake County between June 2015 (when the 2015 TDP was completed) to April 2022 was 26.5 percent, meaning the target standard for LTA is now $82.23 and the minimum standard is $94.88. In FY 2021-22, Lake Transit met the minimum standard for operating cost per vehicle service hour and nearly met the target standard. No changes to this standard are recommended.

- Lake Transit did not meet the minimum systemwide farebox recovery ratio of 15 percent in FY 2021-22 due to decreased ridership resulting mostly from the pandemic. None of the service categories met the minimum standards for farebox recovery ratio either. Each service category ranged from 3 to 6 percent below the minimum standard set in the 2015 TDP (Table 20a). It is recommended that only the systemwide farebox ratio be assessed going forward, with a target standard of 10 percent. Note that at present TDA farebox ratio requirements have been suspended and it is currently uncertain when they will be reinstated or at what levels.

- Passengers per vehicle service hour is a metric that measures a transit system's productivity. Low ridership levels due to the effects of the COVID-19 pandemic caused Lake Transit to not meet the minimum standard for passengers per vehicle service hour in FY 2021-22. There were no service categories that met their specific minimum standard. The routes with the greatest passengers per vehicle service hour were the local routes (Routes 8, 10, 11, and 12), followed by the regional route (Route 1). None of the other fixed route categories exceeded 3 passengers per hour, and the DAR services had only 1.5 passengers per hour. Recommended performance measures for this metric are shown in Table 20a.

- Operating cost per passenger-trip was lowest on the local routes (Routes 8, 10, 11, and 12) at $12.59 per trip. Route 1, or the regional route, had the second lowest cost per passenger-trip at $17.43 and was below the systemwide average of $19.52 per passenger-trip. The rural routes were by far the most expensive ($110.79/trip). Decreased ridership and increased costs in FY 2021-22 resulted in no LTA services meeting the minimum standards set forth by the 2015 TDP for this metric (Table 20b), so new standards are recommended.

- The 2015 TDP recommended as an optional metric that LTA manage administrative costs as a percentage of total operating costs, suggesting a target of 10 percent. Analyzing Lake Transit's FY 2021-22 expenses (Table 16), the data demonstrates that Lake Transit met the target standard for this metric (Table 20b). No changes to this standard are recommended.

Table 20a: Review of LTA Performance Against Current Standards

Shading Indicates Does Not Meet Minimum Standard
Shading Indicates Meets Minimum Standard But Not Target Standard
Shading Indicates Meets Target Objective

Service	Standard Type	Description	Current Status (FY 2021-22)	Recommended Standard
TDA Performance Standards				
Operating Cost per Vehicle Service Hour				
Systemwide	**Target**	$82/hr (FY 21-22) - Adjust Annually Per CA CPI	$83.31	Unchanged
	Minimum	$94/hr (FY 21-22) - Adjust Annually per CA CPI		
Farebox Recovery Ratio				
Systemwide	**Target**	20%	10.2%	10.0%
	Minimum	15%		10.0%
Local Routes	**Target**	25%	15%	Eliminated
	Minimum	20%		
Regional Routes	**Target**	20%	11%	Eliminated
	Minimum	15%		
Intercity Routes	**Target**	14%	7%	Eliminated
	Minimum	10%		
Rural Routes	**Target**	12%	2%	Eliminated
	Minimum	8%		
Dial-a-Ride	**Target**	10%	4%	Eliminated
	Minimum	7%		
Service Productivity -- Passengers Per Vehicle Service Hour				
Systemwide	**Target**	10.0	4.3	7.0
	Minimum	7.0		5.0
Local Routes	**Target**	15.0	6.3	10.0
	Minimum	10.0		6.0
Regional Routes	**Target**	12.0	4.3	7.0
	Minimum	9.0		5.0
Intercity Routes	**Target**	6.0	2.2	3.0
	Minimum	4.0		2.0
Rural Routes	**Target**	7.0	0.8	2.5
	Minimum	4.0		1.0
Dial-a-Ride	**Target**	4.0	1.5	2.0
	Minimum	2.5		1.5

Sources: 2015 Lake County TDP and Marketing Plan; LTA Compilation Form FY 2021-22; LTA Financial Summary FY 2021-22

Table 20b: Review of LTA Performance Against Current Standards

Shading Indicates Does Not Meet Minimum Standard
Shading Indicates Meets Minimum Standard But Not Target Standard
Shading Indicates Meets Target Objective

Service	Standard Type	Description	Current Status (FY 2021-22)	Recommended Standard
TDA Performance Standards				
Cost per Passenger-Trip				
Systemwide	**Target**	$8.00	$19.52	$10.00
	Minimum	$10.00		$19.50
Local Routes	**Target**	$6.00	$12.59	$10.00
	Minimum	$9.00		$12.50
Regional Routes	**Target**	$7.50	$19.97	$15.00
	Minimum	$10.00		$20.00
Intercity Routes	**Target**	$14.00	$40.36	$30.00
	Minimum	$20.00		$40.00
Rural Routes	**Target**	$14.00	$110.79	$100.00
	Minimum	$20.00		$110.00
Dial-a-Ride	**Target**	$21.00	$52.26	$45.00
	Minimum	$26.00		$50.00
Recommended Standards				
Administrative Cost as Percentage of Total Operating Costs				
Systemwide	**Target**	10% Administrative Cost as Percentage of Total Operating Costs	< 5%	Unchanged
	Minimum	15% Administrative Cost as Percentage of Total Operating Costs		

Sources: 2015 Lake County TDP and Marketing Plan; LTA Compilation Form FY 2021-22; LTA Financial Summary FY 2021-22; LTA On-Time Peformance Data FY 2020-21

- Service frequency for the local routes met the minimum standard of 60-minute headways in FY 2021-22 (Table 19c). Intercity routes also met the target goal, as each intercity route remained in operation the entire year and continued to provide key transfer opportunities to other transit providers. Due to staffing shortages, Routes 2 and 4a did meet the minimum service frequency of three roundtrips daily, however Route 1 exceeded this standard. No changes to this standard are recommended.
- The Coordinated Transit Plan (2021) found that according to 2012 US Census data, 82 percent of Lake County residents live within ¾ mile of an LTA bus stop. DAR service data was lacking for this metric. An analysis of service availability should be done once new US Census data becomes available for Lake County.

Table 20c: Review of LTA Performance Against Current Standards

Shading Indicates Does Not Meet Minimum Standard
Shading Indicates Meets Minimum Standard But Not Target Standard
Shading Indicates Meets Target Objective

Service	Standard Type	Description	Current Status (FY 2021-22)	Recommended Standard
Title VI Performance Standards				
On-Time Performance				
Intercity Routes	**Target**	90% of runs within 10 minutes	98%	Unchanged
	Minimum	95% of runs within 10 minutes		
All Other Fixed Routes	**Target**	95% of runs on time at timepoints (1 minute early to 5 minutes late)	60%	Unchanged
	Minimum	90% of runs on on time at timepoints		
Dial-a-Ride	**Target**	95% Pickups Within 30 Minute Window	N/A	Unchanged
	Minimum	90% Pickups Within 30 Minute Window		
Frequency				
Local Routes	**Minimum**	60 Minutes or Better	Yes	Unchanged
Regional and Rural Routes	**Target**	Frequency Based on Demand, Distance of Trip, and Transfer Opportunities	No	Unchanged
	Minimum	Three Roundtrips Daily		
Intercity Routes	**Target**	Frequency Based on Demand, Distance of Trip, and Transfer Opportunities	Yes	Unchanged
Availability				
All Fixed Routes	**Target**	80% of Population Within 3/4 Mile of Bus Stop	82%	Unchanged
	Minimum	80% of Population Within 1 Mile of Bus Stop		
Dial-a-Ride	**Target**	Service Within 1 Hour of Requested Pick-up or Drop-off Time (for Requests Made Previous Day to 7 Days in Advance)	N/A	Unchanged

Sources: 2015 Lake County TDP and Marketing Plan; LTA Compilation Form FY 2021-22; LTA Financial Summary FY 2021-22

SUMMARY

Although LTA performance met the minimum or target standards in some performance metrics in recent years, changing conditions for public transportation have made it extremely difficult to meet many of the performance standards outlined in the 2015 TDP. A lack of data in some metrics, such as vehicle loads, also make it difficult or impossible to analyze LTA performance in that standard.

New performance standards have been recommended based on operations since the COVID-19 pandemic. It was also recommended that some of the performance standards be eliminated due to difficulties in measuring relevant data. These updated performance standards will continue to assess whether LTA is striving to achieve its overall mission of providing mobility to Lake County residents.

Chapter 6

SUMMARY OF PUBLIC OUTREACH

INTRODUCTION

Successful transit plans recommend service changes which will better meet the needs of residents and improve the cost efficiency of transit services. Public outreach allows the study team to collect data that can be used to design effective service alternatives. For the Lake County Transit Development Plan (TDP), outreach began with an onboard passenger survey (Appendix B) and an online community survey (Appendix C). These two surveys collected data on the transportation needs and travel patterns of both transit passengers and non-riders alike. Then, a survey was distributed to stakeholder organizations which either provide transportation or serve transit dependent populations to learn more about unmet transit needs in the community (Appendix D). The information gathered from these initial efforts was used to design potential service alternatives. Lake County residents had the opportunity to provide input on these preliminary service alternatives while visiting the Lake County Fair (Appendix E). The final round of outreach consisted of informing the public on the alternatives being recommended for inclusion in the Draft TDP and the people ranking the alternatives based on how much they liked each idea (Appendix F). Appendix G includes a response to comments on the Draft Plan.

ONBOARD PASSENGER SURVEY

An onboard passenger survey was conducted during the week of May 23, 2022. During this time, Lake Transit passengers were invited to complete surveys with the assistance of trained survey staff. This public outreach campaign focused specifically on learning more about how current Lake Transit riders utilize the bus system, as well as their opinions of public transit service as riders.

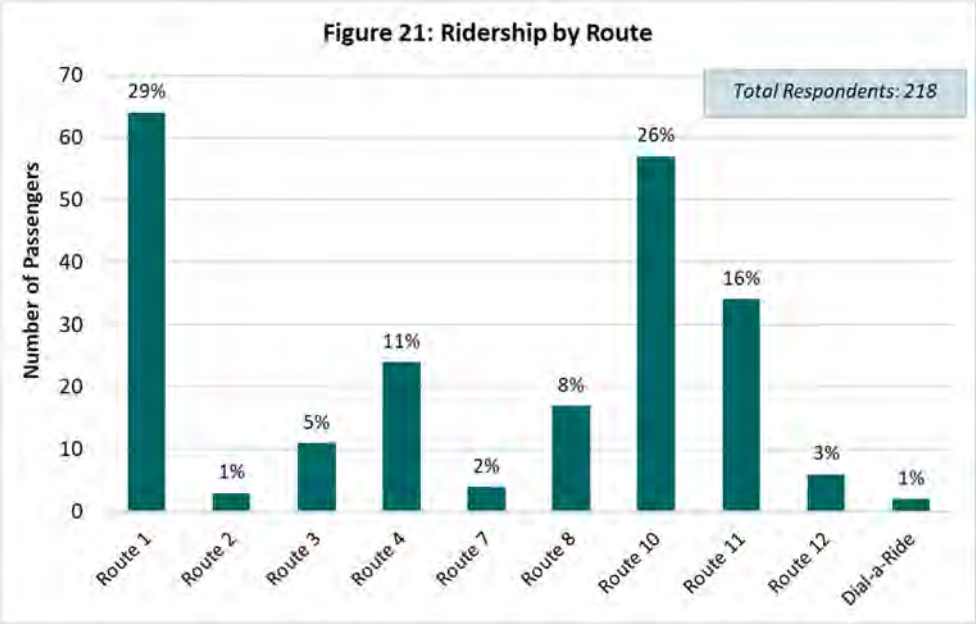
The survey instruments consisted of a one-page questionnaire in English on one side and Spanish on the reverse side, printed on card stock. The surveys included a simple introduction, with 17 questions in multiple choice, short-answer, or comment format. A total of 232 passengers participated in the survey; 96 percent (223 persons) completed the survey in English while the remaining 4 percent (9 persons) completed the survey in Spanish. Highlights from the onboard survey results are presented in this section, while detailed results are included in Appendix B.

Passenger Profile

- Only 14 percent of respondents had a car available to them the day they were surveyed. Only 37 percent had a driver's license.
- Over 40 percent of the respondents were adults ages 41 to 64 years old. Adults between the ages of 25 to 40 represented the second greatest number of responses (24 percent).
- About one third of onboard survey respondents were employed (31 percent). Over 40 percent were either unemployed or retired.
- The most common purposes for why the survey respondents were riding the bus were personal business (27 percent) and work (24 percent).

Travel Patterns

- On board surveys were distributed on every fixed route in operation (all fixed routes except Route 4a) as well as on Lake Transit Dial-a-Ride services. Most respondents were riding Routes 1, 10, and 11, which corresponds to overall Lake Transit ridership trends during Fiscal Year (FY) 2021-22. Figure 21 shows complete ridership by route results.



- About one quarter of survey participants boarded the bus from 7 AM to 8:59 AM. Only 4 percent of respondents boarded the bus during either the first two hours or final two hours of service.
- Considered together, overall boarding and alighting activity was strongest at the Walmart in Clearlake, the current LTA transfer hub, Sutter Lakeside Hospital, State Route (SR) 20 and 1st in Lucerne, Burns Valley Mall in Clearlake, and Robinsons Rancheria Resort and Casino in Nice.
- Major origin/destination pairs were identified by analyzing passengers' boarding and alighting information. Table 21 shows boarding and alighting pairs for those survey respondents who specified both locations.
- The majority of passengers surveyed walk both to and from the bus stop (79 and 72 percent, respectively).
- 64 percent of passengers were planning on riding the bus round-trip the day they were surveyed.
- Participants were asked to list all of the routes they planned on using to get to their final destination. Results provided insight into overall travel patterns of passengers on Lake Transit and revealed common route transfer pairs. Among the surveyed respondents, Route 1 was the most popular route for passengers to transfer both from and to, followed by Route 10 and then Route 11 (Table 22).

Table 21: Major Origin/Destination Pairs from Onboard Survey Results

Excludes Stops with 1 Boarding or 1 Alighting

Boarding Stop	Alighting Stop: Adventist Health Hospital	Arrowhead Rd & Boxwood St	Austin Park	Burns Valley Mall	Calistoga	Clearlake	Clearlake Oaks	Clearlake Post Office	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice Post Office	Old Highway 53	Pear Tree Center	Robinson Rancheria Resort & Casino	Running Creek Casino	Safeway (Clearlake)	Sutter Lakeside Hospital	Twin Pine Casino	Third and Main St (Lakeport)	Ukiah	Upper Lake	Walmart (Clearlake) - LTA Transfer Hub	Woodland College	Total (1)
13th Ave & SR 20 (Lucerne)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%
Adventist Health Hospital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Austin Park	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	2%
Burns Valley Mall	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%	3%
Clearlake Apartments	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	2%
Clearlake Oaks	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Clearlake Post Office	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Clearlake Senior Center	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Cypress Ave	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Grocery Outlet (Lakeport)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%
Kelseyville	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Lake County Social Services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Lakeport	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Lower Lake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Lower Lake High School	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Lucerne	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	3%
Martin St @ Bella Vista	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%
Mendo Mill (Clearlake)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Nice	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%
Nice Post Office	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Notts Liquors	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Robinson Rancheria Resort & Casino	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	3%
Safeway (Clearlake)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Safeway (Lakeport)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
SR 20 & 1st (Lucerne)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	1%	0%	4%
Store 24 (Middletown)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Sutter Lakeside Hospital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	2%	1%	5%
Third and Main St (Lakeport)	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	1%	0%	6%
Twin Pine Casino	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Walmart (Clearlake) - LTA Transfer Hub	1%	0%	1%	1%	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	1%	0%	0%	0%	1%	1%	13%
Total (1)	2%	1%	3%	2%	1%	4%	2%	2%	1%	2%	2%	2%	2%	1%	1%	4%	3%	2%	5%	2%	2%	1%	1%	19%	2%	100%

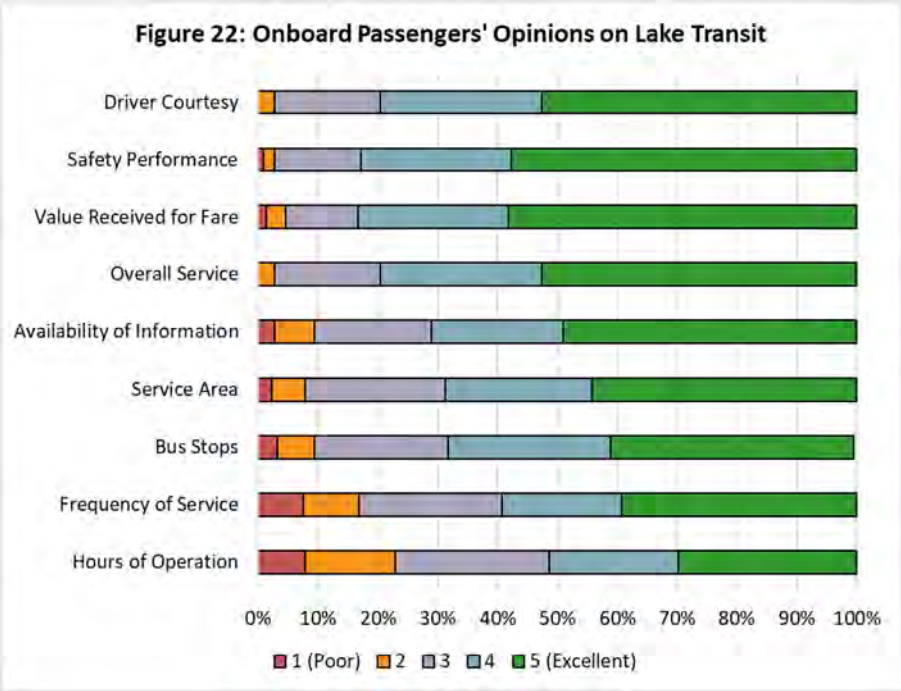
Note 1: Excluding stops with 1 boarding or 1 alighting.

Table 22: Route Transfer Patterns

Surveyed Route	Routes Included as Part of Planned Trip														
	1	2	3	4	4a	7	8	10	11	12	Amtrak	Greyhound	Mendocino Transit	Vine Transit	**Total**
1		3	2	1	1	2	10	7	2	1	1	1	1	1	33
2	0		1	1	0	0	0	0	0	0	0	0	0	0	2
3	3	1		0	0	0	0	1	1	0	1	1	0	2	10
4	2	0	1		0	4	3	3	1	2	0	0	1	0	17
7	1	0	0	1	0		1	1	0	0	0	0	0	0	4
8	6	0	0	2	0	1		1	1	1	0	0	1	0	13
10	8	0	1	3	0	0	0		11	6	0	1	0	0	30
11	5	2	1	4	1	0	0	8		0	0	0	0	0	21
12	0	1	0	0	0	0	1	1	1		0	0	0	0	4
Unknown	3	2	1	2	2	1	2	4	2	0		0	0	0	19
Total	28	6	5	13	3	6	7	19	17	9	1	2	2	2	120

Passenger Opinions

To better under passengers' opinions on different aspects of Lake Transit service, they were asked to rank service characteristics on a scale of 1 (poor) to 5 (excellent) (Figure 22). Overall, passengers indicated general satisfaction with Lake Transit: 72 percent of answers were either 4 (good) or 5 (excellent), and the overall service ranked an average of 4.3. The highest ranked Lake Transit service characteristics were driver courtesy (4.5), safety performance and value received for fare (both 4.4). The lowest ranked were hours of operation (3.5) and service frequency (3.7).



Desired Improvements

- The survey respondents were asked to consider whether or not they would ride the bus to various destinations if Lake Transit were to expand its service area. Passengers indicated they would be most likely to ride a new transit service to Ukiah/Santa Rosa.
- If Lake Transit was to implement an on-demand transportation service, almost 80 percent of respondents said they would be interested in using the program. 56 percent of passengers would want their ride to arrive in 30 minutes or less.
- Participants were given the chance to describe other service improvements they would like to see implemented on Lake Transit. The most popular ideas were to have extended service options on both Saturday and Sunday (30 percent), resume Saturday service (20 percent), and to extend service hours (12y percent).

COMMUNITY SURVEY

In order to increase transit ridership over time, it is critical that new riders are recruited. Understanding the demographics, travel patterns, and views of public transit held by the community at large can help to reveal issues or gaps in service that hinder some people from taking advantage of the bus system. Once these obstacles are identified, it is then possible to implement service changes which address these issues and support greater transit ridership across the region.

The community survey was designed to capture data regarding how the greater Lake County population uses and perceives Lake Transit, not just transit riders. The survey also included questions intended to identify some of the barriers that are preventing people from riding the bus more often.
To reach both Lake County residents who ride the bus and those who don't, the community survey was advertised by sending the information to key Lake County stakeholders, who were then asked to further distribute the survey information to their own networks. Lake County News also published an advertisement for the survey.

Respondents completed the survey online through the Survey Monkey platform. The survey instrument itself contained 17 questions in multiple choice, short-answer, or comment format. In all, 81 people responded to the survey. Although the survey was available in both English and Spanish, all responses received were in English. Key findings are analyzed below while full results are included in Appendix B.

Participant Profile

- Although residents from all across Lake County responded to the survey, the most common places of residence among the participants were Clearlake (25 percent), Lakeport (12 percent), and Nice (12 percent).
- A large portion of the respondents were adults ages 41 to 64 years old (42 percent). 45 percent of respondents were seniors ages 65 or older.
- The majority of respondents (85 percent) do not have a disability preventing them from using public transit.
- Different from the onboard survey participants, 75 percent of the community survey respondents had a car available to them and 84 percent had their driver's license.
- Given the high number of senior adults who responded to the community survey, it is not surprising that 42 percent of participants were retired. 40 percent of participants were employed full time while 11 percent were employed part time.

Travel Patterns

- Most of the community survey respondents had not used Lake Transit, or Lake Links, within the last two years (60 percent).
- 14 percent ride the bus less than 1 time per month, and 61 percent never ride the bus. Some people did indicate that they ride the bus with relative frequency, as 25 percent use public transit at least once per month.
- 25 percent of the survey participants had ridden on at least one of the Lake Transit regional routes (Routes 1, 2, 3, 4, 4a, and 7) in the past. 18 percent had ridden Route 8 in Lakeport and 16 percent had ridden one of the local Clearlake routes (Routes 10, 11, and 12).
- Participants detailed where they travel for different purposes. Lakeport was the most popular destination for work, medical appointments, groceries, and banking.
- Participants were asked where they travel for various trip purposes. Table 23 shows the most popular destinations for all trip types based on where the respondents live. Lakeport was the most popular destination for everyone except residents of Clearlake, Hidden Valley Lake, and Spring Valley. Lake County residents also travel more frequently to and from Sonoma County compared to Mendocino or Napa Counties.

Public Opinions

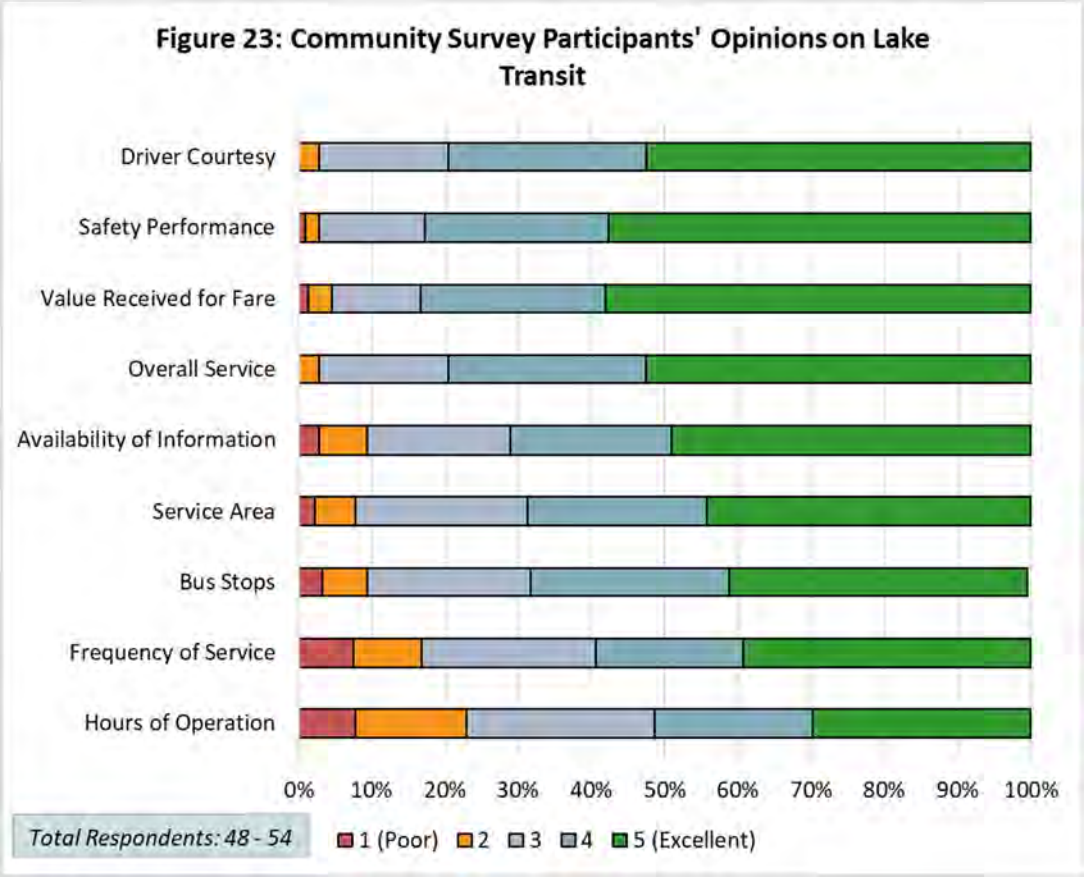
The community survey respondents ranked the same aspects of Lake Transit service that were evaluated by the onboard survey participants (Figure 23). Overall, the community survey respondents had worse impressions of Lake Transit compared to those who answered the passenger survey; the community survey respondents ranked the overall service an average of 3.2 versus the onboard survey which ranked the overall service 4.3. Just like the onboard survey, the two highest ranked factors were driver courtesy and safety performance (both 3.8) and the lowest ranked factors were hours of operation (2.4) and frequency of service (2.7).

Desired Improvements

- The survey participants were asked what dissuades them from using Lake Transit or Lake Links. Most explained that, quite simply, they have their own personal transportation that they prefer to use (63 percent). Other issues cited were the service area (23 percent), the hours of operation (14 percent), and service frequency (9 percent).
- If Lake Transit were to add an on-demand transportation service, 70 percent of the community survey respondents would be interested in using the service. Once they had requested a ride, 26 percent of respondents would want to wait 15 minutes or less, and 34 percent would wait 15 to 30 minutes.
- If the Lake Transit service area was to be expanded, respondents would be more likely to ride the bus to Ukiah/Santa Rosa and additional destinations within Lake County than other locations.
- Respondents showed high levels of support for free fares and resuming Saturday service.

Table 23: Travel Patterns by Community of Residence - Percentage of All Trips

Community of Residence	Communities Traveled to for All Trips														
	Clearlake	Cobb	Hidden Valley Lake	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice	Upper Lake	Other Lake County Locations	Mendocino County	Napa County	Sonoma County	Other	**Total**
Clearlake Riviera	20%	0%	10%	0%	40%	0%	0%	10%	0%	10%	0%	0%	0%	10%	100%
Clearlake / Lower Lake	39%	5%	8%	0%	16%	3%	0%	0%	0%	8%	0%	5%	16%	0%	100%
Cobb	10%	10%	0%	0%	60%	0%	0%	0%	0%	0%	0%	0%	10%	10%	100%
Hidden Valley Lake	40%	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Lakeport / Kelseyville	8%	0%	3%	10%	46%	3%	3%	8%	0%	3%	8%	0%	5%	5%	100%
Lucerne / Clearlake Oaks	18%	0%	0%	0%	45%	3%	3%	8%	3%	3%	11%	0%	5%	3%	100%
Nice / Upper Lake	2%	0%	0%	2%	40%	0%	0%	17%	9%	6%	13%	0%	6%	4%	100%
Spring Valley	80%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%



- When asked to prioritize the most important service improvements that would encourage them to ride the bus more often, the top answers were resuming Saturday service (18 percent), service to more destinations outside Lake County (18 percent), more bus stops closer to the respondents' homes (13 percent), and service to more destinations within Lake County (13 percent).
- One participant pointed out that they would like to use Lake Transit services, however there is currently no service to Spring Valley, where they live.

STAKEHOLDER SURVEY

As previously mentioned in Chapter 4, there are many other organizations in Lake County besides Lake Transit that provide transportation services directly or assist clients with their transportation needs. It is important to consider these other transportation providers when developing the Lake County TDP update so that services can be designed to potentially meet unmet transit needs not addressed by these alternative transit resources.

A stakeholder survey was distributed to organizations across Lake County during July and August 2022 to gather more information about how these organizations assist their clients with transportation. Other questions were designed to learn more about the mobility issues and transportation needs of each organization's clientele. A total of seven respondents participated in the survey. The following is a brief overview of the responses that highlights common mobility needs and challenges observed among each

organization's clients, as well as how they currently use Lake Transit. A detailed overview of answers by respondent and question can be found in Appendix C. Survey participants included staff from the following organizations:

- Lake Links
- Mendocino College
- Woodland Community College – Lake Campus
- Sutter Lakeside Hospital
- People Services, Inc.
- Lake County (Services Related to Older Adults)
- Redwood Coast Regional Center (RCRC)

Summary of Transportation Services

Four of the seven organizations surveyed provide transportation services to their clients: Lake Links, Sutter Lakeside Hospital, People Services, Inc, and RCRC, all of which were discussed in further detail in CHAPTER 4. Lake Links reimburses clients, works with a hired contractor to provide transit services, and later in 2022 will be establishing a volunteer driver program. Both Sutter Lakeside Hospital and RCRC buy bus passes for their patients, and RCRC also purchases transportation from a provider and reimburses clients for mileage. People Services, Inc., staff provide rides in both company-owned and private vehicles.

Clients' Transportation Needs and Challenges

Providers were asked to reflect on their clients and when/where they most often need transportation assistance. Over 70 percent of the organizations surveyed said their clients need help getting to medical appointments. People most often need to get a ride sometime between 7:00 AM to 9:00 AM, and they would then need to get rides home between 3:00 PM to 10:00 PM. The transportation stakeholders said their clients would primarily need rides on weekdays, with some also mentioning a need on Saturday.

Although most of the organization's representatives pointed out that their clients need to travel all across Lake, Napa, and Mendocino Counties, there were some specific destinations mentioned that are particularly common. Popular residential destinations within Clearlake are the Avenues and Lakeshore Boulevard. Medical destinations mentioned include St Helena Hospital in Napa County, Adventist Health Howard Memorial Hospital in Willits, and other Sutter Lakeside facilities in Lakeport besides the main hospital. Other destinations mentioned included Lake County Social Services and Burns Valley Mall.

The biggest challenges preventing the surveyed organizations' clients from getting where they need to go are that many of the individuals do not have personal vehicles, they do not have driver's licenses, and that they live too far from any bus stops. Many of the organizations also cited the need for earlier or later service hours. Lake Links and Sutter Lakeside Hospital both indicated that a lot of their clients and patients are physically unable to ride the bus due to medical constraints.

How Clients Use Lake Transit

Five of the organizations indicated that their clients are able to use Lake Transit services at least some of the times. Lake Links clients typically use Medi-Links instead of Lake Transit services. The Mendocino College staff said that they believe that students and staff are overall satisfied with Lake Transit, but the staff from People Services, Inc., and RCRC said that many of their clients have expressed dissatisfaction with Lake Transit because of the hours of operation and service area. The two best outreach tools for communicating information about public transit to the organizations' clients are the Lake Transit website and printed materials.

KEY TAKEAWAYS OF THE INITIAL OUTREACH EFFORTS

Although the stakeholder survey was geared towards businesses and organizations in Lake County that provide transportation services rather than the residents who use said services, the results of the stakeholder survey still reinforce some of the same points and issues raised by both the onboard and community survey efforts. Some of the key takeaways supported by all three survey efforts include:

- Many Lake County residents could benefit from more transportation assistance to medical appointments both within and outside of Lake County.
- There is demand for more frequent transportation to out of county locations, specifically Ukiah/Santa Rosa.
- The top factors limiting Lake Transit ridership are the hours of operation, service frequency, and the service area.
- Lake County residents are interested in on-demand transportation and would likely use this type of service if made available.
- The most popular service improvement ideas across all three surveys are reinstating Saturday service, establishing more bus stops closer to residents' homes, adding more service options to destinations outside of Lake County, and later service hours.

LAKE COUNTY FAIR OUTREACH

The Lake County Fair is one of the largest events held in the county each year. The Lake APC staffed a booth at the fair for all four days of the event (September 1-4, 2022), at which a temporary associate conducted public outreach about the preliminary service alternatives being considered for Lake Transit and MediLinks. The people who stopped at the Lake APC booth were able to learn about the alternatives and then complete a brief survey where they could rank the ideas presented on a scale of 1 (do not like it) to 5 (love the idea). There were also comment cards for people to complete if they had other ideas for service alternatives or requests for improvements. Of those who stopped at the booth, 14 people completed either a survey or comment card. Details on the feedback collected at the fair are included in Appendix E, with highlights covered in this section.

Survey Results

Eight people completed a survey to share their opinions on the preliminary list of service alternatives being considered for analysis in the Lake County TDP. The survey results suggested at least a moderate level of support for almost all of the alternatives being discussed. The most popular alternatives were the development of a new intercity service to Santa Rosa, reinstating Saturday service, and passenger amenity improvements. Lake Transit has already reinstated Saturday service since the fair. The preliminary alternatives with the lowest support were reducing Route 2 service to only three days a week instead of five, reducing Route 4a service to only three days a week and/or eliminating the first daily roundtrip of Route 4a, and serving the avenues with microtransit.

The preliminary alternatives with the lowest support were reducing Route 2 service to only three days a week instead of five, reducing Route 4a service to only three days a week and/or eliminating the first daily roundtrip of Route 4a, and serving the Avenues neighborhood of Clearlake with microtransit. It is not surprising that people reacted negatively to potential service reductions, however it is interesting that there was low support for serving the Avenues with microtransit given that both the onboard survey and community survey participants indicated strong interest in on-demand transit services. The subsequent analysis of service alternatives is included in Chapters 7 and 8.

DRAFT PLAN RECOMMENDATIONS OUTREACH

To inform Lake County residents about the service alternatives being recommended for the Draft TDP, LSC developed an informational video. Residents were able to watch the video on YouTube and then complete the follow-up survey on Survey Monkey, where they were asked to rank each alternative presented in the video on a scale of 1 (do not like the idea) to 5 (love the idea). The video and survey were available for the entire month of February 2023. Viewers were also provided with contact information for LSC staff if they preferred to comment via email or by phone.

The video and corresponding survey were advertised through a public notice posted on the Lake County News website, posts on the Lake Area Planning Council (Lake APC) and Lake Transit websites, and three separate email notifications sent to thirty Lake County stakeholders. The stakeholders were asked to distribute the video and survey information to their own respective networks. In all, the informational video was viewed 61 times, and 14 people completed the follow-up survey. One person commented on the alternatives by phone, and one commented by email. A full summary of the input received is detailed in Appendix F.

The results of the survey are shown in Figure 24. As evidenced by the figure, the most popular alternatives were to shift the Route 12 schedule and to replace Route 4a with microtransit. The least popular alternative was to reduce Route 2 service to three days per week, which is similar to the views of the survey participants at the Lake County Fair. The final elements included in the Plan are described in Chapter 10.

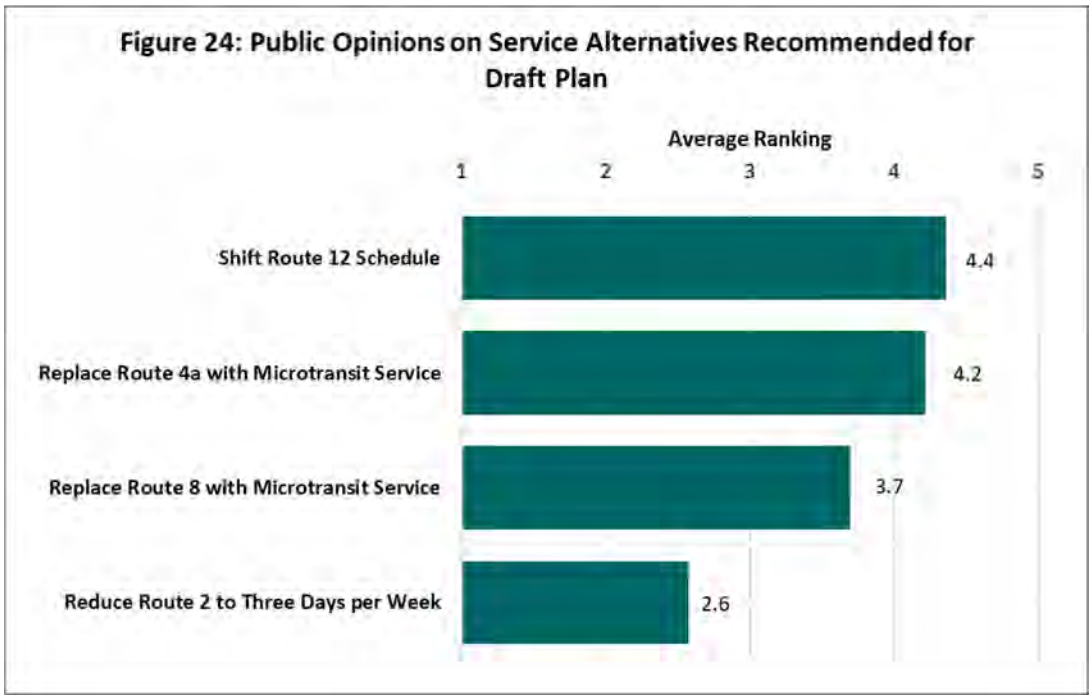


Figure 24: Public Opinions on Service Alternatives Recommended for Draft Plan
Average Ranking
1
2
3
4
5
Shift Route 12 Schedule
4.4
Replace Route 4a with Microtransit Service
4.2
Replace Route 8 with Microtransit Service
3.7
Reduce Route 2 to Three Days per Week
2.6

This page intentionally left blank

Chapter 7
SERVICE ALTERNATIVES

INTRODUCTION

This chapter presents potential transit service changes for Lake Transit and Medi-Links over the next five years.

LAKE TRANSIT BASE CASE SCENARIO FY 2023-24

The (FY) 2021-22 LTA cost model, shown in Chapter 2, was updated to project costs for status quo LTA service levels in FY 2023-24. The growth of the Consumer Price Index (CPI) between January 2021 and January 2022 of 7 percent was used to predict inflation in the upcoming year. Status quo service levels represent service provided as of September 2022, which includes partial Saturday service and represents a 7 percent increase over FY 2021-22 service levels. The hourly and fixed monthly rate from the latest Paratransit Services contract (FY 2022-23) was also increased 7 percent for inflation to estimate FY 2023-24 operating contract costs. FY 2021-22 non-contractor fixed costs and the FY 2021-22 cost per mile factor (which only represents fuel costs) were both also factored up by 7 percent annually per the CPI. These changes result in the following model:

FY 2023-24 Operating Cost Model = $41.00 x annual vehicle service hours +
$0.67 x annual vehicle service miles +
$1,398,740 in annual fixed costs

Applying the FY 2023-24 cost model to current service levels results in the "Total Status Quo" value seen in Table 24. The "Total Status Quo" value includes both marginal and fixed costs. Ridership estimates for FY 2023-24 are based on average monthly ridership during the first quarter of FY 2022-23, multiplied by 12 to estimate annual ridership figures.

Considering revenues, in FY 2022/23 there is a $5 million operating budget which is more than enough for the $3.4 million in operating costs assumed for the status quo scenario. However, roughly $1.9 million of these revenues are COVID-related temporary funding sources. Therefore, this alternative analysis takes into consideration that significant increases in transit service levels are not likely financially feasible over the short-term without additional discretionary funding sources such as FTA 5311f (Intercity Bus Program services).

LAKE TRANSIT SERVICE ALTERNATIVES

The following section describes potential service alternatives for LTA. Estimates of the service levels, ridership, and operating costs generated by each alternative are presented as changes to the status quo. This information is also shown in Table 24.

Table 24: Lake Transit Service Alternatives

FY 2023-24

Services		Annual Operating Days	Annual Vehicle Service.. Miles	Annual Vehicle Service.. Hours	Annual Operating Cost	Ridership Impact (One-Way Trips) Daily	Ridership Impact (One-Way Trips) Annual	Annual Farebox Revenue	Annual Subsidy Required
Status Quo									
	Operating Costs				$2,015,541				
	Fixed Costs				$1,398,740				
	Total Status Quo	**304**	**803,683**	**37,398**	**$3,414,282**	**732**	**196,364**	**$391,975**	**$1,623,566**
Alternatives									
Route 1	Add 1 bus to add 4 RT on weekdays	252	72,300	3,000	$171,700	31	7,800	$15,600	$156,100
Route 2	Reduce Service to 3 days per week	104	-13,100	-510	-$29,700	-4	-600	-$1,200	-$28,500
Route 2	Eliminate Route 2	252	-36,000	-1,800	-$98,000	-8	-2,100	-$4,200	-$93,800
Route 4a	Reduce Service to 3 days per week	104	-16,380	-562	-$34,100	-4	-400	-$880	-$33,220
Route 4a	Eliminate First Daily Roundtrip (9:16 AM)	252	-9,198	-328	-$19,600	-1	-250	-$600	-$19,000
Route 4a	Eliminate Route 4a	252	-36,000	-1,380	-$80,800	-6	-1,560	-$3,400	-$77,400
Route 4	Serve Konocti Vista Casino	252	4,435	0	$3,000	0.4	110	$200	$2,800
Route 4	Serve Riviera Shopping Center	252	6,854	0	$4,600	0.4	110	$200	$4,400
Route 8	*Existing Route 8*	*252*	*86,310*	*6,174*	*$311,300*	*106*	*26,714*	$50,000	$261,300
	Microtransit	*252*	*113,117*	*4,788*	*$272,500*	*107*	*27,000*	*$50,500*	*$222,000*
	Existing Saturday	*52*	*-9,974*	*-728*	*-$36,600*	*-48*	*-2,498*	*-$4,700*	*-$31,900*
	Microtransit Saturday	*52*	*14,040*	*572*	*$32,900*	*39*	*2,002*	*$3,700*	*$29,200*
	Technology Costs								*$23,000*
	Subtotal Replace Route 8 with Microtransit		**30,873**	**-1,542**	**-$42,400**	**-1**	**-210**	**-$500**	**-$19,000**
Route 7	Route 7 - Eliminate Final Daily Roundtrip (5:00 PM)	252	-22,277	-725	-$44,700	-0.5	-130	-$330	-$44,370
	Route 7 - Add Earlier Roundtrip (6:30 AM)	252	22,277	725	$44,700	1.0	250	$630	$44,070
	Changes to Route 4	252	14,112	504	$30,200	-1.0	-252	-$640	$30,840
	Subtotal Changes to Weekday Service to Ukiah	**252**	**14,112**	**504**	**$30,200**	**-0.5**	**-130**	**-$340**	**$30,540**
South Clear Lake Microtransit with no Route 4a		156	-9,300	-180	-$13,600	7	1,110	-$700	-$12,900
	Technology Costs								$17,500
	Subtotal South Clear Lake Microtransit								**$4,600**
South Clear Lake Microtransit with No Route 4a and Route		156	-45,300	-1,980	-$111,600	-6	-993	-$4,900	-$100,700
	Technology Costs								$17,500
	Subtotal South Clear Lake Microtransit								**-$83,200**
Route 12	Shift Route 12 schedule by 30 minutes	252	0	0	$0	4	1,080	$1,450	-$1,450
Lifeline Service to Spring Valley		52	3,224	208	$10,700	2	120	$240	$10,460
Sunday Service									
	Fixed Route Service (Rt 1, 4, 8, 10, 11) at Existing Saturday Levels	52	41,257	2,319	$131,200	114	5,940	$11,900	$119,300
	Microtransit in Clearlake 9 AM to 3 PM	52	27,456	312	$31,300	12	600	$1,000	$30,300
	Technology Costs								$23,500
	Subtotal Sunday Microtransit								**$53,800**
Intercity Service to Santa Rosa									
	Extend Rt 7 1 Round Trip per Day	252	30,240	756	$51,400	1	230	$800	$50,600
	Extend Rt 3 1 Round Trip per Day	252	13,608	504	$29,800	3	630	$2,100	$27,700
Planned Additional Saturday Service									
	Route 3 - 2 RT	52	9,318	312	$19,100	9	460	$1,400	$17,700
	Route 7 - 2RT	52	9,194	299	$18,400	17	880	$2,200	$16,200

Route 1

Increase Frequency

Route 1 is one of the most popular LTA services. This route served over 35,000 passenger-trips in FY 2021-22 and is projected to serve over 40,000 passenger-trips in the FY 2023-24 "Status Quo" scenario. In addition to weekend service, the most popular ideas for improving Lake Transit service according to the on-board survey are expanding service hours and increasing service frequency. As Route 1 experiences high ridership, one of the service alternatives considered was increasing the service frequency.

One round trip on Route 1 takes around 3 hours, including layover time. Currently, three buses provide roughly hourly service with a break for lunch during the middle of the day. (The first westbound run is interlined with Route 8 using a separate bus). If a fourth bus is added to Route 1 beginning at 7:30 AM and operating continuously (without a break in the schedule) until 7:20 PM, an additional four round trips could be provided. An example schedule is shown in Table 25, showing that half-hourly service would be provided in some periods. This would require operating one additional bus, 2,700 vehicles hours and 72,300 vehicle miles annually. This would cost on the order of $171,700 annually and bring in an additional $15,600 in fare revenue. An elasticity analysis was conducted to estimate additional ridership from the added 4 round trips per day. Elasticity is the measurement of the percentage change of one economic variable in response to a change in another. Various studies provide insight as to the percentage change in ridership observed at other transit agencies after increasing or decreasing service levels. According to the analysis, an additional 7,800 one-way trips would be generated. This equates to an annual operating subsidy of $156,100.

Route 2

Operate Route 2 Three Days per Week

Route 2 provides service to the rural communities of Cobb, Whispering Pines, and Loch Lomond along the State Route (SR) 175 corridor in the southwestern region of Lake County, with timed connections to other Lake Transit Routes in Middleton and Kits Corner. Route 2 service has been suspended or reduced multiple times in the past few years either due to the pandemic or staffing shortages. Route 2 ridership has never been very robust compared to other services due to the relatively small population living along the route, but ridership has dropped even further since the Valley Fire destroyed nearly 2,000 homes along the route in 2015, then the frequent service changes, and then the external factors influencing transit in the 2020s. In FY 2021-22, Route 2 carried less than one passenger-trip per vehicle hour and required a high operating subsidy per passenger-trip of $125.07. Currently, Route 2 operates three round trips per day five days per week.

It is not uncommon for rural transit agencies to offer "lifeline" transit service to communities which are located a long distance from the main commercial centers in the county. Lifeline transit service could be offered anywhere from 1 – 3 days per week as a way to provide transportation for critical trips such as to medical appointments, social service appointments and for groceries. Lifeline transit service is designed for those who do not have other means of transportation.

TABLE 25: Route 1 Example Schedule - Four Buses

Westbound

Walmart	Clearlake Oaks	Glenhaven	Lucerne	Nice PO	Robinson Rancheria	Upper Lake	County Jail	Hospital
6:00 AM	6:13 AM	6:23 AM	6:43 AM	6:47 AM	6:55 AM	7:04 AM	7:12 AM	7:16 AM
7:00 AM	7:13 AM	7:23 AM	7:43 AM	7:47 AM	7:55 AM	8:04 AM	8:12 AM	8:16 AM
7:30 AM	7:43 AM	7:53 AM	8:13 AM	8:17 AM	8:25 AM	8:34 AM	8:42 AM	8:46 AM
8:00 AM	8:13 AM	8:23 AM	8:43 AM	8:47 AM	8:55 AM	9:04 AM	9:12 AM	9:16 AM
9:00 AM	9:13 AM	9:23 AM	9:43 AM	9:47 AM	9:55 AM	10:04 AM	10:12 AM	10:16 AM
10:00 AM	10:13 AM	10:23 AM	10:43 AM	10:47 AM	10:55 AM	11:04 AM	11:12 AM	11:16 AM
10:30 AM	10:43 AM	10:53 AM	11:13 AM	11:17 AM	11:25 AM	11:34 AM	11:42 AM	11:46 AM
11:00 AM	11:13 AM	11:23 AM	11:43 AM	11:47 AM	11:55 AM	12:04 PM	12:12 PM	12:16 PM
12:00 PM	12:13 PM	12:23 PM	12:43 PM	12:47 PM	12:55 PM	1:04 PM	1:12 PM	1:16 PM
1:30 PM	1:43 PM	1:53 PM	2:13 PM	2:17 PM	2:25 PM	2:34 PM	2:42 PM	2:46 PM
2:00 PM	2:13 PM	2:23 PM	2:43 PM	2:47 PM	2:55 PM	3:04 PM	3:12 PM	3:16 PM
3:00 PM	3:13 PM	3:23 PM	3:43 PM	3:47 PM	3:55 PM	4:04 PM	4:12 PM	4:16 PM
4:00 PM	4:13 PM	4:23 PM	4:43 PM	4:47 PM	4:55 PM	5:04 PM	5:12 PM	5:16 PM
4:30 PM	4:43 PM	4:53 PM	5:13 PM	5:17 PM	5:25 PM	5:34 PM	5:42 PM	5:46 PM
5:00 PM	5:13 PM	5:23 PM	5:43 PM	5:47 PM	5:55 PM	6:04 PM	6:12 PM	6:16 PM
6:00 PM	6:13 PM	6:23 PM	6:43 PM	6:47 PM	6:55 PM	7:04 PM	--	7:16 PM

Eastbound

Hospital	Upperlake	Robinson Rancheria	Nice PO	Lucerne	Glenhaven	Clearlake Oaks	Woodland Colege	Walmart
6:35 AM	6:50 AM	6:59 AM	7:09 AM	7:13 AM	7:28 AM	7:37 AM	7:50 AM	7:55 AM
8:30 AM	8:45 AM	8:54 AM	9:04 AM	9:08 AM	9:23 AM	9:32 AM	9:45 AM	9:50 AM
9:00 AM	9:15 AM	9:24 AM	9:34 AM	9:38 AM	9:53 AM	10:02 AM	10:15 AM	10:20 AM
9:30 AM	9:45 AM	9:54 AM	10:04 AM	10:08 AM	10:23 AM	10:32 AM	10:45 AM	10:50 AM
10:30 AM	10:45 AM	10:54 AM	11:04 AM	11:08 AM	11:23 AM	11:32 AM	11:45 AM	11:50 AM
11:30 AM	11:45 AM	11:54 AM	12:04 PM	12:08 PM	12:23 PM	12:32 PM	12:45 PM	12:50 PM
12:00 PM	12:15 PM	12:24 PM	12:34 PM	12:38 PM	12:53 PM	1:02 PM	1:15 PM	1:20 PM
12:30 PM	12:45 PM	12:54 PM	1:04 PM	1:08 PM	1:23 PM	1:32 PM	1:45 PM	1:50 PM
1:30 PM	1:45 PM	1:54 PM	2:04 PM	2:08 PM	2:23 PM	2:32 PM	2:45 PM	2:50 PM
3:00 PM	3:15 PM	3:24 PM	3:34 PM	3:38 PM	3:53 PM	4:02 PM	4:15 PM	4:20 PM
3:30 PM	3:45 PM	3:54 PM	4:04 PM	4:08 PM	4:23 PM	4:32 PM	4:45 PM	4:50 PM
4:30 PM	4:45 PM	4:54 PM	5:04 PM	5:08 PM	5:23 PM	5:32 PM	5:45 PM	5:50 PM
5:30 PM	5:45 PM	5:54 PM	6:04 PM	6:08 PM	6:23 PM	6:32 PM	6:45 PM	6:50 PM
6:00 PM	6:15 PM	6:24 PM	6:34 PM	6:38 PM	6:53 PM	7:02 PM	7:15 PM	7:20 PM
6:30 PM	6:45 PM	6:54 PM	7:04 PM	7:08 PM	7:23 PM	7:32 PM	7:45 PM	7:50 PM
8:20 PM	8:30 PM	8:39 PM	8:49 PM	8:53 PM	9:08 PM	9:17 PM	9:30 PM	9:35 PM

In the interest of cost efficiency, this alternative examines the impacts of reducing Route 2 from five day per week service to three days per week[1]. This alternative would not change the daily schedule; the only change would be the number of days per week Route 2 operates. As seen in Table 24, this service alternative would reduce operating costs by $29,700 in FY 2023-24. According to onboard surveys, two-thirds of Route 2 passengers did not have a vehicle available to them nor did they have a driver's license. None of the Route 2 respondents stated that they were taking the bus to work, indicating that they do not need the service five days a week. Therefore, it is reasonable to assume that most Route 2 passengers would shift their schedules to match the revised schedule. However, there would still be loss in annual ridership because the service will be less convenient; particularly for those without a vehicle available. It is estimated that reducing Route 2 service from five days per week to three days per week would decrease annual ridership by 600 one-way trips. This results in a loss of approximately $1,200 in fare revenues and an annual operating subsidy savings of $28,500. This alternative could also have a small negative impact on ridership for Route 4 and Route 3 as Route 2 passengers transfer to these routes to reach the communities of Clearlake, Lakeport, and Calistoga.

Eliminate Route 2

Given the low ridership on Route 2, it is reasonable to consider eliminating the route to increase overall cost efficiency. It should be noted that monthly ridership has doubled since full Route 2 service was reinstated. However, Route 2 is still one of the lower performing routes. By eliminating Route 2, LTA would save roughly $93,800 in annual operating subsidy. Eliminating this route would leave the residents of Cobb, Loch Lomond and Anderson Springs without transit service. Roughly 2,100 one-way passenger trips would be lost.

Route 3

Connections with Regional Transit Services

Route 3 is an important intercounty service for Lake County residents needing services in Napa County. Route 3 operates four round trips each weekday, two to Calistoga and two to Deer Park. As Route 3 provides connections to intercity transit services such as Greyhound and Amtrak, this route receives Federal Transit Administration (FTA) 5311(f) funding as part of a combined route with Route 1 (referred to as Route 30). Many passengers use Route 3 to transfer to other services; according to the on-board surveys, one-third of respondents transferred to/from Route 1 on the day they rode Route 3. Another 20 percent transferred to Vine Transit in Napa County, as free transfers are available between Route 3 and Napa's VINE Route 10, Calistoga Shuttle, or St. Helena Shuttle. Given the number of possible transfer opportunities between Route 3 and different routes and intercity transit services, it is important to review Route 3 and the timing of these connections to see if greater connectivity could be achieved.

Route 3 passengers can transfer for free to the Calistoga Shuttle, the St. Helena Shuttle, or Route 10 of VINE transit. The Calistoga and St. Helena Shuttles are both on-demand services (the St. Helena Shuttle has limited fixed route service on weekdays, primarily to serve local students). The Calistoga Shuttle

[1] If a holiday falls on a service day, service would still be provided three days in the week by shifting the service day to avoid the holiday.

operates from 7:00 AM to 7:00 PM Monday through Thursday and until 9:00 PM on Friday, so any Lake County resident visiting Calistoga for the day would have the Shuttle available if needed. The St. Helena Shuttle operates from 9:00 AM to 6:00 PM Monday through Thursday and to 7:00 PM on Friday. These hours of operation also mean that anyone from Lake County visiting Deer Park for the day would have the St. Helena Shuttle available. Rides for both services can be booked by phone, through the Ride the Vine App, or online. As both of these services are on-demand, there is no timed transfers that need to be made. Riders just need to be prepared to schedule their on-demand rides.

Route 10 of VINE Transit travels further south into Napa County. Lake County residents traveling to the City of Napa can take the first LTA Route 3 bus to the Lincoln Avenue Bridge stop in Calistoga, and then they would have to wait 40 minutes to board the 8:00 AM VINE Route 10 southbound bus. These passengers would arrive at the Soscol Gateway Transit Center in downtown Napa at 9:18 AM, giving them 3 to 7 hours in Napa before they would have to board the northbound Route 10 bus to transfer back to LTA's Route 3 northbound service to Clearlake. If Lake County residents took the 7:55 AM Route 3 bus to Calistoga, they would alight at the Lincoln Avenue Bridge at 9:00 AM and then transfer to VINE Route 10 at 9:10 AM. This would provide travelers with 1.5 to 5.5 hours in Napa before needing to board the bus back to Calistoga.

It is important to note that Lake Transit passengers who transfer to VINE Route 10 in Calistoga or Deer Park can then later transfer to VINE Route 29 or Amtrak, both of which take passengers further south to the San Francisco Bay Area. However, those trying to travel to San Francisco from Clearlake via LTA and Vine Transit would need to stay overnight in the city.

Napa County residents can visit Lake County for the day by traveling northbound on Route 3 to Clearlake. Travelers would be in Lake County for anywhere from 1 to 8 hours depending on which bus they took and whether they need to get home to Calistoga or Deer Park. If persons traveling from Napa County needed to travel to anywhere in Lake County besides Clearlake, the length of their travel day would nearly double, and it would cut down their available time for out-of-county shopping or medical appointments.

In conclusion, Route 3 passengers are able to use the service to make timed connections with Napa County services, and there are no improved connections identified at this time. Those not making overnight trips have adequate time in Calistoga, Deer Park, or Napa to shop, make medical appointments, etc. before needing to return home. Although taking Route 3 to Napa is a long travel day for Clearlake resident, for residents of Lakeport and other communities along the North and South Shores of Clear Lake, it is much more difficult to make a round trip in one day; residents would only be able to visit the Napa urban area for 1.5 hours and total travel time would be over 8 hours.

There are two opportunities for timed connections between Route 1 and Route 3. As discussed above, these connections allow for time for appointments and shopping but not for standard 8 – 5 work schedules. On-board surveys showed that a greater number of respondents are more likely to use expanded transit services to Santa Rosa/Ukiah than Napa County. LTA service to Santa Rosa is discussed below. With respect to intercity connections, it is important that LTA keep operating the first daily eastbound Route 1 and Route 4 runs, as passengers on these buses can then transfer to Route 3 and have enough time in Napa County before needing to return to get home.

Route 4a

Operate Route 4a Three Days per Week

Route 4a travels between Kit's Corner, at the intersection of SR 29 and Soda Bay Road, and Lakeport, serving communities along Soda Bay Road, Kelseyville, Big Valley Rancheria and the Konocti Vista Casino. Much like Route 2, Route 4a service has been cut or reduced multiple times in recent years when the transit system was adjusting to the impacts of the pandemic and staffing shortages. These reductions have caused ridership to drop in recent years. While pre-pandemic ridership was low due to the rural nature of the service area, current ridership is still lower; monthly ridership in September 2022 was only 40 percent of levels seen in February 2020, the last month before the pandemic. The latest ridership reports for August and September 2022 show that Route 4a carries around six passenger trips per day and less than 1 trip per vehicle hour.

Given the low ridership, this alternative analyzes reducing Route 4a service to three days a week from five days a week. Like the previously discussed option with Route 2, reducing service to three days a week would not affect the Route 4a daily schedule. Reducing Route 4a service to three days a week would reduce operating costs by over $34,100 (Table 24). With the reduced schedule ridership is anticipated to decrease by about 400 passenger trips with an associated decline of $880 in fare revenues annually.

Eliminate the First Roundtrip of the Day (9:16 AM)

According to available boarding by run data from LTA, very few passengers ride the 9:16 AM Westbound and 10:15 AM Eastbound Route 4a roundtrip. Eliminating the first daily roundtrip would reduce operating costs and would still allow people traveling from the Soda Bay area westbound to Lakeport to spend anywhere from 1 to 5 hours in town before catching the last Route 4a bus to return home.

Eliminating the first daily roundtrip would more negatively impact people traveling eastbound to Clearlake via a transfer to Route 4. Passengers would only have one opportunity to get to Clearlake per day if the first Route 4a roundtrip is eliminated. Once in Clearlake, they would only have 50 minutes after disembarking at the Walmart before they would have to board the Route 4 bus to make their transfer to the final Route 4a westbound bus.

This service alternative and the associated reduction in service levels would result in annual operating costs decreasing by $19,600 (Table 24). Based on ridership by run data collected in March 2022, it is estimated that there would be a likely decrease of about 250 passenger-trips, causing fare revenues to decrease by around $600 per year. As with all Route 4a alternatives, this alternative would have the greatest impact on the residents of Soda Bay and Big Valley Rancheria, as this is the only route serving those communities.

Eliminate Route 4a

Given the low ridership and productivity (less than one passenger-trip per vehicle hour) on Route 4a, it is reasonable to consider eliminating the route completely. Under this option, Konocti Vista Casino/Big Valley Rancheria would still have access to transit service with Route 8. Kelseyville would still be served by Route 4, but Soda Bay, Clear Lake Riviera, and Riviera Estates would no longer be served by a fixed route. Available boarding by stop data shows that these communities generate low ridership. Transit

dependent residents in these communities could take advantage of the Lake Links volunteer driver programs.

Eliminating Route 4a would reduce annual operating subsidy by $77,400 and reduce ridership by 1,025 trips annually. As discussed above, Routes 2 and 4a are interlined so it would be difficult to eliminate one route without the other.

Route 7

Connections with Regional Transit Services

Route 7 completes four roundtrips between Lakeport and Ukiah every weekday, providing an important regional transit connection to Mendocino County. This route also receives Federal Transit Administration (FTA) 5311(f) funding as part of a combined route with Route 4 (referred to as Route 40) because passengers are able to connect to other intercity transportation services in Mendocino County. Much like with Route 3 and the combined Route 30, it is important to review Route 7's connections with other transit services and whether or not they are feasible for most travelers.

Passengers can transfer to several Mendocino Transit Authority (MTA) routes at the Pear Tree Center in Ukiah. Passengers on the first Route 7 bus to Ukiah in the morning can transfer to either MTA Route 65 northbound or Route 65 southbound within 10 minutes of arriving at the stop. Route 65 travels northbound to Willits and Fort Bragg and southbound to Santa Rosa. This is important, as according to survey feedback collected during the TDP planning process, Santa Rosa is the top out-of-county destination that Lake County residents need to travel to. Santa Rosa also provides good connections to intercity services, such as passenger air service and SMART rail service. Passengers traveling onward to Santa Rosa would arrive at 10:35 AM and would be able to transfer to the Santa Rosa City Bus. These travelers would have to then board the Route 65 northbound bus 3 hours later to return to Ukiah, but then they would have to stay in Ukiah for an additional 1.5 to 2 hours until the next LTA Route 7 bus back to Clearlake. Although this is a long travel day, Lake County residents are still able to get to Santa Rosa for a few hours and back in one day. Connections to Santa Rosa alternatives are discussed further below.

Eliminate Final Roundtrip of the Day (5:00 PM) and Add Earlier Trip to Ukiah (6:30 AM)

The final daily roundtrip of Route 7 leaves Lakeport at 5:00 PM, arrives in Ukiah at 6:00 PM and departs for Lake County at 7:00 PM. Available boarding and alighting data by run shows that very few passengers use this roundtrip (no boardings were recorded during the time period reviewed). This coincides with staff observations. At the same time there have been requests through social service agencies to add earlier service to Ukiah. With the current schedule, the earliest a passenger can arrive in Ukiah is 9:00 AM, potentially too late to commute to Ukiah regularly for work. Another option would be to add a Route 7 departure from Lakeport at 6:30 AM which would arrive at the Ukiah airport around 8:00 AM on weekdays. The last departure from Ukiah would be at 5:00 PM, generally allowing for a traditional workday schedule. As Route 7 is interlined with Route 4, this would also require adding one round trip on Route 4, if the 6:45 AM Eastbound Route 4 trip is eliminated (which serves 1.5 average daily boardings).

All these changes would result in an annual operating cost increase of $30,200. Overall ridership for Routes 4 and 7 is anticipated to decrease by a small amount annually (130), resulting in an annual operating subsidy of $30,540. As combined Route 7 and Route 4 service to Ukiah is subsidized by the FTA 5311(f) grant program, it is possible that half of the costs of this alternative could be paid for using FTA 5311(f) funds.

Service Alternatives for the Lakeport Region

Lakeport and the surrounding communities on the southwest side of Clear Lake are served by Route 8, Route 7, Route 4 and Route 4a. The following alternatives present a series of related options to increase ridership and cost efficiency in this area.

Route 8 – Replace with Microtransit

Route 8 provides hourly service using two buses between Sutter Hospital in the northern part of Lakeport, through downtown Lakeport and ending at the Konocti Vista Casino (about 2.5 miles southeast of town) between 7:30 AM and 7:30 PM. The route carries around 3.5 passenger-trips per vehicle hour. When ridership demand is lower than 3 or 4 trips per hour, it is worth reviewing on-demand micro-transit service as an alternative.

Over the last several years, the concept of "microtransit" has seen increasingly widespread application across the nation. The goal of microtransit service is to provide coverage over an area not served efficiently by fixed-route service with a short response time, typically within 15 minutes of the request. Microtransit applies the app-based technology developed for transportation network companies (such as Uber and Lyft) to provide a new form of public transit service in lower demand and lower density areas. While the concept of real-time, demand-response service has been envisioned for many years, it could not be effectively implemented until recently with the advent of new technology. Passengers typically use an app downloaded on their smartphone or computer to request a ride and a routing algorithm (rather than a dispatcher) assigns the ride request to a specific driver/vehicle. The passenger is provided with an estimated service time, and fares are typically handled through the app. In addition, to ensure equitable accommodation, rides may also be requested directly over the phone. However, most trips are assigned without the need for manual dispatching. As microtransit is a shared-ride service, multiple passengers may be on the vehicle at the same time. Requirements of the Americans with Disabilities Act may be met by ensuring that a sufficient number of accessible vehicles are available to serve those who require accessible service.

The benefit of this type of service is that passengers are not limited to certain fixed route stops and therefore passengers are not required to walk far to/from a bus stop. Lakeport already has a Dial-A-Ride service which provides door-to-door transportation within Lakeport with priority for ADA eligible passengers. Dial-A-Ride services typically require 24-advance reservations. This can be seen as a hassle for some passengers in that they must plan the specific time they need a ride in advance.

Under this option, LTA would obtain a license to an online application service and make this app available to passengers for free download. On-demand service can be operated using existing LTA vehicles, drivers and dispatchers. Passengers can use the app on a phone or computer to make a ride request or continue to make phone requests (other areas have found that a majority of riders shift to using the app).

Dispatchers will enter the phone ride requests into the app. Standing subscription trips (such as individuals regularly going to a senior meals program, as one example) could be made, avoiding the need for ongoing individual bookings. The application software will dispatch drivers, following algorithms that minimize service costs and enhance response times. This will free up dispatchers to address service issues and work on other tasks. It is not expected that any dispatch positions would be eliminated or reduced. The application software will automatically track ridership patterns, response times and missed trips.

There is a quickly growing list of public transit systems that are implementing microtransit services, including Sacramento RT, Napa VINE, Washoe RTC in Reno/Sparks (Nevada), the Cheyenne Transit Program (Wyoming), the Citibus system in Lubbock (Texas) and Placer County (California). Microtransit has the potential to provide a higher quality demand response service (faster response times), increase the capacity of the system within the existing vehicle-hours of service and to improve the working conditions of LTA staff. The increased convenience of the ride request service could also lead to long-term increases in ridership, and the additional automated data collection could also allow better allocation of resources over time. In addition, the new software program will provide improved reporting capabilities and will allow enhanced management of the service.

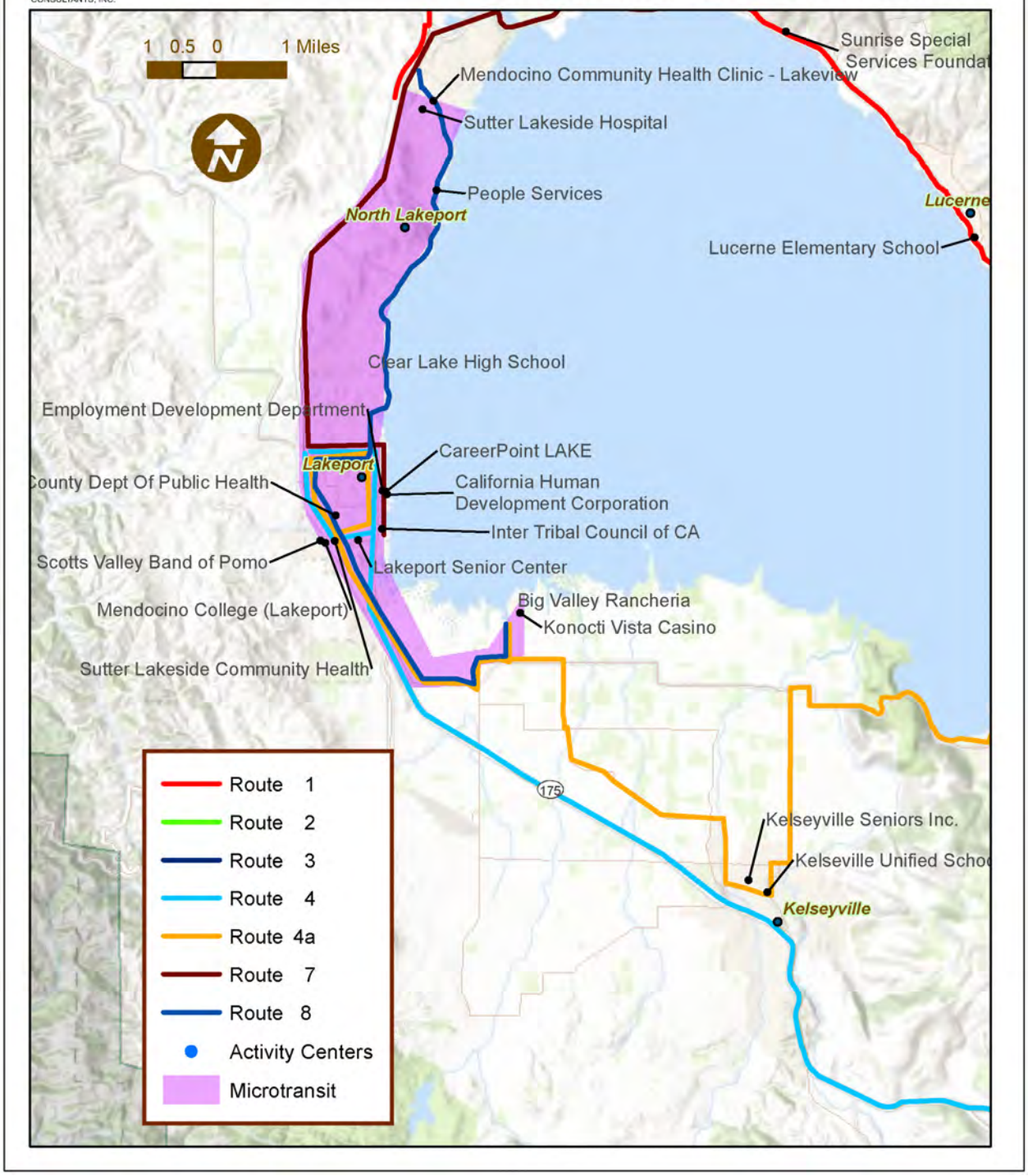
There are several companies currently offering such packages (such as Spare Labs, TransLoc, Via, the Routing Company and TripSpark), and it would be appropriate to select a vendor through an RFP process. The cost of obtaining and maintaining the software would be determined through the RFP process and is difficult to specify, but it is estimated that a software license for an On-Demand transit application could cost around $500 per vehicle per month on top of $11,500 in fixed costs.

Although a relatively small community, Lakeport is spread out north to south along the shore of Clear Lake, making travel times from one end to the other be around 15 minutes. If the Konocti Vista Casino is served, travel times would be longer. Boarding by run data shows that fewer boardings occur during the first two hours of service and the last hour of service; therefore, only one microtransit vehicle would be needed during that time (7:30 AM to 9:30 AM and 5:30 PM to 6:30 PM). Two buses would need to be operated from 9:30 AM to 5:30 PM. The service area should include the area east of SR 29 from Sutter Lakeside Hospital to Mendocino College with pickups/drop offs available at the Konocti Vista Casino/Big Valley Rancheria. A response time of 30 minutes could be advertised. A potential Lakeport microtransit service area is shown in Figure 25.

According to available ridership by stop data, the majority of boardings on Route 8 occur between Sutter Hospital and downtown Lakeport. For this reason and in the interest of providing better service in the Lakeport core area, eliminating the Konocti Vista Casino from the microtransit service area was considered. However, roughly 8 percent of average daily boardings on Route 8 occur at the Casino. Combined with the fact that the Casino stop would also serve the Big Valley Rancheria, the Casino is included in the microtransit service area.

Another element to consider as part of this discussion is transfer patterns. The second most common transfer pattern on the day of the on-board survey was between Route 1 and Route 8 at the Sutter Hospital (10 passengers). This could increase productivity of a microtransit service as passengers transferring from Route 1 could be grouped.

Figure 25
Lakeport and West Shore Activity Centers



It is estimated that replacing Route 8 with microtransit would decrease operating costs by around $38,800 per year. As for ridership demand, one can expect at least a similar level of demand to the current Route 8 ridership which is about 3.5 trips per vehicle hour. Microtransit tends to increase ridership demand over fixed route service if microtransit is able to serve a larger number of neighborhoods more conveniently. In the case of Lakeport, most neighborhoods are within one-half mile of the fixed route. Another factor to consider is consistency. Having a fixed route schedule which can be counted on and doesn't change may be preferrable to a passenger needing to get to work or an appointment. According to surveys, 12 percent of Route 8 passengers were going to/from work. Therefore, it is assumed for this analysis that ridership on a microtransit service would not be significantly greater than existing ridership on Route 8 or roughly 27,000 annually, however as only one van would be used during non-peak hours, there would be some savings in annual operating subsidy. This is a small increase from Route 8 annual ridership figures of 300. After annual operating costs for the app are considered, this equates to an annual operating subsidy of around $16,000 less than existing Route 8.

Another option to consider is to "comingle" microtransit with Lakeport DAR. Currently DAR is carrying 1.3 passenger-trips per hour. This means there are times during the day that the DAR driver has no passengers and would be able to provide microtransit rides. DAR would also be assigned all microtransit trips which require a wheelchair lift. Comingling trips with DAR has the potential to increase response times and increase ridership on the proposed Route 8 microtransit service. Caution must be taken in that ADA regulations must continue to be met. ADA eligible rides cannot be denied because of a non-ADA microtransit ride, and ADA eligible rides must still receive priority on DAR.

If implemented, microtransit should use existing buses and drivers and operate as a pilot program. If successful, smaller zero-emission vans could be purchased for the service. Equity is another consideration. City of Clearlake residents may feel as if they are being treated inequitably if Lakeport residents have access to a door-to-door service.

Route 4 – Serve Konocti Vista Casino

Route 4 travels between downtown Lakeport, Kelseyville, Lower Lake and Clearlake on hourly headways using one bus. Similarly, Route 4a travels between Lakeport and Kits Corner but also serves the Konocti Vista Casino and Soda Bay. Route 4a has very low ridership and is not cost effective. If Route 4a is eliminated, as discussed above, there would be three fewer round trips a day between Konocti Vista Casino and Lakeport or Kits Corner. One option is to eliminate Route 4a as discussed above and include the Konocti Vista Casino in the Route 4 service area.

Factoring in the need for driver breaks and connections to Route 7, Route 4 could serve the Konocti Vista Casino/Big Valley Rancheria 4 times in the eastbound direction and 4 times in the westbound direction. This would not increase vehicle service hours as the time used to serve the Casino would come from extra layover time. Annual vehicle miles would increase by 4,435. According to Route 4a ridership data, less than one boarding a day occurs at the Konocti Vista Casino. Therefore, ridership would only be increased by around 125 one-way trips per year. Adding 10 minutes to half of the runs is also likely to inconvenience some passengers and reduce ridership slightly to around 110 trips per year. This equates to an annual operating subsidy of $2,800 per year.

Route 4 – Serve Riviera Shopping Center

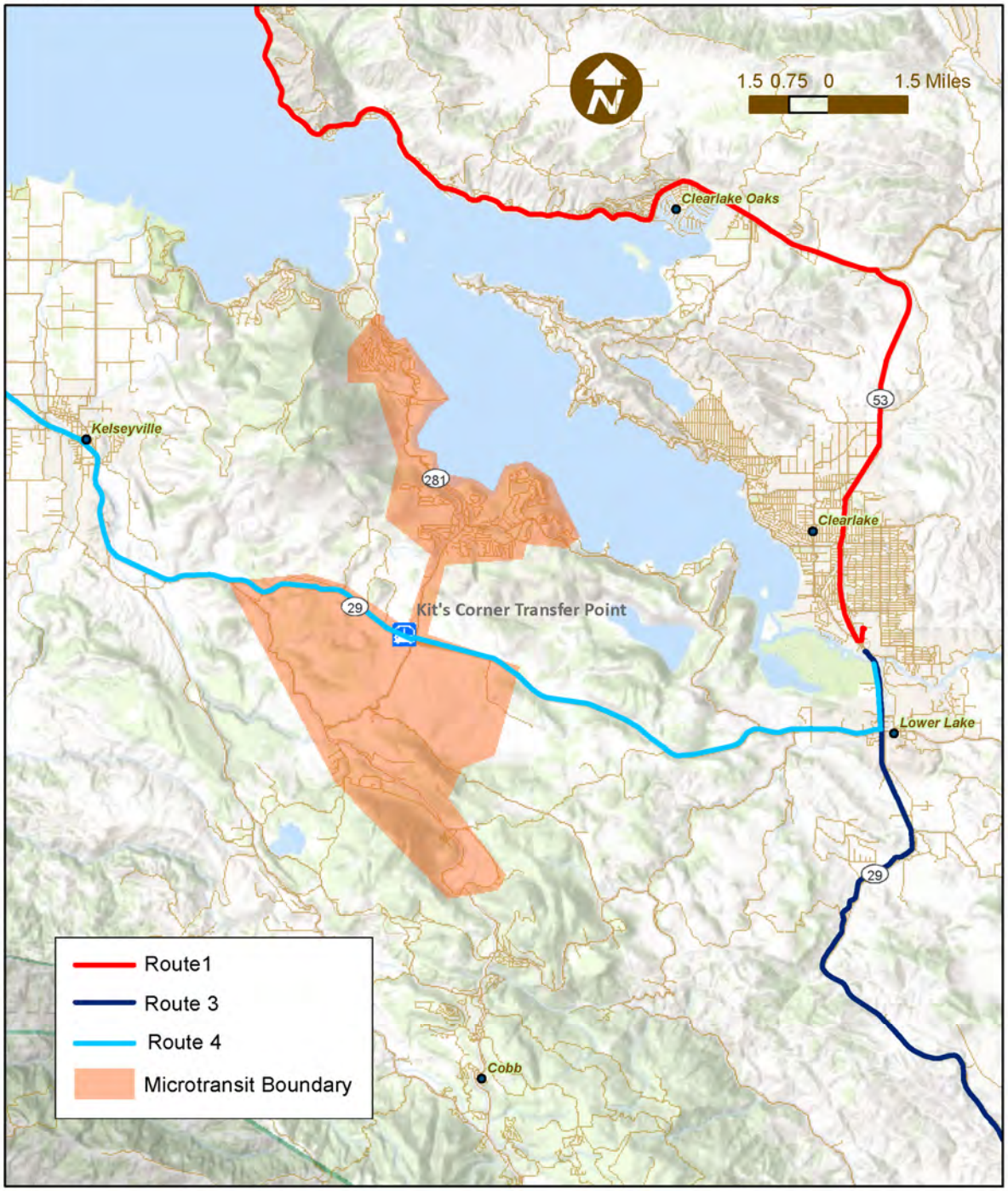
Similarly, Route 4 could spend an extra 7 minutes on 4 daily round trips serving the Riviera Shopping Center instead of the Casino (as the Casino is served by Route 8). This would only be needed if Route 4a were eliminated. Although timewise, service to Riviera Shopping Center would take a few less minutes each round trip than serving the Casino, the annual mileage would be slightly higher. Although there are a significant number of homes within a half mile walk of the Riviera Shopping Center, this stop on Route 4a sees less than one passenger boarding per day. Ridership on Route 4 would likely only increase by 110 trips per year and annual operating subsidy would increase by $4,400 per year.

South Clear Lake On-Demand Service

As noted above, Routes 2 and 4a both had very low productivity rates of less than one passenger-trip per hour in FY 2021-22. In this same fiscal year, Route 2 and 4a cost on average $133 and $99 per passenger trip to operate, respectively, whereas the system as a whole cost around $19 per passenger-trip to operate. Between April and September of 2022, Route 4a was suspended and Route 2 service was reduced to one quarter of the levels previously served. Monthly ridership on Route 2 has increased from around 70 trips per month to 200 trips per month as service was reinstated. Monthly ridership on Route 4a is similar to what it was before the route was suspended. Monthly ridership trends for the first three months of full operation (August – October 2022) show that the operating cost per trip for Route 2 dropped significantly to $58 per trip from $133 on Route 2. Route 4a operating cost per trips has stayed relatively similar at $91 per trip versus $99 in FY 2021-22. Regardless, both these routes are expensive on a cost per trip basis, do not attain the performance standards, and may not be the best use of public funds. However, there are Lake County residents in the communities of Cobb, Loch Lomond and Soda Bay who would no longer have a public transit option if Routes 2 and 4a were eliminated. Under this alternative, Routes 4a and/or 2 would be eliminated and replaced with an on-demand door to door service in the south Clear Lake area.

Under the first option, Route 4a would be eliminated and replaced with an on-demand microtransit service using one van. The purpose of the South Clear Lake On-demand service would be to connect residents with Route 4 at Kits Corner so that passengers could travel to either Lakeport or Clearlake; however, trips within the service area would be allowed. The van would be available from 8 AM to 5 PM, only three days a week, in an effort to be more cost effective. A specific service area would need to be defined so that service could be provided within 30 minutes and passengers could reliably make a connection to Route 4. Therefore, the boundaries of the service area should be no more than a 10-minute drive from Kits Corner. This equates to all of the Clear Lake Riviera and as far north on Soda Bay Road at Crystal Drive. To the south of Kits Corner, the service area would extend as far as Salmina Road off of Highway 175 (which includes very few homes). Other areas to the east and west along Highway 29 would also be served (which also includes very few homes). This area is shown in Figure 26.

Figure 26
South Clear Lake Microtransit



Route 4a travels right through the middle of the relatively dense community of Clear Lake Riviera (population of 4,400). An on-demand service has the potential to directly serve 5,200 homes instead of only those within a short walking distance of Soda Bay Road and Highway 175. Ridership demand on the South Clear Lake On-demand service is estimated to be similar to that seen in the community of Kelseyville which is served fairly frequently by Route 4. This equates to around 14 trips per day. Note that the existing Route 4a service carries around 6 trips per day. As the on-demand service would only operate three days per week, it would cost $13,000 less than operating Route 4a five days per week annually and carry nearly 1,110 more passenger-trips. It would be reasonable to charge $1.25 per one-way trip, which is equal to the current local fare.

The second option would be to also eliminate Route 2 as a small portion of the Route 2 service area could be served by the South Clear Lake On-Demand service. This would save around $111,000 annually over status quo but lose 990 trips. The communities of Cobb, Loch Lomond, Hobergs, and Anderson Springs would no longer have transit service.

Both of these options could be operated as either an on-demand Dial-A-Ride service or an on-demand microtransit service with an app available for requesting rides. The app would add around $500 per vehicle per month and $11,500 in fixed costs. The fixed technology costs could be shared with other services if multiple microtransit options are implemented. This cost is reflected in the annual operating subsidy requirements in Table 24.

Service Alternatives for the City of Clearlake

Shift Schedule for Route 12 to Provide More Frequent Service Overall for the City of Clearlake

Routes 10, 11, and 12 all serve the City of Clearlake. Route 10 has the most ridership out of all LTA routes, 37,000 annual one-way passenger-trips, and carries around 10 trips per hour. Route 11 is the second most productive of the three local Clearlake routes with 7 trips per vehicle hour while Route 12 has relatively poor ridership with 1,765 annual ridership and 3 trips per vehicle hour in FY 2021-22. It should be noted that Route 12 service was reduced during the pandemic and ridership has been increasing since being reinstated. Based on average daily ridership for July through September 2022, Route 12 will carry around 5,800 trips in FY 2022-23. All routes are operated on hourly headways using one bus for each route, and all routes meet at the Walmart transfer point at the top of the hour. Routes 10 and 12 serve a similar area with a few differences:

- Route 10 does a loop in the northern neighborhood along Bush Street.
- Route 10 serves the Veterans and Clearlake Family Clinics (Route 12 does not). These are high boarding locations.
- Route 12 serves the Walnut Grove Apartments and Senior Center and Woodland College (Route 10 does not). These stops are low boarding locations.
- Route 12 serves a loop in Lower Lake at the top of the hour while Route 10 does the same at the end of the hour.
- Route 10 serves stops along Old Highway 53 in the northbound direction only.

- Route 10 and Route 12 both serve the loop along Lakeshore, Olympic and Old Highway 53, but in opposite directions.
- Route 12 is in service from 8:00 AM to 5:00 PM; whereas Routes 10 and 11 are in service from 6:00 AM to 7:30 PM.

Route 11 focuses on serving the "Avenues" residential neighborhood along with the same main loop to Austin Park/City Hall. Route 11 also serves the Walnut Grove Apartments, Senior Center and Woodland College. Route 11 does not serve Lower Lake.

Over the years, Route 12 has been the first route to be reduced when there was a need for service reductions (COVID, etc.). This in turn can have the unwanted impact of passengers getting used to riding Routes 10 and 11 and no longer needing Route 12. Another reason for low ridership on Route 12 could be that scheduled timepoints at several major stops are within ten minutes of each other for the three routes. For example, total boarding and alighting data for the City of Clearlake show that Walmart, Burns Valley Mall and Austin Park/City Hall are the top three boarding locations. All three routes leave Walmart at the same time, then Route 10 serves the Burns Valley Mall at 10 minutes after the hour, Route 11 serves Burns Valley Mall at 22 minutes after the hour and Route 12 serves the same stop at 29 minutes after the hour. No routes arrive at the Burns Valley Mall for a 40-minute period. This means that most passengers at Burns Valley Mall and Austin Park/City Hall have already been picked up by Routes 10 and 11 by the time Route 12 arrives.

Therefore, one option is to shift the Route 12 schedule roughly 30 minutes off of the Route 10 schedule so that there is half-hourly service to most of the stops on Route 10. In this scenario, Route 12 would operate the loop to the north first and the loop to Lower Lake second, as Route 10 does. As seen in Table 26, a revised schedule allows for boardings at the Burns Valley Mall at 10 minutes past the hour (Route 10), 22 minutes past the hour (Route 11) and 42 minutes past the hour. Per the revised schedule, Route 12 could have a timed connection with Routes 10 and 11 at Walmart before Route 12 operates the Lower Lake Loop. Note that service to Lower Lake under this alternative would be similar as the current schedule which is roughly half-hourly service.

There would be no cost impacts to this alternative as service hours would not be increased, only shifted. However, ridership can be expected to increase by around 1,080 trips per year or 4 trips per service day. This would reduce the annual operating subsidy by $1,450 per year.

Table 26: Route 12 Example Revised Schedule

Walmart	Old 53 & Lakeshore	Austin Park	Burns Valley Mall	Senior Center	Old 53 & Lakeshore	Walmart	Woodland College	Lake County Social Services	Highway 53 & Main St.	Lower Lake High School	Walmart
8:28 AM	8:35 AM	8:40 AM	8:42 AM	8:46 AM	8:52 AM	9:00 AM	9:02 AM	9:06 AM	9:09 AM	9:12 AM	9:17 AM
9:28 AM	9:35 AM	9:40 AM	9:42 AM	9:46 AM	9:52 AM	10:00 AM	10:02 AM	10:06 AM	10:09 AM	10:12 AM	10:17 AM
10:28 AM	10:35 AM	10:40 AM	10:42 AM	10:46 AM	10:52 AM	11:00 AM	11:02 AM	11:06 AM	11:09 AM	11:12 AM	11:17 AM
11:28 AM	11:35 AM	11:40 AM	11:42 AM	11:46 AM	11:52 AM	12:00 PM	12:02 PM	12:06 PM	12:09 PM	12:12 PM	12:17 PM
12:28 PM	12:35 PM	12:40 PM	12:42 PM	12:46 PM	12:52 PM	1:00 PM	1:02 PM	1:06 PM	1:09 PM	1:12 PM	1:17 PM
1:28 PM	1:35 PM	1:40 PM	1:42 PM	1:46 PM	1:52 PM	2:00 PM	2:02 PM	2:06 PM	2:09 PM	2:12 PM	2:17 PM
2:28 PM	2:35 PM	2:40 PM	2:42 PM	2:46 PM	2:52 PM	3:00 PM	3:02 PM	3:06 PM	3:09 PM	3:12 PM	3:17 PM
3:28 PM	3:35 PM	3:40 PM	3:42 PM	3:46 PM	3:52 PM	4:00 PM	4:02 PM	4:06 PM	4:09 PM	4:12 PM	4:17 PM
4:28 PM	4:35 PM	4:40 PM	4:42 PM	4:46 PM	4:52 PM	5:00 PM	5:02 PM	5:06 PM	5:09 PM	5:12 PM	5:17 PM

Serve New Developments

It is important to review short-term planned developments to ensure that bus routes are serving new developments. The City of Clearlake has two housing projects which are currently being built and a proposed sports complex and hotel development:

- Oak Valley Villas – 80-unit complex near the intersection of Burns Valley Road and Rumsey Road. The units are considered affordable housing units reserved for those ranging from 30 to 60 percent of the median income.
- 102-unit housing complex off Hwy 53.
- City of Clearlake Sports Complex and Sports Field located off of Olympic/Burns Valley Road. This may include baseball fields, soccer fields, indoor recreation complex for use for public events, basketball courts, volleyball courts, concessions. The west side of the project would include a new public works yard and police complex to store vehicles and heavy equipment.
- Proposed 75-room hotel on the old airport property at the end of 18th Avenue.
- Proposed commercial retail complex on Dam Road Extension – This would be located within walking distance of the new transit center.

All these planned and proposed developments are located within walking distance of Clearlake fixed routes. For instance, Routes 11 and 12 already serve the Oak Valley Villas location almost directly, and even Route 10 is only one-half mile away, particularly if Route 10 passengers access the Oak Valley Villas through the back of the Burns Valley Mall property.

Clearlake Microtransit

On demand microtransit service was considered in the City of Clearlake. Routes 10, 11 and 12 have an average productivity rate of 8 passenger-trips per hour. This is very productive for a rural transit service. A sample of ridership data shows that during the 2:00 PM hour as many as 28 boardings occur on the combined Clearlake Routes. Even if many of these boardings were able to be grouped through a microtransit app, it would still require around 6 vehicles operating during that hour to meet the same level of demand which the three fixed routes (using 3 vehicles) are meeting now. Additionally, the majority of homes in the City of Clearlake are located within one-half mile (a reasonable walking distance) of the fixed route. As it would increase the number of vehicles needed to serve Clearlake and thereby increase costs while not expanding service area, microtransit is not a good option for Clearlake and is not considered further.

Lifeline Transit Service to Spring Valley

Spring Valley is a small community 7 miles north of Clearlake scattered along an approximate six-mile-long area between New Long Valley Road and Spring Valley Road. It consists of 400 rural residential households with a population of approximately 1,050. Serving this community has been identified as an unmet transit need multiple times.

Route 1 travels within 8 miles or roughly a 15-minute travel time of Spring Valley. There is not sufficient time in the schedule to serve Spring Valley on Route 1 in addition to the fact that it would severely inconvenience existing Route 1 passengers and reduce ridership. Therefore, one option would be to operate lifeline service from Clearlake/Lower Lake to Spring Valley two times per day, one day a week. This service would be by advance reservation only. One van could be used to travel to Spring Valley around 9 AM, pick up passengers along a loop including New Long Valley Road, Shasta Road and Spring Valley Road. Passengers could be dropped off at Walmart in Clearlake or Highway 53 & Main in Lower Lake before returning to the yard. As shown in Table 24, this would cost on the order of $10,700 annually. There are no zero-vehicle households in Spring Valley and 43 one-vehicle households. Ridership for Route 2 shows that on average 1.3 passengers board in the rural communities of Cobb and Loch Lomand. This equates to an annual ridership per capita of 0.27 for these communities. Applying this per capita rate and adjusting for the fact that Route 2 operates five days per week and three round trips per day, it is anticipated that lifeline service to Spring Valley would generate around 120 one-way passenger-trips annually.

Additional Planned Saturday Service

Reinstating Saturday Service was a common request for the on-board surveys. LTA recently reimplemented partial Saturday service in September of 2022 on Routes 1 ,4, 8, 10 and 11. As ridership continues to rebound and staffing shortages are resolved, LTA is planning on reinstating more Saturday service. In order to develop a five-year financial plan, it is important to estimate the costs and ridership impacts of planned service changes.

Currently Route 2, 3, 4a, 7 and 12 do not have Saturday service. Routes 2, 4a, and 12 did not operate on Saturdays even before the pandemic, and there is still no justification for Saturday service along these routes given their low ridership and the costs that would be required, particularly if the LTA budget is

anticipated to remain at or near status quo levels over the next five years. Therefore, adding Saturday service to Routes 3 and 7 are the only changes analyzed as part of this alternative.

Route 3 operates four daily round trips on weekdays between Clearlake and Napa County destinations with connections to St. Helena Hospital, Vine Transit and intercity transit services. Passengers wishing to make a day trip to Napa County from Lake County would need 4 hours or so in Napa to go to medical appointments or do errands. Therefore, at least two round trips on Saturday should be considered. This would cost on the order of $19,100. Based on ridership data by day for other transit agencies in Lassen and Butte counties, Saturday ridership typically represents roughly 50 percent of weekday ridership. However, according to on-board surveys, a good portion or roughly 45 percent of Routes 3 passengers use this bus for school, medical appointment or work purposes which would not likely occur on Saturdays. Therefore, it is estimated that Saturday ridership on Route 3 would be roughly 40 percent of average weekday ridership. This equates to an annual operating subsidy of $17,700. As Route 3 is partially funded with FTA 5311(f) grant money, half of the cost of operating Saturday service could be subsidized with FTA 5311(f) funds.

Route 7 is another LTA intercity route which travels between Lakeport and Ukiah. Four round trips a day are offered with connections to Greyhound, Amtrak and Mendocino Transit Authority (MTA) (which has connections to Santa Rosa). As with Route 3, two round trips per day should be considered for Saturday service to allow for a trip to and from Santa Rosa in one day. The existing 8 AM and 3 PM departures from Lakeport would allow for good connections with MTA to/from Santa Rosa. Saturday service on Route 7 would cost approximately $18,400 annually. Ridership for this alternative is estimated at 17 trips a day or 880 per year. This equates to an annual operating subsidy of $16,200 per year. As Route 7 also receives FTA 5311(f) funding, it is likely that a subsidy of only $8,100 per year would be required.

Add Sunday Service

Transit service on Sundays was a popular request in the surveys. Generally, Sunday ridership is roughly one-half of Saturday ridership. To operate Sunday service at levels similar to current Saturday service would cost of the order of $122,900 annually and carry an average of 112 trips each Sunday on combined Route 1, 4, 8, 10, and 11. This equates to an annual operating subsidy of $111,000.

Given the potential for low ridership and the high cost of providing service, another option would be to offer on-demand microtransit in the major community centers. A pilot project could be tested in the City of Clearlake by offering on-demand microtransit service on Sundays from 9:00 AM to 3:00 PM using two vans. This would cost on the order of $31,300.

Shasta Regional Transportation Agency implemented an on-demand microtransit service on Sundays in the City of Redding called Shasta Connect. Service operates from 6:30 AM to 7:30 PM and carries around 68 one-way passenger-trips daily. It is likely that ridership on a Sunday microtransit service in Clearlake would also have low ridership, particularly as microtransit is not currently available in Lake County so passengers are not familiar with the technology yet. Based on the microtransit ridership per capita rate for the Shasta Connect service in Redding, Sunday microtransit in Clearlake could be expected to carry around 12 trips per day on average.

If Saturday Service productivity levels remain at the 2 – 3 trips per hour level in Clearlake, another consideration would be to switch both Saturday and Sunday service to microtransit. This has the advantage of making the type of service provided on weekends more consistent; however, microtransit service available only 2 days per week may not be effective.

Intercity Service to Santa Rosa

The top out-of-county destinations for both on-board survey and community survey respondents was Ukiah and Santa Rosa. When asked about the likelihood of increased public transit usage if there was more service to Ukiah and Santa Rosa, 40 percent of community survey respondents said they would "definitely take transit". As part of the Transit and Intercity Rail Capital Program (TIRCP) grant awarded to LTA for construction of a new transit center in Clearlake, LTA will purchase 4 hydrogen fueled buses with associated infrastructure and expand out of county transit service to the Sonoma County Airport and the Santa Rosa Bus Terminal in downtown Santa Rosa. This section discusses a couple of options for providing out-of-county service to Santa Rosa over the short-term.

Extend Route 7

One option would be to extend Route 7 from the current terminus in Ukiah to Santa Rosa once a day. This would cost an additional $52,200 annually and take an extra 3 hours each service day. Route 7 is interlined with Route 4; therefore, adjustments to the overall driver schedule would need to be made. If the second westbound departure were extended to Santa Rosa, a one-way trip would take 3 hours for Lakeport resident and 4 hours for a Clearlake resident. This option would not allow for layover time in Santa Rosa.

This one additional trip to Santa Rosa from Ukiah would not significantly increase options for Lake County residents needing to travel to Santa Rosa. Currently, LTA passengers could take the first Route 7 westbound departure at 8:00 AM and arrive at the Pear Tree Center in Ukiah only 6 minutes prior to the departure of the MTA CC Rider Route 65 to Santa Rosa. In the afternoon the same passenger could ride MTA from Santa Rosa to Ukiah and have only a one-hour layover before returning to Lake County on Route 7. Amtrak and Greyhound provide intercity connections from Ukiah to Santa Rosa. Amtrak Thruway buses serve the Pear Tree Center at 2:05 PM seven days a week. Greyhound serves the Ukiah Airport at between 12:00 PM and 1:00 PM on select days of the week. With this in mind, it is estimated that extending Route 7 to Santa Rosa would increase annual ridership by 230 trips per year or 1 trip per day. In short, there is little benefit to duplicating existing intercity services between Ukiah and Santa Rosa.

Extend Route 3

Perhaps a better option is to extend Route 3 from Calistoga to Santa Rosa once a day. This would cost around $21,600 less than the Route 7 option and add two vehicle hours daily instead of three. Currently, there are no connecting services between Calistoga and Santa Rosa. In this scenario the second southbound Route 3 trip (7:55 AM departure) could be extended to Santa Rosa. Service to the St. Helena Hospital would need to be shifted to the 6:10 AM southbound run. This would allow connections from Lakeport on Route 1 at Walmart at 7:55 AM. The same bus would depart Santa Rosa at around 10 AM and return to Clearlake around 12:10 PM. It would take a Clearlake resident 2 hours to get to Santa Rosa and a Lakeport resident 3.5 hours. Ridership would likely be greater on this option than the previous Route 7 option; however, demand would be limited as this scenario does not allow for a round trip and

there are currently options to travel to Santa Rosa via Route 7 and MTA, Amtrak or Greyhound. Route 3 does not interline with other routes, so significant schedule adjustments would not be required.

On average 3 to 4 passengers board or alight in Deer Park and Calistoga daily. According to on-board surveys, both of the Route 3 respondents travelling to Calistoga were going to work. As mentioned above this alternative would primarily service Lake County residents needing to transfer to intercity transit services. Intercity ridership per capita rates for other intercity transit services in Modoc County were reviewed and applied to the City of Clearlake. With all these factors in mind, it is estimated that roughly 3 passenger-trips per day would be generated by an extension to Santa Rosa. It would be reasonable to charge a higher intercity fare to Santa Rosa ($6.00 vs. $5.00 to Calistoga) This leads to an annual operating subsidy of $26,000.

Both of these options could be included on a future FTA 5311(f) application to reduce local operating subsidy requirements by one half.

COMPARISON OF SERVICE ALTERNATIVES AND PERFORMANCE ANALYSIS

The productivity and cost-effectiveness of the alternatives discussed above are compared in Table 27 and Figures 27-31.

Change in Ridership over Base Case Scenario

Ridership impacts of all the alternatives are presented in Figure 27. As shown, Increasing Frequency on Route 1 would have the greatest positive impact on ridership, 7,800 trips, followed by Sunday Service on the Fixed Routes, 5,940 trips. Serving the Konocti Vista Casino or the Riviera Shopping Center on Route 4 would have very little increase over base case scenario ridership, as would lifeline service to Spring Valley. Of the alternatives which eliminate or reduce transit service, South Clear Lake On-Demand, eliminate 4a option would actually increase ridership (1,110 trips) although service is decreased.

Change in Operating Cost Impacts from Base Case Scenario

Figure 28 compares marginal (change from base case) operating costs of the alternatives discussed above. Increasing Frequency on Route 1 or adding Sunday Fixed Route service would increase the annual operating budget by over $120,000. Shifting the Route 12 Schedule would have no impact on operating costs and Replacing Route 8 with Microtransit would decrease annual operating costs by $38,000. Of the options which eliminate or decrease service, South Clear Lake On-Demand, Eliminating Route 4a and 2 would save the most money, $111,000 per year.

Change in Productivity from Base Case Scenario

For the alternatives which increase vehicle service hours over the base case scenario, Increased Frequency on Route 1, Sunday Fixed Route Service and Sunday Microtransit Service in Clearlake will increase productivity by or above 2 trips per vehicle hour. For the South Clear Lake On-Demand, Eliminate Route 4a option, for every vehicle hour eliminated there will be an increase in 3.9 passenger-trips (Figure 29). For the option eliminating both Routes 4a and 2, only 0.5 passenger-trips would be lost for every vehicle-hour of reduced service

Table 27: Comparison of Service Alternatives

FY 2023-24

Shading Indicates Does Not Meet Minimum Standard

Shading Indicates Meets Minimum Standard

Alternative	Change from Existing Service: Annual Ridership	Change from Existing Service: Annual Operating Cost (1)		Performance Measures: Marginal Operating Cost per Veh-Hour	Marginal Farebox Ratio	Marginal Passenger-trips per Veh-Hour	Marginal Operating Cost per Passenger Trip	Operating Cost per Trip Minimum Standard	Marginal Subsidy Per Passenger-Trip
Status Quo (Systemwide Total Costs)	196,364	$3,414,282		$91	11%	5.25	$17.39	$19.50	$8.27
Alternatives Which Increase or Maintain Service									
Route 1 - Add 4 RT Using One Additional Bus	7,800	$171,700		$57	9.1%	2.6	$22.01	$20.00	$20.01
Route 4 - Serve Konocti Vista Casino	110	$3,000		NA	4.2%	NA	$27.27	$40.00	$25.45
Route 4 - Serve Riviera Shopping Center	110	$4,600		NA	4.3%	NA	$27.27	$40.00	$40.00
Route 7 - Replace Final RT with Early RT	-130	$30,200	2	$60	-1.1%	-0.3	-$232.31	$40.00	-$234.92
Route 12 - Shift schedule by 30 minutes	1,080	$0		NA	--	NA	$0	$12.50	-$1.34
Lifeline service to Spring Valley	120	$10,700		$51	2.2%	0.6	$89.17	$45.00	$87.17
Sunday Service - Fixed Routes 1, 4, 8, 10, 11	5,940	$131,200		$57	9.1%	2.6	$22.09	$19.50	$20.08
Clearlake Sunday Service - Microtransit	600	$54,800	3	$100	3.2%	1.9	$91.33	$50.00	$89.67
Route 7 - Extend to Santa Rosa 1 RT	230	$51,400	2	$68	1.6%	0.3	$223.48	$40.00	$220.00
Route 3 - Extend to Santa Rosa 1 RT	630	$29,800	2	$59	7.0%	1.3	$47.30	$40.00	$43.97
Alternatives Which Decrease Service									
Route 2 - Reduce Service to 3 days per week	-600	-$29,700		$58	4%	1.2	$49.50	$45.00	$47.50
Route 2 - Eliminate Service	-2,100	-$98,000		$54	4%	1.2	$46.67	$45.00	$44.67
Route 4a - Reduce Service to 3 days per week	-400	-$34,100		$61	3%	0.7	$85.25	$45.00	$83.05
Route 4a - Eliminate First Daily Roundtrip (9:16 AM)	-250	-$19,600		$60	3%	0.8	$78.40	$45.00	$76.00
Route 4a - Eliminate service	-1,560	-$80,800		$59	4%	1.1	$51.79	$45.00	$49.62
Route 8 - Replace with Microtransit	-210	-$19,400	3	$27	1.2%	0.1	$92.38	$12.50	$90.48
South Clear Lake Microtransit, Eliminate Route 4a	1,110	$3,900	3	$76	5%	-6.2	$3.51	$50.00	$4.14
South Clear Lake Microtransit, Eliminate Route 4a and	-993	-$94,100	3	$56	4%	0.5	$94.81	$50.00	$83.83

Note 1: Does not include fixed costs except for Status Quo Option

Note 2: Does not include competitive FTA 5311(f) grant funds

NA = Not applicable, as vehicle-hours do not change.

Note 3: Includes technology costs for microtransit app

Figure 27: Annual Ridership of LTA Alternatives

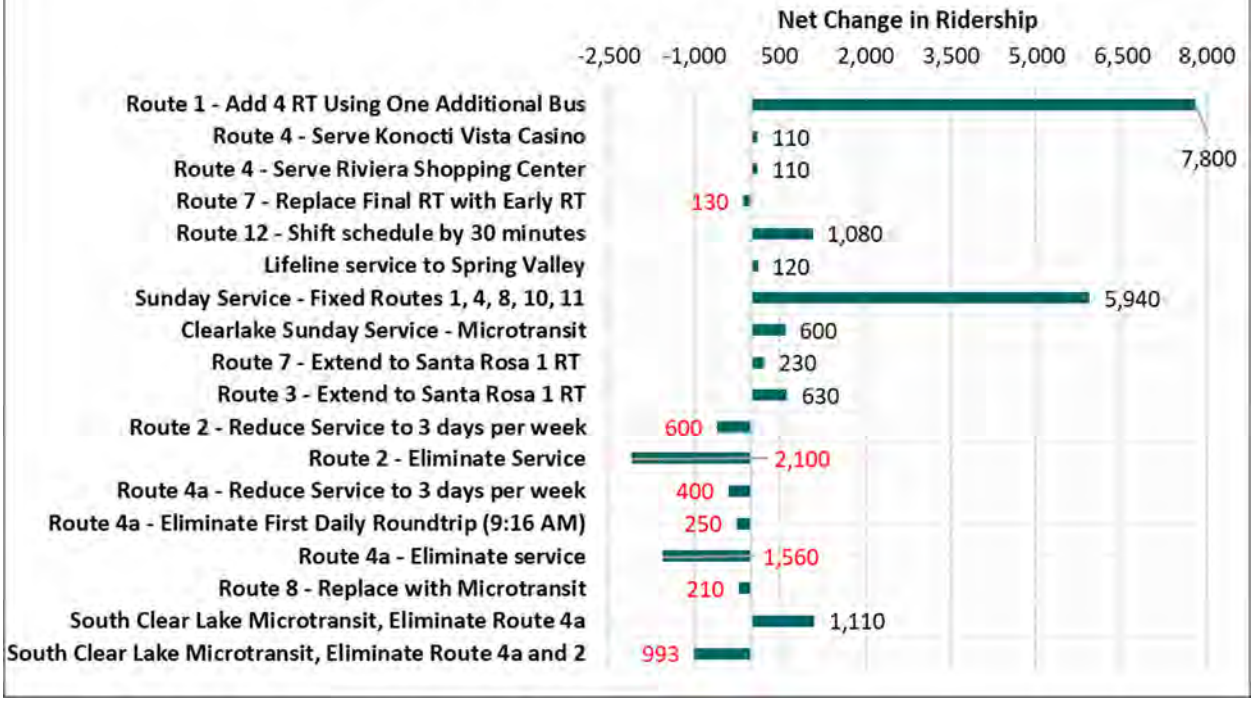
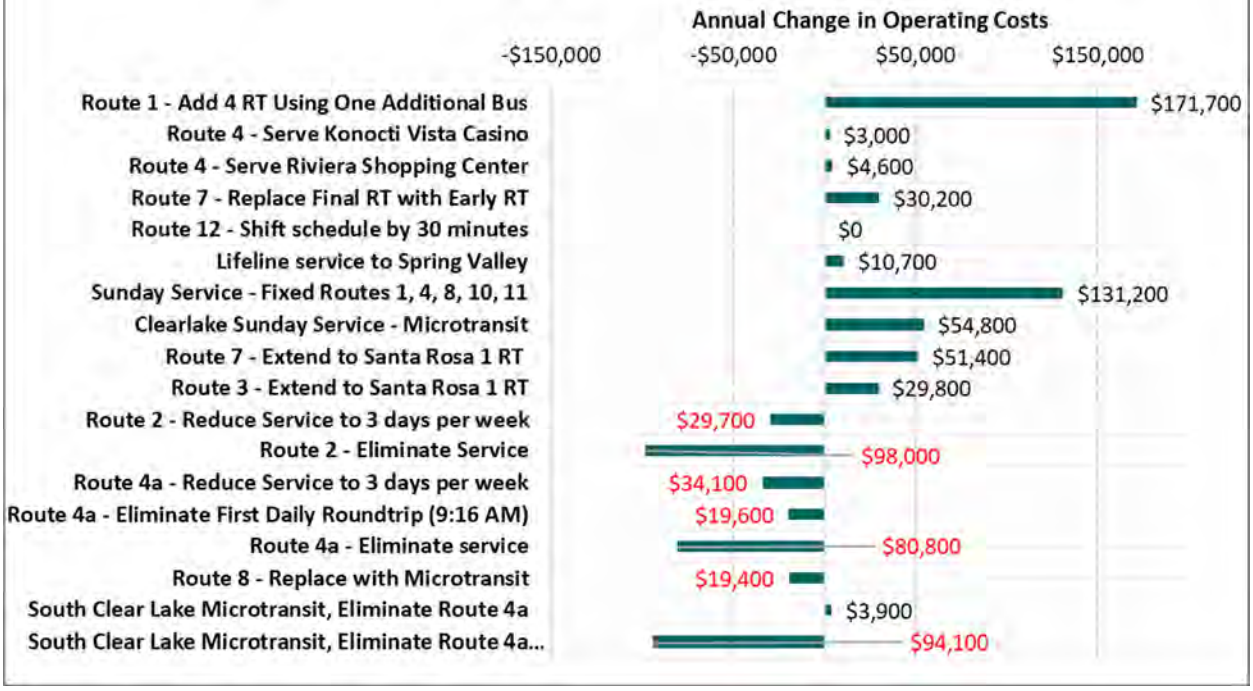
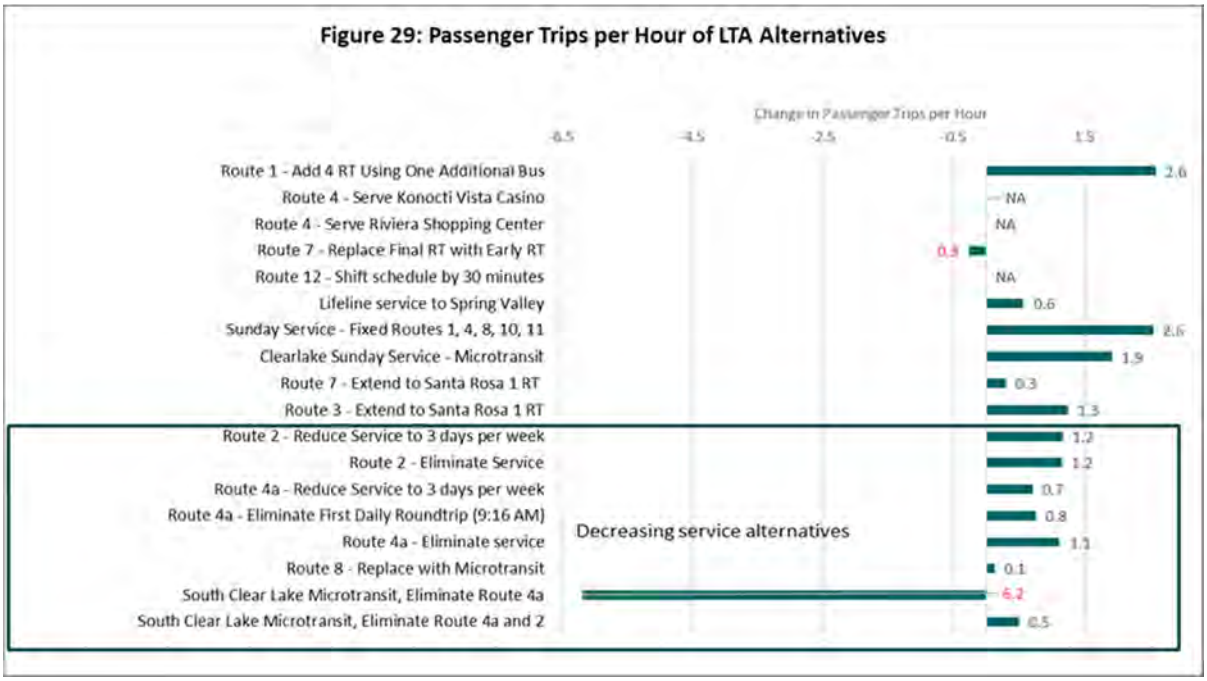


Figure 28: Annual Operating Costs of LTA Alternatives





Change in Operating Cost per Trip from Base Case Scenario

For the alternatives which increase or maintain service, the following meet the LTA minimum standard for the specific type of service (as shown in Table 20c of Chapter 5), as noted by the green shading in Table 27:

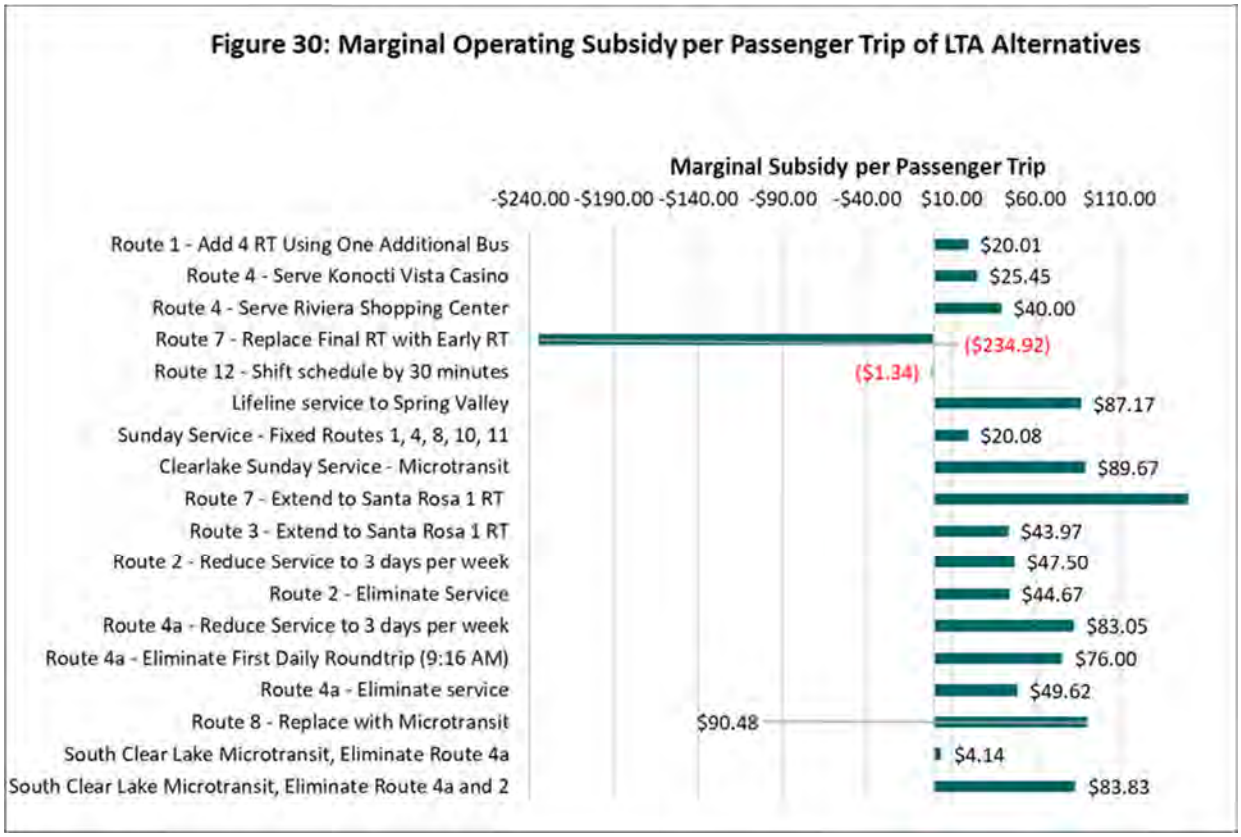
- Route 4 - Serve Konocti Vista Casino
- Route 4 - Serve Riviera Shopping Center
- Route 7 – Replace Final RT with Early RT
- Route 8 - Replace with Microtransit
- Route 12 - Shift schedule by 30 minutes
- Route 3 - Extend to Santa Rosa 1 RT

For those alternatives that decrease ridership and decrease cost requirements, a higher figure is better, in that it indicates a greater funding savings for every passenger trip eliminated. All the decreasing service alternatives will save at least $50.00 per passenger-trip eliminated and are therefore considered to be consistent with the performance measure. The South Clear Lake On-Demand Eliminate Route 4a and Replacing Route 8 with microtransit option decreases service but increases ridership, resulting a negative number that reflects a positive change.

Change in Operating Subsidy per Trip from Base Case Scenario

As shown in Figure 30, Replacing Route 8 with Microtransit will decrease operating subsidy by $116 for every passenger-trip gained. Although this alternative has a modest ridership increase, there is the potential for good operating subsidy savings. Lifeline service to Spring Valley and Extending Route 7 to Santa Rosa will be rather expensive to implement when compared on an operating subsidy per trip basis.

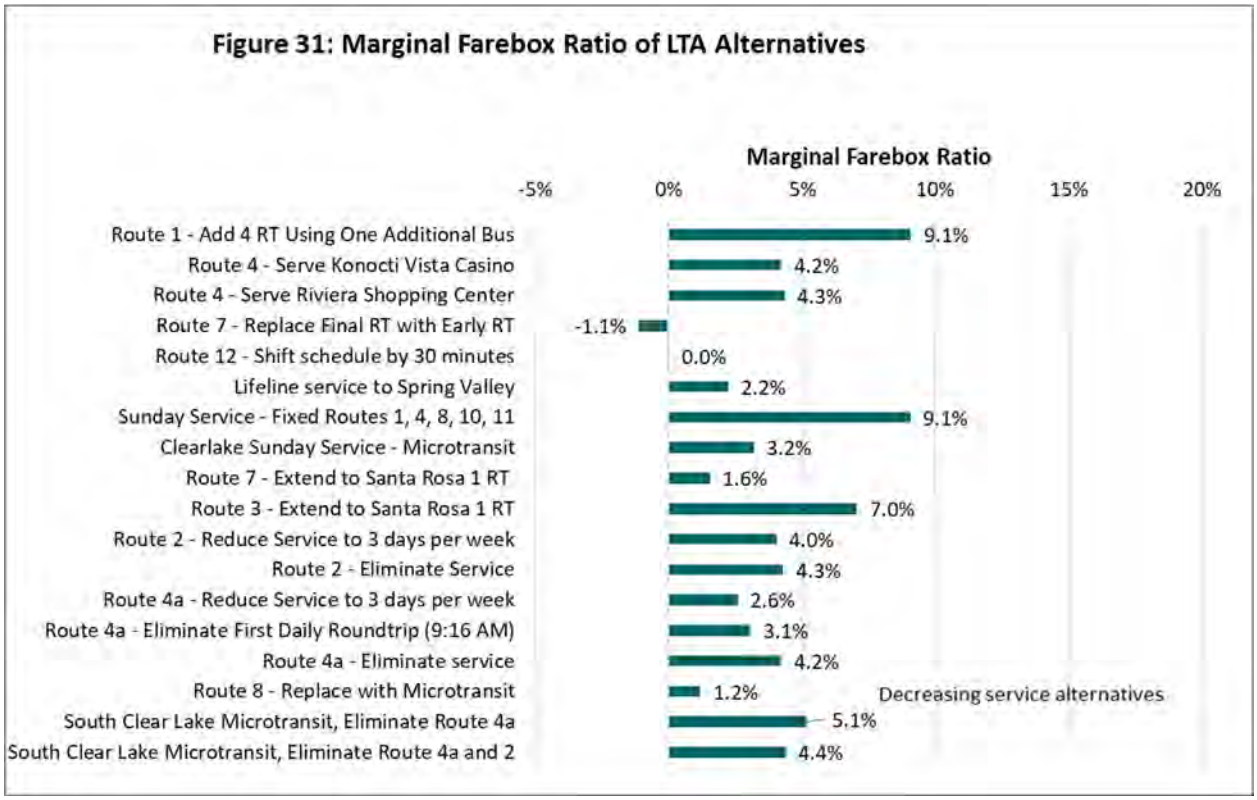
For alternatives which decrease service, again, higher figures are better as they represent the greatest savings per trip lost.



Change in Farebox Ratio from Base Case Scenario

Finally, the marginal farebox ratio (marginal fare revenues divided by marginal operating costs) can be calculated. This is useful in assessing whether individual service alternatives help to attain the overall local farebox ratio standard of 10 percent (Figure 31):

- Of those that increase both fare revenues and costs, only the Route 3 extension to Santa Rosa of meets the TDA standard of 10 percent, although increasing frequency on Route 1 is close at 9 percent.
- Alternatives that decrease both fare revenues and costs are consistent with the standard, if the farebox ratio is below the 10 percent minimum standard. All of the decreasing service alternatives fit into this category.
- Those alternatives that increase fare revenues while decreasing costs or with no cost impacts are consistent with the standard, though this results in a negative ratio. Replacing Route 8 with microtransit and shifting the schedule for Route 12 fit into this category.



Performance Analysis Findings

There are a few options in the service alternative analysis which stand out:

- Replacing Route 8 with microtransit has the potential for operating cost savings combined with a small increase in ridership. However, this would also require procurement of software which would add to the annual costs. There may also be an adjustment period for passengers to get used to the new service. However, microtransit is becoming popular in many areas and could help to "revive" public transit ridership.
- Route 7 – Eliminating the Last Round Trip and Replacing with an Earlier Round trip has the potential for ridership increase with a relatively low operating subsidy, as this route is partially funded with FTA grants. This would also address public/stakeholder requests for better service to Ukiah while increasing frequency on Route 4.
- Shifting the Route 12 Schedule by 30 minutes is another alternative which does not increase costs, yet increases ridership in the City of Clearlake.
- Increasing Frequency on Route 1 would bring in a significant increase in ridership while almost making the 10 percent farebox ratio. This alternative comes with a high price tag and should only be considered if sufficient revenue is available throughout the five-year planning period.
- Extending Route 3 to Santa Rosa via Calistoga would meet operating subsidy and farebox ratio standards if a higher fare is charged and FTA 5311f funds are procured. This alternative would address the public's desire for more service to Santa Rosa and could be the first step to a more frequent intercity service when TIRCP grant fund vehicles are acquired.

- Eliminating the First Roundtrip on 4a provides the most cost savings for every passenger-trip eliminated of all the alternatives which reduce service.
- Replacing Route 4a with a South Clear Lake microtransit service would reduce subsidy needs and would increase ridership by providing service beyond the existing fixed route.
- Replacing both Routes 2 and 4a with a South Clear Lake microtransit service would save a significant level of subsidy funding ($114,400). It would reduce ridership by a modest amount (1,403 per year) and eliminate transit service to the Cobb and Whispering Pines areas, but the existing Route 2 service is very cost-inefficient.

LAKE LINKS PROGRAMS

As the Consolidated Transportation Service Agency (CTSA) for Lake County, Lake Links provides and administers transportation services for seniors, disabled persons, and low-income individuals when fixed route or DAR service is not available. Lake Links administers the Medi-Links program which provides Non-Emergency Medical Transportation service to Ukiah and Santa Rosa, using Paratransit Services drivers and LTA vehicles. As noted in Chapter 4, the NEMT Ukiah and Santa Rosa programs are very expensive to operate with respective cost per trip of $226 and $312.

A much more cost-effective program is the Pay Your Pal program. This is a transportation reimbursement program where qualified passengers ask a friend or family member take them to the medical appointment and they are reimbursed at $.40 per mile. Pay Your Pal data indicates that the average cost per trip to Ukiah was $15.70 and the average cost per trip to Santa Rosa was $20.26. This is significantly less than the Medi-Links program.

For this reason, Lake Links is in the process of starting a new volunteer driver program called Ride Links. Lake Links will recruit volunteers to drive qualified passengers to medical appointments, grocery stores, pharmacies, community events, and other necessary trips in the volunteer's insured vehicle. Volunteers would need to go through a background check process. Before the program can be implemented, Lake Links needs to acquire supplemental insurance for the agency. This program will be beneficial for qualified passengers who do not have a friend or family member to drive them to their appointment. Finding appropriate insurance is proving to be challenging, but once active, the program will provide a more cost-effective method of non-emergency medical service than the Medi-Links program. Eventually, it is possible that Lake Links may also acquire one to two vehicles for volunteers to use.

The most recent round of FTA 5310 grant applications redefined the roles of LTA and Lake Links in funding various trip purposes. LTA is now responsible for paying for all NEMT trips provided by either Lake Transit or Lake Links. Lake Links will be responsible for paying for all non-medical trips provided through the volunteer driver program or the Pay Your Pal program. Pay Your Pal is still a great option for destinations not served by LTA or served infrequently, especially as it can now be used for other essential trips such as shopping, banking, etc. In the future, Lake Links could possibly consider raising their reimbursement rate to the IRS reimbursement rate of $0.62 per mile to keep pace with rising gas prices

This page intentionally left blank

Chapter 8
CAPITAL ALTERNATIVES

This chapter describes potential projects and alternatives related to the capital needs for the transit system. Capital includes vehicles and their associated technology, bus stops, and maintenance/storage facilities. Marketing strategies are also discussed towards the end of the chapter.

VEHICLE REPLACEMENT

A transit agency needs a vehicle fleet that is safe and appropriate for the services it provides. As discussed in Chapter 4, LTA has a fleet of 33 vehicles, 28 of which are active. These vehicles range in size from small vans used for paratransit services to full-size buses used for the fixed routes. Lake Transit will need to replace nearly its entire fleet over the next ten years (Table 28).

Table 28: Fleet Replacement Requirements

Fiscal Year[2]	Fixed Route Vehicles				Dial-A-Ride Vehicles				Total Cost of Vehicle Needs
	Number of Vehicles			Subtotal of Cost	Number of Vehicles			Subtotal of Cost	
	Gas/Diesel Vehicles	Electric Vehicles	Total		Gas/Diesel Vehicles	Electric Vehicles	Total		
22/23	5	0	5	*$1,575,000*	0	0	0	*$0*	*$1,575,000*
23/24	5	0	5	*$1,622,300*	1	0	1	*$88,700*	*$1,711,000*
24/25	5	0	5	*$1,670,900*	0	0	0	*$0*	*$1,670,900*
25/26	0	0	0	*$0*	2	0	2	*$188,200*	*$188,200*
26/27	1	1	2	*$1,300,000*	0	0	0	*$0*	*$1,300,000*
27/28	2	1	3	*$1,704,100*	0	1	1	*$365,200*	*$2,069,300*
28/29	0	1	1	*$1,003,000*	0	0	0	*$0*	*$1,003,000*
29/30	0	1	1	*$1,033,100*	0	4	4	*$1,549,600*	*$2,582,700*
30/31	0	0	0	*$0*	0	0	0	*$0*	*$0*
31/32	0	3	3	*$3,288,000*	0	0	0	*$0*	*$3,288,000*
Total	**18**	**7**	**25**	**$13,196,400**	**3**	**5**	**8**	**$2,191,700**	**$15,388,100**

Estimated Current Cost of Vehicles	Gas/Diesel	Electric/ Hydrogen
	$300,000	$800,000

Gas/Diesel	Electric
$82,000	$300,000

Note 1: All costs include 5.0 percent annual inflation in 2022/23, and 3.0 percent thereafter.
Note 2: By 2026, 25% of LTA new vehicle purchases are required to be zero emission. By 2029, this increases to 100%.
Source: LSC Transportation Consultants, Inc.

The State of California's Innovative Clean Transit (ICT) Regulation will go into effect during the current planning period. Beginning in 2026, the ICT regulation will require 25 percent of small fleet bus purchases to be zero-emissions buses (ZEBs). By 2029, this requirement will increase to 100 percent. To receive an exemption from the ICT regulation, LTA must demonstrate one of the following applies: there was an uncontrollable delay in construction of its ZEB infrastructure, current ZEB buses available on the market cannot meet daily mileage needs, or current ZEB buses do not have adequate gradeability performance. LTA will likely qualify for one of these exemptions because of the high number of daily service miles and mountainous terrain covered by many of the fixed route buses. ZEBs are much more expensive than gas- or diesel-powered buses (as seen in Table 28), therefore the ICT regulation also offers a financial exemption if transit agencies can demonstrate that purchasing ZEBs is not financially feasible. The ICT regulation only applies to vehicles that weigh over 14,000 pounds.

Table 28 shows the estimated costs of replacing LTA's fleet of vehicles during the next ten years under the assumption that LTA does *not* apply for or receive an exemption from the ICT regulation. In this scenario, LTA would need to purchase two ZEBs, one full-size bus and one DAR vehicle, in this planning period (which ends in FY 2027-28). LTA would then need to purchase twelve ZEBs in total between FY 2026-27 and FY 2031-32. Overall, given current prices and expected inflation, LTA would need to spend approximately $15 million in the next decade to meet its vehicle replacement needs (Table 28). If LTA purchases hydrogen-fueled buses, the agency should expect to spend even more on new vehicles.

While it is likely LTA will be exempted from the ICT Regulation when it first goes into effect, LTA still needs to begin planning its ZEB rollout, including what type of vehicles will be purchased and where charging infrastructure will need to be constructed. It is possible to apply for FTA 5311, FTA 5339 or FTA 5339(c)Low or No Emission Vehicle Program funding to both purchase ZEBs and to modify facilities to accommodate charging infrastructure. Lake Transit has already secured funding for four hydrogen-fueled buses and associated charging infrastructure through its Lake Transit Interregional Transit Center grant application, described below.

Additional Vehicles for Service Alternatives

Only one of the service alternatives discussed in Chapter 2 would require Lake Transit to operate an additional vehicle: increasing the frequency of Route 1. Lake Transit's current fleet size is more than large enough to operate the existing services, meaning that if the service frequency on Route 1 were to be increased, Lake Transit already has enough buses to operate the expanded service. However, using an additional bus to serve Route 1 more frequently would lower the number of back-up buses available when other buses need to undergo maintenance.

If Lake Transit officially increases the service frequency on Route 1, then Lake Transit would likely need to purchase an additional new bus within the next five years in order to ensure its fleet has the capacity to operate all transit services, even when there are unexpected issues with vehicles. Purchasing a full-size bus would cost approximately $200,000, or more depending on inflation in upcoming years (Table 28). LTA would also need to consider the ICT Regulation (discussed in the previous section) if they procure the additional bus after January 2026. However, Lake Transit would only need to purchase a smaller microtransit van if Route 8 is also replaced with microtransit in addition to Route 1's frequency being increased, as the full-sized buses used for Route 8 would then be available to operate Route 1.

AUTOMATIC PASSENGER COUNTERS

On-board technology can collect transit operations data in real time and generate useful summary reports, eliminating the need to record data manually and reducing the potential for error. Although there is always a measurable cost up front when purchasing new technology, LTA could use the data collected by Automatic Passenger Counters (APCs) to greatly assist with transit planning.

APCs are devices which collect detailed boarding information by either recording or sensing passengers as they board and disembark from the bus. For APCs that use video, counting software detects how many people are entering and exiting in the video of the bus doorways, generating boarding and alighting counts. For the APCs that use infrared beams, the units are installed so an infrared beam goes across the doorway and then software detects when someone boards or alights and breaks the beam. The count

data generated by each system is then sent via the internet to generate a live report. APCs can be integrated with the onboard GPS to develop a map of boardings and alightings. Top models of APCs count 98 percent of boardings and alightings accurately, which is a vast improvement over the 85 percent accuracy, on average, of human-recorded boarding data.

Companies that manufacture both the hardware and software for bus APCs include Connexionz, DILAX Systems Inc., Passio, and TripSpark, among many others. There are also some vendors which make either just the hardware or just the software. It is recommended that LTA develop a Request for Proposals (RFP) to select a vendor to install the APCs and to integrate the devices with the existing hardware/software already being used on Lake Transit buses. Prices can vary greatly depending on the vendor and the size of the transit fleet; costs to purchase and install APC hardware have been cited to range from $4,000 to $10,000 per bus. Annual maintenance costs for the APCs have been quoted as ranging from a few hundred to a few thousand dollars per year. Software is estimated to cost between $100,000 to $250,000 to install, and then between $1,000 to $5,000 annually.

ELECTRONIC FARE PAYMENT SYSTEMS

Currently, each LTA bus is equipped with a farebox. At the end of the day, the driver removes the farebox from the bus and places it in the vault room, which is monitored by cameras and a security system. Two staff members then go through the fareboxes to count the cash fares. Paratransit Services, Inc., deposits the cash fares and deducts the total from the monthly invoice sent to LTA.

LTA's current system is limited in that passengers can only pay with cash onboard. There is also the issue that the current fare reconciliation process can be affected by human error. Electronic fareboxes address both of these issues, collecting both cash and digital payments and providing data that can be exported into reports for LTA. Similar to the recommended procurement process for APCs, if LTA is interested in upgrading to electronic fareboxes it is recommended that LTA develop an RFP to select a vendor for the needed hardware and software.

Examples of electronic payment systems that accept both cash and card payments are the Aries 5 Farebox by Payment in Motion and the Fast Fare® Farebox by Genfare. Prices once again can vary greatly depending on the vendor or the contract, however new fareboxes have often been cited to cost between $12,000 and $18,000 each, excluding annual software costs. Annual maintenance costs would be similar to those for APCs, ranging from a few hundred to a few thousand dollars. It would be important to get electronic payment systems that integrate with LTA's existing onboard technology.

LAKE COUNTY INTERREGIONAL TRANSIT CENTER

The 2015 TDP identified the need for a new transit center in Clearlake as a high priority capital project that should be initiated as soon as possible. Since 2015, Lake Transit has made major headway towards constructing a new transit center. First, the Lake APC was selected for a Caltrans Sustainable Transportation Planning Grant, which was used to fund the Transit Hub Location Plan (2017). This plan identified the preferred location for the new transit center (the intersection of South Center Drive and Dam Road Extension in Clearlake) as well as potential funding sources. The information presented in the Transit Hub Location Plan was then used to develop Lake Transit's successful 2020 Transit and Intercity Rail Capital Program (TIRCP) grant application.

LTA plans on using the funds received from the TIRCP grant (almost $13 million) to construct the new transit center, purchase four fuel cell electric buses (powered by hydrogen) and the needed fueling/maintenance infrastructure, and support local workforce development. The new transit center will also be a part of the greater North State Intercity Bus System network, a project that will enhance regional connectivity in northern California. The hydrogen bus fueling and maintenance infrastructure will be installed at LTA's Lower Lake Yard, only 1.5 miles from the proposed lot for the transit center. Some of the important design features of the future transit center site are eight bus bays, six of which will be oriented in a "sawtooth" pattern, three electric bus charging bays, a parking lot for commuters with electric vehicle charging stations, and the transit center itself, with offices, bathrooms, and a waiting area for passengers. The transit center will have bike lockers, a breezeway with seating, and solar panels.

Source: LTA TIRCP Application

Lake Transit hired GHD, Inc., in September 2021 to begin analyzing the project's potential environmental impacts to determine compliance with the California Environmental Quality Act (CEQA). Based on the results of GHD's analysis, Lake Transit developed an Initial Study and Mitigated Negative Declaration (IS/MND) that was available for the public to review and provide comments on from August 8 to September 8, 2022. The LTA board approved the recommended IS/MND and associated Mitigation Monitoring and Reporting Program at their meeting on September 14, 2022. LTA will now be able to proceed with the design stage of the project and will soon be releasing an RFP for architectural and design services for the new transit center and the fueling infrastructure at the Lower Lake Yard.

Once Lake Transit selects a firm through the RFP process, next steps will include procuring a contractor to take on construction, procuring the new hydrogen buses, contributing to the Automotive Technology Program at Mendocino College, and a marketing campaign to advertise the new transit center. LTA already has a performance monitoring program identified as well. In the future, the new transit center may require LTA to adjust the fixed route schedules slightly. The process of designing and constructing the new transit center in Clearlake and procuring/deploying the new hydrogen buses will be an ongoing process that will hopefully be completed during the current planning period, significantly upgrading LTA's current capital infrastructure. As the process continues, LTA will coordinate with the City of Clearlake to assess and make recommendations on how to improve multimodal access to the transit center facility.

PASSENGER AMENITY IMPROVEMENTS

As discussed in the "Passenger Amenities" section of Chapter 4, passengers have often requested more and improved amenities at Lake Transit bus stops. The *Bus Passenger Facilities Plan* (2019) included an inventory of existing LTA stops, the amenities at each stop, and the state of these amenities. The plan also identified design standards that should be used when planning bus stop improvements. Overall, it was recommended that LTA focus on upgrading bus stops with high ridership and few existing amenities.

Lake Transit has already begun replacing signposts and installing new bus stops shelters at locations recommended by the *Bus Passenger Facilities Plan*. Lake Transit also completed a new bus turnout and bus stop upgrades at Austin Park. The new Lake County Interregional Transit Center, which is expected to be completed during this planning period, will also greatly improve the experience of LTA passengers traveling through Clearlake and replace the existing stop at Walmart, which was identified as being a high priority stop for improvements. Based on the bus stop inventory in the *Bus Passenger Facilities Plan,* stops that have or are already being worked on, and the boarding and alighting counts conducted in May 2022, stops that should be prioritized for upgrades (excluding bus pullouts) include Sutter Lakeside Hospital, Robinson's Rancheria Casino, Burns Valley Mall, and the Veteran's Clinic in Clearlake.

During the next five years, it is recommended that Lake Transit continue to upgrade bus stops based on the criteria described in the *Bus Passenger Facilities Plan* (improve stops with high ridership and poor amenities). Although LTA will have to allocate a large amount of funding for bus procurement and the new transit center during this planning period, additional capital funding should be used for passenger amenity improvements. Potential funding sources are as follows: FTA 5310 funds, FTA 5311 funds, FTA 5339 funds, Community Development Block Grants, TDA funding, the State of California Road Repair and Accountability Act, and Low Carbon Transit Operations Program (LCTOP) funds.

MARKETING IMPROVEMENTS

Marketing is an important component behind any transit agency's success. Lake Transit's current marketing materials were summarized in Chapter 4. The 2015 TDP presented an extensive list of marketing strategies and improvements, many of which have been implemented in the years since the plan was approved. This section presents a brief list of potential marketing improvements, summarized in Table 29, that build on the strategies included in the 2015 TDP and could ultimately improve communications with both current passengers and potential new riders.

Physical Presence

One of the most basic, yet important, ways to increase public awareness of the transit system is to increase the physical presence of the transit agency on the streets of the community. This is done first by designing vehicles to showcase the logo and coloring of the transit agency. While the Lake Transit vehicles are different colors (some are white, purple, and others have a fuchsia accent), all of the vehicles have the Lake Transit logo on the side as a central graphic. The logo is not the same on each bus, as the design has evolved over time. As LTA procures new buses in upcoming years, staff should make sure buses have similar branding by establishing a consistent design.

The next way to increase the physical presence of the transit agency is to install bus stop signs. Bus stop signs are important, as they advertise to both riders and non-riders alike where bus stops are located, helping facilitate trip planning and encourage people to use the bus. The *Bus Passenger Facilities Plan* (2019) found that half of Lake Transit's stops had a sign, but it was recommended that signs be installed at every active stop. Table 29 shows the estimated costs for installing, replacing, or repairing signs at the bus stops identified during the study process as not having adequate signage. The total cost for ensuring all LTA stops have appropriate signage would be $60,780 (based on the 2019 study estimates, increased by 15 percent to reflect inflation). This does not consider the signs that have already been fixed in the years since the *Bus Passenger Facilities Plan* was completed. With the understanding that all of the

identified signage improvements may not be possible due to financial constraints and legal issues related to right-of-way, it is still recommended that LTA continue to work on improving signage across its inventory of bus stops throughout the current TDP planning period. As recommended in the 2015 TDP, new bus stop signs should be designed to show information about which routes serve the stop. The LTA route map and most current schedules for each of the routes that serve the stop should also be on display at major stops or stops with shelters.

Table 29: Marketing Strategies and Improvements

Strategy/Improvement	Cost per Unit	Quantity	Total Cost
Improve Existing Bus Stop Signage and Install New Signs			
New Bus Stop Sign Panels	$115	141 panels	$16,215
New Bus Stop Sign Poles	$230	149 poles	$34,270
Replacement Sign Panels	$230	8 panels	$1,840
Replacement Sign Poles	$345	5 poles	$1,725
Repairs for Sign Poles	$115	58 repairs	$6,670
Subtotal	--	-- --	*$60,720*
Print Materials[1]	--	-- --	*$12,840*
Phone Materials			
Automated Text Message Service Plan (Annual)	$24	12 months	*$292*
Social Media			
Facebook Advertising Campaign (Annual)	$250	1 campaign	$250
Begin an Instagram Account	--	1 acct.	$0
Subtotal	--	-- --	*$250*
Outreach Events			
Staff[2]	$742.86	5 days	$3,714
Transportation Expenses	$115	5 days	$575
Event Fees	$50	3 events	$150
Subtotal	--	-- --	*$4,439*

Sources: The Bus Stop Facilities Plan (2019), LTA Budget FY 22-23, Lake APC staff
Note 1: The cost for print materials was estimated based on the FY 22-23 budget and expected inflation.
Note 2: The price for staff is a rough estimate that assumes one staff member working 10 hours per day.

Lastly, as discussed earlier in this Chapter, Lake Transit is expected to complete the new Lake County Interregional Transit Center during this planning period. LTA should conduct an extensive marketing campaign to celebrate the project's completion. LTA already included this marketing campaign as a component of its successful TIRCP grant application. The opening of the new transit center will be an important and exciting event that will also likely result in some service changes; therefore, Lake Transit should begin planning and implementing this campaign well before the transit center is completed.

Source: LSC Transportation Consultants, Inc.

Online Materials

The Lake Transit website is well developed and contains a large amount of information. One website improvement that was recommended in the 2015 TDP and since has been implemented is the addition of a Trip Planner tool on the bottom of the website, allowing people to look up their trip on Google Maps right from the LTA website.

Recommended changes to the LTA website are intended to ensure the website is as informative and up to date as possible. The website should be checked to make sure there are no references to old schedules or programs implemented during recent years. There should be a prominent news bulletin when a new schedule is released on the home page of the website. Moving the existing orange call out box to see Lake Transit news to the top of home page of the website would help remind residents to check the transit news more than just the current side bar notifications. All Lake Transit social media (discussed further below) should be linked on the Lake Transit website, either at the bottom of the website or from the "Contact Us" page, which could have a header called "Connect".

Print Materials

Following the recommendation made in the 2015 TDP, Lake Transit has resumed printing a comprehensive rider's guide that contains information on all of the transit services. The rider's guide is incredibly informative, containing route maps, schedules, regional maps, fare polices, transfer policies, and holiday information. As previously discussed, LTA service offerings have changed multiple times during recent years due to COVID-19 and staffing shortages. Now that the effects of the pandemic have more or less stayed steady and staffing has become more consistent, it is recommended that Lake Transit update its rider's guide and all printable schedules available on the website to reflect anticipated service levels for FY 2023-24. It is possible that the final 2023 TDP update will result in further service changes, therefore, these materials should not be updated until the 2023 TDP update is approved. Updating these materials before the beginning of the next FY will help to eliminate confusion about current service offerings. LTA already sets aside funds for printing each year.

Phone Information

Lake Transit helps residents over the phone by providing information, assistance with trip planning, or for scheduling flex stops or DAR reservations. Lake Transit also has Spanish resources available via phone, as

well as a number for people to call if they need assistance in any other language. There are no recommended changes to LTA's existing phone resources.

Many transit agencies offer text alert systems for passengers. If passengers accept potential charges from their own phone carrier, they are able to subscribe to a service managed by the transit agency that will send automated text messages regarding any immediate service changes that may impact the passenger's travels, an example being a re-route due to wildfire hazards. Automated text messages can also be sent to promote transit news, such as the anticipated return of Saturday service on Routes 3 and 7. Costs for these services range depending on the number of texts sent per month and the amount of people receiving messages. As LTA would likely only use this text service for pertinent information, it would be recommended that LTA start with a small plan size. Table 29 shows the estimated cost of an automated text message service that would send 500 messages per month, in which the estimated annual cost of $292 is based on a monthly cost of $24.33. These values were determined based on researching companies that provide automated text services, such as SimpleTexting, SlickText, and Mobile Text Alerts.

Social Media

Social media has emerged as a powerful tool for communicating transit information to passengers, stakeholders, and the greater public. Lake Transit has a Facebook account with 182 followers that is used to share information about service changes, schedule updates, public outreach, and ridership campaigns, among other news. LTA should continue to utilize Facebook as a way to promote the transit agency and share information with riders. Some transit agencies use Facebook advertising to reach people who are on the platform but maybe unfamiliar with the transit system. LTA could utilize Facebook advertising to increase awareness of the transit system, or to advertise specific news such as job opportunities. These campaigns should be done outside of the "holiday season" months of November and December when Facebook is flooded with advertisements. If Lake Transit even budgeted $250 for Facebook advertisements annually (Table 29), the transit agency would likely reach a significant number of people on the platform.

Lake Transit does not use any other form of social media. Studies have found that members of Generation Z (those born after 1996) are less likely to have Facebook compared to other social media; a 2022 study by the Pew Research Center found that only 32 percent of teenagers used Facebook compared to 95 percent who use YouTube, 67 percent who use TikTok, 62 percent who use Instagram, and 59 percent who use Snapchat. To reach younger audiences, LTA should consider establishing an account on one of those platforms. An Instagram account would be the next easiest form of social media to adopt because LTA could post the same materials to both its Facebook and Instagram accounts (pictures and short videos) rather than having to edit videos specifically for YouTube or TikTok.

Outreach Activities and Events

Now that pandemic restrictions have been lifted and in-person events are being held again, LTA has the opportunity to conduct in person public outreach at community events. Attending community events is an excellent way to meet people who represent new potential riders. For instance, Lake Transit joined the Lake APC at the Lake County Fair, an event attended by thousands of people, in September 2022 to share information about the transit services and to gather input for the 2023 TDP Update.

Attending community events, such as the fair or Lakeport Concerts in the Park, would be valuable in the upcoming year to remind residents who were more travel restricted during the pandemic about the available transit services. These events could also serve as opportunities to reach people who are financially feeling the pressure of rising costs and would be interested in riding the bus, but who are unfamiliar with LTA and don't know how to use public transit. While attending community events is not a cheap marketing strategy, as there needs to be a budget for staff, print materials, and likely a fee for entrance into the event and booth space, it is more cost efficient to attend a larger event rather than plan an event sponsored by the transit agency itself. If LTA attended three community events a year (approximately five to six days-worth of time), it is expected to cost around $4,400 to $5,000 annually (Table 29). This estimate is based on Lake APC's expenses for staffing the booth at the Lake County Fair.

Lake Transit should also take advantage of its stakeholder relationships by developing targeted marketing information and having stakeholders distribute the materials to their clientele themselves. An example would be targeting senior adults with the help of contacts at local senior centers. Senior adults are frequent transit riders but are less likely to learn about transit news through technology or social media (however, it is worth noting that senior adults in 2022 are much more tech savvy compared to ten years ago). Lake Transit could reach more senior adults by providing informational materials to the various senior centers across the county (Clearlake, Lakeport, Kelseyville, Upper Lake) for staff to distribute at senior center events. This would not require much additional LTA staff time but would help inform senior residents across Lake County about the transit system.

This page intentionally left blank

Chapter 9
MANAGEMENT AND FINANCIAL ALTERNATIVES

In this chapter, alternatives related to the overall management of the LTA and fare structure are discussed.

MANAGEMENT ALTERNATIVES

The LTA organizational structure was discussed in depth in Chapter 4. In summary, the LTA Board of Directors makes policy decisions for the transit agency. The LTA transit manager manages operations, and Paratransit Services, Inc., actually operates the transit services under contract with the LTA. There are no recommended changes to the existing Lake Transit management structure, and therefore no management alternatives to consider at this time.

FINANCIAL ALTERNATIVES

Fare Structure

LTA receives funding from federal, state, and local sources. One of the primary sources of local funding are fares. During the COVID-19 pandemic, Lake Transit used some of its CARES Act and CRRSAA funding to provide free fares to passengers using the bus services. The pre-pandemic fare structure was reinstated during FY 2021-22 and is shown in Table 8 of Chapter 4.

Table 30 compares LTA's fares to those of other small to medium size transit systems in the State of California by analyzing the fares and pass options for similar length routes.

Table 30: Peer Transit System Fares Analysis

Transit Program	LTA	STAGE (Siskiyou)	KART (Kings)	Yuba Sutter Transit	Amador Transit	
Service Area - Route	Lakeport (Route 1)	Yreka to Mount Shasta	Hanford to Visalia	Susanville to Doyle	Amador Station	Average
Fare Structure						
Base Fare - One Way	$2.25	$4.00	$1.75	$3.00	$3.50	**$2.90**
Discount - One Way	$1.50	$2.75	$0.85	$1.50	$2.00	**$1.78**
In-Town Fare	$1.25	$1.75	$1.25	$1.50	$1.00	**$1.35**
Discount - In-Town Fare	$0.75	$1.25	$0.60	$0.75	--	**$0.84**
Monthly Pass	$40.00	--	$60.00	$30.00[1]	$120.00	**$73.33**
Monthly Pass Discount	--	--	$50.00	$15.00[1]	$80.00	**$65.00**
Operating Statistics						
One-way Route Mileage	37	37	21	32	25	**30**
Base Fare per Route Mile	$0.06	$0.11	$0.08	$0.09	$0.14	**$0.10**

Source: LSC Transportation Consultants, Inc.

Note 1: Yuba Sutter Transit is offering monthly passes for $10 and for $5 for discount-eligible passengers until June 2024.

Some of the important takeaways from Table 30 include:

- Lake Transit's base fare for Route 1 between Clearlake and Lakeport, $2.25, is below the peer average of $2.90, but only slightly.
- Lake Transit's in-town base fare is near the average of the transit systems considered ($1.50 versus the average $1.78).
- Four of the transit systems considered offer monthly passes for passengers, however these passes range greatly in cost ($30 to $120).
- The base fare per route mile is useful when considering routes of different lengths to determine whether the fare is appropriate for the service. As seen in Table 7, the base fare per route mile for Route 1 is $0.06, which is lower than the average across the five systems of $0.10.

Overall, the peer fares analysis supports that LTA's fares are in line with other transit systems operating in similar service areas. LTA's fares are slightly below the peer averages across the various categories. Even though Lake Transit's fares are cheaper than some of its peers, the fares are also appropriate for the Lake County population; a greater proportion of Lake County residents live below the poverty line compared to the State of California as a whole. According to on-board surveys, 86 percent of survey participants did not have a vehicle available to them, suggesting that raising fares may negatively impact those who rely on the transit system.

In conclusion, there are no recommended changes to the overall LTA fare structure. LTA fares are comparable to other transit agencies and appropriate considering local passenger demographics. Lake Transit's farebox ratio was also 10.2 percent in FY 2021-22, meeting the TDA farebox ratio requirement and justifying that no fare increases are merited at this time.

New Monthly Pass for Entire LTA System

Lake County offers three forms of passes. The first is a punch pass that is equal to $11.00 worth of fares. Passengers can use this pass on any LTA service as long as the pass has credit on it. The other two passes are both good for an unlimited number of rides while the pass is active: the Monthly Fast Pass and the System Weekly Pass. The Monthly Fast Pass can be used on LTA routes that operate entirely within Lake County, while the System Weekly Pass can be used on LTA routes in Lake, Napa, and Mendocino Counties. The Monthly Fast Pass costs $40 and the System Weekly Pass costs $20.

It would be convenient for passengers who frequently ride Routes 3 and 7 to either Napa or Mendocino Counties to have a monthly pass option. LTA could begin offering a product called the Monthly Systemwide Fast Pass to address this issue. The Monthly Systemwide Fast Pass would provide passengers with unlimited rides for one month on every LTA service, both intra- and inter-county. Because some months are technically longer than 4 weeks, this pass could be priced at $90 (4.5 times the System Weekly Pass). While it is not expected that adding this price product would affect LTA revenues in any significant way, a Monthly Systemwide Fast Pass would improve the experience of those passengers who frequently use the intercounty services by minimizing the number of times they need to purchase pass products.

Chapter 10

LAKE COUNTY TRANSIT DEVELOPMENT PLAN

INTRODUCTION

This chapter presents the five-year fiscally constrained Lake County TDP, which consists of service, capital, and financial plans. As presented, the Lake County TDP will improve the efficiency of transit services, introduce new forms of transit to the region, and generate cost savings for the transit agency. The TDP was developed based on reviews of Lake County demographics and recent transit operations, multiple rounds of public and stakeholder input, and a detailed analysis of potential service alternatives. The prior chapters of this document discuss all of the previous analyses used to form the TDP presented in this chapter. The reader is encouraged to refer to prior chapters for additional background on the plan elements.

SERVICE PLAN

The recommended service plan elements recommended are depicted in Figure 33 and summarized below. Table 31 shows the estimated operating cost of the service plan over the next five FYs and Table 32 shows the anticipated ridership impacts. As indicated under this plan ridership is forecast to increase by 4 percent. Note that this is in addition to any ridership changes associated with other factors such as relaxation of pandemic restrictions or changes in gas prices.

Reduce Service on Route 2 to Three Days per Week

Route 2 provides service to the communities along SR 175. However, in FY 2021-22 it carried less than one passenger-trip per vehicle hour. To improve the cost efficiency of the service, the TDP recommends reducing Route 2 service from five to three days per week[2]. Route 2 would continue to be a lifeline service for residents in the region with no other means of transportation, but the reduced service levels would results in annual operating subsidy savings of $28,500 for Lake Transit. The savings calculation accounts for lost fare revenue generated by the projected decrease in ridership of 600 one-way trips per year.

Replace Route 8 with Microtransit Service

Route 8 provides hourly service using two buses in the Lakeport-area. Given the low ridership levels on Route 8, the service plan recommends replacing Route 8 with a new Lakeport Microtransit service. The service would require one microtransit vehicle during non-peak periods from 7:30 AM to 9:30 AM and 5:30 PM to 6:30 PM and then two vehicles during peak periods from 9:30 AM to 5:30 PM Monday through Friday. On Saturdays one vehicle would be used to provide microtransit service for a 7-hour period and one vehicle would be used for 4 hours each day. Saturday service would extend from 8:30 AM to 4:30 PM. Passengers will be able to use the phone app or a computer to request rides within roughly 30 minutes.

[2] If a holiday falls on a service day, service would still be provided three days in the week by shifting the service day to avoid the holiday.

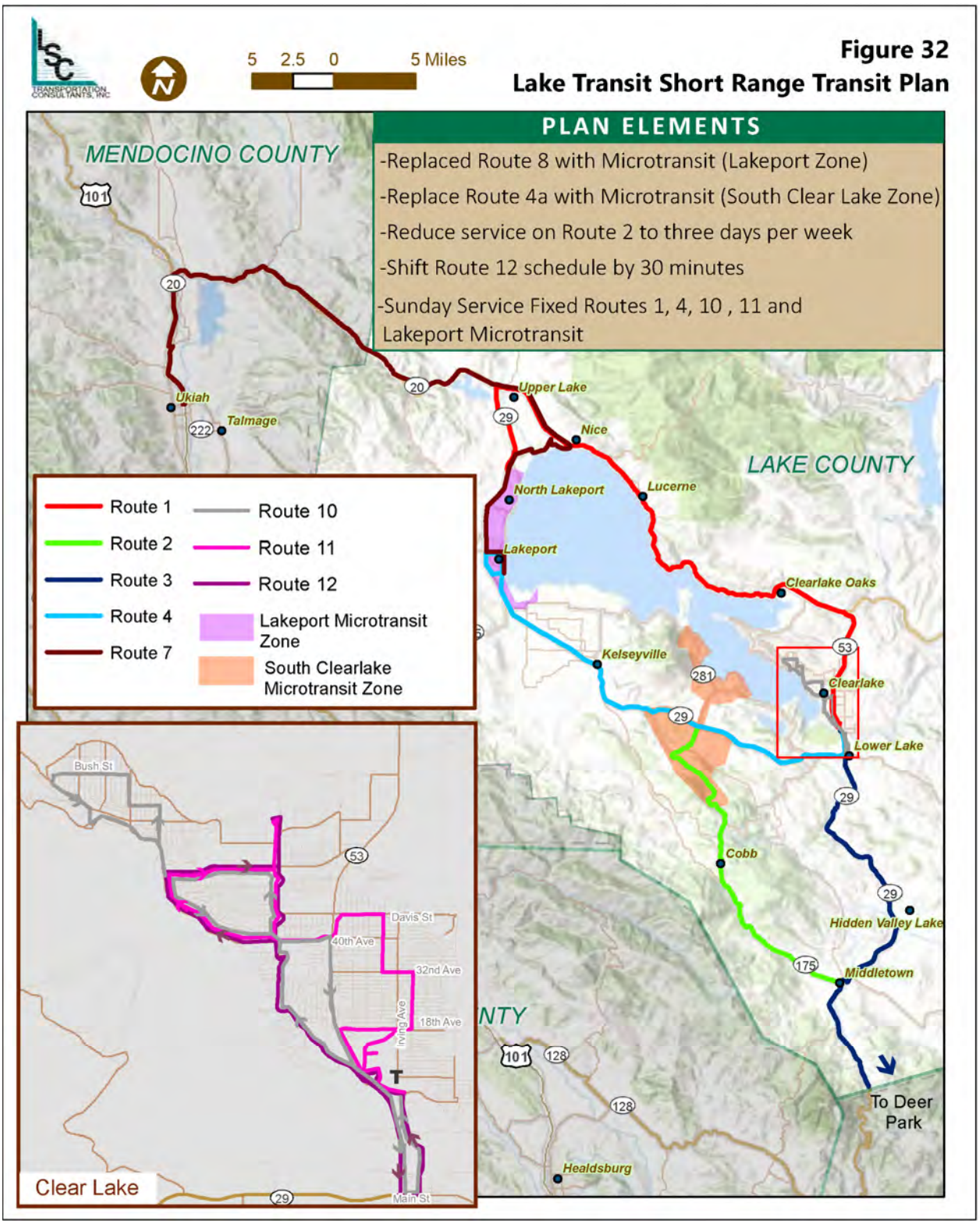

5 2.5 0 5 Miles
Figure 32
Lake Transit Short Range Transit Plan
PLAN ELEMENTS
-Replaced Route 8 with Microtransit (Lakeport Zone)
-Replace Route 4a with Microtransit (South Clear Lake Zone)
-Reduce service on Route 2 to three days per week
-Shift Route 12 schedule by 30 minutes
-Sunday Service Fixed Routes 1, 4, 10 , 11 and Lakeport Microtransit
MENDOCINO COUNTY
LAKE COUNTY
Ukiah
Talmage
Upper Lake
Nice
North Lakeport
Lucerne
Lakeport
Clearlake Oaks
Kelseyville
Clearlake
Lower Lake
Cobb
Hidden Valley Lake
Middletown
Healdsburg
To Deer Park
Route 1
Route 2
Route 3
Route 4
Route 7
Route 10
Route 11
Route 12
Lakeport Microtransit Zone
South Clearlake Microtransit Zone
Clear Lake
Bush St
Davis St
40th Ave
32nd Ave
18th Ave
Irving Ave
Main St

Table 31: Lake County TDP Estimated Annual Operating Cost

Plan Element	Projected Costs FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Base Case Marginal Operating Cost	**$2,015,541**	**$2,096,160**	**$2,159,050**	**$2,202,230**	**$2,246,270**
Reduce Service on Route 2 to Three Days/Week	-$34,100	-$35,460	-$36,530	-$37,260	-$38,000
Replace Route 8 with Microtransit[(1)]	-$19,400	-$20,180	-$20,780	-$21,200	-$21,620
South Clear Lake Microtransit and Eliminate Route 4a	-$7,600	-$7,900	-$8,140	-$8,300	-$8,470
Shift Route 12 Schedule by 30 Minutes	$0	$0	$0	$0	$0
Sunday Service - Routes 1, 4, 10, 11 & Lakeport Microtransit	$0	$136,450	$140,540	$143,350	$146,220
Clearlake DAR Expansion Pilot	$49,500	$51,480	$53,020	$54,080	$55,170
Plan Element Subtotal	**-$11,600**	**$124,390**	**$128,110**	**$130,670**	**$133,300**
Fixed Costs	**$1,398,740**	**$1,454,690**	**$1,558,260**	**$1,702,590**	**$1,897,500**
Total Operating Cost	**$3,402,682**	**$3,675,240**	**$3,845,420**	**$4,035,490**	**$4,277,070**
Change Over Base Case	0%	4%	3%	3%	3%

Note 1: Fixed on-demand technology costs included in Lakeport Mirotransit element not South Clear Lake Microtransit element.

Table 32: Lake County TDP Estimated Annual Ridership

Plan Element	Projected Levels FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Base Case Ridership [1]	**196,364**	**200,300**	**202,300**	**204,200**	**206,200**
Reduce Service on Route 2 to Three Days/Week	-600	-610	-620	-620	-630
Replace Route 8 with Microtransit	-210	-210	-220	-220	-220
South Clear Lake Microtransit and Eliminate Route 4a	1,110	1,130	1,140	1,150	1,170
Shift Route 12 Schedule by 30 Minutes	1,080	1,100	1,110	1,120	1,130
Sunday Service - Routes 1, 4, 10, 11 & Lakeport Microtransit	0	6,060	6,120	6,180	6,240
Clearlake DAR Expansion Pilot	1,800	1,840	1,850	1,870	1,890
Plan Element Subtotal	***3,180***	***9,310***	***9,380***	***9,480***	***9,580***
Total Ridership	**199,544**	**209,610**	**211,680**	**213,680**	**215,780**
Change Over Base Case	*2%*	*5%*	*5%*	*5%*	*5%*

There would also be the option to call dispatch directly to request a ride. While the exact boundaries of the microtransit zone may be modified in the future, recommended boundaries for the Lakeport Microtransit service are shown in Figure 33 and would include most of Lakeport from Sutter Hospital on the north to Mendocino College on the west and Konocti Vista Casino on the southeast.

Ridership is expected to be similar to the levels seen on the existing Route 8 service. Replacing Route 8 with microtransit would decrease operating costs by about $38,800 per year because only one van would operate during non-peak hours. LTA will need to purchase the microtransit technology, however. The software license for an On-Demand transit application would likely cost around $500 per vehicle per month on top of $11,500 in fixed costs. Considering technology costs, replacing Route 8 with a new Lakeport Microtransit service would result in $19,000 savings in annual operating subsidy. The Lakeport Microtransit could be “comingled” with Lakeport DAR to provide additional capacity, serving both general public and ADA passengers with the same vehicles and drivers.

Implement South Clear Lake Microtransit Service and Eliminate Route 4a

Route 4a serves the Soda Bay area Monday through Friday, operating between Lakeport and Kelseyville. Route 4a has experienced low ridership since the COVID-19 pandemic and is not cost efficient. It is recommended that Route 4a be eliminated and replaced with a new microtransit service, referred to as the South Clear Lake On-Demand service. This service would require one van and would be available from 8 AM to 5 PM, three days per week. Passengers will be able to request rides to Kits Corner, where they can transfer to Route 4, but they will also be able to make trips within the zone. Trips will cost $1.25 per passenger. Potential boundaries for the South Clear Lake On-Demand service are shown in Figure 33, however these may be modified.

The new on-demand service will directly serve thousands more homes in the area that are currently far from a fixed route stop. As a result, the South Clear Lake On-Demand service will carry 1,100 more passenger-trips per year compared to Route 4a and generate $13,000 in operating cost savings. The South Clear Lake On-Demand will use the same phone app as Lakeport microtransit so that passengers can request rides on their phone or call dispatch directly. The app will cost around $500 per vehicle per month and $11,500 in fixed costs. The fixed technology costs would be shared with the Lakeport microtransit service, if both are implemented.

Route 12 – Shift Schedule by 30 Minutes

There are three LTA routes that operate locally within the City of Clearlake: Routes 10, 11, and 12. Routes 10 and 12 serve very similar portions of Clearlake, but many stops are served only 10 minutes or less apart, which limits the overall convenience of bus service. To improve the productivity of Route 12 and provide more frequent service to key destinations in Clearlake such as the Burns Valley Mall and Austin Park, the Route 12 schedule will be shifted by roughly 30 minutes and the loop to the north would be operated before the loop to Lower Lake. This plan element will not impact LTA operating costs but will result in increased ridership (1,080 trips per year). Increased ridership will reduce the annual Route 12 operating subsidy by $1,450 per year. To view the Route 12 Example Revised Schedule, refer to Table 26 in Chapter 7.

Sunday Service Fixed Routes 1, 4, 10, 11 and Lakeport Microtransit

Lake Transit recently reinstated Saturday Service on the most commonly used routes. According to passenger and community surveys, adding Sunday Service is a popular improvement suggestion. Sunday Service does not meet the recommended systemwide operating cost per trip standard. However, Lake County has a higher proportion of low-income residents that the state. Therefore, providing additional mobility for Lake County residents is a good use of public funds. Assuming that LTA is in a financial position to do so, it is recommended that Sunday Service be considered in FY 2024-25.

Service would operate at levels similar to current Saturday levels. This will cost an additional $131,000 per year but add around 6,000 one-way passenger trips. The availability of service on additional days may also encourage new passengers to use the service for trips on other days of the week. New driver and dispatcher shifts will be needed to cover the new service day.

Clearlake DAR

The Clearlake DAR is available to ADA passengers during the same hours and days as the fixed route is in operation within the Clearlake/Lower Lake area. DAR ridership has been decreasing over the past few years. The contractor only charges LTA for the vehicle hours rides are provided. Reservations must be made at least one day in advance. Although this is cost efficient, the Clearlake DAR only operates around 4.5 hours per day so the driver is not able to work full-time hours. At a time of staffing shortages, it is important to retain experienced drivers, particularly those comfortable working with a special needs population. The following changes are recommended to increase ridership on the existing Clearlake DAR and make better use of the driver's time and skill set.

As a pilot program, Clearlake DAR should be opened up to seniors and non-ADA eligible disabled passengers throughout the service day. Additionally same-day service should be made available to seniors and non-ADA disabled passengers between the hours of 9 AM and 5 PM on a space available basis, with a $1.00 surcharge. ADA eligible passengers can request same day service but do not need to pay the $1.00 surcharge. For the remainder of the service span (before 9 AM and after 5 PM) only ADA eligible passengers may make ride requests less than one day in advance.

With the service being available to a larger number of people combined with the convenience of same-day service (if available), it is anticipated that Clearlake DAR will operate an additional 3.5 vehicle service hours per day for a total of 8 hours per day. Applying the FY 2023-24 operating cost model and existing average mileage per vehicle hour ratios, it is estimated that it would cost an additional $49,500 to operate this Clearlake DAR pilot program annually.

Studies have shown that changing the reservation period for demand response services open to the general public from 1 day in advance to same day requests can increase ridership significantly (by as much as 77 percent). For Clearlake DAR, ridership could increase by 1,800 one-way trips per year. Factoring in additional fare revenue collected by the pilot program equates to an annual operating subsidy of $44,000.

Another operations discussion pertaining to Clearlake DAR is sharing of drivers between Clearlake DAR and the Lake Links NEMT service operated by LTA. With a staffing shortage, there are many occasions when a higher paid driver supervisor must drive one of the NEMT routes to Ukiah or Santa Rosa. Using the Clearlake Driver instead to provide this service would be more cost effective. In this case, the NEMT service would take priority over same day requests for Clearlake DAR.

FINANCIAL PLAN

The five-year financial plan for LTA is shown in the top portion of Table 33. This plan assumes that all of the plan elements will be implemented in FY 2023-24 and continue unchanged for the duration of the planning period, with the exception of Sunday service that is implemented in FY 2024-25. The operating costs for the recommended service plan are compared to anticipated operating revenues for the five-year planning period. As discussed in previous chapters, LTA receives funding through various FTA programs and from the state. Table 33 represents a fiscally constrained plan as revenues are estimated to be sufficient to cover the additional operating expenses from the recommended service plan.

If operating revenues come in much lower than anticipated or operating costs grow at a rate of inflation much higher than expected, the following strategies could be implemented:

- Do not implement Sunday Service in FY 2024-25 – With Saturday service reinstated, Lake County residents have a weekend transit option. Although Sunday service would provide increased mobility for a community which is highly transit dependent, this plan element is not expected to perform as well as the others and should only be implemented in a financially stable scenario.

- Eliminate Route 12 – Route 12 is currently suspended due to staffing shortages but reimplementation is anticipated as new drivers are hired. Routes 10 and 11 cover the same parts of Clearlake as Route 12; however the combination of routes provides half-hourly service in many portions of the City. Route 12 currently has a low productivity rate of 3 trips per hour. The Route 12 Schedule Adjustment Plan Element is anticipated to increase ridership and productivity. However, if this does not occur or operating cost savings are needed, Route 12 could be eliminated.

CAPITAL PLAN

The Lake County TDP capital plan consists of purchasing new vehicles and bus stop improvements. These elements are included in the bottom portion of Table 33. The vehicle costs account for CARB ZEV requirements, which will come into effect in FY 2025-26. The cost for bus stop improvements was drawn from Table 29 in Chapter 8 and averaged over the five-year planning period. In total, the TDP capital plan will require around $2 to 2.5 million in grant funding each year and $500,000 to $700,000 in local match funding.

Table 33: Lake County TDP Financial Plan

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28	5-Year Plan Total
Operating Costs						
Service Plan Operating Costs [1]	$3,402,682	$3,675,240	$3,845,420	$4,035,490	$4,277,070	$19,235,902
Total Operating Costs	**$3,402,682**	**$3,675,240**	**$3,845,420**	**$4,035,490**	**$4,277,070**	**$19,235,902**
Operating Revenues						
FTA 5311	$544,250	$560,580	$577,400	$594,720	$612,560	$2,889,510
FTA 5311f	$500,420	$515,430	$530,890	$546,820	$563,220	$2,656,780
TDA - LTF	$875,030	$901,280	$928,320	$956,170	$984,860	$4,645,660
TDA - STA	$866,640	$892,640	$919,420	$947,000	$975,410	$4,601,110
Farebox Revenue (Acct 7401)	$408,360	$420,610	$433,230	$446,230	$459,620	$2,168,050
Special Fares (Acct 7402)	$24,050	$24,770	$25,510	$26,280	$27,070	$127,680
Auxiliary Transportation Revenues	$84,210	$86,740	$89,340	$92,020	$94,780	$447,090
Carry over balance	--	$250,278	$362,088	$444,278	$483,928	--
Total Operating Revenues	**$3,652,960**	**$4,037,328**	**$4,289,698**	**$4,519,418**	**$4,713,948**	**$21,213,353**
Annual Balance	$250,278	$362,088	$444,278	$483,928	$436,878	$1,977,452
Capital Plan						
Vehicle Replacement [2]	$3,150,000	$3,333,300	$3,341,800	$2,600,000	$3,773,400	$16,198,500
Bus Stop Improvements	$12,144	$12,510	$12,890	$13,280	$13,680	$64,504
Interregional Transit Center						$13,000,000
Total Capital Requirements	**$3,162,144**	**$3,345,810**	**$3,354,690**	**$2,613,280**	**$3,787,080**	**$16,263,004**
Local Match Requirements (20 percent)	$632,430	$669,160	$670,940	$522,660	$757,420	$3,252,610
Total Grant Funding Required [3]	$2,529,714	$2,676,650	$2,683,750	$2,090,620	$3,029,660	$26,010,394

Potential Capital Funding Programs [3]
FTA 5339 Capital
FTA 5311
FTA 5310
Infrastructure Invesment and Jobs Act (IIJA)

Note 1: As presented in Table 21, rounded. Includes annual inflation.
Note 2: Vehicle replacement as presented in Table 23.
Note 3: Typically 80 percent of capital equipment needs are covered through federal grants.

This page intentionally left blank

Appendix A

BOARDING AND ALIGHTING COUNTS

LAKE TRANSIT BOARDING AND ALIGHTING COUNTS

During May 2022, trained surveyor staff conducted boarding and alighting counts while simultaneously assisting with public outreach efforts. Boarding and alighting counts were completed on each fixed route that was in operation (all fixed routes besides Route 4a). While the data collected is based on limited runs, it is still helpful in indicating bus stop locations which generate high levels of passenger activity versus those which are barely used. As an example, bus stops that generate high levels of activity can then be considered for funds dedicated for improved passenger amenities. This appendix includes a summary table of estimated daily boardings for fifty of the most commonly used stops by survey participants, as well as a more detailed summary table for each individual route. Each table indicates the stops that were the most popular among passengers.

Key Findings

- As would be expected, the Walmart in Clearlake had the highest activity with an estimated 103 boardings daily. The Walmart is not only a popular destination in its own right, but also serves as a transfer location for passengers on Routes 1, 3, 4, 10, 11, and 12. Other popular stops included Sutter Lakeside Hospital, Third and Main Street in Lakeport, Austin Park, Robinson Rancheria, and Burns Valley Mall.

- Across all of the fixed routes, there were no boardings or alightings recorded between 5:00 AM to 6:00 AM, with many buses operating empty until after 7:30 AM. The extremely low ridership in the early morning hours suggests that bus service could potentially start later in the day.

- Bus drivers regularly stopped at flag stops along all of the fixed routes, as long as the location was deemed safe. These stops draw ridership from nearby established stops. For instance, there were multiple flag stops recorded in the Avenues neighborhood of Clearlake along Route 11. One such stop was at Boyle and 29th, drawing the passenger away from either the stop at Boyles and 25th or at Boyles and 31st.

Table 1: LTA Stops with Greatest Boarding and Alighting Activity Across All Routes

Bus Stop	Estimated Average Daily Boardings									Total
	Route 1	Route 2	Route 3	Route 4	Route 7	Route 8	Route 10	Route 11	Route 12	
Walmart (Clearlake)	24	0	5	3	0	0	40	24	6	103
Sutter Lakeside Hospital	22	0	0	0	0	29	0	0	0	51
3rd St & Main St (Lakeport)	0	0	0	5	23	15	0	0	0	43
Robinson Rancheria Resort & Casino	13	0	0	0	17	0	0	0	0	31
Burns Valley Mall	0	0	0	0	0	0	14	5	0	19
Austin Park	0	0	0	0	0	0	2	11	4	17
Veteran's Clinic	0	0	0	0	0	0	8	6	0	15
Adventist Health Family Clinic	0	0	0	0	0	0	0	11	0	11
Second St & Lake St (Lower Lake)	0	0	0	0	0	0	8	0	2	10
Safeway (Lakeport)	0	0	0	2	0	8	0	0	0	9
Cypress Ave & Old Hwy 53	0	0	0	0	0	0	9	0	0	9
Grocery Outlet (Lakeport)	0	0	0	6	0	2	0	0	0	8
Clearlake Post Office	0	0	0	0	0	0	5	3	0	8
Lower Lake High School	0	0	0	0	0	0	5	0	2	7
13th & SR 20 (Lucerne)	7	0	0	0	0	0	0	0	0	7
Lakeshore Blvd & Lange St	0	0	0	0	0	7	0	0	0	7
Twin Pine Casino	0	2	4	0	0	0	0	0	0	6
Running Creek Casino	6	0	0	0	0	0	0	0	0	6
11th & Bush St (Clearlake)	0	0	0	0	0	0	5	0	0	5
Lake County Tribal Health - Main Clinic	0	0	0	0	0	5	0	0	0	5
1st Ave & SR 20 (Lucerne)	5	0	0	0	0	0	0	0	0	5
Hospice Service of Lake County (Clearlake)	0	0	0	0	0	0	0	5	0	5
Clearlake Senior Center	0	0	0	0	0	0	0	4	1	5
2nd St & Bush St (Clearlake)	0	0	0	0	0	0	5	0	0	5
Mendo Mill (Clearlake)	0	0	0	0	0	0	4	0	1	5
Valero (Clearlake)	0	0	0	0	0	0	1	3	0	4
Clearlake Apartments	0	0	0	0	0	0	4	0	0	4
33rd Ave & Phillips Ave	0	0	0	0	0	0	0	4	0	4
Safeway (Clearlake)	0	0	0	0	0	0	0	4	0	4
9th & Main St	0	0	0	4	0	0	0	0	0	4
Lakeshore Dr & Old Hwy 53	0	0	0	0	0	0	4	0	0	4
Main St & SR 20 (Upper Lake)	4	0	0	0	0	0	0	0	0	4
Armstrong Road	0	0	1	0	0	0	2	0	0	4
Hidden Valley Water Company	0	0	3	0	0	0	0	0	0	3
Lake Transit	0	0	0	1	0	0	2	0	0	3
Nortpoint Mobile Home Park	0	0	0	0	0	3	0	0	0	3
Baylis Ave & Lakeshore Dr	0	0	0	0	0	0	3	0	0	3
Old Red Cross (Clearlake)	0	0	0	0	0	0	3	0	0	3
Kelseyville Lumber	0	0	0	3	0	0	0	0	0	3
Tower Mart (Lakeport)	0	0	0	0	0	3	0	0	0	3
Hinman Park	3	0	0	0	0	0	0	0	0	3
14th & SR 20 (Lucerne)	3	0	0	0	0	0	0	0	0	3
Orchard Shores	3	0	0	0	0	0	0	0	0	3
Pine St & SR 20	3	0	0	0	0	0	0	0	0	3
40th Ave & Phillips Ave	0	0	0	0	0	0	0	3	0	3
Ridge Lake Apartments - Commons	0	0	0	0	0	0	2	0	0	2
Lincoln Ave Bridge (Calistoga)	0	0	2	0	0	0	0	0	0	2
Bella Vista Apartments (Lakeport)	0	0	0	0	0	2	0	0	0	2
Lake County Social Services (Lower Lake)	0	0	0	0	0	0	0	0	2	2
Nice Post Office	2	0	0	0	0	0	0	0	0	2
Sentry Market	2	0	0	0	0	0	0	0	0	2

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 2: Top Boardings and Alightings by Stop (Route 1)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Walmart (Clearlake)	1.2	1.2	**17%**
Sutter Lakeside Hospital	1.1	1.0	**15%**
Robinson Rancheria	0.7	0.4	**7%**
Running Creek Casino	0.3	0.6	**7%**
Community Garden Park (Lucerne)	0.4	0.1	**4%**
Hinmark Park	0.1	0.3	**3%**
SR 20 & First St.	0.3	0.1	**3%**
Nice Post Office	0.1	0.3	**3%**
Collier Ave (Upper Lake)	0.1	0.3	**3%**
Upper Lake High School	0.1	0.1	**2%**
Sentry Market	0.1	0.1	**2%**
Tower Mart	0.1	0.1	**1%**
14th & Hwy 20 (Lucerne)	0.1	0.0	**1%**
Blue Fish Cove	0.1	0.0	**1%**
Rivera Motel	0.0	0.1	**1%**
9th & Hwy 20 (Lucerne)	0.1	0.1	**1%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 3: Top Boardings and Alightings by Stop (Route 2)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Twin Pine Casino	4.0	0.0	**50%**
Loch Lomond	2.0	0.0	**25%**
Kit's Corner	1.0	0.0	**13%**
Turnout past Dry Creek	1.0	0.0	**13%**
Admiral Road	0.0	0.0	**0%**
Armstrong Road	0.0	0.0	**0%**
Harrington Flats	0.0	0.0	**0%**
Mariah Meadows	0.0	0.0	**0%**
Diamond Dust	0.0	0.0	**0%**
Wild Cat Canyon	0.0	0.0	**0%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 4: Top Boardings and Alightings by Stop (Route 3)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Walmart (Clearlake)	1.1	1.4	**29%**
Twin Pines Casino	1.0	0.4	**16%**
Hidden Valley Water Company	0.8	0.6	**16%**
Lincoln Ave Bridge (Calistoga)	0.5	0.3	**9%**
Tower Mart	0.0	0.8	**9%**
Armstrong Road	0.3	0.3	**6%**
Perry's Deli	0.3	0.0	**3%**
Young St & Hwy 29	0.3	0.0	**3%**
Coyote Valley Plaza (Hidden Valley Lake)	0.1	0.1	**3%**
Mug Shots	0.0	0.3	**3%**
Lincoln Ave & Fair Way (Calistoga)	0.0	0.3	**3%**
Calistoga Depot	0.1	0.0	**1%**
Lake Transit Yard	0.0	0.0	**0%**
Hardester's Market (Hidden Valley Lake)	0.0	0.0	**0%**
Twin Lakes	0.0	0.0	**0%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 5: Top Boardings and Alightings by Stop (Route 4)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Walmart (Clearlake)	0.2	0.9	**20%**
Third & Main St (Lakeport)	0.4	0.3	**13%**
Grocery Outlet	0.5	0.1	**11%**
Ninth & Main St. (Lakeport)	0.3	0.0	**5%**
Kelseyville Lulmber	0.2	0.1	**5%**
Across from Pharmacy (Kelseyville)	0.0	0.3	**5%**
Fourth & Main St (Kelseyville)	0.1	0.2	**5%**
Safeway (Lakeport)	0.1	0.1	**4%**
Rotten Robbies	0.1	0.0	**2%**
Store 24	0.1	0.0	**2%**
Kit's Corner	0.0	0.1	**2%**
SR 29 & SR 53	0.0	0.1	**2%**
Lake Transit Yard	0.1	0.0	**1%**
Farmer's Insurance (Kelseyville)	0.1	0.0	**1%**
Idle Wheels (Kelseyville)	0.0	0.1	**1%**
Bruno's	0.0	0.1	**0%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 7: Top Boardings and Alightings by Stop (Route 8)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Sutter Lakeside Hospital	1.1	0.5	**20%**
Third & Main St	0.6	0.6	**15%**
Safeway (Lakeport)	0.3	0.5	**10%**
Grocery Outlet	0.1	0.5	**7%**
Lakeshore & Lange	0.3	0.2	**6%**
Bella Visa	0.1	0.3	**4%**
Konocti Vista Casino	0.0	0.3	**4%**
Northpoint Mobile Home Park	0.1	0.2	**4%**
Lake County Tribal Health (Main Clinic)	0.2	0.0	**3%**
Tower Mart	0.1	0.1	**3%**
MCHC - Lakeview	0.1	0.1	**3%**
Martin St	0.2	0.0	**2%**
El Dorado Motel	0.1	0.1	**2%**
Rainbow Mobile Home Park	0.1	0.0	**2%**
Lake County Social Services	0.1	0.0	**2%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 8: Top Boardings and Alightings by Stop (Route 10)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Walmart (Clearlake)	2.1	1.8	**26%**
Burns Valley Mall	0.8	0.8	**10%**
Veteran's Clinic (Clearlake)	0.4	0.6	**7%**
Ridge Lake Apartments	0.1	0.5	**4%**
Cypress Ave.	0.5	0.1	**4%**
Lower Lake High School	0.3	0.3	**4%**
Second St & Lake St	0.4	0.1	**3%**
Second & Bush St	0.3	0.2	**3%**
11th & Bush St	0.3	0.1	**3%**
Clearlake Apartments	0.3	0.2	**3%**
Lakeshore & Hwy 53	0.2	0.2	**3%**
Baylis & Lakeshore	0.1	0.3	**3%**
Clearlake Post Office	0.3	0.1	**2%**
Former Red Cross	0.2	0.1	**2%**
City Hall	0.0	0.3	**2%**
Mendo Mill	0.2	0.1	**2%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 9: Top Boardings and Alightings by Stop (Route 11)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Walmart (Clearlake)	1.4	1.2	**23%**
Adventist Health Family Clinic	0.6	0.4	**9%**
Burns Valley Mall	0.3	0.7	**9%**
Austin Park	0.6	0.2	**7%**
Clearlake Senior Center	0.2	0.3	**5%**
Veteran's Clinic (Clearlake)	0.4	0.1	**4%**
Hospice Services of Lake County	0.3	0.2	**4%**
33rd & Phillips	0.2	0.2	**4%**
Safeway (Clearlake)	0.2	0.2	**4%**
Valero	0.2	0.1	**3%**
29th & Boyles	0.1	0.3	**3%**
Catfish Coffee	0.0	0.4	**3%**
18th & Boyles	0.1	0.2	**3%**
Clearlake Post Office	0.2	0.1	**2%**
Woodland College	0.1	0.2	**2%**
18th & Irving	0.1	0.1	**2%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Table 10: Top Boardings and Alightings by Stop (Route 12)

Bus Stops	Average Per Run On	Average Per Run Off	% of Surveyed Activity
Walmart (Clearlake)	1.4	0.6	**27%**
Austin Park	0.8	0.4	**16%**
Lake County Social Services	0.4	0.4	**11%**
2nd St & Lake St	0.4	0.2	**8%**
Lower Lake High School	0.4	0.0	**5%**
B&G Tires	0.2	0.2	**5%**
Clearlake Senior Center	0.2	0.2	**5%**
Mendo Mill	0.2	0.2	**5%**
Cypress	0.0	0.4	**5%**
Hillcrest	0.2	0.0	**3%**
Crossroads Church	0.0	0.2	**3%**
Lakeshore & Old Hwy 53	0.0	0.2	**3%**
Safeway (Clearlake)	0.0	0.2	**3%**
Walnut Grove Apartments	0.0	0.2	**3%**
King Fisher Trombetta's	0.0	0.2	**3%**
Clearlake Post Office	0.0	0.2	**3%**

Source: LSC Transportation Consultants, Inc. Based on limited runs in May, 2022

Appendix B

DETAILED LAKE TRANSIT ONBOARD SURVEY RESULTS

LAKE TRANSIT SURVEY RESULTS

Public outreach for the Lake County Transit Development Plan (TDP) Update began with an onboard survey effort. Lake Transit passengers were invited to complete the onboard surveys from May 23 until May 26, 2022, with the assistance of trained survey staff. Detailed results of the survey effort are provided in this Appendix, with highlights provided in the main report. These survey results are intended to inform potential service recommendations made in the Lake County TDP.

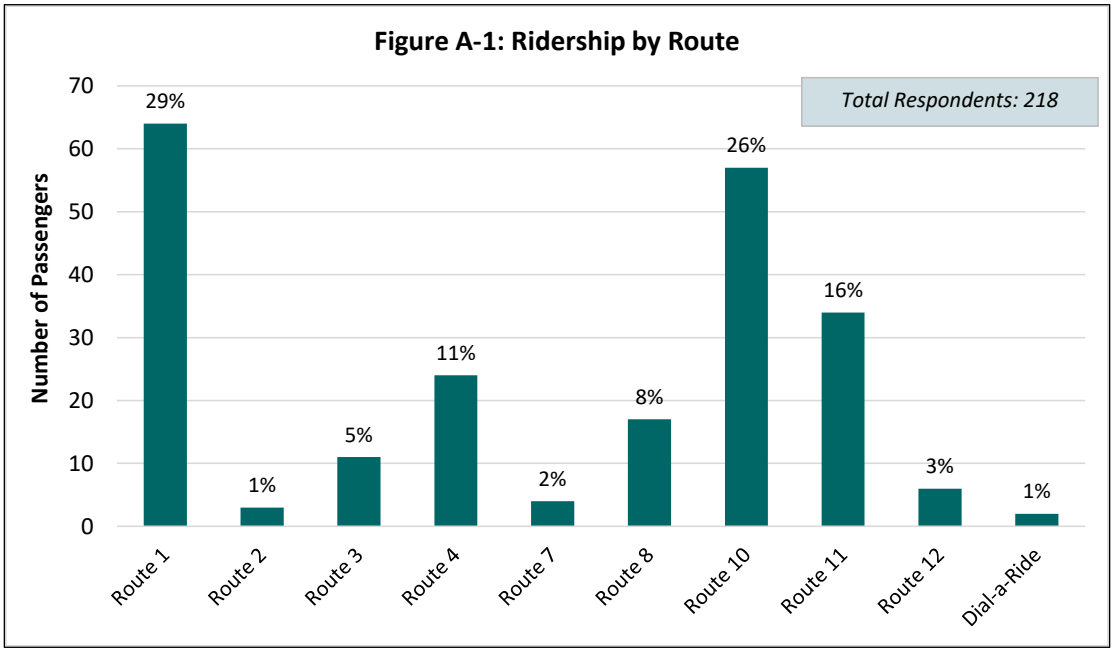
The survey instruments consisted of a one-page questionnaire in English on one side and Spanish on the reverse side, printed on card stock. The surveys included a simple introduction, with 17 questions in multiple choice, short-answer, or comment format. Most respondents did not answer every question, therefore the number of answers per question varies.

A total of 232 passengers participated in the survey; 96 percent (223 persons) completed the survey in English while the remaining 4 percent (9 persons) completed the survey in Spanish. The survey responses represent approximately 40 percent of Lake Transit average daily ridership on all routes for FY 2021-22. Results by question are presented below.

Q1. Ridership by Route (218 Responses)

Passengers completed onboard surveys on every fixed route in operation (all fixed routes except Route 4a), as seen in Figure A-1. Most passengers (45 percent) who responded were riding a local Clearlake route (either Route 10, 11, or 12). Route 1 passengers constituted 29 percent of total responses. 11 percent of passengers were riding Route 4 when they responded to the survey.

Figure A-1: Ridership by Route



Q2. Boarding Times (202 Responses)

Boarding times were summarized by breaking the Lake Transit service day into eight periods, each two-hours (Table A-1). Analysis revealed that over one quarter of respondents boarded the bus between 7 AM to 8:59 AM. Very few respondents boarded during either the first two hours or the final two hours of service (4 percent of total).

Table A-1: Boarding Times

Time	# of Participants	% of Participants
5 AM - 6:59 AM	7	3%
7 AM - 8:59 AM	52	26%
9 AM - 10:59 AM	27	13%
11 AM - 12:59 PM	36	18%
1 PM - 2:59 PM	35	17%
3 PM - 4:59 PM	30	15%
5 PM - 6:59 PM	13	6%
7 PM - 9 PM	2	1%
Total Responses	**202**	**100%**

Q3. Boarding and Alighting Locations (210 and 191 Responses)

The Lake Transit network includes a large number of bus stops, some of which are established and others which are flag stops. It is important to know what stops are popular among passengers in order to best use funds dedicated to maintaining and improving bus stops. Therefore, as part of the onboard survey, respondents were asked to identify where they had boarded the bus and where they planned on getting off the bus. The most popular boarding and alighting locations are shown in Tables A-2 and A-3. Stops recorded as "Other" are known locations within the county that were less popular among the surveyed passengers. Unclear answers are those that were either not legible or not specific enough to know which stop was being referred to.

Boarding and alighting information was then analyzed to determine major origin/destination pairs among the survey participants, revealing more about how residents are traveling both within their local communities as well as across Lake County. Table A-4 shows the percent of survey respondents that boarded at a specified stop and then later got off the bus at the specified alighting stop. Table A-4 does not include stops with only one boarding or one alighting. The most common origin/destination pairs included stops at the top boarding and alighting locations: the Walmart in Clearlake (the current LTA transfer hub, Sutter Lakeside Hospital, State Route (SR) 20 and 1st in Lucerne, Burns Valley Mall, and Robinsons Rancheria Resort and Casino.

Table A-2: Top Boarding Locations

Bus Stop	# of Participants	% of Participants
Walmart (Clearlake)	25	12%
Third and Main Street (Lakeport)	10	5%
Sutter Lakeside Hospital	10	5%
Lucerne	10	5%
SR 20 & 1st (Lucerne)	7	3%
Robinson Rancheria Resort and Casino	6	3%
Burns Valley Mall	5	2%
Mendo Mill (Clearlake)	5	2%
Austin Park	4	2%
Clearlake Apartments	4	2%
Nice	4	2%
Cypress Ave	3	1%
Clearlake Oaks	3	1%
Clearlake Post Office	3	1%
Lake County Social Services	3	1%
Unclear	13	6%
Other	91	44%
Total Responses	**206**	**100%**

Table A-3: Top Alighting Locations

Bus Stop	# of Participants	% of Participants
Walmart - Clearlake	38	20%
Sutter Lakeside Hospital	9	5%
Robinson Rancheria Resort and Casino	7	4%
Running Creek Casino	6	3%
City of Clearlake	6	3%
Austin Park	5	3%
Burns Valley Mall	4	2%
Clearlake Oaks	4	2%
Lucerne	4	2%
Woodland College	4	2%
Adventist Health Hospital	3	2%
Clearlake Post Office	3	2%
City of Lakeport	3	2%
Nice Post Office	3	2%
Safeway (Clearlake)	3	2%
Unclear	30	16%
Other	55	29%
Total Responses	**187**	**100%**

Table A-4: Major Origin/Destination Pairs from Onboard Survey Results

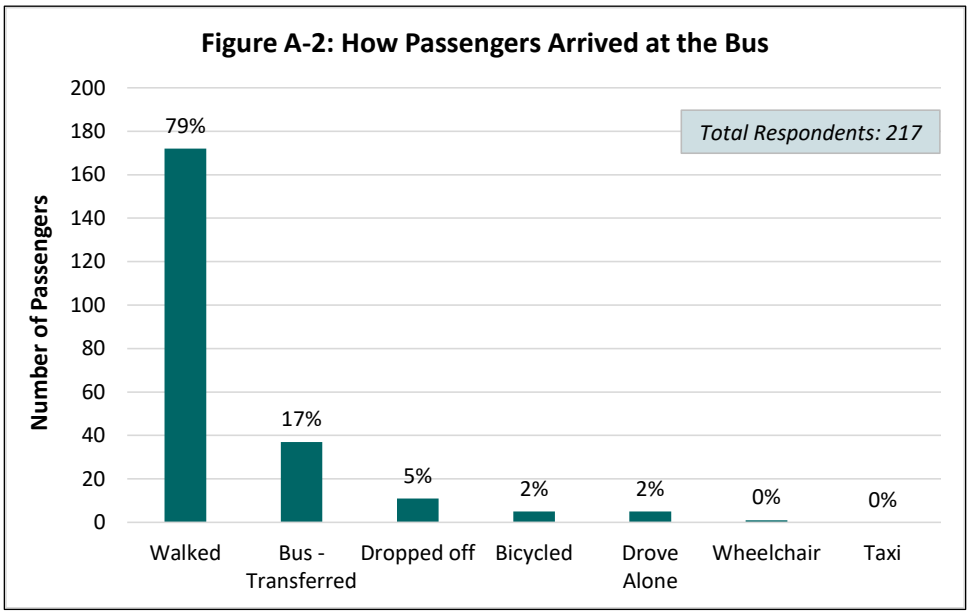
Excludes Stops with 1 Boarding or 1 Alighting

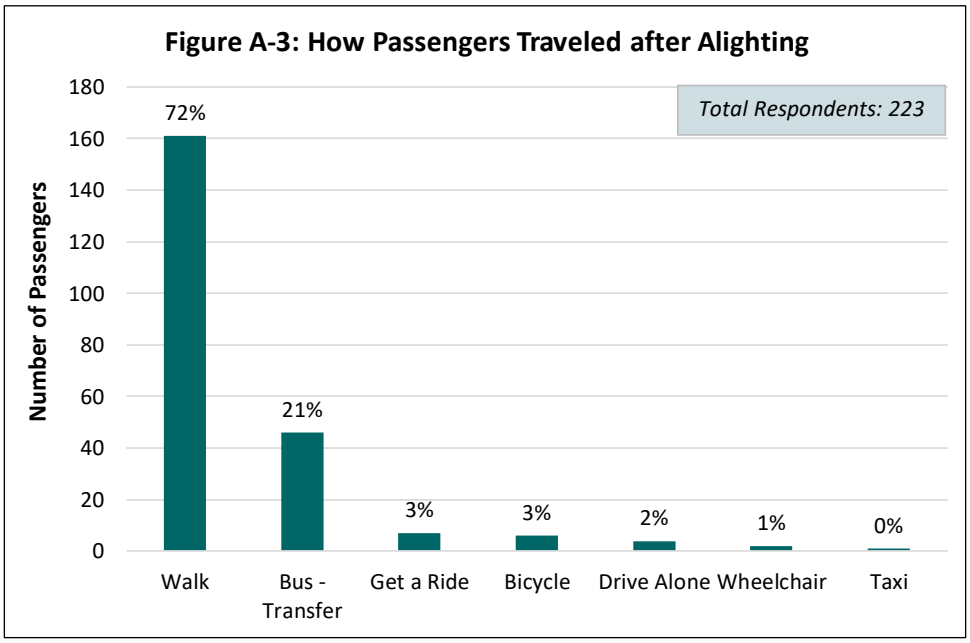
Boarding Stop	Adventist Health Hospital	Arrowhead Rd & Boxwood St	Austin Park	Burns Valley Mall	Calistoga	Clearlake	Clearlake Oaks	Clearlake Post Office	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice Post Office	Old Highway 53	Pear Tree Center	Robinson Rancheria Resort & Casino	Running Creek Casino	Safeway (Clearlake)	Sutter Lakeside Hospital	Twin Pine Casino	Third and Main St (Lakeport)	Ukiah	Upper Lake	Walmart (Clearlake) - LTA Transfer Hub	Woodland College	Total (1)
	Alighting Stop																									
13th Ave & SR 20 (Lucerne)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%
Adventist Health Hospital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Austin Park	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	2%
Burns Valley Mall	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%	3%
Clearlake Apartments	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	2%
Clearlake Oaks	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Clearlake Post Office	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Clearlake Senior Center	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Cypress Ave	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Grocery Outlet (Lakeport)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%
Kelseyville	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Lake County Social Services	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Lakeport	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Lower Lake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Lower Lake High School	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Lucerne	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	3%
Martin St @ Bella Vista	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	0%	0%	0%	1%
Mendo Mill (Clearlake)	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Nice	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%
Nice Post Office	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Notts Liquors	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Robinson Rancheria Resort & Casino	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%	3%
Safeway (Clearlake)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Safeway (Lakeport)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
SR 20 & 1st (Lucerne)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	2%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	4%
Store 24 (Middletown)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Sutter Lakeside Hospital	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	2%	1%	5%
Third and Main St (Lakeport)	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%	1%	0%	6%
Twin Pine Casino	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	2%
Walmart (Clearlake) - LTA Transfer Hub	1%	0%	1%	1%	0%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	1%	1%	0%	0%	0%	1%	1%	13%
Total (1)	2%	1%	3%	2%	1%	4%	2%	2%	1%	2%	2%	2%	2%	1%	1%	4%	3%	2%	5%	2%	2%	1%	1%	19%	2%	100%

Note 1: Excluding stops with 1 boarding or 1 alighting.

Q4 & Q5. How Passengers Arrived at the Bus (217 Responses), and then Completed Their Journey After Alighting (223 responses)

Respondents identified what mode of travel they used to get to and from bus stops (Figures A-2 and A-3). Over three-quarters of passengers walk to the bus (79 percent), and an almost equal number of passengers (72 percent) said that after disembarking from the bus they would walk to their final destination. The second most likely mode of transportation to and from bus stops among the passengers surveyed was a transfer on another bus (17 percent got to their bus from a transfer and 21 percent planned on getting to their final destination by transferring to a different bus). Very few people reported that they drive, bicycle, taxi, or wheelchair to and from the bus stop. The fact that many of the survey respondents walk to and from the bus is supported by a later survey question where the majority of respondents said they do not have a personal vehicle available to them.





Q6. Routes and Services Used to Complete One-Way Trip (213 Responses)

Table A-5: Routes Used To Complete One-Way Trip

Route / Service	# of Participants	% of Participants
Route 1	85	40%
Route 2	10	5%
Route 3	16	8%
Route 4	30	14%
Route 4a	4	2%
Route 7	10	5%
Route 8	28	13%
Route 10	68	32%
Route 11	49	23%
Route 12	12	6%
Greyhound	3	1%
Amtrak	2	1%
Mendocino Transit	3	1%
Vine Transit	3	1%
Total Responses	**213**	**100%**

As a significant portion of the survey participants indicated that a transfer was part of their trip, it is valuable to know all of the routes that participants planned to use in order to complete their one-way trip. Information about transfers can indicate if any service changes are needed in order for people to make their transfer. Much like the overall ridership results, the most popular routes among respondents were Route 1 (40 percent), Route 10 (32 percent), and Route 11 (23 percent) (Table A-5). It is unclear whether those respondents who answered Route 4a made a mistake or were trying to indicate that they used to use this service prior to it being paused before the onboard survey effort was conducted.

Participants' answers were reviewed to determine routes that Lake Transit passengers commonly transfer between. The most popular transfer patterns were from Route 10 to Route 11, from Route 1 to Route 8, from Route 10 to Route 1, and from Route 11 to Route 10. Among the surveyed respondents, Route 1 was the most popular route for passengers to transfer both from and to. Full results are shown in Table A-6.

Q7. Roundtrip Travel Patterns (214 Responses)

About two thirds of passengers were planning to ride Lake Transit buses roundtrip the day they were surveyed. The remaining 36 percent were only riding the bus one-way.

Figure A-4: Roundtrip Travel

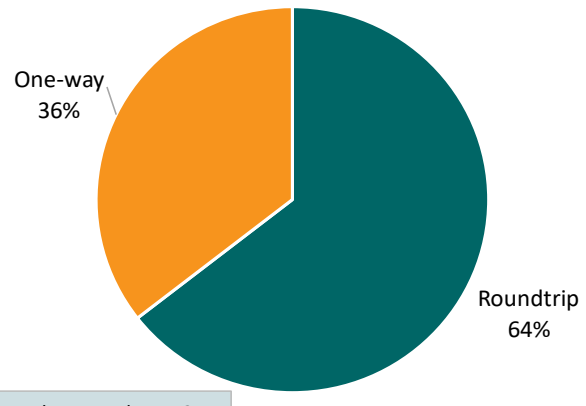
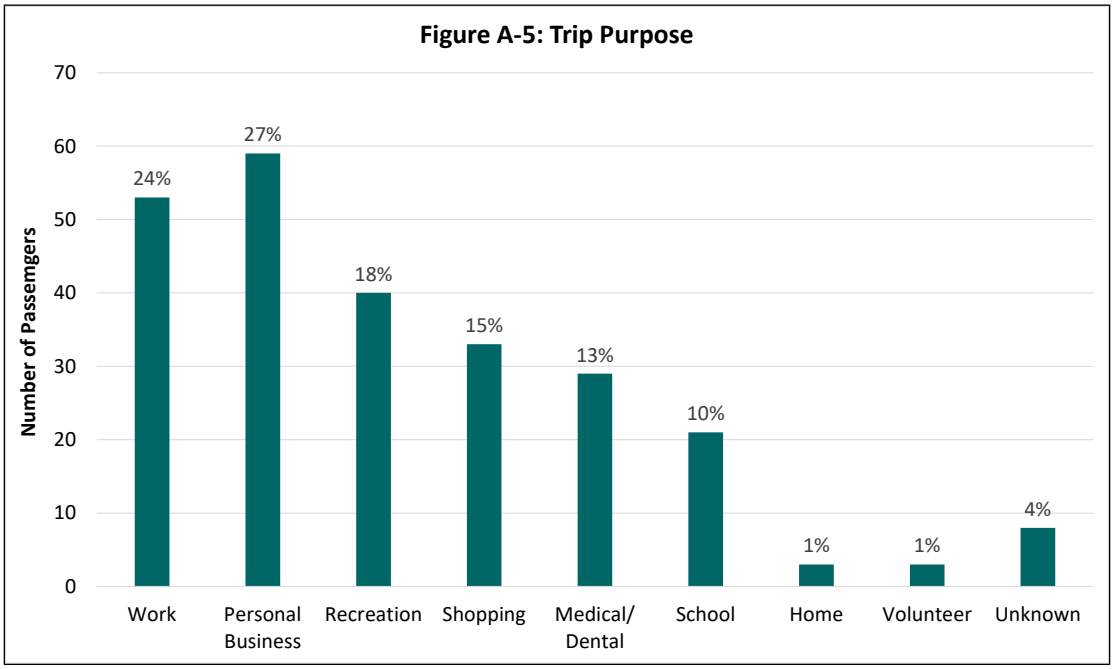


Table A-6: Route Transfer Patterns

Surveyed Route	Routes Included as Part of Planned Trip														
	1	2	3	4	4a	7	8	10	11	12	Amtrak	Greyhound	Mendocino Transit	Vine Transit	**Total**
1		3	2	1	1	2	10	7	2	1	1	1	1	1	33
2	0		1	1	0	0	0	0	0	0	0	0	0	0	2
3	3	1		0	0	0	0	1	1	0	1	1	0	2	10
4	2	0	1		0	4	3	3	1	2	0	0	1	0	17
7	1	0	0	1	0		1	1	0	0	0	0	0	0	4
8	6	0	0	2	0	1		1	1	1	0	0	1	0	13
10	8	0	1	3	0	0	0		11	6	0	1	0	0	30
11	5	2	1	4	1	0	0	8		0	0	0	0	0	21
12	0	1	0	0	0	0	1	1	1		0	0	0	0	4
Unknown	3	2	1	2	2	1	2	4	2	0		0	0	0	19
Total	28	6	5	13	3	6	7	19	17	9	1	2	2	2	120

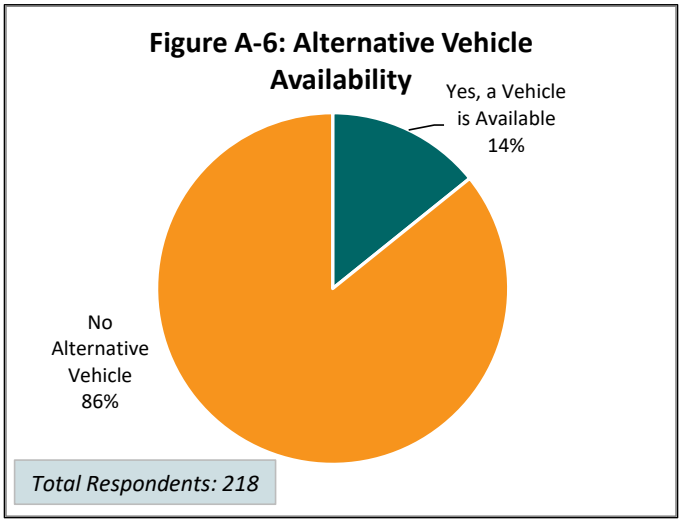
Q8. Trip Purpose (219 Responses)

Since the COVID-19 pandemic, it is especially important to know why people are traveling and using public transit, as many people have had their daily commitments change. Respondents were asked the main purpose of their trip the day they completed the onboard survey (Figure A-5). Many people reported more than one reason for riding the bus. The most common reasons why people were riding Lake Transit were for personal business (27 percent) and work (24 percent). The least common reasons were to go to a volunteer commitment or home (1 percent, respectively).



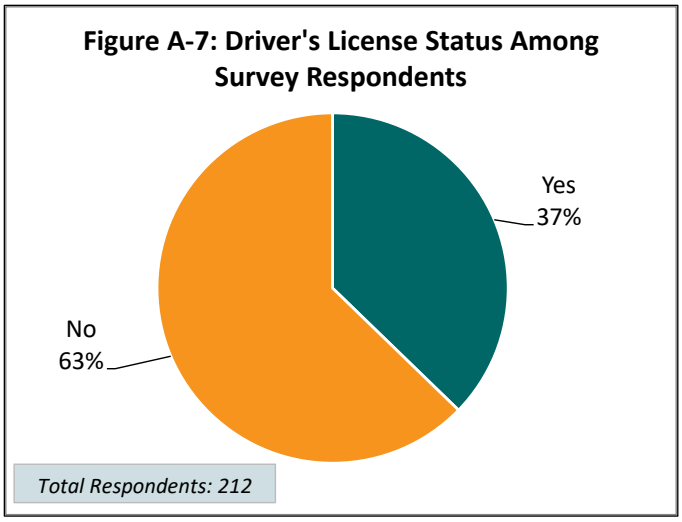
Q9. Alternative Vehicle Availability (218 Responses)

A key indicator of potential transit dependency is whether or not someone has a personal vehicle available to them. As seen in Figure A-6, most of the respondents did not have a car they could have used the day they answered the survey (86 percent).



Q10. Driver's License Status Among Survey Respondents (212 Responses)

Another indicator of potential transit dependency is whether or not an individual has a driver's license. About two-thirds of respondents reported that they do not have a driver's license (63 percent) (Figure A-7).



Q11. Age of Survey Participants (219 Responses)

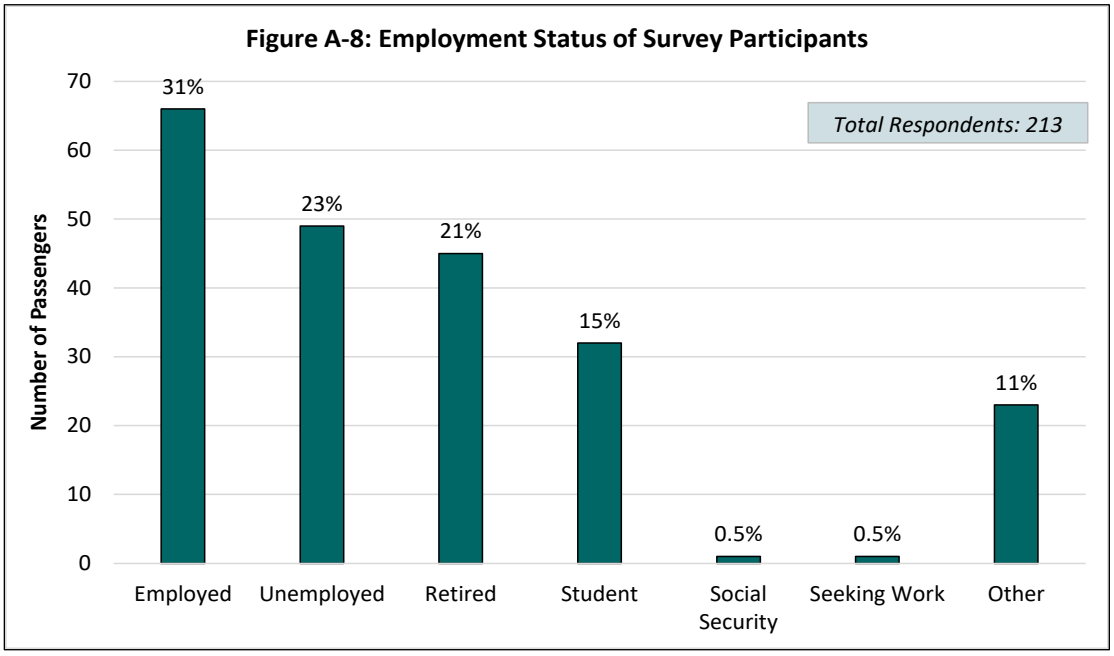
Adults ages 41 to 64 represented the greatest number of participants (42 percent), with adults ages 25 to 40 representing the second greatest amount (24 percent). The number of youths and young adults (ages 18 to 24) surveyed was nearly equal to the number of seniors (65 to 74) and older seniors (75 and older), with the groups representing 16 and 17 percent of respondents, respectively (Table A-7).

Table A-7: Age of Survey Participants

Age	# of Participants	% of Participants
Under 18	16	7%
18 - 24	19	9%
25 - 40	53	24%
41 - 64	92	42%
65 - 74	27	12%
75 or Older	12	5%
Total Responses	**219**	**100%**

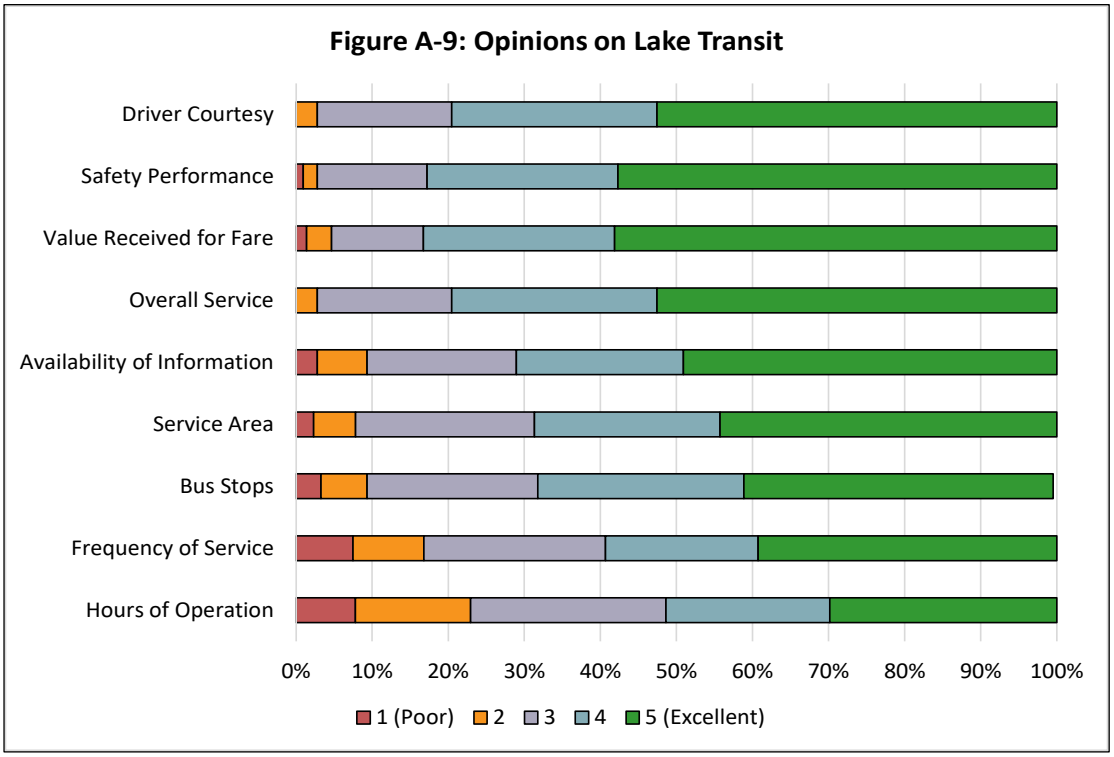
Q12. Employment Status of Respondents (216 Responses)

As shown in Figure A-8, about one third of the survey respondents are currently employed (31 percent). This employment statistic may explain why only 24 percent of the respondents were riding to the bus to go to work. 23 percent of respondents were unemployed at the time of the survey, and 21 percent were retired. Schools attended by the 15 percent of survey respondents who were students include Upper Lake High School, Middletown High School, Lower Lake High School, Kelseyville High School, Woodland College, and Mendocino College.



Q13. Passenger Opinions on Lake Transit (214-218 Responses)

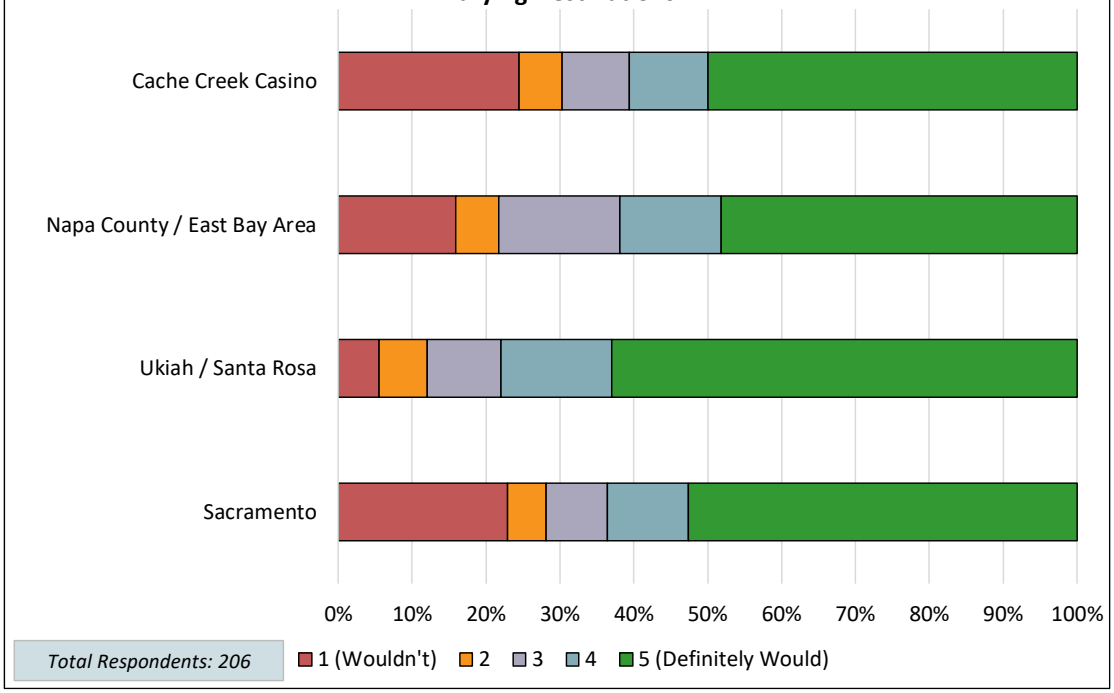
Passengers were asked to rank various components of Lake Transit service on a scale of 1 (poor) to 5 (excellent) (Figure A-9). Considering all the responses, 72 percent of answers were either 4 (good) or 5 (excellent), and the overall service ranked an average of 4.3. The highest ranked Lake Transit service characteristics were driver courtesy (4.5), safety performance (4.4) and value received for fare (both 4.4). The lowest ranked components were hours of operation (3.5) and service frequency (3.7).



Q14. Likelihood Passengers Would Use Expanded Public Transit to Travel to Varying Destinations (206 Responses)

To explore the potential ridership of Lake Transit services to new destinations outside of the current service area, passengers were asked to indicate how likely it would be that, if available, they would ride the bus to either Cache Creek Casino, Napa County/East Bay Area, Ukiah/Santa Rosa, or Sacramento. The most popular option was expanded transit service to Ukiah/Santa Rosa, with only a moderate amount of interest in the other three destinations indicated (Figure A-10).

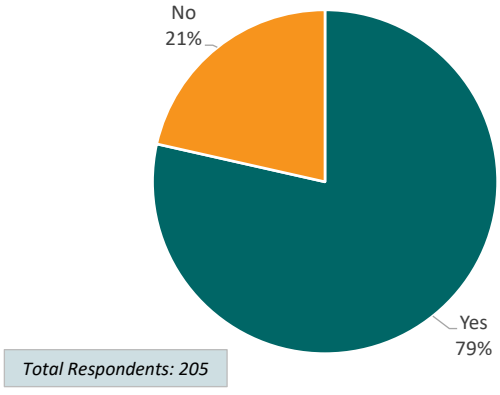
Figure A-10: Likelihood Passengers Would Use Expanded Public Transit to Varying Destinations



Q15. Amount of Lake Transit Passengers Interested in On-Demand Transit (205 Responses)

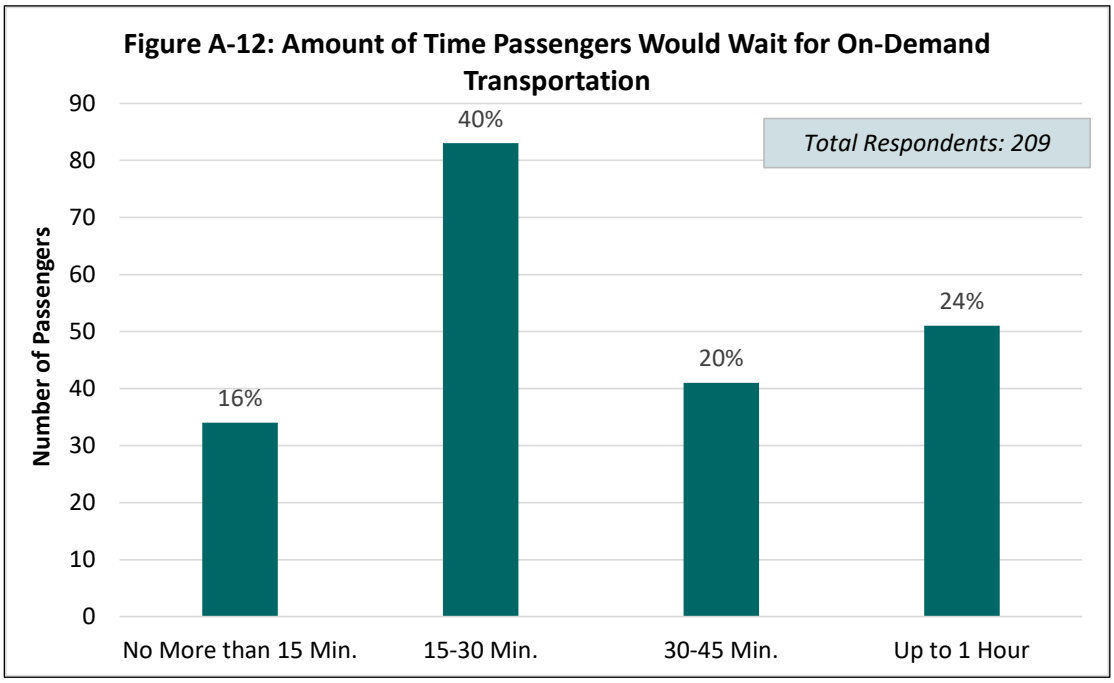
On-demand transportation is becoming an increasingly popular transit alternative. There are areas of Lake County that could potentially be served more effectively by an on-demand service versus by fixed routes. Most respondents (79 percent) said they would use on-demand transit if it was made available (Figure A-11).

Figure A-11: Amount of Lake Transit Passengers Who Would Use On-Demand Transit



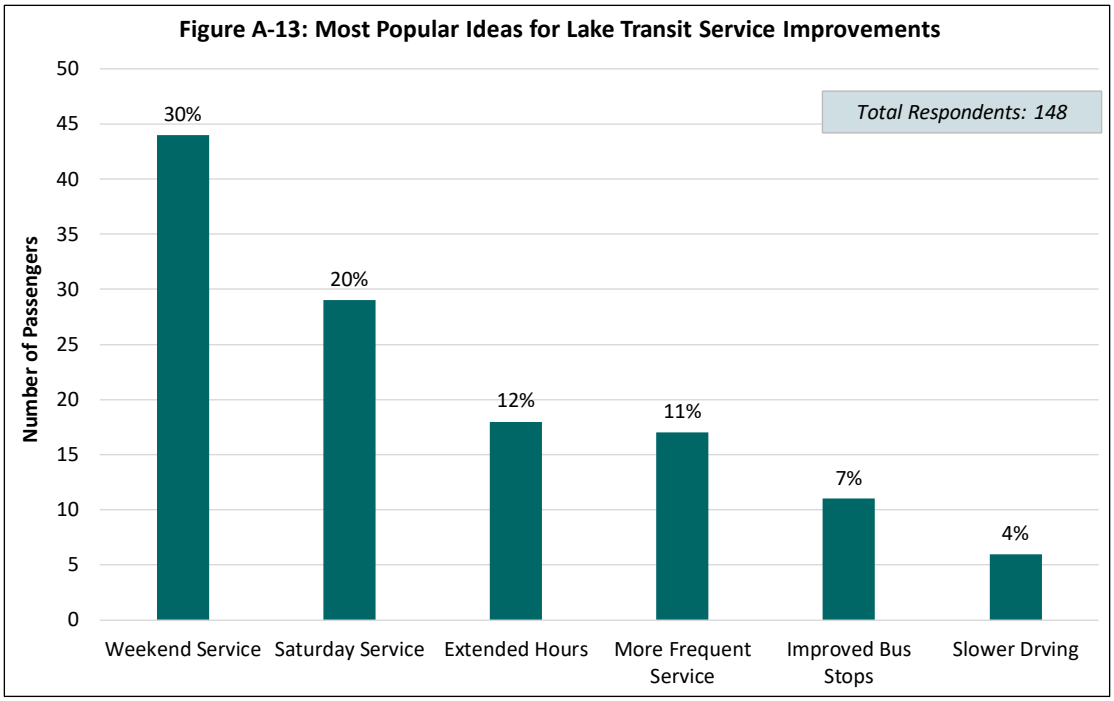
Q16. Amount of Time Passengers Would be Willing to Wait for On-Demand Transportation (205 Responses)

Respondents were asked to select how long they would be willing to wait for an on-demand service if it was implemented in Lake County. A significant number of passengers indicated that they would be willing to wait between 15 to 30 minutes for a ride, as shown in Figure A-12. Only 16 percent of passengers said they would expect a ride in less than 15 minutes.



Q17a. Desired Improvements to Lake Transit (148 Responses)

Passengers provided input about potential service improvements that they would like to see implemented on Lake Transit. The most popular suggestions are shown in Figure 13. Predictably, passengers would like to see Saturday service resumed, with other passengers suggesting Lake Transit operate on both Saturday and Sunday. Lake Transit suspended Saturday service in March 2020 due to the pandemic and has only partially resumed Saturday service as of September 2022 due to a lack of drivers. Once staffing levels increase, Saturday service will hopefully fully resume. Specific bus stop improvements suggested were to weed the bus stops and to install benches. Many passengers asked for slower driving due to the bumps along the roads, and also because they reported that drivers have sometimes passed by them as they are waiting at a stop. If drivers are unable to make rides comfortable for passengers or to stop for every passenger in order to keep to their schedule, it may be necessary to adjust the overall route schedules. Other suggestions for potential service improvements included having Wi-Fi on the bus, improved on-time performance, free passes for high school students, and more frequent service for specifically routes 3, 4, and 7.



Q17b. Compliments to Lake Transit

Rather than provide a suggestion for potential improvements to Lake Transit, some passengers left compliments for the service. A selection of compliments is listed in Table A-8.

Table A-8: Compliments for Lake Transit

"Everything was excellent."
"Excellent"
"God Bless"
"Thank you."
"God Bless."
"Nothing [to recommend], it's great."
"[Lake Transit] is good. Thank you. Have a nice day."
"Very satisfied."

This page intentionally left blank.

COMMUNITY SURVEY RESULTS

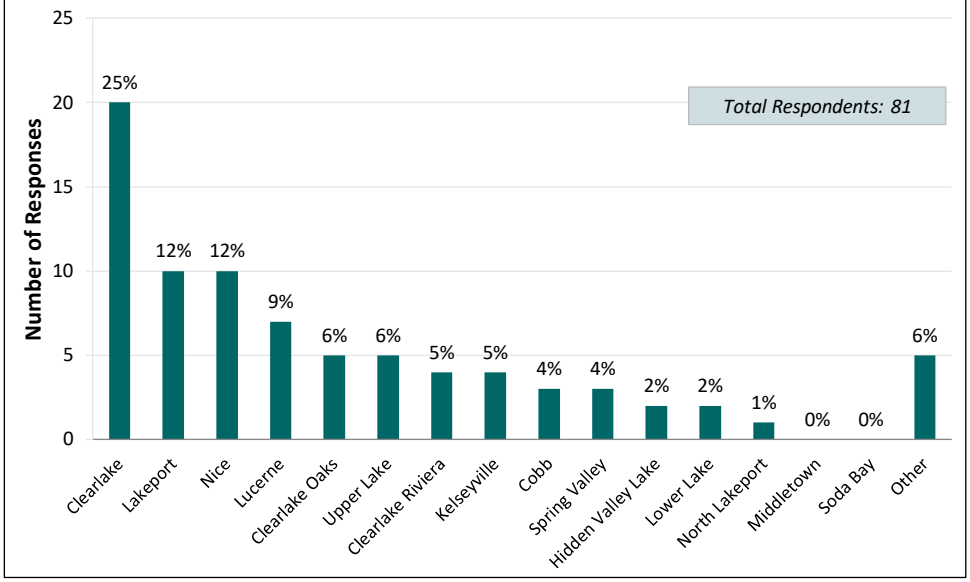
An online survey was made available to the greater Lake County community during June and July 2022. Different from the onboard passenger survey, the community survey participants include both individuals who regularly ride the bus as well as people who rarely, if ever, use Lake Transit services. The online survey results thus represent demographics, travel patterns, and perceptions held by the community at-large versus just those of Lake Transit riders. This information is valuable because in order to improve the transit system over the next five years and potentially increase systemwide ridership, it is important to understand why Lake County residents travel and what service improvements may encourage greater ridership by all community members, not just current riders.

The survey was entirely online, with a simple introduction and 17 questions in multiple choice, short-answer, or comment format. There were English and Spanish versions of the survey available, but everyone answered in English. The community survey was advertised by emailing the survey to various stakeholders across Lake County, which in turn distributed the survey to their own networks. Lake County News also published an advertisement. In all, 81 people participated in community survey. Full results are included in this Appendix while key findings are summarized in the report.

Q1. Home Community (81 Responses)

To better understand the demographics of the survey respondents, people were asked to identify the community where they live. 25 percent of respondents indicated that they lived in Clearlake (Figure B-1). The next two most common communities where people lived were Lakeport and Nice with 12 percent each. Lucerne was home to 9 percent of respondents and Clearlake Oaks and Upper Lake were each home to 6 percent of respondents.

Figure B-1: Home Community of Respondents



Q2. Age of Survey Participants (81 Responses)

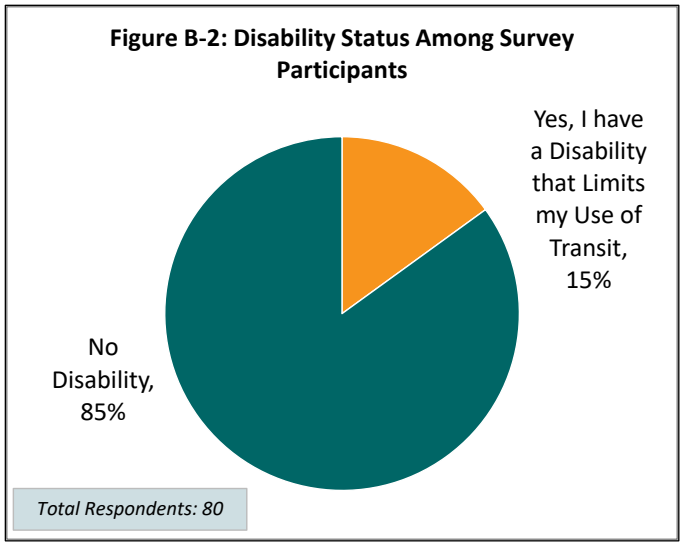
The majority of respondents indicated they were between 41 and 64 years old (42 percent). The next most common age range was between the ages of 65 and 74 years old, with 30 percent of participants falling into this group (Table B-1). There were no surveys completed by anyone between 18 to 24 years old and only 1 survey by someone younger than 18.

Table B-1: Age of Survey Participants

Age	# of Participants	% of Participants
Under 18	1	1%
18 - 24	0	0%
25 - 40	12	15%
41 - 64	32	40%
65 - 74	24	30%
75 or older	12	15%
Total Responses	**81**	**100%**

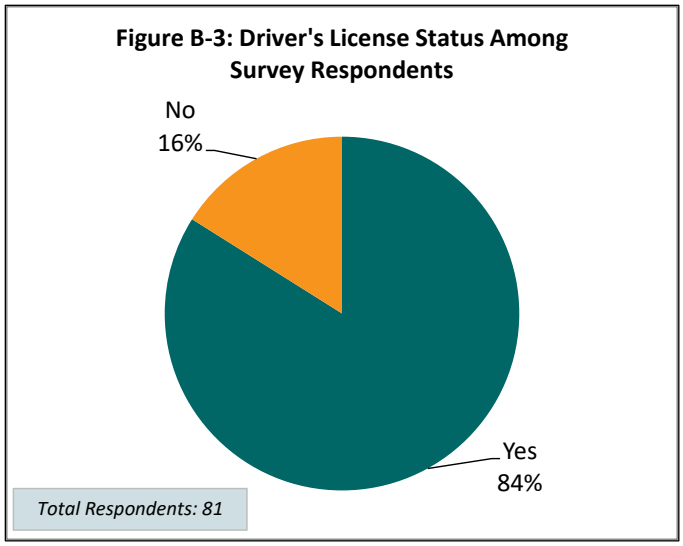
Q3. Disability Status Among Survey Participants (80 Responses)

To better understand potential barriers preventing community members from getting where they need to go, participants were asked if they had a disability that limited their use of Lake Transit. 85 percent of respondents indicated they did not have a disability impacting their ability to ride the bus (Figure B-2).



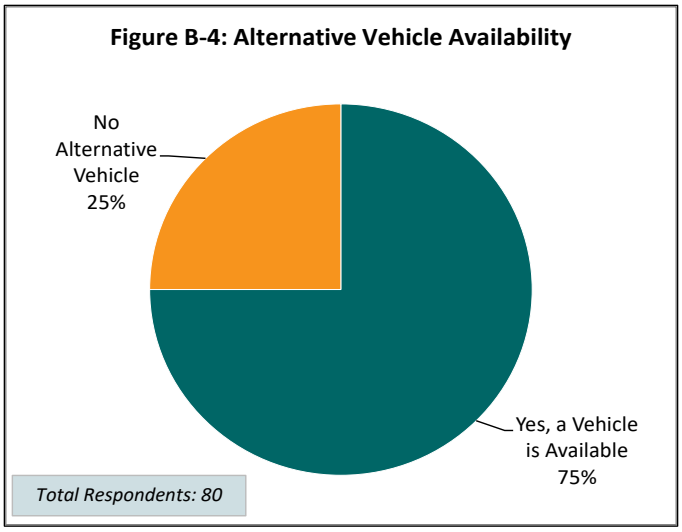
Q4. Driver's License Status Among Survey Respondents (81 Responses)

Differing from the onboard passenger survey, 84 percent of the community survey respondents indicated they have their driver's license (Figure B-3). This statistic indicates far lower levels of potential transit dependency among the community survey participants compared to the onboard survey participants.



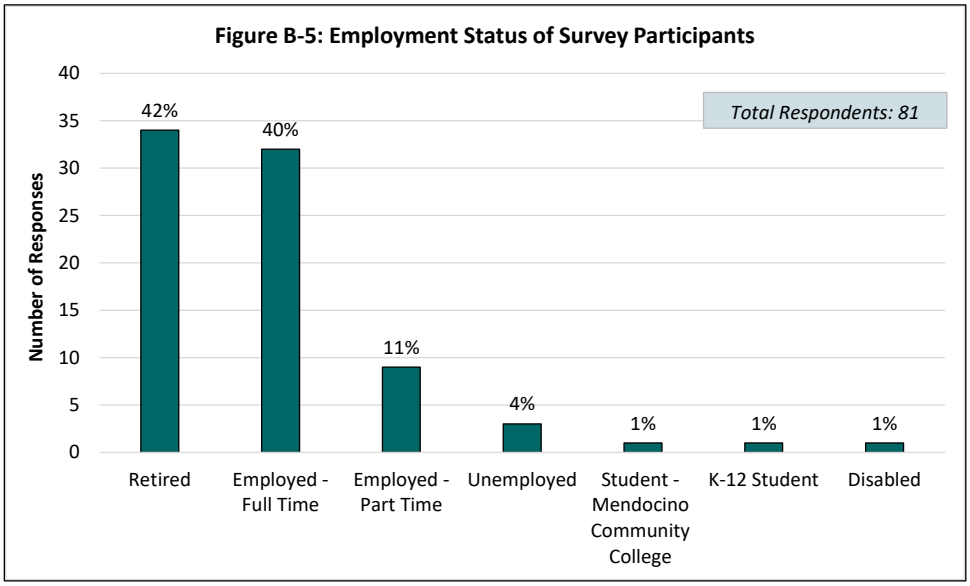
Q5. Alternative Vehicle Availability (80 Responses)

Another key indicator of potential transit dependency is whether or not someone has a personal vehicle available to them. 75 percent of respondents indicated they had a vehicle they could use for travel, which is a much greater proportion compared to the onboard survey (Figure B-4).



Q6. Employment Status of Survey Participants (81 Responses)

The majority of survey participants (42 percent) indicated they were retired. 38 percent of respondents were employed full-time, and 10 percent of respondents were employed part-time. Students and unemployed persons made up the remaining 10 percent of responses (Figure B-5).



Q7. Activities by Community and Time (68 Responses)

Respondents were asked to identify where they go for various activities and needs. Tables B-2 through B-6 show respondents' answers to this question based on their community of residence, therefore providing a clearer picture of the travel patterns of residents across Lake County. Table B-7 shows the total percentage of trips made by residents of each community to another community, considering all of the trip purposes. Highlights for each community of residence are discussed below:

- Clearlake Riviera – The top two destinations for Clearlake Riviera residents are Lakeport and Clearlake, which is predictable given the location of Clearlake Riviera between the two cities. Lakeport is the top destination for medical appointments while Clearlake is for grocery shopping.

- Clearlake/ Lower Lake – The community survey respondents who live in Clearlake and Lower Lake go across the region for medical appointments, work, and recreation. Clearlake is the most popular destination for grocery shopping and banking. Sonoma County is another popular destination and the most traveled to area outside of Lake County.

- Cobb – Among the respondents who live in Cobb, Lakeport is the top destination for work, banking, medical appointments, and recreation. Clearlake and Sonoma County were the other two destinations most visited by Cobb residents.

- Hidden Valley Lake – Residents stay in Hidden Valley Lake for grocery shopping and medical appointments. Some travel to Clearlake for medical appointments and banking.

- Lakeport / Kelseyville – Lakeport and Kelseyville residents tend to bank, recreate, attend medical appointments, and grocery shop within either of the two towns, meaning they are not often traveling across Lake County. Some respondents said they go to either Mendocino or Sonoma Counties, primarily for work or medical appointments.

- Lucerne / Clearlake Oaks – For residents of Lucerne and Clearlake Oaks, both communities along the north shore of Clear Lake, Lakeport is the most popular destination for work, banking, medical appointments, and grocery shopping. Clearlake is the second most popular destination for many of the trip purposes analyzed. The survey respondents also indicated they make a number of trips to Lucerne, Nice, and Upper Lake.

- Nice / Upper Lake – Most residents of Nice and Upper Lake stay on the north shore of Clear Lake or go to Lakeport for their various trips. Nice and Upper Lake were the most popular destinations for work, recreation, and grocery shopping. For medical appointments and banking, most residents go to Lakeport.

- Spring Valley – Respondents from Spring Valley primarily travel to Clearlake for medical appointments and work, while residents travel to both Clearlake and Lakeport for groceries.

Table B-2: Travel Patterns by Community of Residence - Work

Community of Residence	Communities Traveled to for Work														
	Clearlake	Cobb	Hidden Valley Lake	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice	Upper Lake	Other Lake County Locations	Mendocino County	Napa County	Sonoma County	Other	**Total**
Clearlake Riviera	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Clearlake / Lower Lake	1	1	0	0	0	1	0	0	0	0	0	1	2	0	6
Cobb	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Hidden Valley Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lakeport / Kelseyville	1	0	0	0	2	1	0	2	0	0	1	0	0	1	8
Lucerne / Clearlake Oaks	0	0	0	0	3	0	0	1	1	1	0	0	0	0	6
Nice / Upper Lake	0	0	0	0	1	0	0	3	2	0	1	0	0	0	7
Spring Valley	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	1	0	0	8	2	0	7	3	1	2	1	2	1	31

Table B-3: Travel Patterns by Community of Residence - Medical Appointments

Community of Residence	Communities Traveled to for Medical Appointments														
	Clearlake	Cobb	Hidden Valley Lake	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice	Upper Lake	Other Lake County Locations	Mendocino County	Napa County	Sonoma County	Other	**Total**
Clearlake Riviera	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Clearlake / Lower Lake	3	0	2	0	3	0	0	0	0	2	0	1	3	0	14
Cobb	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
Hidden Valley Lake	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Lakeport / Kelseyville	2	0	1	3	4	0	0	0	0	1	1	0	2	0	14
Lucerne / Clearlake Oaks	1	0	0	0	6	0	0	0	0	0	1	0	2	0	10
Nice / Upper Lake	1	0	0	0	8	0	0	0	0	0	0	0	0	0	9
Spring Valley	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	10	0	4	3	24	0	0	0	0	3	2	1	8	0	55

Table B-4: Travel Patterns by Community of Residence - Grocery Shopping

Community of Residence	Communities Traveled to for Grocery Shopping														
	Clearlake	Cobb	Hidden Valley Lake	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice	Upper Lake	Other Lake County Locations	Mendocino County	Napa County	Sonoma County	Other	**Total**
Clearlake Riviera	2	0	1	0	1	0	0	0	0	0	0	0	0	0	4
Clearlake / Lower Lake	6	0	1	0	0	0	0	0	0	1	0	0	0	0	8
Cobb	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Hidden Valley Lake	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Lakeport / Kelseyville	0	0	0	0	9	0	0	0	0	0	1	0	0	0	10
Lucerne / Clearlake Oaks	3	0	0	0	4	1	1	1	0	0	2	0	0	0	12
Nice / Upper Lake	0	0	0	0	4	0	0	3	0	2	3	0	1	0	13
Spring Valley	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Total	13	1	4	0	19	1	1	4	0	3	6	0	1	0	53

Table B-5: Travel Patterns by Community of Residence - Banking

Community of Residence	Communities Traveled to for Banking														
	Clearlake	Cobb	Hidden Valley Lake	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice	Upper Lake	Other Lake County Locations	Mendocino County	Napa County	Sonoma County	Other	**Total**
Clearlake Riviera	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
Clearlake / Lower Lake	4	0	0	0	1	0	0	0	0	0	0	0	0	0	5
Cobb	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
Hidden Valley Lake	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lakeport / Kelseyville	0	0	0	0	3	0	0	0	0	0	0	0	0	1	4
Lucerne / Clearlake Oaks	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6
Nice / Upper Lake	0	0	0	0	5	0	0	0	0	0	0	0	1	1	7
Spring Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	0	0	0	15	0	0	0	0	0	0	0	1	4	27

Table B-6: Travel Patterns by Community of Residence - Recreation

Community of Residence	Communities Traveled to for Recreation														
	Clearlake	Cobb	Hidden Valley Lake	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice	Upper Lake	Other Lake County Locations	Mendocino County	Napa County	Sonoma County	Other	**Total**
Clearlake Riviera	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Clearlake / Lower Lake	1	1	0	0	2	0	0	0	0	0	0	0	1	0	5
Cobb	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Hidden Valley Lake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lakeport / Kelseyville	0	0	0	1	0	0	1	1	0	0	0	0	0	0	3
Lucerne / Clearlake Oaks	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2
Nice / Upper Lake	0	0	0	1	1	0	0	2	1	1	2	0	1	1	10
Spring Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	2	5	0	1	4	1	2	3	0	2	1	23

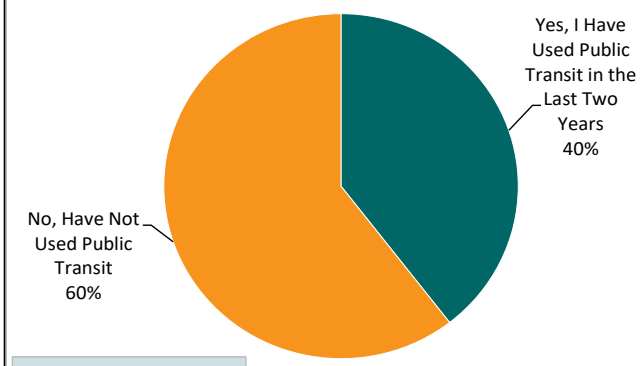
Table B-7: Travel Patterns by Community of Residence - Percentage of All Trips

Community of Residence	Communities Traveled to for All Trips														
	Clearlake	Cobb	Hidden Valley Lake	Kelseyville	Lakeport	Lower Lake	Lucerne	Nice	Upper Lake	Other Lake County Locations	Mendocino County	Napa County	Sonoma County	Other	**Total**
Clearlake Riviera	20%	0%	10%	0%	40%	0%	0%	10%	0%	10%	0%	0%	0%	10%	100%
Clearlake / Lower Lake	39%	5%	8%	0%	16%	3%	0%	0%	0%	8%	0%	5%	16%	0%	100%
Cobb	10%	10%	0%	0%	60%	0%	0%	0%	0%	0%	0%	0%	10%	10%	100%
Hidden Valley Lake	40%	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Lakeport / Kelseyville	8%	0%	3%	10%	46%	3%	3%	8%	0%	3%	8%	0%	5%	5%	100%
Lucerne / Clearlake Oaks	18%	0%	0%	0%	45%	3%	3%	8%	3%	3%	11%	0%	5%	3%	100%
Nice / Upper Lake	2%	0%	0%	2%	40%	0%	0%	17%	9%	6%	13%	0%	6%	4%	100%
Spring Valley	80%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%

Q8. Past Public Transit Use in Lake County (81 Responses)

As seen in Figure B-6, the majority of respondents (60 percent) indicated they had not used public transit in Lake County within the last two years. As both non-transit riders and transit riders responded to the community survey, the results more accurately reflect the views and travel patterns of the greater Lake County community.

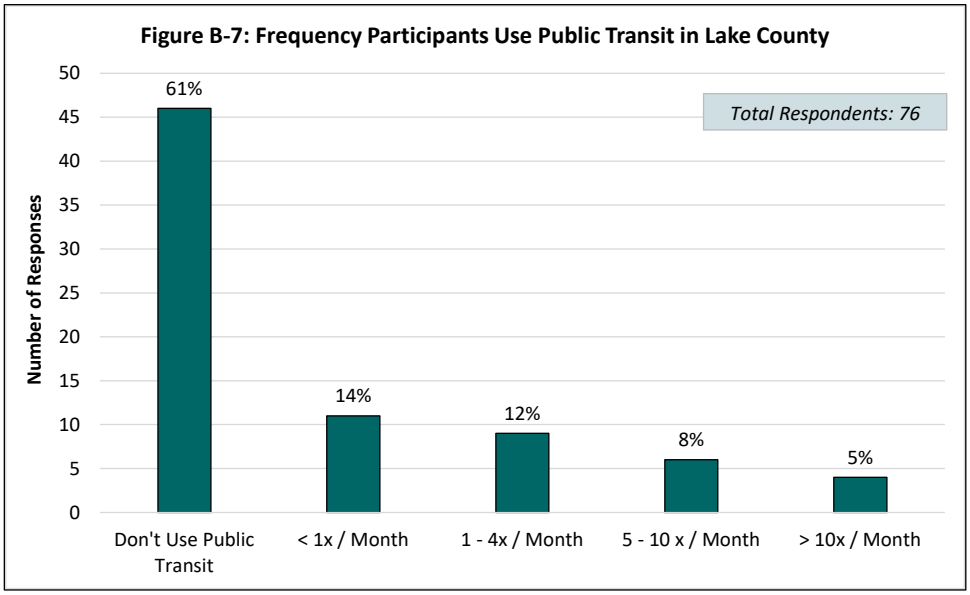
Figure B-6: Past Public Transit Use in Lake County by Survey Participants



Q9. Frequency Participants Use Public Transit in Lake County (76 Responses)

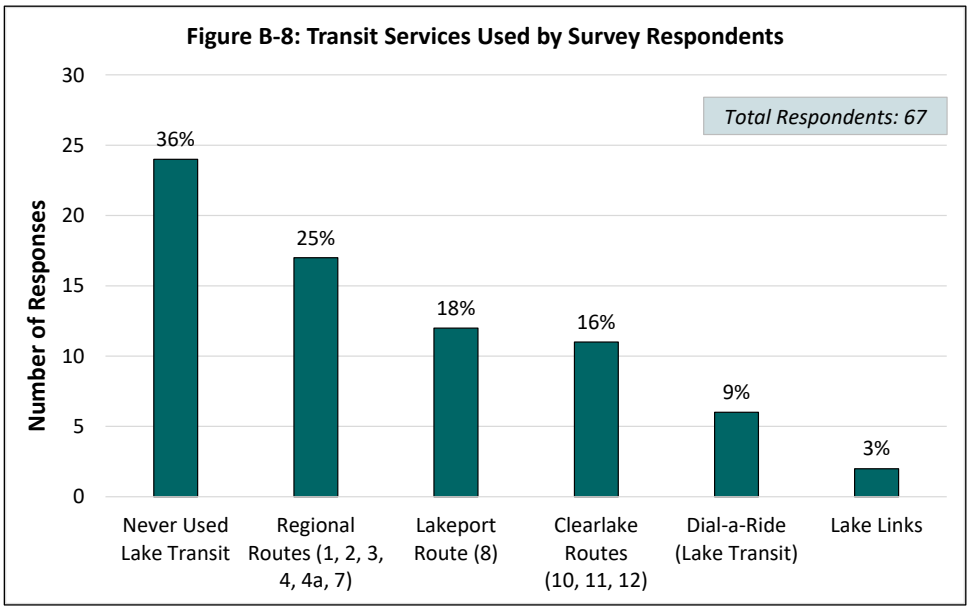
Participants were asked to identify how frequently they ride the bus. Besides the approximately 60 percent of respondents who do not use public transit, another 14 percent of respondents said they use local public transit less than once a month (Figure B-7). Only 5 percent of respondents indicated that they ride the bus more than 10 times a month.

Figure B-7: Frequency Participants Use Public Transit in Lake County



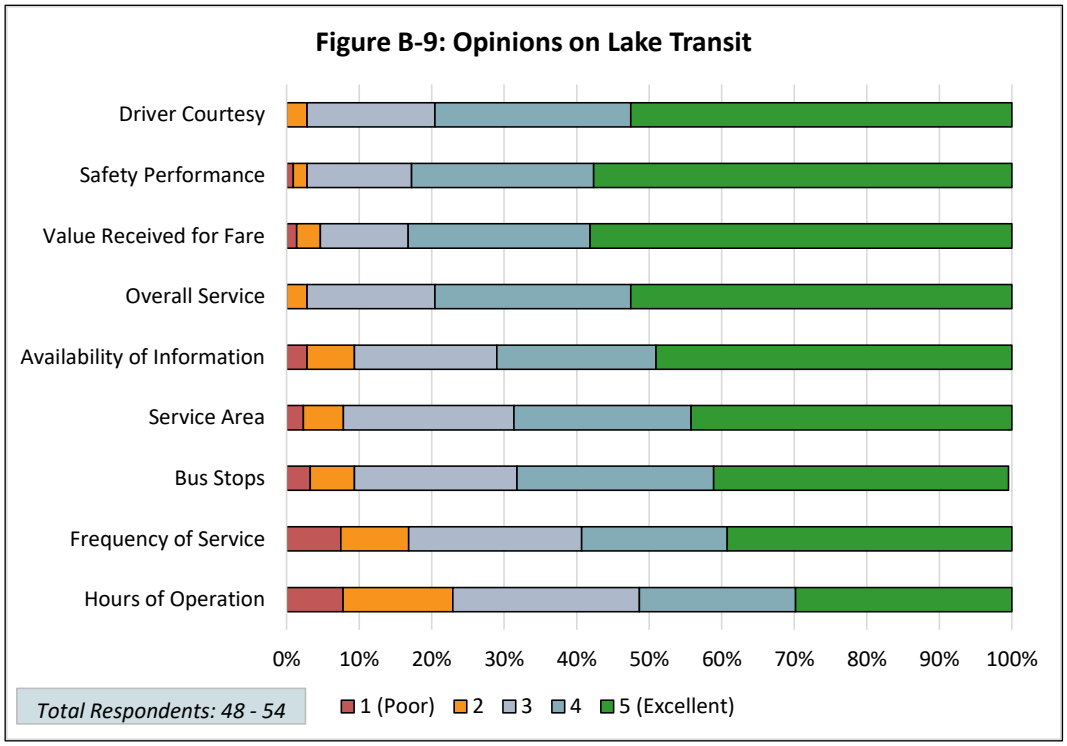
Q10. Transit Services Used by Survey Respondents (67 Responses)

25 percent of respondents had used the Lake Transit regional routes sometime in the past. The next most popular routes among the survey participants were Route 8, the local Lakeport route, and Routes 10, 11, and 12, or the local Clearlake routes. 9 percent of respondents had used Dial-a-Ride and 3 percent had used Lake Links (Figure B-8).



Q11. Participant Opinions on Lake Transit (54 Responses)

The community survey respondents were also asked to rate Lake Transit on a scale of 1 (poor) to 5 (excellent) based on various service characteristics (Figure B-9). In all, the community survey participants did not have as good perceptions of Lake Transit compared to the onboard survey participants; 41 percent of the total responses were 4 (good) or 5 (excellent) compared to 72 percent of the onboard survey responses, and the overall service ranked an average of 3.2 versus 4.3 in the onboard survey. The highest ranked factors were driver courtesy and safety performance (both 3.8), while the lowest ranked were hours of operation (2.4) and frequency of service (2.7)



Q12. Reasons for Not Using Public Transit in Lake County (56 Responses)

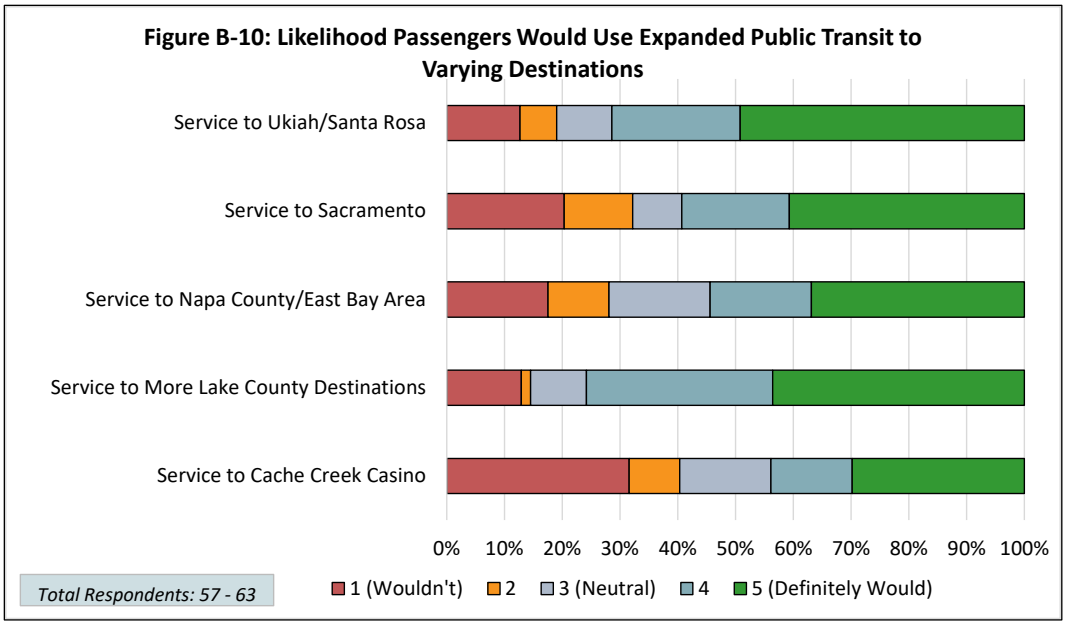
It is important to understand what issues are preventing Lake County residents from using public transit in order to address these issues and eventually encourage increased ridership. Respondents therefore listed the major reasons they do not use Lake Transit. Most participants said that they don't ride the bus because they have their own personal transportation (63 percent). Other issues cited were that the service area either does not go near the participants' homes or does not cover where the participants need to go (23 percent), the hours of operation are too limited (14 percent), and service frequency (9 percent). Full results are shown in Table B-4.

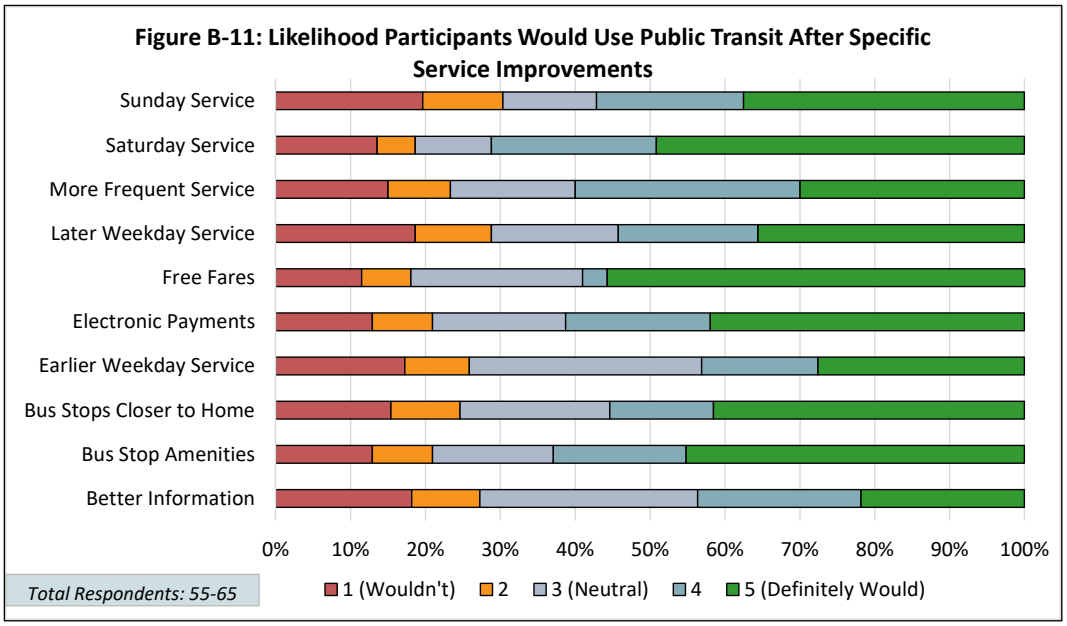
Table B-4: Reasons for Not Using Public Transit in Lake County

Reason	# of Participants	% of Participants
Have Personal Transportation	35	63%
Service Area	13	23%
Hours of Operation	8	14%
Service Frequency	5	9%
Don't Know About Services	4	7%
Too Much Time	2	4%
Need Cash to Ride the Bus	1	2%
Other	3	5%
Total Responses	**56**	**100%**

Q13. How Likely to Use Transit After Improvements (55-65 Responses)

Respondents were asked how likely they would be to use Lake Transit on a scale of 1 (would not) to 5 (definitely would) given various potential changes to the bus system. Figure B-10 shows the likelihood people would ride the bus more often if the Lake Transit service area was expanded to the listed destinations. Participants want public transit service to Ukiah/Santa Rosa and additional destinations within Lake County the most. Figure B-11 shows the likelihood people would ride the bus more if various service improvements were implemented. The highest ranked ideas included free fares and resuming Saturday service. Lowest ranked were service to Cache Creek Casino (3.0) better information on the service (3.2), and earlier weekday service (3.3).





Q14. Most Important Improvements (72 Responses)

The community survey participants were asked to identify the single improvement most important to them of those listed in Question 13. The most common answers were to resume Saturday service and to have better service options to out of county destinations (both 18 percent) (Table B-5). 13 percent of respondents said they would like Lake Transit to prioritize establishing bus stops nearer to their homes, and another 13 percent of respondents wanted better service to destinations within Lake County.

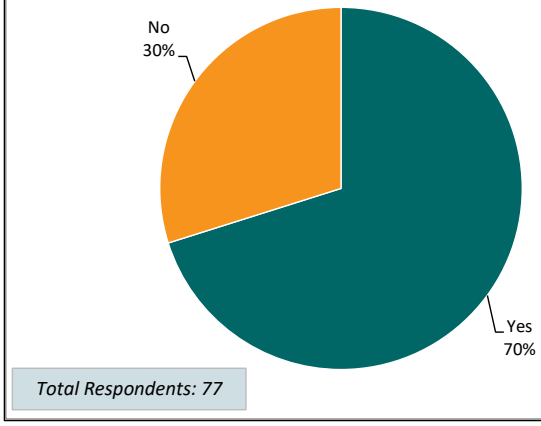
Table B-5: Most Important Improvements

Improvement	# of Participants	% of Participants
Saturday Service	13	18%
Service to More Out of County Destinations	13	18%
Bus Stops Closer to Home	9	13%
Service to More Lake County Destinations	9	13%
Sunday Service	7	10%
More Frequent Service	6	8%
Earlier Weekday Service	4	6%
Electronic Payments	4	6%
Later Weekday Service	3	4%
Better Information	2	3%
Bus Stop Amenities	1	1%
Free Fares	1	1%
Total Responses	**72**	**100%**

Q15. Amount of Participants Interested in On-Demand Transit (77 Responses)

70 percent of the community survey respondents indicated they would use on-demand transportation if Lake Transit were to implement this type of program (Figure B-12).

Figure B-12: Amount of Community Survey Participants Who Would Use On-Demand Transit

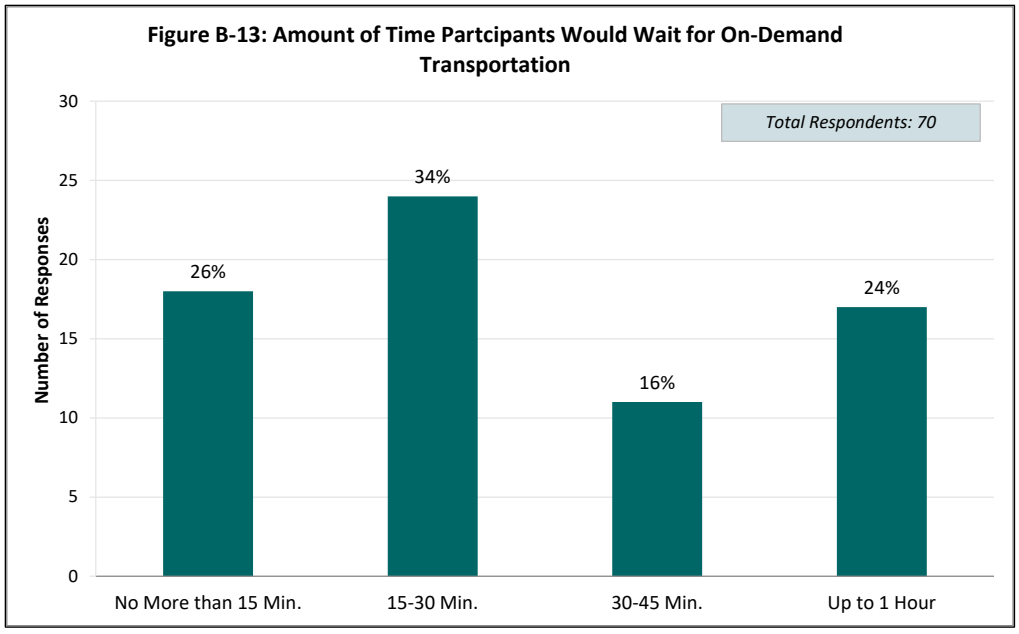


Q16. Amount of Time Passengers Would be Willing to Wait for On-Demand Transportation (70 Responses)

The survey participants were then asked how long they would be willing to for an on-demand ride if Lake Transit were to implement this type of program. About a quarter of respondents (26 percent) indicated they would wait no longer than 15 minutes, while 34 percent said they would wait between 15 and 30 minutes. The remainder would be willing to wait longer than 30 minutes (Figure B-13).

Q17. Desired Improvements to Lake Transit (25 responses)

The final question of the survey asked respondents to describe service improvements they would like to see implemented on Lake Transit. The most popular suggestions were to expand public transit to both more in-county and out-of-county destinations. Having more disability accommodations was also a popular suggestion. Other ideas for potential service improvements included having Wi-Fi on the bus, improved on-time performance, free passes for seniors, and more advertising for the bus.



One person specifically commented that they would love to ride the bus more often, but there is no service in Spring Valley, where they live. The lack of public transportation in Spring Valley has been established as an unmet transit need by the Lake Transit Authority (LTA) and Lake Area Planning Council (APC) in recent years, although it was determined serving the community would not be feasible given resource limitations and low ridership projections.

This page intentionally left blank.

Appendix D

TRANSPORTATION STAKEHOLDER SURVEY RESPONSES

TRANSPORTATION STAKEHOLDER SURVEY RESPONSES

A stakeholder survey was made available to Lake County organizations that either provide transportation services to their clients or assist their clients in other ways with their transportation needs. The survey questions were intended to gather more information about the services provided by these organizations as well as the more specific transportation needs and barriers experienced by their clients.

19 stakeholders including all tribal entities in the region were emailed the survey information directly during July and August 2022 to complete either online or by printing a physical copy of the survey. The surveys included a simple introduction, with 15 questions in multiple choice, short-answer, or comment format. This Appendix includes full results by respondent and question; the main report contains highlights of the stakeholder survey results. Survey participants included staff from the following organizations:

- Lake Links
- Mendocino College
- Woodland Community College – Lake Campus
- Sutter Lakeside Hospital
- People Services, Inc.
- Lake County (Services Related to Older Adults)
- Redwood Coast Regional Center (RCRC)

Table C-1: Transportation Stakeholder Survey - Results (Part 1)

Questions		Agency						
		Lake Links	Mendocino College	Woodland Community College - Lake Campus	Sutter Lakeside Hospital	People Services, Inc.	Lake County (Services Related to Older Adults)	Redwood Coast Regional Center
Type of Organization		Private, Nonprofit	Educational Institution	Educational Institution	Private, Nonprofit	Private, Nonprofit	Government	Non-profit contracted by CA Dept. of Social Services
Populations Served by Organization	People with Disabilities	People with Disabilities		People with Disabilities	People with Disabilities	People with Disabilities		People with Disabilities
	Seniors	Seniors		Seniors	Seniors	Seniors	Seniors	Seniors
	Low-income	Low-Income		Low-Income	Low-Income	Low-Income		Low-Income
	Tribal Members			Tribal Members	Tribal Members	Tribal Members		Tribal Members
	Patients	Patients			Patients	Patients		
	Students		Students	Students	Students	Students		Students
	Unhoused/ Housing Insecure			Unhoused/ Housing Insecure	Unhoused/ Housing Insecure	Unhoused/ Housing Insecure		Unhoused/ Housing Insecure
	General Public	General Public		General Public	General Public	General Public	General Public	
	Program Participants			Program Participants	Program Participants			Program Participants
Services Provided by Organization	Education		Education	Education		Education		Education
	Counseling			Counseling		Counseling		Counseling
	Independent Living Skills			Independent Living Skills		Independent Living Skills		Independent Living Skills
	Job Training		Job Training	Job Training		Job Training		Job Training
	Medical/ Dental				Medical/ Dental	Medical/Dental		Medical/Dental
	Drug Treatment				Drug Treatment			Drug Treatment
	Recreation					Recreation		Recreation
	Social					Social		Social
	Other	Other		Job Placements			Services are Contracted	Behavioral, Transportation
Does Organization Provide Transportation to Clients		Yes	No	No	Yes	Yes	No	Yes

Table C-2: Transportation Stakeholder Survey - Results (Part 2)

		Agency						
	Questions	Lake Links	Mendocino College	Woodland Community College - Lake Campus	Sutter Lakeside Hospital	People Services, Inc.	Lake County (Services Related to Older Adults)	Redwood Coast Regional Center
How is Transportation Provided?	Staff Use Company Vehicles					Staff Use Company Vehicels		
	Purchasing Bus Passes				Purchasing Bus Passes			Purchasing Bus Passes
	Hired Contractor	Hired Contractor						
	Purchased From Provider							Purchased From Provider
	Staff Use Private Vehicles					Staff Use Private Vechles		
	Reimburse Clients	Reimburse Clients						Reimburse clients
	Other	Volunteer Driver Program						
Most Critical Transportation Needs for Lake County Constituents	Medical/ Dental	Medical		Medical	Medical	Medical		Medical
	Shopping	Shopping				Shopping		Shopping
	School/ College		School/ College	School/ College				School/College
	Jobs			Jobs		Jobs		Jobs
	Personal Errands	Personal Errands						Personal Errands
	Counseling							
Where Clients Need To Go	Residential Destinations	Clearlake Lakeport Hidden Valley Clearle Oaks		Middletown Hidden Valley Lake Clearlake (The Avenues) Clearlake (Lakeshore Blvd)	Nice Lucerne	Lake County Napa County Mendocino County		
	Service/ Commercial Destinations	St. Helena Hospital Santa Rosa - Old Redwood Hwy Ukiah - Hospital Drive Willits - Memorial Hospital		Woodland Community College Adventist Health Offices Burns Valley Mall/ Safeway Lake County Social Services	Sutter Lakeside Medical Practice - Parallel Drive Sutter Lakeside Community Clinic - Hill Road	Medical Appts - All Over Banks - All Over		

Table C-3: Transportation Stakeholder Survey - Results (Part 3)

Questions		Agency						
		Lake Links	Mendocino College	Woodland Community College - Lake Campus	Sutter Lakeside Hospital	People Services, Inc.	Lake County (Services Related to Older Adults)	Redwood Coast Regional Center
Times of Day Clients Need Transportation	Depature Times	7:00 AM - 3:00 PM	7:00 AM - 9:00 AM	7:30 AM - 9:00 AM		5:00 AM - 6:00 PM		
	Return Times	3:00 PM - 6:00 PM	9:15 PM - 10:15 PM	1:00 PM - 10:00 PM		5:00 AM - 6:00 PM		
Days of Week Clients Need Transportation	Monday	Monday	Monday	Monday	Monday	Monday		Monday
	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday	Tuesday		Tuesday
	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday	Wednesday		Wednesday
	Thursday	Thursday	Thursday	Thursday	Thursday	Thursday		Thursday
	Friday	Friday		Friday	Friday	Friday		Friday
	Saturday			Saturday				Saturday
	Sunday							Sunday
How Often Clients Need to Make Trips		1 Roundtrip / Day	1 Roundtrip / Day	1 Roundtrip / Day	1 Roundtrip / Day	1 Roundtrip / Day		1 Roundtrip / Day
Are Clients Able to Use Lake Transit?		No; Medi-Links - Yes	Yes	Yes	Yes	Sometimes		Sometimes
Are Clients Who Use Lake Transit Satisfied?			Yes	Unknown	Unknown	No; Issues With Hours of Operation and Service Area		No; Issues with Hours of Operation
Clients' Biggest Transportation Barriers	No Vehicle		No Vehicle	No Vehicle	No Vehicle	No Vehicle		No Vehicle
	No Driver's License		No Driver's License	No Driver's License	No Driver's License	No Driver's License		No Driver's License
	Live Too Far From Bus Stop		Live Too Far From Bus Stop		Live Too Far From Bus Stop	Live Too Far From Bus Stop		
	Need Earlier Transit Hours		Need Earlier Transit Hours			Need Earlier Transit Hours		Need Earlier Transit Hours
	Need Later Transit Hours			Need Later Transit Hours		Need Later Transit Hours		Need Later Transit Hours
	Other	Physically Cannot Drive			Physically Cannot Drive			Too Much Time
Best Method of Outreach About Transit		Printed Materials	Website	Website	Printed Materials	Printed Materials		All Marketing Methods

Appendix E

LAKE COUNTY FAIR OUTREACH

SUMMARY OF COMMENTS RECEIVED AT LAKE COUNTY FAIR

The Lake County Fair was held from September 1 to September 4, 2022. Thousands of Lake County residents visit the fair every year, so the event was an excellent opportunity to share with the public the initial list of service alternatives being considered in the Transit Development Plan (TDP) update as well as to hear from the public about their transportation needs. The study team considered sharing this information on service alternatives at a public meeting but given the normally low attendance at transit plan meetings in rural counties, the team decided that doing public outreach at the fair for multiple days would likely reach more residents than a public meeting.

The Lake Area Planning Council (Lake APC) staffed a booth at the fair all four days, at which a hired associate also worked to conduct public outreach about the preliminary service alternatives developed for Lake Transit and MediLinks. Of those who stopped at the booth, 14 people took the time to complete either a comment card or a survey. The people who completed comment cards all wrote about different ideas or needs rather than commenting on the proposed service alternatives. The surveys asked respondents to indicate their level of support for the 12 potential service alternatives on a scale of 1 (do not like it) to 5 (love the idea). Important takeaways from the input collected at the Lake County Fair are summarized in this Appendix. Highlights from the Lake County Fair public outreach have been considered in the evaluation of service alternatives.

Ideas for Service Improvements

At the fair, multiple people completed comment cards to write down their ideas for potential service improvements that could be implemented on Lake Transit services including the following:

- Extend service to end one hour later, specifically on Route 7
- Service to Spring Valley
- Sunday service
- Add more benches at bus stops, specifically at the stop near the Lion's Club
- Establish a new bus stop in Middletown at the library across from the Gibson Museum
- Increased transit service to areas in Soda Bay
- Add transportation to the Kelseyville Senior Center, specifically so seniors can attend lunch
- Install more covered bus stops

Opportunities for Further Outreach

One individual asked for Lake Transit to provide printed materials containing the regular schedules to the Lake County Courthouse Museum, as museum staff occasionally hand out schedules to visitors. While this comment is very specific, it also indicates that there are potentially more opportunities for Lake Transit to promote its transit services across the county. Once the update to the Lake County

TDP is finalized, it may be useful for Lake Transit to provide updated schedules and information to businesses across the county to be handed out to various patrons.

Opinions on Preliminary Service Alternatives

Fair attendees who stopped by the Lake APC booth were able to learn about the preliminary list of service alternatives being considered for the TDP update. Eight people completed a survey in which they ranked each alternative. No one ranked all of the potential alternatives; therefore, the number of answers varies from 5 to 7 depending on the alternative. Table E-1 shows the full results.

Those who responded to the survey indicated a moderate level of support for most of the ideas mentioned. As seen in the table, the most popular alternative was the development of a new intercity service to Santa Rosa. Other service alternatives that received high levels of support from fair attendees were reinstating Saturday service, passenger amenity improvements such as new benches or shelters, and adding Sunday service. It is worth noting that since the Lake County Fair, Lake Transit reinstated Saturday service.

The preliminary alternatives with the lowest support were reducing Route 2 service to only three days a week instead of five, reducing Route 4a service to only three days a week and/or eliminating the first daily roundtrip of Route 4a, and serving the avenues with microtransit. It is not surprising that people reacted negatively to potential service reductions, however it is interesting that there was low support for serving the Avenues with microtransit given that both the onboard survey and community survey participants indicated strong interest in on-demand transit services.

Table E-1: Opinions on Preliminary Service Alternatives

Alternatives	# of Responses	Average Rank
Half-Hourly Service on Route 1	6	3.8
Operate Route 2 Three Days/Week	5	2.8
Evaluate Regional Connections w/ Route 3	6	4.3
Operate Route 4a Three Days/Week and Eliminate First Daily Roundtrip	6	3.0
Evaluate Regional Connections w/ Route 7 and Eliminate Last Daily Roundtrip	6	4.0
Replace Route 8 with Microtransit or Make Lakeport DAR Open to General Public	6	4.0
Redesign Clearlake Routes for Half-Hourly Service between Walmart-Austin Park-Burns Valley Mall	7	4.0
Serve the Avenues with Microtransit	6	3.3
Add Transit Service to Unserved Communities (ex. Spring Valley)	7	4.4
Reinstate Saturday Service	7	4.6
Add Sunday Service	6	4.5
Passenger Amenity Improvements	7	4.6
Intercity Service to Santa Rosa	6	4.8
Transition Medi-Links to a Volunteer Driver Program	7	3.4

Source: LSC Transportation Consultants, Inc.

Appendix F

DRAFT PLAN OUTREACH

SUMMARY OF DRAFT PLAN OUTREACH

The final round of outreach for the Lake County TDP was conducted to inform the public about the service alternatives being recommended for inclusion in the Draft TDP. The service alternatives are described in detail in Chapter 7. LSC Transportation Consultants, Inc., staff developed an informational, narrated video explaining the service alternatives and then posted the video on YouTube. Those who watched the video were encouraged to take an online survey afterwards to provide feedback on the alternatives presented. Viewers were also provided with contact information for LSC staff if they preferred to comment via email or by phone. The video and survey were available throughout February 2023.

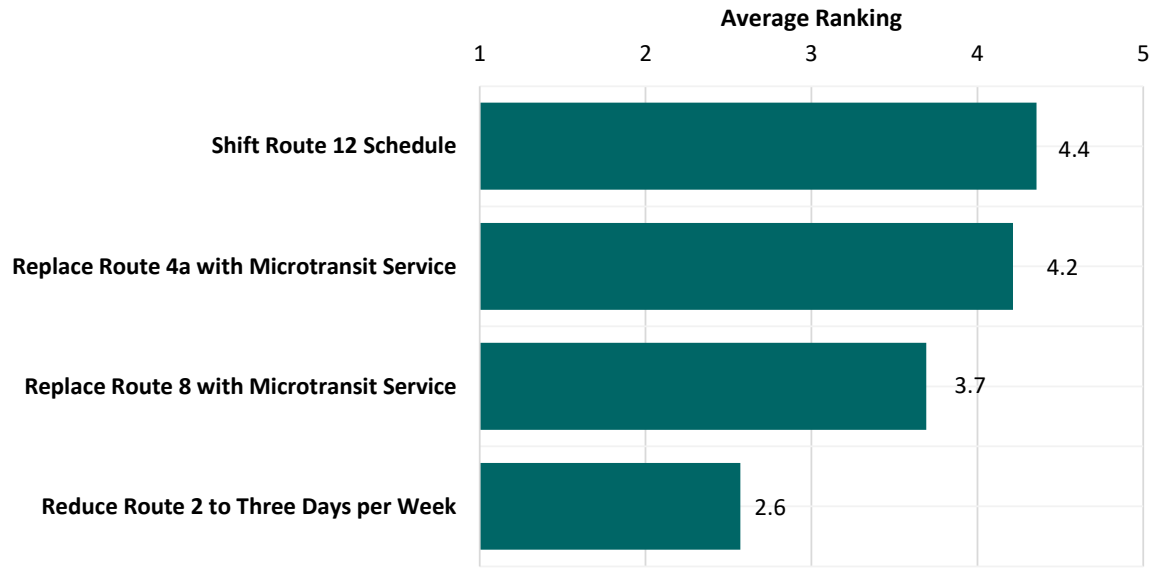
The video and corresponding survey were advertised through a public notice posted on the Lake County News website, posts on the Lake Area Planning Council (Lake APC) and Lake Transit websites, and three separate email notifications sent to thirty Lake County stakeholders. The emails informed the stakeholders about the alternatives video and survey and then asked them to distribute the information to their own networks and clientele. In all, the video was viewed 61 times and 14 people completed the survey. One person commented on the alternatives by phone and one other commented by email. Input collected regarding the service alternatives being recommended for the Draft Lake County TDP is reviewed below.

Survey Results

The online alternatives survey was made available via Survey Monkey and consisted of five questions. The participants were asked to rank the four recommended alternatives on a scale of 1 (do not like the idea) to 5 (love the idea). The final survey question asked participants to list any additional comments or questions they had. As previously mentioned, 13 people completed the survey, with 13 to 14 people answering each question. Figure F-1 shows how each alternative was perceived, on average, by the respondents.

The two alternatives considered most highly by the survey participants were to shift the Route 12 schedule in order to serve major Clearlake destinations more regularly and to replace Route 4a with an on-demand, microtransit service (4.4 and 4.2, respectively). Replacing Route 8 with microtransit was ranked 3.7 on average by the respondents, signifying moderate support. Reducing Route 2 service to three days per week was the least popular alternative, receiving an average ranking of only 2.6. This is similar to the Lake County Fair outreach; the fair attendees also ranked this alternative 2.8 out of 5.

Figure F-1: Public Opinions on Service Alternatives Recommended for Draft Plan



Additional Comments and Suggestions

Additional comments and suggestions provided by the survey participants touched on various ideas/themes. One person expressed further interest in a new transit service between Lake County and Santa Rosa. Intercity service to Santa Rosa was analyzed during the development of the TDP but found to not meet performance standards, so is therefore not recommended for inclusion in the Draft TDP. Another person expressed concern that some regular transit riders will have difficulties requesting rides on the proposed microtransit services, especially because not everyone has a smart phone, and some people find smart phones difficult to use. Two respondents were concerned about the reduction of service on Route 2 and how that will potentially isolate people living along SR 175, especially seniors trying to age in place. Regarding capital alternatives, one person asked for more signs, benches, and shelters at bus stops. Continued bus stop improvements is recommended as a component of the capital plan.

Public Comments Received via Phone and Email

One person called LSC staff to provide comments on the recommended Draft TDP alternatives. The person was a resident of Cobb and expressed concern regarding the proposed reduction of service on Route 2 from five to three days per week. The individual acknowledged that they will be able to plan around the bus coming three days per week, but the individual expressed significant concern that Route 2 service may be eliminated entirely in the future, leaving transit riders in Cobb and other communities along SR 175 with no transportation alternative. It was suggested that in the future LTA consider operating an on-demand or microtransit service to serve the communities along SR 175. The individual who provided comments by email suggested that Lake Links expand its capacity to serve out-of-county destinations by acquiring more vehicles.

Appendix G
RESPONSE TO COMMENTS ON THE DRAFT PLAN

General Public Comments: Reconsider its use of the road for Route 1 service due to safety concerns and issues with road damage. The person pointed out that Bruster Road is only two lanes, and there are a number of local residents who walk along the road without much of a buffer from the bus. If LTA continues to use Bruster Road, the resident requested that more signs be installed to improve safety and the road repaired.

Response: LTA uses Bruster Road in order to stop at the two bus stops at the north and south ends of the street on Frontage Road. If Route 1 were to operate along SR 20 instead of Bruster Road between these two stops, the bus would be required to make additional left turns, which are not as safe. There have been previous discussions about moving the stops on Frontage Road to SR 20, however that would require Caltrans to install pullouts, which at this time has not been proposed. While realigning Route 1 was not considered as an alternative in this TDP due to these challenges, concerns over the use of Bruster Road in Lucerne should be considered in the future during any changes to routing or services. LTA can improve signage along the road as it implements bus stop improvements, discussed further in Chapter 8.

Caltrans District 1 Comments:

Comment: The Electronic Fare Payment Systems section (page 109) recommends LTA develop an RFP to select a vendor and needed hardware and software to upgrading to electronic fareboxes. Is there an opportunity to discuss the Fare Modernization and Integration Project happening in with other Far North Transit Group service providers, and propose a plan for Lake Transit Authority (LTA) to partner with those groups and CalITP?

Response: LTA is one of the four agencies within the Far North Transit Group that is involved in the CalITP project. The project is currently up and running with a soft launch with more marketing to come once some of the initial bugs are worked out.

Comment: Is there an opportunity to discuss General Transit Feed Specification (GTFS) for Lake County?

Response: LTA does have GTFS. LTA's static GTFS feed is managed by Trillium and LTA is working with Swiftly and Samsara to get GTFS-RT feed back on track. LTA also worked with CalITP to ensure that our feed is up to current standards.

Comment: In Chapter 2. Study Area Characteristics, map the most popular destinations served by transit and class by type i.e., work, recreation, shopping, medical, school etc. if possible.

Response: Table 7 presents a long list of transit activity centers in Lake County. This table was updated to show which activity centers are located within one-quarter mile of transit routes.

Comment: In addition to bus stop signage (page 111), bus stops should also have an LTA route map and the most current schedule on display.

Response: A recommendation to include current route map and schedule at major stops and stops with shelters was included in the marketing strategies.

Comment: The City of Clearlake and the Lake Area Planning Council should consider creating a specific plan to improve multimodal access to the planned new Lake County Interregional Transit Center in Clearlake. In addition to driving, improved walking and biking access to this transit center will increase the catchment area and thus increase ridership.

Response: This is a good idea but outside the scope of the transit planning process.

Comment: Suggest increasing mixed-use density (retail, commercial, business and housing) near the planned transit center in Clearlake. This could be accomplished by modifying existing zoning designations or creating new zoning specially designated for mixed-use development. The benefits would include reduced auto dependency, increased transit use, health benefits from active transportation, economic improvements, and a better sense of community.

Response: This is a good idea but outside the scope of the transit planning process. This would be under the jurisdiction of the City of Clearlake.

Comment: Fostering development along designated transit corridors would lessen auto dependency, increase transit ridership, improve health and equity outcomes. Transit corridors should be coupled with land use changes to maximize transit's potential for positive outcomes.

Response: This is a good idea but outside the scope of the transit planning process. This would be under the jurisdiction of the City of Clearlake and the County of Lake.