

City of Lodi Short Range Transit Plan

Draft Plan



Prepared for the
City of Lodi Public Works Department

Prepared by



LSC Transportation Consultants, Inc.

CITY OF LODI SHORT RANGE TRANSIT PLAN UPDATE

Draft Plan

Prepared for the

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July 31, 2013

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INTRODUCTION

Transportation considerations play a key role in the quality of life provided by any community. Access to social and medical services, employment opportunities, educational resources and basic necessities are issues of universal concern, as they have a strong impact on the economy, ease of movement, and quality of life for residents of an area. In addition to providing mobility to residents without easy access to a private automobile, transit services can provide a wide range of economic development and environmental benefits.

The City of Lodi, aware of the importance of transportation issues, has retained LSC Transportation Consultants, Inc., to prepare an update to the current Short Range Transit Plan, which was last updated in 2009. This study provides an opportunity to develop plans that will tailor transit services to current and near-term future conditions in the study area.

This study first presents and reviews the setting for transportation, including demographic factors, as well as the recent operating history of Lodi Transit services (including connecting services) and the results of on-board passenger surveys conducted on the fixed-route and demand response / paratransit buses. The findings are then used to guide the next steps in the development of the Short Range Transit Plan update (SRTP), presented as the evaluation of service alternatives, capital alternatives, funding alternatives, and managerial alternatives. Finally, a recommended plan is presented, including financial forecasts for the 5-year plan period.

The overall study affords the leaders and transportation providers of the area an opportunity to take an in-depth look at the transit systems currently in place, identify the optimal manner in which transit can meet the public's needs within this dynamic area, and carefully identify where transit resources should be devoted over the plan period.

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Introduction

The City of Lodi is located in San Joaquin County, approximately 16 miles north of Stockton and 36 miles south of Sacramento, as shown in Figure 1. The area is part of California's Central Valley, and is known for its wine grape growing and production industry. The City is bound by the Mokelumne River to the north, and a greenbelt area of rural land to the south. US Highway 99 is the major roadway running north-south through the City, connecting it with Stockton and the Sacramento area. Rail lines also run through Lodi, which provides transportation for both passengers (Amtrak) and industry.

Current Population Characteristics

According to the US Census Bureau's American Community Survey, the 2010 population for the City of Lodi was 62,225 persons. This represents a change of 5,226 persons, or 9.1 percent, over the last ten years. The population is anticipated to grow by 2.8 percent by 2015 to 63,959, based on forecasts available from the San Joaquin Council of Governments.

Transit Dependent Population

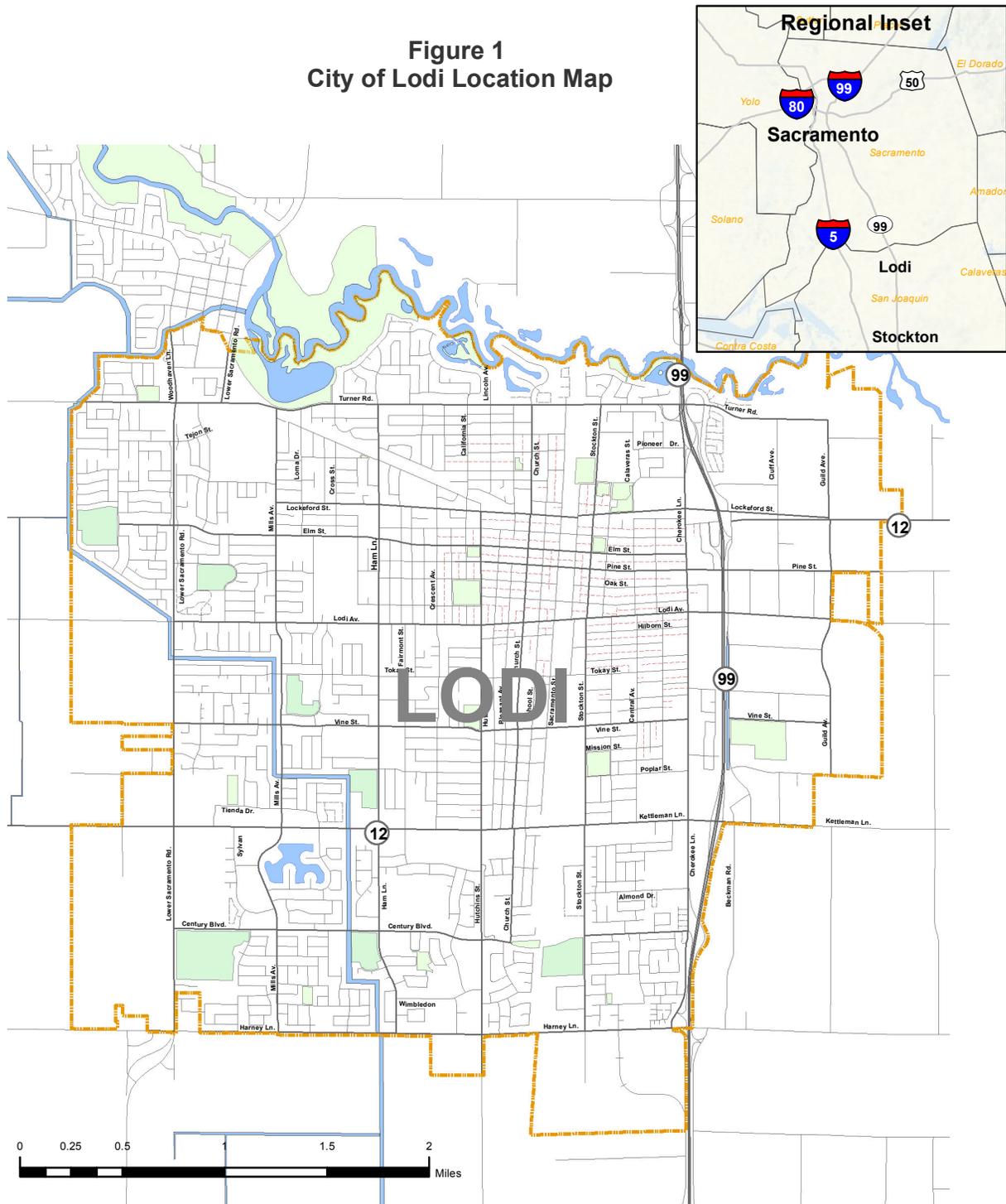
A review of current population and demographic characteristics is presented in Table 1 and the discussion below. Data is provided for each of the population subsets that are considered to be "transit dependent". In other words, these groups tend to rely more on public transportation for their mobility needs based on age, income status or the lack of private vehicles available to them. Understanding the population trends, as well as where in the City of Lodi these persons are located, can help better define transit needs and determine if the transit program is serving these groups.

Note that Table 1 includes data at the census tract level as well as for the City of Lodi. The total figures differ between the two based on data availability, and due to the fact that some census tracts are only partially within the city limits. As detailed data was not available in 2010 at the block group level, whole census tracts are reported in cases where only portions of the tract area actually within the city limits. While figures differ, total percentages for each group show little to no variation.

Youth Population

According to the 2010 American Community Survey, roughly 16.7 percent of the City's population was considered youth. For the purposes of this study, youth are defined as age 5 to 16 years of age. City of Lodi totals (rather than by census tract) show a youth population of 10,392 persons, which is also 16.7 percent of the total population. The highest youth concentrations, as shown in Figure 2, are located in Census Tracts 44.02, 44.03 and 45.02, all in the eastern portion of the city. The previous Short Range Transit Plan identified 28 percent of the population as youth, however the definition was more broad and applied to persons under the age of 18 years. This population group has not changed much from the last report; the 2010 figure for persons younger than 18 years of age was 27.8 percent.

**Figure 1
City of Lodi Location Map**



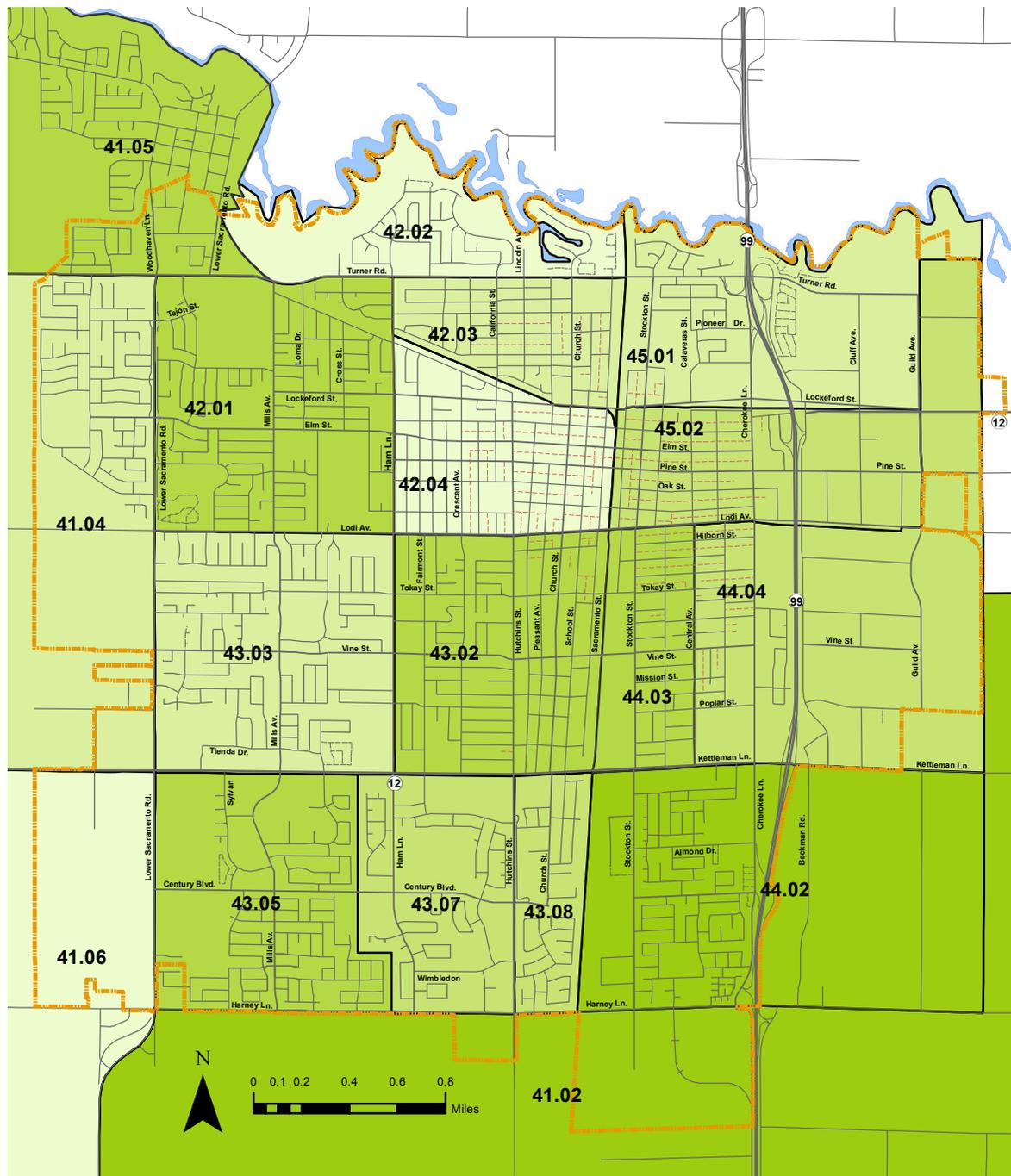
Legend:
 City Limits

TABLE 1: City of Lodi Demographic Characteristics by Census Tract

Census Tract	Total Population	Youth (5-16 Yrs)		Senior (65 & Over)		Low Income		Zero Vehicle Households	
		#	% of Census Tract	#	% of Census Tract	#	% of Census Tract	#	% of Census Tract
41.02	7,768	1,367	17.6%	917	11.8%	680	8.8%	92	4.0%
41.04	3,065	451	14.7%	533	17.4%	114	3.7%	11	0.9%
41.05	5,241	839	16.0%	608	11.6%	695	13.3%	12	0.6%
41.06	1,953	281	14.4%	273	14.0%	449	23.0%	0	0.0%
42.01	6,074	893	14.7%	1,027	16.9%	399	6.6%	39	1.6%
42.02	1,663	208	12.5%	422	25.4%	64	3.8%	44	6.3%
42.03	3,916	580	14.8%	497	12.7%	878	22.4%	171	13.6%
42.04	2,608	310	11.9%	509	19.5%	320	12.3%	175	13.4%
43.02	6,304	851	13.5%	1,481	23.5%	624	9.9%	147	6.5%
43.03	5,826	542	9.3%	2,214	38.0%	819	14.1%	96	5.2%
43.05	4,988	968	19.4%	384	7.7%	207	4.1%	45	2.3%
43.07	4,062	638	15.7%	386	9.5%	323	8.0%	83	5.1%
43.08	3,511	723	20.6%	295	8.4%	629	17.9%	55	5.6%
44.02	5,354	1,183	22.1%	423	7.9%	901	16.8%	74	4.4%
44.03	3,952	1,024	25.9%	146	3.7%	1,221	30.9%	115	11.7%
44.04	3,785	734	19.4%	170	4.5%	1,068	28.2%	97	9.9%
45.01	2,626	402	15.3%	433	16.5%	173	6.6%	22	2.5%
45.02	3,893	814	20.9%	183	4.7%	2,080	53.4%	215	18.7%
Total Census Tracts	76,589	12,806	16.7%	10,902	14.2%	11,644	15.2%	26,173	5.7%
Total City of Lodi	62,225	10,392	16.7%	9,147	14.7%	9,762	15.7%	21,548	6.5%

Source: US Census 2006 - 2010 American Community Survey

Figure 2
City of Lodi Youth Population by Census Tract



**Legend: Total Population
 (Number of Persons)**

- | | | |
|-----------|-------------|---------------|
| 208 - 310 | 581 - 814 | 1,025 - 1,367 |
| 311 - 580 | 815 - 1,024 | City Limits |



Senior Population

Another important group for transit services is the senior population, or persons age 65 and older. Information from the 2010 American Community Survey shows, at the Census Tract level, that 14.2 percent of population is considered senior. The data for the City of Lodi shows a slightly higher figure of 14.7 percent. The highest concentrations of senior persons are located in Census Tract 42.02, 43.02 and 43.03 in the center and northern portions of the city, as shown in Figure 3. This population has remained relatively steady, as the previous Short Range Transit Plan identified the senior population as comprising roughly 14 percent of the population in the City.

Low Income Population

Low income persons are defined by the poverty status reported in the US Census, which are those persons who have been living below the poverty line for the last 12 months. Data by census tract indicates that approximately 15.2 percent of the City's population is considered low income, as shown in Table 1. At the city level, this figure is slightly higher, at 15.7 percent. The areas within the City of Lodi with the highest concentrations include Census Tracts 44.03, 44.04 and 45.02, all in the eastern portion of the city. In fact, over one-half of Census Tract 45.02 (53.4 percent) is low income, while nearly one-third (30.9 percent) of the population in tract 44.03 is low income. This information is presented in Figure 4. Two of these areas, 44.04 and 45.02 are also areas of higher youth populations.

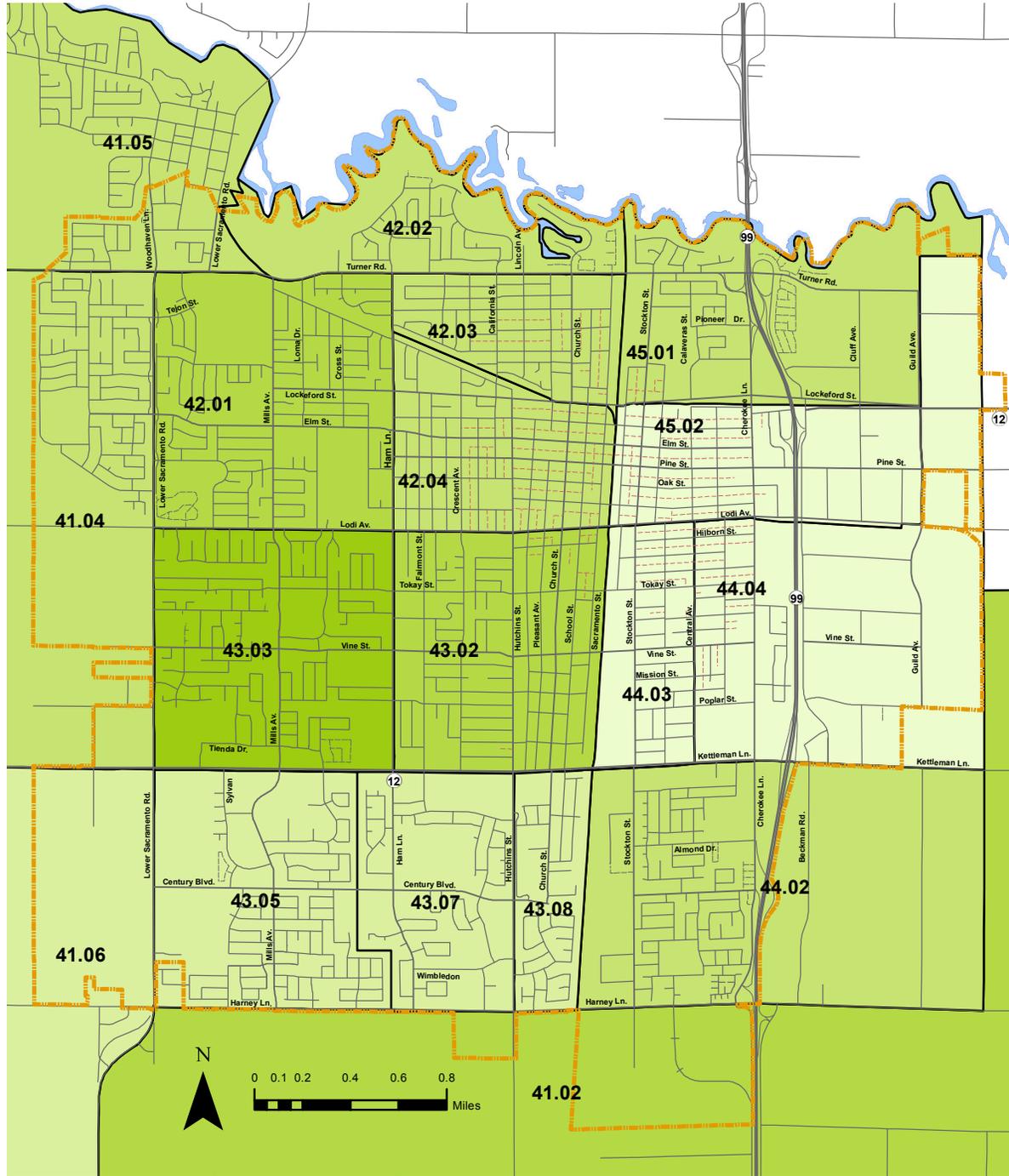
Zero Vehicle Households

Households that do not have a vehicle available for use typically are more reliant on public transportation, as there are no other options available besides getting a ride with a friend or family member. As shown in Table 1, roughly 5.7 percent of the households in the study area do not have a vehicle available, when looking at data at the Census Tract level. For the City of Lodi, the figure is higher, at 6.5 percent. Both represent a decrease from the last Short Range Transit Plan, which noted that 11 percent of households had no vehicles. As shown in Figure 5, the highest concentrations of zero vehicle households are located in Census Tracts 42.03, 42.04 and 45.02, which are all near the downtown core. The last area, Census Tract 45.02 also has high concentrations of low income persons and youths.

Disabled Population

Data for persons with disabilities is available at the City level from the US Census for 2010, as shown in Table 1. Approximately 11,937 persons in Lodi, or 19.2 percent, have a disability that limits a person's mobility and potential to use public transportation. Approximately 7.5 percent of the City's population has an ambulatory disability, 5.3 percent have an independent living disability, 4.3 percent have a cognitive disability and 2.1 percent have a vision disability. The overall figure is on par with the figures presented in the previous Transit Plan (11,789 persons), however due to a population increase, the percentage has declined from 23 percent.

Figure 3
City of Lodi Senior Population by Census Tract

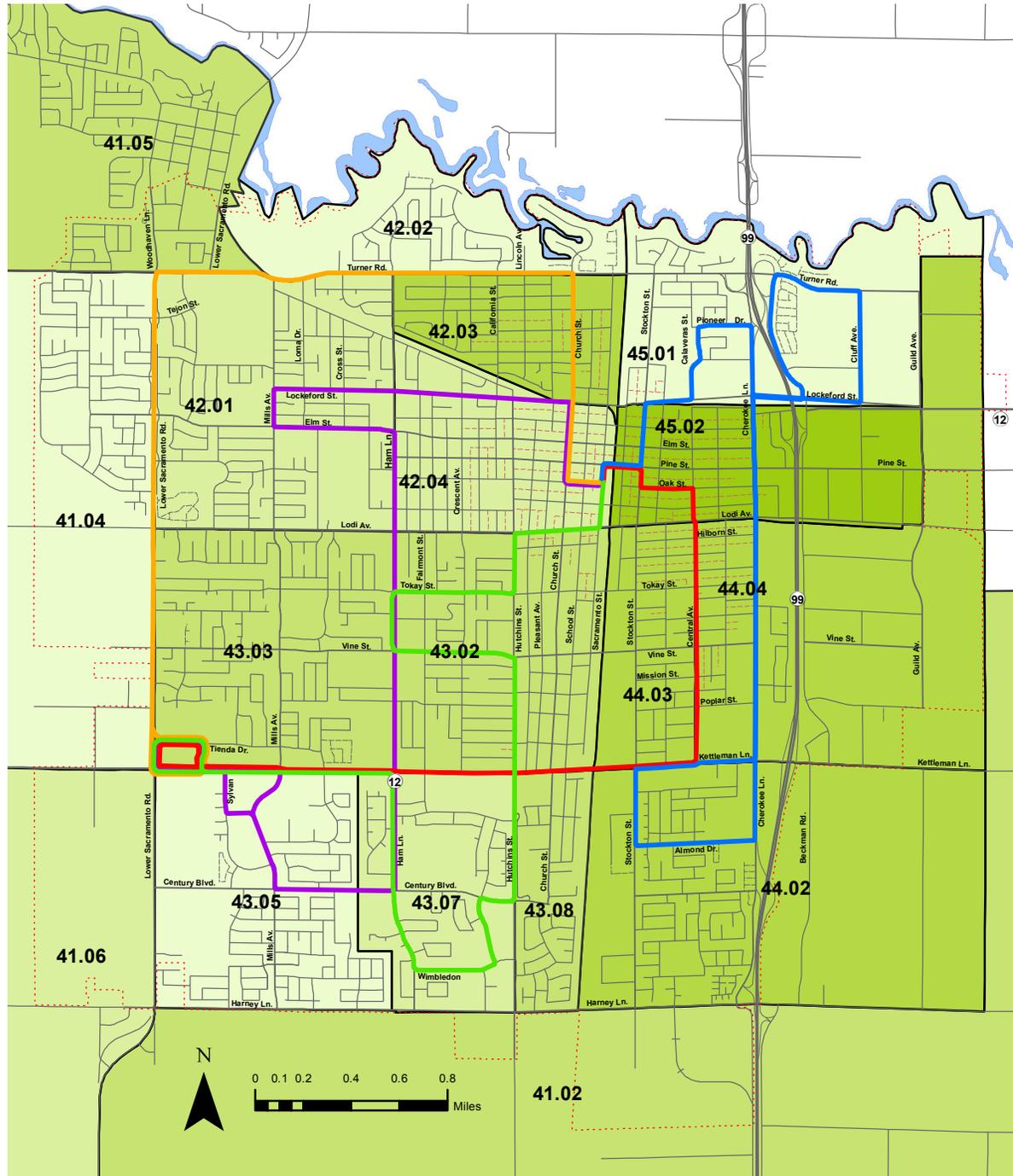


**Legend: Senior Population
 (Number of Persons)**

- 146 - 183
- 184 - 386
- 387 - 608
- 609 - 1,481
- 1,482 - 2,214
- City Limits



Figure 4
City of Lodi Low-Income Population by Census Tract

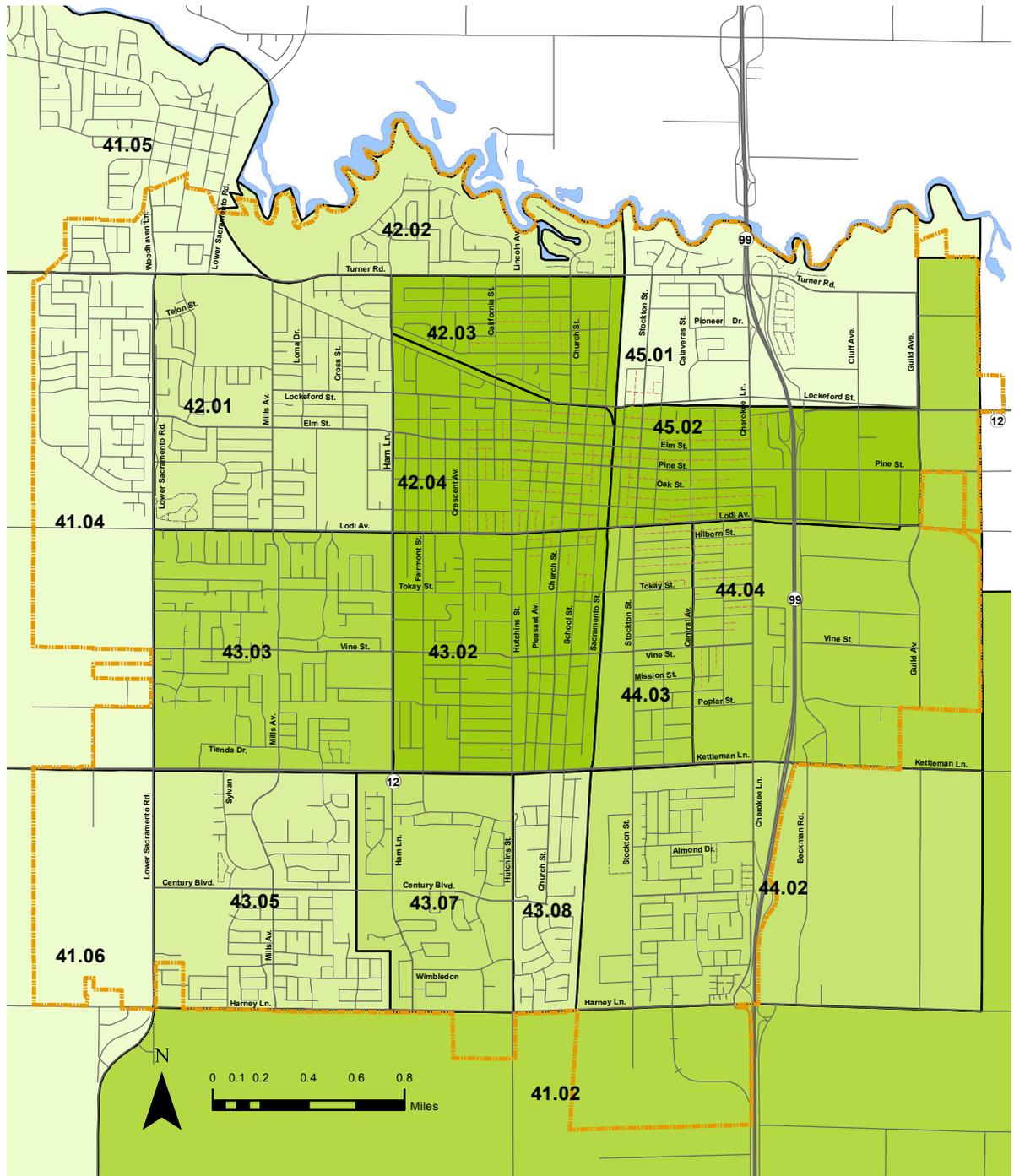


**Legend: Low-Income Population
 (Number of Persons)**

- | | | | |
|-------------|-------------|-------------|---------------|
| Bus Route 1 | Bus Route 4 | 208 - 449 | 1,222 - 2,080 |
| Bus Route 2 | Bus Route 5 | 450 - 819 | City Limits |
| Bus Route 3 | 64 - 207 | 820 - 1,221 | |



Figure 5
City of Lodi Zero Vehicle Population by Census Tract



**Legend: Zero Vehicle Population
 (Number of Persons)**

- 0 - 22
- 56 - 83
- 116 - 215
- 23 - 55
- 84 - 115
- City Limits



Employment

According to the US Census 2010 American Community Survey, the unemployment rate for the City of Lodi, as shown in Table 2, was 9.5 percent. Data at the Census Tract level is slightly lower, at 9.3 percent. The City of Lodi's rate is slightly higher than that within the state of California (9.0 percent), but is faring better than San Joaquin County as a whole (12.3 percent). Areas within the City of Lodi with the highest concentrations of unemployed residents are found in Census Tracts 43.08, 41.06 (both in the southern portion of the city) and in 44.04 and 45.02 (in the eastern portion of the city). Not surprisingly, both tracts 44.02 and 45.02 are also where the higher concentrations of low income residents are located.

TABLE 2: City of Lodi Employment Status, 2010

Census Tract	Population In Labor Force	Population Employed	Population Unemployed	Unemployment Rate	Not in Labor Force
41.02	3,291	1,728	211	6.4%	2,585
41.04	1,555	902	140	9.0%	883
41.05	2,651	1,545	207	7.8%	1,504
41.06	1,152	726	143	12.4%	450
42.01	3,086	1,812	287	9.3%	1,684
42.02	903	581	25	2.8%	463
42.03	1,560	802	167	10.7%	1,125
42.04	1,374	775	166	12.1%	766
43.02	2,587	1,255	194	7.5%	2,350
43.03	2,320	995	107	4.6%	2,846
43.05	2,685	1,834	113	4.2%	1,086
43.07	2,051	1,222	170	8.3%	1,104
43.08	1,636	928	203	12.4%	893
44.02	2,381	1,326	262	11.0%	1,428
44.03	1,476	735	177	12.0%	1,109
44.04	1,570	823	220	14.0%	1,008
45.01	1,056	551	44	4.2%	886
45.02	1,694	850	415	24.5%	853
Total Census Tracts	35,027	19,389	3,250	9.3%	23,024
Total City of Lodi	29,564	16,171	2,809	9.5%	19,302

Source: 2006 - 2010 American Community Survey 5-Year Estimates, US Census Bureau, 2013

The Lodi Unified School District is the top employer within the City, as shown in Table 3, followed by the Lodi Memorial Hospital and Pacific Coast Producers (food canning business). Table 4 presents employment by industry. Jobs in the educational services, health care and social assistance industry account for approximately 21 percent of all employment in the City of Lodi. The retail trade comprises roughly 12.6 percent and the manufacturing industry roughly 10.8 percent of the City's jobs.

TABLE 3: Top Employers, City of Lodi	
Employer	Number of Employees
Lodi Unified School District	2,762
Lodi Memorial Hospital	1,329
Pacific Coast Producers	1,000
Blue Shield of California	850
Cottage Bakery	540
General Mills	480
City of Lodi	440
Farmers and Merchants Bank of Central California	353
WalMart	245
Target	209

Source: 2011 Annual Comprehensive Report, City of Lodi

TABLE 4: Employment by Industry, City of Lodi	
Industry	# of Employees
Educational services, health care and social assistance	5,386
Retail trade	3,217
Manufacturing	2,769
Professional, scientific, management, administrative and waste management services	2,075
Construction	1,922
Arts, entertainment, recreation, accommodation and food services	1,869
Other services, except public administration	1,586
Agriculture, forestry, fishing, hunting and mining	1,505
Finance, insurance, real estate, rental and leasing	1,423
Public administration	1,417
Transportation, warehousing and utilities	1,173
Information	576

Source: US Census Bureau 2006-2010 American Community Survey, 2013

Commute Patterns

The US Census maintains the “Longitudinal Employer Household Dataset” which provides detailed data on the location of employment for various areas of residence, as well as data on the location of residences of a specific area’s workers. Table 5 presents commute pattern data for 2011 at the county and city/town level. The top portion of the table presents information about where residents of Lodi work, while the lower portion shows where people live that work in Lodi.

Where Lodi Residents Work

As shown in Table 5, 57.2 percent of employed residents in the City of Lodi work within San Joaquin County. Of the employed population, approximately 25.8 percent of Lodi residents work within Lodi, while 18 percent commute to Stockton and only 3.1 percent commute to Sacramento. This data indicates that many jobs are located close to where residents live, resulting in shorter commute trips and less need for long distance commute travel to larger urban areas.

Where Persons Employed in Lodi Live

The lower portion of Table 5 presents where people that work in Lodi live. Again, most workers (61.9 percent) live in San Joaquin County. Roughly 28.4 percent of persons that work in Lodi also live in the City, while 19.1 percent commute in from Stockton and 3.8 percent commute from Galt. Residents from neighboring communities, such as Woodbridge and Lockeford, also commute into Lodi – roughly 1.7 percent and 0.9 percent of workers, respectively. In comparing these commute patterns, it is worth noting that commuting between Lodi and Stockton is relatively balanced, with only 142 more Lodi residents commuting to work in Stockton than Stockton residents commuting to work in Lodi. While the preponderance of commuting between Lodi and Sacramento consists of Lodi residents commuting north (674 versus 321), substantially more Galt residents work in Lodi (764) than Lodi residents that work in Galt (188).

TABLE 5: City of Lodi Commute Pattern Data, 2011

Where Lodi Residents Commute To.....					
<u>Job Counts in Counties</u>	<u># Persons</u>	<u>% of Total</u>	<u>Job Counts in Cities/Towns</u>	<u># Persons</u>	<u>% of Total</u>
San Joaquin County, CA	12,523	57.2%	Lodi city, CA	5,652	25.8%
Sacramento County, CA	1,779	8.1%	Stockton city, CA	3,946	18.0%
Alameda County, CA	893	4.1%	Sacramento city, CA	674	3.1%
Stanislaus County, CA	892	4.1%	San Francisco city, CA	564	2.6%
Santa Clara County, CA	684	3.1%	Modesto city, CA	454	2.1%
Contra Costa County, CA	587	2.7%	San Jose city, CA	320	1.5%
San Francisco County, CA	564	2.6%	Elk Grove city, CA	272	1.2%
San Mateo County, CA	392	1.8%	Oakland city, CA	226	1.0%
Los Angeles County, CA	377	1.7%	Manteca city, CA	209	1.0%
Fresno County, CA	262	1.2%	Galt city, CA	188	0.9%
Solano County, CA	245	1.1%	Tracy city, CA	188	0.9%
All Other Locations	2,688	12.3%	All Other Locations	9,193	42.0%
<i>Total Number of Jobs</i>	<i>21,886</i>	<i>100.0%</i>	<i>Total Number of Jobs</i>	<i>21,886</i>	<i>100.0%</i>

Where Lodi Employees Commute From.....					
<u>County of Residence for Workers</u>	<u># Workers</u>	<u>% of Total</u>	<u>City/Town of Residence for Workers</u>	<u># Workers</u>	<u>% of Total</u>
San Joaquin County, CA	12,331	61.9%	Lodi city, CA	5,652	28.4%
Sacramento County, CA	2,335	11.7%	Stockton city, CA	3,804	19.1%
Stanislaus County, CA	628	3.2%	Galt city, CA	764	3.8%
Calaveras County, CA	525	2.6%	Elk Grove city, CA	357	1.8%
Contra Costa County, CA	403	2.0%	Woodbridge CDP, CA	337	1.7%
Alameda County, CA	321	1.6%	Sacramento city, CA	321	1.6%
Solano County, CA	262	1.3%	Lockeford CDP, CA	177	0.9%
Santa Clara County, CA	246	1.2%	Modesto city, CA	172	0.9%
El Dorado County, CA	192	1.0%	Tracy city, CA	167	0.8%
Amador County, CA	191	1.0%	San Jose city, CA	162	0.8%
Placer County, CA	190	1.0%	Manteca city, CA	155	0.8%
All Other Locations	2,299	11.5%	All Other Locations	7,855	39.4%
<i>Total Number of Workers</i>	<i>19,923</i>	<i>100.0%</i>	<i>Total Number of Workers</i>	<i>19,923</i>	<i>100.0%</i>

Source: US Census Bureau LEHD Database, 2013

Chapter 3

Transit Service Overview and Conditions

EXISTING TRANSIT SERVICES

The City of Lodi's transit program includes both fixed route (GrapeLine) and demand response (Dial-A-Ride / VineLine) services, offering service seven days per week. Operation of the transit routes is carried out through a contractor (presently MV Transportation, Inc.), and includes the fixed route, demand response and ADA complementary paratransit services. Maintenance and overall administration is overseen by the City of Lodi's Public Works Department.

Fixed Route

Currently, there are five regular weekday routes that serve the City, in addition to four Express routes. In general, regular fixed route service is offered from 7:30 AM to 6:17 PM, while the Express routes begin service as early as 6:10 AM. One-way fares for general public are \$1.25 and discount fares (senior/disabled/Medicare) are \$0.60 per one-way trip. Monthly passes are available at \$44.00 for general public and \$22.00 for senior/disabled/Medicare, and 10-ride tickets are \$12.50 for general public and \$6.00 for senior/disabled/Medicare. Below is a brief description of the weekday GrapeLine services, while Figures 6 - 8 graphically depict the routes.

- **Route 1**– This route operates between 7:30 AM and 6:15 PM Monday through Friday and serves the northeastern portion of Lodi. Service begins at Lodi Transit Station and travels to Kettleman Lane via Turner Road and Lower Sacramento Road, at which point it turns around and travels back to Lodi Transit Station. The route operates on hourly headways and takes roughly 45 minutes to complete. Major stops along this route include the shopping destinations (Lowe's, Target, Safeway and Raley's). Transfers to San Joaquin RTD Routes 23, 723 and 93 are available at the Kettleman Lane and Tienda Drive stop (Safeway/Target/Staples) and at the Lodi Transit Station. SCT/Link transfers can be made at Lodi Transit Station.
- **Route 2** – Route 2 serves the Central Ave and Kettleman Lane corridors in the City, with service between 7:30 AM and 6:16 PM on hourly headways. The terminus of this route in the outbound direction is the shopping center at Kettleman Lane and Tienda Drive; connections can be made to other GrapeLine routes here, as well as to San Joaquin RTD Routes 23, 723 and 93. Additionally, connections can be made at Lodi Transit Station (SCT/Link and RTD) and the transfer point at Ham Lane.
- **Route 3**– Service on Route 3 is between 7:30 AM and 6:17 PM, with hourly headways. The route travels primarily on Lockeford Street, Ham Lane and Kettleman Lane, as shown in Figure 6. Transfers to RTD and other GrapeLine routes are available at the shopping center at Tienda Drive and Kettleman Lane, at the Ham Lane transfer point and Lodi Transit Station.
- **Route 4** – This route operates from 7:30 AM to 6:17 PM with hourly service between Lodi Transit Station and Kettleman Lane and Lower Sacramento Road. Route 4 serves the Hutchins Street corridor, as well as the Wimbledon Lane neighborhood in southern

Lodi, Ham Lane and Kettleman Lane. The route terminates at the Tienda Drive and Kettleman Lane shopping area, where transfers to RTD and other Grapeline routes can be made.

- **Route 5** – This route serves the eastern portion of the Lodi, serving the Cherokee Lane corridor and beyond, as shown in Figure 6. Service is available between 7:30 AM and 6:17 PM, beginning at Lodi Transit Station. The outbound route ends at Kettleman Lane and Central Avenue, before heading back to the transit center. Transfers to other Grapeline routes, RTD and SCT/Link are available at Lodi Transit Station.

On weekdays, four Express routes are also operated, as described below. All Express routes serve the Lodi Transit Station, where transfers to other weekday routes are possible.

- **Express 1** – The Express 1 route offers service between Lodi Transit Station in downtown and Elm Street/Ham Lane, serving the northern portion of the City of Lodi, as shown in Figure 7. Morning departures from Lodi Transit Station occur at 6:10 AM, 6:45 AM and 7:20 AM, while afternoon departures from the Millswood School are at 2:35 PM and 3:10 PM.
- **Express 2** – The Express 2 route serves Central Lodi, traveling down Kettleman Lane, Central Ave, Pine Street, Elm Street and Ham Lane. The morning runs depart Central Ave and Cypress St at 6:13 AM, 6:35 AM, 6:58 AM and 7:30 AM, and departures from Ham Lane and Oak St leave at 2:18 PM and 2:50 PM.
- **Express 6** – This route travels between Central Ave / Hilborn St and Lodi Transit Station, serving central and southern Lodi. Three departures in morning occur at 6:15 AM, 6:45 AM and 7:20 AM at Central Ave / Hilborn St. One afternoon departure begins at Ham Lane / Century St at 2:20 PM and the second at Ham Lane / Vine St at 2:50 PM.
- **Express 7** – The Express 7 route is designed as a loop beginning and ending at Lodi Transit Station, providing service to and from the Tienda Drive and Kettleman Lane shopping area. Departures in the morning from Lodi Transit Station occur at 6:17 AM, 6:40 AM and 7:12 AM, while afternoon departures are at 2:15 PM and 2:42 PM.

Weekend service is comprised of four routes throughout the City, and is offered on Saturdays and Sundays. Two routes, Route 2/22 and 34, are new as of April 2013. Each route serves Lodi Transit Station in downtown.

- **Route 1/30** – This route operates between 7:30 AM and 3:15 PM on Saturdays and between 8:30 AM and 1:15 PM on Sundays. Service begins at Lodi Transit Station and travels to the shopping areas at Kettleman Ln and Lower Sacramento Rd, as shown in Figure 8. The route covers the same areas as the weekday Route 1, only during fewer hours.
- **Route 5/31** – Route 5/31 serves the same areas as weekday Route 5 within fewer operating hours. The service is available between 7:30 AM and 3:17 PM on Saturdays and between 8:30 AM and 1:17 PM on Sundays.
- **Route 2/22** – This route operates between 7:30 AM and 3:16 PM on Saturdays and 8:30 AM and 1:16 PM on Sundays. The route's service area is the same as that of the weekday Route 2. This is a newly implemented route, as of April 2013.

Figure 6
 GRAPELINE WEEKDAY
 BUS ROUTES

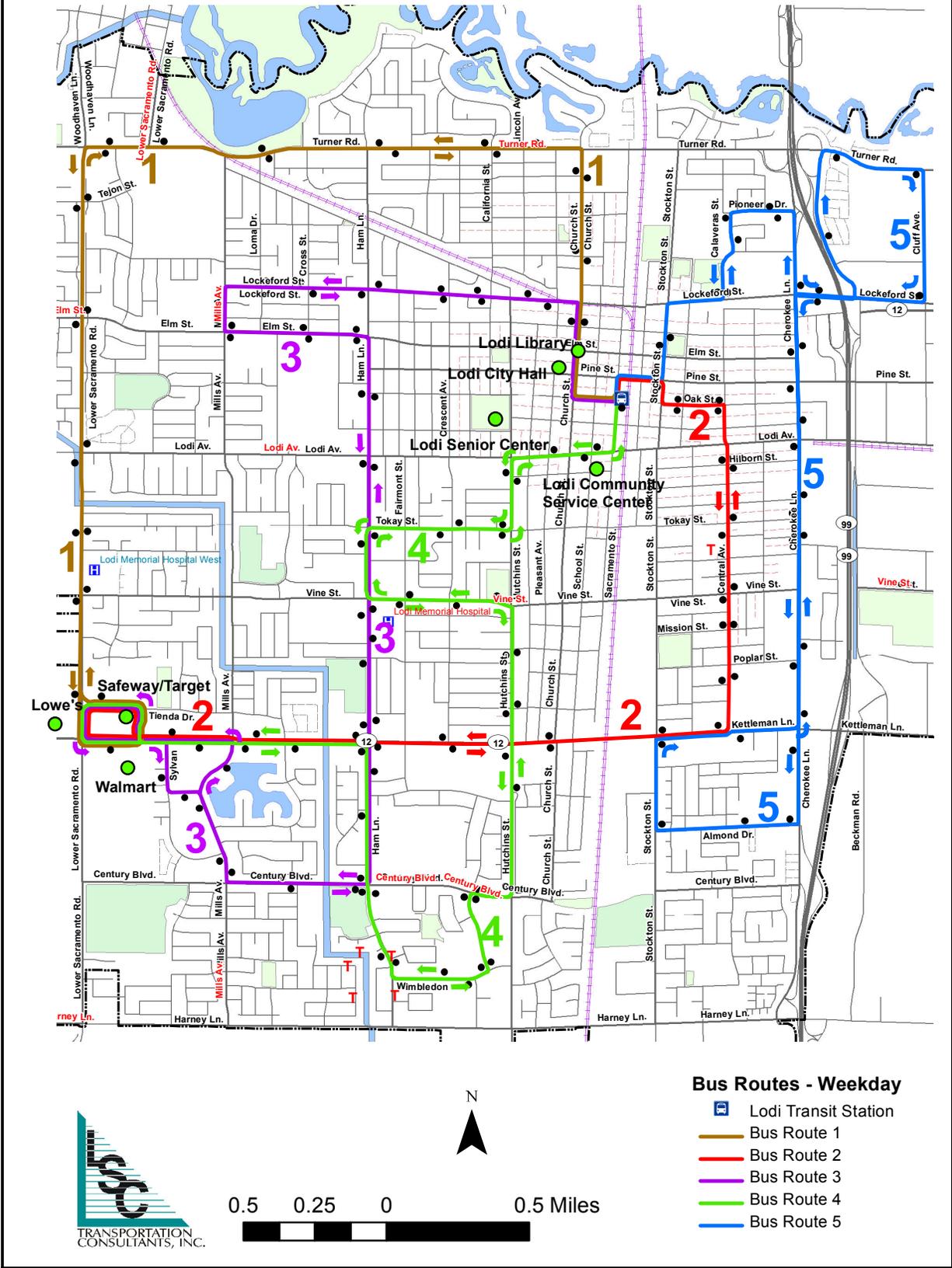


Figure 7
GRAPELINE EXPRESS BUS ROUTES

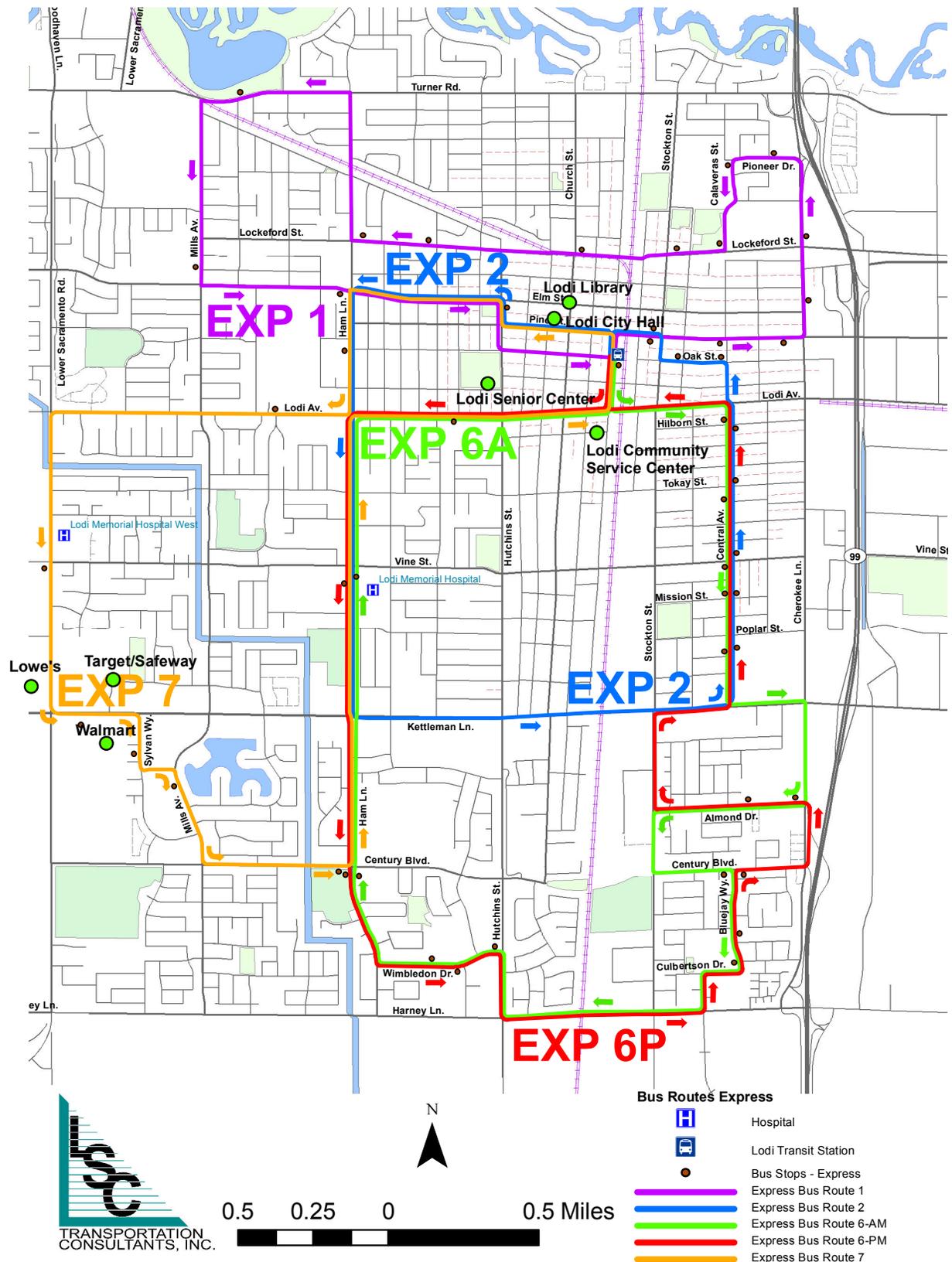
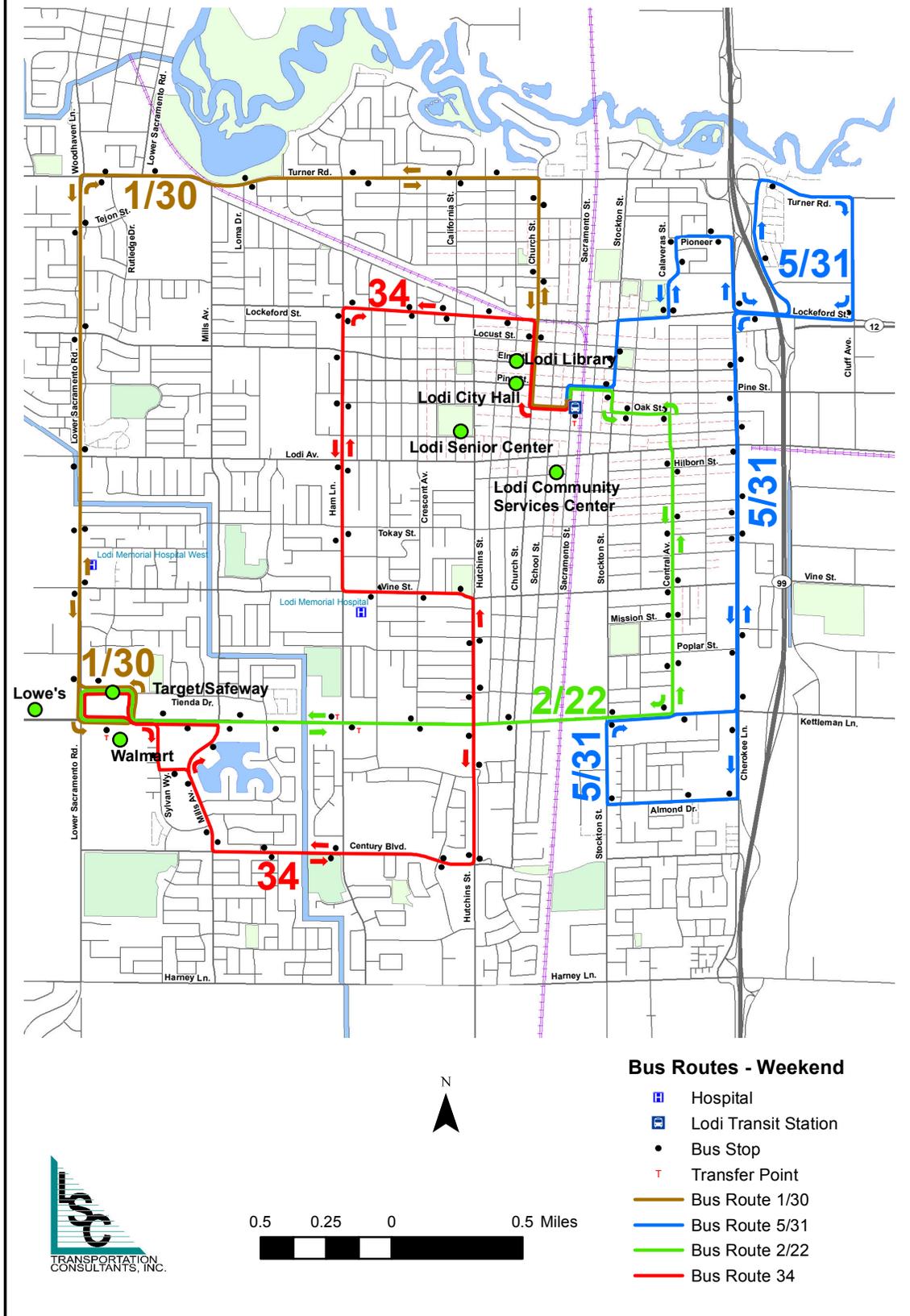


Figure 8
GRAPELINE WEEKEND BUS ROUTES



- **Route 34** – This is another new route for the Grapeline system, and began service in April 2013. The route travels from Lodi Transit Station to the Kettleman Lane / Lower Sacramento Rd shopping area. Service is operated between 7:30 AM and 3:22 PM on Saturdays and between 8:30 AM and 1:22 PM on Sundays.

Demand Response

Demand response services are available in the City of Lodi through VineLine, a complementary paratransit service for ADA certified persons or those that are not able to use the fixed route, as well as for the general public. Grapeline Dial-A-Ride is offered to the general public within the fixed route service area (3/4-mile of the fixed route), during the same days and hours: weekdays from 6:10 AM to 6:20 PM, Saturdays from 7:30 AM to 3:22 PM and Sundays from 8:30 AM to 1:22 PM.

Reservations must be made at least 24 hours in advance, and no more than 14 days in advance. Dial-A-Ride Passengers can call to make reservations between 8:00 AM and 5:00 PM on weekdays, 8:00 AM and 3:00 PM on Saturdays and 9:00 AM and 1:00 PM on Sundays. Fares for senior, disabled and Medicare passengers are \$2.00 for a one-way trip, and a 10-ride pass is \$16.00 within the City and \$31.00 outside city limits. VineLine passengers can call and leave a message for a next day reservation when the office is closed during a holiday. Personal Care Assistants are permitted to travel with an ADA certified passenger free of charge, and ADA passengers may also have one companion ride for the regular one-way fare. General public passengers pay a fare of \$7.00 per one-way trip, or can obtain a 10-ride pass for \$66.50.

More details regarding VineLine policies and procedures, including ADA eligibility information, can be found in the VineLine Rider's Guide, presented in Appendix A.

Other Transit Service Providers in Lodi

San Joaquin Regional Transit District

The San Joaquin RTD transit system operates three routes with service to Lodi – Route 23, Route 723 and Route 93:

- Weekday service is provided through **Route 23**, with eight daily departures from the Lodi Transit Station outbound to Stockton. Hours of operation are between 6:00 AM and 6:25 PM. The full schedule can be found in Appendix B. The inbound bus from Stockton arrives in Lodi seven times per day. The route serves not only the Lodi Transit Station, but also the Ham Lane / West Lodi Avenue and Kettleman Lane / Tienda Drive transfer points.
- **Route 723** is the weekend version of Route 23, with an identical service area in Lodi. Service is provided between 8:50 AM and 4:58 PM, with eight arrivals into Lodi and seven departures to Stockton from Lodi.
- The final route serving Lodi, **Route 93**, is a part of the Hopper system. Like the other

routes, major transfer points are located at the Transit Station, Ham Ln / West Lodi Ave, and Kettleman Lane / Tienda Drive. There are nine daily arrivals into Lodi and seven departures, with service between 5:30 AM and 8:56 PM. This route is designed as a commuter route between Lodi and Stockton.

General public fares for Intercity and Hopper services are \$1.50, and discount fares are \$0.75 per one-way trip.

SCT/Link

SCT/Link, or South County Transit, generally serves southern Sacramento County. Route 99 provides corridor service along Highway 99 between Sacramento and Lodi. Service is provided hourly, with departures from the Lodi Transit Station between 5:45 AM and 6:45 PM. This route stops at Galt City Hall, Elk Grove CRC, and the South Sacramento Kaiser hospital. General public fares between Lodi and Galt are \$2.00, while senior/disabled/Medicare and student fares are \$1.00. Trips to Elk Grove and Sacramento are \$4.00 for the general public and \$2.00 for senior/disabled/Medicare and students.

EXISTING TRANSIT RIDERSHIP

Ridership by Month

One way to gauge the performance of a transit system and identify trends is to look at historical ridership. Table 6 presents ridership data for GrapeLine and Dial-A-Ride / VineLine for 2010-2011, 2011-2012, and 2012-2013. As shown, ridership on GrapeLine has grown 6.0 percent overall from 2010-2011. Both July and December saw significant increases in ridership (21.5 percent and 20.8 percent, respectively), while June, August and September saw decreases (-12.8 percent, -6.4 percent and -3.9 percent, respectively). In Fiscal Year 2012-2013, the GrapeLine service has carried roughly 186,704 passengers. With recent changes to the transit system, including the implementation of two new weekend routes, ridership may increase more as the service continues to better meet the needs of residents and visitors.

The Dial-A-Ride / VineLine service has seen a slight decrease in ridership, with a decline of 1.7 percent since 2010-2011. One reason for this could be the reduction in service hours that was implemented by the City, as well as the potential for fewer ADA passengers residing in the area. The greatest drops in ridership were seen in September (-9.9 percent), November (-7.8 percent) and October (-6.9 percent). Ridership actually increased during April by 6.2 percent, as well as February (5.2 percent) and August (5.0 percent). In total, for Fiscal Year 2012-2013, the Dial-A-Ride / VineLine service completed 32,115 one-way passenger-trips.

Ridership by Route

Table 7 and Figure 9 show ridership by route for Fiscal Year 2012-2013. Note that this data does include data for Routes 32 and 33, which are no longer operated as of April 2013.

Of the routes in operation, the greatest number of passenger-trips occurs on the regular weekday routes. In total, the combined weekday routes account for 89.4 percent of the systemwide ridership. Route 2 generates the highest ridership, comprising roughly 23.0 percent

of the total system ridership. Route 1 captures approximately 16.2 percent of the system ridership, followed by Route 4 (13.6 percent), Route 5 (12.7 percent) and Route 3 (10.6 percent). On the express routes, Express 1 has the highest ridership, with 5.8 percent of the total passenger-trips systemwide. This is followed by Express 6 (4.9 percent), Express 2 (2.3 percent), and Express 7 (0.3 percent).

The weekend ridership is roughly only 10.6 percent of the systemwide total. Route 22 had the highest ridership with 3.0 percent of the system total, while Route 1/30 carried 1.9 percent of the total ridership. Data for two weekend routes, Route 32 and Route 33, were included to show the whole system, however because they no longer operate, they are not considered in the overall analysis.

TABLE 6: Historical Ridership by Month

	FixedRoute - GrapeLine				Dial A Ride - VineLine			
				% Change				% Change
	FY 10-11	FY 11-12	FY 12-13	FY 10-11 to 12-13	FY 10-11	FY 11-12	FY 12-13	FY 10-11 to 12-13
July	12,143	13,918	14,754	21.5%	3,050	2,703	2,900	-4.9%
August	17,006	17,731	15,913	-6.4%	3,094	2,965	3,250	5.0%
September	15,508	16,385	14,902	-3.9%	2,988	2,910	2,691	-9.9%
October	15,503	14,987	17,882	15.3%	2,835	2,988	2,639	-6.9%
November	13,816	14,886	14,136	2.3%	2,639	2,765	2,434	-7.8%
December	11,221	15,422	13,555	20.8%	2,497	2,733	2,458	-1.6%
January	14,893	14,061	16,279	9.3%	2,645	2,917	2,614	-1.2%
February	13,890	14,100	15,805	13.8%	2,275	3,011	2,394	5.2%
March	14,878	13,376	15,843	6.5%	2,689	3,248	2,598	-3.4%
April	15,974	14,190	17,739	11.0%	2,524	3,080	2,680	6.2%
May	16,687	15,922	17,195	3.0%	2,617	3,048	2,746	4.9%
June	14,571	13,268	12,701	-12.8%	2,826	2,933	2,711	-4.1%
Total Ridership	176,090	178,246	186,704	6.0%	32,679	35,301	32,115	-1.7%
Total GrapeLine and VineLine Ridership	208,769	213,547	218,819	4.8%				

Source: City of Lodi, 2013

Ridership by Day of Week

Ridership data by day of week, broken out by route, for the week of May 13th – May 19th, 2013 is shown in Table 8 and Figure 10. According to the data, Friday had the highest number of passenger-trips completed, with 929 trips. Both GrapeLine and Dial-A-Ride / VineLine had the highest daily totals on that day, with 827 trips and 102 trips, respectively. Wednesday followed with a total of 872 passenger-trips. This was the second highest ridership day for GrapeLine (805 passenger-trips), however the second lowest during the week for Dial-A-Ride / VineLine (67 passenger-trips). The lowest weekday ridership observed was on Monday, with 671 passenger-trips on GrapeLine and 61 passenger-trips on Dial-A-Ride / VineLine.

TABLE 7: GrapeLine Ridership by Route*Fiscal Year 2012-2013*

Route	Ridership	% of Total Ridership	Passengers per Vehicle Service Hour
<i>Weekday</i>			
Route 1	30,192	16.2%	11.0
Route 2	42,852	23.0%	15.6
Route 3	19,791	10.6%	7.2
Route 4	25,246	13.6%	9.2
Route 5	23,556	12.7%	8.6
Express 1	10,817	5.8%	17.8
Express 2	4,281	2.3%	7.0
Express 6	9,048	4.9%	14.5
Express 7	586	0.3%	1.1
<i>Subtotal: Weekday</i>	<i>166,369</i>	<i>89.4%</i>	<i>10.3</i>
<i>Weekend</i>			
Route 1/30	3,443	1.9%	4.5
Route 5/31	2,656	1.4%	3.5
Route 22	5,498	3.0%	7.2
Route 32	3,850	2.1%	--
Route 33	3,444	1.9%	--
Route 34	822	0.4%	1.0
<i>Subtotal: Weekend</i>	<i>19,713</i>	<i>10.6%</i>	<i>6.7</i>
Total Ridership	186,082	100.0%	

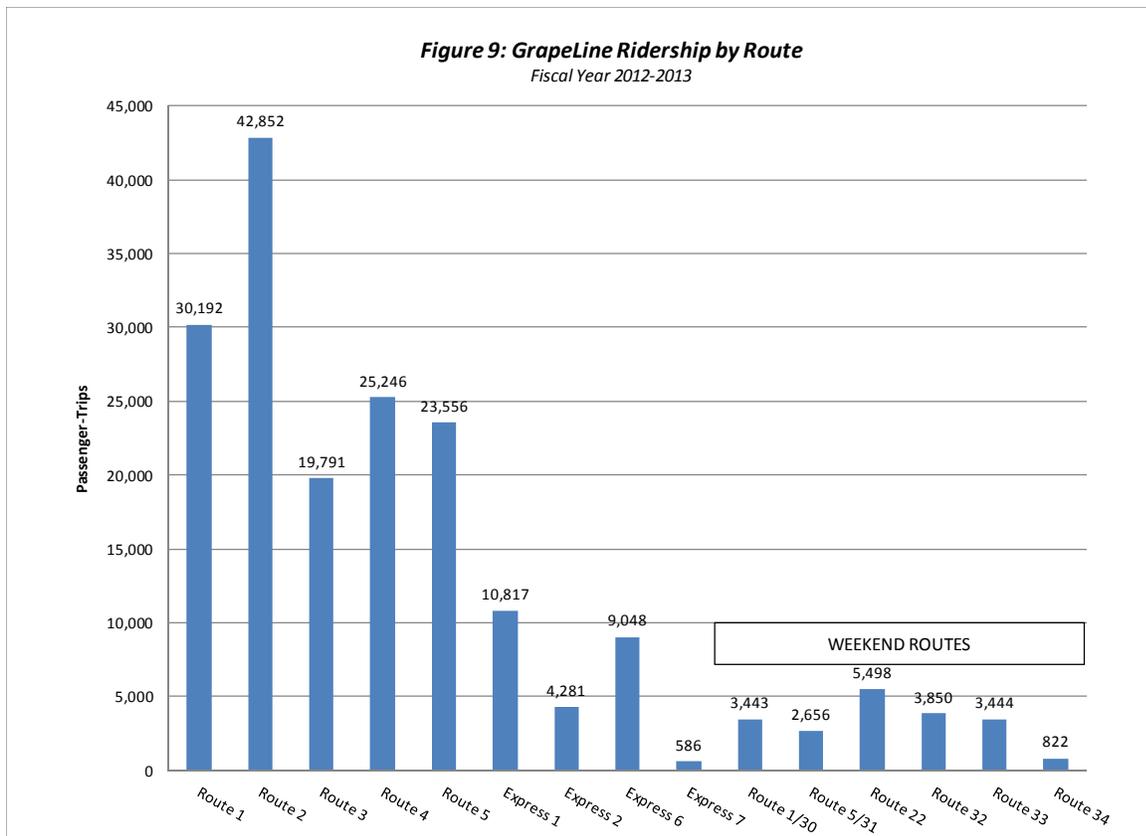
Note 1: Routes 32 and 33 are no longer operated, as of May 2013

Note 2: Vehicle service hours were estimated by route based on actual hours in operation per the schedule

Note 3: Routes 22 and 34 began service in April 2013

Source: City of Lodi, 2013

Weekend data showed that Saturdays had the higher ridership for the GrapeLine service, with 199 passenger-trips compared with only 106 passenger-trips on Sunday. Conversely, more passengers used the Dial-A-Ride / VineLine service on Sunday (47 passenger-trips) than Saturday (29 passenger-trips). This is very typical of most transit systems, where Sunday ridership is, on average, one-half of Saturday ridership. Additionally, more hours are operated on Saturday than Sunday.



EXISTING TRANSIT REVENUES AND EXPENSES

Revenues

Table 9 presents the revenues for the City of Lodi’s transit program. Federal Transit, ARRA and Proposition 1B funding is inclusive of both capital and operating funds. As shown, the total budgeted revenues for Fiscal Year 2011-2012 were \$4,283,171, which includes both capital and operating funding sources, particularly at the Federal level. Federal funding, such as FTA grants and ARRA funds, accounted for 40.5 percent of all revenues. Roughly 41.2 percent of revenues were from State sources, including LTF, STA and Proposition 1B. Local funding – fares and Measure K – comprised 15.7 percent of the revenues, while other funding totaled 2.6 percent.

Expenses

Actual expenses related to the City of Lodi transit operations are shown in Table 10. Total operating expenses for Fiscal Year 2012-2013 was \$2,975,217. The primary operating expense is for the transportation services, including the contract with MV Transportation, fuel, and maintenance.

TABLE 8: Ridership by Day of Week, Grapeline and VineLine

Data for one week May 13 - May 29, 2013

Route	Monday 5/13/2013	Tuesday 5/14/2013	Wednesday 5/15/2013	Thursday 5/16/2013	Friday 5/17/2013	Saturday 5/18/2013	Sunday 5/19/2013
<i>Weekday</i>							
Route 1	125	96	126	96	145	--	--
Route 2	163	135	201	158	186	--	--
Route 3	76	83	88	88	75	--	--
Route 4	70	63	116	106	136	--	--
Route 5	51	112	77	93	119	--	--
Express 1	44	70	70	64	66	--	--
Express 2	66	57	47	53	46	--	--
Express 6	72	51	75	73	54	--	--
Express 7	4	0	5	0	0	--	--
<i>Weekend</i>							
Route 1/30	--	--	--	--	--	68	29
Route 5/31	--	--	--	--	--	45	13
Route 22	--	--	--	--	--	47	42
Route 34	--	--	--	--	--	39	22
<i>Subtotal: Grapeline</i>	<i>671</i>	<i>667</i>	<i>805</i>	<i>731</i>	<i>827</i>	<i>199</i>	<i>106</i>
<i>DAR - VineLine</i>	<i>61</i>	<i>79</i>	<i>67</i>	<i>78</i>	<i>102</i>	<i>29</i>	<i>47</i>
TOTAL RIDERSHIP	732	746	872	809	929	228	153

Source: City of Lodi Transit, 2013

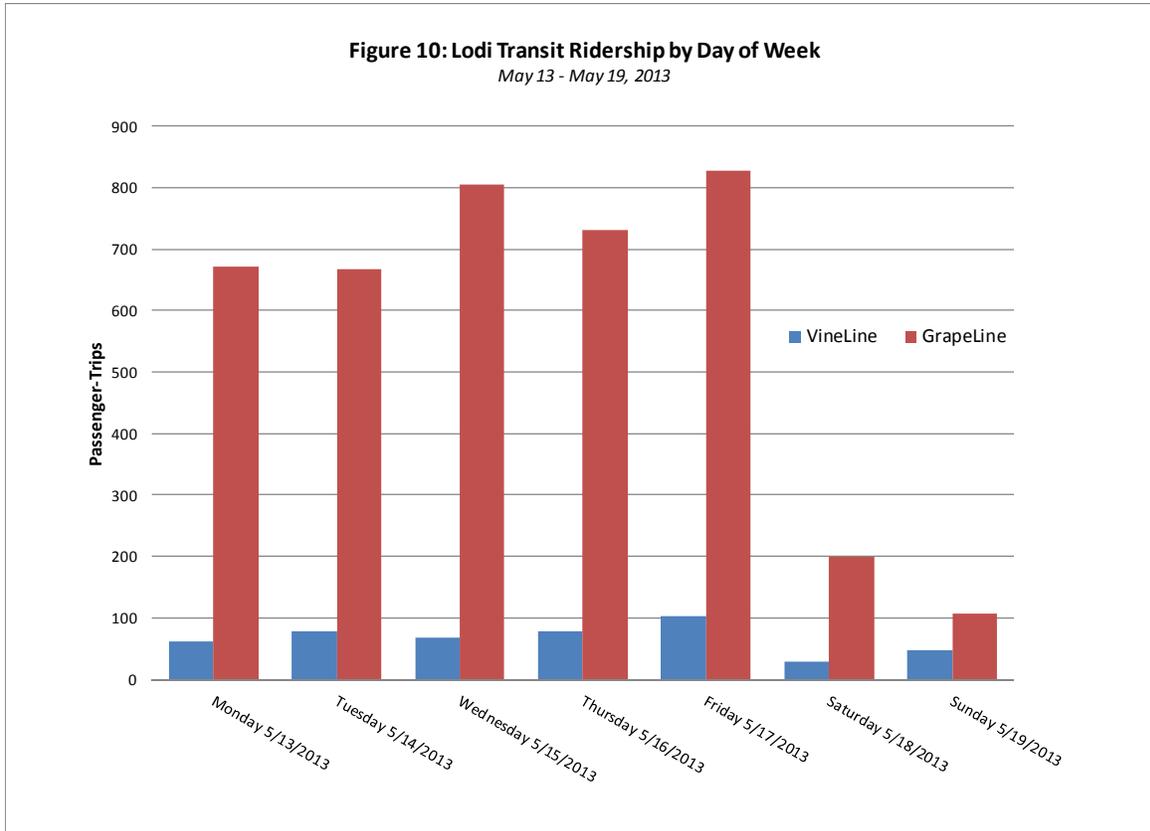


TABLE 9: City of Lodi Transit Revenues

Fiscal Year 2011-2012

Source		Percent of Total
Local Funds		
Transit Fares: Fixed Route	\$131,145	3.1%
Transit Fares: Demand Response	\$54,548	1.3%
Measure K	\$485,282	11.3%
	<i>Subtotal</i>	<i>15.7%</i>
State Funds		
Local Transportation Funds	\$1,495,400	34.9%
State Transit Assistance	\$200,511	4.7%
Proposition 1B	\$69,692	1.6%
	<i>Subtotal</i>	<i>41.2%</i>
Federal Funds		
Federal Transit (FTA)	\$1,264,349	29.5%
ARRA	\$469,177	11.0%
	<i>Subtotal</i>	<i>40.5%</i>
Other Funds		
Investment Earnings	\$11,955	0.3%
Greyhound Ticket Commission	\$7,072	0.2%
CNG Fuel	\$5,587	0.1%
Reimbursable Charges	\$63,733	1.5%
Revenue: Other	\$24,720	0.6%
	<i>Subtotal</i>	<i>2.6%</i>
Total Revenue	\$4,283,171	100.0%

Source: City of Lodi Transit Budget, 2013

Cost Allocation Model

When developing and evaluating service alternatives, it is useful to develop a "cost model," which can easily show the financial impact of any proposed changes. Table 10 also presents the FY 2012-2013 cost allocation model for Lodi Transit operations, including fixed route and Dial-A-Ride services. It should be noted that the cost models show the *total operating cost* rather than the *total subsidy*, which is total operating cost minus passenger fare revenues. Each cost item is allocated to that quantity on which it is most dependent. Maintenance costs, for example are allocated to vehicle service miles. This provides a more accurate estimate of costs than a simple total-cost-per-vehicle-hour factor, which does not vary with the differing mileage associated with an hour of service on DAR versus the fixed-route. For FY 2012-2013, this equation is:

$$\begin{aligned}
 \text{Operating Cost} &= \$1.60 \times \text{vehicle service miles} \\
 &+ \$39.30 \text{ per vehicle service hour} \\
 &+ \$1,219,862 \text{ annually for fixed costs}
 \end{aligned}$$

TABLE 10: City of Lodi Fiscal Year 2012-2013 Operating Expenses and Cost Allocation

Line Item	Allocation			Total Expense
	Fixed	Per Hour	Per Mile	
Personnel Expenses				
Salaries and Wages	\$185,105	\$0	\$0	\$185,105
Fringe Benefits	\$126,225	\$0	\$0	\$126,225
<i>Subtotal: Personnel</i>	\$311,330	\$0	\$0	\$311,330
Transportation Services				
Purchased Transportation Service	\$609,216	\$1,246,355	\$0	\$1,855,571
Fuels / Lubricants	\$0	\$0	\$65,100	\$65,100
Repairs to Machines and Equipment	\$0	\$0	\$22,100	\$22,100
Repairs to Vehicles	\$0	\$0	\$421,800	\$421,800
<i>Subtotal</i>	\$609,216	\$1,246,355	\$509,000	\$2,364,571
General Transit				
Education and Training	\$0	\$0	\$0	\$0
Advertising	\$4,000	\$0	\$0	\$4,000
Materials and Supplies	\$11,200	\$0	\$0	\$11,200
Sublet Service Contracts	\$140,000	\$0	\$0	\$140,000
Professional Services	\$7,000	\$0	\$0	\$7,000
Building Repairs	\$1,000	\$0	\$0	\$1,000
Utilities	\$72,415	\$0	\$0	\$72,415
Insurance	\$63,701	\$0	\$0	\$63,701
<i>Subtotal</i>	\$299,316	\$0	\$0	\$299,316
Total Operating Costs	\$1,219,862	\$1,246,355	\$509,000	\$2,975,217
Service Factors for FY 2012-2013		Vehicle Revenue Hours	Vehicle Revenue Miles	
		31,715	317,319	
Vehicle Service Hour Cost Factor	\$39.30			
Vehicle Service Mile Cost Factor	\$1.60			
Annual Fixed Cost	\$1,219,862			

Source: City of Lodi Fiscal Audit and Town 2012-2013 Expenditures Budget.

This equation can be used to estimate the cost of any changes in service, such as the operation of additional routes or changes in service span. It is used as part of this study to evaluate the cost impacts of service alternatives, including service reductions. It should be noted that the cost model does not include depreciation or capital items (such as vehicle purchases) made during the fiscal year.

REVIEW OF PERFORMANCE STANDARDS

The City of Lodi is not required to meet annual farebox recover ratio standards, which is typically 10 percent systemwide in rural areas and 20 percent in urbanized areas. Instead, the Lodi transit system must meet other TDA standards, as shown in Table 11 below. These measures are used by the transit system to gauge how they are performing, as well as to ensure that they are meeting all necessary standards required by TDA in order to receive funding.

TABLE 11: City of Lodi TDA Performance Measures

	Baseline (FY 2010-2011)	FY 2012-13	FY 2013-14	FY 2014-15
Cost per Vehicle Hour	\$129.11	\$135.11	\$137.82	\$140.85
Passenger-Trips per Vehicle Hour	6.6	6.8	6.9	6.9
Subsidy per Passenger-Trip	\$12.40	\$12.40	\$12.40	\$12.40

Source: City of Lodi Transit, 2013

System Performance Evaluation

To gain further insight into the efficiency and effectiveness of transit services in the City of Lodi, it is useful to conduct an analysis of ridership and operating data on a service category basis. Ridership and operating statistics for FY 2012-2013 were reviewed to identify average passenger activity, fares, and operating quantities. Fares can then be subtracted to identify the average daily subsidy required to fund each service. Finally, this data can be used to evaluate a number of productivity and service measures. Table 12 presents various performance indicators for the fixed route and demand response systems in Lodi.

The financial efficiency of a transit system can be measured by the **operating cost per passenger-trip**, as presented in the bottom portion of Table 12 and Figure 11. The systemwide operating cost per passenger-trip in FY 2012-2013 was \$13.60. The GrapeLine service had the lowest cost per passenger-trip (\$9.33), while the Dial-A-Ride / VineLine services had the highest (\$38.38).

When fare revenue is subtracted from the total operating cost and divided by the number of one-way passenger-trips, the **subsidy required per passenger-trip** is calculated. This performance measure is particularly important, as it directly compares the most significant public "input" (public subsidy funding) with the most significant "output" (passenger-trips). The system as a whole required a subsidy of \$12.75 per passenger-trip. As shown in the table and Figure 12, the GrapeLine routes had a subsidy per trip of \$8.63, while the Dial-A-Ride / VineLine service had a subsidy per trip of \$36.68.

Another measure of each route's efficiency is provided by the **farebox recovery ratio**, defined as the total fare revenues (whether provided by the passenger in the farebox or by a private organization) divided by the marginal operating costs. This information is presented in the table. The farebox recovery ratio is particularly important as a measurement for meeting the mandated minimums required for state funding and is calculated by dividing fare revenue by operating costs. However, in the City of Lodi this requirement is not implemented. The systemwide farebox recovery ratio is 6.2 percent. The fixed-route had the highest farebox recovery ratio (7.5 percent), while the Dial-A-Ride / VineLine had a ratio of only 4.4 percent.

TABLE 12: City of Lodi Transit Operating Data and Performance Indicators
Fiscal Year 2012-2013

	DAR: VineLine	Fixed Route: GrapeLine	System- wide
Operating Data			
One-Way Passenger Trips	32,115	186,704	218,819
Vehicle Revenue Hours	13,679	18,036	31,715
Vehicle Revenue Miles	105,234	212,085	317,319
<u>Annual Costs</u>			
Marginal Operating Costs	\$706,371	\$1,048,984	\$1,755,355
Allocated Fixed Costs	\$526,142	\$693,720	\$1,219,862
Total Annual Operating Costs	\$1,232,513	\$1,742,704	\$2,975,217
Farebox Revenues	\$54,548	\$131,145	\$185,693
Subsidy Required	\$1,177,965	\$1,611,559	\$2,789,524
Performance Indicators			
Average Fare	\$1.70	\$0.70	\$0.85
Operating Cost Per Passenger Trip	\$38.38	\$9.33	\$13.60
Subsidy Per Trip	\$36.68	\$8.63	\$12.75
Farebox Recovery Ratio	4.4%	7.5%	6.2%
Trips Per Vehicle Revenue-Hour	2.3	10.4	6.9
Trips Per Vehicle Revenue-Mile	0.3	0.9	0.7
Source: City of Lodi Transit, 2013; LSC Transportation Consultants, Inc., 2013			

An important measure of service effectiveness is productivity, defined as the number of one-way **passenger-trips provided per vehicle revenue hour**. As shown in the table and Figure 13, the system as a whole achieved a productivity of 6.9 one-way passenger-trips per vehicle revenue hour. This included 10.4 passenger-trips per hour on the GrapeLine routes and 2.3 passengers per hour on the Dial-A-Ride / VineLine service. Note that the overall GrapeLine results included routes that are no longer operated.

Typically fixed route services attain higher productivity figures than demand response services. A review of passengers per vehicle service hour was also included as part of Table 7. As shown, Express Route 1 was the most productive during Fiscal Year 2012-2013, carrying a total of 17.8 passengers per vehicle service hour. Route 2 was just slightly below this level, with 15.6 passengers per hour. Other highly productive routes were Express Route 6 (14.5 passengers per hour) and Route 1 (11.0 passengers per hour). Conversely, the Express 7 route had very poor performance, carrying only 1.1 passenger per hour. Overall the GrapeLine weekday routes had a productivity level of 10.3 passengers per hour. Of the weekend routes, Route 22 was the most productive, carrying 7.2 passengers per hour, followed by Route 1/30 with 4.5 passengers per hour and Route 5/31 with 3.5 passengers per hour.

Figure 11: Operating Cost Per Passenger Trip

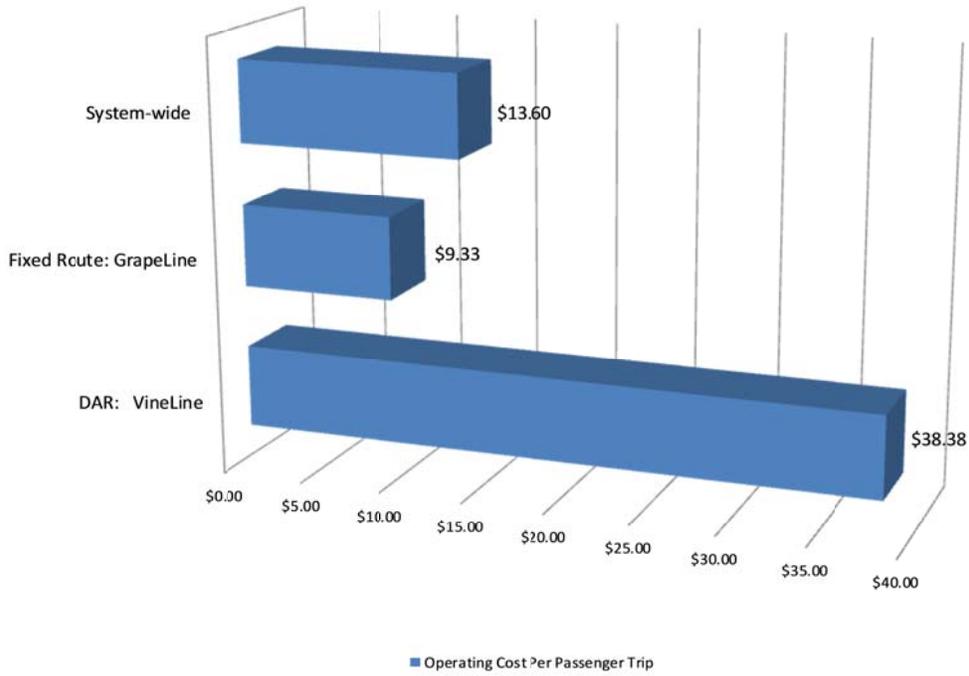


Figure 12: Subsidy Per Trip

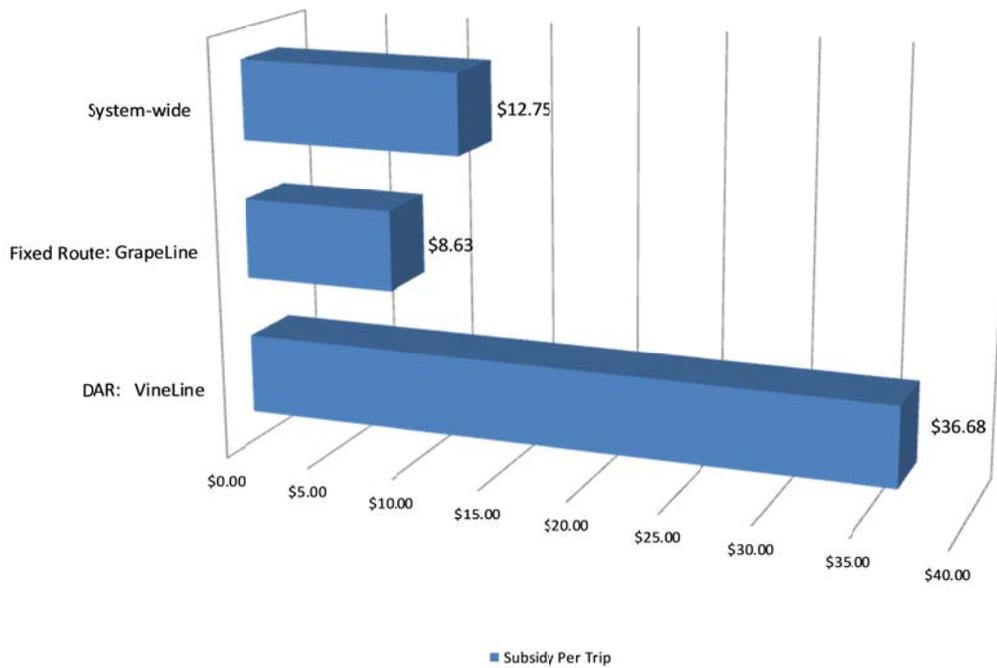
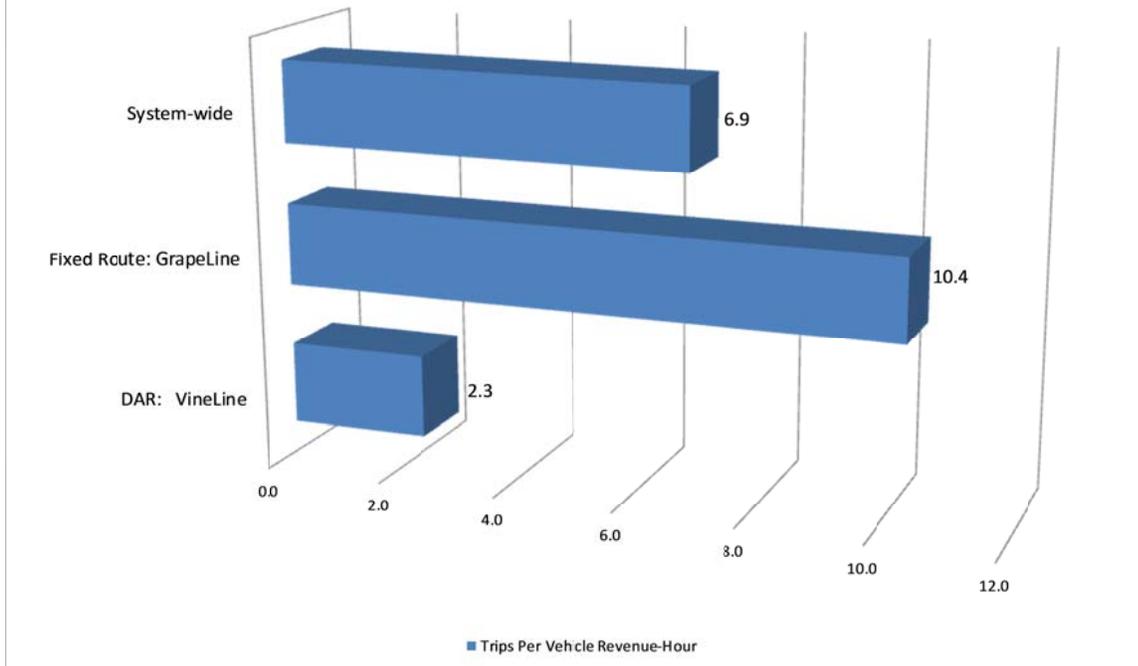


Figure 13: Trips Per Vehicle Revenue-Hour



respectively. Between these two services, the productivity level for weekend routes was 3.8 passengers per hour.

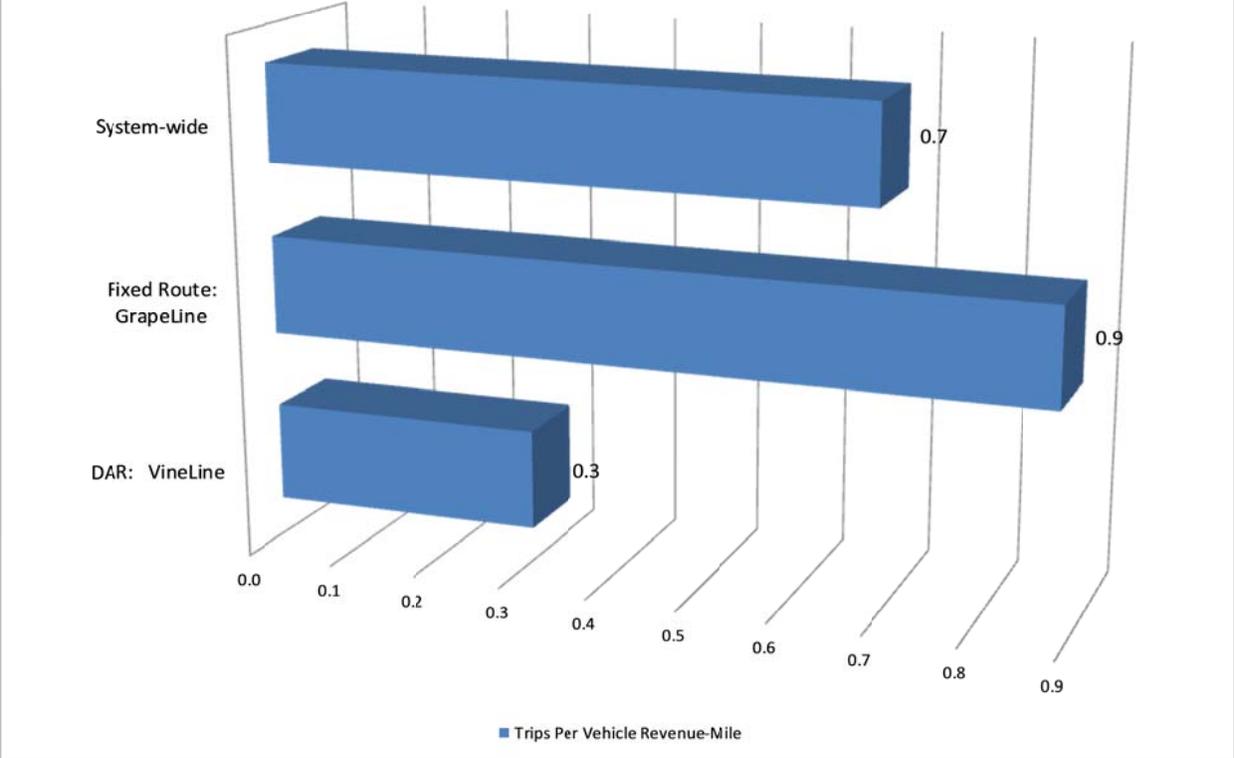
Another measure of service effectiveness is the number of one-way **passenger-trips provided per vehicle revenue mile**. The systemwide average during the fiscal year was 0.7 one-way passenger-trips per vehicle service mile. As shown in the table and Figure 14, the fixed route had the highest trips per revenue mile with 0.9, and the demand response had 0.3 trips per revenue mile.

CITY OF LODI CAPITAL ASSETS

GrapeLine and Dial-A-Ride / VineLine Fleet

As shown in Table 13, the Lodi transit program has a total of 26 vehicles in the fleet, with seating capacity ranging from 12 passengers to 44 passengers. All vehicles are wheelchair accessible. Eleven of the vehicles are used solely for the GrapeLine, including all of the new El Dorado EZ Rider vehicles with capacity for 30 passengers. Thirteen vehicles are used for both GrapeLine and Dial-A-Ride / VineLine services, while two are used exclusively for Dial-A-Ride / VineLine.

Figure 14: Trips Per Vehicle Revenue-Mile



Bus Stops and Amenities

Systemwide, the GrapeLine transit system has a total of 182 bus stops. Of these, 106 bus stops with no amenities, 49 stops with benches and 27 stops with a shelter and bench. The City has recently installed five additional new benches and is planning to install eight additional new shelters with benches. All of the system’s bus stops have signs providing a text code that passengers can use to send a text and receive instant information on when the next buses are scheduled to arrive. This technology allows for better customer satisfaction, as passengers are able to obtain real time information.

In addition to the Lodi Transit Station (discussed below), the main transfer points in Lodi is at the Safeway and Target shopping center on Kettleman Lane and Lower Sacramento Road. RTD’s transfer locations are in the vicinity of Lodi GrapeLine’s transfer point, at Kettleman Lane / Tienda Drive, as well as at Ham Lane / Lodi Ave. The shared stops are located at Lodi Transit Station and Ham Lane / Lodi Avenue.

TABLE 13: City of Lodi Transit Vehicle Fleet Inventory

Year	Make	Model	Seating Capacity	Wheelchair Capacity	Usage
2009	Ford	Starcraft	17	16+1WC; 12+3 WC	Fixed Route
2009	Ford	Starcraft	17	16+1WC; 12+3 WC	Fixed Route
2009	Ford	Starcraft	17	16+1WC; 12+3 WC	Fixed Route
2009	Ford	Starcraft	17	16+1WC; 12+3 WC	Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2007	Ford	Starcraft	17	16+1WC; 12+3 WC	DAR/Para/Fixed Route
2002	El Dorado	Aerotech	12	10+2WC	DAR/Paratransit
2002	El Dorado	Aerotech	12	10+2WC	DAR/Paratransit
2012	El Dorado	EZ Rider	30	24+2WC	Fixed Route
2012	El Dorado	EZ Rider	30	24+2WC	Fixed Route
2012	El Dorado	EZ Rider	30	24+2WC	Fixed Route
2012	El Dorado	EZ Rider	30	24+2WC	Fixed Route
2012	El Dorado	EZ Rider	30	24+2WC	Fixed Route
2012	El Dorado	EZ Rider	30	24+2WC	Fixed Route
2001	Champlain	1608 TROLLEY	44	40+1WC; 36+2WC	Fixed Route

Source: City of Lodi Transit, 2013

Lodi Transit Station

The Lodi Transit Station is located in downtown Lodi, on the corner of South Sacramento Street and West Pine Street. The station not only serves as the main transit transfer point for GrapeLine and Dial-A-Ride / VineLine, but also for SCT/Link, San Joaquin RTD and Greyhound routes that operate in Lodi. Additionally, the station serves as an Amtrak stop along the San Joaquin route, served daily by two trains and four buses in the northbound direction as well as two trains and three buses in the southbound direction. The station has an indoor waiting area with seating and restrooms, as well as outdoor seating that is both covered and uncovered.

Parking is available at the transit center, as well as at the parking structure located across Pine Street. Tickets are sold on-site for both transit and Amtrak services. The station is also the location of MV Transportation (the contractor's) operations offices. All dispatch and operation activities are carried out here, including daily farebox reconciliation, as well as space for a driver break room.

INTRODUCTION

A key step in developing and evaluating transit plans is a careful analysis of the mobility needs of various segments of the population and the potential demand for transit services. The best approach for forecasting demand and estimating need is to use multiple methodologies and then evaluate the results in the context of the specific conditions in the City of Lodi. The demand analysis presented in this Chapter is based on methodologies developed for the Transportation Research Board (TRB) of the American Academy of Scientists. The demand estimation models are presented in *Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation* published as a web-based document in 2009 by the Transit Cooperative Research Program and authored by Vanasse Hangen Brustlin, LSC Transportation Consultants, Inc., and Erickson Consulting, LLC. The methodology developed for this project is based on data available through the US Census (American Community Survey) and is an update of initial work on estimating demand for rural passenger transportation that was published in 1995 in TCRP Report 3.¹ The document will herein be referred to as the *Workbook*. The Workbook includes a linked spreadsheet for applying the procedures to quantify need and estimate demand. The applications of the methodologies are discussed below.

TRANSIT NEEDS

Need is defined in two ways—as the number of people in a given geographic area likely to require a passenger transportation service, and as the number of trips that would be made by those persons if they had minimal limitations on their personal mobility. Because the incremental cost of a trip using a car is low for those who have ready access to and ability to use a car, the difference between the number of daily trips made by persons with ready availability of a personal vehicle and by those lacking such access is used as the indicator of the unmet need for additional person-trips. Not all of this unmet need will be provided by public transit services. Persons lacking a personal vehicle or the ability to drive access transportation through friends, relatives, volunteers and social service agencies, as well as from public transportation services.

Using the TCRP methodology, the initial input for estimating transit need includes the number of persons residing in households with income below the poverty level, plus the number of persons residing in households owning no vehicle. According to the Census Data, there are 9,762 persons residing in households with incomes below poverty in the City of Lodi. Additionally, the number of zero vehicle households was multiplied by the occupancy of zero vehicle households to estimate the total number of individuals who need transportation. This data was derived from the American Community Survey. Based on the income and zero vehicle households, as well as a “mobility gap factor” determined by evaluating travel trends across the United States (in this case, 1.1 for California), the estimated transit need is calculated to be 492,690 annual one-way passenger trips, as shown in Table 14, and a total of 13,800 persons

¹ The current web-based document with detailed information on the methodology can be found at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_webdoc_49.pdf.

in need of transportation services. Again, this need represents the entire travel need of those without vehicles, only a portion of which would potentially be served by a comprehensive, high quality public transit program. Currently, GrapeLine and Dial-A-Ride VineLine services are providing over 218,819 one-way passenger trips annually (Fiscal Year 2012-2013), indicating they are meeting approximately 44 percent of the need. This is on par with the proportion of total needs met in similar smaller urban or rural transit systems in California.

TABLE 14: Mobility Gap Analysis of Potential Transit Need

Census Tract	2010 Demographics			Mobility Gap	Transit Need (Daily Trips)
	Population	Households	Households With No Vehicle		
41.02	7,768	2,297	92	1.1	101
41.04	3,065	1,197	11	1.1	12
41.05	5,241	1,890	12	1.1	13
41.06	1,953	691	0	1.1	0
42.01	6,074	2,514	39	1.1	43
42.02	1,663	696	44	1.1	48
42.03	3,916	1,261	171	1.1	188
42.04	2,608	1,302	175	1.1	193
43.02	6,304	2,256	147	1.1	162
43.03	5,826	1,833	96	1.1	106
43.05	4,988	1,970	45	1.1	50
43.07	4,062	1,629	83	1.1	91
43.08	3,511	979	55	1.1	61
44.02	5,354	1,668	74	1.1	81
44.03	3,952	981	115	1.1	127
44.04	3,785	980	97	1.1	107
45.01	2,626	881	22	1.1	24
45.02	3,893	1,148	215	1.1	237
Total Daily Transit Need					1,642
Total Annual Transit Need					492,690
Total Need for Passenger Transportation Services (# of Persons)					13,800

Sources: TCRP B36 Spreadsheet and Workbook; 2010 American Community Survey 5-Yr Estimates

TRANSIT DEMAND

While transit need is defined by the number of people requiring trips and the number of trips made by those people, demand is defined as the number of trips likely to be made over a given period within a given geographic area at a given price and level of service.

The TCRP methodology has been developed to provide planners with the ability to answer questions regarding the magnitude of the need for public transit services within a geographic area, as well as the annual ridership (i.e. "demand") that a transit service would be expected to carry. The procedures for preparing forecasts of demand have been stratified by market:

- General public services
- Small City service
- Program or sponsored trips
- Commuters
- Intercity transit services (service between two or more cities)

General Public Demand

The TCRP model estimates general public demand by evaluating general purpose trips not related to social service programs. The input data includes the number of elderly and disabled individuals and the zero vehicle households to determine the likely non-program transit trips in a smaller urban area. The estimate for the City of Lodi is 88,400 annual one-way passenger-trips. However, given that GrapeLine provided 178,246 transit trips in Fiscal Year 2011-12, it is likely that more than 88,400 are general purpose, non-program trips. This indicates that the City of Lodi provides a higher level of transit service than the national average determined by the model.

Commuter Demand

An important element of the total demand for transit services in the region is commuter services. This element has become an important "market" for many transit systems, including the City of Lodi. The TCRP methodology for this market segment is strictly a function of mode split for the number of employees commuting from Lodi to another urban area, such as Stockton or Sacramento. Based on commuter pattern data shown in Table 5, it can be determined that 3,946 residents commute to Stockton and 674 residents commute to Sacramento. Given the mode split which assumes an adequate transit service is available, the model predicts 79,050 passenger trips by transit annually (over 255 work days) between Stockton and Lodi, and 7,612 annual passenger-trips between Sacramento and Lodi, as shown in Table 15. This equates to roughly 310 passenger-trips per day for Stockton and 30 trips per day for Sacramento services. The demand for commuting to Stockton and Sacramento from Lodi was higher than the reverse commute. The model identified a demand of roughly 158 passenger-trips per day to Stockton (40,290 annually) and 20 passenger-trips per day to Sacramento (5,100 annually). In addition to commute purposes, it is important to note that there are other needs for transit service along this corridor, such as access to medical services, education, and intercity transportation services.

Transit Demand Summary

A summary of the results of the various demand methodologies above are presented in Table 16. These estimates are not cumulative; some are different approaches to the same target market, and different methods forecast demand for different target markets. While the demand forecasts have highly variable results, they are useful in determining a range of service which might be appropriate in the future, particularly in light of what service is available. Based on the

current level of service provided within the City of Lodi, it appears that the demand is relatively well met. Unfortunately, detailed data was not available regarding ridership within Lodi on the San Joaquin RTD or SCT/Link services, and therefore a comparison between demand and existing level of service was not possible.

TABLE 15: Commuter Demand

Travel Between Study Area and	# Persons Commuting			Potential Demand (One-Way Pass. Trips)			
	From Study Area	To Study Area	Total	From Study Area	To Study Area	Total Daily	Total Annual
	Stockton	3,946	3,804	7,750	158	152	310
Sacramento	674	321	995	20	10	30	7,612

Source: TCRP B-36 Study; US Census Bureau, 2013

TABLE 16: Transit Needs and Demand Summary

Methodology	Total Demand (One-Way Passenger-Trips)	
	Daily	Annual
Mobility Gap (Transit Needs)	1,642	492,690
General Public Non-Program Demand	295	88,400
Commuter	340	86,662
<i>To Stockton</i>	<i>158</i>	<i>40,249</i>
<i>To Sacramento</i>	<i>20</i>	<i>5,156</i>
<i>From Stockton</i>	<i>152</i>	<i>38,801</i>
<i>From Sacramento</i>	<i>10</i>	<i>2,456</i>

Source: LSC Transportation Consultants, Inc., 2013

PASSENGER SURVEY RESULTS

On June 12th, the Consultant and Lodi Transit conducted on-board passenger surveys as a means to obtain passenger characteristic information. The information is used to understand trip patterns, trip purposes, and how customers feel about the current services. A total of 134 surveys were completed on the fixed routes, which represents approximately 23 percent of the total boardings for the day observed. On a route by route basis, response rates were as follows: 23 percent of passengers on Route 1; 32 percent of passengers on Route 2; 21 percent of passengers on Route 3; 12 percent of passengers on Route 4; and 21 percent of passengers on Route 5. On the Dial-A-Ride / VineLine buses, 22 surveys were completed, with a response rate of 37 percent. Below is a summary of the findings, while Figures A - H in Appendix C show the results graphically.

GrapeLine Fixed Route Surveys

- The majority of passengers indicated that transit was used for home-based trips (either going from or going to their home), rather than running errands (such as from work to the store). The surveys suggest that most passengers use the service for shopping purposes (20 percent), to get to work (14 percent), to get to medical appointments (14 percent), and for personal business (11 percent). Only 7 percent use transit to get to school and 6 percent for recreational/social purposes.
- Over three-quarters (79 percent) of the respondents walked to the bus stop, and 17 percent transferred from San Joaquin RTD.
- To complete their trip, 69 percent of respondents noted they would walk, while 24 percent would transfer to San Joaquin RTD.
- Most passengers are considered regular riders. Forty-three percent of respondents ride the bus 2 – 4 days/week and another 34 percent use the service daily. Approximately 12 percent ride 1 – 4 days/month and 9 percent only 1 day per week. The remaining 2 percent ride the bus less than 1 day per month.
- Seventy-one percent of passengers say they use San Joaquin RTD transit services in addition to GrapeLine. Another 13 percent use Dial-A-Ride / VineLine, 10 percent use SCT/Link, and 6 percent stated “other”.
- The vast majority of passengers do not have access to a vehicle. Roughly 87 percent of respondents indicated that there was no vehicle available to use for their trip. Further, over two-thirds of respondents (68 percent) do not have a driver’s license.
- If transit was not available, 49 percent of the respondents would have completed their trip by walking and 18 percent would not have made the trip. Another 17 percent would have received a ride from someone else, 6 percent would have used a bicycle, 3 percent would have used their car and 2 percent would have taken a taxi.
- Over one-half of respondents (59 percent) were between the ages of 25 and 61 years old. Twenty-three percent are considered seniors (age 61 years and older). Another 9 percent were between 19 and 24 years of age, 7 percent between 13 and 18 years of age and 2 percent are youths under the age of 12 years.
- Respondents were asked to rank on a scale of 1 to 5 several transit service elements:
 - Service frequency – 4.3 average ranking
 - On time performance – 4.5 average ranking
 - Fares – 4.4 average ranking
 - Comfort of ride – 4.5 average ranking
 - Driver courtesy – 4.7 average ranking
 - System safety – 4.6 average ranking
 - Convenience of bus stops – 4.4 average ranking
 - Bus cleanliness – 4.6 average ranking
 - Bus stops and shelters – 4.1 average ranking

As shown, riders were generally satisfied with all aspects of the service. Riders were particularly positive on the driver courtesy factor, with fully 95 percent indicating a "4" or "5." The single element with the poorest rider perception was the bus stops and shelters, with 10 percent of riders giving a "1" or "2" score.

- Overall, respondents feel that GrapeLine is a well run system and is meeting passenger needs. Forty-nine percent of respondents rated Lodi Transit as "excellent", and 40 percent as "good." Only 10 percent marked "fair" and 2 percent marked "poor."
- Passengers were also asked if they would like Lodi Transit to offer later service. Over 80 percent of respondents said they would like later service on GrapeLine. Most respondents stated that service until 8:00 PM during the week would be desirable, followed by service until 6:00 PM on weekends. Other responses included weekend service until 5:00 PM, and daily service (weekday and weekend) until 7:00 PM and 9:00 PM. The survey also asked if they would like to see service on more days; 67 percent said yes. Most responses noted additional weekend service.
- A review of boarding times for the respondents was also conducted. The majority of respondents boarded the bus in the 9:00 AM hour, as shown in Figure 15, followed by 8:00 AM and the 10:00 AM, 11:00 AM and 12:00 PM hours.

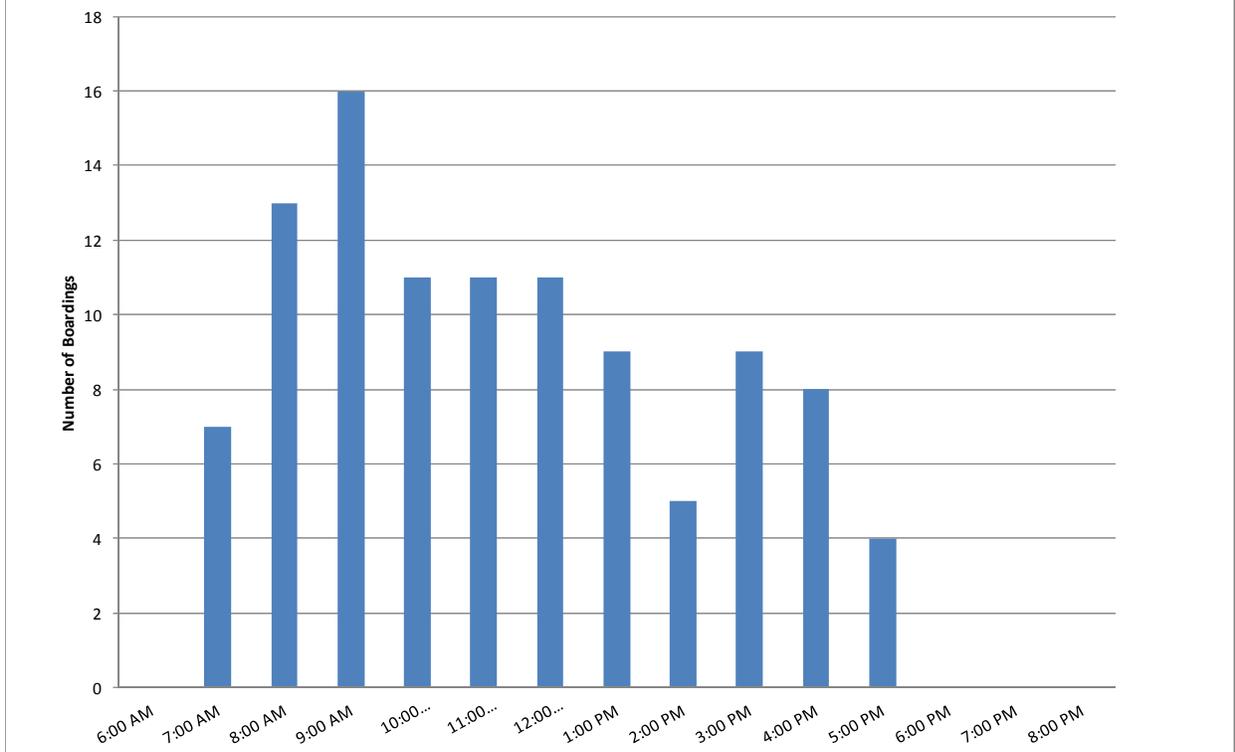
The survey also included an opportunity for passengers to provide general comments about the service and system. A bulleted list of comments is provided below.

- Passengers should be able to use transfers more than once in the two-hour period
- System needs earlier service to accommodate different work schedules
- Bus runs at inconsistent times
- Drivers do not stop by curb even when they can for pick up and drop offs
- Need longer hours to serve the public better
- Bus should go to Costco and the DMV
- Buses should run later and offer more frequency
- Great service, especially for Farmer's Market and Street Fair
- Buses should be running every 30 minutes
- Route #5 should be closer to Hutchins and Century so that passengers do not have to walk as far when transferring from RTD Route #23
- Lodi transit center is full of smoke
- Cherokee and Tokay stop is unusable due to a homeless man and his pitbull living at the stop

Dial-A-Ride / VineLine Surveys

- Passengers were asked how long ago they called for a ride. Twenty-seven percent noted their trip was a subscription trip, 23 percent called 4 to 7 days in advance, and another 23 percent called 1 day in advance. Roughly 14 percent called 3 days in advance, 9 percent called 2 days in advance and only 5 percent called more than 7 days in advance.

Figure 15: Boardings by Hour for GrapeLine Survey Respondents



- Thirty-two percent of respondents were using the service for medical or dental appointments, while another 18 percent were using it for shopping purposes. Another 14 percent used Dial-A-Ride / VineLine to get to work, 9 percent for the senior center and 9 percent for personal business. Another 18 percent stated "other".
- The overwhelming majority (90 percent) of Dial-A-Ride / VineLine passengers did not have access to a vehicle, and 67 percent did not have a driver's license.
- If Dial-A-Ride / VineLine was not available, 32 percent of passengers would not have made the trip, while another 23 percent would have walked. Eighteen percent of respondents would have used a taxi, 14 percent would have gotten a ride, 5 percent would have driven, and 5 percent would have taken GrapeLine.
- As with GrapeLine, the Dial-A-Ride / VineLine passengers are regular riders. Fifty-eight percent use the service 2 – 4 days/week, 21 percent use it daily, 11 percent ride 1 day per week and 5 percent use it 2 – 4 days/month. Another 5 percent stated this was their first time using VineLine.
- Fifty percent of the passengers use the GrapeLine service, and 50 percent use San Joaquin RTD routes, indicating that passengers rely on multiple types of transit for their daily activities.

- When asked why some passengers only use Dial-A-Ride / VineLine, 52 percent of respondents stated that they are not aware of other services in Lodi and 30 percent prefer door-to-door services. Nine percent claimed that their disability makes fixed route service difficult, 4 percent say the bus stop is too far from their home and 4 percent stated it is difficult to take grocery/shopping bags on the fixed route bus.
- The results show that 60 percent of passengers are age 62 or older (30 percent age 62 to 74 and 30 percent age 75 and older), while 40 percent were between 25 and 61 years of age.
- Wheelchair lift use is split nearly in half for Dial-A-Ride / VineLine passengers. Fifty-five percent of respondents did not need a wheelchair lift, while 45 percent did.
- Respondents were asked to rank on a scale of 1 to 5 several transit service elements:
 - System Safety – 4.7 average ranking
 - On time performance – 4.6 average ranking
 - Driver courtesy – 4.9 average ranking
 - Travel time – 4.7 average ranking
 - Areas served – 4.8 average ranking
 - Bus cleanliness – 4.7 average ranking
 - Bus comfort – 4.7 average ranking
 - Phone information services – 4.5 average ranking
 - Reservation procedures – 4.7 average ranking
 - Printed materials – 4.5 average ranking
 - Overall – 4.8 average ranking

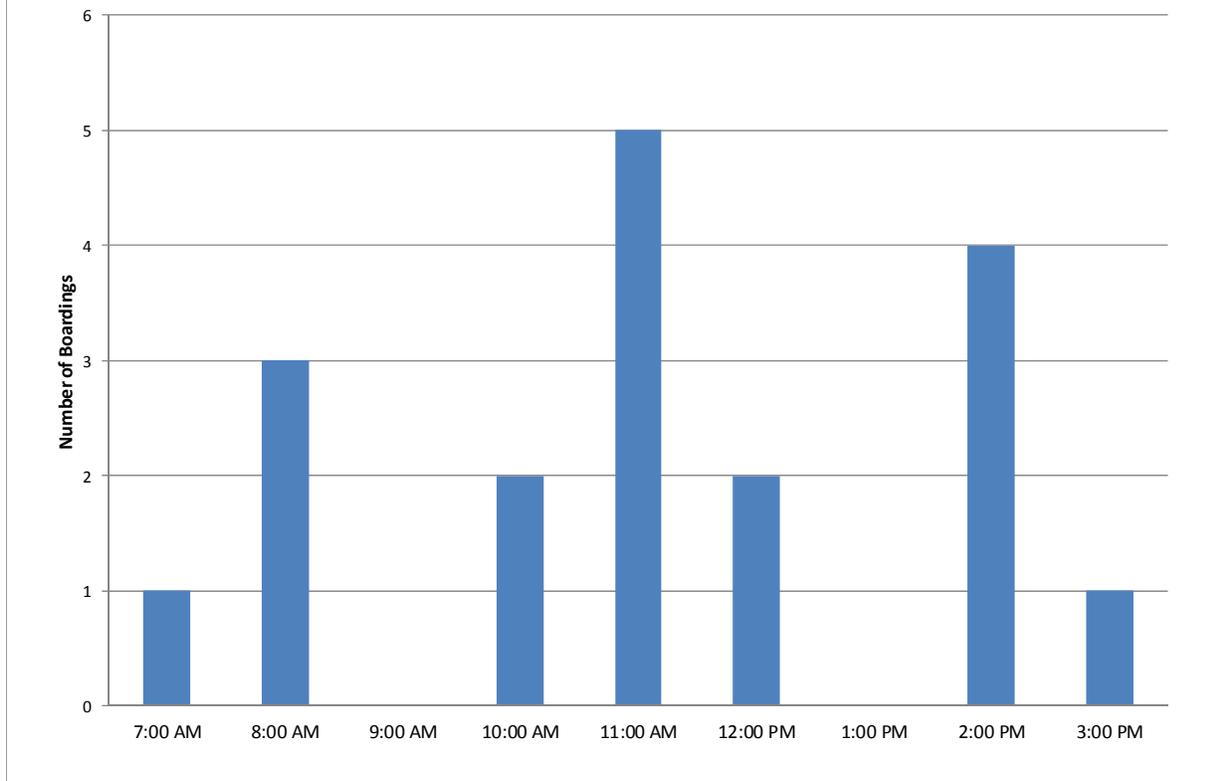
These indicate a very positive perception of Dial-A-Ride / VineLine services among current passengers, and reflect well on the operation of the service.

- Figure 16 presents information on boardings by hour for Dial-A-Ride / VineLine survey respondents. Most passengers boarded during the 11:00 AM hour, followed by the 2:00 PM and 8:00 AM hours.

Survey Summary

Overall, it appears that passengers are pleased with both the GrapeLine and Dial-A-Ride / VineLine services. Given the relatively high number of persons with no driver's license and no vehicle, coupled with those who said they would not have made the trip without transit services, it shows that there is a strong need for transit services in the community. The responses suggest that GrapeLine and Dial-A-Ride / VineLine are meeting these transit needs and are providing an adequate level of service for most passengers.

Figure 16: Boardings by Hour for Vineline Survey Respondents



PUBLIC WORKSHOP SUMMARY

In addition to the passenger surveys, a number of public workshops were held to gain further input from the residents and users of transit in Lodi. By going to the public, input can be received from not only current riders, but also non-riders and “choice riders”, allowing for a more comprehensive understanding of how the transit system is doing. The first set of public workshops were held on June 12, 2013 and were designed as poster sessions at the Lodi Public Library and the Lodi Transit Station. The second set of public workshops, held on July 18, 2013, were more formal participation events where a presentation was made, in addition to an informal poster session. The presentations made at the Loel Senior Center and the Lodi Public Library, while the poster session was set up at the Lodi Transit “booth” at the local Farmer’s Market in downtown. All public participation events were advertised.

The majority of the comments received at all events were regarding the need for later service both on weekdays and weekend, and for service down to the southern portions of Lodi, below where Route 5 currently operates. There were a number of attendees throughout the day that rely on transit services but are not able to conveniently complete their trips due to lack of service to a particular area or because the buses do not operate during times to accommodate their schedules. The latter comment included the need for earlier and later service. A copy of the comment cards received from the Farmer’s Market and the public workshops on July 18, 2013 are included in Appendix D.

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INTRODUCTION

The basis for any transit plan is the development of an effective and appropriate service strategy. The types of service provided, their schedules and routes, and the quality of service can effectively determine the success or failure of a transit organization. Based on the service plan, capital requirements, and funding requirements, the appropriate institutional and management strategies can be determined.

Following an examination of the existing conditions for transit service, the services currently provided, and the potential transit demand, a number of service alternatives have been evaluated, as presented in this chapter. The service alternatives are specifically intended to respond to perceived "gaps" in service, such as targeted markets or to address existing inefficient services. Each service alternative is described, including operating characteristics, financial characteristics, and capital requirements.

FIXED ROUTE SERVICE ALTERNATIVES

As identified in previous chapters, by City staff and through public input, expanding operating hours is a main priority for Lodi Transit. Currently, the hours of operation do not provide options for typical work schedules, particularly in the evening hours. Additionally, services end fairly early on weekends, and do not allow for evening transit trips. The first set of alternatives looks at different service levels available to Lodi Transit for expansions. Other alternatives discussed below include adding new service areas to Route 5 and eliminating the poor performing Route 7. In all scenarios, marginal impacts on operating cost, ridership, farebox revenue and subsidy are discussed.

Extend Operating Hours on Weekdays to 7:15 PM

The first alternative scenario analyzes the option of expanding weekday (Monday through Friday) operating hours to 7:15 PM. This would be achieved by adding one additional evening run on Routes 1 through 5, departing at 6:30 PM and ending at 7:15 PM. Dial-A-Ride and VineLine hours would also be expanded per ADA regulations, as discussed below separately.

Adding one additional run would increase vehicle revenue hours by 986 hours annually, for all of the five routes operated on weekdays. Likewise, vehicle revenue miles would increase by 13,663 miles annually. Using these figures, along with a revised cost model based on the estimated Fiscal Year 2013-14 operating budget (\$39.93 per hour plus \$1.53 per mile), operating costs would increase by approximately \$60,300 per year. However, farebox revenue is expected to increase due to an increase in ridership, which would offset a portion of the costs. Adding the evening run would generate roughly \$7,300 more in farebox revenue from roughly 10,400 additional passenger-trips per year (or 41 passenger-trips per day). Therefore, the marginal increase in operating subsidy would be on the order of \$53,000. This information is presented in Table 17.

TABLE 17: Lodi Transit Service Alternatives

Alternative	Total Annual			Ridership Impact (One-Way Trips)		Annual	
	Vehicle Miles	Vehicle Hours	Operating Cost	Daily	Annual	Farebox Revenue	Subsidy Required
Status Quo							
Operating Costs	317,319	32,289	\$1,774,700	613	218,819	\$185,693	\$1,589,007
Fixed Costs	--	--	\$1,219,862	--	--	--	--
Subtotal	317,319	32,289	\$2,994,562	613	218,819	\$185,693	\$2,808,869
Fixed Route Alternatives							
Expand operating hours on weekdays to 7:15 PM	13,663	986	\$60,300	41	10,400	\$7,300	\$53,000
Expand operating hours on Saturdays to 7:15 PM	8,496	709	\$41,300	43	2,200	\$1,500	\$39,800
Expand operating hours on Saturdays to 8:15 PM	10,619	877	\$51,300	51	2,600	\$1,800	\$49,500
Expand operating hours on Saturdays to 9:15 PM	12,743	968	\$58,200	59	3,000	\$2,100	\$56,100
Expand operating hours on Sundays to 3:15 PM	4,248	323	\$19,400	25	1,300	\$900	\$18,500
Expand operating hours on Sundays to 4:15 PM	6,372	484	\$29,100	39	2,000	\$1,400	\$27,700
Begin weekday fixed route service at 6:30 AM	13,663	986	\$60,300	27	6,800	\$4,800	\$55,500
Revise Route 5 to serve the Beckman/Cluff loop, DMV and Costco/Home Depot shopping center on-request	0	0	\$0	7	2,400	\$1,700	-\$1,700
Revise Route 5 to serve Beckman/Cluff loop and DMV on request and make Costco/Home Depot a regular stop	0	0	\$0	27	9,600	\$6,700	-\$6,700
Eliminate Express Route 7	-9,486	-548	-\$36,400	-2	-586	-\$400	-\$36,000
Dial-A-Ride Alternatives							
Expand DAR operating hours to 7:30 PM on weekdays	16,286	298	\$36,800	19	4,970	\$8,440	\$28,400
Expand DAR operating hours to 7:30 PM on Saturdays	885	209	\$9,700	5	270	\$460	\$9,200
Expand DAR operating hours to 8:30 PM on Saturdays	983	262	\$12,000	6	300	\$510	\$11,500
Expand DAR operating hours to 9:30 PM on Saturdays	1,147	313	\$14,200	7	350	\$590	\$13,600
Expand DAR operating hours to 3:30 PM on Sundays	328	109	\$4,800	2	100	\$170	\$4,600
Expand DAR operating hours to 4:30 PM on Sundays	721	160	\$7,500	4	220	\$370	\$7,100

Source: LSC Transportation Consultants, Inc., 2013

Extend Operating Hours on Saturdays to 7:15 PM

Expanding hours on Saturdays to allow for more recreational transit trips, such as to evening activities downtown, is another priority for the City. The first option considered would expand operating hours on Saturdays to 7:15 PM. This would add four additional runs to the current schedule, with departures at 3:30 PM, 4:30 PM, 5:30 PM and 6:30 PM from the Lodi Transit Station.

As shown in Table 17, this alternative would increase vehicle revenue hours by 709 hours annually and vehicle revenue miles by 8,496 miles annually, inclusive of all four routes in operation. Annual operating costs would increase by roughly \$41,300. Based on observed

Saturday ridership by hour for similar transit systems, ridership is expected to increase by 2,200 passenger-trips annually, or 43 passenger-trips per day, resulting in a farebox revenue increase of \$1,500. Subtracting the farebox revenue from the expected operating costs results in an increased marginal operating subsidy of roughly \$39,800 annually.

Extend Operating Hours on Saturdays to 8:15 PM

Another potential option for later Saturday service would be to add five runs to the existing schedule – at 3:30 PM, 4:30 PM, 5:30 PM, 6:30 PM and 7:30 PM from the Lodi Transit Station – to end Saturday service at 8:15 PM.

Under this scenario, vehicle revenue hours would increase by 877 hours annually, and vehicle service miles would increase by 10,619 miles. This rise in operations would add an additional \$51,300 in operating costs yearly. The marginal subsidy would increase by \$49,500, as the ridership growth (roughly 2,600 annual passenger-trips or 51 daily trips) estimated during the new operating hours would increase farebox revenues by \$1,800 per year, as shown in Table 17.

Extend Operating Hours on Saturdays to 9:15 PM

The last Saturday expansion option considered would provide service until 9:15 PM. This would be expanding the schedule by six additional departures from the Lodi Transit Station at 3:30 PM, 4:30 PM, 5:30 PM, 6:30 PM, 7:30 PM and 8:30 PM.

The expanded hours result in roughly 968 more annual vehicle service hours and 12,743 more annual vehicle service miles, as presented in Table 17. This, in turn, increases operating costs by approximately \$58,200 per year. Ridership estimates show that adding the six evening runs would increase ridership by 3,000 annual one-way passenger-trips, or 59 trips per day. This growth would generate an additional \$2,100 in farebox revenues, therefore resulting in an increase of \$56,100 in marginal operating subsidy.

Extend Operating Hours on Sundays to 3:15 PM

In addition to Saturday, hours could also be expanded on Sundays. Currently, service ends at 1:15 PM (depending on the route). Numerous comments were received during the public input process, as well as previously to Staff, that this is inadequate, particularly for church services. The first option would be to extend hours to 3:15 PM, which adds two additional afternoon runs at 1:30 PM and 2:30 PM. This expansion would increase vehicle hours by 323 hours per year, and vehicle miles by 4,248 miles per year. The result is a marginal increase in operating costs by roughly \$19,400 annually. Ridership is estimated to grow by approximately 1,300 passenger-trips annually, or 25 trips per day, leading to about \$900 in additional farebox revenue. This revenue would result in a marginal operating subsidy increase of \$18,500 annually, as shown in Table 17.

Extend Operating Hours on Sundays to 4:15 PM

Sunday hours could also be expanded to 4:15 PM, with three afternoon runs added at 1:30 PM, 2:30 PM and 3:30 PM. This would provide more flexibility for travel, while still operating a more

scaled back service. In general, ridership on Sunday service (for similar transit programs that offer Sunday service) is about one-half of that on Saturday; therefore, expanding hours significantly would not be cost-effective for the City of Lodi. As such, 4:15 PM would be the latest service option on Sunday that would be recommended.

As shown in Table 17, by adding the additional three runs, vehicle service hours would be expanded by 484 hours annually, while vehicle miles would increase by 6,372 miles. Under this scenario, operating costs would increase by approximately \$29,100. Ridership would also see growth, with about 2,000 new passenger-trips per year, or 39 trips per day. In turn, this would generate roughly \$1,400 in farebox revenue. Considering each of these factors, the operating subsidy would increase by roughly \$27,700 per year.

Expand Operating Hours to Begin Weekday Service at 6:30 AM

In addition to adding afternoon runs, providing earlier service may benefit those using transit for work purposes by providing more travel options. Additionally, it may give more people the ability to use transit for commuting purposes that currently cannot be served by the existing schedule. The current schedule, with the first arrivals into Lodi Transit Station at approximately 8:15 AM, effectively precludes transit as an option for persons working in downtown with an 8:00 AM work start time. The first option would be to add one additional run in the morning at 6:30 AM from the Lodi Transit Station.

Adding this one run to the weekday schedule would increase vehicle service hours by 986 hours annually and vehicle service miles by 13,663 miles. The resulting increase in operating costs is estimated to be roughly \$60,300 annually. This assumes that all five existing weekday runs would begin at the same time. Ridership would also grow, adding roughly 6,800 annual passenger-trips, or 27 daily passenger-trips. This ridership growth would increase farebox revenues by approximately \$4,700 per year, resulting in a marginal operating subsidy increase of \$55,500, as shown in Table 17.

Route 5 Revisions

One of the most consistent comments received during the public input process was the request for service to the southeastern portions of Lodi, particularly to the Department of Motor Vehicles (DMV) office off East Kettleman Lane on and to the Costco and Home Depot shopping centers on Harney Lane. Route 5 currently serves as far south as Almond Drive, resulting in these desired destinations being beyond the standard ¼-mile distance that is reasonable for persons to walk to / from transit. Further, there is fairly high population density in the neighborhood to the south of Almond Drive that has the potential to generate more ridership. Adding service to Costco and Home Depot would not only provide transit opportunities to employees and customers (with smaller purchases), but also to the residents of the adjacent neighborhoods. The following section presents two potential options for serving this area of southern Lodi.

Add Scheduled Service to Costco / Home Depot and Provide On-Demand Service to the DMV

The first option to provide service to southern Lodi, and possibly the more attractive option, is to add Costco / Home Depot as a schedule stop (as well as stops along the way) onto Route 5,

while making the Cluff / Beckman loop and DMV on-demand. Ridership data collected for the Cluff / Beckman portion of Route 5 during July 2013 showed that there was an average of 6 passengers per day that either boarded or got off the bus in the area. The maximum observed passenger activity was 8 passengers, while the lowest observed was 4 passengers. The data showed that the majority of the time, the bus was traveling through this area without picking up or dropping off passengers: over the course of 33 runs over three days, the bus stopped a total of 11 times, either 3 or 4 times throughout the day. This indicates that two-thirds of the runs operated served no passenger-trips. As such, time could be better spent by serving additional areas that may generate more ridership. Since the route would now travel through the residential neighborhood south of Almond Drive, as well as Lois E. Borchardt Elementary School, additional ridership could be generated on a regular basis.

Rather than traveling down Almond Drive before returning back towards the transit center, the route would be revised as follows and as shown in Figure 17 and 18:

- Vehicles would travel down Cherokee Lane and turn onto Century Boulevard in the westbound direction.
- From Century Boulevard, the vehicles would make a left turn onto Bluejay Way, a right on Culbertson Drive and a left on Melby Drive. Stops from Express Route 6 along these streets would be utilized by Route 5, eliminating the need to install more bus stops.
- From Melby Drive, vehicles would turn right onto Harney Lane, where a stop would be located across the street from Costco / Home Depot. As there is a signalized intersection at Harney Lane and Stockton Street, an adequate pedestrian crossing to the shopping areas is available.
- After stopping near the Melby Drive / Harney Lane intersection, buses would turn right up Stockton St, and would continue on the return trip as currently operated in the northbound direction.

With the route making the Cluff / Beckman loop in the northeast portion of the route on-demand, the time typically used for that service area would be transferred to the Costco / Home Depot area. As a result, there would be negligible overall change in vehicle hours, vehicle miles or operating costs. Additionally, based on the ridership data obtained for the Cluff / Beckman loop, there would be adequate time allowed for on-demand service both to that neighborhood as well as the DMV. However, similar to the above service option, ridership would increase, thereby increasing farebox revenues. It is estimated that roughly 9,600 additional passenger-trips per year (or 27 passenger-trips per day) would be served with this new route, equating to approximately \$6,700 in farebox revenue, as shown in Table 17. Because there is no increase in operating cost, the subsidy requirement for this route would be reduced by \$6,700 per year.

Add On-Demand Service at the DMV and Costco / Home Depot

Under this scenario, the DMV and the Costco / Home Depot shopping centers would be served on-demand. Additionally, to allow for these new service areas without increasing operating costs, the Cluff / Beckman loop in the northeastern portion of the route would also be operated

Figure 17
 ROUTE 5 REVISED ALTERNATIVE - WEEKDAY

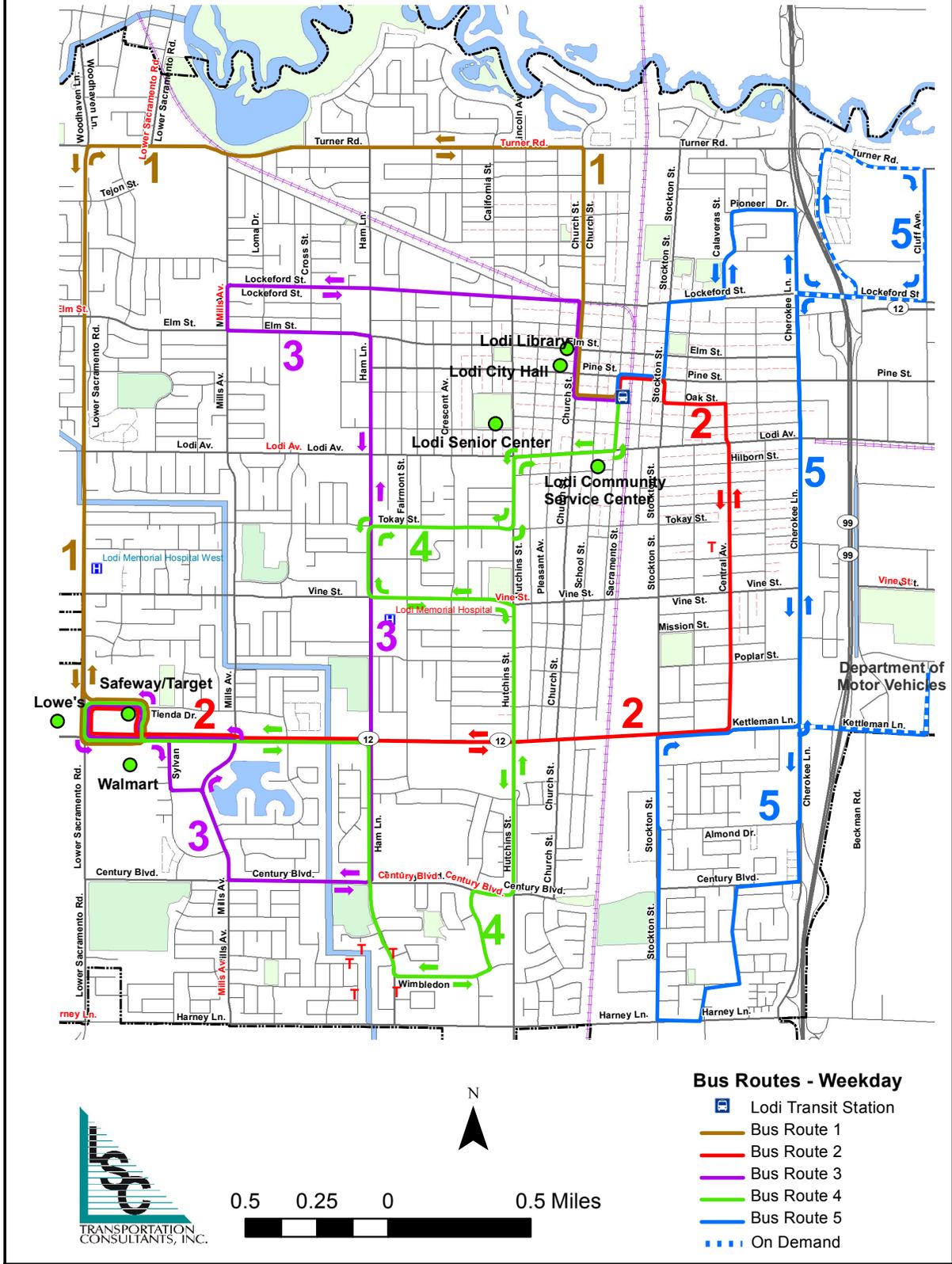
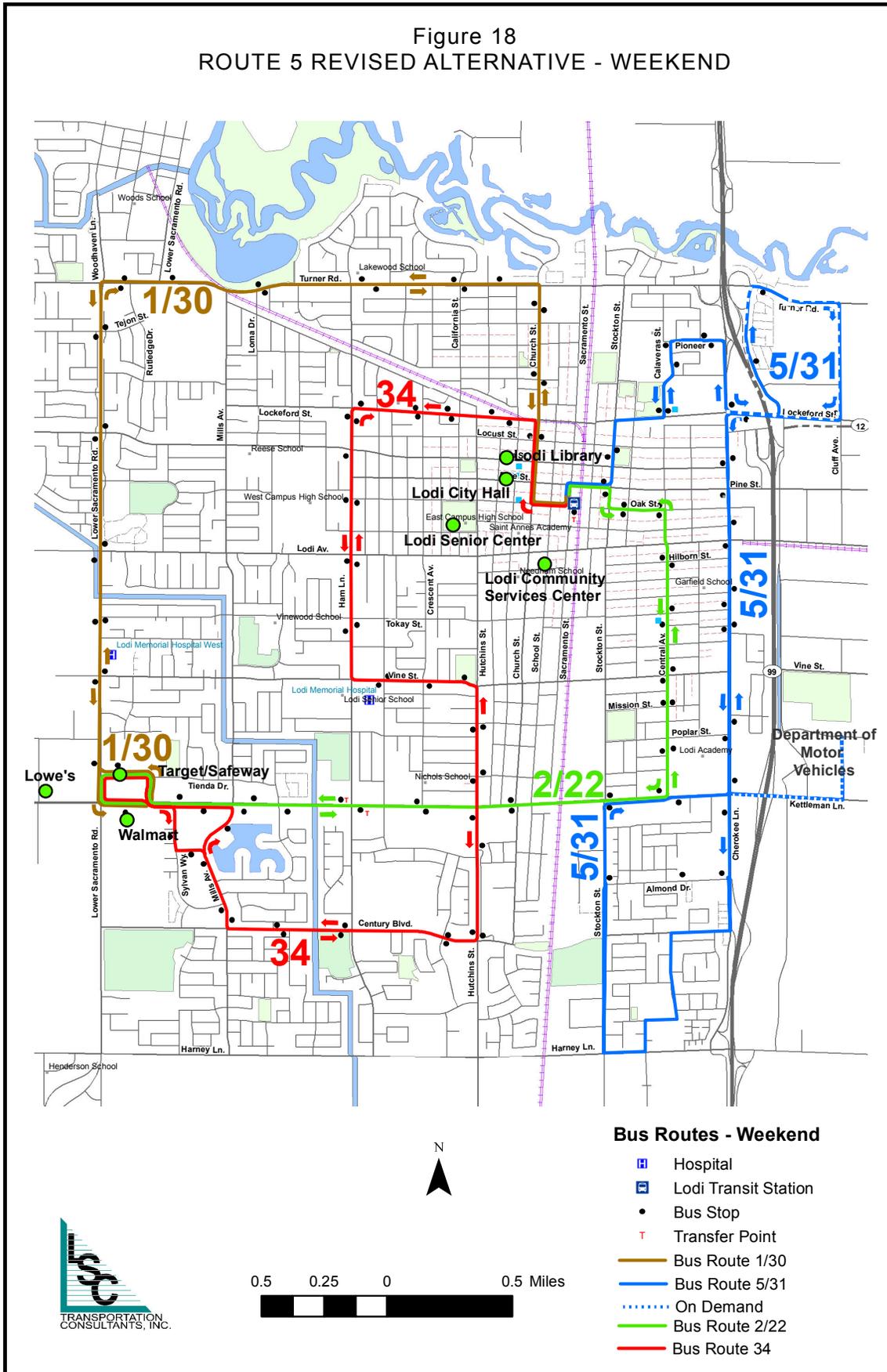


Figure 18
 ROUTE 5 REVISED ALTERNATIVE - WEEKEND



on-demand. However, this option is not the most ideal; if too few passengers are requesting service at either the DMV or Costco / Home Depot, the route has additional running time and must sit and wait at stops. Buses should not leave stops early, as there is the potential to miss passengers.

On-demand stops would not be part of the fixed schedule, but would rather be served on an as-needed basis. Passengers would be required to call ahead to let the dispatcher know they need service at one of these stops; likewise, if the passenger is on the bus, they would need to inform the driver ahead of time that they would like to be dropped off. While Figure 17 shows the scheduled stop option, the bus would use the same route to Costco / Home Depot, only it would be provided on-demand.

As mentioned, and as shown in Table 17, this scenario would not impact vehicle service hours, vehicle service miles or operating costs. It would, however, increase ridership and farebox revenues. Ridership is expected to increase by roughly 10 percent, or 2,400 passenger-trips per year (7 trips per day). This accounts for potential losses in ridership from the revision of the Cluff / Beckman loop changing to on-demand service. The new ridership would generate approximately \$1,700 in farebox revenue, which would reduce the overall operating subsidy for the route by \$1,700.

Eliminate Express Route 7

As discussed in previous chapters and shown in Table 7, Express Route 7 is currently carrying roughly 586 passengers per year (based on 2012-2013 ridership data), or 1.1 passengers per vehicle-hour. The total operating costs for the route total approximately \$36,400 per year. Calculating the cost per passenger-trip for this service shows that Lodi Transit is expending on the order of \$62.12 per passenger-trip to operate the route. In comparison to other routes that are carrying far more passengers (i.e. Express Route 1 with 17.8 passenger-trips per hour), this route is extremely inefficient. By eliminating an underperforming route, financial resources could be utilized more efficiently for other transit system improvements, such as expanding operating hours. Eliminating this route would save Lodi Transit roughly \$36,000 per year in operating subsidy, as shown in Table 17.

DEMAND RESPONSE SERVICE ALTERNATIVES

Currently, the Dial-A-Ride / VineLine system appears to be meeting the needs of most potential customers. However, should fixed route hours be expanded, the demand response system hours must also be expanding in order to comply with ADA regulations. The following scenarios are based upon the fixed route expansions and should be looked at as "pairs" to their fixed route equivalent – for example, if the fixed route hours extend to 9:15 PM on Saturdays, then the demand response system should operate until 9:30 PM.

Extend Weekday DAR / VineLine Hours to 7:30 PM

Expanding DAR / VineLine hours to 7:30 PM on weekdays, to coincide with the respective fixed route hour expansions, would increase operating costs by roughly \$36,900 annually, as shown in Table 17. This increase is due to operating an additional 16,384 vehicle hours and 298

vehicle miles. With the increased operating hours would come increased ridership. Based on existing productivity and the relative ridership in the additional hours seen in similar transit systems currently operating into the evening, ridership would grow by about 19 passengers per day, or 4,970 annual passenger-trips with the hour extension. Farebox revenues would increase by \$8,440 annually, based on the average fare currently paid, which would reduce the marginal subsidy to \$28,400 per year.

Extend Saturday DAR / VineLine Hours to 7:30 PM

The first of the three potential Saturday expansion is to serve DAR passengers until 7:30 PM. This option would increase operating costs by roughly \$9,900 per year, the result of adding 885 more vehicle hours and 209 more vehicle miles, as shown in Table 17. Extending the service would increase passenger-trips by roughly 270 per year, or 5 passenger-trips per day. This estimate was determined by reviewing previous ridership data for Dial-A-Ride / VineLine when the service operated longer hours, as well as from data from similar sized systems. The resulting ridership growth would lead to roughly a \$460 increase in farebox revenue, and would require \$9,200 more in operating subsidy annually.

Extend Saturday DAR / VineLine Hours to 8:30 PM

The second option is to expand operating hours to 8:30 PM on Saturdays. This would add on roughly 5 hours per day compared to current service levels, totaling roughly 983 hours per year, while mileage would increase by 262 vehicle miles per year. This increased service would cost Lodi Transit roughly \$12,000 per year in operating costs, however due to an increase in ridership, operating subsidy would increase by \$11,500. The ridership growth is estimated to be roughly 300 passengers-trips per year, or 6 passenger-trips per day, and would generate approximately an additional \$510 in farebox revenues. This information is presented in Table 17.

Extend Saturday DAR / VineLine Hours to 9:30 PM

The final Saturday service expansion option is to operated DAR/VineLine until 9:30 PM. By doing so, operating costs would increase by approximately \$14,200 annually, due to an increase of 1,147 vehicle hours and 313 vehicle miles. Ridership is estimated to grow by 350 passenger-trips per year (7 passenger-trips per day) and would lead to an additional \$590 in farebox revenue. Subtracting this new revenue from the expected increase in operating costs yields an anticipated marginal operating subsidy for the expansion of roughly \$13,600 per year.

Extend Sunday DAR/VineLine to 3:30 PM

In addition to Saturday expansions, Sunday hours may also need to be increased. The first of two options is to operate DAR/VineLine until 3:30 PM, adding on roughly 2 more hours of service. This small increase in operating hours would increase vehicle hours by 328 hours and vehicle miles by 109 miles. The result is an increase in operating costs of approximately \$4,800 per year. Expanding Sunday hours is estimated to generate only 100 additional passenger-trips per year, or 2 passenger-trips per day, and would provide an additional \$170 in annual farebox revenue. Considering these components, the marginal operating subsidy would be \$4,600 per year.

Extend Sunday DAR/Vineine to 4:30 PM

The last of the two Sunday options is to expand hours by 3 hours per day, until 4:30 PM. This would increase operating costs by \$7,500 per year, the result of 721 more vehicle hours and 160 more vehicle miles, as shown in Table 17. Approximately 220 additional passenger-trips would be completed during the extended hours, or 4 passenger-trips per day. Farebox revenues would increase by \$370 annually, reducing the marginal operating subsidy to \$7,100 per year.

This chapter provides options and strategies to address the various capital needs associated with a transit program, including the transit vehicle fleet and bus stop improvements.

FLEET REPLACEMENT

Lodi Transit currently has a fleet of 26 buses for fixed route and demand response services, with an average age of 5.1 years. As shown in Table 18, twenty of the Lodi Transit vehicles are due for replacement within the timeframe of this SRTP update. Of these twenty, 13 are planned for replacement in 2013 with secured funding, and another 4 vehicles are planned to be replaced in 2014. Another two vehicles should also be replaced, not inclusive of the Trolley which is not in service at this time. As shown in the table, the majority of these vehicles are cutaway styles that are used for both fixed route and demand response. The cost of these smaller vehicles is roughly \$150,000 per vehicle. It is assumed that the City of Lodi will continue to procure vehicles that are Compressed Natural Gas fueled, to comply with local goals and the California Air Resources Board compliance plan.

TRANSIT FACILITIES

Construct New Transit Passenger Facility in Southwestern Lodi

Four of the five Lodi Transit routes serve the southwestern portion of Lodi, specifically the shopping centers at Lower Sacramento Road and Kettleman Lane, where numerous transfers between routes are possible. The shopping centers include major destinations, including Safeway, Target, Staples, Walmart and Lowes, while a Walmart SuperCenter is in the planning stages as well. In addition, San Joaquin RTD routes also serve this area, providing key regional connections. As such, this area has become a key component in the mobility of transit passengers in Lodi. Due to the activity in this area, the addition of a new transit center or transfer facility would be beneficial.

The transit center would not need to be as formal as the downtown Lodi Transit Station, but rather a location where all the buses could come together to provide easy transfers. Additionally, real-time transit information and passenger facilities (benches, sheltered waiting areas, trash receptacle, restrooms, etc) would be provided, at the discretion of staff. Facilities such as restrooms require more maintenance than shelters/benches, and therefore increase maintenance costs. With real time transit information available, such as NextBus technology, the need for a staffed information kiosk could be eliminated. Schedules and maps for both GrapeLine and San Joaquin RTD would be posted in vandal-resistant cases to provide passengers with all the route information.

An optimal configuration for the facility would be an island design, similar to that found at the downtown center. This would provide passengers with the ability to transfer between buses without the need to cross travel lanes, and would reduce walk distances. If possible, this could be sited within one of the existing parking lots at the Target / Safeway, Walmart or Lowe's

shopping centers, depending on available space, where buses pull up on either side. Another option would be to provide a curbside design along Kettleman Lane, where there is significant right of way available outside the travel lane. Here, multiple sheltered waiting areas are provided along the sidewalk and buses line up along the curb.

TABLE 18: City of Lodi Transit Vehicle Fleet Inventory

Make	Model	Usage	Vehicle Age (as of 2013)	Replacement Date
Ford	Starcraft	Fixed Route	4	2014/2019
Ford	Starcraft	Fixed Route	4	2014/2019
Ford	Starcraft	Fixed Route	4	2014/2019
Ford	Starcraft	Fixed Route	4	2014/2019
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
Ford	Starcraft	DAR/Para/Fixed Route	6	2013/2018
El Dorado	Aerotech	DAR/Paratransit	11	2013/2018
El Dorado	Aerotech	DAR/Paratransit	11	2013/2018
El Dorado	EZ Rider	Fixed Route	1	2022
El Dorado	EZ Rider	Fixed Route	1	2022
El Dorado	EZ Rider	Fixed Route	1	2022
El Dorado	EZ Rider	Fixed Route	1	2022
El Dorado	EZ Rider	Fixed Route	1	2022
El Dorado	EZ Rider	Fixed Route	1	2022
Champlain	1608 TROLLEY	Fixed Route	12	2013

Source: City of Lodi Transit, 2013

In order to move forward with this project, a detailed study would first need to be completed regarding site location, site design and construction costs. This study would need to consider the following factors:

- Availability of land (preferably existing publicly-owned right-of-way or parcels)
- Impact on route running time, including delays associated with movements onto major roadways
- Convenience of walk distances and accessible travel paths to key transit trip generators
- Ability to provide short walk distances and accessible travel paths between buses
- Availability of utilities, and impact on existing utilities
- Visibility for both passengers and the general public
- Overall construction and ongoing maintenance costs

Once a site and conceptual design are defined, engineering and site design would need to be completed, along with permitting, procurement of a contractor, and construction.

Expand Existing Lodi Transit Station

Lodi Transit buses are parked at the transit station in downtown, which reduces operating costs by minimizing out-of-service travel costs. However, the bus parking area is not secured. While there have been no major incidents reported beyond some vandalism, liability is reduced when vehicles can be stored in a secured area. Additionally, while the transit station has space for driver and staff training and meetings, the area is too small and does not meet the needs of the staff. Therefore, another key component of an expansion would be to construct more office / administrative space to be used for driver and staff meetings, as well as to hold general transit meetings and public workshops. Under this alternative, the City would investigate means of providing secured parking for transit vehicles in the vicinity of the Transit Station, along with potentially providing additional office/administrative staff.

Install Bus Wash Facility and Upgrade Fueling Facility

The City of Lodi uses a CNG fueled fleet for both transit revenue and non-revenue vehicles. The Municipal Services Building, located at the corner of Kettleman Lane and Ham Lane, houses a fueling facility for the City's fleet. In addition, other agencies are able to pay for the use of the facility, as is the public. Buses are washed off-site at the Lodi Unified School District facility, and when not available, through a private company that is paid for by the contractor, MV Transportation.

With all the use of the fueling facility, Lodi staff is experiencing maintenance issues. To address this, the City of Lodi is planning to upgrade the fueling facility in Fiscal Year 2013-2014. Not having on-site washing capability is also not ideal for Lodi Transit, as it adds operating costs. The existing Municipal Services Building has space to add a bus wash bay, and the City is planning to install this facility in Fiscal Year 2013-2014. The combined project (fueling upgrades and bus wash facility) is estimated to cost roughly \$240,000. Money has been allocated to pay for these upgrades, however a formal RFP process must first occur.

TRANSIT STOP IMPROVEMENTS

The “street furniture” provided by a transit system is a key determinant of the system’s attractiveness to passengers, residents, and visitors, as they increase the physical presence of the transit system in the community. Bus benches and shelters can play a large role in improving the overall image of a transit system and in improving the convenience of transit as a travel mode. More importantly, shelter is vital to those waiting for buses in harsh weather conditions.

Lodi Transit has recently cataloged its passenger amenities, which consist of bus stop signs and occasional benches, trash cans, and information kiosks, as well as shelters. Additionally, the Consultant Team surveyed each bus stop in the system and noted any deficiencies or issues observed. Table 19 provides observed issues and potential recommendations for improvements at specific stops.

- The majority of the issues surrounding Lodi’s bus stops are due to ADA accessibility problems. Many stops do not have adequate space for wheelchair boardings and alightings. Where feasible, wheelchair pads should be installed to comply with regulations.
- Ultimately, all bus stops should be provided with a wheelchair pad directly at the stop. Stops were reviewed to identify if a reasonable option is available to use an existing paved area near the stop in the interim, which are not included in Table 19.
- For the most part, bus stops were in good condition and did not need upgrades. A handful of stops needed tree branches trimmed to enhance sign visibility, or needed benches replaced.
- While not always avoidable, there were bus stops that did not have adequate pullout space available, resulting in the bus blocking the travel lane. If possible, bus pullouts should be constructed, or if feasible, stops should be moved to alternate areas where lanes would not be blocked. Additionally, if boarding and alighting data shows that the stop receives little to no activity, it may be worthwhile to eliminate the stop from the route.

Bus Shelters and Benches

Adequate shelters and benches are particularly important in attracting ridership among the non-transit-dependent population – those that have a car available as an alternative to the bus for their trip. Preference should be given to locations with a high proportion of elderly or disabled passengers and areas with a high number of daily boardings. In general, stops with 5 or more boardings per day should include a bench, and at stops with 10 or more boardings, a shelter is appropriate. Regular boarding and alighting surveys (as discussed in Chapter 7) would provide information related to passenger activity that could be used to identify potential bench and shelter locations. Lighting and safety issues are equally important along major highways. Consideration of evening service should include an analysis of lighting needs at designated bus stops. This could range from overhead street lighting to a low powered light to illuminate the passenger waiting area.

TABLE 19: Bus Stop Deficiencies and Recommended Improvements

Stop	Route	Deficiency / Issue	Recommended Improvement
Church / Olive Court	1	No lighting; Tree blocking bus stop sign	Trim tree to make sign visible; Add lighting fixture
Church / Eureka	1	Inadequate distance available for wheelchair boardings/alightings	Install wheelchair pad
Church / Eureka	1	No opportunity for wheelchair loading	Install wheelchair pad
Lakewood School WB	1	No seating available	May warrant a bus bench
Lakewood School EB	1	No bench or seating available, no pedestrian crossing protection	Install bench, move stop to just east of Ham Lane
Turner / Lower Sacramento Rd	1	Stop blocks travel lane	Install bus pullout area, if feasible
Lower Sacramento Rd / Tejon St	1	Tree blocking bus stop sign	Trim tree to make sign visible
Lower Sacramento Rd / Lodi St	1	No opportunity for wheelchair loading	Install wheelchair pad
Lower Sacramento Rd / Tienda (@ Marshalls)	1	Poor condition of bench at shelter; Bus blocks travel lane	Replace bus bench; Install bus pullout area, if feasible
Central / Cypress	2	No opportunity for wheelchair loading	Install wheelchair pad
Central / Mission	2	No opportunity for wheelchair loading	Install wheelchair pad
Oak / Washington WB	2	No opportunity for wheelchair loading	Install wheelchair pad
Ham / Crescent	2	Fair condition of bench	Replace bus bench
Stockton / Pine	2	Bus stop sign needs to be replaced	Replace bus stop sign
Lockeford / Loma Dr	3	No seating available	May warrant a bus bench
Ham / Tokay NB	3	No opportunity for wheelchair loading	Needs wheelchair pad
Century / Ham	3	No opportunity for wheelchair loading	Need wheelchair pads
Hutchins S. of Chestnut NB	4	No opportunity for wheelchair loading	Wheelchair pad, possible bench
Lodi East of School St	4	No seating available	Possible Bench
Tokay Near Crescent	4	1/2 miles between stops	Establish new stops on both sides
Vine St E of Fairmont Avenue WB	4	No opportunity for wheelchair loading	Needs wheelchair pad
Scarborough N. of Wimbledon	4	No opportunity for wheelchair loading	Need wheelchair pads
Ham S. of Century SB	4	No opportunity for wheelchair loading	Needs wheelchair pad
Cherokee N. of Lockford SB	5	Not Signed	Install sign
Turner / Cluff	5	No seating available	May warrant a bus bench
Cherokee / Poplar SB	5	No opportunity for wheelchair loading	Needs wheelchair pad
Cherokee / Kettleman NB	5	Wide grass strip precludes wheelchair access to stop	Needs pad and accessible path
Cherokee / Elm NB	5	No seating available	May warrant a bus bench

Source: LSC Transportation Consultants, Inc.

Improved Bus Stop Maintenance

Lodi Transit currently maintains all bus stops and shelters, including the use of pressure wash equipment. During the course of this study, there were comments received at public workshops regarding the condition of the bus stop at the Loel Center due to vandalism and trash. Lodi Transit recently conducted a survey of all passenger amenities, and is working on stops that need repairs, including the stop at the Loel Center. This inventory should be repeated on a regular basis to insure that passenger amenities are repaired and maintained in a timely manner after accidents, storms or acts of vandalism.

SECURITY NEEDS

Security Cameras on Buses

While Lodi's EZ Rider fleet is currently equipped with security cameras, the remaining vehicles in the fleet are not. Existing cameras are considered "drive cams" and are turned on when either the bus hits a bump or on demand from the driver. Staff has expressed interest in installing security cameras on the rest of these vehicles to aid in safety. Security cameras have proven to be very useful in other transit systems in addressing public safety and operational issues, and are becoming the standard of the industry. The cost to install cameras on each vehicle is roughly \$2,500 per unit, and would need to be installed on the existing 19 vehicles (not including the Trolley) as well as subsequent replacement vehicles in the future.

Cameras at the Transit Station

Installing a video surveillance system would help protect the property as well as safe-guard employees who work very early or late when few other people are around. Additionally, it would also provide an eye on the vehicles that are stored on-site, which could limit vandalism. The installation of a facility surveillance system would cost roughly \$1,000, with an annual fee of approximately \$400.

ADVANCED PUBLIC TRANSPORTATION SYSTEMS (APTS)

AVL Technologies

An Automatic Vehicle Location (AVL) system is a computer-based vehicle tracking system that uses a specific location technology (typically Global Positioning Satellites (GPS)) and a method of transmitting that real-time location of any receiver-equipped vehicle to a dispatch center. GPS satellites locate the bus, and the location data are then transmitted to the transit center through the communications system. The AVL data can be used on a real-time basis for daily operations or archived for further analysis.

When combined with other technologies or processes, AVL can provide many benefits in the areas of fleet management, systems planning, safety and security, traveler information, fare payment, and data collection. Introduction of an AVL system is often the first step in a more comprehensive Intelligent Transportation Systems (ITS) implementation.

Some common uses and combinations of AVL technology include the following:

- **Daily Operations:** Combined with Computer-Aided Dispatch (CAD) and Geographic Information Systems (GIS), AVL can allow Dispatchers to optimize service, which aids in providing transfers between routes. This is particularly important in Lodi with regards to transfers between GrapeLine buses, and to/from San Joaquin RTD routes. For demand-response services, AVL can allow each vehicle to service more passengers. Transit agencies often realize reductions in nonrevenue miles as well as passenger wait times, and in larger system it can allow a reduction in fleet size. AVL also can be utilized by Transit Signal Priority (TSP) systems through the detection of specific transit vehicles as they approach select intersections.
- **Safety and Security:** AVL data displayed on a GIS map facilitates incident response.
- **Systems Planning and Fleet Management:** AVL data can be used for systems planning and fleet management. When this data are combined with bus stop and facility inventory data, they can be mapped on GIS. These data can also be linked to Automatic Passenger Counters (APC) to gather ridership information by location and time. The data can be used for planning routes, schedules, and facility and fleet requirements.
- **Traveler Information:** When linked to an electronic traveler information infrastructure, an AVL system can provide information on expected arrival times. This information can be provided via the internet (including directly to smartphones) as well as on reader boards at key transit stops (such as NextBus).
- **Electronic Fare Payment:** An AVL system can collect fare information by location and trigger electronic fare boxes to accept different payment amounts across fare zones.

A number of rural and small urban transit systems have implemented AVL systems. The extent to which each has incorporated these systems into a system-wide APTS program varies according to the complexity of each transit system. In general, however, AVL is a core technology for larger agencies, especially bus and multimodal agencies, as they can spread the cost of the system over a larger fleet size.

The average cost of a baseline AVL system is approximately \$15,000 per vehicle. When combined with other technologies or processes, AVL can deliver increased benefits in the areas of fleet management, systems planning, safety and security, traveler information, fare payment, and data collection. Introduction of an AVL system is often the first step in a more comprehensive APTS implementation.

In addition to providing tools to better manage the operations of the transit system, one strong benefit of AVL is the added convenience to passengers. Specific ways in which AVL can benefit Lodi Transit passengers include the following:

- Using AVL technologies to announce arrival times or expected delays allow passengers to make “real time” decisions about options for their trip.

- The fact that AVL results in more consistent transfer opportunities between buses means that a higher proportion of passenger's trips can be accomplished without long delays caused by missed transfers.
- Providing passengers with up-to-date information on services reduces the stress associated with delays.
- AVL allows police and medical personnel to more quickly respond to an incident on a bus.
- AVL helps ensure that bus stop announcements are consistently provided, which is a great help to blind passengers.

Overall, passengers are more likely to use transit services if they have better and more instantaneous information about bus arrivals and departures, which results in a growth in ridership.

Zonar

The Zonar system is a type of electronic fleet management that is employed by many facets of the transportation industry including transit, trucking and school transportation. The main feature of Zonar is the GPS component, however it also includes pre- and post-trip inspection system. The system includes a handheld device that is used to generate bus inspection reports that track vehicle maintenance, regulatory compliance and driver performance. The GPS component tracks the vehicle's location in real time, and the system can provide information to the transit system regarding vehicle speed, location, idle time and real time diagnostics. The main features of Zonar include:

- GPS that provides information in latitude, longitude, time and odometer;
- Inspection and repair monitors that automate and improve maintenance tasks;
- Real-time vehicle diagnostics that reads and reports data remotely;
- Trip level metrics that measure fuel consumption;
- Enhanced tracking that connects drivers to vehicles for performance reporting;
- Dynamic geo-fencing that creates geographical tracking parameters and provides real-time alerts; and
- Intelligent navigation and guidance, designed to improve route management and communication.

While many smaller urban transit agencies have employed this system, its value is not quite that of other AVL technologies, as discussed above. The information regarding bus location or route data is not transferrable to other technologies, such as mobile information kiosks (NextBus) or with Google Transit. Since Lodi Transit is currently utilizing Google Transit and is interested in providing real-time passenger information at key transit stops, the Zonar system would not allow for coordination of the data between the vehicles and these technologies. Additionally, the ability to be coupled with automatic passenger counters and mobile data terminals is not available through Zonar. These technologies allow for advanced passenger data collection, such as boarding/alighting data by stop, to be employed. Overall, the Zonar system is a great tool for vehicle inspection / maintenance and GPS location services, however as a standalone AVL system, it is not as comprehensive as other systems.

Real Time Traveler Information at Key Stops

Real time traveler information, such as NextBus, is a newer technology that is very popular with both urban and smaller urban systems. The system uses GPS and computer modeling data to provide real time information to passengers, such as vehicle location and when the next vehicle will be arriving at a stop. Lodi Transit currently employs a similar system where passengers can text the code of their bus stop and receive information as to when the next bus will arrive. However, NextBus provides this type of information automatically on a screen that is installed at the bus stop. It can provide information for different routes at one given time, as well as for multiple transit agencies. The latter point is key where there are connections between different systems, such as GrapeLine with the San Joaquin RTD or SCT/Link. In addition to providing the information at a bus stop, passengers can also use their phones or computers to access the route information. Installing these screens at key stops, such as at the Lodi Transit Station and larger stops where transfers between RTD occur, would benefit both the transit system and the passengers. There are a variety of options, including both scrolling reader boards as well as full monitor screens. The cost to install the screens is roughly \$20,000 per location.

Farebox and Vault Equipment Upgrades

Currently, Lodi Transit does not have a vault for their fareboxes and associated cash revenues. As buses arrive at the Lodi Transit Station, dispatchers board the buses and remove the farebox equipment (two per bus), carry it inside the dispatch building, put the farebox on a cart and wheel it into the meeting / counting room. Once inside, the fares must be "dumped out" manually, then counted. Due to the heavy nature of the fareboxes, there has been one related injury to a dispatcher.

The City of Lodi is planning to purchase a vault to be installed at the exterior of the dispatch building. With this, drivers would remove the fareboxes and place them in the vault from the outside. Inside the building, staff is able to remove the cash fares from the vault, which will also "dump" the fares out automatically, thus eliminating the need to lift up the farebox and transfer it to another room. Rather, the cash along would be transferred to the counting room.

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Chapter 7

Institutional / Management Alternatives

Beyond issues of service design and capital improvements, there are numerous other elements that go into providing an effective public transit service. This chapter presents a review of management measures to improve demand response service, marketing strategies, and monitoring options.

DEMAND RESPONSE IMPROVEMENT STRATEGIES

A review of the demand response system's operational details and policies was conducted and compared with the standard practices of other demand response services. In order for a passenger to use the DAR / VineLine service, they must make a trip request at least 1 day in advance and may also request a trip up to 14 days in advance. Passengers must also make their request by 5:00 PM the day before the scheduled trip Monday through Friday, by 3:00 PM on Saturdays, and by 1:00 PM on Sundays. These reservation policies are consistent with the majority of demand response providers, according to a 2004 survey by the Transit Cooperative Research Program (TCRP), as presented in *Synthesis 60, Practices in No Show and Late Cancellation Policies for ADA Paratransit*.

A "pick-up window" is the time prior to and after the negotiated scheduled trip that a passenger is expected to be ready to travel, and is designed to give the program and its drivers flexibility and maintain an "on-time" status. The City has defined this window as 10 minutes before and 20 minutes after the negotiated pick-up time. When reviewed against other demand response providers, a 15 minute window is the most frequently used policy.

Indicators of a demand response systems productivity and performance can be measured by passenger-trips per vehicle service hour and operating cost per passenger-trip. Data presented in Chapter 3 indicates that DAR / VineLine generated an average of 2.3 passenger-trips per vehicle service hour and \$38.38 per passenger-trip. A survey of representative systems by the TCRP (TCRP Report 124, *Guidebook for Measuring, Assessing, and Improving Performance of Demand-Response Transportation*) showed a typical range between 1.77 and 3.84 passenger-trips per hour, and \$11.36 to \$20.80 operating cost per passenger-trip (based upon the survey of small urban services). While the cost per passenger-trip is high compared to those peer systems surveyed, it is not particularly unusual.

Performance and productivity can be impacted by many factors, especially by no shows and late cancellations. DAR / VineLine defines a no show as when a passenger does not meet the within 5 minutes of the scheduled arrival time, and a late cancellation as when a passenger has called to cancel less than 1 hour from the passenger's scheduled pick-up. Both no shows and late cancellations can significantly reduce the effectiveness of a demand response service, by expending resources while not resulting in a completed trip.

Strategies to Improve Service Effectiveness

No-shows and late cancellations have many negative effects on the system, as they create a "hole" in the schedule that could have otherwise been used for a passenger-trip. Further, other

riders are inconvenienced and on-time performance can be degraded. To control the level of no shows and late cancellations, the following potential strategies and alternatives have been developed.

Policies for Late Cancellations and No-Shows

DAR / VineLine currently has policies related to late cancellation or no shows, however they still experience a number of these incidents. A TCRP study showed that over 91 percent of surveyed demand response programs (123 respondents, total) had written policies. The policy should be strictly enforced to encourage passengers to follow through with their scheduled trip or cancel within a timely manner. The TCRP *Synthesis 60* study showed that while a system may have policies developed and in place, a large proportion are not thoroughly enforcing them or have not enforced them at all.

A typical policy defines late cancellations and no shows (which has already been done for the Lodi service) and establishes penalties for riders who do not comply with the requirements, which may include suspensions or fines. The majority of demand response systems enforce policies by suspending passengers with excessive late cancellations or no shows, rather than fines; this is the current penalty structure for Dial-A-Ride / VineLine. The system could evaluate the potential for more stringent penalties, such as fines. Or, they could enhance their current penalty system. Lodi Transit currently employs a sliding scale, where the length of the suspension increases with the number of cancellations and no shows. Currently, the first suspension results in a 1-week loss of privileges, the second suspension in a 2 week loss, and a third suspension in a 30-day loss. This could possibly be intensified, where the suspension could be longer. Some agencies and programs have developed a points system to track these and to develop their policy. On the other side, the points can also be used as part of an incentive program, which is discussed in more detail in the following section.

It is recommended that upon a no show, subsequent trips scheduled for that day for a passenger should not be automatically cancelled. The policy should establish a procedure for determining whether the remaining trips will be honored, and should also develop an internal procedure for identifying and handling those trips. A written procedure for defining and addressing excused no shows should be developed and clearly communicated with passengers. Further, an internal operating document clearly discussing procedures for handling no shows and late cancellations should be developed for staff. This should include how dispatchers and drivers handle these situations and how to contact passengers.

As part of developing a policy, public input is required by the ADA. This can be achieved through passenger advisory committees (i.e. SSTAC, etc.) or public workshops. By involving the public, passengers may be more aware of how no shows and late cancellations can affect a demand response program, and the agency will gain the valuable input of the persons who rely on and use the service. As a result, policies can be developed that are effective and deemed acceptable by both parties involved, and a greater level understanding of the system can be achieved.

Incentives to Passengers

As a method to encourage passengers to comply with trip reservation policies, demand response systems have implemented incentive programs. RTC of Southern Nevada, for example, generates reports twice per year showing which passengers have not had any no shows. Based on their frequency of use on the system, these passengers receive free ride coupons. Another example is the Utah Transit Authority, who revised their policies to include a Responsible Rider Program. The program rewards riders with good ridership records over a 6 month period and who had at least 6 one-way trips. Both systems have seen a reduction in no shows and cancellations since implementing these programs as part of their policies.

Due to the concern regarding late cancellations and no shows, DAR / VineLine should develop and implement a similar program as part of the overall policy. The program would have to define the parameters of a good ridership record and whether or not there would be different levels of rewards. For example, the more one-way trips a passenger schedules in a given period of time, the greater the reward with a good ridership record. Typical rewards depend on the level of ridership and are in the form of free ride coupons.

Passenger Education Program

Passenger education is also a tool that can be used to reduce cancellation and no show occurrences, while avoiding the impacts associated with suspension of service. Riders should be thoroughly informed on the policies and procedures regarding the pick-up window, wait time requirements, and actions taken by the agency against no shows and late cancellations. As reported by the TCRP, some small urban demand response systems have found great success in reducing late cancellations and no shows by rider education alone, as many passengers may not be aware of the consequences involved with these actions. DAR / VineLine should consider developing a passenger education program, targeting how the passenger can cancel rides in advance to avoid late cancellations or no shows, and how to be ready to board within the system's defined pick-up window. Information should also be included on how a rider's actions can affect the overall system, as well as other passengers over the course of the day. By doing so, passengers may be more inclined to take notice of and follow procedures properly. Literature and other materials can be distributed to riders, by mail or on the buses, which include tips on how to address these issues. New passengers should be provided with a packet that explains all policies currently in place, including the consequences of late cancellations and no shows, as well as tips on how to successfully use the system. Further, the Lodi Transit website should be updated to include all current policy and program related information.

In addition to written materials, DAR / VineLine may want to consider holding an informative and educational workshop. The workshop may include sessions on how the system works, the policies and standards held by City of Lodi, and how to use the DAR / VineLine system effectively. The "hands-on" approach can be more effective, as there is opportunity for dialogue and the ability to clarify questions that may arise regarding policies. This would also give the passengers the opportunity to provide input on the system, which has proven to be valuable for many demand response systems when developing or revising their system's policies.

MARKETING STRATEGIES

Marketing in its broadest context should be viewed as a management philosophy focusing on identifying and satisfying customers' wants and needs. The basic premises of successful marketing are providing the right product or service, offering it at the right price, and adequately promoting or communicating the existence and appropriateness of the product or service to potential customers. Unfortunately, the word "marketing" is associated only with the advertising and promotional efforts that accompany "selling" the product or service to a customer. Instead, such promotional efforts are only a part of an overall marketing process. Without a properly designed and developed product or service offered at the right price, the expenditure of promotional monies is often ill-advised.

Obviously, the marketing program must fit within budgetary limitations of any organization. According to the American Public Transit Association, transit providers typically budget between 0.75 and 3.0 percent of their gross budget on marketing promotions (excluding salaries), with the majority around 2 percent. Although this is slightly less than most private sector businesses, public sector organizations can rely more heavily on media support for their public relations programs.

Improve Service Quality

A key precept of marketing is to provide a quality "product." In the case of public transit, a reputation for providing quality service encourages increased ridership and public support for transit. Tax-based funding and fares are more acceptable when service quality is high. A key marketing effort, therefore, is to improve on-time performance, passenger amenities, and reduce in-vehicle travel time. Solving these problems and subsequently improving the public perception of Lodi Transit's quality of service through marketing is essential. The following monthly service monitoring techniques should be ongoing:

- *On-Time Performance* – Comprehensive records of on-time performance are useful in determining proper scheduling and ensuring quality service. At a minimum, transit supervisors should be required to do a standardized observance of on-time performance as part of their service checks. This data should be entered into spreadsheets to allow tracking. In addition, on-time performance surveys should be conducted at least twice per year.
- *Annual Passenger Survey* – On-board passenger surveys are a vital source of planning information regarding the ridership and the purpose of their trip-making. In addition, surveys are the single best way to gain "feedback" regarding the service. Funding for annual on-board surveys should be a priority. Questions that should be addressed in the annual passenger survey include the following:
 - Day and date that the survey is completed
 - Time at which the survey is completed
 - Route that the passenger is traveling
 - Passenger gender

- Passenger age
- Whether the passenger is disabled, and if so, the type of disability
- Origin of trip (major intersection near trip origin) and trip destination (major intersection near trip destination)
- Purpose of trip, typically categorized as work, shopping, recreational, social, educational, other
- Rating of the transit service (poor, fair, good, very good, excellent)
- Suggestions for improvements in transit service
- *Boarding and Alighting Counts* – It is worthwhile, on at least an annual or biannual basis, to conduct a day-long count for boarding and alighting by stop for each of the services operated. There are a number of useful pieces of information that can be gleaned from a boarding and alighting count:
 - Identify the most important stops
 - Rank bus stops for potential passenger amenities, such as shelters or benches
 - Identify the section along the route where the maximum load occurs. This information is very important in identifying the appropriate vehicle size for the service, as well as to track the service quality issues, such as passenger overcrowding.

Marketing for New Services and Service Changes

One common and important aspect of marketing that could be particularly effective is to increase the awareness of residents to any service changes before they are implemented, thereby translating into higher demand for transit services. There are several methods Lodi Transit can use to inform residents and visitors of changes to existing services and newly implemented services.

Community Marketing

This is direct marketing through partnerships with community organizations such as schools and colleges, businesses and employers, social services, senior residences and senior centers, and neighborhood associations. The benefits of community based marketing are that it is effective and inexpensive, and that it capitalizes on transit's unique role as a community service. It also allows the transit agency to specifically target messages and appeals, and it allows them to provide the high information content necessary to generate ridership. It also allows the partner to provide direct feedback on how well transit is meeting their needs.

The first step in community based marketing is to identify a target group and then determine the "gatekeeper" for that audience. For example, the "gatekeeper" for social services would be

the director. In community based marketing, it important to build and maintain relationships. The transit agency should regularly communicate with the local social service agencies and other community service organizations to get the word out to all areas of the City.

Presentations

Public speaking is the ultimate low cost marketing tool. It shows confidence in your message and is a great image builder (if done well). It puts a face on the transit organization. It can be done interactively so that the speaker can answer questions and convey customized information. The target audience would likely be seniors, students, welfare to work clients, and employee groups. The presentation can be for non-users as well. Speaking to members of civic and business organizations enables the transit agency to set up an identity as part of the community. It is also useful to present to decision makers and elected officials to maintain a positive image.

FINANCIAL SOURCES

Funding Source Overview

Transit funding is obtained from multiple sources, with the most prominent being from Federal and State grant and other programs. Transit funding (not including passenger revenues), particularly in California, can be complicated due to the many available sources. The following is a summary of the available funding sources to Lodi Transit, and includes discussion (where applicable) regarding the new changes from MAP-21. It should be emphasized that there is a high degree of uncertainty regarding many of the transit funding programs over the long-term, as these depend on future decisions regarding public funding priorities.

On July 6, 2012, Moving Ahead for Progress in the 21st Century (MAP-21), a new two-year transportation authorization, was signed into law. This law expands on Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU) provisions, and is designed to strengthen and improve the safety of public transportation programs. MAP-21 resulted in four major change categories: creation of new programs, consolidation of existing programs, repealed programs, and modified programs. Not all of the programs were changed, and not all changes apply to the Lodi Transit system.

Federal Funding Sources

The Federal Transportation Administration has numerous grant programs available to transit agencies for both operating and capital assistance. Eligibility in many programs are dependent upon population, distinguishing between "urban" and "nonurbanized" areas for funding allocations. Those applicable to the City of Lodi are FTA 5309, 5310 and 5307; each of these is discussed in detail below.

FTA Section 5309 Capital Investment Grants

Prior to the signing of MAP-21, FTA Section 5309 grants were split into three categories: New Starts, Fixed Guideway Modernization, and Bus and Bus Facilities. As of 2012, under new provisions of MAP-21, this section will only include New Starts; Fixed Guideway projects are covered under FTA 5337, and Bus and Bus Facilities under FTA 5339. In general, grants will be awarded for major investments for new or expanded rail, bus rapid transit (BRT) and ferry systems. Other major modifications to this program include:

- New eligibility for projects that expand capacity by a minimum of 10 percent in existing transit corridors that are at or above capacity, or are expected to be at capacity within 5 years.
- Streamlined project development process, eliminating the alternatives analysis requirement and relying on alternatives developed in metropolitan planning and environmental review processes.

- Streamlined project evaluation and rating systems.

The “Small Starts” component of the New Starts program, which provides funding and oversight for projects seeking less than \$75 million dollars in New Starts funds, was authorized for separate funding beginning in FY 2007 under SAFETEA-LU. The Small Starts component funds projects through a single year grant or expedited grant agreement.

In Fiscal Years 2013 and 2014, the FTA has funded this program for a nationwide total \$1.9 billion. However, no money has been allocated to Lodi Transit, as projects eligible for this funding are unknown at this time. Future funding may be looked at in more detail as projects are developed and come to fruition.

FTA Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities

FTA funds are also potentially available through the Section 5310 Elderly and Persons with Disabilities Program (largely vehicles), which is administered by Caltrans. This program is designed to improve the mobility of seniors and disabled persons, and are apportioned based on population. Under MAP-21, this program now includes the New Freedom program (previously FTA 5317), further extending grant opportunities for serves geared towards disabled persons that exceed ADA requirements. Funding is split on a 55 / 45 basis:

- A minimum of 55 percent of funds are required to be spent on capital projects that were eligible under the old FTA 5310 provisions. This includes projects associated with services that are designed to improve access to public transportation for seniors and disabled persons, such as demand response programs.
- The remaining 45 percent can be used for projects that would have fallen under FTA 5317 (projects that exceed requirements of the ADA), projects that improve access to fixed-route service for disabled persons on complementary paratransit, or alternatives to public transit that assist seniors and disabled persons (i.e. taxi voucher program or volunteer driver programs).

Consistent with previous requirements, projects that are funded under this program must be part of a coordinated public transit – human services transportation plan. However, under the new law, the previous competitive selection process under New Freedom is now optional.

FTA 5310 requires a 50 percent local match for operating expenses, and a 20 percent match for capital expenses. In Fiscal Years 2013 and 2014, the FTA has allotted roughly \$255 million and \$258 million for projects, respectively.

FTA Section 5307 Urbanized Area Formula Grants

The largest of FTA’s grant programs, this program provides grants to urbanized areas (50,000 population or more per the US Census) to support public transportation. Funding is distributed by formula based on the level of transit service provision, population, and other factors. The program remains largely unchanged with a few exceptions:

- *Job access and reverse commute activities now eligible:* Activities eligible under the former Job Access and Reverse Commute (JARC) program, which focused on providing services to low-income individuals to access jobs, are now eligible under the Urbanized Area Formula program. This includes operating assistance, with a 50 percent local match required for job access and reverse commute activities. In addition, the urbanized area formula for distributing funds now includes the number of low-income individuals as a factor. There is no floor or ceiling on the amount of funds that can be spent on job access and reverse commute activities.
- *Expanded eligibility for operating expenses for systems with 100 or fewer buses:* MAP-21 expands eligibility for using Urbanized Area Formula funds for operating expenses. Previously, only urbanized areas with populations below 200,000 were eligible to use Federal transit funding for operating expenses. Now, transit systems in urbanized areas over 200,000 can use their formula funding for operating expenses if they operate no more than 100 buses. Systems operating between 76 and 100 buses in fixed route service during peak service hours may use up to 50 percent of their "attributable share" of funding for operating expenses. Systems operating 75 or fewer buses in fixed-route service during peak service hours may use up to 75 percent of their "attributable share" of funding for operating expenses. This expanded eligibility for operating assistance under the urbanized formula program excludes rail systems.
- *New takedown for safety oversight:* MAP-21 sets aside one half of one percent (approximately \$22 million per year) of Urbanized Area Formula funds for State safety oversight grants (see above section on safety).

In Fiscal Year 2013-14, the City of Lodi is expecting to receive a total of \$1,400,800 in 5307 funding, for operating and capital purposes.

State Funding Sources

Transportation Development Act Local Transportation Funding (LTF)

A mainstay of funding for transit programs in California is provided by the Transportation Development Act (TDA). The major portion of TDA funds are provided through the Local Transportation Fund (LTF). These funds are generated by a one-fourth cent statewide sales tax, returned to the county of origin. The returned funds may be spent for the following purposes:

- Two percent must be provided for bicycle facilities (barring certain findings).
- The remaining funds must be spent for transit and paratransit purposes, unless the Transportation Commission finds that no unmet transit needs exist that can be reasonably met.
- If a finding of no unmet needs that are reasonable to meet is made, remaining funds can be spent on roadway construction and maintenance purposes.

In Fiscal Year 2012-2013, the City of Lodi expected to receive \$1,515,200 in LTF funding for transit, an increase from the \$1,495,400 received for Fiscal Year 2011-2012.

State Transit Assistance (STA) Funds

In addition to LTF funding, the TDA includes a State Transit Assistance (STA) funding mechanism. The sales tax on gasoline is used to reimburse the state coffers for the impacts of the 1/4 cent sales tax used for LTF. Any remaining funds (or "spillover") are available to the counties for local transportation purposes.

The City of Lodi received \$200,511 in STA funding in Fiscal Year 2011-2012. In Fiscal Year 2012-2013, the City is expected to receive \$130,000.

Proposition 1B

On November 7, 2006, California voters approved Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, which authorized the issuance of \$19.925 billion in general obligation bonds to invest in high-priority improvements to the state's surface transportation system and to finance strategies to improve air quality. Among the programs contained in Proposition 1B is the \$3.6 billion Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA). When appropriated by the Legislature, funds in the PTMISEA are to be used to fund various mass transportation projects, including rehabilitation, safety or modernization improvements, capital enhancements or expansion, rail transit improvement, bus rapid transit improvements, the acquisition of rolling stock, and other similar investments. The funds in the PTMISEA are to be dispersed according to the formula used to distribute funds in the State Transit Assistance Fund (STA).

In Fiscal Year 2011-2012, the City of Lodi received \$69,692 in Prop1B funding. For Fiscal Year 2012-2013, the City is estimated to receive approximately \$137,200.

Local Funding Sources

Measure K

Measure K (Transportation Tax Fund) was a bond measure passed by San Joaquin County voters for a sales tax increase of one-half of one percent for transportation improvements. The funds are used for improvements that are included in the 2-year transportation expenditure plan, and include street repairs, safety and operational improvements, and promotion of bus services, to name a few. The revenues collected are distributed by the San Joaquin Council of Governments to the local jurisdictions. In Fiscal Year 2011-2012, the City of Lodi received roughly \$485,282 from Measure K. This is expected to decrease in Fiscal Year 2012-2013, with estimated funding totaling \$462,980.

Advertising Strategies

Many transit systems typically use advertising on their vehicles and at passenger facilities to raise additional revenue. Advertising on the outside of buses raises the most revenue, followed by advertising at shelters or on benches. Interior advertisement on buses may bring in significant revenue in urban and smaller urban areas. One reason advertising on buses is so attractive to advertisers is that buses are highly visible and provide a "traveling" advertisement, while it can also be used by the transit system to "brand" itself.

The City of Lodi has expressed interest in advertising on panels that are available on their EZ Rider fleet (6 vehicles). Advertising costs on similar buses in similarly sized communities range from \$240 per month for curbside bus panel advertisements to \$290 per month for either street-side bus panels or rear bus panels. Given the number of vehicles equipped for this, the City of Lodi could generate roughly \$4,920 per month, or \$59,040 per year, in advertising revenues. A formal advertising policy would need to be developed by City staff and presented to the Lodi City Council for review and approval.

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Chapter 9

Short Range Transit Plan

This short-range transit plan is intended to guide the improvements of public transit services in the City of Lodi in Fiscal Years 2013-2014 through 2017-2018. Much of the analysis used as a basis for the plan is presented in previous chapters; the reader is encouraged to refer to previous chapters for additional information and discussion regarding the various plan elements presented below.

The various Service, Capital, Institutional and Management, and Financial elements of the Short Range Transit Plan Update are presented in the sections below, followed by an Implementation Plan to guide transit improvements. Together, these elements will increase access to transit services, fully meet the requirements of the Americans with Disabilities Act, and ensure that Lodi Transit services are financially sustainable. In particular, this plan is designed to serve those residents most dependent upon transit services, while also expanding the ability of Lodi Transit to serve general public residents and visitors. This plan is contingent upon many factors, including future funding availability, changes in development and population, and other factors (notably the cost of gasoline) that could substantially change the demand for public transit services in the future.

SERVICE PLAN

The City of Lodi's current contract with MV Transportation allows for 32,289 vehicle revenue hours of operation. The City Staff has noted that an increase of 15 percent has been approved that could allow for transit service expansions. This brings the total available amount of vehicle revenue hours operated to 37,132 hours for future fiscal years, or an increase of 4,843 revenue hours. The contract costs, per the most recent contract amendment, would continue as identified in the current agreement. This figure for vehicle revenue hours was used as a guide to determine what improvements the City of Lodi could make to the transit system. Table 20 provides a summary of each plan element and its impact on operating cost, vehicle revenue hours, farebox revenues and operating subsidy.

Extend Weekday Service on Fixed Route to 7:15 PM

It is recommended that Lodi Transit Routes 1 through 5 be extended until 7:15 PM on weekdays. The addition of one evening run would provide more options for commuters within the City of Lodi that do not work a standard 8 to 5 schedule, and would allow for after work errands to be run as well. As shown in Table 20, this element would increase farebox revenues by \$7,300 and operating subsidy by \$53,000, and would serve an additional roughly 10,000 passenger-trips per year.

Extend Saturday Service on Fixed Route to 9:15 PM

Expanding Saturday service to 9:15 PM would generate the most new ridership out of all the weekend options, thereby increase farebox revenues. Service until 9:15 PM would allow for more recreational options to residents and visitors, particularly for shopping and dining in downtown. Providing the extra 6 runs would expand ridership by approximately 2,600

passenger-trips per year, increase farebox revenues by \$2,100 annually and increase operating subsidy by \$56,100.

TABLE 20: City of Lodi Transit Service Plan Elements

	Change in Operating Cost	Change in Vehicle Revenue Hours	Change in Farebox Revenues	Change in Operating Subsidy
Expand operating hours on weekdays to 7:15 PM	\$60,300	986	\$7,300	\$53,000
Expand operating hours on Saturdays to 9:15 PM	\$58,200	968	\$2,100	\$56,100
Expand operating hours on Sundays to 4:15 PM	\$29,100	484	\$1,400	\$27,700
Begin weekday fixed route service at 6:30 AM	\$60,300	986	\$4,800	\$55,500
Revise Route 5 to serve Beckman/Cluff loop and DMV on request and make Costco/Home Depot a regular stop	\$0	0	\$6,700	-\$6,700
Eliminate Express Route 7	-\$36,400	-548	-\$400	-\$36,000
Expand DAR operating hours to 7:30 PM on weekdays	\$36,800	298	\$8,440	\$28,360
Expand DAR operating hours to 9:30 PM on Saturdays	\$14,200	313	\$590	\$13,610
Expand DAR operating hours to 4:30 PM on Sundays	\$7,500	160	\$370	\$7,130
Total Change for Plan Elements	\$230,000	3,646	\$31,300	\$198,700

Source: LSC Transportation Consultants, Inc.

Extend Sunday Service on Fixed Route to 4:15 PM

Service on Sunday ends very early now, at 1:30 PM, which does not fully meet the needs of residents. Expanding service until 4:30 PM would provide an additional 3 runs, and would allow for more options to residents, including those related to church service as well as shopping and recreational opportunities. As shown in Table 20, this would increase vehicle revenue hours by 484 hours, farebox revenues by \$1,400 and operating subsidy by \$55,500.

Expand Weekday Service on Fixed Route to Begin at 6:30 AM

Offering one additional morning run to commuters at 6:30 AM would substantially increase the ability of the transit service to serve commuters, as the current schedule does not provide the first arrival into downtown Lodi until 8:15 AM. It would allow for more flexible travel times and would increase ridership from people that are not otherwise able to use transit given the current schedule, and would enhance connections with RTD services. The extra morning run would increase operating subsidy by \$55,500 and farebox revenues of \$4,800, serving 6,100 additional passenger-trips per year.

Add the Costco / Home Depot Shopping Area as a Scheduled Stop on Route 5 and Add On-Demand Service to DMV

The most frequent public comment received in the course of this study was that service to southern Lodi was needed, and in particular, to the Home Depot / Costco shopping area on Harney Lane. Because of limited ridership on the existing Beckman / Cluff area loop, scheduled stop service along Route 5 is possible at the shopping center. The Beckman / Cluff loop should become on-demand, so as to not eliminate fixed route service options for the residents of the mobile home park and workers of the industrial area nearby. As two-thirds of the runs operated on this loop currently do not serve any passengers, this would ensure that passengers on Route 5 are provided with more convenient service, as the additional travel time needed to service this area would only be incurred when a passenger is served. Additionally, on-demand service would be added to the Department of Motor Vehicles, another location that was mentioned during the public workshop events. As no additional vehicle service hours are required to make this enhancement, operating costs are not expected to increase. However, operating subsidy would reduce as a result of increased farebox revenue, as shown in Table 20, by \$6,700.

Eliminate Route 7

Route 7 is the least effective route in the entire system, carrying only 1.1 passengers per hour and costing roughly \$62.12 per passenger-trip to operate. The highly specialized nature of this route coupled with the poor performance statistics shows that the route is not serving the greater population of the City of Lodi. As such, the route should be eliminated. Doing so would save the City roughly \$36,000 in operating subsidy per year.

Expand Weekday Service on Dial-A-Ride / VineLine to 7:30 PM

With fixed route expansions comes the need for expansions to the Dial-A-Ride / VineLine program as well. Service on weekdays should be expanded to 7:30 PM, adding on roughly one additional hour of service. As shown in Table 20, this would increase operating subsidy by \$28,360 per year, vehicle revenue hours by 298 hours and farebox revenues by \$8,440.

Expand Saturday Service on DAR / VineLine to 9:30 PM

To coincide with new fixed route service, the Dial-A-Ride / VineLine program should expand operating hours to 9:30 PM on Saturdays, adding roughly 6 new hours of service. Doing so would increase vehicle revenue hours by 313 hours, farebox revenue by \$590 and operating subsidy by \$13,610.

Expand Sunday Service on Dial-A-Ride / VineLine to 4:30 PM

On Sundays, operating hours for the Dial-A-Ride / VineLine program should be extended by 3 hours, to provide service until 4:30 PM. As shown in Table 20, this would increase vehicle revenue hours by 160 hours, farebox revenues by \$370 and operating subsidy by \$7,130.

Summary of Service Plan Elements

As a whole, implementing these elements will increase operating costs by \$230,000 per year. The total change in vehicle revenue hours is 3,646 hours, which is below the "allowed" amount of an additional 4,843 vehicle revenue hours in the contract. In the Financial Plan section that follows, detailed information regarding year-by-year impacts for operating costs, ridership, and farebox revenues are discussed.

CAPITAL PLAN

Fleet Replacement

As discussed in Chapter 6, there are a number of buses that need to be replaced during the plan period. The City has stated they plan to replace the fixed route and demand response cutaway type buses every 5 years. In Fiscal Year 2013-2014, the City of Lodi has secured funding to replace 13 cutaway vehicles, while in FY 2014-2015 they plan to replace an additional 4 cutaways. Another two buses should also be replaced in FY 2015-2016. The next cycle will fall outside of the plan period, but these same vehicles will have to be replaced, in addition to the larger vehicles in the fleet. The cost in FY 2013-2014 to replace the 13 buses is on the order of \$1.95 million, and roughly \$636,500 for the 4 buses in FY 2014-2015 and \$327,900 for 2 buses in FY 2015-2016.

Install Bus Wash Facility and Upgrade Fueling Facility

It would be highly beneficial to the City of Lodi to upgrade their fueling facility and install an in-house bus washing facility. The existing Municipal Services Building has an unused bay that is appropriately sized to be retrofitted for a bus wash bay. The City of Lodi has allocated \$240,000 in Fiscal Year 2013-2014 for these upgrades in their Capital Project Plan; these costs are used for planning purposes in the financial tables that follow.

Bus Stop Improvements

There are a few bus stops, as discussed in Chapter 6, that require improvements such as replacement benches and new wheelchair pads. The City of Lodi has conducted an inventory of bus stop improvements and has budgeted a total of \$100,000 for improvements. Their list includes bus stop concrete pads, purchase and installation of bus shelters and benches, and installation of other passenger amenities (i.e. trash cans, lighting, etc). Boarding and alighting counts would provide additional information to help determine how to prioritize future improvements. For example, stops with a high number of boarding should be completed before stops with one or two passengers per day. For the purposes of the plan, this \$100,000 is used in the financial tables, as there is funding available for these items.

Southwest Lodi Transit Station

It is recommended that the City of Lodi develop an RFP to complete a study for a new transit station in southwest Lodi, near the Kettleman Lane / Lower Sacramento Road shopping area. The cost of this study is unknown at this time, as it is dependent upon the scope of services desired. However, at a minimum, the study should include analysis of potential site locations, site design strategies, a preferred design and associated costs to complete the project. Particular attention should be paid to potential impacts on the current transit schedules (i.e. will schedules need to be changed to accommodate a new stop location?). Additionally, San Joaquin RTD should be included throughout the study to ensure that services can be coordinated at the new facility and that the site meets their needs (from the operator's perspective) as well.

Install Security Cameras on Vehicles and at the Lodi Transit Station

The City of Lodi has planned to install cameras at the Lodi Transit Station and on existing vehicles. Currently, the EZ Rider vehicles have cameras installed, and therefore are exempt from this. The focus will be on existing cutaways, as well as future vehicle purchases. Adding the vehicle cameras will enhance safety on the buses and will allow for appropriate penalties to passengers not following Lodi Transit policies, while cameras at the Transit Station can aid in reducing vandalism and theft. According to the Fiscal Year 2013-2014 Lodi Transit Capital Budget, roughly \$174,000 has been allocated for bus equipment, including cameras. An additional \$180,000 has also been estimated for the cost of security equipment at the Transit Station. Note that the capital plan shows the installation of the security equipment at Lodi Transit Station as \$191,000 for FY 2014-2015, which reflects inflation.

Install AVL Technology on Buses

The installation of AVL on the Lodi fleet will be beneficial to the system, as well as enhance the passenger experience. Therefore, it is recommended that Lodi Transit install AVL equipment on the buses, rather than Zonar. The proposed Fiscal Year 2013-2014 Capital Budget includes costs for these items, on the order of \$83,000, however that is not for the entire fleet. The capital plan in this study assumes a higher figure as more buses should be retrofitted.

Install Real-Time Traveler Information Displays at Key Locations

In addition to the AVL technology, Lodi Transit should also install a real-time bus arrival/departure screen at the Lodi Transit Station and at the Kettleman Lane / Tienda Drive stop in southern Lodi. This would provide additional departure information for passengers regarding each bus route. A total of \$40,000 has been allocated for this system in Fiscal Year 2014-2015.

Vault and Farebox Equipment

The City of Lodi is planning to upgrade their existing vault and farebox system at the Transit Station to provide better security for the farebox revenues. This is to be installed at the existing building where dispatch and operations are housed. The Fiscal Year 2013-2014 Capital Budget has included \$148,000 for the purchase and installation of the new system, which has been included in the financial plans that follow.

INSTITUTIONAL / MANAGEMENT PLAN

Demand Response Strategies

As a means to help lessen the number of no-shows and late cancellations experienced by Lodi Transit's DAR / VineLine program, the agency should take a closer look at their current policies and consider revisions. This could include increasing the penalty periods or switching to fines for repeat no-show passengers. Further, passenger education is a key component to improving and maintaining efficiency. The City should look into educational opportunities, such as workshops on a regular basis at the Senior Center or through other social service agencies, as well as passenger incentive programs. These types of changes are easily made and have proven to be successful at many other transit systems with similar issues.

Improve Service Quality

To improve and maintain the quality of service on both fixed route and demand response services, Lodi Transit should conduct regular monitoring activities. This includes:

- *On-Time Performance* – Comprehensive records of on-time performance are useful in determining proper scheduling and ensuring quality service. At a minimum, transit supervisors should be required to do a standardized observance of on-time performance as part of their service checks. This data should be entered into spreadsheets to allow tracking. In addition, on-time performance surveys should be conducted at least twice per year.
- *Annual Passenger Survey* – On-board passenger surveys are a vital source of planning information regarding the ridership and the purpose of their trip-making. In addition, surveys are the single best way to gain "feedback" regarding the service. Funding for annual on-board surveys should be a priority.
- *Boarding and Alighting Counts* – It is worthwhile, on at least an annual or biannual basis, to conduct a day-long count for boarding and alighting by stop for each of the services operated.

These can be conducted with little to no cost to the transit agency, and could be incorporated as part of a revised contract with the transit contractor.

Marketing for New Services and Service Changes

Another method for educating the public is to ensure adequate marketing for new services and changes to existing service. In addition to posting on the agency website, direct marketing through local social service agencies, businesses, schools and other public outlets is recommended. For example, with extended evening hours, flyers could be posted in downtown businesses, particularly restaurants, to inform passengers of the new hours. This would not only reach existing transit users, but also those that may be "choice riders" and do not currently use the system. Letting them know of new services could provide the opportunity for additional ridership, while ensuring existing riders are kept abreast of all changes so as to not interrupt their ability to use the service. Another marketing option that could be employed is to host periodic workshops for the public as changes are made. These should be advertised online, in

print newspapers and over the radio, if possible, to ensure all audiences are informed. This type of interactive setting can be helpful for persons with questions about the transit system, whether or not they pertain to the changes at hand. Providing as much information as possible to passengers and potential passengers is key to maintaining and expanding the ridership base.

FINANCIAL PLAN

Advertising Revenues

Advertising could provide a fairly significant amount of local funding to Lodi Transit. As discussed earlier, a review of similarly sized systems that have advertising available on their vehicles showed that on average, prices range from \$240 to \$290 per panel, depending on the location on the bus. It is recommended that Lodi Transit develop policies related to on-bus advertising and present this for adoption to the City Council. If the rates discussed above are implemented, revenues would total \$820 per vehicle. As advertising contracts are not always consistent or constant, it is assumed that buses would have advertisements on them roughly 80 percent of the time. As such, total revenues for the six vehicles could total \$3,936 per month and \$47,232 per year.

Subsidy Funding Sources

The following methodology was utilized in developing this Financial Plan:

- First, forecasts of annual operating and administrative costs were developed, as presented in Table 21 for FY 2013/14 through FY 2017/18. "Base case" operating and administrative cost forecasts were estimated, assuming a 3 percent annual inflation rate of current costs in the absence of any change in service levels. Next, operating and administrative cost estimates were identified for each Plan element, based upon the analyses presented in previous sections of this document, and consistent with the implementation plan presented below. These costs were also factored to reflect the assumed rate of inflation. Operating and administrative costs over the five-year period will total approximately \$17,226,200 with the plan elements.
- Next, ridership for each plan element was estimated, as presented in Table 22. The "base case" ridership reflects expected ridership assuming no changes in service and that ridership will grow consistent with the recent population growth rate of 0.88 percent (determined from the annual growth between 2000 and 2010 Census data). The ridership impact of each Plan element (including the fare modifications) is then identified and summed. As new services do not immediately attain the full potential ridership, ridership on new services is factored to reflect 66 percent of potential ridership in the first year of service and 90 percent of potential ridership in the second year. For elimination of services, it is assumed to happen immediately. In addition, ridership (for both base case and for the service improvements) is factored to reflect an annual increase in population and associated ridership demand. By FY 2017/18, ridership is conservatively forecast to equal 266,800 one-way passenger-trips per year, which is 38,200 trips over the base case forecast of 228,600.

Plan Element	Projected FY13-14	Projected FY14-15	Projected FY15-16	Projected FY16-17	Projected FY17-18	5-Year Plan Total
Base Case Operating Cost ⁽¹⁾	\$2,994.6	\$3,084.4	\$3,176.9	\$3,272.2	\$3,370.4	\$15,898.5
<u>Service Plan Elements</u>						
Expand operating hours on weekdays to 7:15 PM	\$46.6	\$64.0	\$65.9	\$67.9	\$69.9	\$314.2
Expand operating hours on Saturdays to 9:15 PM	\$45.0	\$61.7	\$63.6	\$65.5	\$67.5	\$303.3
Expand operating hours on Sundays to 4:15 PM	\$22.5	\$30.9	\$31.8	\$32.8	\$33.7	\$151.6
Begin weekday fixed route service at 6:30 AM	\$46.6	\$64.0	\$65.9	\$67.9	\$69.9	\$314.2
Revise Route 5 to Include Costco / Home Depot as Scheduled Stop	\$40.0	\$42.4	\$43.7	\$45.0	\$46.4	\$217.5
Eliminate Express Route 7	-\$28.1	-\$38.6	-\$39.8	-\$41.0	-\$42.2	-\$189.7
Expand DAR operating hours to 7:30 PM on weekdays	\$0.0	\$39.0	\$40.2	\$41.4	\$42.7	\$163.3
Expand DAR operating hours to 9:30 PM on Saturdays	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1
Expand DAR operating hours to 4:30 PM on Sundays	\$10.0	\$10.3	\$10.6	\$10.9	\$11.3	\$53.1
<i>Subtotal Plan Elements</i>	\$182.5	\$273.7	\$281.9	\$290.4	\$299.1	\$1,327.7
Net Operating Cost ⁽²⁾	\$3,177.1	\$3,358.1	\$3,458.9	\$3,562.6	\$3,669.5	\$17,226.2

Note 1: This analysis assumes an annual inflation rate of 3 percent.
Source: LSC Transportation Consultants, Inc.

- Based on the ridership figures presented in Table 22, the estimated farebox revenues are presented in Table 23. Again, these figures reflect the impacts of the fare modifications. As presented, the base case farebox revenues for FY 2017/18 are estimated at \$194,000. Implementation of the plan elements will increase those farebox revenues by \$33,100, equal to a 17 percent increase. Over the entire five-year Plan period, farebox revenues will total \$1,101,300, roughly \$148,000 over the base case (\$953,300).

Plan Element	Projected FY13-14	Projected FY14-15	Projected FY15-16	Projected FY16-17	Projected FY17-18	5-Year Plan Total
Base Case Ridership ⁽¹⁾	220.7	222.7	224.6	226.6	228.6	1,123.2
<u>Service Plan Elements</u>						
Expand operating hours on weekdays to 7:15 PM	6.9	9.5	10.7	10.8	10.9	48.8
Expand operating hours on Saturdays to 9:15 PM	2.0	2.7	3.1	3.1	3.1	14.0
Expand operating hours on Sundays to 4:15 PM	1.3	1.8	2.1	2.1	2.1	9.4
Begin weekday fixed route service at 6:30 AM	4.5	6.2	7.0	7.0	7.1	31.8
Revise Route 5 to Include Costco / Home Depot as Scheduled Stop	6.4	8.8	9.9	9.9	10.0	45.0
Eliminate Express Route 7	-0.6	-0.6	-0.6	-0.6	-0.6	-3.0
Expand DAR operating hours to 7:30 PM on weekdays	3.3	4.6	5.1	5.1	5.2	23.3
Expand DAR operating hours to 9:30 PM on Saturdays	0.2	0.3	0.4	0.4	0.4	1.7
Expand DAR operating hours to 4:30 PM on Sundays	0.1	0.2	0.2	0.2	0.2	0.9
<i>Subtotal Plan Elements</i>	24.0	33.3	37.7	37.8	38.2	171.0
Net Ridership	244.7	256.0	262.3	264.4	266.8	1,294.2

Note 1: This analysis assumes that ridership will increase at the same rate as anticipated population growth (0.88 percent).
Source: LSC Transportation Consultants, Inc.

- The next element necessary in the development of the plan is estimation of the capital cost for vehicles, passenger amenities, passenger facility improvements and operating equipment, as shown in Table 24 for each year of the plan period. It should be noted that an annual inflation rate of 3.0 percent is reflected in these figures. Capital items consist of the following:

- Vehicle purchases, as detailed above
- Security improvements, including video cameras and the Automatic Vehicle Location system
- Fuel facility upgrades and a new bus wash facility
- Bus shelter/bus stop improvements
- Vault and farebox equipment

TABLE 23: Lodi Transit SRTP Update - Estimated Farebox Revenues
All Figures in Thousands

Plan Element	Projected FY13-14	Projected FY14-15	Projected FY15-16	Projected FY16-17	Projected FY17-18	5-Year Plan Total
Base Case	\$187.3	\$189.0	\$190.6	\$192.3	\$194.0	\$953.3
Service Plan Elements						
Expand operating hours on weekdays to 7:15 PM	\$4.8	\$6.7	\$7.5	\$7.6	\$7.7	\$34.3
Expand operating hours on Saturdays to 9:15 PM	\$1.4	\$1.9	\$2.2	\$2.2	\$2.2	\$9.8
Expand operating hours on Sundays to 4:15 PM	\$0.9	\$1.3	\$1.5	\$1.5	\$1.5	\$6.6
Begin weekday fixed route service at 6:30 AM	\$3.2	\$4.4	\$4.9	\$4.9	\$5.0	\$22.4
Revise Route 5 to Include Costco / Home Depot as Scheduled Stop	\$4.5	\$6.1	\$6.9	\$6.9	\$7.0	\$31.4
Eliminate Express Route 7	-\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	-\$0.4
Expand DAR operating hours to 7:30 PM on weekdays	\$5.6	\$7.8	\$8.7	\$8.7	\$8.8	\$39.6
Expand DAR operating hours to 9:30 PM on Saturdays	\$0.3	\$0.5	\$0.7	\$0.7	\$0.7	\$2.9
Expand DAR operating hours to 4:30 PM on Sundays	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$1.5
Subtotal Plan Elements	\$20.5	\$29.0	\$32.7	\$32.7	\$33.1	\$148.0
Net Farebox Revenues	\$207.8	\$218.0	\$223.3	\$225.1	\$227.1	\$1,101.3

Source: LSC Transportation Consultants, Inc.

TABLE 24: Lodi Transit SRTP Update Capital Plan
All Figures in Thousands

Plan Element	Projected FY13-14	Projected FY14-15	Projected FY15-16	Projected FY16-17	Projected FY17-18	5-Year Plan Total
Replacement Buses						
Number of Buses	13	4	2	0	0	19
Total Cost	\$1,950.0	\$636.5	\$327.8	\$0.0	\$0.0	\$2,914.3
Automatic Vehicle Location System	\$0.0	\$302.4	\$82.0	\$33.8	\$0.0	\$418.2
Security System at Transit Station	\$0.0	\$191.0	\$0.0	\$0.0	\$0.0	\$191.0
Bus Equipment	\$174.2	\$0.0	\$0.0	\$0.0	\$0.0	\$174.2
NextBus System at Key Transit Locations	\$0.0	\$40.0	\$0.0	\$0.0	\$0.0	\$40.0
Fueling Facility Upgrades and Bus Wash Facility	\$240.0	\$0.0	\$0.0	\$0.0	\$0.0	\$240.0
Bus Shelters / Bus Stop Improvements	\$100.0	\$0.0	\$109.3	\$0.0	\$115.9	\$325.2
Vault and Farebox Equipment	\$148.0	\$0.0	\$0.0	\$0.0	\$0.0	\$148.0
Total Capital Plan Elements	\$2,612.2	\$1,169.9	\$519.1	\$33.8	\$115.9	\$4,450.9

Note 1: All costs include 3 percent annual inflation.
Source: LSC Transportation Consultants, Inc.

Capital costs over the five-year period will total approximately \$4,450,900.

The results of Tables 21 through 24 were used to develop the Financial Plan, as presented for each of the five years of the plan period in Table 25. In addition to passenger fares (from Table 23), this Financial Plan incorporates the following operating funding sources:

- Local Transportation Funds (LTF) are the key local source of transit operating funds, currently generating roughly two-thirds of the funds used to operate services. Excluding carryover funds as well as LTF funds allocated to other purposes, LTF annual income

available to Lodi Transit has increased. This plan conservatively assumes that annual LTF revenues will continue this trend through the Plan period, and subsequently increase by the assumed rate of inflation (3 percent).

- ♦ Federal Transit Administration (FTA) Section 5307 funds for each plan year are based on Caltrans estimates and are assumed to increase by 3 percent per year in subsequent years. Projections assume the same split between operating and capital continue, however with the excess operating revenues shown, the City could potentially apply for less operating and more capital, while keeping their total allocation the same.
- ♦ Measure K is expected to be received throughout the plan period, increasing at the rate of inflation of 3 percent per year, based off the most recent funds received.
- State Transit Assistance (STA) has continued to increase for the City of Lodi, and is assumed to continue this trend moving forward, increasing by the rate of inflation.
- A new funding source, advertising on buses, is included as new operating revenue. It is not expected that advertising revenue be received until FY 2014/15, as a policy must be developed and approved by City Council. The dollar amounts shown assume that roughly 80 percent of the time, all 6 EZ Rider buses will have full advertisements.

In total, operating revenues are forecast to exceed operating costs for every year of the plan. The surplus operating funds are assumed in Table 25 to be transferred to the capital budget, if needed. Other capital funding is planned as follows:

- Proposition 1B PTMISEA (Public Transportation Modernization, Improvement and Service Enhancement Account) funds are allocated projects in FY2013/14 as currently planned by the City of Lodi. Moving forward, funding is assumed to be received each year based on the actual amount received in FY 2013/2014. Note that these amounts could change, based on actual need. For example, they City may wish to apply for a specific amount for a specific project that could exceed what is shown.
- Proposition 1B TSSDRA funds are allocated for security AVL and farebox/vault equipment, as discussed earlier. It is not assumed that additional fund would be received for future Plan years.
- CMAQ funding is estimated based on actual capital (vehicle) purchase needs as discussed previously. The amounts shown are consistent with the estimated costs of buses in each Plan year.

As presented in the bottom portion of Table 25, this analysis indicates that the plan elements can be fully funded, while still generating a positive balance.

IMPLEMENTATION PLAN

FY 2013/14

- Expand fixed route weekday hours to 7:15 PM
- Expand fixed route Saturday hours to 9:15 PM

- Expand fixed route Sunday hours to 4:15 PM
- Expand demand response weekday hours to 7:30 PM
- Expand demand response Saturday hours to 9:30 PM
- Expand demand response Sunday hours to 4:30 PM
- Eliminate Route 7
- Revise Route 5 to include scheduled service to Costco / Home Depot
- Replace thirteen transit vehicles
- Purchase needed bus equipment
- Complete fueling facility upgrades and bus wash facility
- Begin bus stop improvements
- Install new vault and farebox equipment
- Begin monitoring and marketing efforts

FY 2014/15

- Replace four transit vehicles
- Purchase and install AVL on nineteen transit vehicles
- Install security system at the transit station
- Install NextBus system at the transit station
- Begin planning southwest transit center
- Begin advertising on vehicles
- Continue with monitoring and marketing efforts

FY 2015/16

- Purchase two new transit vehicles
- Purchase and install AVL on five vehicles
- Continue with bus stop improvements
- Continue planning and/or construct southwest transit center (depending on funding)
- Continue on-bus advertising
- Continue with monitoring and marketing efforts

FY 2016/17

- Purchase and install AVL on two vehicles
- Continue planning and/or construct southwest transit center (depending on funding)
- Continue on-bus advertising
- Continue with monitoring and marketing efforts

FY 2017/18

- Continue with bus stop improvements
- Continue planning and/or construct southwest transit center (dependent upon funding)
- Continue with monitoring and marketing efforts
- Prepare new five-year Short Range Transit Plan