



# TURLOCK SHORT RANGE TRANSIT PLAN

## Final Report

May 2016



## Table of Contents

	Page
<b>1 Executive Summary .....</b>	<b>1-1</b>
Service Overview .....	1-1
Plan Purpose and Process .....	1-1
Comprehensive Service Evaluation.....	1-2
Community Feedback.....	1-2
<b>2 Market Analysis.....</b>	<b>2-1</b>
Population Characteristics.....	2-1
Employment Characteristics .....	2-12
California State University Stanislaus Market .....	2-14
Traffic Counts.....	2-16
<b>3 Document and Policy Review .....</b>	<b>3-1</b>
2012 Turlock General Plan.....	3-1
StanCOG 2014 Regional Transportation Plan .....	3-4
StanCOG Non-Motorized Transportation Plan .....	3-5
StanCOG Public Transit – Human Services Coordination Plan.....	3-6
Turlock Active Transportation Plan.....	3-8
Mayor and City Council Policy Goals and Implementation Plan 2015-2019 .....	3-9
<b>4 Existing Transit Service .....</b>	<b>4-1</b>
Bus Line Service of Turlock (BLAST) .....	4-1
Route Profiles.....	4-11
January 2016 Service Changes .....	4-25
Dial-A-Ride Turlock (DART).....	4-26
<b>5 Peer System Review .....</b>	<b>5-1</b>
Peer Transit Systems.....	5-1
Peer Agency Comparisons .....	5-3
Summary.....	5-11
<b>6 Operator Feedback .....</b>	<b>6-1</b>
<b>7 Community Feedback .....</b>	<b>7-1</b>
Intercept Survey Results.....	7-1
November 2015 Open House Events .....	7-8
Community Survey Results.....	7-10
February 2016 Open House Events .....	7-15
Meeting with Stanislaus Regional Transit.....	7-19
April 2016 Open House Event.....	7-20
<b>8 Fixed-Route Recommendations .....</b>	<b>8-1</b>
Preferred Alternative Route Network.....	8-1
Potential Additional Services.....	8-18
Service Change Implementation .....	8-19
Coordination with StaRT.....	8-20
<b>9 Dial-A-Ride Recommendations.....</b>	<b>9-1</b>
Changes in Response to ADA Requirements.....	9-1
Changes to General Public Dial-a-Ride Program.....	9-3
<b>10 Service Guidelines .....</b>	<b>10-1</b>
Service Planning Principles.....	10-1

SHORT RANGE TRANSIT PLAN | FINAL REPORT  
City of Turlock

<b>11</b>	<b>Capital Investments .....</b>	<b>11-1</b>
	Vehicles.....	11-1
	Bus Stops.....	11-3
	Turlock Regional Transit Center .....	11-7
	Street and Sidewalk Infrastructure Improvements .....	11-8
	Investments in Bicycle Access.....	11-10
	Geographical Information Systems (GIS) .....	11-11
	Automatic Vehicle Location (AVL) .....	11-11
	Automatic Passenger Counters (APC) .....	11-11
	Annunciators.....	11-11
	Traffic Signal Priority (TSP) .....	11-12
	On-Board Video and Audio Recording.....	11-12
<b>12</b>	<b>Fare Recommendations .....</b>	<b>12-1</b>
	Community Partnerships.....	12-4
<b>13</b>	<b>Marketing Plan .....</b>	<b>13-1</b>
	Growth Markets.....	13-1
	Rebranding .....	13-2
	Rider Information .....	13-3
<b>14</b>	<b>Staffing and Vision .....</b>	<b>14-1</b>
	Vision.....	14-1
	Staffing.....	14-2



## Table of Figures

	<b>Page</b>
Figure 1	Existing BLAST and Recommended Turlock Transit Route Networks ..... 1-3
Figure 2	Existing BLAST Branding and Recommended Turlock Transit Branding ..... 1-3
Figure 3	Population Density ..... 2-4
Figure 4	Low-Income Households ..... 2-5
Figure 5	Zero Vehicle Households ..... 2-6
Figure 6	Renter Population ..... 2-7
Figure 7	Senior Population ..... 2-8
Figure 8	Youth Population ..... 2-9
Figure 9	Disabled Population ..... 2-10
Figure 10	Transit Dependency ..... 2-11
Figure 11	Employment Density ..... 2-13
Figure 12	CSU-Stanislaus Student Parking Fees 2015-2016 ..... 2-14
Figure 13	Top Six Commuting Origins from Fall 2014 Parking Survey Crosstab Report ..... 2-14
Figure 14	CSUS Commuting Origins From Fall 2014 Parking Survey Crosstab Report ..... 2-15
Figure 15	2015 Average Daily Traffic Counts at Selected Turlock Intersections ..... 2-16
Figure 16	Objectives and Policy Actions Related to Transit in the StanCOG NMT Plan ..... 3-5
Figure 17	Transit Goals and Strategies of StanCOG Public Transit – Human Services Coordination Plan ..... 3-7
Figure 18	BLAST Bus Fixed-Route Service Characteristics ..... 4-1
Figure 19	BLAST System Map ..... 4-2
Figure 20	BLAST Bus Fixed-Route Operational Characteristics ..... 4-3
Figure 21	BLAST Milestones ..... 4-3
Figure 22	BLAST Bus Fixed-Route Historical System Ridership By Year ..... 4-4
Figure 23	BLAST Bus Fixed-Route Historical System Ridership By Month ..... 4-5
Figure 24	Weekday Boardings and Alightings by Stop ..... 4-6
Figure 25	Saturday Boardings and Alightings by Stop ..... 4-7
Figure 26	Ridership by Route and Service Level ..... 4-8
Figure 27	Productivity (Boardings per Revenue Hour) by Route and Service Level ..... 4-8
Figure 28	Schedule Adherence by Route ..... 4-9
Figure 29	Routes serving Turlock Regional Transit Center ..... 4-10
Figure 30	Photos and Aerial Imagery of Turlock Regional Transit Center ..... 4-10
Figure 31	Route A Weekday Boardings by Trip ..... 4-13
Figure 32	Route A Saturday Boardings by Trip ..... 4-13
Figure 33	Route A Weekday Ridership by Stop ..... 4-14
Figure 34	Route B Weekday Boardings by Trip ..... 4-17
Figure 35	Route B Saturday Boardings by Trip ..... 4-17
Figure 36	Route B Weekday Ridership by Stop ..... 4-18
Figure 37	Route C Weekday Boardings by Trip ..... 4-20
Figure 38	Route C Saturday Boardings by Trip ..... 4-20
Figure 39	Route C Weekday Ridership by Stop ..... 4-21
Figure 40	Route D Weekday Boardings by Trip ..... 4-23
Figure 41	Route D Saturday Boardings by Trip ..... 4-23

**SHORT RANGE TRANSIT PLAN | FINAL REPORT**  
City of Turlock

Figure 42	Route D Weekday Ridership by Stop.....	4-24
Figure 43	Current BLAST Schedules (Effective January 11, 2016).....	4-25
Figure 44	DART Service Area Map .....	4-26
Figure 45	DART Historical Ridership by Month .....	4-27
Figure 46	DART Historical Ridership by Year.....	4-28
Figure 47	BLAST Fare Structure.....	4-29
Figure 48	Peer System Locations within California.....	5-2
Figure 49	Peer Review Agencies.....	5-2
Figure 50	Key Performance Variables (Fixed Route Service Only) .....	5-3
Figure 51	Topics and Indicators Used in the Peer Review .....	5-4
Figure 52	Weekday Service Span Comparison .....	5-5
Figure 53	Saturday Service Span Comparison.....	5-5
Figure 54	Revenue Hours per Capita.....	5-6
Figure 55	Ridership per Revenue Hour .....	5-7
Figure 56	Ridership per Capita .....	5-7
Figure 57	Single Ride Base Fare.....	5-8
Figure 58	Operating Expenses per Passenger Trip.....	5-9
Figure 59	Operating Expenses per Revenue Hour.....	5-10
Figure 60	Farebox Recovery .....	5-10
Figure 61	Peer Review Key Findings.....	5-11
Figure 62	Responses by Route.....	7-1
Figure 63	Number of Routes Taken.....	7-2
Figure 64	Routes Transferred To or From.....	7-2
Figure 65	Trip Purpose (Excluding Home Trips) .....	7-3
Figure 66	Routes Used to Travel to or from School/College .....	7-3
Figure 67	Age of Survey Respondents .....	7-4
Figure 68	Race and Ethnicity (Multiple Responses Allowed) .....	7-4
Figure 69	Primary Language .....	7-5
Figure 70	Fare Payment .....	7-5
Figure 71	Length of Time Spent as BLAST Rider.....	7-6
Figure 72	Annual Household Income.....	7-6
Figure 73	Comments by Category (multiple responses allowed).....	7-7
Figure 74	Top Destinations in Turlock.....	7-10
Figure 75	Main Mode of Transportation .....	7-11
Figure 76	Automobile Access .....	7-12
Figure 77	Smartphone Ownership .....	7-12
Figure 78	Have You Taken Public Transit in the Past Year? .....	7-13
Figure 79	Incentive to Ride Transit More Often.....	7-14
Figure 80	Service Alternative A .....	7-17
Figure 81	Service Alternative B.....	7-18
Figure 82	Turlock Transit Route Network.....	8-2
Figure 83	Route 1 Countryside Alignment and Stops .....	8-2
Figure 84	Route 2 Geer Alignment and Stops .....	8-4
Figure 85	Route 3 Olive Alignment and Stops.....	8-6
Figure 86	Route 4 Colorado Alignment and Stops.....	8-8

**SHORT RANGE TRANSIT PLAN | FINAL REPORT**  
City of Turlock

Figure 87	Route 5 Lander Alignment and Stops .....	8-10
Figure 88	Route 6 Soderquist Alignment and Stops.....	8-12
Figure 89	Future Expansion Route Network .....	8-14
Figure 90	Current Resource Requirements.....	8-15
Figure 91	Phase 1 Recommendations.....	8-15
Figure 92	Phase 2 Recommendations.....	8-16
Figure 93	Phase 3 Recommendations.....	8-16
Figure 94	Phase 4 Recommendations.....	8-16
Figure 95	Phase 5 Recommendations.....	8-17
Figure 96	Summary of Phase 1-5 Recommendations.....	8-17
Figure 97	Service Hours for Phase 1-5 Recommendations .....	8-17
Figure 98	Turlock Sales Yard Shuttle Alignment and Stops.....	8-18
Figure 99	Service Change Checklist .....	8-19
Figure 100	StaRT Routes Serving Turlock – Service Span.....	8-20
Figure 101	StaRT Routes Serving Turlock - Map.....	8-20
Figure 102	Recommended Demand Response Service Zones.....	9-3
Figure 103	Current Local Fixed-Route, ADA Paratransit and General Public Dial-A-Ride Fare Attributes.....	9-4
Figure 104	Vehicle Details.....	11-1
Figure 105	Typical 35-Foot Low Floor Bus.....	11-2
Figure 106	Peak Vehicle Requirements.....	11-2
Figure 107	Bus Stop Placement Considerations.....	11-4
Figure 108	Turlock Transit Conceptual Bus Stop Designs.....	11-5
Figure 109	Bus Stop Amenities.....	11-6
Figure 110	Turlock Regional Transit Center Phase 2 Expansion .....	11-7
Figure 111	Priority Street and Sidewalk Infrastructure Improvements.....	11-8
Figure 112	Priority Street and Sidewalk Infrastructure Improvements.....	11-9
Figure 113	Sample Bicycle Shelter .....	11-10
Figure 114	BLAST Fare Structure.....	12-1
Figure 115	Current Fare Structure .....	12-2
Figure 116	Proposed Fare Structure.....	12-2
Figure 117	Proposed Fare Media.....	12-3
Figure 118	Proposed Turlock Transit Logo .....	13-2
Figure 119	Recommended Staffing Structure .....	14-2

# 1 EXECUTIVE SUMMARY

## SERVICE OVERVIEW

Bus Line Service of Turlock (BLAST) is a division of the City of Turlock that provides fixed-route bus service in the form of four routes operating on weekdays from 6:30 a.m. to 6:30 p.m. and on Saturdays from 10:10 a.m. to 4:10 p.m. Each route performs a large, one-way loop to provide maximum coverage throughout the city.

Dial-a-Ride of Turlock (DART) is a curb-to-curb service that meets Americans with Disability Act (ADA) requirements for complimentary paratransit within  $\frac{3}{4}$  mile of fixed-route bus service. DART is also available to the general public and offered within city limits, as well as Denair.

The Turlock Regional Transit Center is located east of Golden State Blvd and south of Hawkeye Blvd. The Transit Center opened in 2014 and serves as the start and end point for each fixed-route. Stanislaus Regional Transit (StaRT) and Merced Transit Authority (The Bus) operate regional intercity routes that connect at the Transit Center. The City of Turlock will expand the Transit Center in 2017 by constructing an adjacent building with an indoor customer waiting area, restrooms, meeting rooms, and office space for transit staff.

## PLAN PURPOSE AND PROCESS

The purpose of the Turlock Short-Range Transit Plan (SRTP) is to provide a roadmap for improving bus service and expanding transit options in a logical and cost-effective manner. The SRTP includes a series of strategies to simplify and modernize all aspects of transit service. Implementation of the SRTP is expected to increase customer satisfaction, attract new riders and improve the community perception of transit.

It is critical that the SRTP improves the financial stability of transit services by achieving new Transportation Development Act (TDA) farebox recovery (fare revenue to operating cost ratio) requirements, which go into effect July 1, 2016. Due to the recent Urbanized Area reclassification of Stanislaus County, the farebox recovery requirement for the City of Turlock will increase from 15% to 20% and must be met within three years of a major service restructure to retain eligibility for Local Transportation Fund (LTF) and State Transit Assistance (STA) funding.

City of Turlock staff were closely involved throughout the development of the SRTP, which included public outreach to determine the needs and preferences of existing and potential riders. Public outreach consisted of passenger surveys administered on buses and open house public meetings held at the Turlock Regional Transit Center, City Hall, War Memorial Building, and California State University-Stanislaus. A project website and social media were also used to share project information with the community. Feedback provided by riders and interested members of the community was utilized to refine service alternatives and develop final recommendations.

## COMPREHENSIVE SERVICE EVALUATION

A comprehensive evaluation of the entire transit system was conducted in order to identify strengths, weaknesses, and opportunities for improvement. Ridership for each route, trip, and bus stop in the system was collected and evaluated to measure the existing service performance. The evaluation process also included operator interviews and extensive field review. The following key findings were identified as part of the comprehensive service evaluation.

### Route Design and Service Levels

BLAST routes operate as one-way loops that start and end at the Turlock Regional Transit Center. Loop route alignments are long and indirect, resulting in inconvenient travel times and out-of-direct travel for riders. BLAST routes provide excellent service coverage as most residents live within ¼ mile of a bus stop. Several major streets served by BLAST are duplicated by StaRT bus routes, which negatively impacts BLAST ridership and fare revenue.

The lack of evening service is an issue for employees who work late shifts. A review of peer transit systems revealed that Turlock has significantly shorter hours than Lodi, Porterville, San Luis Obispo, and Vacaville. The existing 40-50 minute headways can result in long wait times for riders and are more difficult to remember than 30 or 60 minute headways. BLAST does not currently operate on Sunday.

### Ridership

BLAST ridership has declined slightly over the past two years. Major destinations include Turlock High School, Walmart, Dutcher Middle School, Salvation Army, Pitman High School, downtown Turlock, Target, Safeway, Save Mart, and Walmart Neighborhood Market (Geer). Route D generates nearly twice as much ridership as other routes on weekdays. On Tuesdays, system ridership increases due to the weekly Turlock Sales Yard event.

The highest numbers of Saturday boardings occur along Geer Rd, Countryside Dr, and Olive Ave. Ridership is significantly less on Saturday than on weekdays due to the reduced service span and 80-minute headway that was effective prior to the January 2016 service change.

### Schedule Adherence

Poor on-time performance is a major issue impacting customer satisfaction. Riders and bus operators report that delays and missed connections occur frequently due to late buses and vehicle breakdowns. Several operators expressed concerns with routes not having sufficient time to stay on schedule, particularly on school-related trips. However, it should be noted that on-time performance has improved since schedules were adjusted in January 2016.

## COMMUNITY FEEDBACK

A wide range of comments were expressed throughout the community engagement process. Several existing riders requested later evening service to provide a transportation option for employees working later shifts. Many riders also expressed a need for more frequent service and increased weekend service.

Infrequent riders and non-riders suggested direct routes, improvements to customer information, and innovative technologies as strategies to attract new riders.





## 2 MARKET ANALYSIS

This section focuses on demographic and socio-economic characteristics that affect transit usage in Turlock. The evaluation includes:

- Population density
- Low-income population density
- Households without access to a vehicle
- Renter population density
- Senior population density (age 65 and over)
- Youth population density (ages 10 to 17)
- Disabled population density
- Transit dependency
- Employment density

### POPULATION CHARACTERISTICS

#### Population Density

The distribution and density of population is among the most important factors influencing the viability of transit service because nearly all transit trips require walking to/from the bus on at least one end of the trip. Higher density communities have more people within walking distance of common corridors that might support transit. Together with employment density, population density will determine the success of transit more than any other factor.

The ample population in densely developed areas produces demand for frequent service that increases the attractiveness of transit for riders. However, in less densely developed areas, the overall demand is lower and, consequently, service levels tend to be lower.

Data from the 2010 U.S. Census has been mapped at the block level to illustrate the distribution of population across Turlock (see Figure 3). Areas with the highest residential densities can be found north of downtown (bounded by Geer, Hawkeye, Colorado and Canal), within the Westside of the Turlock, and directly adjacent to California State University-Stanislaus.

#### Low-Income Households

Data from the U.S. Census' American Community Survey 5-Year Estimates 2008-2012 was used to map median household income at the census block group unit of analysis. Figure 4 shows the geographic distribution of these household incomes throughout the Turlock area. Areas with a high concentration of low-income households can be found east, west and north of Downtown Turlock.



## Vehicle Availability

For self-evident reasons, individuals without access to a vehicle represent a particularly strong market for transit. Identifying households without access to a vehicle helps in identifying areas that are likely to have a significant number of transit-dependent riders.

Data from the U.S. Census' American Community Survey 5-Year Estimates 2008-2012 was used to identify households who do not have regular access to a vehicle. The geographic unit of analysis for this data is the census block group. Figure 5 shows that the blocks between Carleton Drive, North Denair Avenue, Canal Drive, and East Hawkeye Avenue and the blocks between East Tuolomne Road, East Monte Vista Avenue, Andre Lane, and Geer Road have the highest concentrations of households without access to a vehicle.

## Renter Population

Individuals who rent housing accommodations are also more likely to use transit service because they are more likely to live in areas of the city where owning a car is not a necessity. Identifying areas of the city where the renter population is larger than average can help inform routing decisions. Figure 6 shows that the concentration of households that rent their accommodations is highest in the area between East Hawkeye Avenue, Geer Road, Canal Drive, and East Main Street.

Data from the U.S. Census' American Community Survey 5-Year Estimates 2008-2012 was used to identify rental households. The geographic unit of analysis for this data is the census block group.

## Senior Population Density

Older adults (those 65 years and older) are more likely to use transit than the general population because they are more likely to have chosen to stop driving or can no longer drive. Throughout the country, this is a key market for transit, in part because it is increasing so dramatically. Understanding the distribution of older adults is therefore important in identifying areas of more transit-dependent riders.

Data from the U.S. 2010 Census was used to map individuals aged 65+ by census block. Figure 7 shows the geographic distribution of these older adults throughout the Turlock area. The neighborhood around CSU-Stanislaus is home to a large contingent of elderly residents. The area north of the Turlock Regional Transit Center is also home to many seniors.

## Youth Population Density

Data from the U.S. 2010 Census was used to map individuals aged 10 to 17 (youths) by census block. Figure 8 shows the geographic distribution of these younger adults throughout the Turlock area. The largest concentration of people under the age of 18 can be found directly adjacent to the hospital between East Tuolomne Avenue and North Avenue. The area around CSU-Stanislaus has a relatively small youth population. It should be noted that most college students are over the age of 18 and will not be included in the youth population density analysis.

## Disabled Population Density

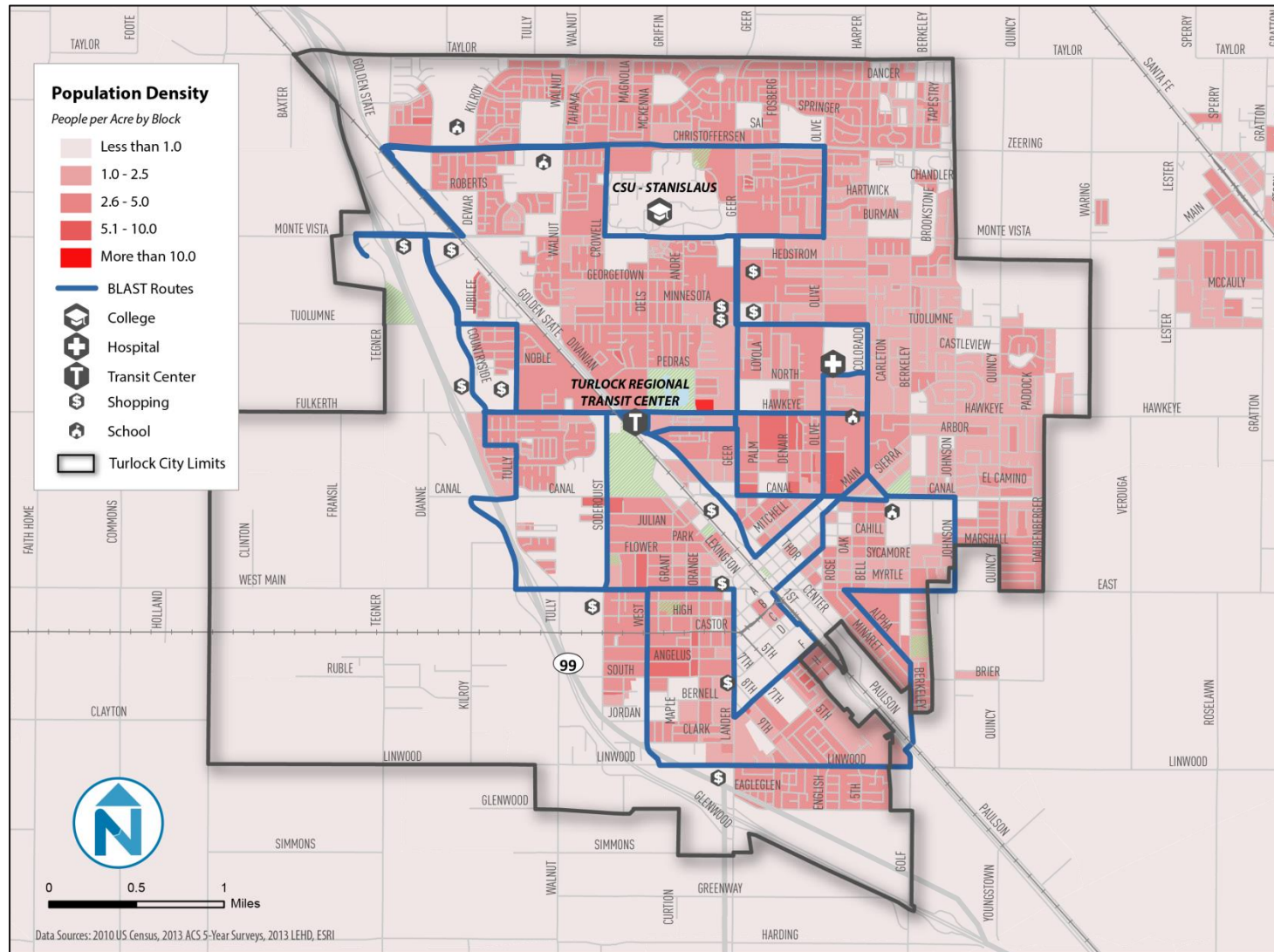
Data from the U.S. 2010 Census was used to map individuals with disabilities by census block. Figure 9 shows the geographic distribution of these individuals throughout the Turlock area. The analysis shows that people with disabilities are spatially distributed throughout the city. The density of people per acre with disabilities was much higher in the area between Hawkeye Street, Denair Street, Canal Street, and Colorado Street and in the area between West Main Street, Lander Street, West Avenue, and South Avenue. The analysis revealed that these areas are home to more than 10 individuals with disabilities per acre.

## Transit Dependency

The transit dependency index is the combined densities of low income households, zero-vehicle households, renters, people with disabilities, the elderly, and youth at the block group level. The composite index provides insight into which segments of the population have the highest demand for transit service. Transit dependency focuses on residential origins and therefore, does not include non-residential destinations. Figure 10 displays the transit dependency index for Turlock.

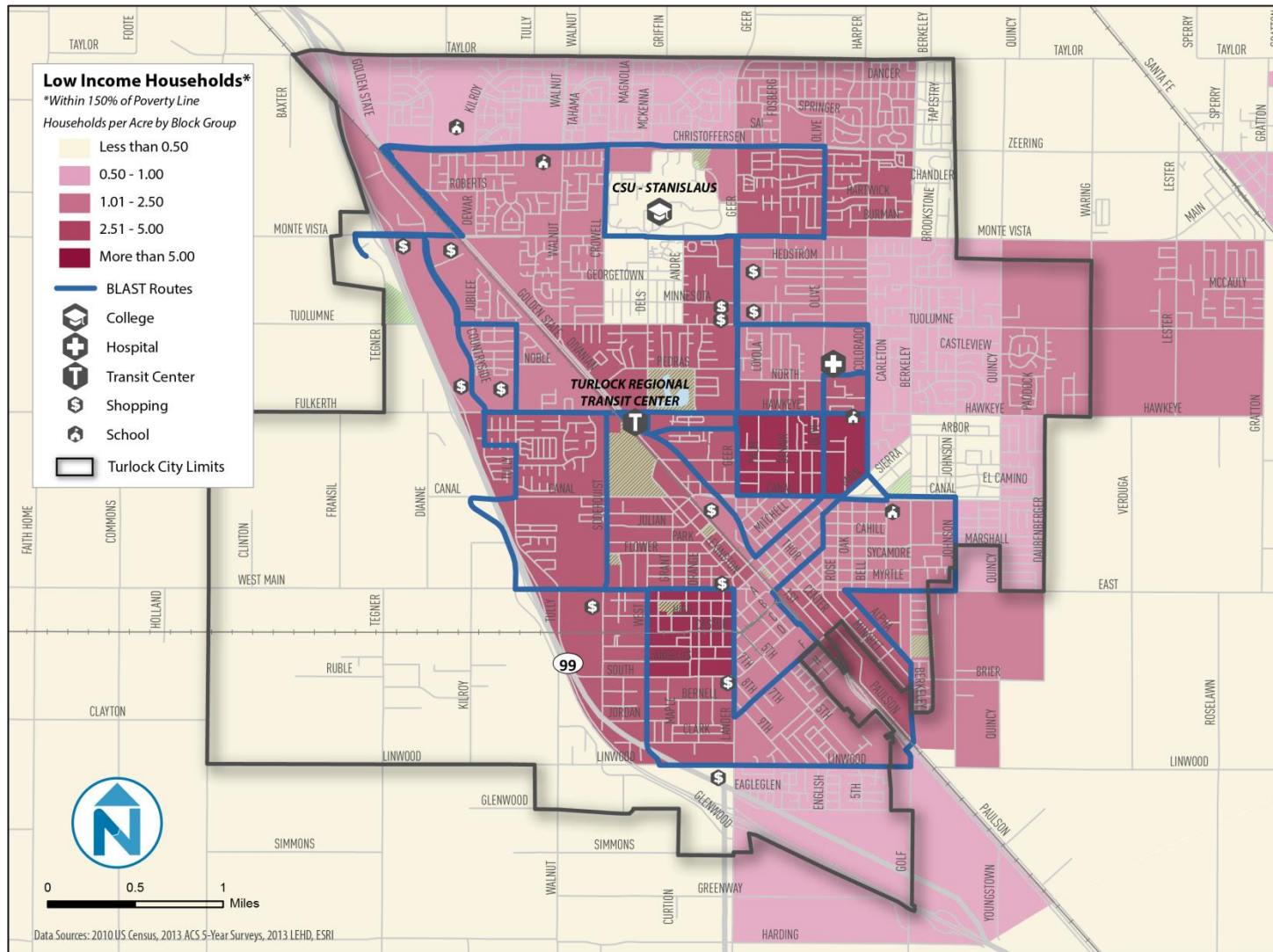
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Figure 3 Population Density



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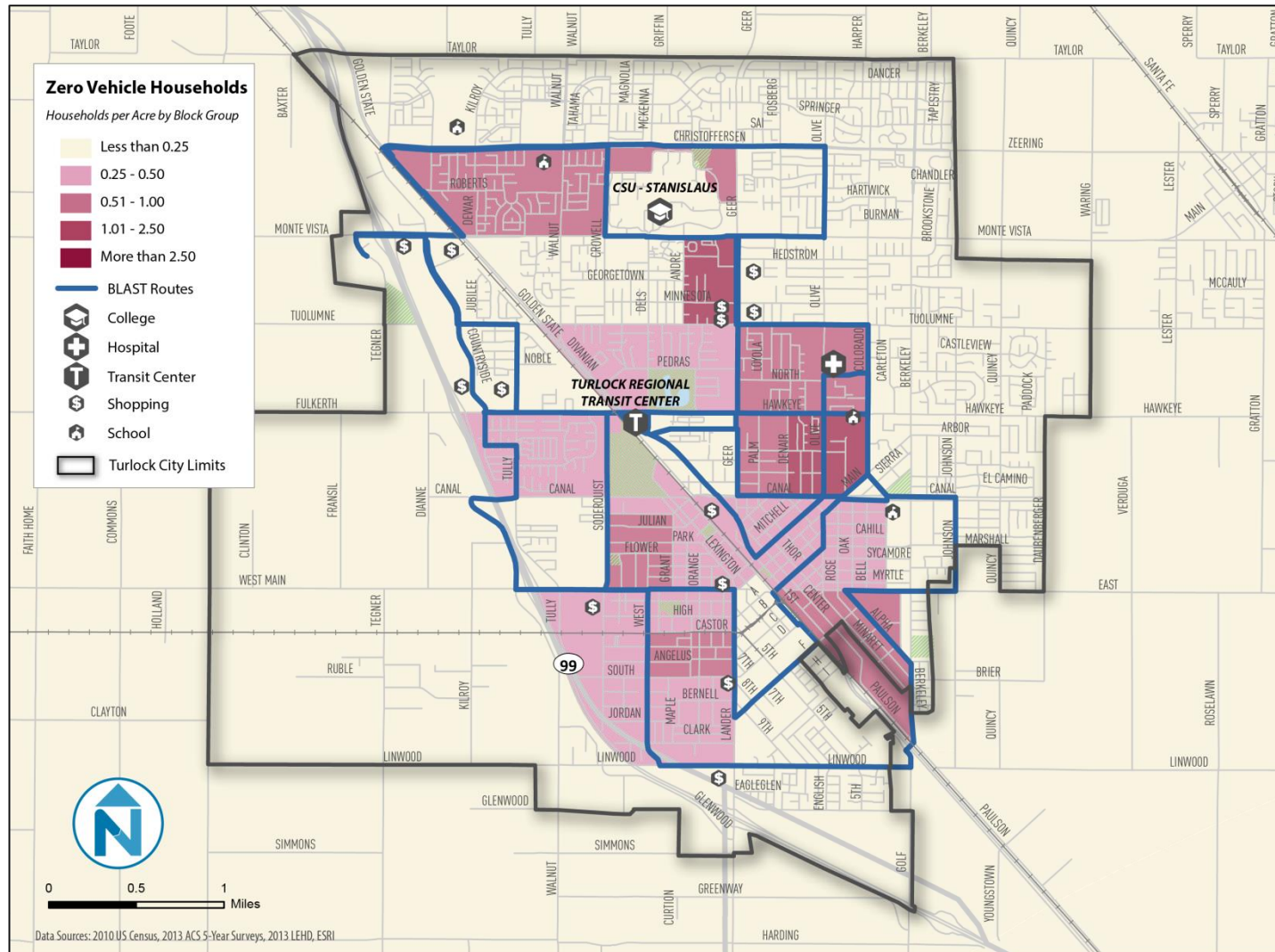
Figure 4 Low-Income Households





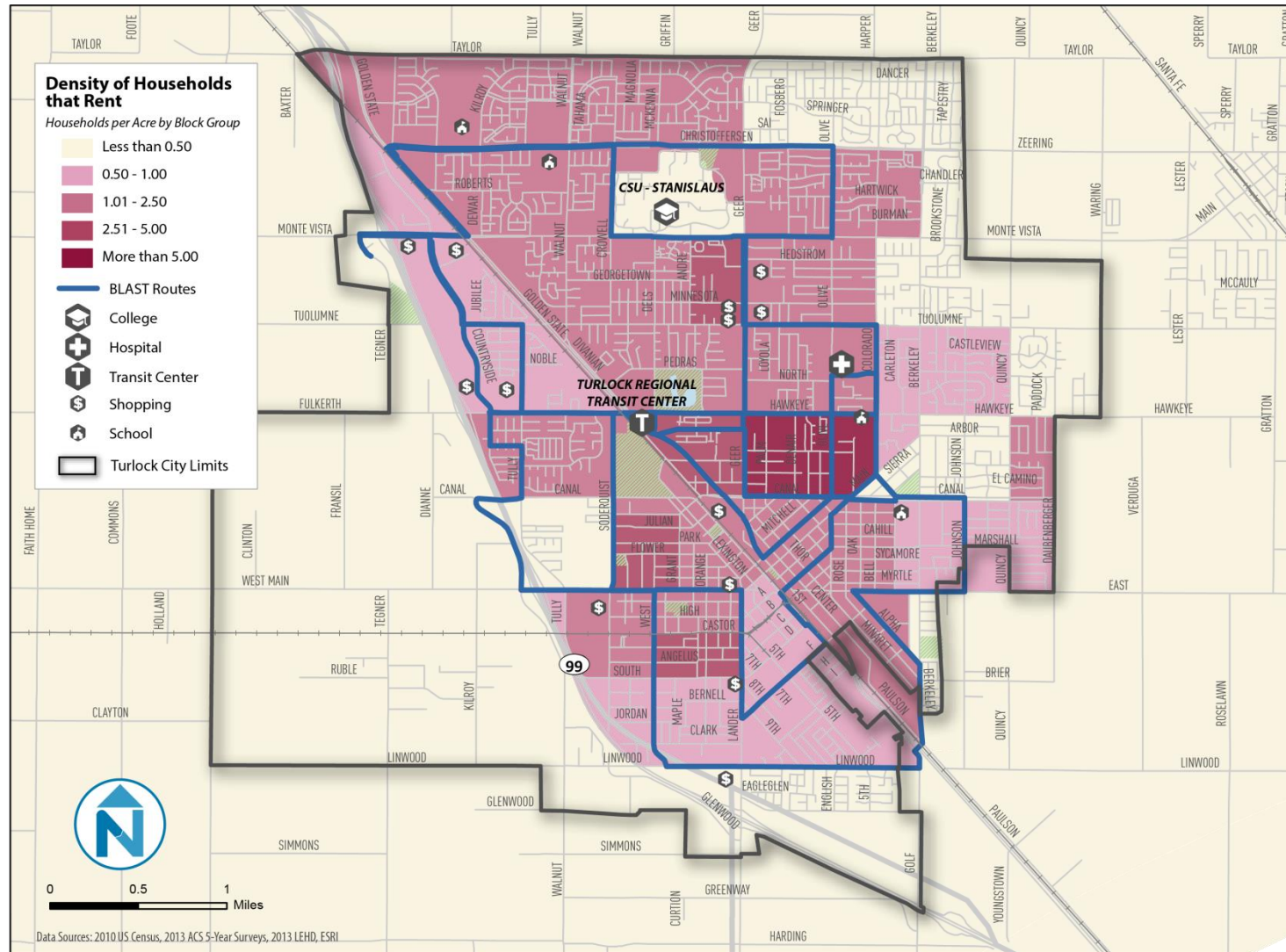
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Figure 5 Zero Vehicle Households



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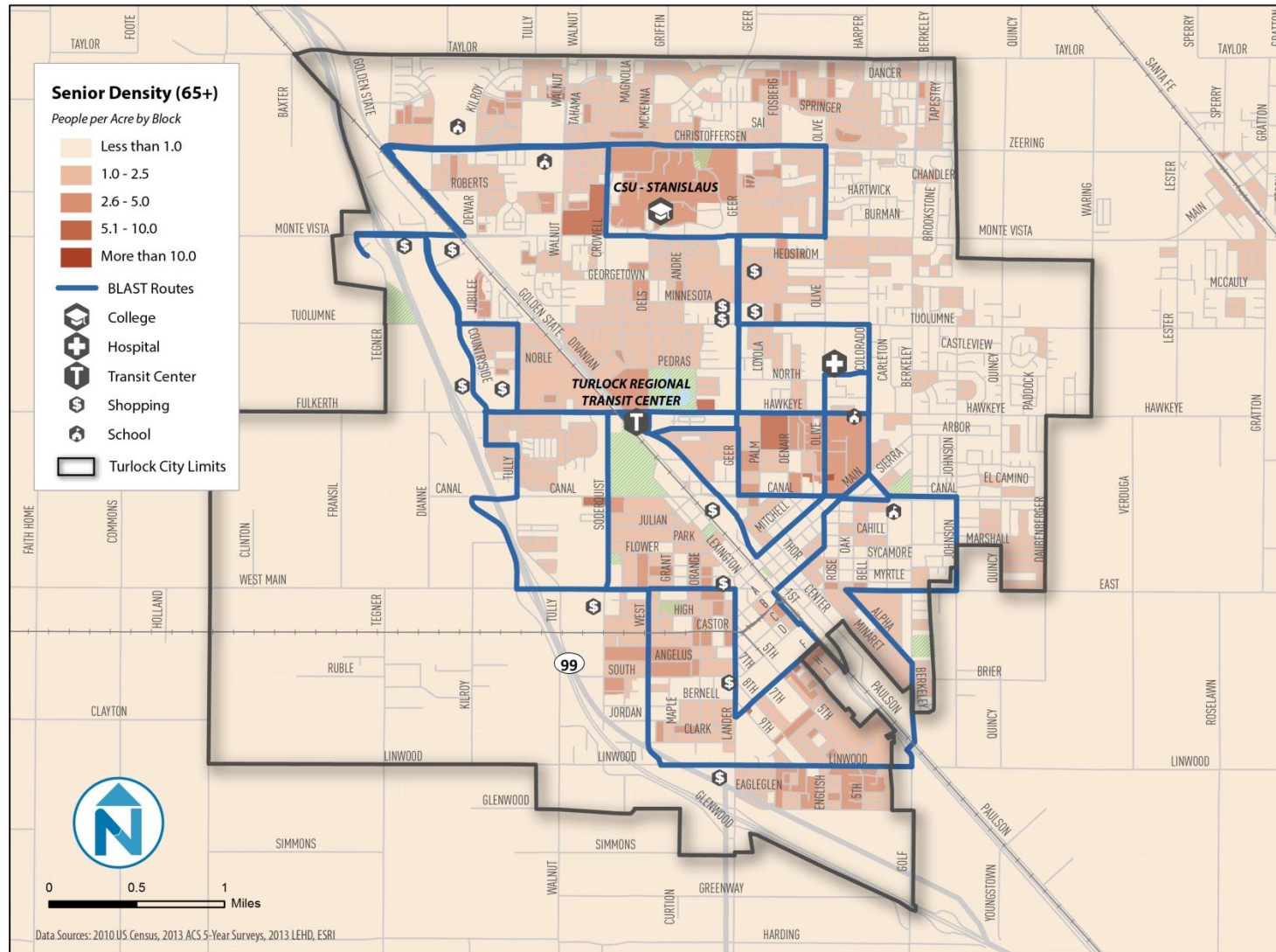
Figure 6 Renter Population



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## City of Turlock

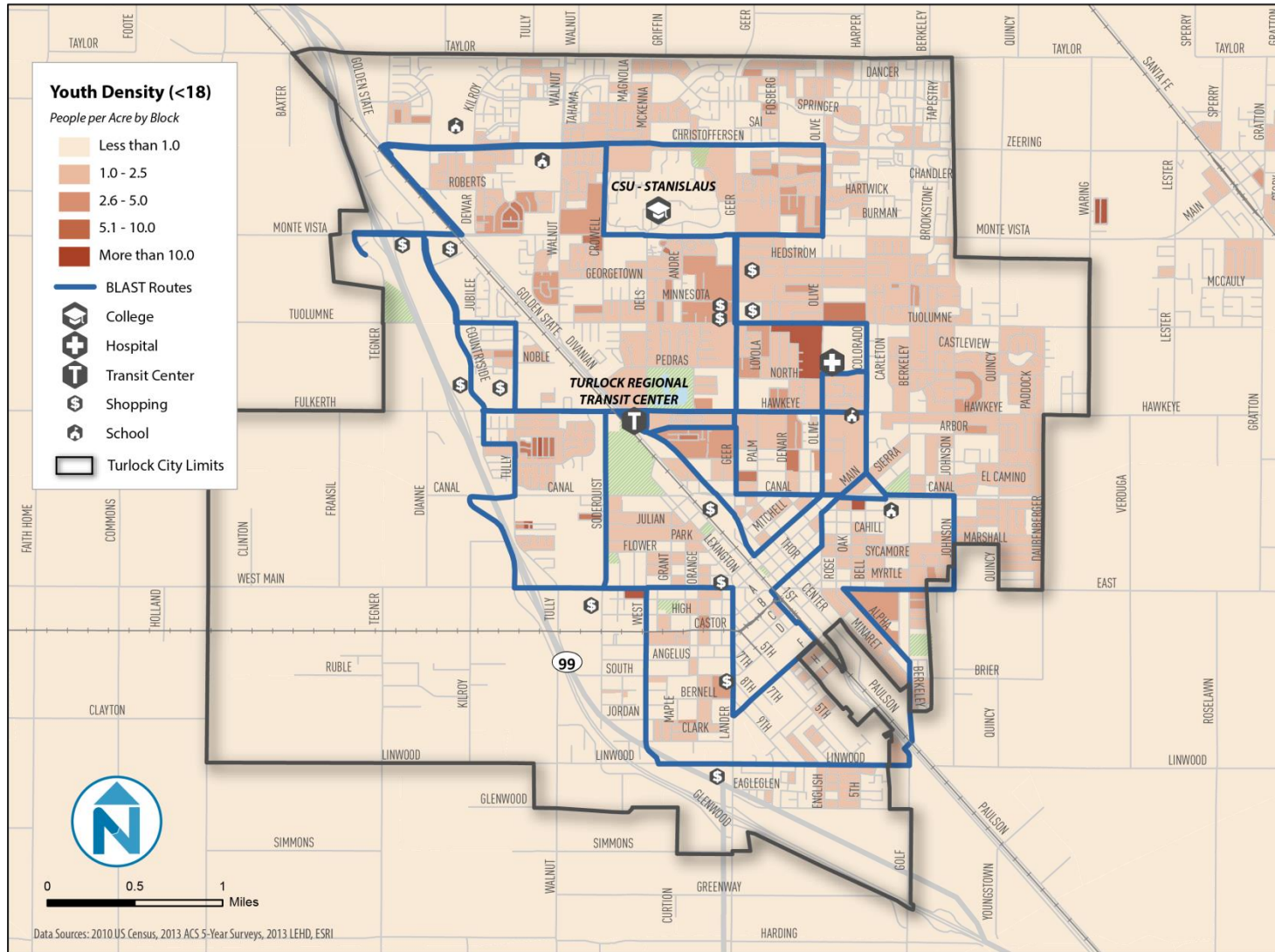
Figure 7 Senior Population





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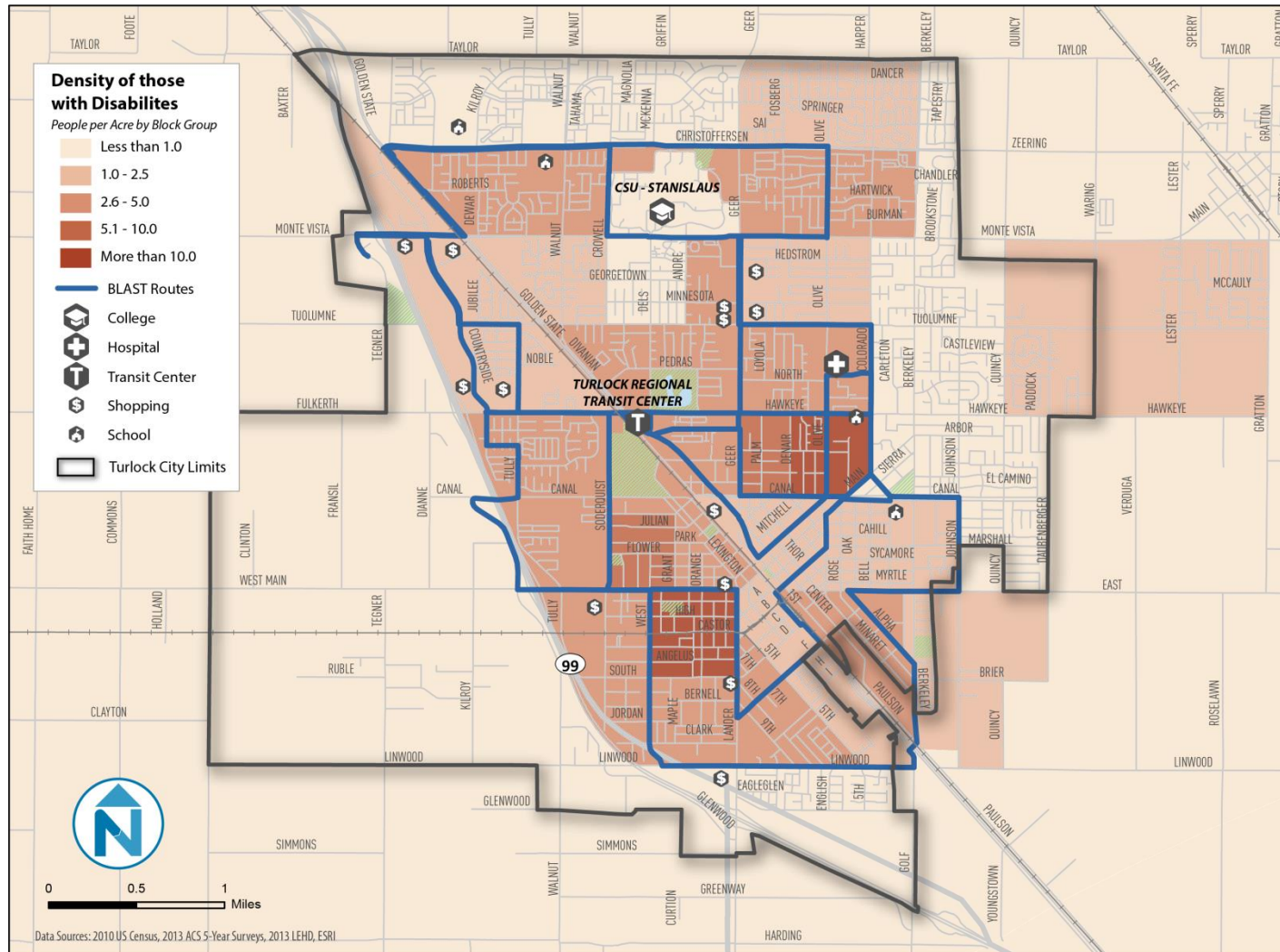
### Figure 8 Youth Population



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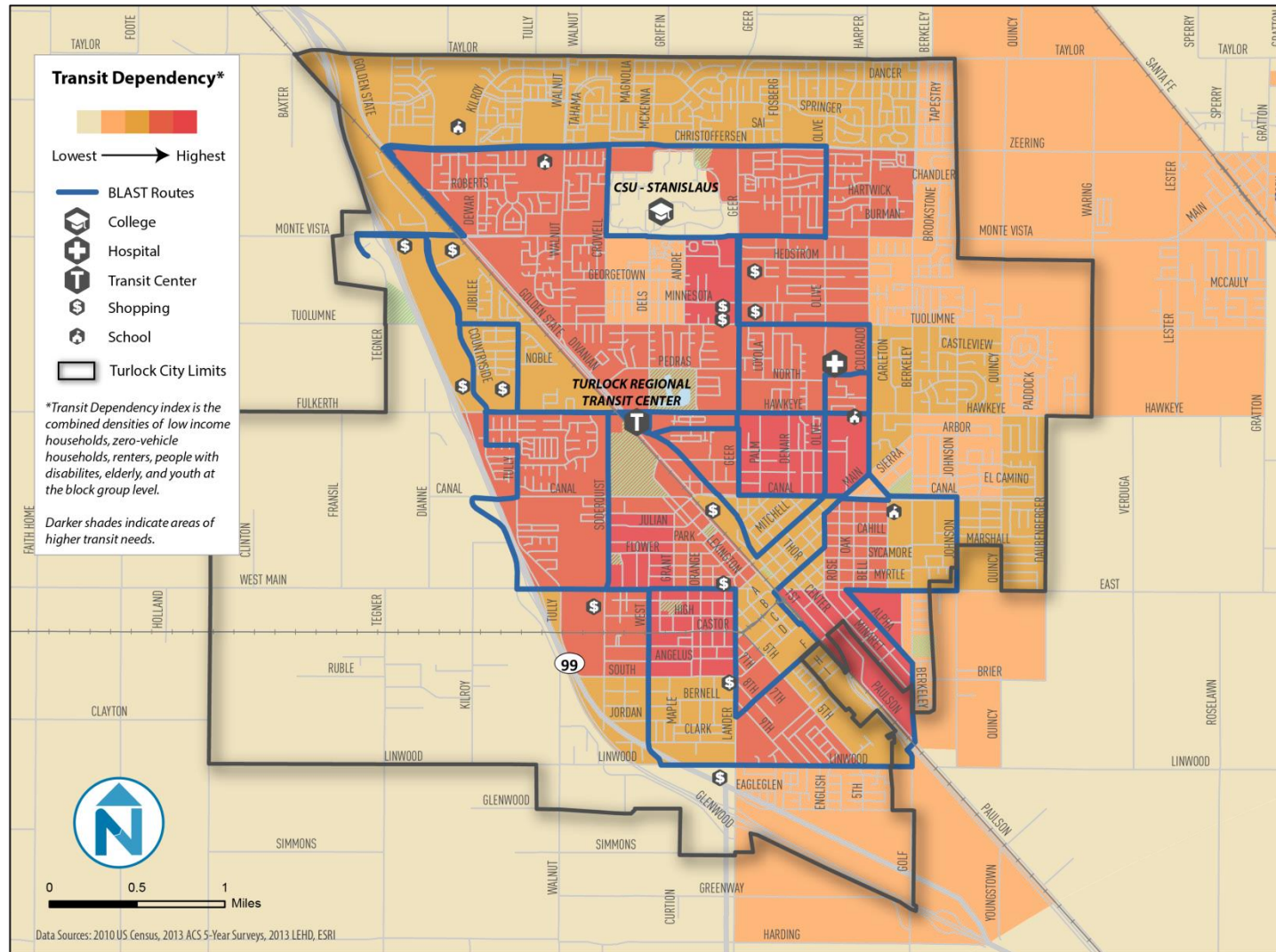
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Figure 9 Disabled Population



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Figure 10 Transit Dependency





## EMPLOYMENT CHARACTERISTICS

### Employment Density

Employment is especially important in travel markets because traveling to and from work often accounts for the singular most frequent type of trip. Therefore, understanding the distribution and density of employment is critical to transit service design. Transit that serves areas of high employment density provides key connections to job opportunities.

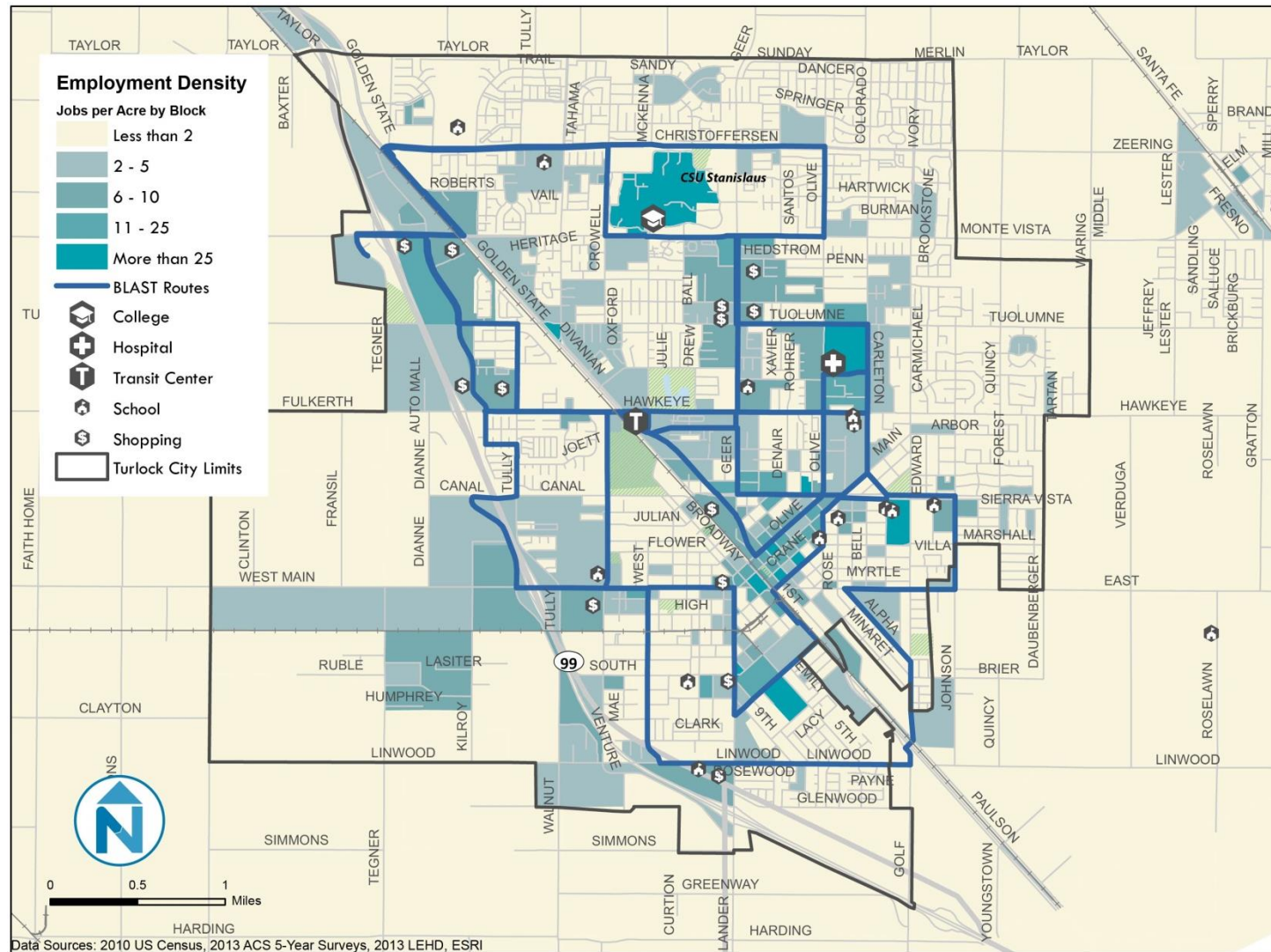
Data from the 2010 U.S. Census LEHD Origin-Destination Employment Statistics was mapped to display employment density at the block level as shown in Figure 11. Several findings are apparent:

- Turlock's major employment centers are found in downtown Turlock near South Golden State Boulevard and East Main Street. Several blocks in the downtown area have businesses that employ more than 25 people.
- The Emanuel Medical Center and other nearby healthcare providers are a major source of employment in the community.
- CSU Stanislaus also is a major source of employment in the community. It has a student to faculty ratio of 18:1. In total, the university employs 1,020 faculty and staff.
- Other sources of employment include large-scale agricultural production, plastics recycling, and industrial manufacturing.

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## City of Turlock

Figure 11 Employment Density



## CALIFORNIA STATE UNIVERSITY STANISLAUS MARKET

CSU-Stanislaus is a member of the California State University system, located in a variety of settings throughout the state. As of 2013, the student body includes 7,754 undergraduate students and 1,163 post-baccalaureate/graduate students for a total of 8,917 full and part-time students. The California State University (CSU) Transportation Demand Management (TDM) Manual classifies CSU-Stanislaus as a rural/college town typology, where student civic life centers on the university and active transportation (bicycling and walking) are viable options traveling to and from campus. The CSU TDM Manual recommends transportation demand management strategies to reduce drive-along commuting, such as subsidized transit passes, transit shuttles, priced parking, and student housing location on and/or near campus. Parking on campus is priced for automobile and motorcycles (25% of automobile rate), and current student parking fees can be found in Figure 12.

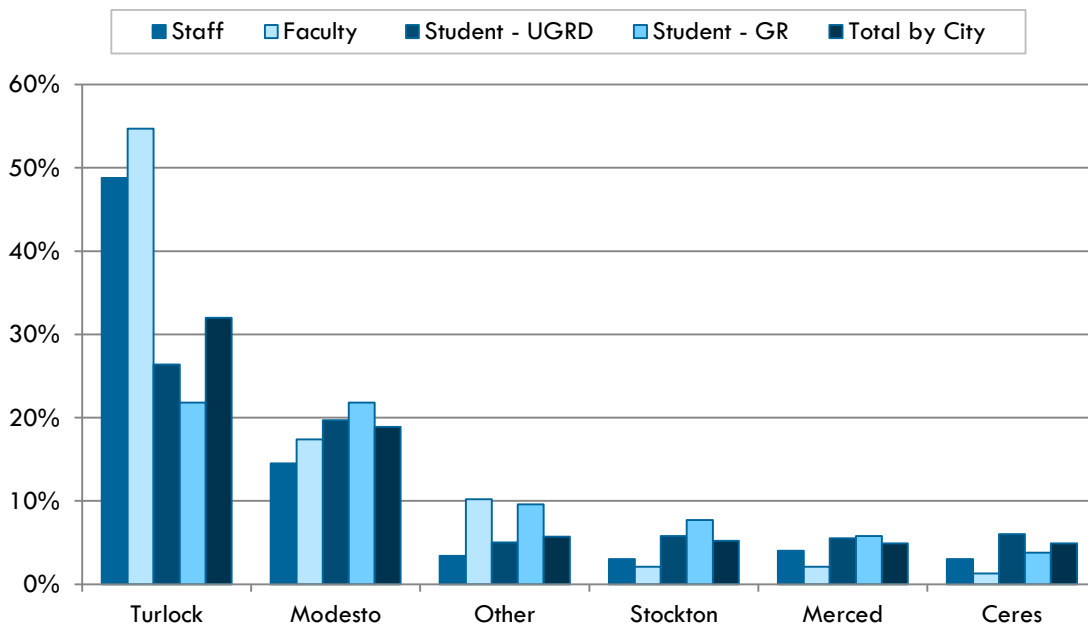
A university-wide parking survey was conducted during the fall semester of 2014. Figure 13 highlights the top six commuting origins based on survey results. Most people commuting to CSU-Stanislaus are beginning their trip in Turlock or Modesto. Other top locations include Stockton, Merced and Ceres. A complete table of commuting origins from the Fall 2014 Parking Survey, sorted by Total by City, can be found in Figure 14.

**Figure 12 CSU-Stanislaus Student Parking Fees 2015-2016**

	Monthly Rate	Summer	Fall	Winter	Spring	Annual Total
Auto Parking	\$42.50	\$137	\$180	\$45	\$180	\$542
Motorcycle Parking	\$42.50	\$34	\$45	\$11	\$45	\$135

Source: Stanislaus State Parking Permit Costs, <https://www.csustan.edu/upd/parking-gateway/permit-costs>

**Figure 13 Top Six Commuting Origins from Fall 2014 Parking Survey Crosstab Report**



Source: Data from Fall 2014 Parking Survey Crosstab Report

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City of Turlock

**Figure 14 CSUS Commuting Origins From Fall 2014 Parking Survey Crosstab Report**

City	Staff	Faculty	Student – UGRD	Student – GR	Total by City
Turlock	48.8%	54.7%	26.4%	21.8%	32.0%
Modesto	14.5%	17.4%	19.7%	21.8%	18.9%
Other	3.4%	10.2%	5.0%	9.6%	5.7%
Stockton	3.0%	2.1%	5.8%	7.7%	5.2%
Merced	4.0%	2.1%	5.5%	5.8%	4.9%
Ceres	3.0%	1.3%	6.0%	3.8%	4.9%
Atwater	1.7%	0.8%	3.4%	5.8%	3.1%
Delhi	2.4%	0.4%	2.9%	1.9%	2.5%
Manteca	1.0%	0.8%	3.0%	1.9%	2.4%
Livingston	1.3%	0.4%	2.8%	1.9%	2.3%
Riverbank	0.7%	0.8%	2.4%	1.9%	2.0%
Oakdale	0.7%	0.8%	2.2%	3.2%	2.0%
Los Banos	1.7%	0.0%	1.5%	3.2%	1.5%
Denair	4.0%	1.7%	0.8%	1.3%	1.3%
Hughson	1.3%	1.3%	1.3%	0.0%	1.2%
Waterford	1.0%	0.8%	1.3%	0.6%	1.2%
Tracy	0.3%	0.8%	1.4%	0.6%	1.2%
Patterson	0.3%	0.4%	1.4%	0.6%	1.1%
Salida	1.0%	0.4%	1.0%	1.9%	1.0%
Newman	0.3%	0.0%	1.3%	0.6%	1.0%
Sonora	0.7%	1.3%	1.0%	0.6%	0.9%
Ripon	0.7%	0.4%	1.0%	1.9%	0.9%
Hilmar	1.7%	0.0%	0.9%	0.6%	0.9%
Escalon	0.7%	0.4%	1.0%	0.0%	0.8%
Keyes	0.3%	0.4%	0.6%	0.6%	0.5%
Gustine	1.3%	0.0%	0.5%	0.0%	0.5%

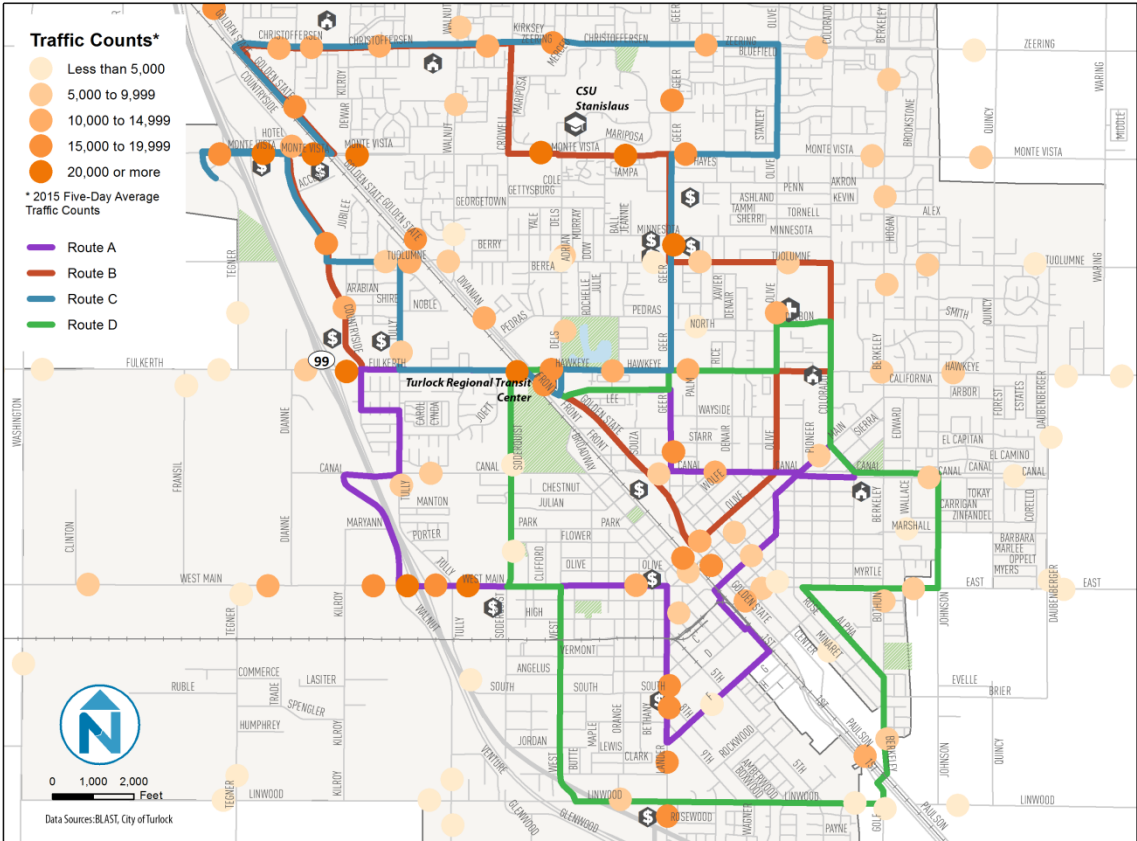
Source: Data from Fall 2014 Parking Survey Crosstab Report



TRAFFIC COUNTS

Figure 15 shows average daily traffic counts at selected street segments in Turlock. The data was collected over a five day period in 2015. Streets with the highest traffic activity include portions of Monte Vista Avenue, West Main Street, Golden State Boulevard and Geer Road. Congested intersections in the vicinity of high-traffic street segments have a negative impact on on-time performance.

Figure 15 2015 Average Daily Traffic Counts at Selected Turlock Intersections



Source: City of Turlock

## 3 DOCUMENT AND POLICY REVIEW

The purpose of this chapter is to identify and summarize the existing transit-related documentation that applies to the City of Turlock, as well as Stanislaus County more broadly. This review incorporates the following seven documents:

- 2012 Turlock General Plan
- StanCOG 2014 Regional Transportation Plan (Chapter 6 - Transportation Plan/ Policies)
- StanCOG Non-Motorized Transportation Plan
- StanCOG Public Transit – Human Services Coordination Plan
- Turlock Active Transportation Plan
- Mayor and City Council Policy Goals and Implementation Plan 2015-2019

### 2012 TURLOCK GENERAL PLAN

The 2012 Turlock General Plan outlines the policies that will guide growth in the City of Turlock over the next 20 years. Four chapters of the General Plan, including Land Use and Economic Development, Circulation, City Design, and Air Quality and Greenhouse Gases provide guidance for transit services in the City of Turlock. The transit-related implementing policies within these chapters include the following:

#### Land Use and Economic Development

- **Locations for high density development.** Maintain the highest residential development intensities Downtown, along transit corridors, near transit stops, and in new neighborhood centers.
- **Transit and pedestrian accessibility from housing.** Work with developers of affordable and multifamily housing to encourage the construction of transit-oriented and pedestrian-oriented amenities and appropriate street improvements that encourage walking and transit use.
- **Incentives for public amenities.** Offer added incentives to industrial projects in the TRIP that contribute to the pedestrian, bicycle, or transit networks and/or public amenities and open space.

#### Circulation

- **Improve local transit operations.** Continue the present course of expanding its fixed route service and improving operations.

- **Improvements to Demand-Responsive transit.** Improve the City's dial-a-ride system. Aggressively pursue transit grant funds in order to continue funding operations.
- **Consistency with the Stanislaus Congestion Management System.** Monitor the frequency, routing and coordination of local transit services for consistency with the requirements of the Stanislaus County Congestion Management Plan (CMP).
- **Stop spacing.** Transit stops should be spaced no farther than 1,000 feet apart, if spaced for continuous service on city streets. Spacing may deviate from the general standard in the Westside Industrial Specific Plan area where individual businesses occupy large parcels (greater than 20 acres) and where stops should serve employee entrances directly.
- **Turlock Regional Transit Center.** Continue to pursue the development of the Turlock Regional Transit Center, located at Dels Lane and Golden State Boulevard.
- **Funding for transit services.** Continue to pursue federal and State funds to cover capital and operating costs associated with Turlock's transit operation. If federal funds are reduced and capital needs are not being met, transit may be added to the Capital Facilities Fee (CFF) through a Nexus Study.
- **Transit usability.** Situate transit stops at locations that are convenient for transit users, and promote increased transit ridership through the provision of shelters, benches, bike racks on buses, and other amenities.
- **Transit services marketing.** Encourage ridership on public transit systems through marketing and promotional efforts. Provide information to residents and employees on transit services available for local and regional trips.
- **Transportation for seniors.** Require new community care facilities and senior housing projects with over 25 beds to provide accessible transportation services for the convenience of residents.
- **Development that supports transit.** Ensure that new development is designed to make transit a viable transportation choice for residents. Design options include:
  - Have neighborhood centers or focal points with sheltered bus stops;
  - Locate medium and high density development on or near streets served by transit wherever feasible; and
  - Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.
- **Support existing regional transit services.** Continue to support the StaRT service provided by Stanislaus County and The Bus service provided by Merced County.
- **Correspondence between local and regional transit.** As Turlock's local transit system continues to be developed, services should be oriented to link with potential future commuter and/or high-speed rail.
- **Regional Transit Agency.** Support efforts to improve the coordination and efficiency of bus service on a regional level.
- **Denair Amtrak Station.** Continue to support the operation of the Amtrak station in Denair. Expand bus service to serve the train station. It should be noted that Denair was served by BLAST fixed-route from 2002-2003.

## City Design

- **Neighborhood centers.** Establish new neighborhood centers as high-quality mixed-use pedestrian-friendly environments, without excluding the automobile. These will be required in new growth areas.
- **Support transit.** Ensure that neighborhoods are designed to support transit stops in proximity to neighborhood centers and/or clusters of higher density residences.
- **Multi-modal access and movement.** Require new projects to facilitate pedestrian and bicycle movement and aid transit.
  - Planning should anticipate and provide for future local and regional transit service even if the service is not feasible at the time of project plan preparation.

## Air Quality and Greenhouse Gases

- **Establish Land Use Pattern that Supports Trip Reduction.** Establish land use pattern that enables alternatives to automobile use and reduces trip lengths, including transit-oriented, mixed use development and neighborhood commercial areas.
- **Reduce Trips by City Government.** Take the lead in implementing a trip-reduction program for City employees. The program may include carpooling and ridesharing; reimbursement of transit costs; encouragement of flexible work schedules, telecommuting, and teleconferencing.
- **Support Employer-Based Trip Reduction.** Support the San Joaquin Valley Air Pollution Control District's requirement that companies and organizations with 100 or more employees establish ride-sharing programs, and provide incentives to companies with 25 to 100 employees that do the same. Ridesharing programs may include market-based incentives such as cash for ridesharing, preferential parking for carpools, transit subsidies, cash allowances in lieu of parking spaces, telecommuting and flexible work schedules.
- **Pedestrian-Oriented Site Design.** Orient development to encourage pedestrian and transit accessibility. Strategies include locating buildings and primary entrances adjacent to public streets; placing parking at the rear of sites or in structures above retail; and providing clear and direct pedestrian paths across parking areas.

## STANCOG 2014 REGIONAL TRANSPORTATION PLAN

The Stanislaus Council of Governments (StanCOG) developed the 2014 Regional Transportation Plan (RTP) to coordinate transportation and land use planning within and between municipalities in Stanislaus County. The Plan is based on the concept of systems planning, *i.e.*, accounting for an entire transportation system at the regional level, as well as that of fiscal constraint. Developed through collaboration with local jurisdictions, the RTP decides on transportation priorities based on projects and initiatives that would most contribute to an efficient transportation system supporting locally desired development patterns.

The plan evaluates the projected performance of its long-range transportation and land use strategies through the measurement of various outcomes and comparing them to current “business-as-usual” measures. Indicators that specifically relate to transit include: Percent of housing within 0.5 miles of frequent transit service, percent of low income housing within 0.5 miles of frequent transit service, and transit ridership, with all three showing modest increases under the plan scenario.

The Transportation Action Plan is a component of the plan that outlines goals, objectives and actions to improve the County’s transportation system. Action items specifically relating to transit include:

- Work with transit providers to implement programs from the Stanislaus County Transit Needs Assessment Study;
- Work with transit providers to monitor productivity, reliability, efficiency, and coverage to make informed improvements;
- Pursue all forms of federal and state funding to improve transit; and
- Continue working with Altamont Corridor Express Project (ACE) which proposes to extend service to Modesto and Turlock.

The transportation priorities relating to transit that support these action items include:

- **Transit Service Improvements.** Promote measures (e.g., increased frequency and operating speeds, service coordination, multimodal streets, signal priority) that will attract ridership and reduce automobile road share
- **Bus Rapid Transit.** Identifying corridors for high-capacity, affordable transit
- **San Joaquin Valley Express Transit Study (SJVETS).** Improve inter-county commuter express transportation service, including vanpools, bus service, ACE, and future connections to the planned California High Speed Rail Network

## STANCOG NON-MOTORIZED TRANSPORTATION PLAN

The 2014 Stanislaus Council of Governments (StanCOG) Non-Motorized Transportation Plan (NMTP) identifies goals, objectives, and action items that address non-motorized transportation—largely walking and bicycling—for the jurisdictions within Stanislaus County, as well as for the County as a whole. Each jurisdiction is then able to adopt its component of the plan as a local non-motorized transportation plan.

### Goals, Objectives, and Policy Actions

The StanCOG NMTP identifies three countywide goals: (1) Increase bicycle and pedestrian access and safety; (2) Increase bicycle and pedestrian trips; and (3) Improve regional and local connections. Within each goal certain objectives and associated policy actions relate to transit specifically. Figure 16 lists the objectives and actions that are pertinent to transit.

**Figure 16** Objectives and Policy Actions Related to Transit in the StanCOG NMT Plan

Objective	Policy Action
<b>Objective 1.d:</b> Improve access and integration with transit for bicycling and walking trips.	<ul style="list-style-type: none"><li>▪ <b>Policy Action 1:</b> Assist transit providers in providing and promoting secure, covered bicycle racks and lockers at transit centers and along key bus routes to facilitate multi-modal trips.</li><li>▪ <b>Policy Action 2:</b> Support and promote transit facility enhancements, such as bus stop access improvements, that will encourage increased bicycle and pedestrian access to transit.</li><li>▪ <b>Policy Action 3:</b> Require future transit service in Stanislaus County to provide adequate bicycle and pedestrian access, bus mounted bicycle racks, and secure bicycle parking.</li></ul>
<b>Objective 2.a:</b> Include bikeways and pedestrian facilities in all appropriate future development projects to facilitate on-site circulation and connections to the proposed system.	<ul style="list-style-type: none"><li>▪ <b>Policy Action 6:</b> Work with transit authorities to ensure that pedestrian and bicycle concerns are addressed in the design of transit stops.</li></ul>
<b>Objective 2.b:</b> Provide secure, covered short- and long-term bicycle parking in employment and commercial areas, in multi-family housing, at schools, and at transit facilities.	<ul style="list-style-type: none"><li>▪ <b>Policy Action 2:</b> Encourage the installation of short- and long-term bicycle parking in the public right-of-way, particularly adjacent to transit stops.</li></ul>
<b>Objective 3.b:</b> Align countywide bikeways through Stanislaus County cities such that local needs and destinations are served.	<ul style="list-style-type: none"><li>▪ <b>Policy Action 1:</b> Complete existing gaps in the countywide bicycle network, especially in the vicinity of school, transit stops, neighborhood commercial centers, and major barriers such as railroad tracks, highways, and water bodies.</li></ul>

Source: StanCOG Non-Motorized Transportation Plan

## STANCOG PUBLIC TRANSIT – HUMAN SERVICES COORDINATION PLAN

The StanCOG Public Transit – Human Services Coordination Plan identifies the transportation needs and mobility challenges facing four target population groups: (1) individuals with disabilities (13.1% of the population); (2) older adults (11.1% of the population aged 65 and over); (3) persons of low income (32.7% with an income lower than 150% of the federal poverty level); and (4) veterans (4.9% of the population). Its objectives are fourfold:

1. To ensure compliance with law by the Stanislaus Council of Governments (StanCOG), including Federal Transit Administration Circular 9070.1G that requires the regular conduct of a Coordinated Plan.
2. To validate past or identify new unmet transportation needs and mobility gaps of the target groups.
3. To engender dialogue between two service sectors, the public transit provider and the human services agencies, serving the Stanislaus County region for purposes of identifying and supporting coordinated projects by which unmet needs and mobility gaps can be addressed.
4. To establish a list of responsive and prioritized projects and strategies to meet unmet needs and mobility gaps, positioning StanCOG stakeholders for pursuing grant and specialized transportation funding opportunities that support these over the next few years.

The plan identifies mobility gaps for the four target population groups, and conducts an Unmet Transit Needs Assessment. It also presents a set of goals and strategies moving forward.

### Mobility Gaps for Target Population Groups

Following a stakeholder consultation process, the Plan identified several mobility gaps. The following mobility gaps relate to transit specifically:

- Older adults, people with disabilities, people of low income, and veterans need mobility travel training to feel comfortable utilizing the existing network of public transportation services available in Stanislaus County.
- Homeless persons need transportation between daytime facilities. It can be difficult and unsafe to bring all of their belongings on the bus, especially for those who have mental health issues.
- A stable local funding source is needed with an expenditure plan that allows the CTSA and public transit to sustain current and implement new programs.
- Wheelchair dependent populations spend a long time on transit.
- Taxis are needed to complement late night transit service.
- No taxi company that can handle the administration of a taxi discount or voucher program operates in the County.
- The number of dialysis patients is increasing and Dialysis Centers are treating people later into the night, sometimes past the hours of operation of Dial-a-Ride services.
- Not many older adults ride fixed-route transit.
- A central web-based, telephone, and print information source is needed for customer access to transportation assistance.



- Increased information about transportation options in Spanish and Assyrian is needed for Limited English Proficiency (LEP) persons.
- The current paratransit eligibility policies and practices for each of the transit providers should be evaluated in order to identify potential improvements.

The primary mobility gap, according to stakeholders, involved making education and information associated with public transportation more easily accessible to the public.

## Unmet Transit Needs Assessment

StanCOG also conducted an Unmet Transit Needs Assessment. Although no unmet transit needs were identified as defined by the StanCOG Policy Board, they did receive comments specific to Turlock, expressing the desire to have Dial-a-Ride service past 5:00 p.m.

## Goals and Strategies

The Plan identified four goals and several strategies to achieve them. Figure 17 lists the goals and associated strategies that relate to transit specifically.

**Figure 17 Transit Goals and Strategies of StanCOG Public Transit – Human Services Coordination Plan**

Goal	Strategy
Goal 1: Maintain and strategically expand services to increase mobility options when financially feasible.	<ul style="list-style-type: none"> <li>▪ Retain and strategically enhance existing public transportation services.</li> <li>▪ Promote FTA 5310 grants-making to public transit and human transportation service providers and encourage high quality projects for vehicle replacement, vehicle operations, and mobility management oriented to older adults and persons with disabilities.</li> <li>▪ Implement a single fare card for use on all transit systems.</li> </ul>
Goal 2: Continue and expand mobility management coordination functions under the CTSA to better connect persons with the mobility services they need.	<ul style="list-style-type: none"> <li>▪ Continue to provide and expand travel training to older adults, people with disabilities, low-income populations, and veterans.</li> </ul>
Goal 3: Enhance mobility information and education.	<ul style="list-style-type: none"> <li>▪ Create a hub with a single phone number for all transportation services.</li> <li>▪ Create a region-wide trip planner that integrates public transit, dial-a-ride, and human service transportation options.</li> </ul>
Goal 4: Create a sustainable funding platform.	<ul style="list-style-type: none"> <li>▪ Support/promote a local source of funding.</li> <li>▪ Funding for transit</li> </ul>

Source: StanCOG Public Transit – Human Services Coordination Plan

## TURLOCK ACTIVE TRANSPORTATION PLAN

The Turlock Active Transportation Plan was developed for the City of Turlock and StanCOG with the aim of increasing non-motorized transportation options for residents and visitors. Its recommendations include six proposed pedestrian and bicycle infrastructure improvements that connect specifically with existing transit:

**Main Street and Canal Drive Intersection.** Restripe the westbound travel lanes at the intersection in order to provide three 11-foot lanes and a 4' bike lane. In the eastbound direction, this project proposes to restripe the receiving bike lane to align with the bike lanes on Canal Drive west of the intersection. An extension to the existing shared use path will also need to be constructed from the existing bridge to Main Street. This project will serve BLAST routes A and B.

**Berkeley Avenue (Canal Drive to Golden State Boulevard).** This project will serve BLAST route D and includes three recommendations:

- Widen Berkeley Avenue south of Ramson Drive to include 6' bike lanes, 5' sidewalks, 8' on-street parking on the northbound side, and an 11' two-way left-turn lane. Restripe Berkeley Avenue from Ramson Drive to Brier Road to achieve this same cross section.
- Add sidewalks to the southbound side of Berkeley Avenue between Brier Road and Alpha Road. From Alpha Road to East Avenue widen Berkeley Avenue by about 13' to accommodate: 5' sidewalks on both sides, 6' bike lanes, 8' on-street parking on the northbound side, and 10' travel lanes.
- Add sidewalks where there are none currently and restripe the existing paved width to delineate the cross section shown on this sheet: 5' sidewalks on both sides, 6' bike lanes, 8' on-street parking on the northbound side, and 10' travel lanes.

**Berkeley Avenue at Hawkeye Avenue.** Between Main Street and California Avenue in the southbound direction, widen the road by about 7 feet; to accommodate a bike lane and sidewalk. In the northbound direction, the existing pavement would need to be restriped to delineate the bike lane. Between California Avenue and Hawkeye Avenue, the road would need to be widened by about 2' on both sides to provide room for bike lanes, and sidewalk would need to be constructed on both sides. North of Hawkeye, the northbound roadway would need to be widened by about 4' to accommodate an 8' on-street parking lane and a 6' bike lane. This project will serve BLAST route B.

**Golden State Boulevard.** This project will serve the BLAST transfer hub as well as route B, and includes two recommendations:

- The existing lane geometries should remain the same; only the outside lane should be restriped as shown in the cross section. Restripe the outside lane (approximately 17-18' wide to remove on-street parking and delineate an 11' travel lane and a 6' bike lane. Install 'No Parking' signs to prohibit on-street parking. Construct an 8' sidewalk on locations without a sidewalk.
- Restripe outside lane. The improvements on this sheet would be to restripe the outside lane (approximately 17-18' wide to remove on-street parking and delineate an 11' travel lane and a 6' bike lane. "No Parking" signs should also be installed to prohibit on-street parking. There is existing sidewalk for the length of this segment.

**West Avenue.** Add an 8' on-street parking lane on the eastern side adjacent to the houses. Construct new sidewalk along most of the segment. Widen West Avenue by roughly 9' on both

sides to accommodate wider travel lanes and bike lanes, with the exception of the eastern side between Montana Avenue and Jordan Avenue. This project will serve BLAST route D.

**Main Street.** Between Beech Street and Laurel Street provide signing and pavement markings to designate the street as a bike route. Between Laurel Street and Lander Avenue restripe existing pavement, as shown in the sections below, to provide Class II bike lanes. Between Lander Avenue and Broadway Street provide signing and pavement markings to designated the street as a bike route.

## MAYOR AND CITY COUNCIL POLICY GOALS AND IMPLEMENTATION PLAN 2015-2019

The Mayor and City Council Policy Goals and Implementation Plan identified seven organizational policy goals and associated action items. It also provided implementation strategies for each action item. Two policy goals relate to transit specifically: Policy Goal #4 – Municipal Infrastructure; Policy Goal #5 – Economic Development; and Policy Goal #7 – Quality Community Programs.

### Municipal Infrastructure

General Principle #4 (Transportation infrastructure that serves the needs of the community), includes the following two transit-related items:

- Access to transit and non-motorized options.
- Traffic calming options are critical to the quality of life in neighborhoods.

Further to item above, Action Item #8 specifies:

- Implement the Traffic Calming Program: Identify available traffic calming tools, specify qualifying criteria and establish a systematic process for applying for, approving and installing traffic calming solutions.

### Economic Development

Action Item #3 (Collaborate with community groups and stakeholders to ensure a successful and vibrant community), includes the following implementation measure:

- Foster opportunities which create growth in Transit Occupancy Tax (TOT).

### Quality Community Programs

Action Item #4 (Seek New Grant and Funding Opportunities) includes the following implementation measure

- Development of transit oriented housing.

The references to transit and traffic calming, in combination with transit-oriented housing, suggest an interest in improving transit, non-motorized transportation, and transit-supportive land use planning among officials.

## 4 EXISTING TRANSIT SERVICE

### BUS LINE SERVICE OF TURLOCK (BLAST)

Bus Line Service of Turlock (BLAST) is managed by the City of Turlock Development Services Department and operated by a private contractor (First Transit). The BLAST fixed-route system consists of four loop routes that start and end at the Turlock Regional Transit Center, located at Dels Ln. and Golden State Blvd.



All routes complete 16 trips on weekdays from 6:30 a.m. to 6:30 p.m. The weekday end time prevents transit from being a viable transportation option returning home for employees working shifts that end after 6:00 p.m. Employees with shifts ending at 5:00 p.m. may experience challenges taking transit if a transfer to a second route is required to return home.

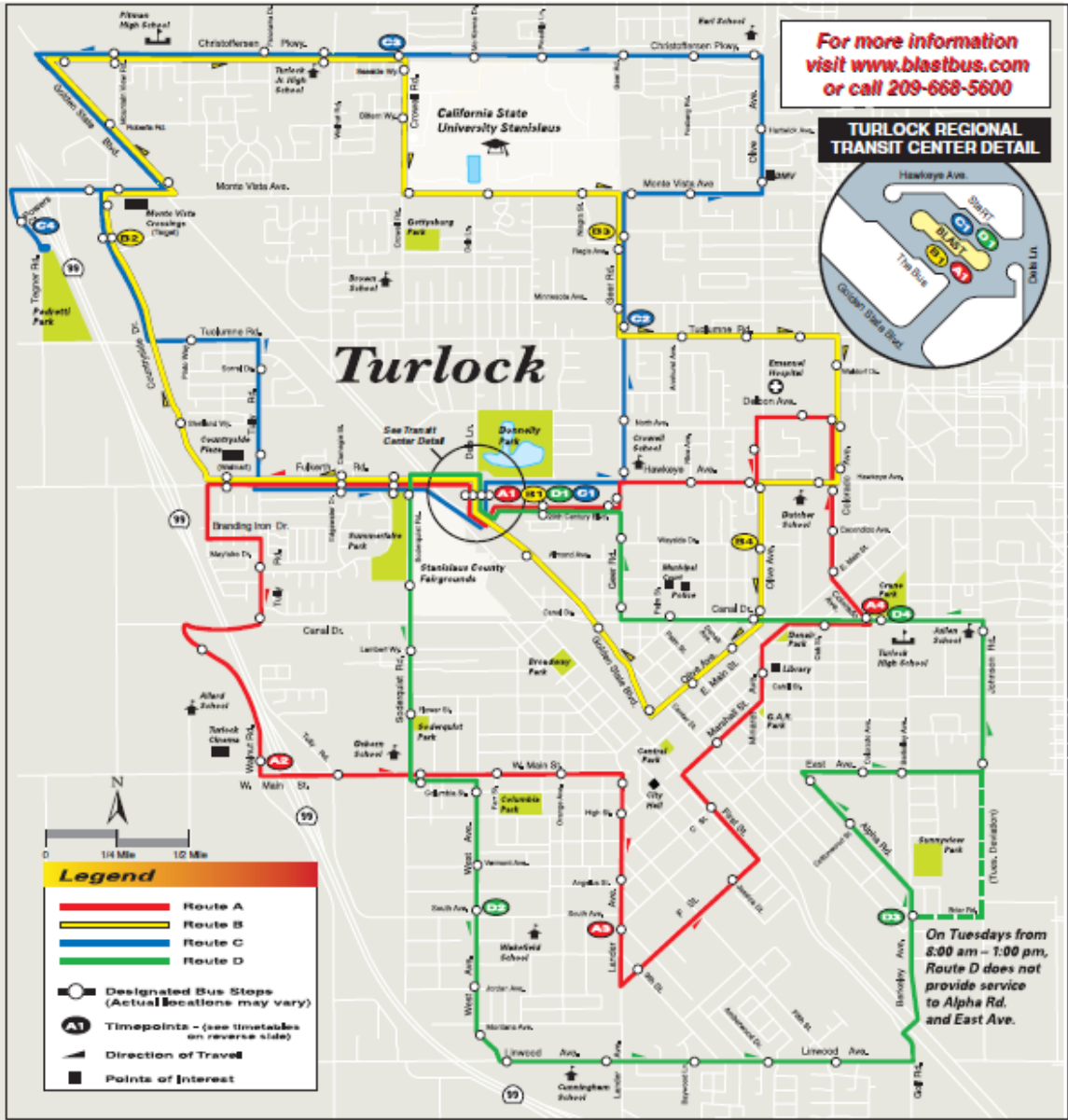
On Saturdays, each route completes 8 trips each from 10:10 a.m. to 4:10 p.m. A summary table of service characteristics can be found in Figure 18. A system map can be found in Figure 19.

**Figure 18** BLAST Bus Fixed-Route Service Characteristics

Route	Weekday Span	Weekday Headway	Saturday Span	Saturday Headway
A	6:30 a.m. – 6:30 p.m.	40-60 minutes	10:10 a.m. – 4:10 p.m.	40-50 minutes
B	6:30 a.m. – 6:30 p.m.	40-60 minutes	10:10 a.m. – 4:10 p.m.	40-50 minutes
C	6:30 a.m. – 6:30 p.m.	40-60minutes	10:10 a.m. – 4:10 p.m.	40-50 minutes
D	6:30 a.m. – 6:30 p.m.	40-60minutes	10:10 a.m. – 4:10 p.m.	40-50 minutes

SHORT RANGE TRANSIT PLAN | FINAL REPORT  
City of Turlock

Figure 19 BLAST System Map



Average mileage for the BLAST system is 9.2 miles with 18.5 turns and a speed of 13.7 miles per hour. The shortest route is Route A with 8.4 miles in length, and the longest route is Route C with 9.9 miles and an average speed of 14.9 miles per hour. A summary table of operational characteristics can be found in Figure 20.

**Figure 20 BLAST Bus Fixed-Route Operational Characteristics**

Route	Mileage	Turns	Cycle Time	Speed
A	8.4	22	40	12.6
B	9.5	15	40	14.3
C	9.9	17	40	14.9
D	8.8	20	40	13.2
<b>Average</b>	<b>9.2</b>	<b>18.5</b>	<b>40</b>	<b>13.7</b>

A summary of major BLAST milestones over the past twelve years is provided in Figure 21. Route headways were improved in 2007 as a result of a system restructure and again in 2010 as a result of running time issues. The City of Turlock increased route headways in January 2016 as a result of poor on-time performance.

**Figure 21 BLAST Milestones**

Date	Milestones
Dec 22, 2003	Transfer Hub moved from Countryside Dr. (Walmart) to Golden State Blvd. (Central Park)
Aug 13, 2007	Transfer Hub moved to Dels Ln. Routes changed from 45 to 30 minute runs
Sep 1, 2007	BLAST fares increased from \$0.75 to \$1.25
Jan 3, 2008	Route headways changed from 30 to 35 minutes
Sep 2, 2008	Evening service extended Saturday service reduced Route B re-realigned to Emanuel Medical Center
Apr 5, 2010	Route headways changed from 35 to 40 minutes Route C extended to Costco
Feb 1, 2011	Service span reduced; first and last trips eliminated
Mar 1, 2011	BLAST fares increased to \$1.50
Aug 27, 2012	New Turlock Regional Transit Center at Dels Ln. & Golden State Blvd. opened
Jan 11, 2016	Route headways changed from 40 to 40-50 minutes.

System Ridership

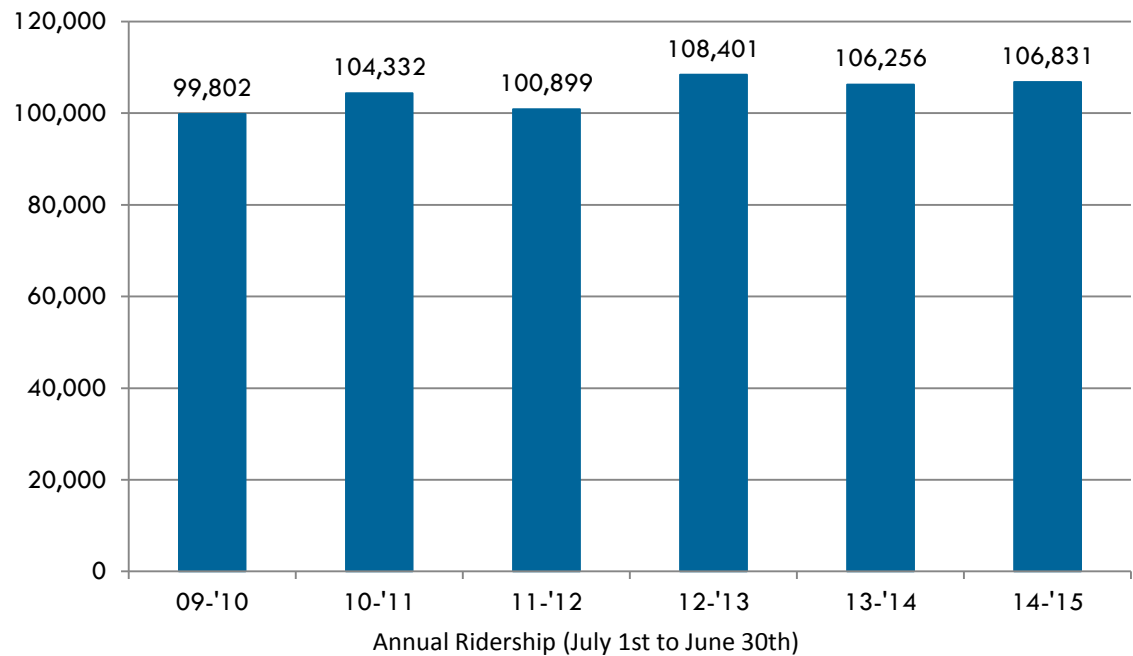
The BLAST bus fixed-route annual historical ridership data can be found in Figure 22. Annual ridership experienced a 7.4% increase during the year following the opening of the new Turlock Regional Transit Center. Ridership has declined slightly over the past two years, potentially as a result of schedule reliability issues.

The BLAST bus fixed-route system monthly historical ridership data from July 2009 to June 2015 can be found in Figure 23. Monthly ridership is higher in the fall and spring months with the lowest ridership in the summer, coinciding with the school year. The highest monthly ridership since 2009 is October 2014 with 11,011 riders.

Stop-level ridership data was collected in October 2015. Weekday boardings and alightings for each bus stop are depicted in Figure 24. Major destinations include Turlock High School, Walmart (Fulkerth), Dutcher Middle School, Salvation Army, Pitman High School, downtown Turlock, Target, Safeway, Save Mart, and Walmart Neighborhood Market (Geer). Residential streets with high weekday ridership include Linwood Ave, West Ave, and Soderquist Rd.

The highest numbers of Saturday boardings occur along Geer Rd., Countryside Dr., and Olive Ave. Select stops record boardings but no alightings, possibly indicating that customers are not taking transit in both directions due to the limited service span. Saturday boardings and alightings are depicted in Figure 25.

Figure 22 BLAST Bus Fixed-Route Historical System Ridership By Year

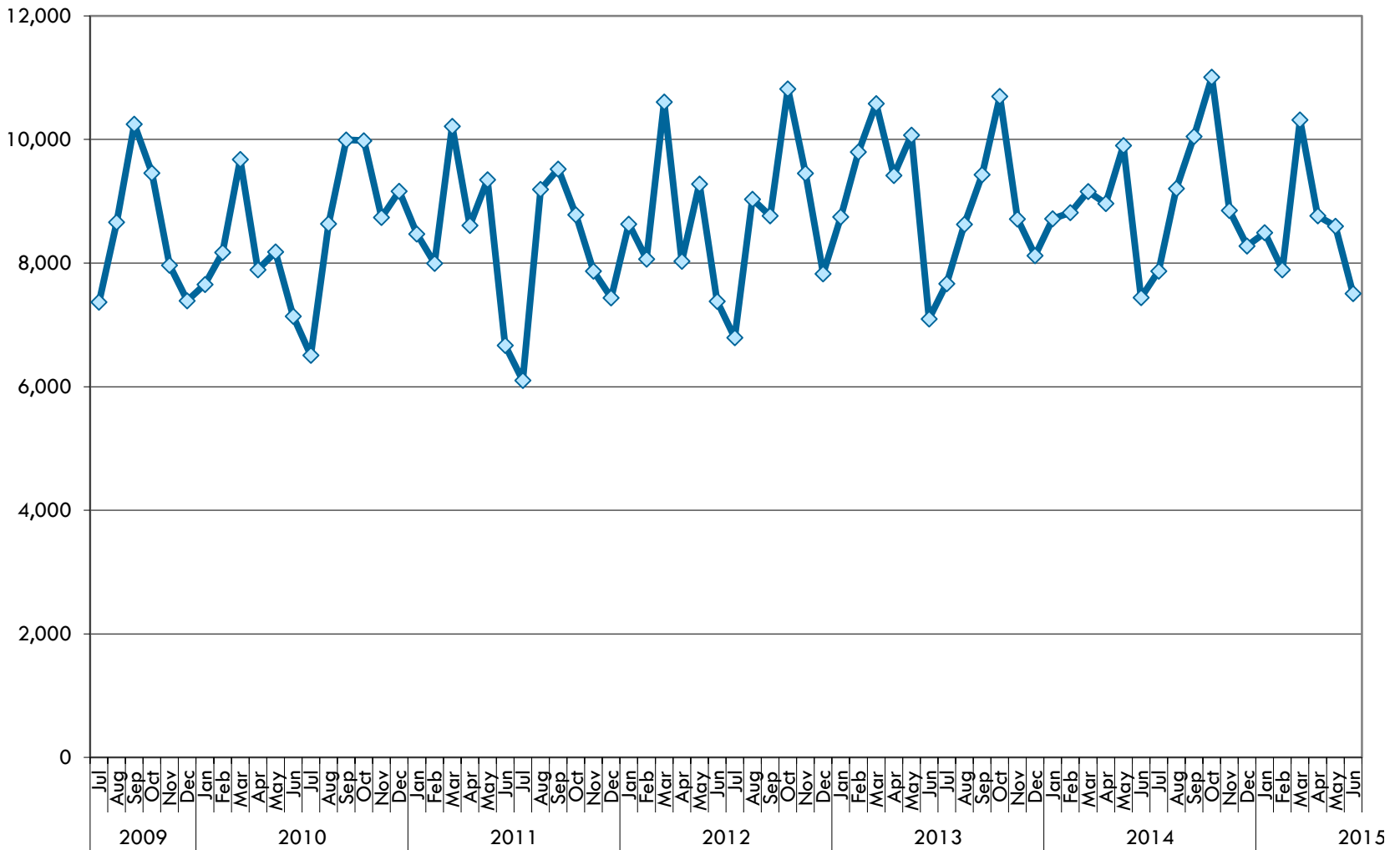


Source: City of Turlock



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City of Turlock

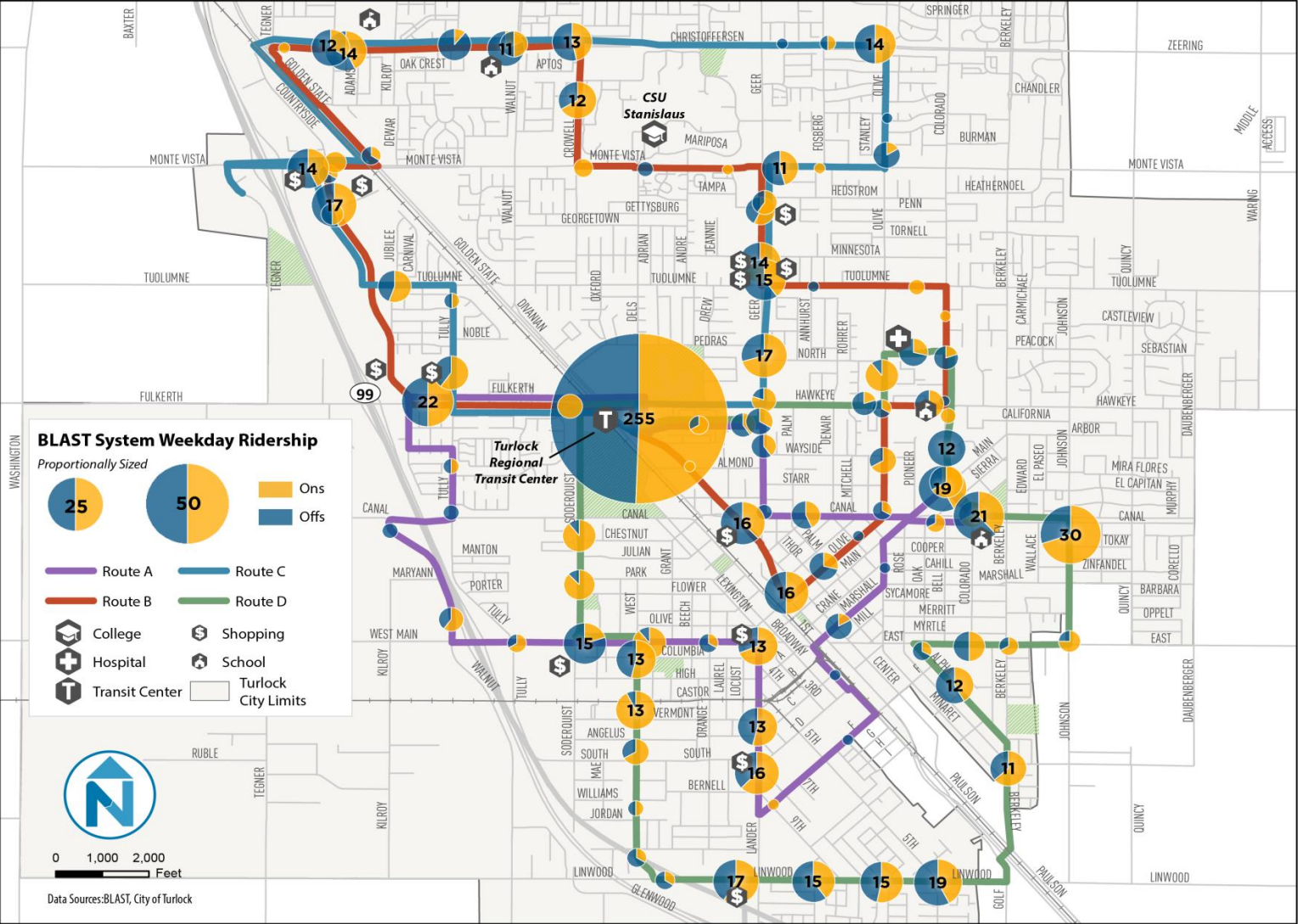
**Figure 23     BLAST Bus Fixed-Route Historical System Ridership By Month**



Source: City of Turlock

## City of Turlock

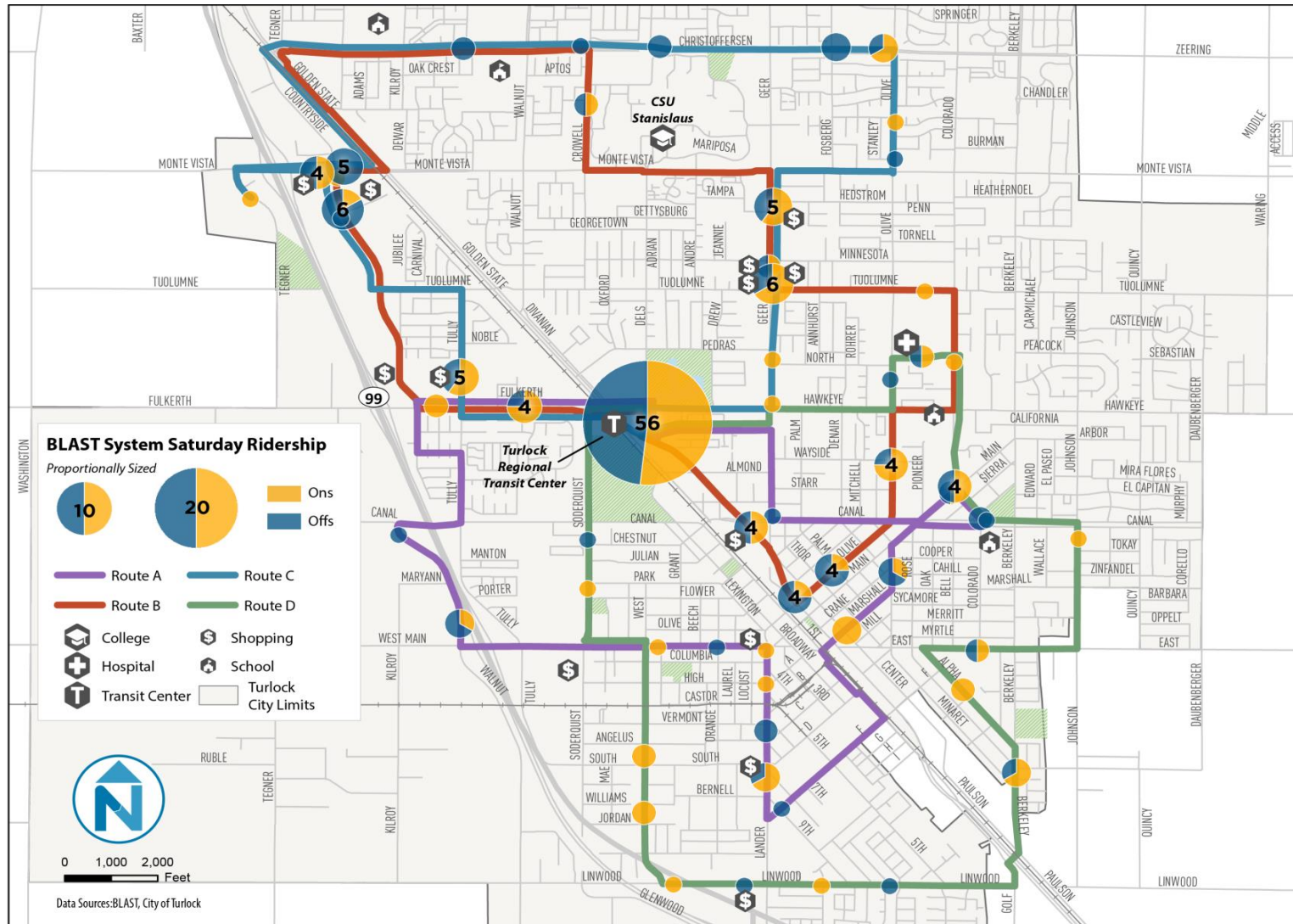
### Weekday Boardings and Alightings by Stop



# SHORT RANGE TRANSIT PLAN | FINAL REPORT

## City of Turlock

Figure 25 Saturday Boardings and Alightings by Stop



## Route Ridership and Productivity

Route D generates nearly twice as much ridership as other routes on weekdays. On Tuesdays, system ridership increases due to the Turlock Sales Yard event at the intersection of East Ave. and Johnson Rd., which is served by Route D. System ridership also increases on the weekdays immediately following the 1<sup>st</sup> and 15<sup>th</sup> days of the month. Saturday ridership is significantly less than on weekdays due to the reduced service span. The Saturday productivity of Route C along with stop level ridership indicates a need for increased weekend service. Ridership and productivity (based on 2015 service hours) for each BLAST route by service level is depicted in Figure 26 and Figure 27.

Figure 26 Ridership by Route and Service Level

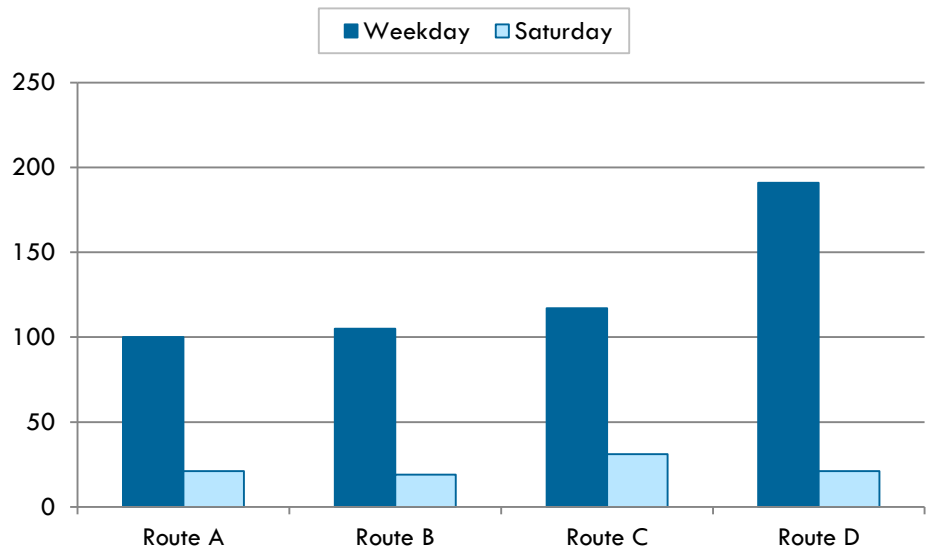
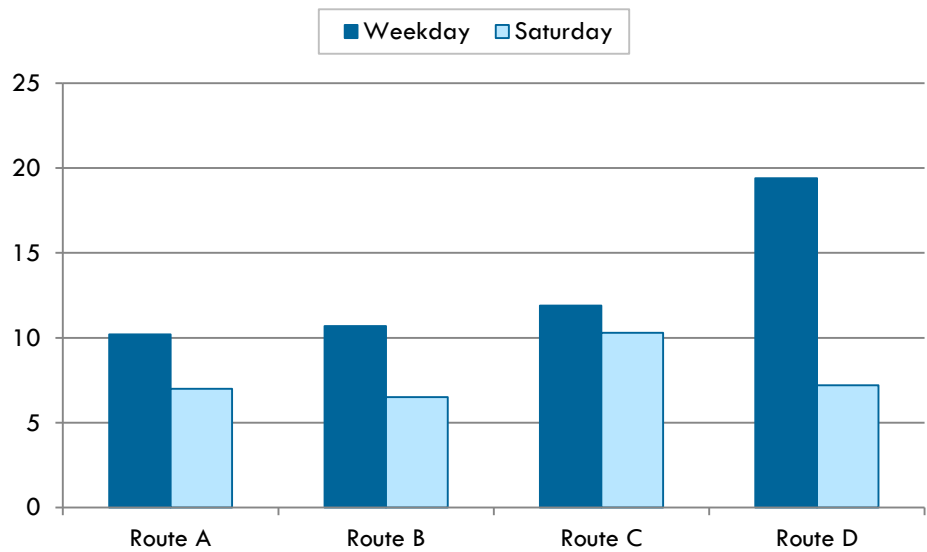


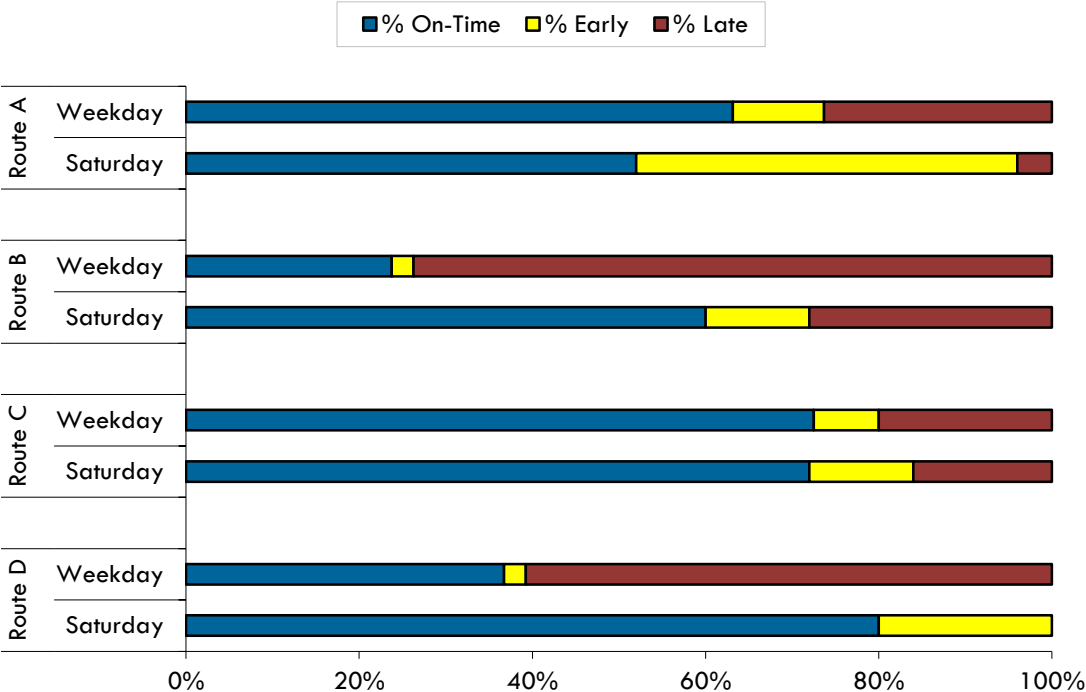
Figure 27 Productivity (Boardings per Revenue Hour) by Route and Service Level



## Schedule Adherence

Schedule adherence was also collected in October 2015. On-time performance is an issue for Routes A, B, and D. It should be noted that schedule adherence can vary significantly from one day to another due to traffic or vehicle breakdowns. Schedule adherence for each BLAST route by service level is shown in Figure 28.

Figure 28      Schedule Adherence by Route





## Turlock Regional Transit Center

The Turlock Regional Transit Center opened on August 27, 2012. The facility includes 12 sawtooth bus bays, benches, shelters, and 28 parking spaces. Future expansion plans include an indoor customer waiting area with restrooms, space for public meetings and retail, and BLAST administration. The facility is served by several local and regional routes, including all four BLAST routes, four Stanislaus Regional Transit (StaRT) routes, and one routes operated by The Bus, Merced's Regional Transit System.

**Figure 29** Routes serving Turlock Regional Transit Center

Provider	Routes	Areas / Cities Served
BLAST	A, B, C, D	Turlock
StaRT	10	Modesto, Turlock
	15	Modesto, Ceres, Keyes, Turlock
	45 East	Turlock, Patterson
	70	Modesto, Turlock, Merced
The Bus	T Turlock Commuter	Turlock, Dehli, Livingston, Atwater, Merced

**Figure 30** Photos and Aerial Imagery of Turlock Regional Transit Center



Source: Turlock Journal and Google Maps



## ROUTE PROFILES

The following section contains a summary of each route based on performance data and field observations. Ridership and on-time performance data was collected during October 2015. Ridership is measured in terms of average daily boardings, which refers to the number of times a passenger enters a vehicle. Route productivity is measured by dividing average daily boardings by the number of scheduled daily revenue hours, or the time in which all vehicles assigned to a route are in service for a particular level of service (i.e. weekday or Saturday).

Schedule reliability, also referred to as on-time performance, is a measure of how well a particular route adheres to its schedule. It suggests whether a customer can count on a bus being there when the schedule says it will be. For BLAST Bus and most transit systems across the county, buses are considered on-time if they depart a designated timepoint between zero and 5 minutes later than the scheduled departure time. A significant percentage of late departures were observed on weekday Routes B and D, indicating a need to adjust existing schedules to reflect actual travel times or incorporate recovery time into the endpoint(s) of each route to accommodate operator breaks and allow an opportunity to get back on schedule.

## Route A

### Description

Route A consists of a 40-to-50-minute loop that starts and ends at Turlock Regional Transit Center. The route travels counterclockwise through the west and south sides of the city. Route A operates in an outbound direction using Fulkerth Road, Countryside Drive, Branding Iron Drive, Tully Road, Canal Drive, Walnut Road, Main Street, Lander Avenue, F Street, 1<sup>st</sup> Street, Marshall Street, Minaret Avenue, Main Street, and then makes a triangle using Canal Drive, Colorado Avenue, and Main Street, and then continues westbound on Canal Drive to Geer Road, 20<sup>th</sup> Century Boulevard ending at the transit center.

Route A serves several shopping amenities such as Grocery Outlet, Cost Less Foods, Salvation Army, and Goodwill. Additionally, the route serves Turlock High School and Regal Cinemas.

Route Characteristics	
Stops	31
Route Length (miles)	8.4
Stop Spacing (miles)	0.27
Weekday	
Ridership (boardings)	100
Productivity (boardings per hour)	10.2
On-Time Arrival	63%
Saturday	
Ridership	21
Productivity (boardings per hour)	7.0
On-Time Arrival	52%

### Performance

#### Route A Weekday

Route A has 100 weekday daily boardings and 10.2 boardings per hour, below the system-wide weekday average of 13.0. Ridership spikes on the 7:20 a.m. and 2:00 p.m., trips with 18 and 16 boardings respectively. The lowest performing trips are at 4:55 p.m. and 10:00 a.m. trips both with 1 boarding. The highest number of boardings occurs at the transit center, with other high stops at Colorado Avenue and Main Street, Salvation Army, Vermont Avenue and Lander Avenue, and Cost Less Foods. The most productive segment of the route is Walnut Road and Main Street to Lander Avenue and South Avenue with 16.7 boardings per hour. The least productive segment is Lander Avenue and South Avenue to Colorado Avenue and Canal Drive with 6.4 boardings per hour.

The east half of the route is circuitous due to crossing train tracks and serving Turlock High School. Because the route loops in one direction, it may be inconvenient for some passengers who need to travel in the opposite direction of the loop and must ride the majority of the route and lengthen their trip. A bi-directional route may be easier for passengers to understand and get passengers quicker to their destinations. Route A weekday has an average on-time performance score for the system at 63%.

#### Route A Saturday

Route A Saturday has 21 daily boardings and 7.0 boardings per hour, below the system-wide average. Ridership is highest on the mid-day trip at 12:40 p.m., and lowest on the first and last trip of the day, 10:00 a.m. and 3:20 p.m. The highest number of boardings occur at the transit center. Many stops along the Saturday route have zero boardings. The most productive segment of the route is Dels Lane and Hawkeye Avenue to Walnut Road and Main Street with 12.8

boardings per hour. The least productive segment is Colorado Avenue and Canal Drive to Dels Lane and Hawkeye Avenue with 1.1 boardings per service hour. Saturday Route A runs every 80 minutes, with five trips per Saturday. On-time performance for Route A Saturday is 52%, which is the lowest in the system.

Figure 31      Route A Weekday Boardings by Trip

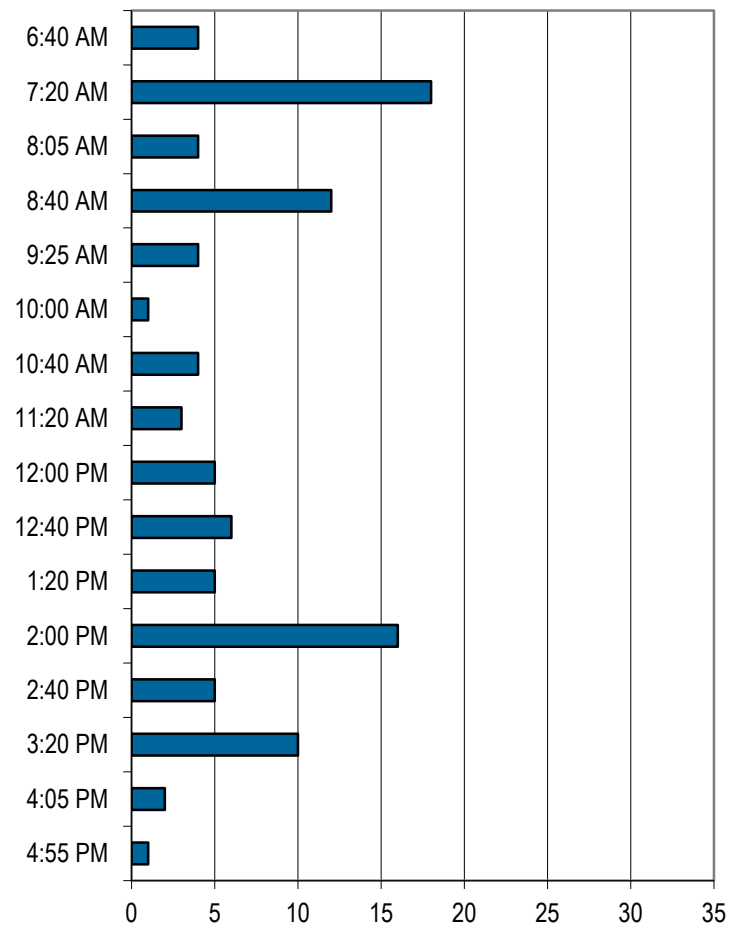
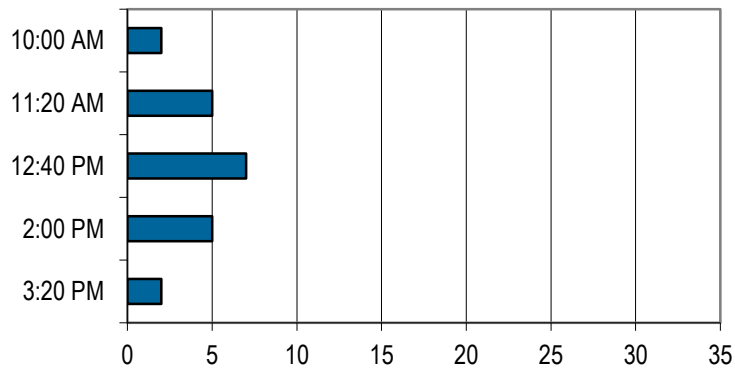


Figure 32      Route A Saturday Boardings by Trip



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City of Turlock

Figure 33 Route A Weekday Ridership by Stop



## Route B

### Description

Route B consists of a 40-to-50-minute loop that starts and ends at Turlock Regional Transit Center. The route travels clockwise through the north and west sides of the city. Route B operates in an outbound direction using Fulkerth Road, Countryside Drive, Monte Vista Avenue, Golden State Boulevard, Christoffersen Parkway, Crowell Road, Monte Vista Avenue, Geer Road, Tuolumne Road, Colorado Avenue, Hawkeye Avenue, Olive Avenue, and Golden State Boulevard, ending at the transit center.

Route B serves local shopping amenities such as Walmart, Target, Safeway and retail on Geer Road. The route also serves many schools including CSU Stanislaus, Turlock Middle School, Dutcher Middle School, and Emanuel Medical Center.

Route Characteristics	
Stops	33
Route Length (miles)	9.5
Stop Spacing (miles)	0.29
Weekday	
Ridership (boardings)	105
Productivity (boardings per hour)	10.7
On-Time Performance	24%
Saturday	
Ridership	19
Productivity (boardings per hour)	6.5
On-Time Performance	60%

### Performance

#### Route B Weekday

Route B has 105 weekday daily boardings and 10.7 boardings per hour, below the system-wide weekday average of 13.0. Ridership spikes on the 7:20 a.m., 8:40 a.m., and 2:40 p.m., trips with 13, 11, and 10 boardings respectively. The lowest performing trips are at 12:40 p.m., and 4:55 p.m. both with 2 boardings. The highest number of boardings occurs at the transit center, with other high ridership stops at Safeway & Target, Golden State Boulevard and Canal Drive, and Olive Avenue and Golden State Boulevard. The most productive segment of the route is Dels Lane and Hawkeye Avenue to Countryside Drive and Monte Vista Avenue with 17.6 boardings per hour. The least productive segment of the route is Olive Avenue and Wayside Drive to Dels Lane and Hawkeye Avenue with 8.0 boardings per hour.

The route crosses railroad tracks, which is a barrier and affects on-time performance. Because the route loops in one direction, it may be inconvenient for some passengers who need to travel in the opposite direction of the loop and must ride the majority of the route and lengthen their trip. A bi-directional route may be easier for passengers to understand and get passengers quicker to their destinations. Route B weekday has the lowest on-time performance score for the system at 24%.

#### Route B Saturday

Route B Saturday has 19 daily boardings and 6.5 boardings per hour, below the system-wide average. Ridership is highest on the last trip at 2:40 p.m., and lowest, with zero, on the first trip of the day, 9:25 a.m. The highest number of boardings occur at the transit center. Many stops along the Saturday route have a low number of boardings. The most productive segment of the route is Dels Lane and Hawkeye Avenue to Countryside Drive and Monte Vista Avenue with 16.8



boardings per hour. The least productive segment is Geer Road and Regis Street to Olive Avenue and Wayside Drive with 2.7 boardings per service hour. Saturday Route B runs every 80 minutes, with five trips per Saturday. On-time performance for Route B Saturday is 60%, which is the lower half of all the routes in the system.

Figure 34      Route B Weekday Boardings by Trip

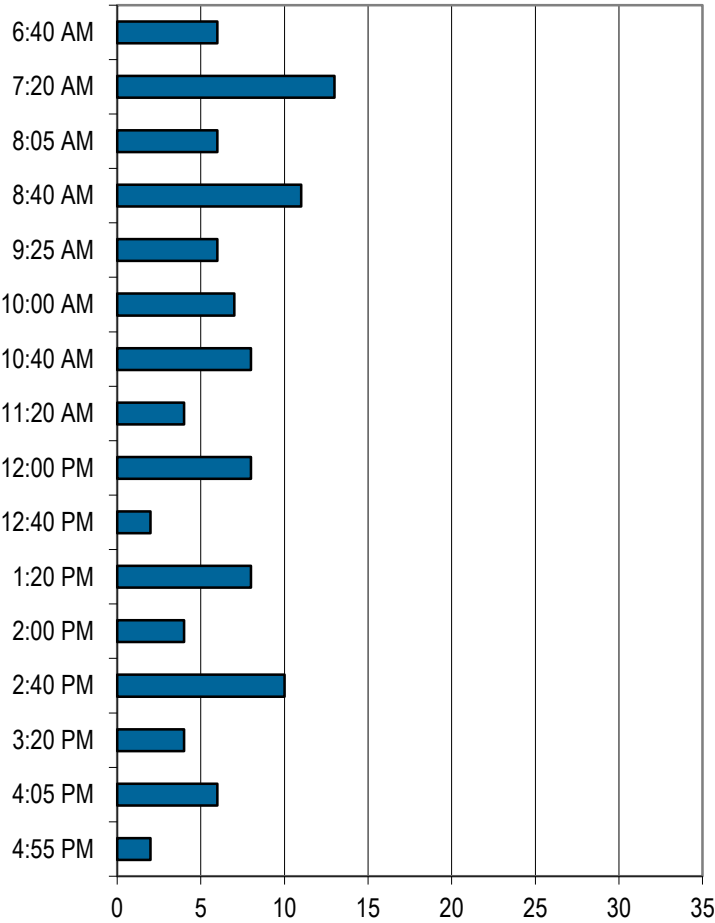
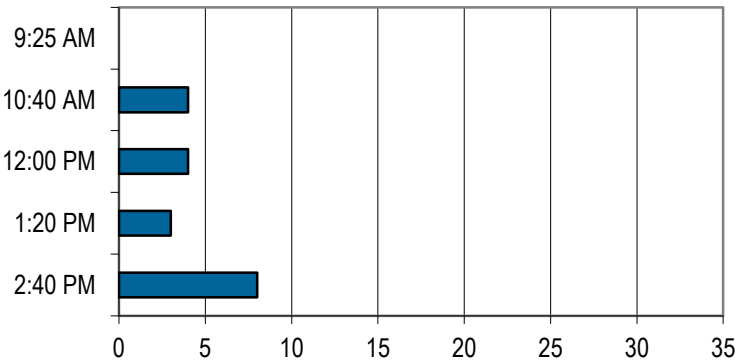
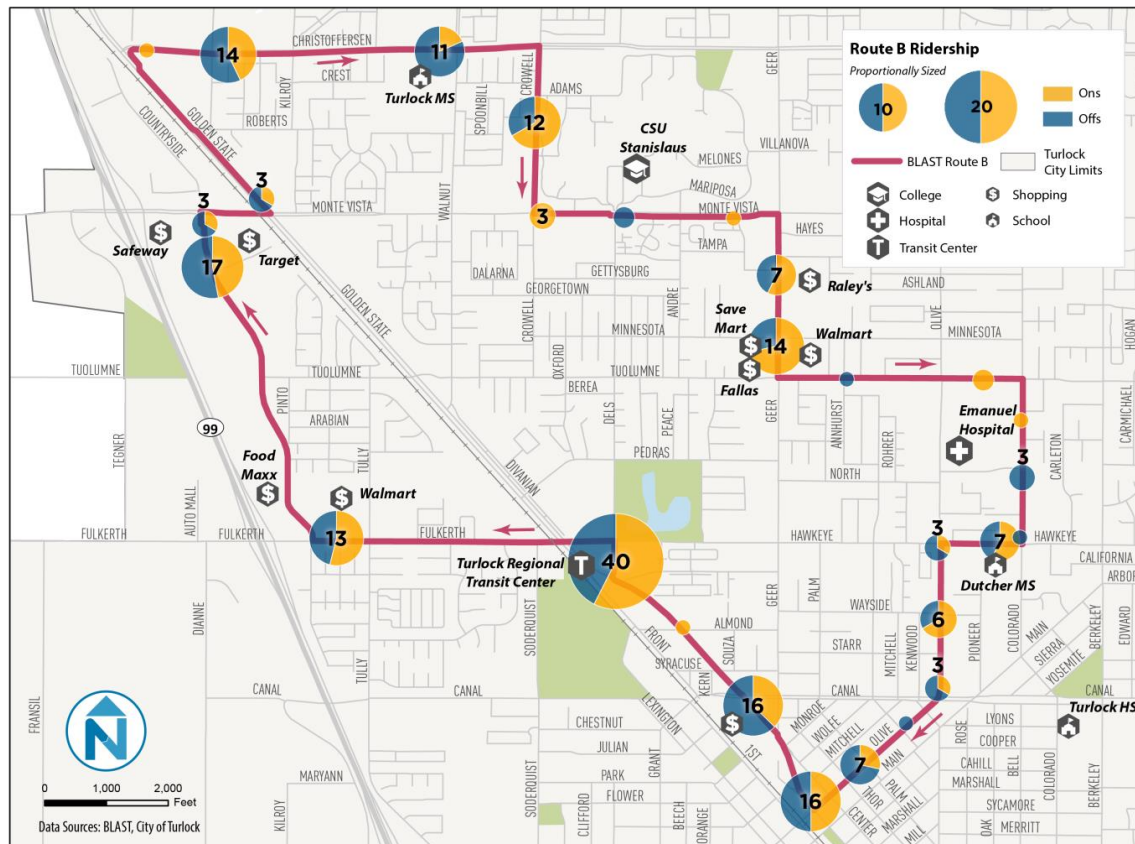


Figure 35      Route B Saturday Boardings by Trip



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City of Turlock

**Figure 36      Route B Weekday Ridership by Stop**



## Route C

### Description

Route C consists of a 40-to-50-minute loop that starts and ends at Turlock Regional Transit Center. The route travels counterclockwise through the north side of the city. Route C operates in an outbound direction using Hawkeye Avenue, Geer Road, Monte Vista Avenue, Olive Avenue, Christoffersen Parkway, Golden State Boulevard, Monte Vista Avenue, then completes and out-and-back on Tegner Road, Monte Vista Avenue, Countryside Drive, Tuolumne Road, Tully Road, Fulkerth Road and Golden State Boulevard, ending at the transit center.

Route C serves local shopping amenities such as Safeway, Target, Walmart, and retail on Geer Road. The route also serves schools including CSU Stanislaus, Turlock Middle School, and Pitman High School.

Route Characteristics	
Stops	28
Route Length (miles)	9.9
Stop Spacing (miles)	0.35
Weekday	
Ridership (boardings)	117
Productivity (boardings per hour)	9.8
On-Time Performance	20%
Saturday	
Ridership (boardings)	31
Productivity (boardings per hour)	10.3
On-Time Performance	72%

### Performance

#### Route C Weekday

Route A has 117 weekday daily boardings and 9.8 boardings per hour, below the system-wide weekday average of 13.0. Ridership is highest on the 2:40 p.m. and 4:05 p.m., trips with 14 and 12 boardings. The lowest performing trips are at 7:20 a.m. and 10:00 a.m. with 3 and 4 boardings. The highest number of boardings occurs at the transit center, with other high ridership stops at North Avenue and Geer and Tuolumne Road and Geer Road. The most productive segment of the route is Dels Lane and Hawkeye Avenue to Geer Road and Regis Street with 30.3 boardings per hour. The least productive segment of the route is Christoffersen Parkway and Crowell Road to Tegner Road south of Powers Court with 7.2 boardings per hour.

The route crosses railroad tracks, which is a barrier and affects on-time performance. Single direction loops can be challenging to riders to make efficient trips to their destinations. Additionally, with the turnaround on Tegner Road to serve shopping destinations causes that portion of the route to be indirect. Route C weekday has the second-highest on-time performance score for the system at 72%.

#### Route C Saturday

Route C Saturday has 31 daily boardings and 10.3 boardings per hour, below the system-wide average. Ridership is highest on the first trip at 10:00 a.m., and lowest, on the last trip of the day, 3:20 p.m. The highest number of boardings occur at the transit center. Many stops along the Saturday route have a low number of boardings. The most productive segment of the route is Dels Lane and Hawkeye Avenue to Geer Road and Regis Street with 42.2 boardings per hour. The least productive segment is Christoffersen Parkway and Crowell Road to Tegner south of Powers Court with 0.0 boardings per service hour.

Saturday Route C runs every 80 minutes, with five trips per Saturday. On-time performance for Route C Saturday is 72%, which is the upper half of all the routes in the system.

Figure 37      Route C Weekday Boardings by Trip

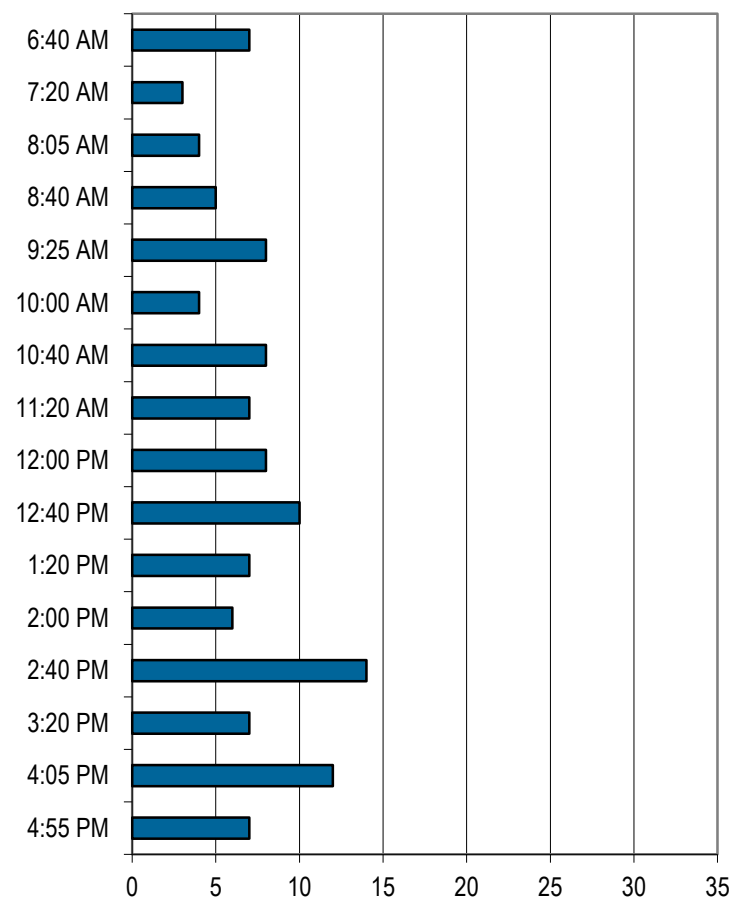
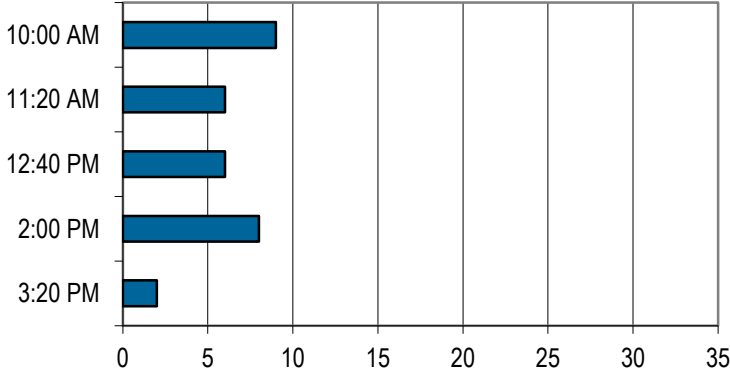


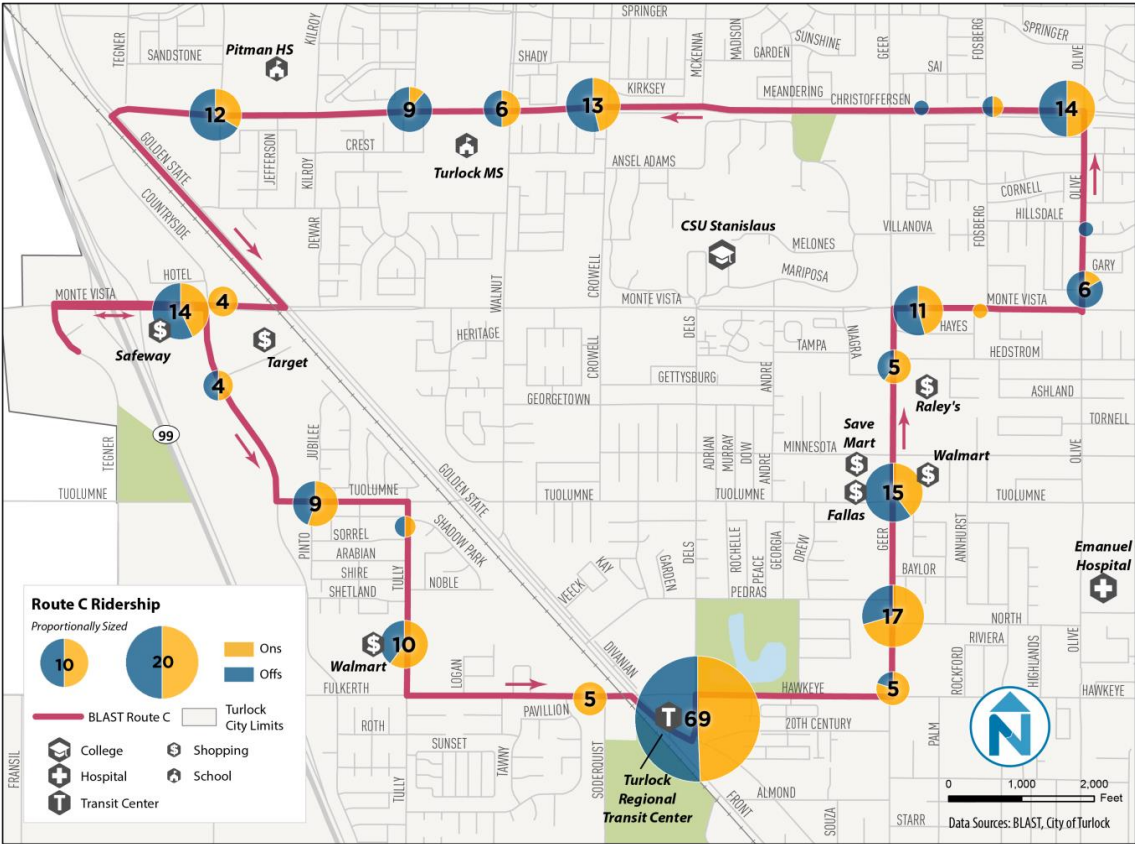
Figure 38      Route C Saturday Boardings by Trip





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City of Turlock

Figure 39 Route C Weekday Ridership by Stop



## Route D

### Description

Route D consists of a 40-to-50-minute loop that starts and ends at Turlock Regional Transit Center. The route travels counterclockwise through the south side of the city. Route D operates in an outbound direction using Fulkerth Road, Soderquist Road, Main Street, West Avenue, Linwood Avenue, Golf Road, Berkeley Avenue, Alpha Road, East Avenue, Johnson Road, Canal Drive, Colorado Avenue, Delbon Avenue, and Hawkeye Avenue, Geer Road, and 20<sup>th</sup> Century Boulevard, ending at the transit center.

Route D serves schools including Turlock High School, Dutcher Middle School and local shopping amenities such as Turlock Flea Market (Tuesdays), Grocery Outlet and Save Mart. The route also serves Emanuel Medical Center.

Route Characteristics	
Stops	36
Route Length (miles)	8.8
Stop Spacing (miles)	0.24
Weekday	
Ridership	191
Productivity (boardings per hour)	19.4
On-Time Performance	37%
Saturday	
Ridership	21
Productivity (boardings per hour)	7.2
On-Time Performance	80%

### Performance

#### Route D Weekday

Route D has 191 weekday daily boardings and 19.4 boardings per hour, above the system-wide weekday average of 13.0. Ridership is highest on the 2:00 p.m., 7:20 a.m., and 6:40 a.m. trips with 31, 25, and 22 boardings respectively. The lowest performing trips are at 1:20 p.m. and 4:55 p.m., and 8:40 a.m. with 4, 5, and 5 boardings respectively. The highest number of boardings occurs at the transit center, with other high ridership stops near Turlock High School and along Linwood Avenue. The most productive segment of the route is Dels Lane and Hawkeye Avenue to West Avenue and South Avenue with 47.8 boardings per hour. The least productive segment of the route is Canal Drive and Colorado Avenue to Dels Lane and Hawkeye Avenue with 10.5 boardings per hour.

The route crosses railroad tracks three times, which is a barrier and impacts on-time performance. This route is popular among students, especially those living close to Linwood Avenue. Route D also serves the Turlock Flea Market on Tuesdays, which generates significant ridership on the morning and early afternoon trips at the Johnson and East stop. Route D weekday has the second-lowest on-time performance score for the system at 37%.

#### Route D Saturday

Route C Saturday has 21 daily boardings and 7.2 boardings per hour, below the system-wide average. Ridership is highest on the first trip at 9:25 a.m., and lowest on the 1:20 p.m. trip. Many stops along the Saturday route have a low number of boardings. The most productive segment of the route is Dels Lane and Hawkeye Avenue to West Avenue and South Avenue with 10.0 boardings per hour. The least productive segment is Canal Drive and Colorado Avenue to Dels Lane and Hawkeye Avenue with 4.4 boardings per service hour. Saturday Route D runs every 80

minutes, with five trips per Saturday. Given that this route serves many students during the week, the Saturday route has low ridership. On-time performance for Route D Saturday is 80%, which is the highest of all the routes in the system.

Figure 40      Route D Weekday Boardings by Trip

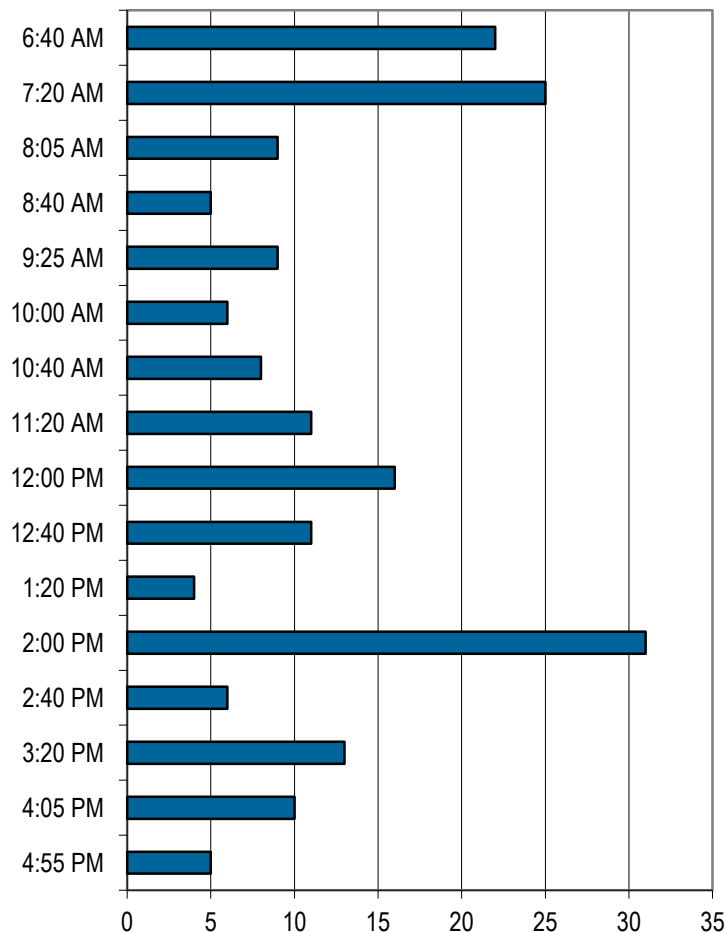


Figure 41      Route D Saturday Boardings by Trip

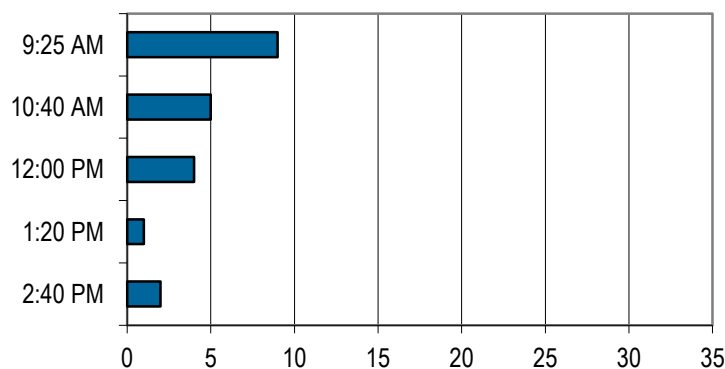
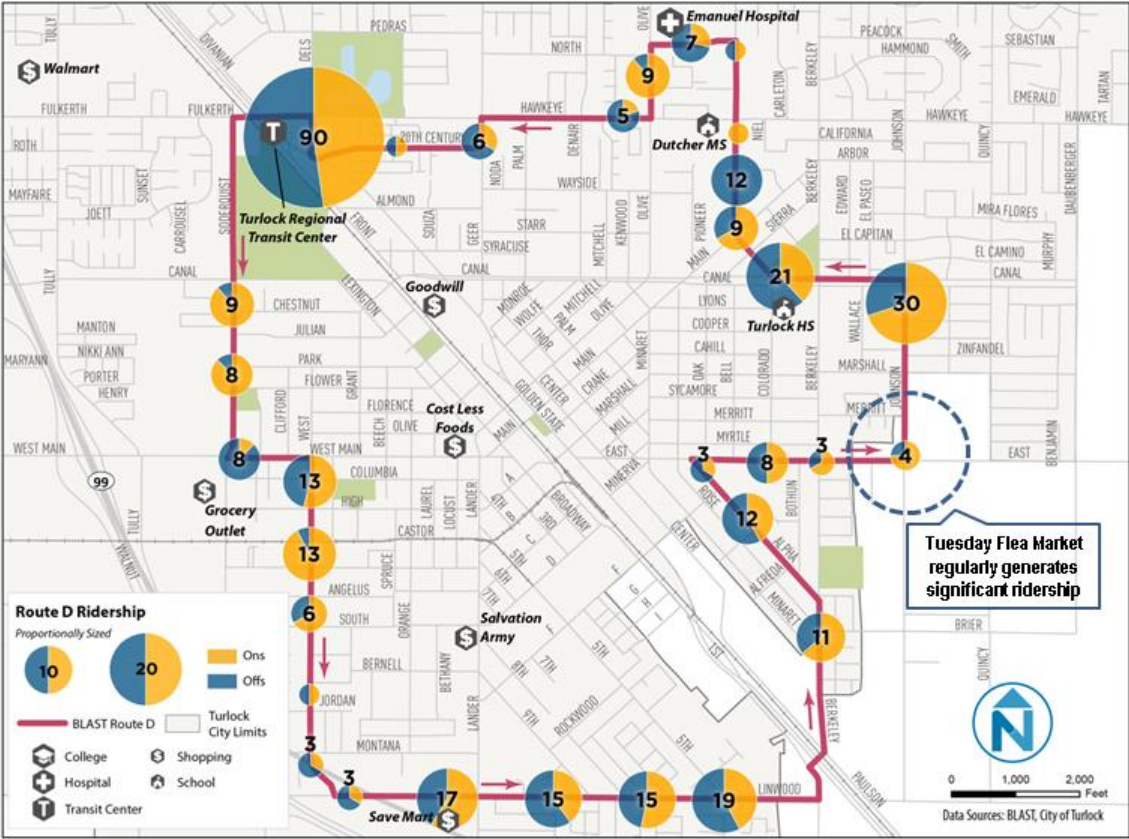


Figure 42      Route D Weekday Ridership by Stop



## JANUARY 2016 SERVICE CHANGES

Recent changes to the BLAST bus schedules included later evening service and added Saturday service. Service changes went into effect on January 11, 2016.

Adjustments to weekday headways resulted in the last trip being pushed back to 5:55 p.m., a full hour later than the prior to the service change. The later trip concludes at the transit center at 6:30 p.m. This change is intended to better serve employees working into the early evening. Though no additional trips were added in this change, layover time at the transit center will be standardized, which will have a positive impact on on-time performance. Three midday trips were added to each route on Saturdays, decreasing the headway from 75/80 minutes to 40 minutes. Current schedules are depicted in Figure 43.

Two routes were realigned in January 2016. Segments of Routes A and D were swapped to balance running time. Route A now serves Dutcher Middle School and Emanuel Medical Center while Route D serves the Turlock Irrigation District.

Figure 43 Current BLAST Schedules (Effective January 11, 2016)

Route A Timetable						Route B Timetable						Route C Timetable						Route D Timetable					
Transit Center A1						Transit Center B1						Transit Center C1						Transit Center D1					
A2						B2						C2						D2					
A3						B3						C3						D3					
A4						B4						C4						D4					
A5						B5						C5						D5					
(Shaded Runs also show Saturday Service)						(Shaded Runs also show Saturday Service)						(Shaded Runs also show Saturday Service)						(Shaded Runs also show Saturday Service)					
1	6:30 AM	6:39 AM	6:47 AM	6:57 AM	7:10 AM	1	6:30 AM	6:36 AM	6:48 AM	6:58 AM	7:10 AM	1	6:30 AM	6:37 AM	6:47 AM	6:57 AM	7:10 AM	1	6:30 AM	6:37 AM	6:48 AM	6:58 AM	7:10 AM
2	7:15 AM	7:25 AM	7:32 AM	7:42 AM	7:55 AM	2	7:15 AM	7:21 AM	7:33 AM	7:43 AM	7:55 AM	2	7:15 AM	7:21 AM	7:31 AM	7:41 AM	7:55 AM	2	7:15 AM	7:22 AM	7:33 AM	7:43 AM	7:55 AM
3	8:00 AM	8:09 AM	8:16 AM	8:24 AM	8:35 AM	3	8:00 AM	8:05 AM	8:16 AM	8:25 AM	8:35 AM	3	8:00 AM	8:05 AM	8:13 AM	8:22 AM	8:35 AM	3	8:00 AM	8:06 AM	8:15 AM	8:24 AM	8:35 AM
4	8:50 AM	8:59 AM	9:06 AM	9:14 AM	9:25 AM	4	8:50 AM	8:55 AM	9:06 AM	9:15 AM	9:25 AM	4	8:50 AM	8:55 AM	9:03 AM	9:12 AM	9:25 AM	4	8:50 AM	8:56 AM	9:05 AM	9:14 AM	9:25 AM
5	9:30 AM	9:39 AM	9:46 AM	9:54 AM	10:05 AM	5	9:30 AM	9:35 AM	9:46 AM	9:55 AM	10:05 AM	5	9:30 AM	9:35 AM	9:43 AM	9:52 AM	10:05 AM	5	9:30 AM	9:36 AM	9:45 AM	9:54 AM	10:05 AM
6	10:10 AM	10:19 AM	10:26 AM	10:34 AM	10:45 AM	6	10:10 AM	10:15 AM	10:26 AM	10:35 AM	10:45 AM	6	10:10 AM	10:15 AM	10:23 AM	10:32 AM	10:45 AM	6	10:10 AM	10:16 AM	10:25 AM	10:34 AM	10:45 AM
7	10:50 AM	10:59 AM	11:07 AM	11:17 AM	11:30 AM	7	10:50 AM	10:56 AM	11:08 AM	11:18 AM	11:30 AM	7	10:50 AM	10:57 AM	11:07 AM	11:17 AM	11:30 AM	7	10:50 AM	10:57 AM	11:08 AM	11:18 AM	11:30 AM
8	11:35 AM	11:44 AM	11:52 AM	12:02 PM	12:15 PM	8	11:35 AM	11:41 AM	11:53 AM	12:03 PM	12:15 PM	8	11:35 AM	11:42 AM	11:52 AM	12:02 AM	12:15 PM	8	11:35 AM	11:42 AM	11:53 AM	12:03 PM	12:15 PM
9	12:20 PM	12:29 PM	12:37 PM	12:47 PM	1:00 PM	9	12:20 PM	12:26 PM	12:38 PM	12:48 PM	1:00 PM	9	12:20 PM	12:27 PM	12:37 PM	12:47 PM	1:00 PM	9	12:20 PM	12:27 PM	12:38 PM	12:48 PM	1:00 PM
10	1:05 PM	1:14 PM	1:22 PM	1:32 PM	1:45 PM	10	1:05 PM	1:11 PM	1:23 PM	1:33 PM	1:45 PM	10	1:05 PM	1:12 PM	1:22 PM	1:32 PM	1:45 PM	10	1:05 PM	1:12 PM	1:23 PM	1:33 PM	1:45 PM
11	1:55 PM	2:04 PM	2:12 PM	2:22 PM	2:35 PM	11	1:55 PM	2:01 PM	2:13 PM	2:23 PM	2:35 PM	11	1:55 PM	2:02 PM	2:12 PM	2:22 PM	2:35 PM	11	1:55 PM	2:02 PM	2:13 PM	2:23 PM	2:35 PM
12	2:40 PM	2:49 PM	2:57 PM	3:07 PM	3:20 PM	12	2:40 PM	2:46 PM	2:58 PM	3:08 PM	3:20 PM	12	2:40 PM	2:47 PM	2:57 PM	3:07 PM	3:20 PM	12	2:40 PM	2:47 PM	2:58 PM	3:08 PM	3:20 PM
13	3:25 PM	3:36 PM	3:45 PM	3:55 PM	4:10 PM	13	3:25 PM	3:32 PM	3:45 PM	3:55 PM	4:10 PM	13	3:25 PM	3:32 PM	3:44 PM	3:54 PM	4:10 PM	13	3:25 PM	3:33 PM	3:45 PM	3:56 PM	4:10 PM
14	4:25 PM	4:34 PM	4:42 PM	4:52 PM	5:05 PM	14	4:25 PM	4:31 PM	4:43 PM	4:53 PM	5:05 PM	14	4:25 PM	4:32 PM	4:42 PM	4:52 PM	5:05 PM	14	4:25 PM	4:32 PM	4:43 PM	4:53 PM	5:05 PM
15	5:10 PM	5:19 PM	5:27 PM	5:37 PM	5:50 PM	15	5:10 PM	5:16 PM	5:28 PM	5:38 PM	5:50 PM	15	5:10 PM	5:17 PM	5:27 PM	5:37 PM	5:50 PM	15	5:10 PM	5:17 PM	5:28 PM	5:38 PM	5:50 PM
16	5:55 PM	6:04 PM	6:11 PM	6:19 PM	6:30 PM	16	5:55 PM	6:00 PM	6:11 PM	6:20 PM	6:30 PM	16	5:55 PM	6:00 PM	6:08 PM	6:17 PM	6:30 PM	16	5:55 PM	6:01 PM	6:10 PM	6:19 PM	6:30 PM

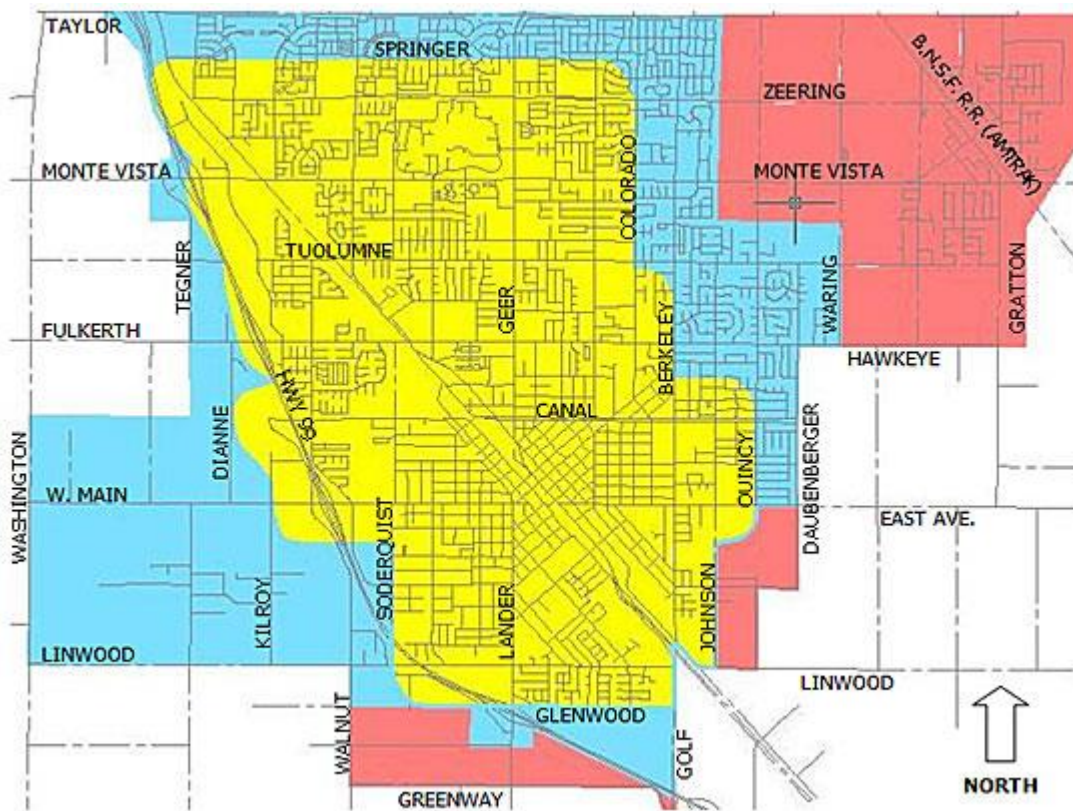


## DIAL-A-RIDE TURLOCK (DART)

The DART Dial-A-Ride Turlock system provides service for people over 65 and those with disabilities. For all other passengers, DART is limited to only those trips going or coming from outside the BLAST service area and to elementary students going to or from school. A system map for DART can be found in Figure 44. The yellow area represents the BLAST service area, with the blue area representing Turlock city limits. DART trips inside the yellow or blue areas cost \$2.50 per trip. The red area represents outside Turlock city limits, where DART service is also available at \$3.50 per trip. DART service hours are 6:40 a.m. to 5:30 p.m. weekdays and 9:25 a.m. to 4:00 p.m. on Saturday. DART also provides service to Denair on weekdays from 9:00 a.m. to 4:00 p.m. and on Saturday from 9:30 a.m. to 3:30 p.m.



Figure 44 DART Service Area Map



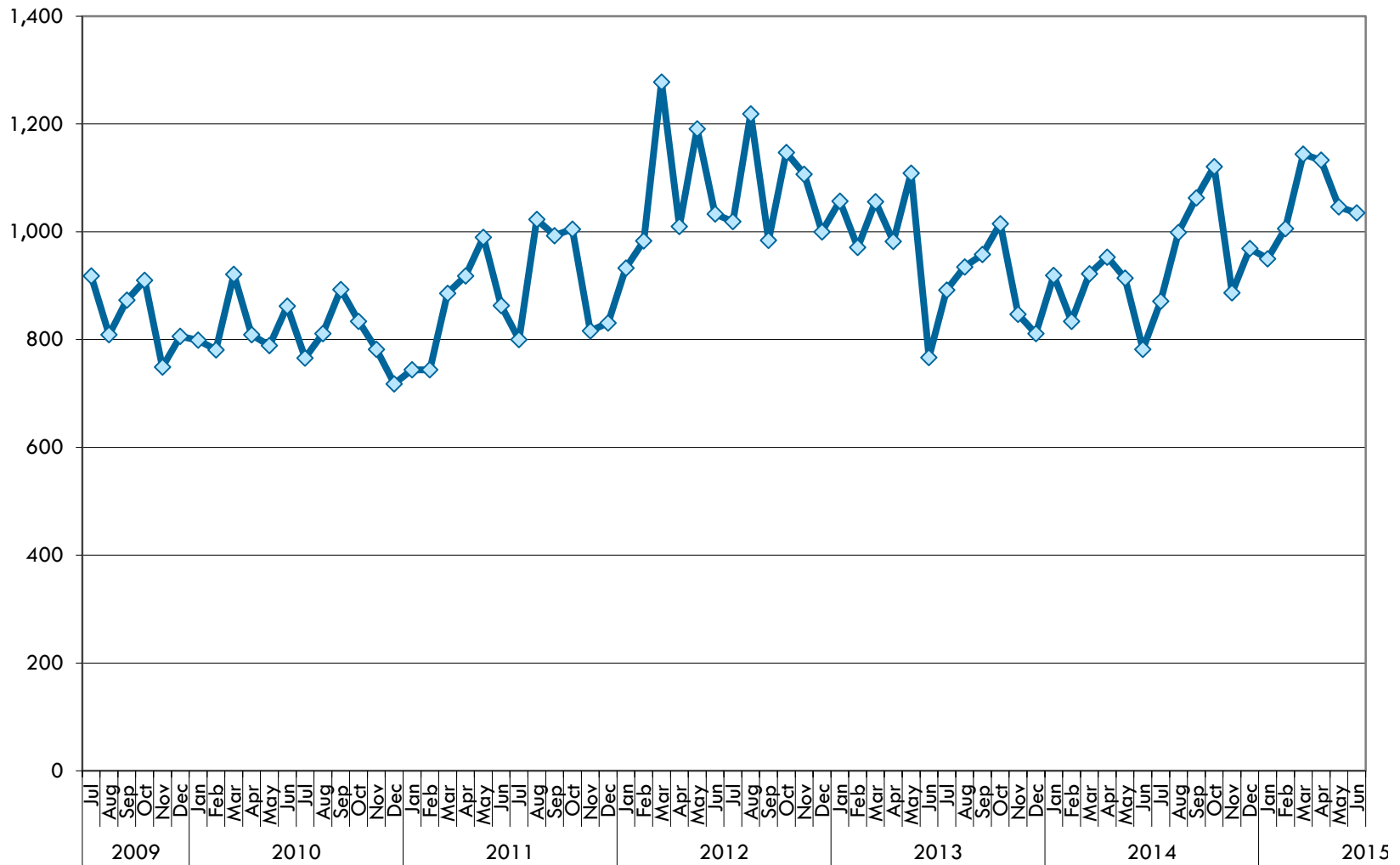
Source: City of Turlock

Monthly historical ridership from July 2009 to June 2015 can be found in Figure 45. Monthly ridership is higher in the fall and spring months with the lowest ridership in the winter, coinciding roughly with the school year. The highest monthly ridership since 2009 is March 2012 with 1,278 riders. The DART annual historical ridership data can be found in Figure 46. Annual ridership has been increasing since 2009, with the exception of the 2013-2014 year, which dipped to 10,782 riders. The most recent data available for July 1<sup>st</sup> to June 30<sup>th</sup> for the 2014 – 2015 year is 12,224 riders.



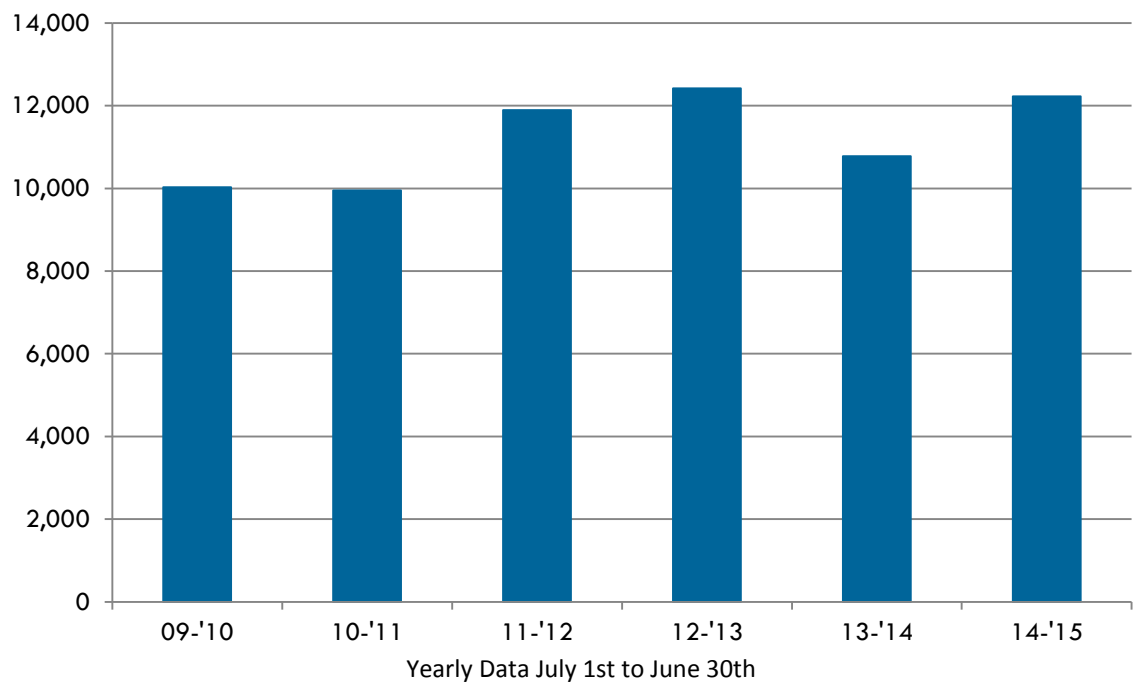
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City of Turlock

**Figure 45 DART Historical Ridership by Month**



Source: City of Turlock

Figure 46     DART Historical Ridership by Year



Source: City of Turlock

## DART Fare Structure

DART service is free for children under the age of 4, which is consistent with the BLAST fare structure. The price of single-ride fares and ticket books differ if trips are made within or outside Turlock City Limits.

**Figure 47      BLAST Fare Structure**

Fare Type	Price
<b>DART Fares</b>	
0 - 3 years (limit of 2 free per adult)	Free
4 years and older (trips in Turlock)	\$2.50
4 years and older (trips outside Turlock)	\$3.50
<b>DART Ticket Books</b>	
In Turlock	\$25.00
Outside Turlock	\$35.00
<b>DART Elementary Student Passes</b>	
Elementary 10 Trip DART Pass*	\$30.00

## **5 PEER SYSTEM REVIEW**

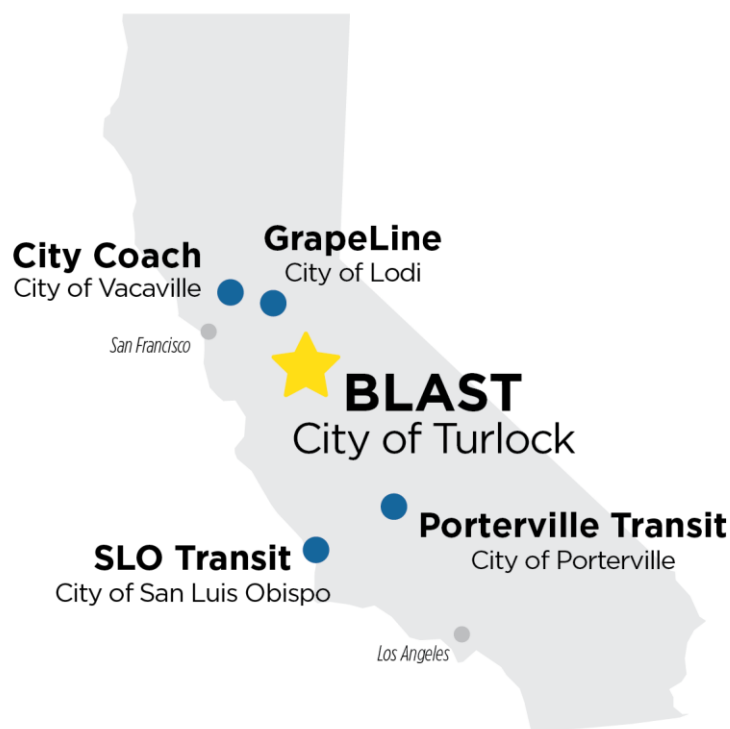
Peer system reviews compare transit agencies with similar characteristics along various indicators in order to better understand their strengths and opportunities.

This peer review assesses the (1) availability of transit service, (2) ridership, (3) fares, and (4) operating expenses for BLAST, as well as four transit systems in California with similar characteristics. It focuses on fixed-route transit operations. Demand-response services (e.g. dial-a-ride shuttles) are not included in this analysis.

### **PEER TRANSIT SYSTEMS**

The four transit systems used in this peer review include: Lodi Transit (GrapeLine) in the City of Lodi; Porterville Transit in the City of Porterville; San Luis Obispo Transit (SLO Transit) in the City of San Luis Obispo; and City Coach in the City of Vacaville. Each system operates in California. Aside from BLAST bus service in Turlock, the transit agencies also provide limited service to surrounding cities and townships. Figure 48 shows the location of each peer system, along with that of BLAST.

Figure 48 Peer System Locations within California



Peer systems were selected based on similar characteristics, such as primary city population, ridership, geographic location, and system type. For reference, Figure 49 lists basic demographic information for BLAST as well as the four peer agencies.

Figure 49 Peer Review Agencies

System Name	Location	Service Area Population	Service Area Square Miles	Population Density Persons per Square Mile
BLAST	Turlock, CA	87,867	22	3,994
Grape Line	Lodi, CA	64,000	17	3,765
Porterville Transit	Porterville, CA	75,961	28	2,713
SLO Transit	San Luis Obispo, CA	52,576	20	2,629
City Coach	Vacaville, CA	93,141	27	3,450

Source: NTD 2013 Transit Agency Profiles



## PEER AGENCY COMPARISONS

This review uses data from the National Transit Database (NTD)<sup>1</sup> to compare indicators among peers. It focuses on four topics: (1) availability of transit service, (2) ridership, (3) fares, and (4) operating expenses. To generate relevant indicators, the review draws primarily on four key performance variables from the NTD for 2013: ridership, revenue hours, operating expenses, and fare revenues. Figure 50 shows each variable along with its value for the five peer systems. This review also uses publicly-available fare and schedule information.

**Figure 50 Key Performance Variables (Fixed Route Service Only)**

System Name	Location	Ridership Annual Unlinked Passenger Trips	Revenue Hours Annual Vehicle Revenue Hours	Operating Expenses Annual Operating Expenses (\$)	Fare Revenues Annual Fare Revenues (\$)
BLAST	Turlock, CA	108,231	11,461	725,427	110,639
Grape Line	Lodi, CA	186,704	18,036	1,423,185	126,814
Porterville Transit	Porterville, CA	505,082	29,500	1,812,113	512,384
SLO Transit	San Luis Obispo, CA	1,109,559	32,586	3,309,674	654,900
City Coach	Vacaville, CA	508,247	37,119	1,698,066	353,654

Source: NTD 2013 Transit Agency Profiles

Each variable shown above is used to generate indicators for cross-agency comparisons. Specifically, the indicators respond to four topics selected to develop several insights about BLAST relative to its peers, as listed in Figure 51.

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<sup>1</sup> The federal government has required transit systems to report their operating data for many years. This data is available for nearly all United States systems in what is called the National Transit Database (NTD). Data used in this analysis is derived from NTD, with the most recent operational statistics coming from 2013.

**Figure 51      Topics and Indicators Used in the Peer Review**

Topic	Indicator(s)
Availability of Transit Service	<ul style="list-style-type: none"><li>▪ Revenue Hours per Capita</li><li>▪ Service Span</li></ul>
Ridership	<ul style="list-style-type: none"><li>▪ Ridership per Revenue Hour</li><li>▪ Ridership per Capita</li></ul>
Fares	<ul style="list-style-type: none"><li>▪ Base Single Ride Fares</li></ul>
Operating Expenses	<ul style="list-style-type: none"><li>▪ Operating Expenses per Passenger Trip</li><li>▪ Operating Expenses per Revenue Hour</li><li>▪ Farebox Recovery</li></ul>

The remainder of this section is organized along the topics specified in the table above: Availability of Transit Service; Ridership; Fares; and Operating Expenses.

## **Availability of Transit Service**

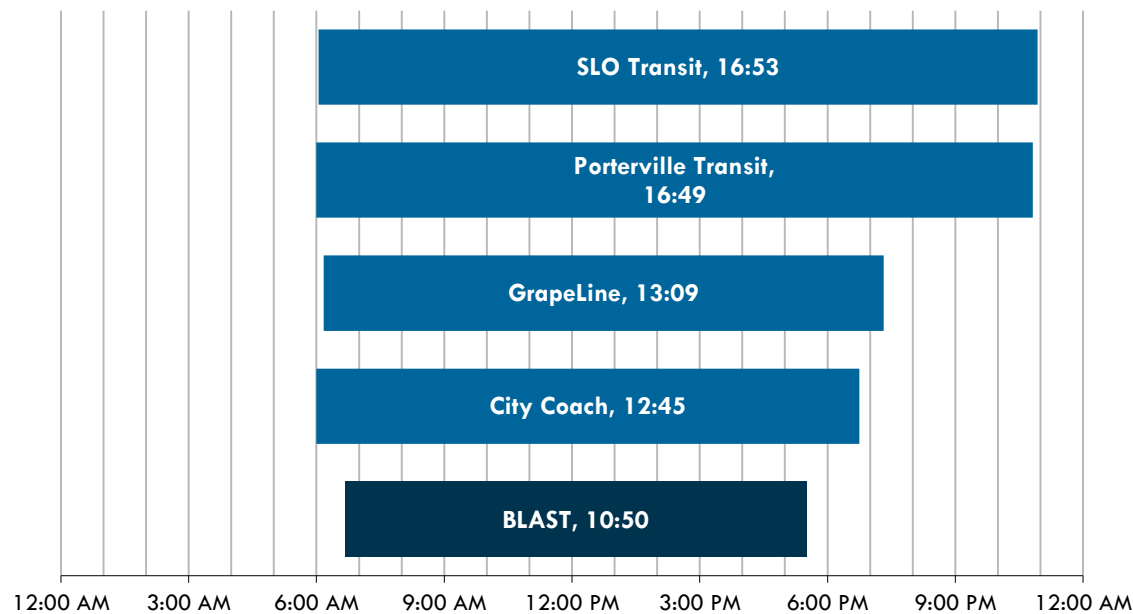
This review gauges the availability of transit in each system by two indicators: service span and revenue hours per capita. The former calculates the length of time (on weekdays and Saturdays) during which transit operates. The latter is the number of hours of service associated with all transit vehicles over the course of a year. This can be thought of as the existing level of transit investment for a system, from an operational perspective.

### **Service Span**

Service spans calculate the daily duration of transit availability, from the earliest departure until the latest arrival. Departure and arrival times are not necessarily drawn from the same line. This review focuses on weekday and Saturday service. (BLAST does not offer Sunday service.)

On weekdays, BLAST operates between 6:40 a.m. and 5:30 p.m., or 10 hours and 50 minutes. This is the shortest span of the five peer agencies. SLO Transit and Porterville Transit boast the longest spans, at nearly 17 hours each. GrapeLine and City Coach each operate for roughly 13 hours. Figure 52 reveals weekday service spans for the five transit systems.

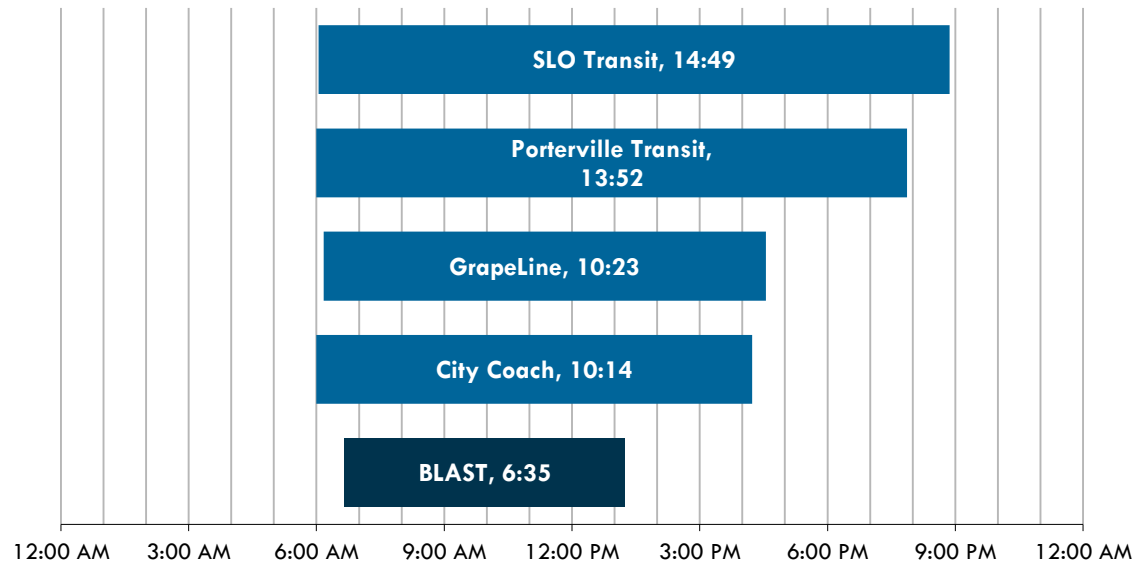
Figure 52      Weekday Service Span Comparison



Source: System specific websites, accessed December 2015

On Saturdays, BLAST operates between 9:25 a.m. and 4:00 p.m., or 6 hours and 35 minutes. Again, this is the shortest span of the five peer agencies. As with weekdays, SLO Transit and Porterville Transit have the highest Saturday spans, just shy of 15 and 14 hours respectively. GrapeLine (10:23) and City Coach (10:14) span over 10 hours of Saturday service each. Figure 53 shows Saturday service spans for each of the peers.

Figure 53      Saturday Service Span Comparison

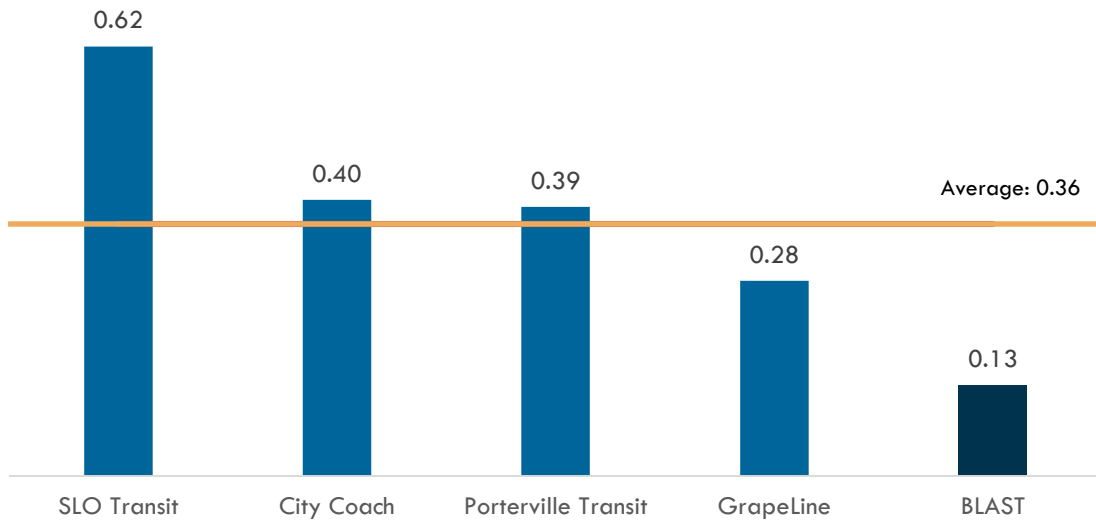


Source: System specific websites, accessed December 2015

## Revenue Hours per Capita

On a per capita basis the revenue hours for BLAST is 0.13, or 8 minutes. This is the lowest among the five agencies, and 35.9 percent of the peer average (0.36, or 22 minutes). By contrast, SLO Transit boasts the highest number of revenue hours per capita, at 0.62, or 37 minutes. SLO is followed by City Coach (0.40 hours), Porterville Transit (0.39 hours), and GrapeLine (0.28 hours). Figure 54 presents revenue hours per capita for BLAST and the four peer systems.

Figure 54 Revenue Hours per Capita



Source: NTD 2013 Transit Agency Profiles

BLAST has the lowest revenue hours per capita primarily due to its infrequent headways and short service span.

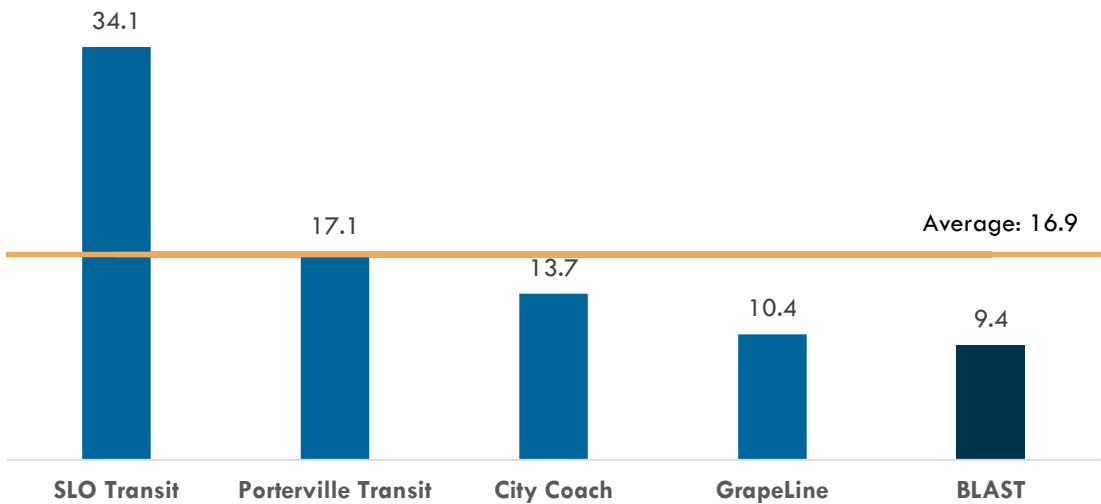
## Ridership

Ridership is measured in Annual Unlinked Passenger Trips. Two ridership indicators are particularly useful to understand the extent to which people take transit: ridership per revenue hour and ridership per capita. The former explains how many transit trips the system handles relative to the system's operational size. The latter reveals how many transit trips are taken per year per person, on average.

### Ridership per Revenue Hour

Ridership per revenue hour is an indicator that normalizes ridership by the operational size of a transit system. The number of trips per revenue hour for BLAST is 9.4—the lowest among the five peer systems. SLO Transit leads the pack with 34.1 trips per revenue hour. Porterville Transit, City Coach, and GrapeLine have 17.1, 13.7, and 10.4 trips per revenue hour respectively. Figure 55 presents this information for all five systems.

Figure 55 Ridership per Revenue Hour

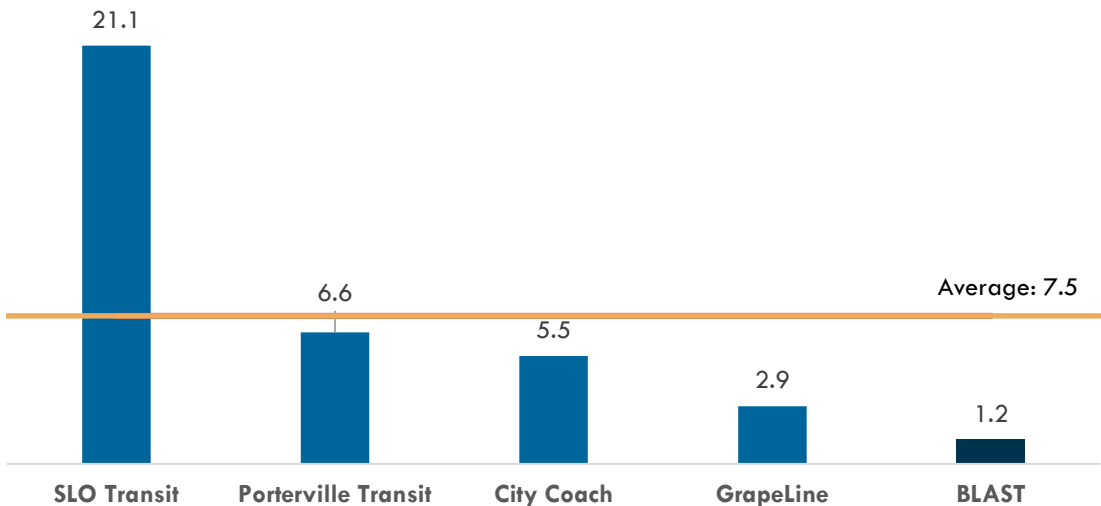


Source: NTD 2013 Transit Agency Profiles

Ridership per Capita

Ridership per capita measures how many transit trips are made by an individual within the transit system’s service area, on average, in a given year. For BLAST, annual ridership is 1.2 trips per capita. The highest number of trips per capita belongs to SLO Transit, at 21.1, followed by Porterville, at 6.6, City Coach, at 5.5, and GrapeLine, at 2.9. Figure 56 shows ridership per capita for each of the five systems.

Figure 56 Ridership per Capita



Source: NTD 2013 Transit Agency Profiles

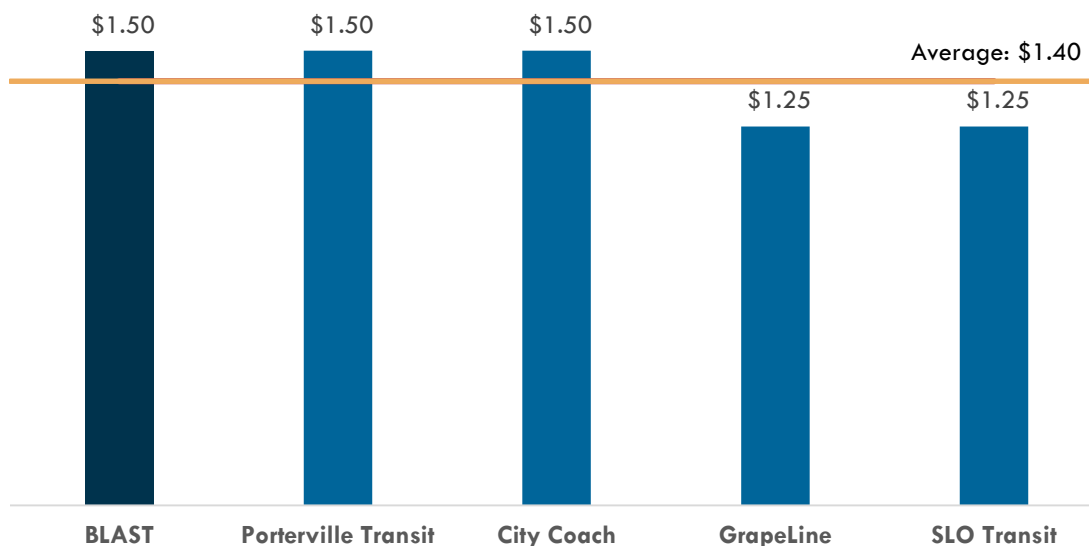
## Fares

Fares measure the cost of transit trips for passengers. This subsection deals with base single ride fares: the cost of a single one-way trip for an ordinary passenger.

### Base Single Ride Fares

Base single ride fares for BLAST, Porterville Transit, and City Coach are \$1.50 per trip. GrapeLine and SLO Transit have slightly lower fares, at \$1.25 each. Figure 57 presents single ride base fares for all five transit systems.

Figure 57 Single Ride Base Fare



Source: System specific websites, accessed December 2015

## Operating Expenses

This subsection compares operating expenses among the five peers on two bases: per passenger trip and per revenue hour. If fares measure the cost of *taking* a single transit trip, operating expenses per passenger trip measure the cost of *providing* a single transit trip. By contrast, operating expenses per revenue hour reveal the costs associated with providing one vehicle-hour of transit service.

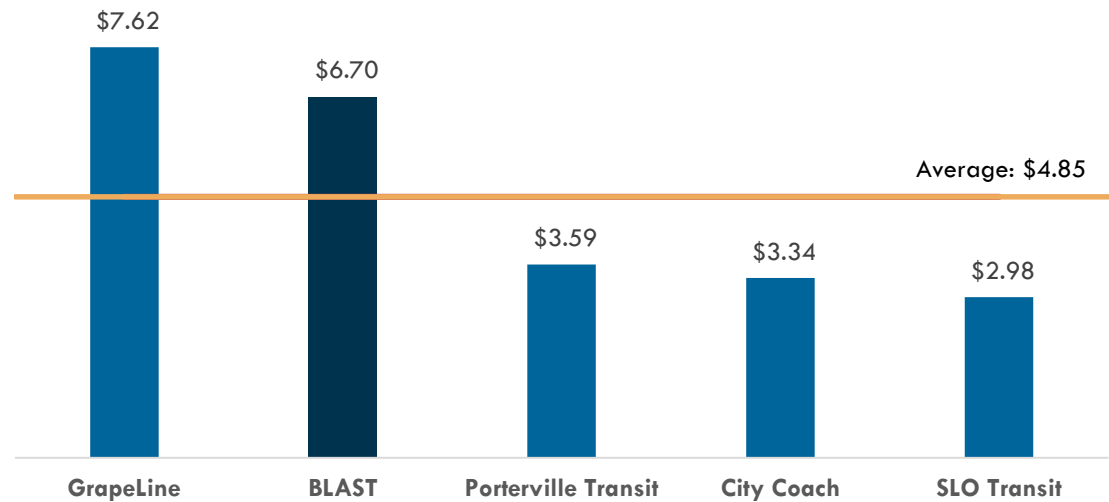
### Operating Expenses per Passenger Trip

Operating expenses per passenger trip illustrate the cost of providing, on average, one transit trip for one passenger. Measured in dollars, this value is almost always higher than fares, but typically within the same order of magnitude.

For BLAST, operating expenses per passenger trip are \$6.70, higher than all but GrapeLine (\$7.62). Operating expenses per passenger trip are lower for Porterville Transit (\$3.59), City Coach (\$3.34), and SLO Transit (\$2.98). The average among the five peers is \$4.85 per trip. Figure 17 shows this information for the five peer systems.



Figure 58      Operating Expenses per Passenger Trip



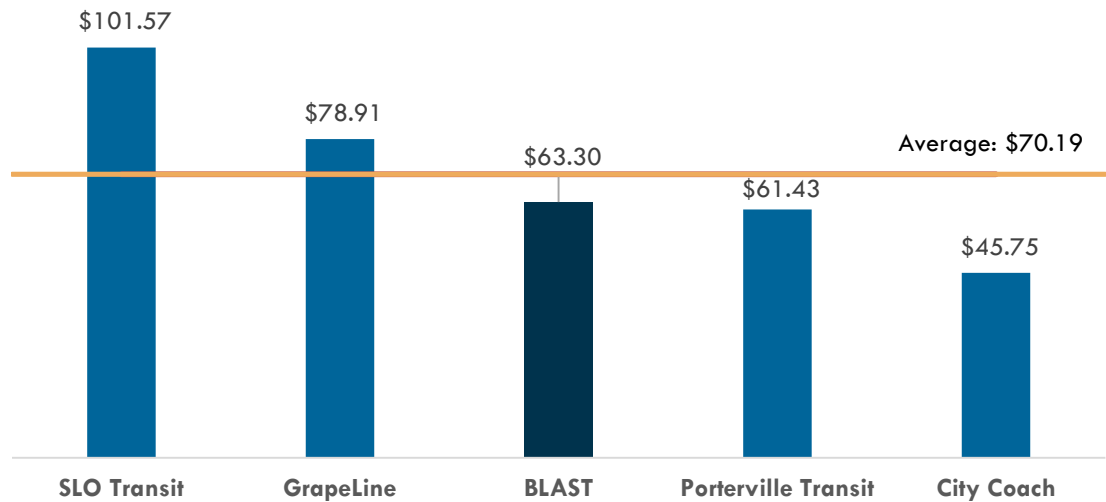
Source: NTD 2013 Transit Agency Profiles

**Operating Expenses per Revenue Hour**

In addition to measuring operating expenses on a per trip basis, it is also useful to understand them in relation to revenue hours. Operating expenses per revenue hour explain, on average, the cost to provide one vehicle-hour of transit service—regardless of how many passengers are taking transit. A low value can indicate either a high degree of automation or, more likely, an understaffed system.

For BLAST, operating expenses are \$63.30 per revenue hour. This is lower than SLO Transit (\$101.57) and GrapeLine (\$78.91), but higher than Porterville Transit (\$61.43) and City Coach (\$45.75). The average amongst peers is \$70.19. Figure 59 presents the operating expenses per revenue hour associated with the five systems.

Figure 59      Operating Expenses per Revenue Hour

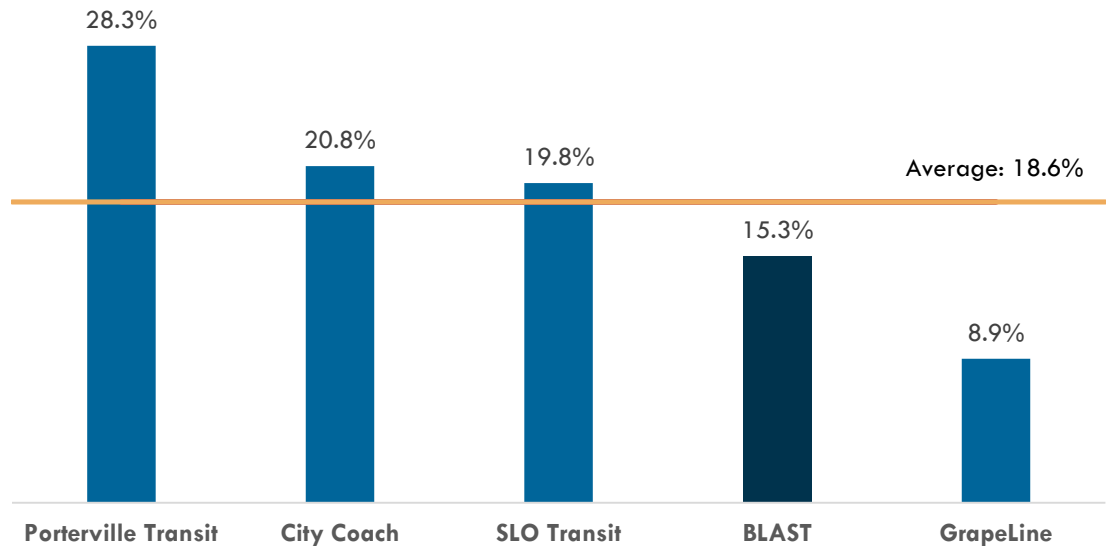


Source: NTD 2013 Transit Agency Profiles

**Farebox Recovery**

Farebox recovery calculates the proportion of operating expenses recovered by fare revenues. For BLAST, this number is 15.3 percent. Porterville Transit has the highest farebox recovery (28.3 percent) followed by City Coach (20.8 percent) and SLO Transit (19.8 percent). Grapeline has a lower farebox recovery than BLAST, at 8.9 percent. The average recovery for the five systems is 18.6 percent. The City of Turlock must meet 20% farebox ratio by July 1, 2016 based on California Transit Development Act (TDA). Figure 60 presents the farebox recovery for each system.

Figure 60      Farebox Recovery



Source: NTD 2013 Transit Agency Profiles

## SUMMARY

Among the peers, this review focuses on four topics associated with fixed-route service: (1) availability of transit service, (2) ridership, (3) fares, and (4) operating expenses. Demand-response services (e.g. dial-a-ride shuttles) are not included in this analysis. Figure 61 summarizes the key findings from each topic.

**Figure 61 Peer Review Key Findings**

Topic	Key Findings
Availability of Transit Service	<ul style="list-style-type: none"> <li>Revenue hours per capita for BLAST is the lowest among the peers, at 0.13. This is 35.9 percent of the peer average (0.36 hours per capita), and demonstrates a low operational level of service for BLAST relative to the peers. SLO Transit leads among peers, at 0.62 hours per capita.</li> <li>On weekdays, BLAST service spans 10 hours and 50 minutes. This is the shortest span of the five peer agencies. SLO Transit and Porterville Transit boast the longest spans, at nearly 17 hours each. GrapeLine and City Coach each operate for roughly 13 hours.</li> <li>On Saturdays, BLAST spans 6 hours and 35 minutes. Again, this is the shortest span of the five peer agencies. SLO Transit and Porterville Transit have the highest Saturday spans, just shy of 15 and 14 hours respectively. GrapeLine (10:23) and City Coach (10:14) span over 10 hours of Saturday service each.</li> <li>Turlock has the shortest span of its peers. Peer systems operate 2-6 more hours longer on weekdays and 4-8 hours longer on Saturday.</li> <li>Porterville, Lodi, and San Luis Obispo operate Sunday service. Turlock and Vacaville do not operate Sunday service.</li> </ul>
Ridership	<ul style="list-style-type: none"> <li>Ridership per revenue hour for BLAST is the lowest among the five systems, at 9.4 trips. This indicates that average ridership is low relative to (and perhaps because of) the amount of transit service that is available. Conversely, SLO Transit again leads the pack with 34.1 trips per revenue hour.</li> <li>At 1.2 yearly trips, ridership per capita is the lowest for BLAST relative to the five systems in this review. This shows that transit usage is low among Turlock residents. Ridership per capita is highest for SLO Transit (21.1 trips) followed by Porterville Transit (6.6 trips), City Coach (5.5 trips), and Lodi's GrapeLine (2.9 trips).</li> </ul>
Fares	<ul style="list-style-type: none"> <li>Base single ride fares for BLAST, Porterville Transit, and City Coach are \$1.50 per trip. GrapeLine and SLO Transit have slightly lower fares, at \$1.25 each.</li> </ul>
Operating Expenses	<ul style="list-style-type: none"> <li>For BLAST, operating expenses per passenger trip are \$6.70, higher than all but GrapeLine (\$7.62). For Porterville Transit (\$3.59), City Coach (\$3.34), and SLO Transit (\$2.98), operating expenses are lower per trip.</li> <li>Operating expenses are \$63.30 per revenue hour for BLAST: lower than SLO Transit (\$101.57) and GrapeLine (\$78.91), but higher than Porterville Transit (\$61.43) and City Coach (\$45.75).</li> <li>Farebox recovery for BLAST is 15.3 percent. Porterville Transit has the highest farebox recovery (28.3 percent) followed by City Coach (20.8 percent) and SLO Transit (19.8 percent). GrapeLine has a lower farebox recovery than BLAST, at 8.9 percent.</li> </ul>

## 6 OPERATOR FEEDBACK

The Nelson\Nygaard team interviewed bus operators on September 17 and 18, 2015 between 1:00 p.m. - 2:30 p.m. in the operator break room and solicited feedback regarding service issues, opportunities, and customer requests. The following summary is organized by category and represents a sample of approximately 10 bus operators with a wide range of experience operating BLAST routes.

### **Schedule adherence/on-time performance**

- On-time performance (OTP) was the primary topic of conversation for nearly all drivers. Drivers claim that the schedules are too tight, and that the bus will often get farther behind schedule as the day progresses. Other OTP related comments include:
  - Buses get stuck in school traffic
  - Buses get stuck in problematic intersections where it is hard to make a left turn
  - Buses get behind schedule with multiple wheelchair boardings
  - Afternoon shift drivers claim they do not have enough time to perform the mini pre-trip when switching shifts, often causing the trip to be late from the start
  - Buses will get held up with so many high school students boarding at the end of the school day (supposedly up to 10 minutes)
  - Schools get out early on Wednesdays.
  - The shortened runs (35 minutes) do not reflect realistic running times
  - Routes D and B have the most problems with OTP
  - Route D serves too many schools

### **Driver breaks**

- Drivers are currently scheduled to take breaks during the 8:40 a.m. trip and 4:05 p.m. trip
- Break locations vary by route.
- Sometimes drivers will skip their break because they are running late and/or they feel guilty about leaving passengers waiting on the bus
- Restrooms are included in the Turlock Regional Transit Center expansion plans (2017)

### **Driver Habits**

- There was an expressed need for consistency for the rules that drivers enforce (e.g., passengers should be able to carry all goods onto bus while boarding rather than exit the bus to load more items)
- Drivers sometimes made statements such as “I drop this passenger off here even though we don’t have a stop” or “I turn down this road instead because it’s wider.”

- Drivers are unable to/don't seem interested in enforcing age limits for payment (3 years and younger)

### **Customer requests/attributes**

- Passengers often say they wish service were bi-directional
- Passengers do not like only having the option to transfer at the transit center
  - Currently there is no mechanism to show time or direction on tickets
- Passengers will often game the system to “transfer” to a StaRT route in the return direction or to get on a StaRT route after BLAST service has ended

### **Saturday Service**

- People find the schedules confusing (alternating loops of A-D, B-C) and inconvenient (80 minute headways)
- Walmart is the top Saturday destination

### **Problem Intersections/Segments**

- Fulkerth and Golden State
- Christofferson and Fosberg
- Tuolumne and Olive
- Tuolumne until Colorado on B Route
- Students jaywalking on Crowell Road
  - Left turn onto Monte Vista causes conflicts with pork chop right turn
- Olive south of Canal Street is very narrow
  - Drivers often have to take both sides of the lane.

### **General Comments**

- Later service has not generated significant ridership in the past
- Taco Bell needs a stop on B route
- Buses breaking down is a major problem
- People transfer from Route A to Route D at Crane Park to get to the hospital
- Shoppers going to the swap meet come from as far as Patterson, Merced, Modesto
- Customers pay their bills at TID (Turlock Irrigation District) on Canal Dr
- Scott is looking to realign Route C from Christofferson between Crowell and Golden State
- Ridership has dropped dramatically with each fare increase
- Costco should be served with Dial-A-Ride

## 7 COMMUNITY FEEDBACK

Obtaining an understanding of community perceptions, needs, and priorities related to public transit in Turlock was an important step in the short-range transit plan process. This chapter summarizes results from an intercept survey, comments from open house events, and a community survey. Collectively, these inputs along with ridership, operational and market data were used to develop service alternatives.

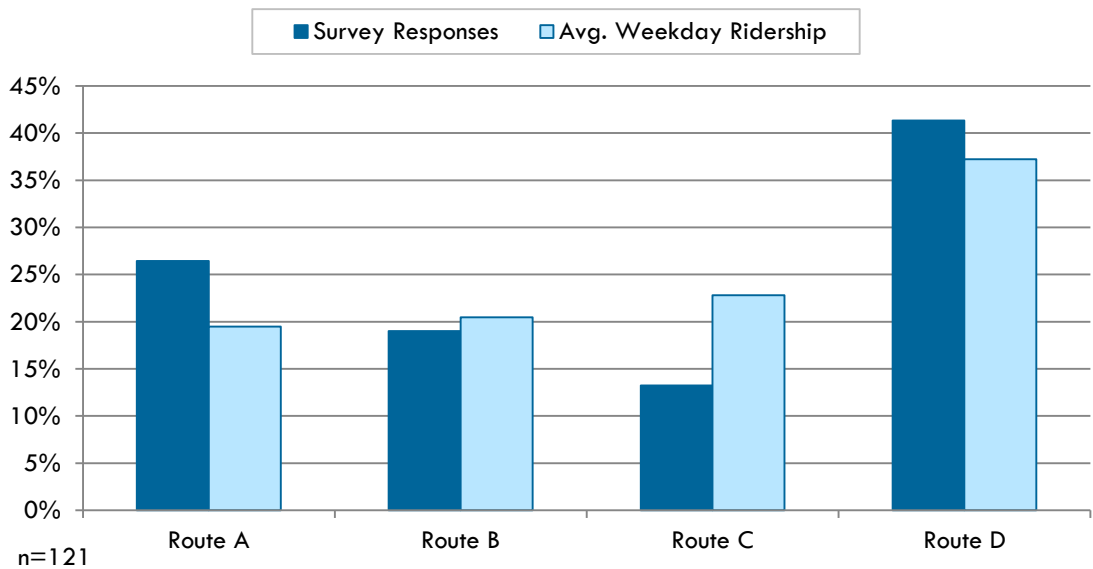
### INTERCEPT SURVEY RESULTS

In October 2015, a rider intercept survey was administered on board all four BLAST bus routes: Routes A, B, C, and D. The survey included a range of questions (in English and Spanish) focused on travel patterns, rider demographics, and general feedback. In total, 125 BLAST riders responded to the survey. Approximately 14% of surveys were filled out in Spanish.

#### Survey Responses

The survey asked respondents to indicate the bus route they were riding at the time of the survey. The results are graphically displayed in Figure 62. The chart also compares average weekday ridership. The number of surveys collected was approximately twenty four percent (24%) of the average weekday ridership for all four routes. The ratio of survey responses to ridership was fairly consistent across all routes.

Figure 62 Responses by Route

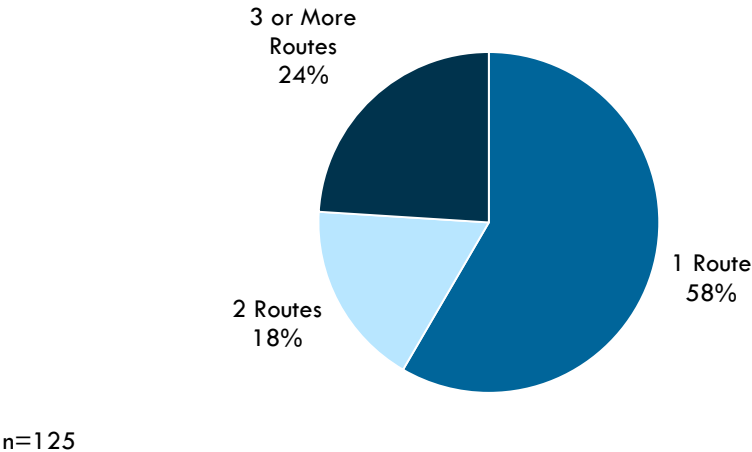




Reported Transfers between Routes

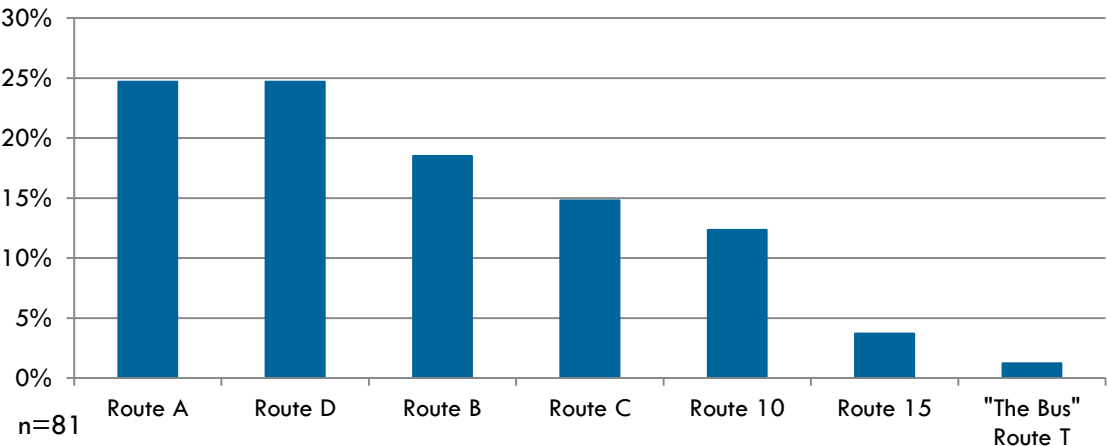
Forty two percent (42%) of survey respondents indicated that they transferred at least once to reach their destination. Twenty four percent (24%) of respondents indicated that they transferred at least twice to reach their destination. This indicates that connectivity in the transit system is dependent on transfers and that many destinations are not easily accessible through direct transit routes. The results are displayed in Figure 63.

Figure 63      Number of Routes Taken



The intercept survey also asked respondents to provide information about which routes they were transferring to and from. The survey question included all four BLAST bus routes as well as those run by Stanislaus Regional Transit (Routes 10, 15, 45, and 70) and the Transit Joint Powers Authority for Merced County (“The Bus” Route T). According to the survey results, among the four routes surveyed, Routes A and D experienced the highest amount of transfer activity, with almost half of each route’s riders transferring to another line (47% and 42%, respectively). Survey respondents also transferred most frequently to Routes A and D, as shown in Figure 64. Many participants also transferred to Routes B, C, and StaRT Route 10. Routes 15, 45, 70, and T saw significantly fewer transfers among BLAST riders.

Figure 64      Routes Transferred To or From



Trip Purpose

Roughly 46% of survey respondents reported that they were traveling to or from their home. Figure 65 below shows trip purpose among survey respondents excluding trips to and from home. The highest share of respondents (29%) indicated they were traveling to or from school or college, followed by shopping (25%) and work (21%).

Among those traveling to or from school or college (Figure 66), 67% were riding on Route D, followed by 23% on Route B and 10% on Route A. No respondents used Route C for educational purposes.

Figure 65 Trip Purpose (Excluding Home Trips)

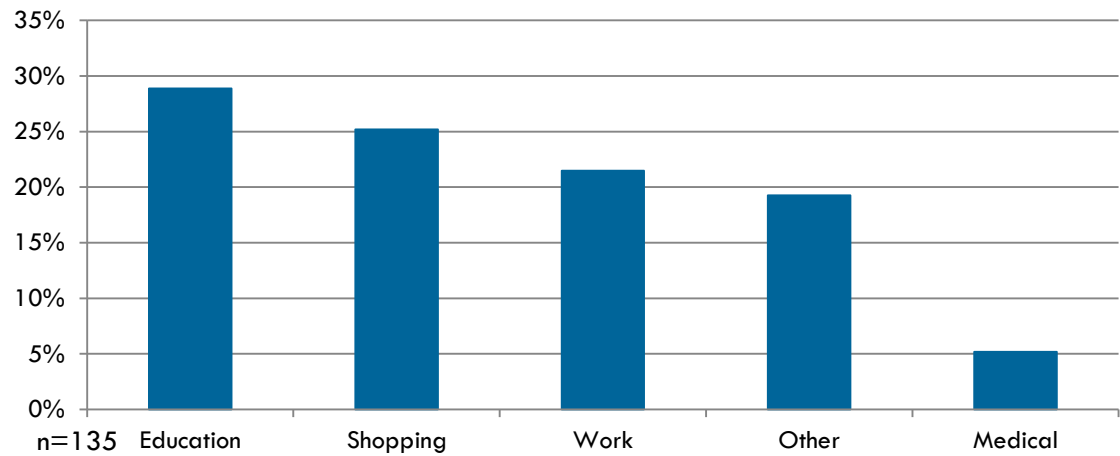
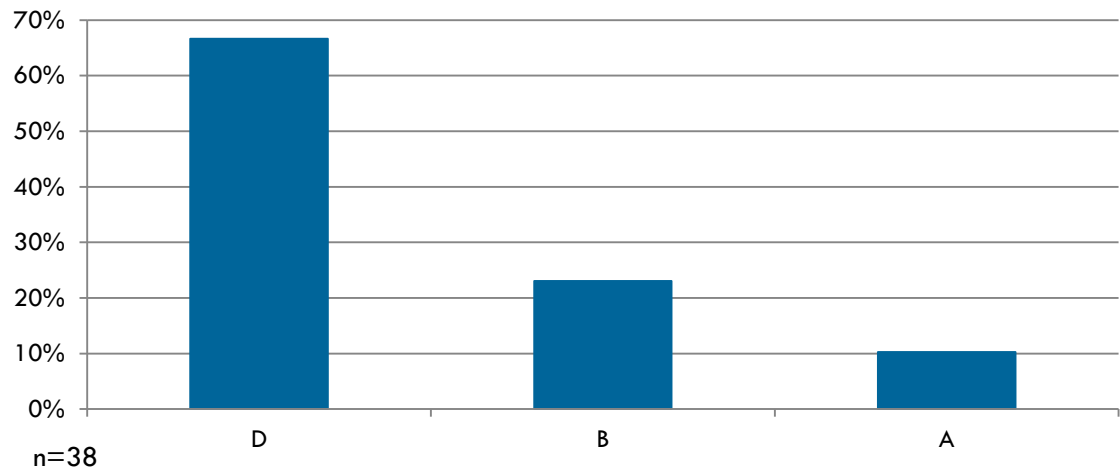


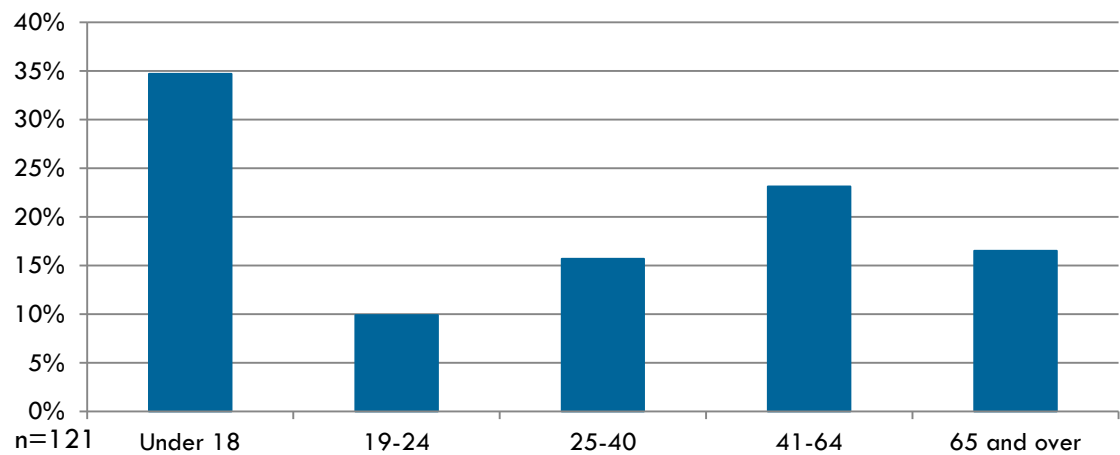
Figure 66 Routes Used to Travel to or from School/College



Ridership by Age

Figure 67 displays the age distribution of survey respondents. The graph shows that the highest share of respondents (35%) are under the age of 18, followed by riders between 41 and 64 years of age (23%). The age group with the least representation is among 19-24 year olds, who make up only 10% of the total ridership sample.

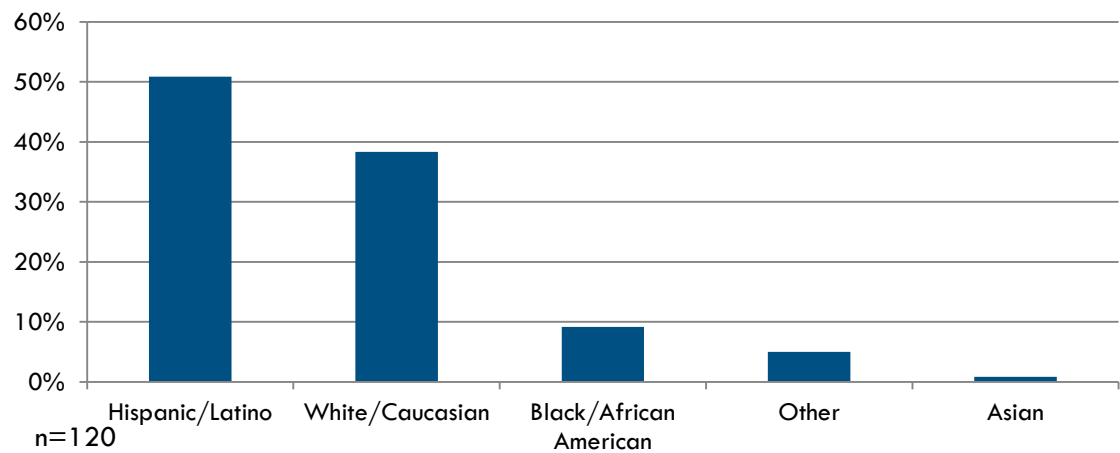
Figure 67      Age of Survey Respondents



Ridership by Ethnicity

Figure 68 shows the breakdown of the racial and ethnic identifications among survey respondents. Just over half (51%) of respondents identified as Hispanic/Latino, followed by 38% identifying as Caucasian and 9% identifying as African American.

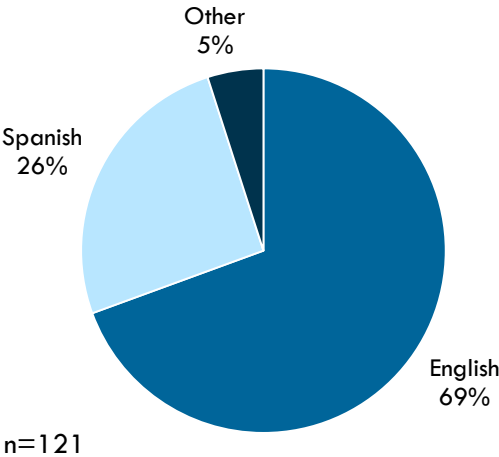
Figure 68      Race and Ethnicity (Multiple Responses Allowed)



Ridership by Language Spoken

Figure 69 shows the distribution of languages spoken in the survey sample population. Over two-thirds of transit riders speak English as their primary language, while over a quarter of respondents primarily speak Spanish.

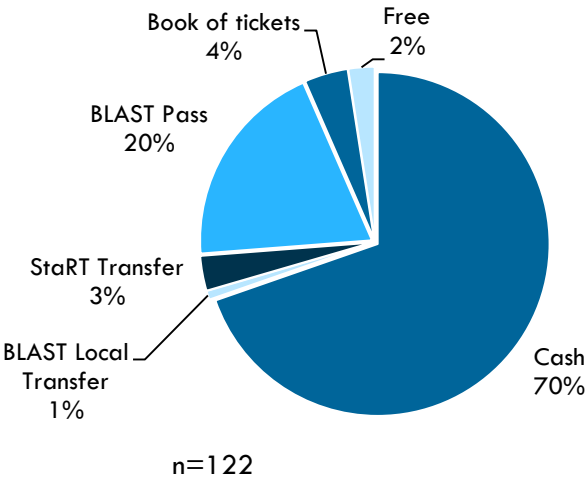
Figure 69 Primary Language



Ridership by Fare Payment Type

An overwhelming majority of BLAST riders pay for their fares in cash. Figure 70 shows that 70% of those surveyed pay in cash, 20% with a BLAST Pass, and 10% via other means.

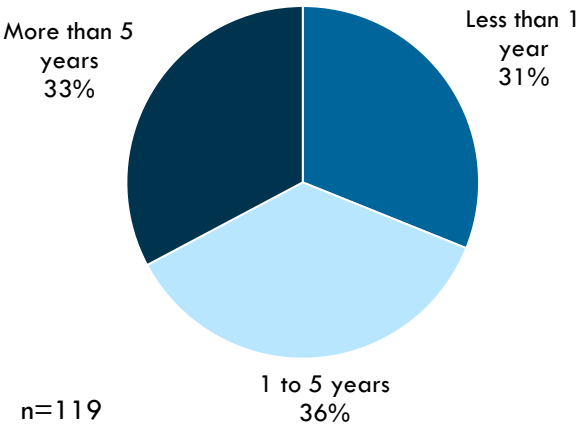
Figure 70 Fare Payment



Ridership by System Loyalty

As can be seen in Figure 71 below, roughly a third of riders have been riding BLAST for over five years, roughly a third have been riding the system for less than a year, and roughly a third have been riding for between one and five years.

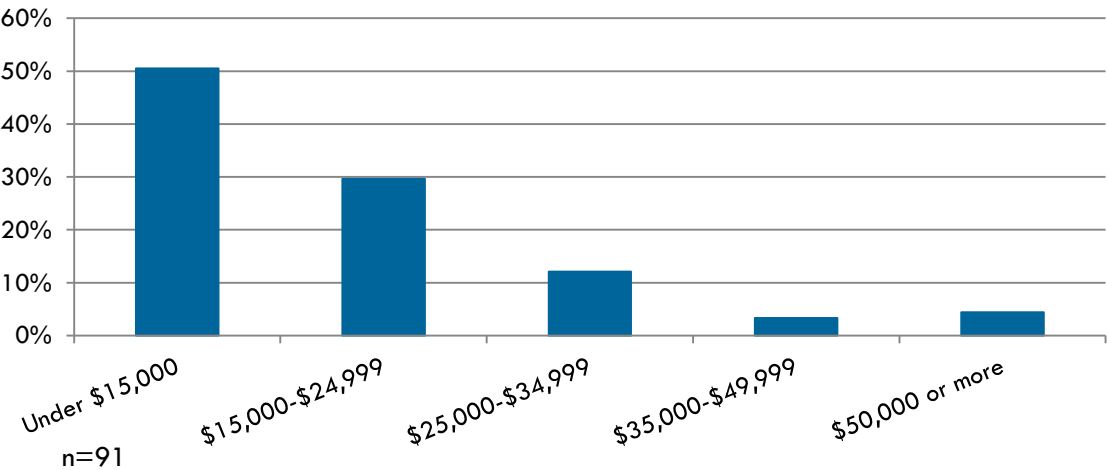
Figure 71 Length of Time Spent as BLAST Rider



Annual Household Income of Survey Respondents

Figure 72 indicates that the majority of BLAST riders have a household income of less than \$15,000, while only 4% of respondents reported a household income of over \$50,000. It should also be noted that 27% of respondents chose to not answer this question.

Figure 72 Annual Household Income



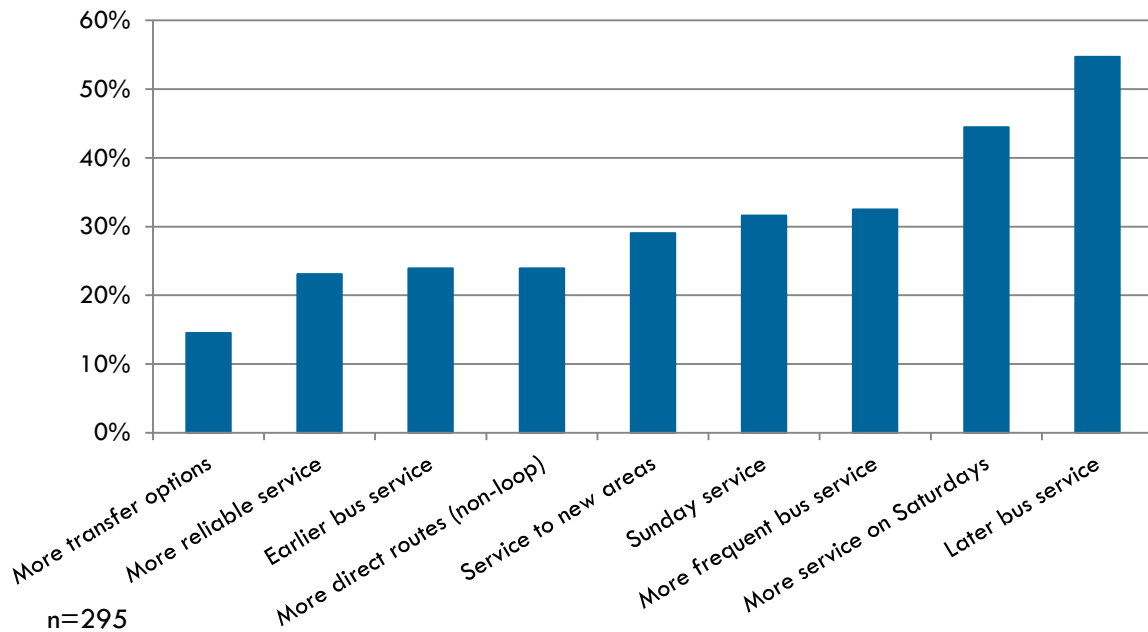
## Service Improvement Preferences

Survey respondents were asked to select their three top priorities for BLAST service improvements out of a list of nine total improvements. Figure 73 displays the top preferences of survey respondents. Among those who responded to the question (117 total riders), 55% expressed interest in later service, followed by 44% requesting more service on Saturdays. Roughly one third of riders requested more frequent service and Sunday service.

Open-ended comments related to desired service improvements largely reflect the preferences indicated in this question, with on-time performance often cited as a concern. Additional service improvement requests include:

- More benches and shelters
- Improved transfer system
- Discounted youth fares
- School trippers (or extra buses to support ridership needs at beginning and end of school)
- Restrooms at the hub

Figure 73 Comments by Category (multiple responses allowed)





## NOVEMBER 2015 OPEN HOUSE EVENTS

On November 18, 2015 three open-house events were held in Turlock to better understand what community needs and desires are for the local transit system. Open-house event venues and times are listed below:

- War Memorial Building, 9:30 a.m. – 11:00 a.m.
- CSU-Stanislaus, 12:00 p.m. – 1:30 p.m.
- Turlock Regional Transit Center, 1:45 p.m. – 3:00 p.m.
- City Hall, 6:00 – 8:30 p.m.

### War Memorial Building

The first open house included a PowerPoint presentation, a trade-off exercise, and concluded with a question and answer session. Three community members attended and there were in-depth conversations about the future of transit in Turlock. General themes from notes taken at this event include:

- Increase marketing to community, simplify message and get rid of acronyms
- Simplify and improve logo for BLAST bus service
- Combination of 30- and 60-minute headways for different routes
- Streamline service for improved efficiency for passengers
- First and Last Mile Planning: Provide more secure bike parking
- Promote service to “choice” riders
- Improve bus shelters and technology
- Reduce anxiety of uncertain arrivals

### CSU-Stanislaus

The second open house included a PowerPoint presentation, a trade-off exercise, and concluded with a question and answer session. Three community members attended this event, including a member of student government at CSU-Stanislaus. General themes from notes taken at this event include:

- Free or reduced fares for CSUS students, pass partnership
- Federal grant opportunities for solar power at shelters
- Increase transit stop safety (lighting, pedestrian safety)
- Post route schedules and maps at every stop
- Move transit stops to be on campus loop
- Community members want to take transit to evening events (theater, sports, downtown)
- Transit as part of a multimodal system
- Offer holiday service for shift/retail workers
- Technology could increase ridership

## **Turlock Regional Transit Center**

The third open house included a verbal presentation with poster, a question and answer session, and concluded with a trade-off exercise. Five community members attended this event, including a public health professional who voiced needs of her patients. Many of the attendees were people who had just taken BLAST. General themes from notes taken at this event include:

- More frequent and direct routes are needed
- BLAST bus is not convenient
- ADA riders and overcrowding on some routes
- Better timed transit connections are needed
- Public amenities are needed in the future transit center, including restrooms

## **City Hall**

The fourth open house included a PowerPoint presentation, a Choose Between Two Options exercise, and concluded with a question and answer session. About 9-10 people attended the event at City Hall. General Themes from notes taken at this even include:

- Straighter routes are needed: North-South and East-West
- Offer Park-and-Ride for special events (parade, swap meet/market)
- Proposed Turlock Transit logo is better visual branding than current BLAST logo
- Look to peer cities such as Porterville to see how BLAST can be improved
- Need better connections to medical specialists in Modesto
- Operators inconsistently enforce rules
- Better coordination with other service providers

## **Facebook Comments**

The City of Turlock also received numerous comments on their Facebook post on November 12, 2015, publicizing the open house events. General themes from those comments are summarized below.

- Increase service hours later into the evening and later on Saturdays
- Offer DART service on Sundays for worship services
- Improve professional conduct of dispatchers
- Offer more shelters at stops to provide shade
- Express service to ACE station in Tracy, CA
- More frequent service to 30-minute headways

## COMMUNITY SURVEY RESULTS

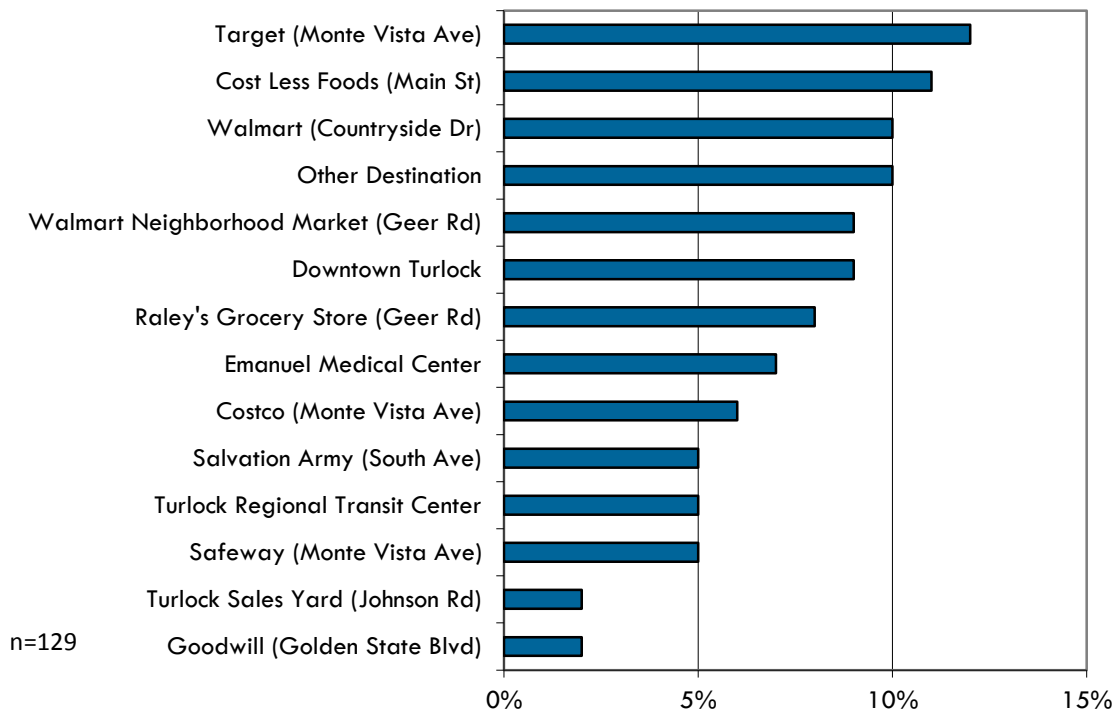
In November 2015, an online community survey was administered through Survey Monkey and in hard-copy at all public outreach events on November 18, 2015. The online survey was open for four weeks from October 22, 2015 to November 20, 2015. The survey included a range of questions (in English and Spanish) focused on travel patterns, rider demographics, and general feedback. In total, 42 community members responded to the survey.

### Survey Responses

#### Top Destinations in Turlock

The survey asked respondents to list their top three destinations in Turlock. The most popular response was Target with 12% of responses. Other top responses were Cost Less Foods (11%), Other (10%) and Walmart (10%). Common destinations listed as Other Destination are: CSU-Stanislaus, Osborn School, and Turlock High School.

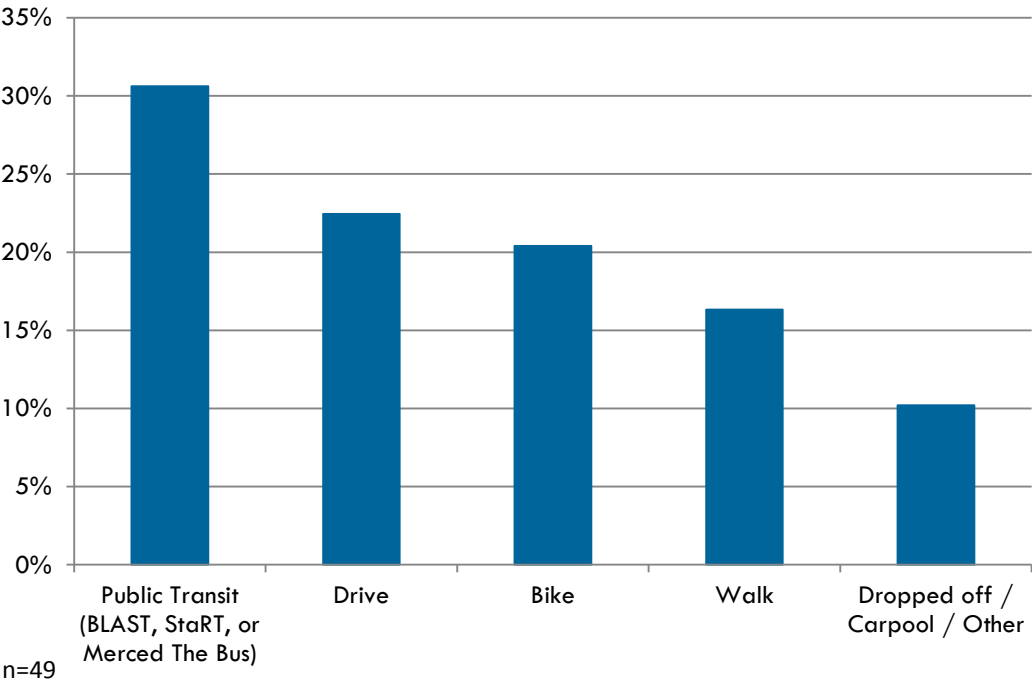
Figure 74 Top Destinations in Turlock



**Main Mode of Transportation**

The survey asked respondents what is their main mode of transportation, see Figure 75 . The most popular response was public transit, with 31% of responses. 22% of respondents selected drive, 20% selected bike, 16% selected walk, and 10% selected dropped off/carpool/other.

**Figure 75      Main Mode of Transportation**



**Lack of Transportation to Specific Destinations**

They survey also asked respondents if there are places they wished to go, but cannot because of lack of transportation. Of the 25 respondents that answered the question, 4 listed “No,” and 21 respondents listed “Yes.” Common destinations listed as inaccessible were:

- Church on Sundays due to no Sunday transit service
- Events in the late evening due to no transit service
- Shopping at big box stores, but the urban design is too unfriendly to bicycles
- Places in Turlock due to time to transfer
- Four Seasons neighborhood

Access to Personal Automobile and a Smartphone

Community members that do not have access to a personal automobile are of high importance to planning the transit system because they are dependent on other modes. Additionally, ownership of a smartphone can provide important trip planning information. 74% of respondents stated that they do not have access to a automobile or do not have access on a regular basis, see Figure 76. 60% of respondents own a smartphone, while 40% do not, see Figure 77.

Figure 76      Automobile Access

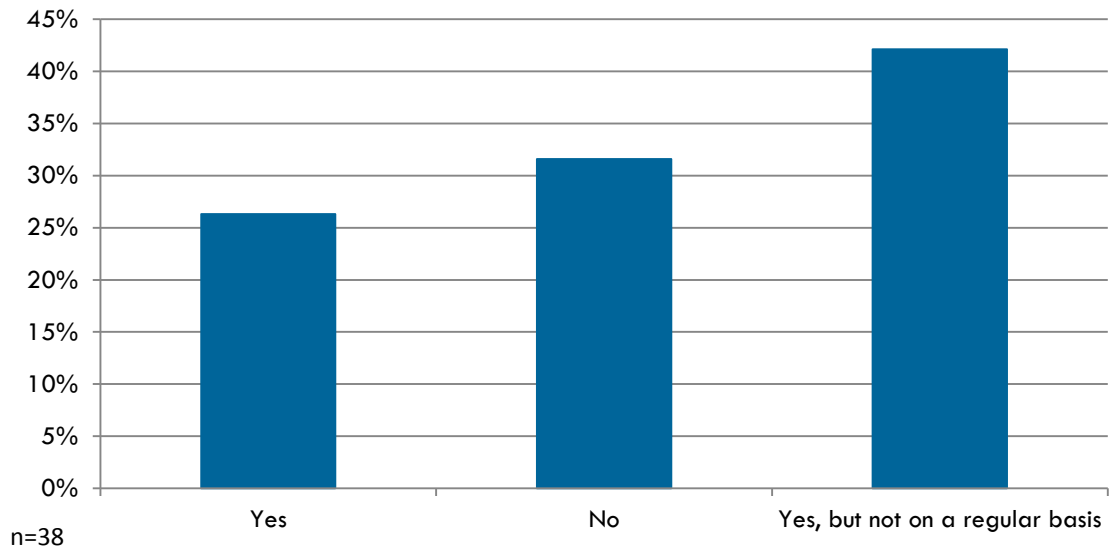
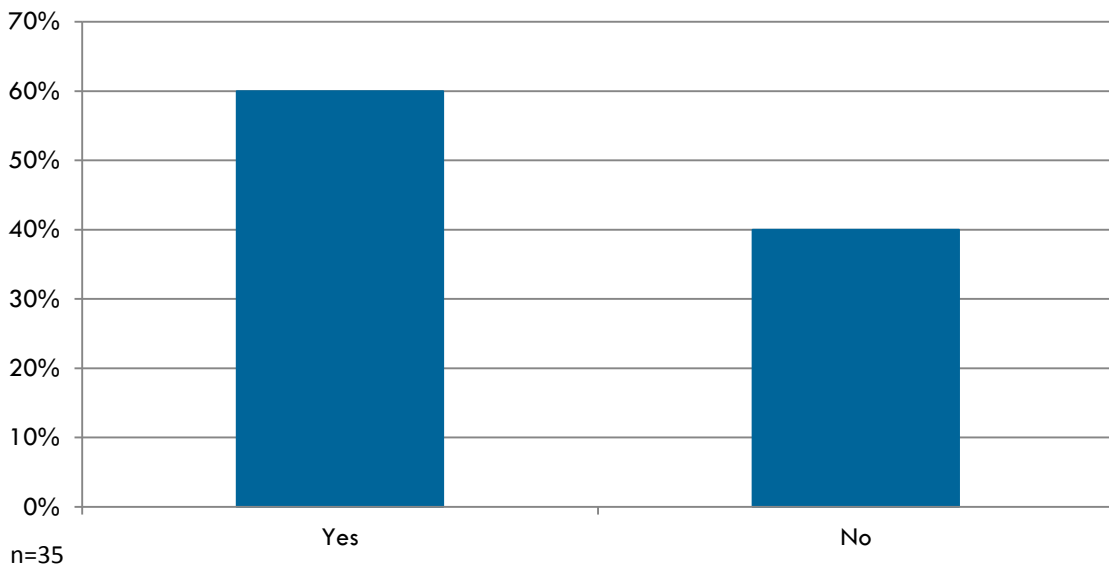


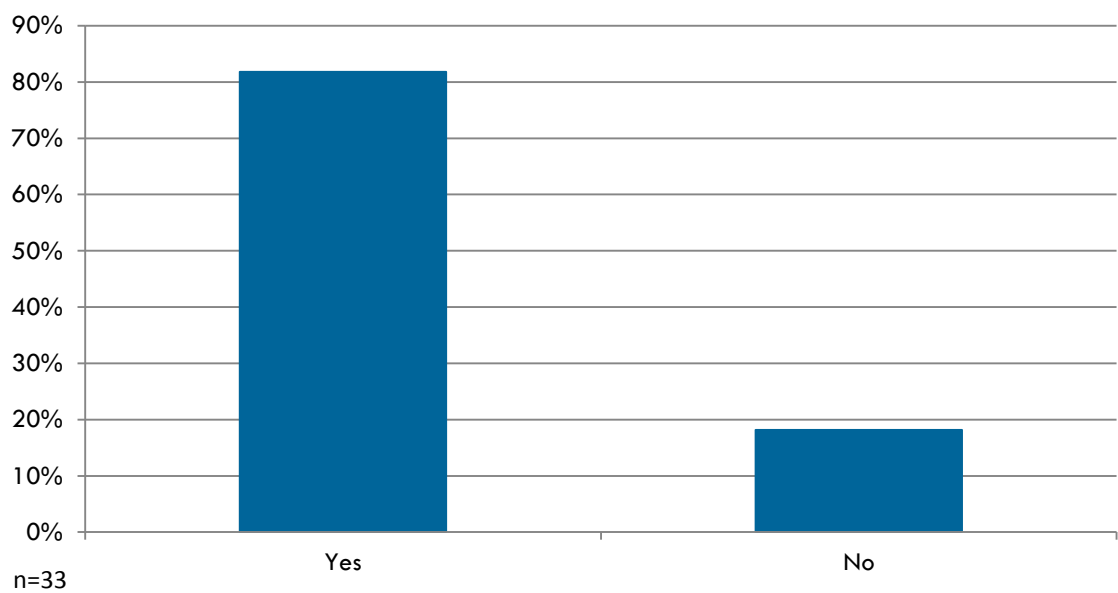
Figure 77      Smartphone Ownership



Transit Ridership History

The survey asked respondents if they have taken public transit in the past year, in order to find out who is a rider and who might be a potential rider. 82% of respondents said they have taken public transit in the past year, while 18% have not, see Figure 78.

Figure 78 Have You Taken Public Transit in the Past Year?



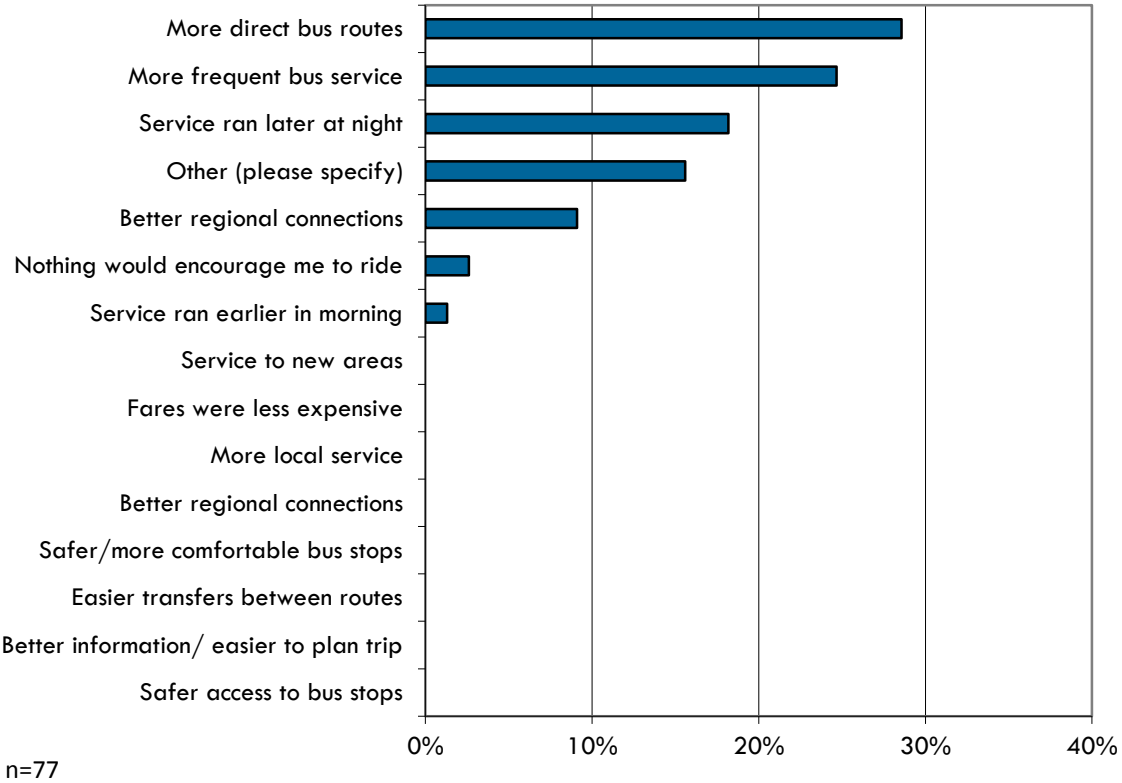
Incentives to Ride Transit More Often

One of the most important questions to improving the transit system for current and potential riders, respondents were asked what would be an incentive to ride transit more often in Figure 79. The most popular incentive is if there were more direct bus routes, with 29% of respondents listing that option. Other popular incentives were more frequent bus service, later service, and other. Common responses for other incentives included:

- Reduced Prices
- Friendlier behavior from passengers
- More stops city-wide



Figure 79      Incentive to Ride Transit More Often



## FEBRUARY 2016 OPEN HOUSE EVENTS

On February 4, 2016 three open-house events were held to introduce two system alternatives, depicted in Figure 80 and Figure 81. Open-house event venues and times are listed below:

- California State University-Stanislaus, 11:00 a.m. – 1:00 p.m.
- Turlock Regional Transit Center, 2:00 p.m. – 4:00 p.m.
- City Hall, 6:00 p.m. – 8:00 p.m.

### CSU-Stanislaus

The first open house included a PowerPoint presentation that recapped the existing conditions process and community feedback received during 2015. Two service alternative were described in terms of route alignments, service levels, benefits and impacts. Meeting attendees included a representatives of Associated Students, Inc. (non-profit serving CSUS students), an undergraduate student, and a citizen of Turlock. Key comments from the meeting include:

- Service concepts need to account for middle and high school students and their travel patterns, in particular:
  - Students who live on Soderquist traveling to Dutcher Middle School
  - Osborn students bused to Dutcher Middle School
- ASI is exploring strategies to incentivize university students to not drive and park
- ASI would be interested to reach a “U-Pass” type agreement with BLAST
  - Not interested in raising student fees, money would come from ASI funds
- CSUS students at the meeting would like to see a higher service to the university
- Participants agreed that Alternative A is easier to understand
- CSUS Students would like to see a direct connection between CSUS and Monte Vista
  - Participants were unsure that students would be willing to go out of their way (south, then back north) to get there, even if the trip would take less time than on the current system
- Reflection Pond (south side of campus) was suggested as a pickup location to increase visibility and convenience for students
- CSUS Student residents mainly live on the north side of campus

### **Turlock Regional Transit Center (2/4/2016, 2:00 – 4:00 p.m.)**

A second open house was held at the Transit Center to share service alternatives with bus riders. Participants were able view posters and discuss the alternatives with the project team. Bus operators and a reporter from the Turlock Journal also attended the open house.

Several important comments were provided at this meeting:

- One rider was upset that we were proposing removal of stops from Emmanuel Medical Center, the imaging center, and the movie theater
- One rider was in favor of the proposed northeast route of Alternative A serving Turlock Christian School, where community meetings are sometimes hosted
- Riders requested that several stops are in need of litter containers
- Riders complained of drivers passing them up
- One rider said he prefers to rely on the fixed-route service instead of the dial-a-ride service when going to medical appointments because dial-a-ride is less reliable

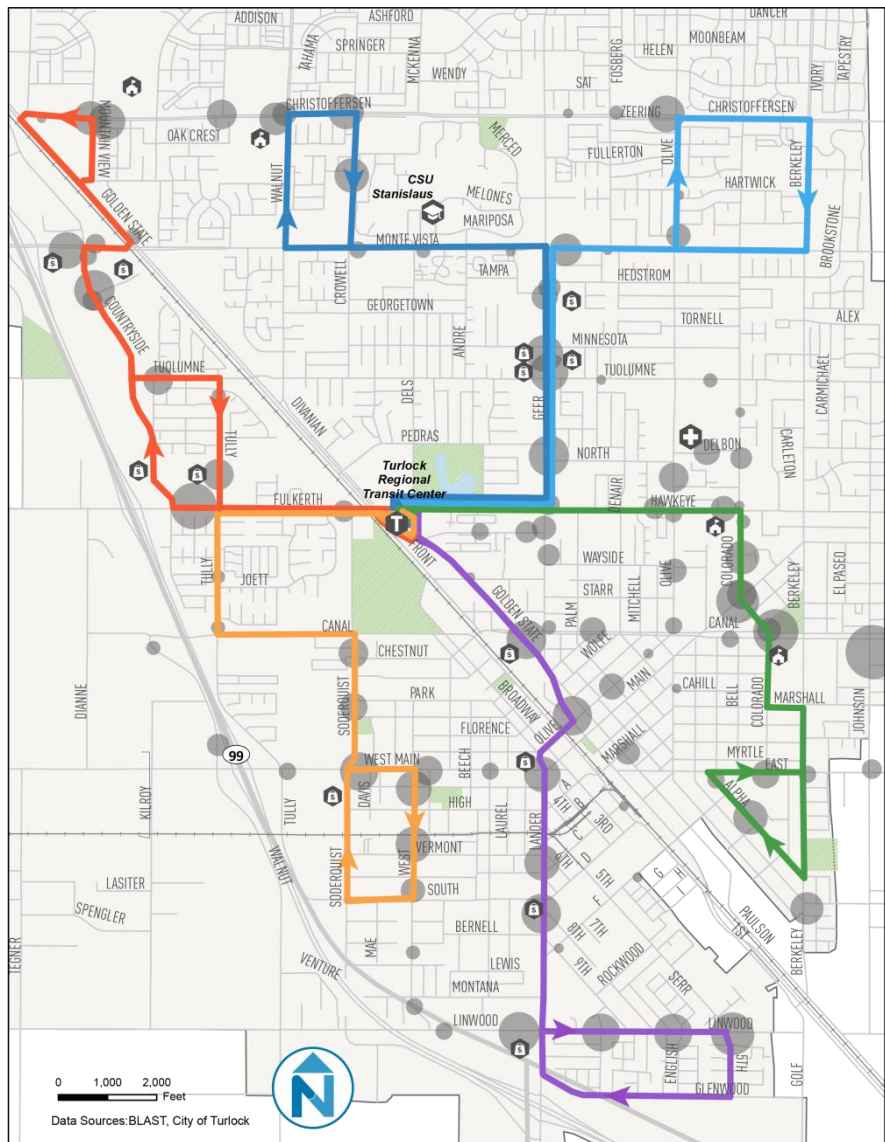
### **City Hall (2/4/2016, 6:00 – 8:00 p.m.)**

The third open house included a PowerPoint presentation and a question and answer session. Comments received at the meeting include:

- Participants stressed the importance of serving medical facilities
  - Riders would like to see the Emanuel Hospital served directly
  - One participant would also like direct access Turlock Imaging on Christoffersen and Geer
- One rider requested ridership data for the movie theater and Turlock Imaging
- One rider liked the crosstown concept of Alternative B better because they liked the idea of connections away from the transit center
- Another rider preferred Alternative A better because they said it was easier to understand
  - If we are going to alternate service between two routes, it might be easiest to understand if we call it one crosstown route
- One participant suggested that route schedules need to be timed to avoid busy school pick-up periods
- Newspaper reporter said public outreach events should be better publicized and requested press releases two weeks prior to schedule meetings

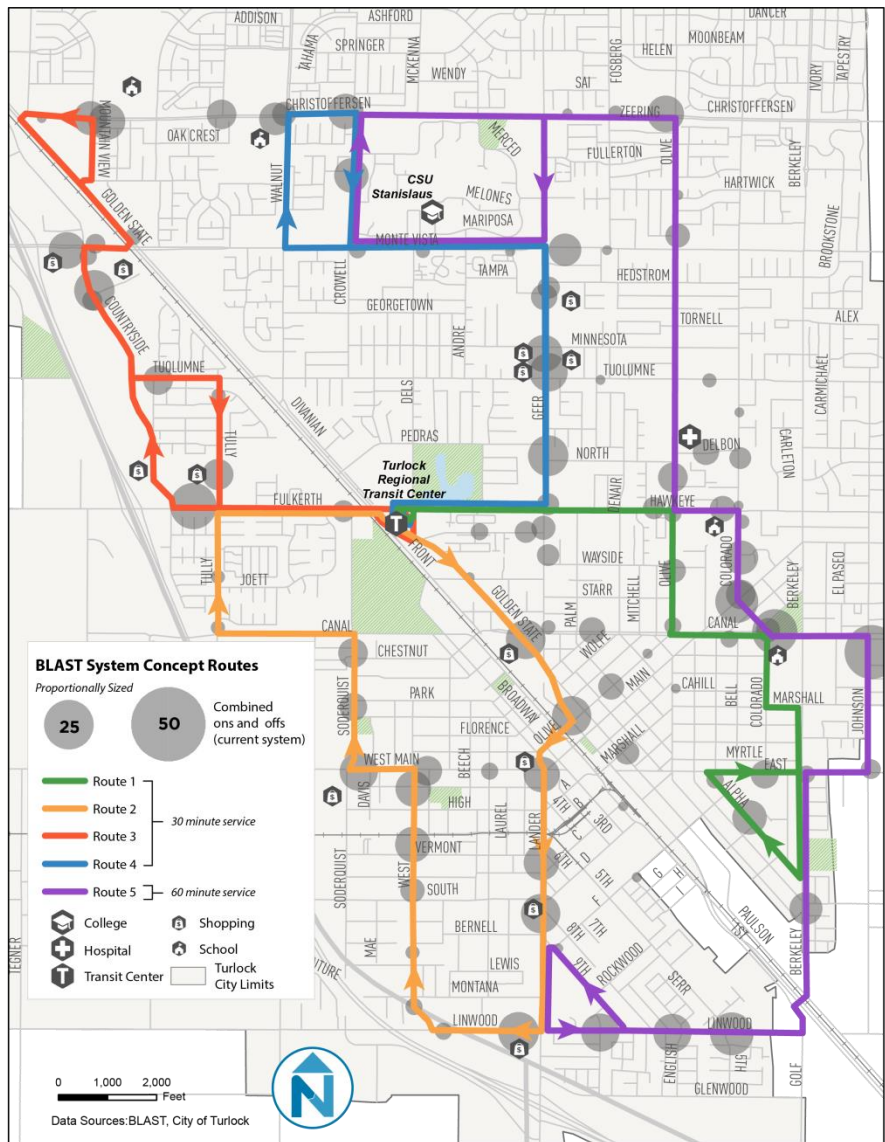
SHORT RANGE TRANSIT PLAN | FINAL REPORT  
City of Turlock

Figure 80      Service Alternative A



SHORT RANGE TRANSIT PLAN | FINAL REPORT  
City of Turlock

Figure 81      Service Alternative B



## MEETING WITH STANISLAUS REGIONAL TRANSIT

On February 5, 2016 Nelson\Nygaard met with the Transit Manager for Stanislaus Regional Transit, Eunice Lovi, to discuss the Turlock Short Range Transit Plan, regional coordination efforts and other topics. The following summarizes topics discussed during the meeting.

- Regional coordination
  - StaRT staff is willing to sit down with the Turlock staff to discuss how the city envisions County service within the City of Turlock
  - Over time, StaRT has increased presence in Turlock in response to unmet rider demand (in terms of both coverage and span)
  - StaRT seems receptive to reducing this role in Turlock provided that:
    - the City of Turlock is able to follow through with increasing local bus service
    - the County analyzes the impacts of reducing StaRT service and the impact it has on farebox recovery ratio
  - StaRT stressed the importance of extensive outreach to inform riders of future route and schedule changes, which would affect Modesto Junior College students.
- Bus stops
  - StaRT has been in the process of conducting a bus stop inventory and removing underutilized bus stops on certain routes to improve travel time.
- Ridership data collection
  - StaRT plans to implement automatic passenger counters on buses in the near future
- StaRT route changes
  - StaRT is considering modifications to Routes 10 and 15, aiming to make Route 10 more of an express service and allowing Route 15 to continue serving shorter-distance local travel between Ceres, Turlock, Modesto
- Service expansion to the Bay Area
  - StaRT is considering a pilot program that would connect Turlock and Patterson to the Dublin BART Station
  - StaRT requests that Turlock keeps them informed of any possible commuter routes to ensure coordination of services



## APRIL 2016 OPEN HOUSE EVENT

On April 13, 2016 an open-house event was held at City Hall to share the preferred alternative route network with the community. The meeting included a presentation by City staff that described the history of BLAST service, recent and current conditions, new farebox ratio requirements due to population changes and future goals of ensuring financial sustainability. City staff also detailed the process by which the proposed service changes were developed, as well as the specific service characteristics, including:

- Service span improvements
- Improved headways and travel times
- Reduction in service coverage due to 30-minute cycle times
- Elimination of fixed-route stops west of Hwy 99 due to low ridership
- Interlining of Countryside and Geer routes
- New pass options for electronic fareboxes that go into service on May 2 (following passenger training on April 26)
- Future commuter service to BART and ACE stations

The meeting was attended by members of the public and First Transit staff (management and operators). Following the presentation, city staff responded to questions from attendees. Meeting attendees expressed the importance of communicating meetings and service changes via print materials, news outlets, bus advertisements and social media.

Current bus riders requested the following:

- Additional ticket sales outlets be made available, specifically at the Turlock Regional Transit Center to avoid the long waits at City Hall.
- The installation of additional bus shelters at Turlock Regional Transit Center prior to the construction of the indoor waiting area

Current bus riders mentioned that routes have been on-time since implementation of the January 2016 service changes. City staff informed attendees of the public hearing set for June 14.

## 8 FIXED-ROUTE RECOMMENDATIONS

Fixed-route recommendations were developed based on ridership, on-time performance and demographic data, as well as comments from riders, bus operators and the general public. Community feedback was obtained through an intercept survey, online survey, social media, and three rounds of public meetings. Discussions with CSU-Stanislaus student representatives also influenced the recommendations.

### PREFERRED ALTERNATIVE ROUTE NETWORK

The preferred alternative route network consists of six routes that each radiate from the Turlock Regional Transit Center. Four of the routes operate every 30 minutes while the other two routes operate every 60 minute. Key benefits of the route recommendations include:

- Five bi-directional routes that improve speed and directness
- One loop route to maintain coverage along Christoffersen and Olive
- Simplified routes that are easier to understand
- More frequent service on 4 routes
- Increased service span to accommodate employees working nights
- Reduced travel time between most origins and destinations
- Consistent departure times throughout the day due to 30 and 60-minute headways
- Increased service to California State University-Stanislaus

Each recommended route is described and detailed with a map.

Descriptions and maps of each recommended route is included in this section. A system map depicting each local route is provided in Figure 82. Impacted stops include Pitman High School and stops west of SR-99.

Figure 82 Turlock Transit Route Network



## Route 1 Countryside

Route 1 will primarily serves major retail and commercial destinations along Fulkerth, Countryside and Monte Vista. Route 1 will interline with Route 2, allowing riders to continue from one route to another without transferring.

The interlining of Routes 1 and 2 provides direct access to CSU-Stanislaus along Monte Vista. In the inbound direction, Route 1 will travel along Tuolumne and Tully to provide direct access to Walmart. Route 1 will serve Walmart along Fulkerth in the outbound direction.

Route 1 will operate every 30 minutes from 6:00 a.m. to 8:55 p.m. on weekdays and 9:00 a.m. to 6:55 p.m. on Saturdays. During Phase 5, weekday evening service will be extended by one hour and Saturday service will be extended by one hour in the morning and one hour in the evening.

### Recommended Service Levels

	Weekday			Saturday		
Period	Headway	Vehicles	Service Span	Headway	Vehicles	Service Span
Phase 1	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 2	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 3	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 4	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 5	30	1	6:00am-9:55pm	30	1	8:00am-7:55pm

Figure 83      Route 1 Countryside Alignment and Stops



## Route 2 Geer

Route 2 will serve several commercial destinations along Geer, including Walmart Neighborhood Market, Fallas, Save Market, and Raley's. Route 2 will also serve California State University-Stanislaus along Monte Vista. Route 2 will interline with Route 1, allowing riders to continue from one route to another without transferring.

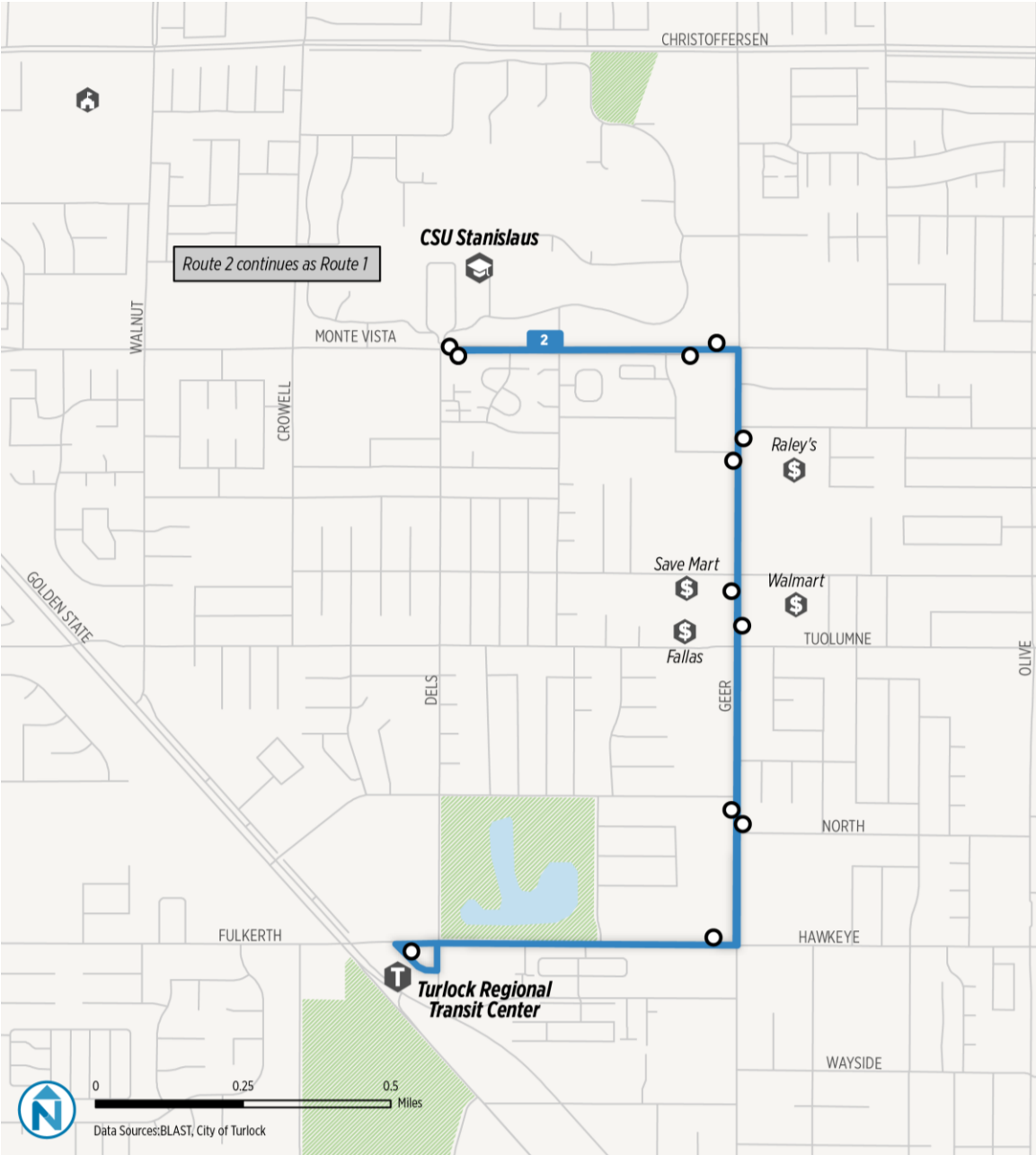
The interlining of Routes 1 and 2 will provide direct access from CSU-Stanislaus student housing to commercial destinations along Countryside and Fulkerth.

Route 2 will operate every 30 minutes from 6:00 a.m. to 8:55 p.m. on weekdays and 9:00 a.m. to 6:55 p.m. on Saturdays. During Phase 5, weekday evening service will be extended by one hour and Saturday service will be extended by one hour in the morning and one hour in the evening.

### Recommended Service Levels

Period	Weekday			Saturday		
	Headway	Vehicles	Service Span	Headway	Vehicles	Service Span
Phase 1	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 2	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 3	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 4	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 5	30	1	6:00am-9:55pm	30	1	8:00am-7:55pm

Figure 84      Route 2 Geer Alignment and Stops





## Route 3 Olive

Route 3 will operate in a 30-minute clockwise loop, primarily serving medical destinations along Olive, Tuolumne and Delbon. Route 3 will also serve Pitman High School, Turlock Junior High School, California State University-Stanislaus, and the Department of Motor Vehicles office. Route 3 will have only one stop along Golden State and no stops along Hawkeye.

Route 3 will interline with Route 6 during Phase 1 and 2 and therefore operate every 60 minutes from 6:00 a.m. to 8:55 p.m. on weekdays and 9:00 a.m. to 6:55 p.m. on Saturdays. During Phase 3, Route 3 will improve to a 30-minute headway and will no longer interline with Route 6. During Phase 5, weekday evening service will be extended by one hour and Saturday service will be extended by one hour in the morning and one hour in the evening.

### Recommended Service Levels

	Weekday			Saturday		
Period	Headway	Vehicles	Service Span	Headway	Vehicles	Service Span
Phase 1	60	1	6:00am-8:55pm	60	1	9:00am-6:55pm
Phase 2	60	1	6:00am-8:55pm	60	1	9:00am-6:55pm
Phase 3	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 4	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 5	30	1	6:00am-9:55pm	30	1	8:00am-7:55pm

Figure 85      Route 3 Olive Alignment and Stops



## Route 4 Colorado

Route 4 will serve Turlock High School, Dutcher Middle School and high-density neighborhoods south of Hawkeye, west of Colorado, and south of East Ave. Route 4 will stop within 1/3 mile of the Turlock Sales Yard which operates on Tuesdays and generates significant ridership.

Route 4 will operate every 30 minutes from 6:00 a.m. to 8:55 p.m. on weekdays and 9:00 a.m. to 6:55 p.m. on Saturdays. During Phase 5, weekday evening service will be extended by one hour and Saturday service will be extended by one hour in the morning and one hour in the evening.

### Recommended Service Levels

	Weekday			Saturday		
Period	Headway	Vehicles	Service Span	Headway	Vehicles	Service Span
Phase 1	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 2	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 3	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 4	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 5	30	1	6:00am-9:55pm	30	1	8:00am-7:55pm

Figure 86      Route 4 Colorado Alignment and Stops



## Route 5 Lander

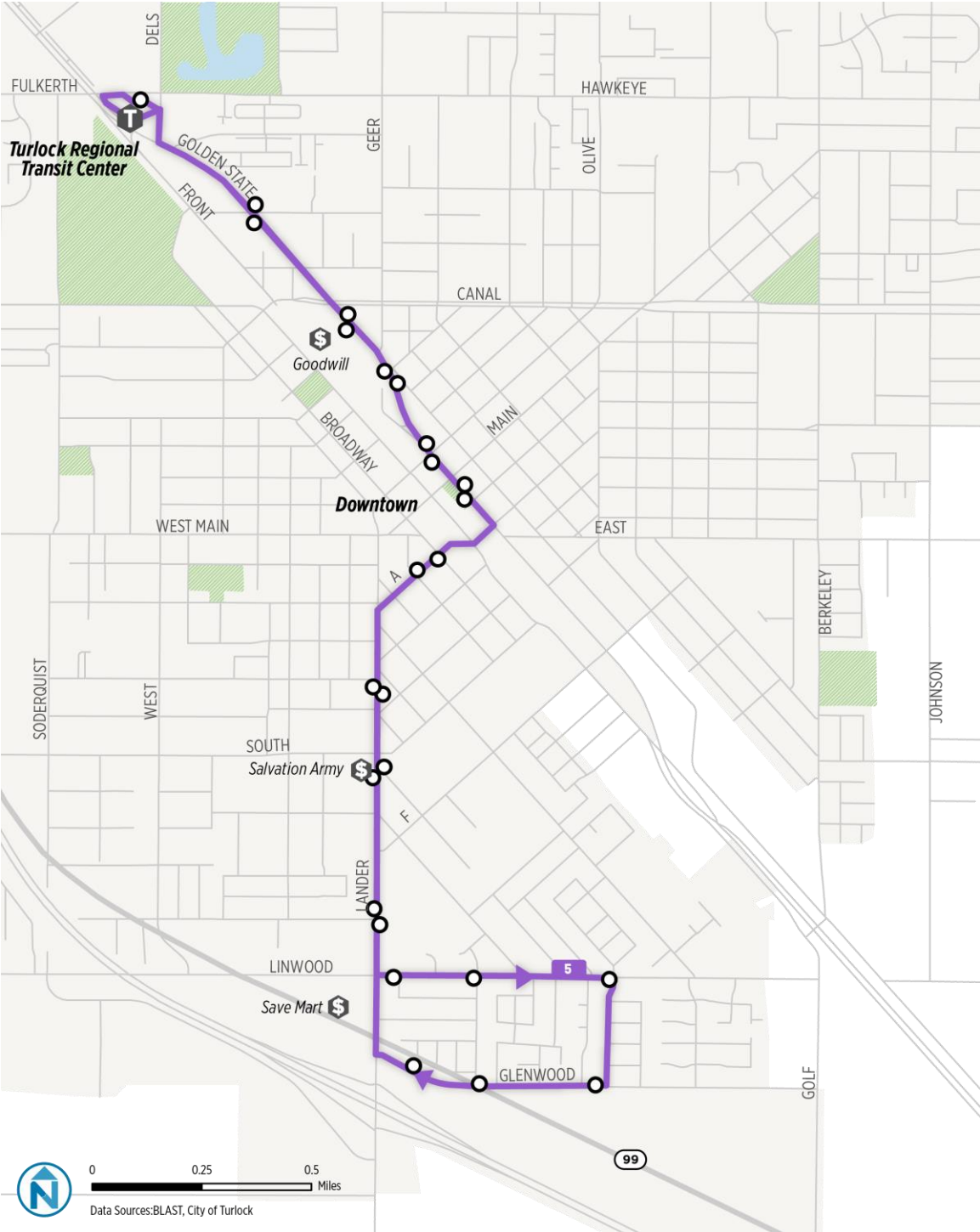
Route 5 will serve downtown Turlock, City Hall, Salvation Army, Save Mart and neighborhoods along Lander and Linwood.

Route 5 will operate every 30 minutes from 6:00 a.m. to 8:55 p.m. on weekdays and 9:00 a.m. to 6:55 p.m. on Saturdays. During Phase 5, weekday evening service will be extended by one hour and Saturday service will be extended by one hour in the morning and one hour in the evening.

### Recommended Service Levels

	Weekday			Saturday		
Period	Headway	Vehicles	Service Span	Headway	Vehicles	Service Span
Phase 1	60	1	6:00am-8:55pm	60	1	9:00am-6:55pm
Phase 2	60	1	6:00am-8:55pm	60	1	9:00am-6:55pm
Phase 3	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 4	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 5	30	1	6:00am-9:55pm	30	1	8:00am-7:55pm

Figure 87     Route 5 Lander Alignment and Stops



## Route 6 Soderquist

Route 6 will serve the City's Westside, which historically has exhibited a high need for transit service. Route 6 will interline with Route 3 during Phase 1 and 2.

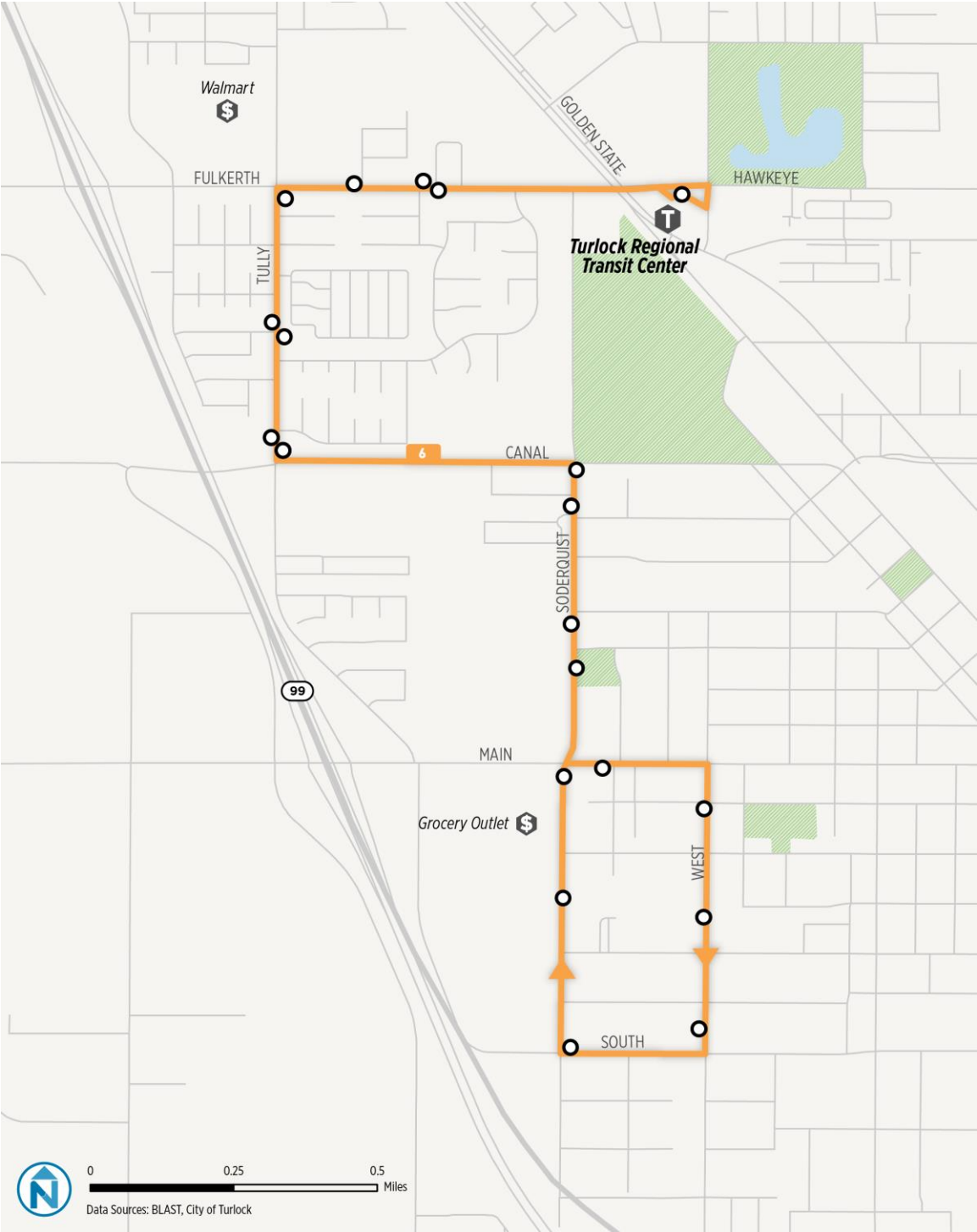
Route 6 will operate every 60 minutes from 6:00 a.m. to 8:55 p.m. on weekdays and 9:00 a.m. to 6:55 p.m. on Saturdays. During Phase 3, Route 6 will improve to a 30-minute headway and will no longer interline with Route 3. During Phase 5, weekday evening service will be extended by one hour and Saturday service will be extended by one hour in the morning and one hour in the evening.

### Recommended Service Levels

Period	Weekday			Saturday		
	Headway	Vehicles	Service Span	Headway	Vehicles	Service Span
Phase 1	60	1	6:00am-8:55pm	60	1	9:00am-6:55pm
Phase 2	60	1	6:00am-8:55pm	60	1	9:00am-6:55pm
Phase 3	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 4	30	1	6:00am-8:55pm	30	1	9:00am-6:55pm
Phase 5	30	1	6:00am-9:55pm	30	1	8:00am-7:55pm



Figure 88      Route 6 Soderquist Alignment and Stops



## FUTURE EXPANSION

### Commuter Express Service to Bay Area

The City is currently exploring options to offer a commuter express service that would connect Turlock residents with BART and ACE service into the Bay Area. In order to assess the feasibility for such a service, an employment analysis was conducted using Longitudinal Employer-Household Dynamics (LEHD) data from the US Census.

Among Turlock residents, there are approximately 300 employees who travel to jobs that are within ½ mile of an ACE or BART station in the Bay Area (see Figure 89 below). While this is not a very large number, it should be noted that LEHD data may underrepresent the magnitude of worker flows due to the exclusion of military personnel, self-employed workers, and federal civilian employees. Additionally, LEHD synthesizes data using minor distortions of reported information to protect the identities of individual employees and employers. Taking both factors into consideration, it is possible that there is higher demand for a commuter service than the data would suggest.

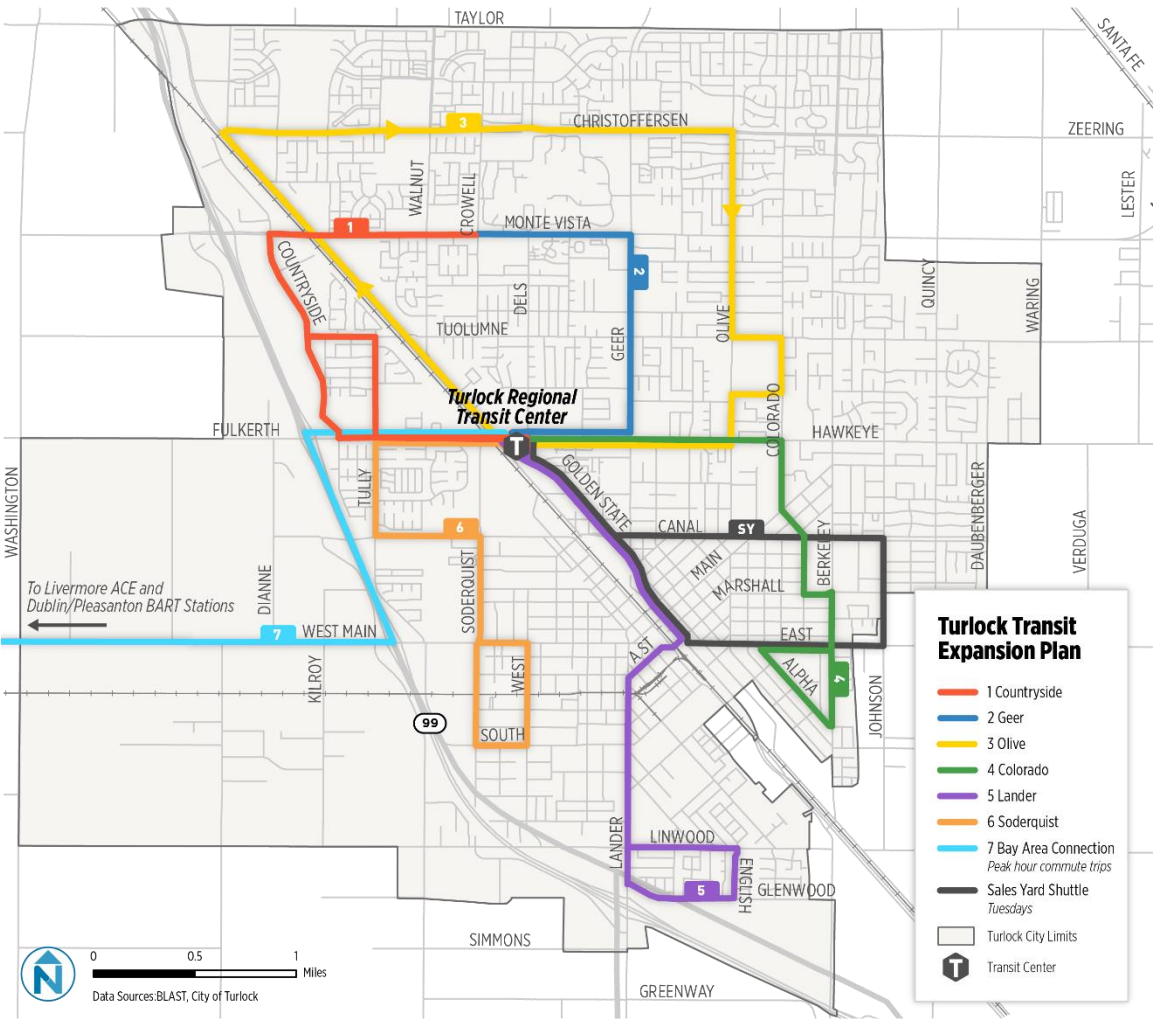
City staff reported that community stakeholders have also expressed demand for a service to the Bay Area that would serve recreational trips. Additionally, it should be noted that this service could also serve trips to and from higher education services in the Bay Area. However, assessing the demand for these types of trips will require additional, targeted outreach and data collection. For the time being, this plan only considers an alternative that would primarily serve employee commuter needs.

The proposed commuter express route would travel depart the Turlock Regional Transit Center, travel west on Fulkerth Road, south on Highway 99, west on West Main Street to Patterson (with a stop at the Kilroy Rd), north on I-5, continuing on I-580 to Livermore and Pleasanton/Dublin. The City of Turlock should explore an agreement with the property manager of Regal Cinemas Turlock Stadium 14 to allow transit customers to use parking spaces on weekdays from 5:00 a.m to 7:00 p.m.

The initial schedule should include two outbound morning trips and two inbound evening trips. Outbound trips should be timed to connect to ACE departures at Livermore Station followed by BART departures at Dublin/Pleasanton Station, with inbound trips timed to pick up passengers in the opposite order. During Phase 4 or when ridership warrants additional service, a third trip should be added during each peak period.

In order to attract choice riders, these would ideally be luxury coach buses with enhanced rider amenities, including on-board wifi, overhead storage, and individual bucket seats.

Figure 89 Future Expansion Route Network



## SUMMARY OF FIXED-ROUTE RECOMMENDATIONS

The following figures summarize the resources necessary to implement the initial system restructure as well as future expansion phases.

**Figure 90      Current Resource Requirements**

Route	Annual Hours	Peak Vehicles
A	3,390	1
B	3,390	1
C	3,390	1
D	3,390	1
<b>Total</b>	<b>13,560</b>	<b>4</b>

**Figure 91      Phase 1 Recommendations**

Route	Recommendation	Annual Hours	Peak Vehicles
1 Countryside	Implement new route	4,349	1
2 Geer	Implement new route	4,349	1
3 Olive	Implement new route	2,175	0.5
4 Colorado	Implement new route	4,349	1
5 Lander	Implement new route	4,349	1
6 Soderquist	Implement new route	2,175	0.5
<b>Total</b>		<b>21,746</b>	<b>5</b>

**SHORT RANGE TRANSIT PLAN | FINAL REPORT**  
City of Turlock

**Figure 92 Phase 2 Recommendations**

Route	Recommendation	Annual Hours	Peak Vehicles
1 Countryside	No change	4,349	1
2 Geer	No change	4,349	1
3 Olive	No change	2,175	0.5
4 Colorado	No change	4,349	1
5 Lander	No change	4,349	1
6 Soderquist	No change	2,175	0.5
Livermore/Pleasanton	Implement new route	2,550	2
<b>Total</b>		<b>24,296</b>	<b>7</b>

**Figure 93 Phase 3 Recommendations**

Route	Recommendation	Annual Hours	Peak Vehicles
1 Countryside	No change	4,349	1
2 Geer	No change	4,349	1
3 Olive	Improve headway from 60 to 30 minutes	4,349	1
4 Colorado	No change	4,349	1
5 Lander	No change	4,349	1
6 Soderquist	Improve headway from 60 to 30 minutes	4,349	1
Livermore/Pleasanton	No change	2,550	2
<b>Total</b>		<b>28,644</b>	<b>8</b>

**Figure 94 Phase 4 Recommendations**

Route	Recommendation	Annual Hours	Peak Vehicles
1 Countryside	No change	4,349	1
2 Geer	No change	4,349	1
3 Olive	Improve headway from 60 to 30 minutes	4,349	1
4 Colorado	No change	4,349	1
5 Lander	No change	4,349	1
6 Soderquist	Improve headway from 60 to 30 minutes	4,349	1
Livermore/Pleasanton	No change	3,825	3
<b>Total</b>		<b>29,919</b>	<b>9</b>

**SHORT RANGE TRANSIT PLAN | FINAL REPORT**  
City of Turlock

**Figure 95 Phase 5 Recommendations**

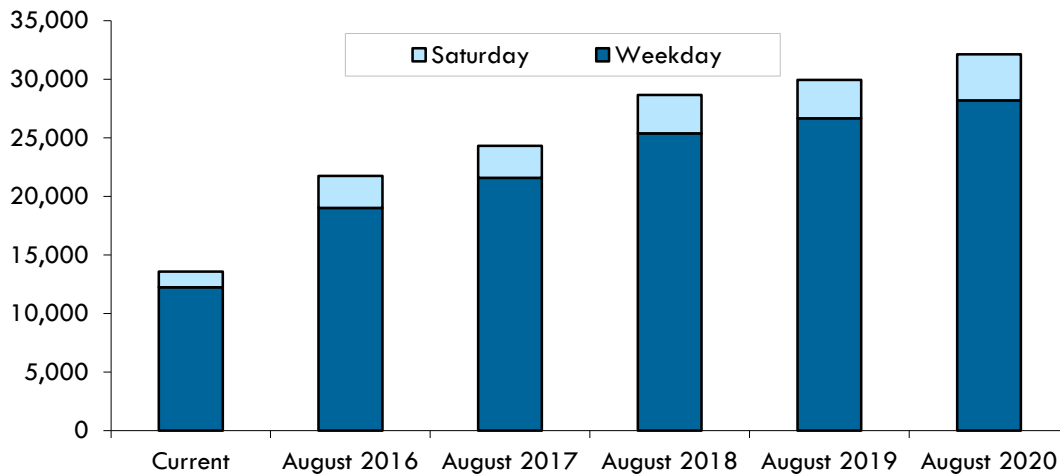
Route	Recommendation	Annual Hours	Peak Vehicles
1 Countryside	No change	4,714	1
2 Geer	No change	4,714	1
3 Olive	Improve headway from 60 to 30 minutes	4,714	1
4 Colorado	No change	4,714	1
5 Lander	No change	4,714	1
6 Soderquist	Improve headway from 60 to 30 minutes	4,714	1
Livermore/Pleasanton	No change	3,825	3
<b>Total</b>		<b>32,109</b>	<b>9</b>

A summary of annual hours and peak vehicle requirements for Phases 1-5 for the entire Turlock Transit system is provided in Figure 96.

**Figure 96 Summary of Phase 1-5 Recommendations**

Phase	Recommendation	Annual Hours	Peak Vehicles
1	Implement new route network	21,746	5
2	Implement commuter express route	24,296	5
3	Improve Routes 3 and 6 headways to 30 minutes	28,644	6
4	Increase trips on commuter express route	29,919	6
5	Increase span on Routes 1-6	32,109	6

**Figure 97 Service Hours for Phase 1-5 Recommendations**



POTENTIAL ADDITIONAL SERVICES

Additional services, including a Turlock Sales Yard Shuttle and Sunday service may be added as ridership demand warrants and farebox recovery ratio allows.

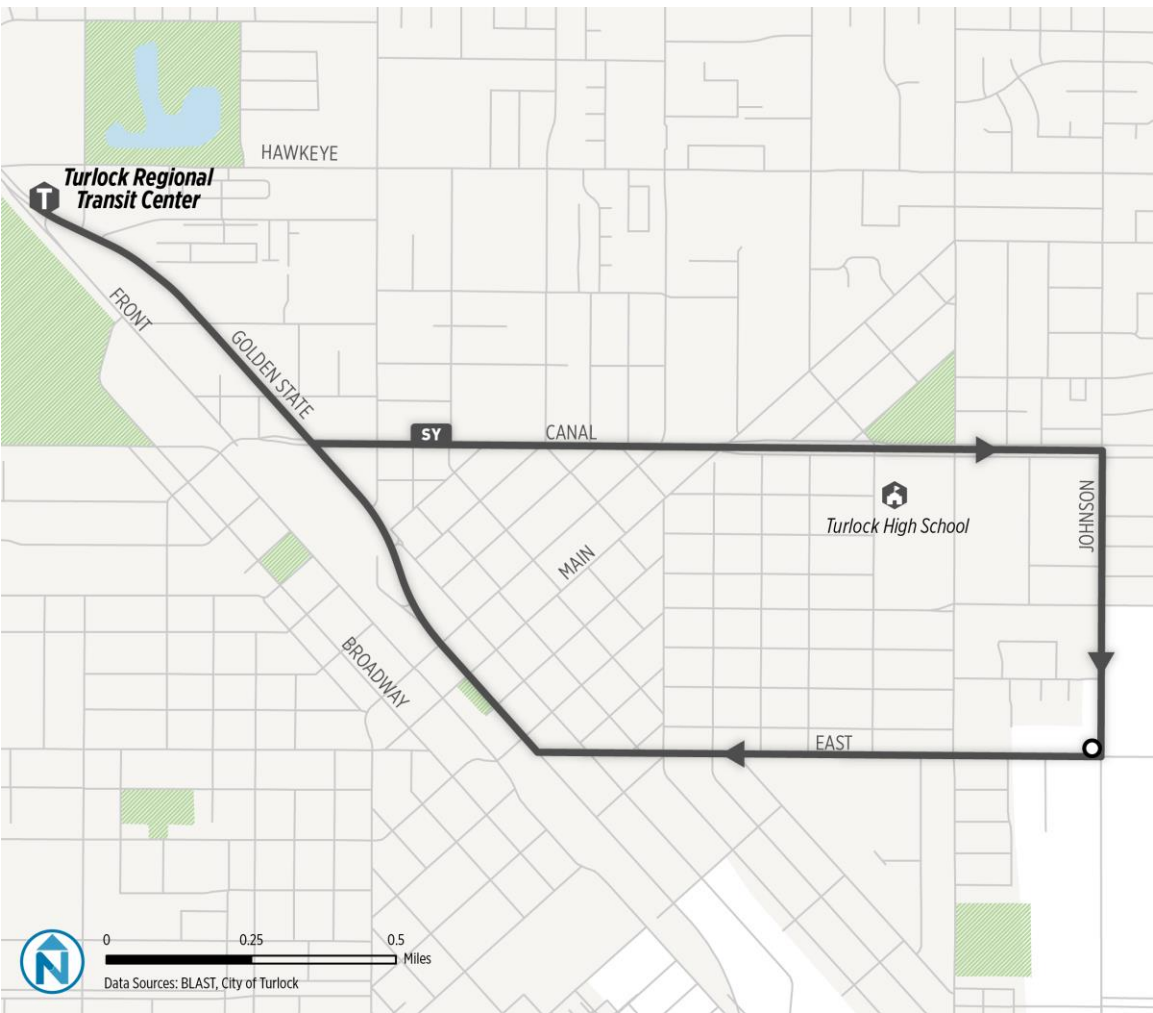
Turlock Sales Yard Shuttle

The Turlock Sales Yard Shuttle should be implemented if Tuesday ridership on Route 3 Olive creates overcrowding and/or scheduling delays due to activity levels. The Turlock Sales Yard Shuttle could also be tested as a pilot project to evaluate interest and ridership.

Recommended Service Levels

Implementation	Tuesday		
	Headway	Vehicles	Service Span
TBD	20	1	7:00am-2:00pm

Figure 98 Turlock Sales Yard Shuttle Alignment and Stops





## SERVICE CHANGE IMPLEMENTATION

Implementation of Phase 1 service changes will occur on January 3, 2017. In addition to the implementation of expanded services, future service changes allow an opportunity to modify route alignments due to changes in infrastructure or development, adjust schedules based on actual running times, add or remove bus stops, and implement fare adjustments. A service change checklist is provided in Figure 99.

**Figure 99      Service Change Checklist**

Phase	Action(s)
<b>Proposal Development</b>	<input type="checkbox"/> Service & ridership analysis <input type="checkbox"/> Review of customer and operator input <input type="checkbox"/> Cost estimates <input type="checkbox"/> Service equity analysis <input type="checkbox"/> Initial routes and timing <input type="checkbox"/> Customer outreach <input type="checkbox"/> Public meetings <input type="checkbox"/> Proposal revisions <input type="checkbox"/> City Council approval
<b>Implementation Preparation</b>	<input type="checkbox"/> Schedule development <input type="checkbox"/> Operator work assignments <input type="checkbox"/> Marketing and communication materials <input type="checkbox"/> Capital upgrades (bus stop signage and amenities, supporting infrastructure, etc.) <input type="checkbox"/> IT updates (website, Google Transit, etc.)
<b>Implementation</b>	

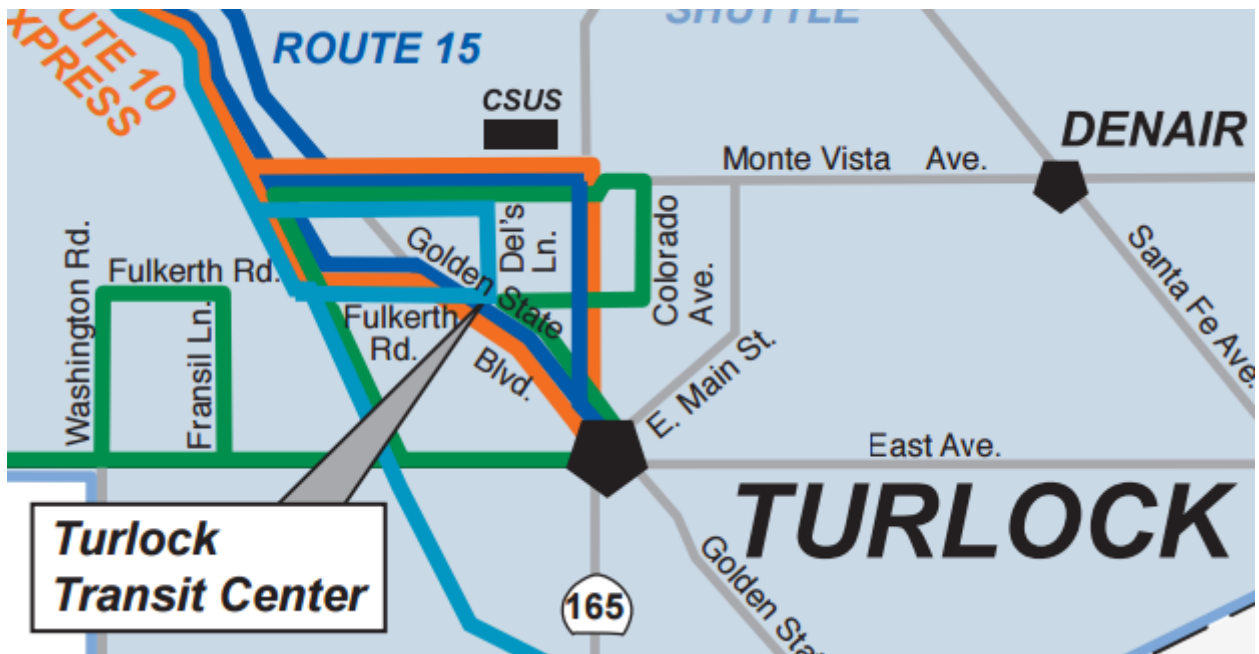
## COORDINATION WITH StaRT

Stanislaus Regional Transit (StaRT) currently operates four routes that serve Turlock. Over time, StaRT coverage within Turlock has increased. According to StaRT staff, this expansion occurred over time to meet the demands of regional commuters and to address reductions in local service from BLAST. As can be seen in the route map below, StaRT's coverage in Turlock is substantial, with multiple routes serving Monte Vista Ave, Golden State Blvd, Fulkerth Rd, Geer Rd, Colorado Ave, Hawkeye Blvd, and Del's Ln. StaRT routes serving Turlock are depicted in Figure 100.

**Figure 100 StaRT Routes Serving Turlock – Service Span**

Route	Weekday	Saturday
10 Modesto-Turlock	5:00 a.m.-10:20 p.m.	N/A
15 Modesto-Ceres-Keyes-Turlock	5:35 a.m.-9:49 p.m.	6:30 a.m.-8:56 p.m.
45 East: Patterson-Turlock	6:20 a.m.-8:20 p.m.	6:40 a.m.-6:25 p.m.
70 Modesto-Turlock-Merced	3 daily round trips	N/A

**Figure 101 StaRT Routes Serving Turlock - Map**



Source: Stanislaus Regional Transit

With the City of Turlock planning to improve and expand local service, it is recommended that staff from the City and County convene to revisit the role that StaRT should play as a regional transit provider in Turlock. StaRT's extensive coverage in Turlock has a negative impact on local ridership, thereby jeopardizing the City's ability to meet its target farebox recovery ratios. Furthermore, being that local riders will have more direct, frequent, and later-running service connecting them to the Turlock Regional Transit Center, there should be less need for StaRT to meet the demand from previous service gaps at the local level. This plan proposes two strategies for to streamline StaRT service in Turlock.

## **Strategy 1: Regional Connector Service**

This option would limit StaRT routes to serving the Regional Transit Center and CSUS. Routes would follow the current alignment of Route 70 as it passes through Turlock (Monte Vista Ave, Del's LN, and Fulkerth Rd). Streamlined service would reduce running time for StaRT routes being that they would spend less time circulating through Turlock, and would more closely mirror the way regional routes operate in Modesto (serving the Transit Center and Modesto Junior College).

## **Strategy 2: Major Destinations**

In order to provide direct access to more Turlock destinations for regional commuters, the second option proposes that all routes operate along a similar alignment to the one proposed above, but accessing CSUS via Christoffersen Parkway and Crowell Road before continuing onto Monte Vista Avenue. Routes would provide service to regional destinations, including Emmanuel Medical Center: Sutter Gould, CSUS, the Regional Transit Center, and the Walmart on Fulkerth Road.

## 9 DIAL-A-RIDE RECOMMENDATIONS

The current DART service is a blend of complementary ADA paratransit service (as required to supplement fixed-route services) and general public dial-a-ride service above and beyond the ADA requirements. The Dial-A-Ride recommendations primarily focus on differentiating elements of these to services to better track ADA paratransit program attributes relative to FTA requirements, and to better match general public dial-a-ride program elements to the markets served.

### CHANGES IN RESPONSE TO ADA REQUIREMENTS

Complementary ADA paratransit service is required to allow riders with disabilities to travel between locations served by fixed-route service when their disability prevents them from accessing or using the regular bus service. The law requiring ADA paratransit service<sup>2</sup> defines six required characteristics to demonstrate that paratransit service is comparable to fixed-route service and these are:

- **Hours and days of service.** ADA paratransit service is required to operate on the same days of the week, and the same hours of the day as does the fixed-route service.
- **Service area.** ADA paratransit service is required to provide trips between locations that are within  $\frac{3}{4}$  mile of all fixed routes.
- **Response time (trip reservations).** ADA paratransit service is required accept trip requests up to the day before (close of administrative business day) the day of travel.
- **Fares.** ADA paratransit service can cost no more than twice the base fixed-route fare.
- **Operating without regard to trip purpose.** ADA paratransit service cannot limit service based on the rider's trip purpose are the proving agency should not be asking residents about their travel purpose when making a trip request.
- **Absence of capacity constraints.** The ADA paratransit service provider cannot demonstrate patterns of repeated capacity constraints including denials of service, asking riders to negotiate travel times beyond the allowed operational windows, scheduling service with excessive travel times (as compared to fixed-route bus travel), and experience long waits when calling for trip reservations.

The City should be prepared to demonstrate performance to these characteristics during a FTA review or if challenged by a rider.

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<sup>2</sup> Code of Federal Regulations Title 49 Subtitle A Part 37 -Transportation Services For Individuals With Disabilities (ADA); Subpart F – Paratransit as a Complement to Fixed Route Service

## **Suggested ADA Paratransit Service Area**

The City should consider defining the ADA paratransit service area as the city limits along with an extension to Barnhart Road where the ¾-mile buffer around Routes 1 and 2 extend north of the city limit. A transit provider may limit its ADA paratransit service area to its jurisdiction boundaries, even if the ¾-mile buffer goes beyond this boundary, if the agency is prohibited from operating outside the boundary. Covering the entire city is above and beyond the ADA requirement, but will make it easier to convey the service area to potential riders and the extra areas outside of the ¾ mile buffer should not generate excessive demand on the ADA program.

## **Suggested ADA Paratransit Eligibility**

The City currently offers these services to anyone over 65 or with a physician-verified disability. The inclusion of seniors goes above and beyond the ADA requirements but may be of concern for two reasons. The City's procedures and protocols should be able to prioritize individuals with a disability over seniors if a capacity constraint were to ever arise. And ADA paratransit rides can be quite expensive and The City may want to control the demand for these services or at least provide trips for non-ADA eligible riders in a different manner allowing flexibility with respect the six required characteristics.

Currently disability status is determined using the Disabled Eligibility Card which requires a physician or certifying agency verification. The card is also used to obtain a discount when riding a fixed route. The transit industry has been moving toward functional assessments when determining ADA paratransit eligibility to better manage demand for these special and costly services. The assessments look for demonstrated conditions that prohibit riders from accessing or using fixed-route service. Underlying disabilities may not result in difficulties getting to/from bus stops or riding a fixed-route bus.

The City has been exploring options for conducting functional assessment with partner agencies to limit administrative costs. These efforts should continue, but for the near term, the City should develop formal policies and procedures for determining ADA paratransit eligibility. These should be separated from determination of eligibility for discounts on fixed-route service. Discounts for fixed-route travel is often less restrictive involving physician verification and including age, Medicare status, veteran status etc. The City should have a written ADA paratransit eligibility policy and include its key elements in a rider's guide for the service. These should include the following elements at a minimum:

- Availability of application materials in accessible formats (e.g. large fonts, etc.)
- Description of determination process, including method of notifying individuals about determinations
- System and timetable for processing applications and for allowing presumptive eligibility
- Documentation that will be provided to persons determined ADA paratransit eligible
- Description of the administrative appeals process
- A policy for visitors

The City can still operate ADA paratransit service as a subset of a larger demand-response system using a single fleet and scheduling/dispatch system. However, the City will need to keep track of riders that have been certified as eligible for ADA paratransit and track trip request and trip completion performance data for these riders independent of general public rides.

## CHANGES TO GENERAL PUBLIC DIAL-A-RIDE PROGRAM

DART elements that go above and beyond the previously highlighted ADA paratransit requirement should be considered a separate senior/disabled public dial-a-ride service based on rider eligibility – something that can be offered as a premium service above what's required to provide. The City will have more flexibility for this service including the ability to:

- Charge more than twice the fixed-route base fare to account for longer distances and/or market pricing
- Decline trip requests, prioritize trips based on trip purpose, or renegotiate travel times when faced with capacity constraints
- Operate limited hours relative to fixed-route system

For the near term, the non-ADA paratransit service should focus on continued service for seniors in the City of Turlock and connections to Denair. Within the city limits, the fare can initially be kept the same as the ADA fares but travel to Denair should retain the premium pricing. And the hours of operation can be maintained equal to those for the fixed-route, but can be reduced if the service is not productive during specific timeframes or if The City desires to re-purpose vehicles at specific times. Figure 102 illustrates how the overall service area can be broken into two zones. The first being the extended city limits which would be the ADA paratransit service area, and the senior/disabled public dial-a-ride area charging the lower fare. The second zone highlights where a premium fare would be charge for longer-distance general public dial-a-ride trips.

**Figure 102 Recommended Demand Response Service Zones**

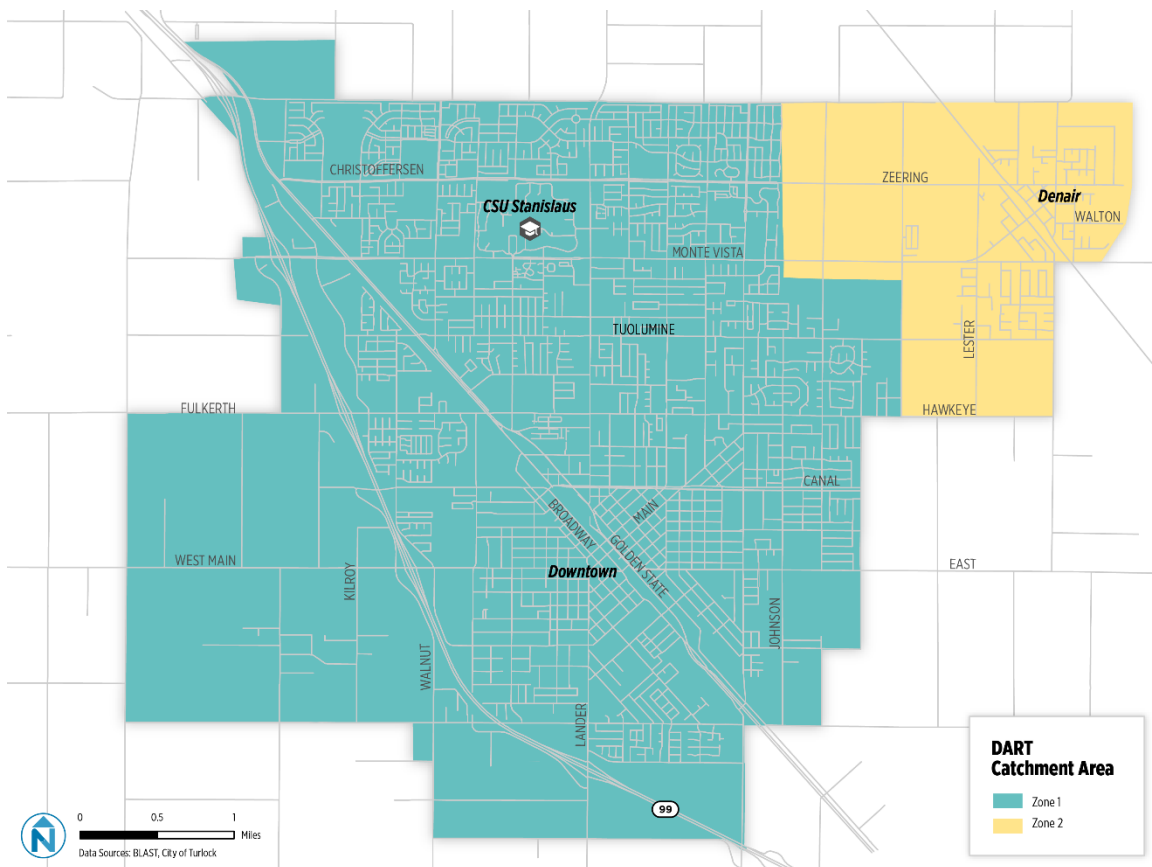


Figure 103 highlights how various aspects of the ADA Complementary Paratransit service will differ from those of the general purpose dial-a-ride service. Operationally, the service will be highly integrated, but only those who are deemed eligible for the ADA service will be guaranteed the benefits associated with this type of service, and additional service will be extended to other residents based on market conditions and availability of City resources.

**Figure 103      Current Local Fixed-Route, ADA Paratransit and General Public Dial-A-Ride Fare Attributes**

Service Type	Local Fixed Route	ADA Paratransit	General Purpose DAR
Brand	Turlock Transit	Turlock Transit Access	Turlock Transit Flex
Eligibility	General public	Persons with disabilities	General public
Hours	M-F 6:00a-7:55pm; Sat 9:00a-4:55p	M-F 6:00a-7:55pm; Sat 9:00a-4:55p	M-F 9a-5p, Sat 10a-4p
Base Fare	\$1.50	\$2.50, increase to \$3 in 2017	\$4 / \$5 Denair
Discounted Fare *	\$0.75	N/A	\$2 / \$2.50 Denair
Day Pass	\$3.00	N/A	N/A
Discounted Day Pass	\$1.50	N/A	N/A
31-Day Pass	\$40	N/A	N/A
Stored Value	Yes	Yes	Yes
Board/Alight	Designated stops	Curb-to-curb	Curb-to-curb
Vehicle(s)	35' coach and 26' cutaway	26' cutaway	26' cutaway
Service Area	N/A	City Limits	City Limits + Denair



# 10 SERVICE GUIDELINES

Service design guidelines are planning tools that are used to expand service to new areas or modify existing routes. Turlock Transit strives to serve as many local area residents, students, workers, and visitors as they can with their available resources. Service features that attract one type of rider to transit can deter other riders, requiring a balance these types of competing demands. However, there are certain service design principles that will improve service for nearly all riders. This section describes practices that will attract and retain riders.

## SERVICE PLANNING PRINCIPLES

For people to use transit, service should be designed so that it is easy to understand. Most of the guidelines in this section are aimed at making service intuitive, logical, and easy to understand. Simplicity is a key value in creating a route network that people can navigate easily to make many kinds of trips.

### Route Directness

Routes should be designed to operate as directly as possible to maximize average speed for the bus and minimize travel time for passengers while maintaining access to service. Fast and direct routes tend to be useful to more people than circuitous routes. Even if a trip requires transferring between two routes, it is likely to be faster than a trip using a circuitous route.

Travel times and directness of service can be affected by a series of factors that are a function of the environment in which service operates. Some of these factors include:

- Traffic congestion
- Street geometry and turning movements
- Presence and operations of traffic signals
- Accessibility of streets from adjacent areas
- Stops with high ridership or mobility-impaired customers

### Route Alignment

Routes should operate along the same alignment in both directions to make it easy for riders to know how to return to their trip origin location. Exceptions can be made in cases where such operation is not possible due to one-way streets, turn restrictions, or near the end of a route where the bus must turn around. In those cases, routes should be designed so that the opposite directions parallel each other as closely as possible. While routes that include large loops or several deviations maximize transit coverage, they also result in out-of-direction travel that is not intuitive or attractive to potential customers.

## Route Deviations

Routes should not deviate from the most direct alignment unless there is a compelling reason. Potential destinations to deviate service include major shopping centers, employment sites, schools, etc.

In these cases, the benefits of operating the route off of the main route must be weighed against the inconvenience caused to passengers already on board. Additional considerations include the impact on overall route productivity, the increase time added as a result of the deviation, and the schedule coordination with connecting services. In most cases, where route deviations are provided, they should be provided on an all-day basis. Exceptions include early morning or late night trips to schools or employment centers with limited hours.

## Arterial Streets

All frequent local and local routes should operate on major roadways. The operation of bus service along arterials makes transit service faster and easier for riders to understand and use. Current and potential riders typically have a general knowledge of an area's arterial road system and use that knowledge for geographic points of reference.

## Route Length

Routes should be the appropriate length to maximize ridership potential and minimize operational issues. Two routes serving different parts of the service area with a shared terminus, such as a transit center or major destination may be combined as one route or interlined in order to operate more cost-effectively. However, excessively long local routes (cycle times greater than 60 minutes) should be avoided to minimize potential schedule adherence issues.

## Headways

Service headways are one of the most important determinants of ridership. More frequent service attracts more passengers assuming a market is present. At the same time, headways have a significant impact on operating costs, and service requirements increase significantly with improvements in headways.

A consistent pattern to the schedule is strongly recommended. Headways may vary during the day according to demand. For example, a route headway may transition from 30 minutes to 60 minutes during the evening. Whenever possible, routes should have clockface headways that divide evenly into an hour, such as every 15, 30, or 60 minutes. Clockface headways are easier for passengers to remember and can help facilitate better transfer connections between routes.

## Service Span

The number of hours per day that a route operates plays a role in determining the effectiveness of transit service for potential users. Transit service must be available near the time a trip needs to be made in order for transit to be a viable travel option. Weekday routes should permit workers and students to make their morning start times, and should end late enough to provide return trips home for second shift workers. Service oriented to non-work travel can start later and end sooner. Turlock Transit should strive to match the service span of StaRT routes to improve regional connections.

## 11 CAPITAL INVESTMENTS

The operation of fixed-route and paratransit bus service in Turlock requires supporting capital in the form of buses, amenities, and technology. This chapter summarizes capital needs required to maintain and expand bus service over the next five years.

### VEHICLES

Larger vehicles are assigned to fixed-route services. Cutaway vehicles are assigned to dial-a-ride services and are occasionally used to operate select fixed-routes due to maintenance issues. The City of Turlock recently procured two used Orion 35' CNG buses from Merced Transit Authority for fixed-route service and is in the process of transferring vehicle titles. The successful activation of these buses and procurement of future replacement vehicles is critical to addressing ongoing schedule reliability issues and ensuring reliable operations. The City of Turlock has also recently acquired five new Arboc cutaway buses for dial-a-ride service.

Figure 104 Vehicle Details

Bus #	In Service	Description	Fuel	Length	Seats	Service	Mileage	Retirement
1034	Apr 2009	El Dorado Aero Elite	Diesel	29'	20	Fixed-route	144,406	2016
1031	Jan 2006	Orion Vii	CNG	35'	34	Fixed-route	275,498	2017
1032	Jan 2006	Orion Vii	CNG	35'	34	Fixed-route	275,200	2017
1036	Oct 2010	Orion Vii	CNG	35'	34	Fixed-route	143,748	2022
1037	Oct 2010	Orion Vii	CNG	35'	34	Fixed-route	148,563	2022
?	Apr 2009	Orion Vii	CNG	35'	34	Fixed-route	?	2021
?	Apr 2009	Orion Vii	CNG	35'	34	Fixed-route	?	2021
1035	Jul 2009	Glaval Universal 450	Diesel	26'	14	Dial-a-Ride	87,064	2017
1038	Mar 2016	Arboc GM 4500	Diesel	26'	17	DAR / FR	2,358	2021
1039	Mar 2016	Arboc GM 4500	Diesel	26'	17	DAR / FR	N/A	2021
1040	Mar 2016	Arboc GM 4500	Diesel	26'	17	DAR / FR	2,335	2021
1041	Mar 2016	Arboc GM 4500	Diesel	26'	17	DAR / FR	2,339	2021
1042	Mar 2016	Arboc GM 4500	Diesel	26'	17	DAR / FR	2,562	2021

**SHORT RANGE TRANSIT PLAN | FINAL REPORT**  
City of Turlock

**Figure 105** Typical 35-Foot Low Floor Bus



Future fixed-route and dial-a-ride vehicle requirements are depicted in Figure 106. It is recommended that the City of Turlock enters in an agreement with a contractor to provide and operate 45-foot commuter express buses to avoid storage and maintenance responsibilities.

**Figure 106** Peak Vehicle Requirements

		Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Route	Vehicle Type	Peak Vehicles				
1	35'	1	1	1	1	1
2	35'	1	1	1	1	1
3	26'	0.5	0.5	1	1	1
4	35'	1	1	1	1	1
5	35'	1	1	1	1	1
6	26'	0.5	0.5	1	1	1
Dial-a-Ride	26'	3	3	3	3	3
Commuter Express	45'	-	Contracted			
35' Peak Vehicles		4	4	5	5	5
26' Peak Vehicles		4	4	4	4	4
35' Spares		2	2	2	2	2
26' Spares		2	2	2	2	2
35' Vehicles Required		6	6	7	7	7
26' Vehicles Required		6	6	6	6	6

## BUS STOPS

### Bus Stop Spacing and Placement

The distance between stops is a key element in balancing transit access and service efficiency. More closely spaced stops provide customers with more convenient access as they are likely to experience a shorter walk to the nearest bus stop. However, fewer stops result in faster service. Since most riders want service that balances convenience and speed, the number and location of stops is a key component of determining that balance.

Bus stop placement involves a balance of customer safety, accessibility, and operations. All stops should be fully accessible with a concrete landing and access to a sidewalk or pathway within the next five years. Bus stops should be compatible with adjacent land use and minimize adverse impacts on the built and natural environment.

The initial step of determining placement of a new or relocated bus stop involves its proximity to the intersection. The placement of each bus stop can be classified as one of the following:

- Near-side—immediately prior to an intersection
- Far-side—immediately after an intersection
- Mid-block—between two intersections














Bus stops are generally located at street intersections to maximize pedestrian accessibility from both sides of the street and provide connectivity to intersecting bus routes. Far-side stops are typically ideal at signalized intersections and along high-volume arterial streets. Near-side stops are typically preferable along low-volume streets such as neighborhood collector streets to reduce the possibility of stopping twice at an intersection (stop sign and bus stop).

Bus turning movements, driveways, and dedicated turn lanes sometimes restrict the placement of stops at or near an intersection and necessitate a mid-block stop. Mid-block stops may also be considered when destinations are a significant distance from intersections. Mid-block stops may be the only option at major intersections with dedicated turn lanes.

Infrastructure consideration for bus stop placement includes the presence of sidewalks, lighting, topography, and roadside constraints such as driveways, trees, poles, fire hydrants, etc.

Key advantages and disadvantages of each bus stop placement option are described in Figure 107.

**Figure 107     Bus Stop Placement Considerations**

	Advantages	Disadvantages
<b>Near-side stops</b>	 Shortest distance from bus door to a crosswalk, which encourages riders to use crosswalks	 Most exposure to traffic delays. May require more than one traffic cycle  Increases conflict with right-turning vehicles  May block travel lane with queuing buses  May obscure motorists' view of traffic control devices and crossing pedestrians
<b>Mid-block stops</b>	 Typically improves access to destinations on large tracts  Minimizes motorist and pedestrian line of sight concerns	 May require bus pullout on high-speed streets  Encourages riders to cross street mid-block
<b>Far-side stops</b>	 Encourages riders to use nearby crosswalks  Allows bus operators to use intersection as a deceleration lane  Allows additional right-turning capacity before intersection	 May restrict travel lanes on far-side of intersection

## Bus Stop Layout

Each new or upgraded bus stop should include a landing pad aligned with the front door of the stopped bus to meet regulations included in the American with Disabilities Act. Landing pads should have a minimum dimension of 5' wide x 8' deep, which may consist of the space under a shelter so long as there are no physical obstructions such as seating or shelter posts. Landing pads should cover the back door of the bus for stops averaging more than 10 alightings per day.

Bus stop amenities should ideally be placed nearside of signage to minimize the distance to bus doors and reduce dwell times. Available right-of-way may influence the placement of amenities. When sufficient right-of-way exists, amenities should be placed behind sidewalk to allow space for snow removal.

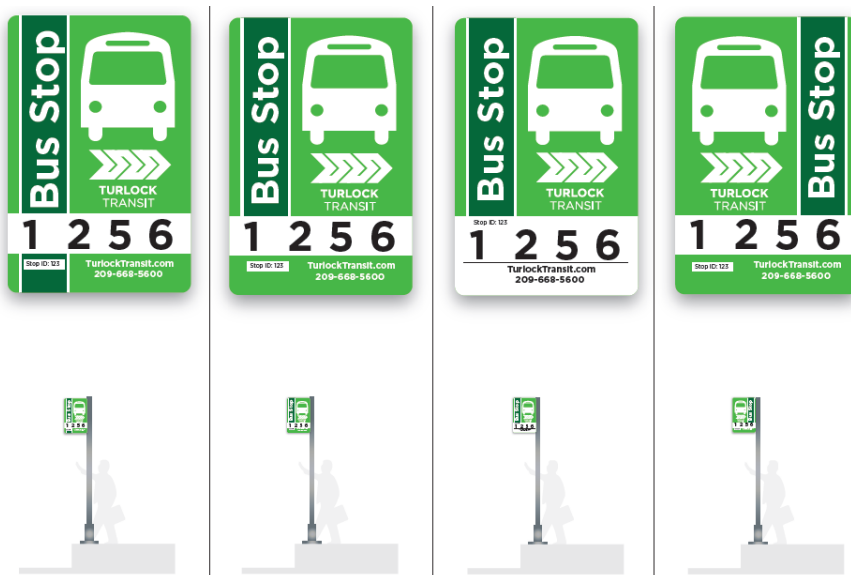
## Bus Stop Signage

Bus stop signage should be placed at far end of stop and mark the stopping point of the bus. Signage should typically be installed at a distance of 3' from the curb to maximize visibility. Specific signage location should take surrounding infrastructure and vegetation into consideration. New Turlock Transit bus stop signage should be installed at every bus stop with the following information:

- Turlock Transit logo
- Unique panels/stickers for each
- Unique stop identification number, which can be used to access schedule information
- Customer service line
- Turlock Transit website address
- ADA-accessible symbol indicating that buses (not necessarily the stop) are accessible

The bottom of the sign should be installed seven feet from the ground. Route information panels should measure at least 4 inches wide by 12 inches tall to maximize visibility and be installed at eye level. An example of conceptual Turlock Transit bus stop designs are shown in Figure 108.

Figure 108 Turlock Transit Conceptual Bus Stop Designs





## Bus Stop Amenities

This section provides guidance on the installation and placement of bus stop amenities. Bus stops amenities enhance the customer experience by improving comfort and convenience. Consequently, transit systems with well-designed and maintained amenities have the potential to attract and retain riders. Bus stop amenities also influence the community's image perception of transit in Turlock. Bus stop amenities are described in Figure 109.

**Figure 109     Bus Stop Amenities**

Amenity	Description
Pole and Sign	Installed at all bus stops
Seating	Installed at stops meeting specific qualifying criteria.
Shelter	Installed at stops meeting specific qualifying criteria.
Trash Receptacles	Installed at stops with seating or shelter.

Three tiers of bus stops are proposed and described below.

### **Basic Bus Stop**

Bus stops generating fewer than 15 boardings per day are classified as basic stops and should only include a pole and signage.

### **Bus Stop with Seating**

Bus stops generating at least 15 boardings per day qualify for a 6-8' bench and trash receptacle.

### **Bus Stop with Shelter**

Bus stops generating at least 25 daily boardings qualify for a shelter, seating, and a trash receptacle. Alternatively, stops that generate at least 10 daily boardings and meet one of the following criteria also qualify for a shelter:

- Medical, senior, social service, public or special needs facilities within ¼ mile
- Major grocery stores within ¼ mile
- Apartments, dorms, or senior housing with 100+ units within ¼ mile
- High schools, colleges, or universities within ¼ mile

Bus stop shelters should be available in multiple sizes due to variations in available right-of-way and boarding activity.

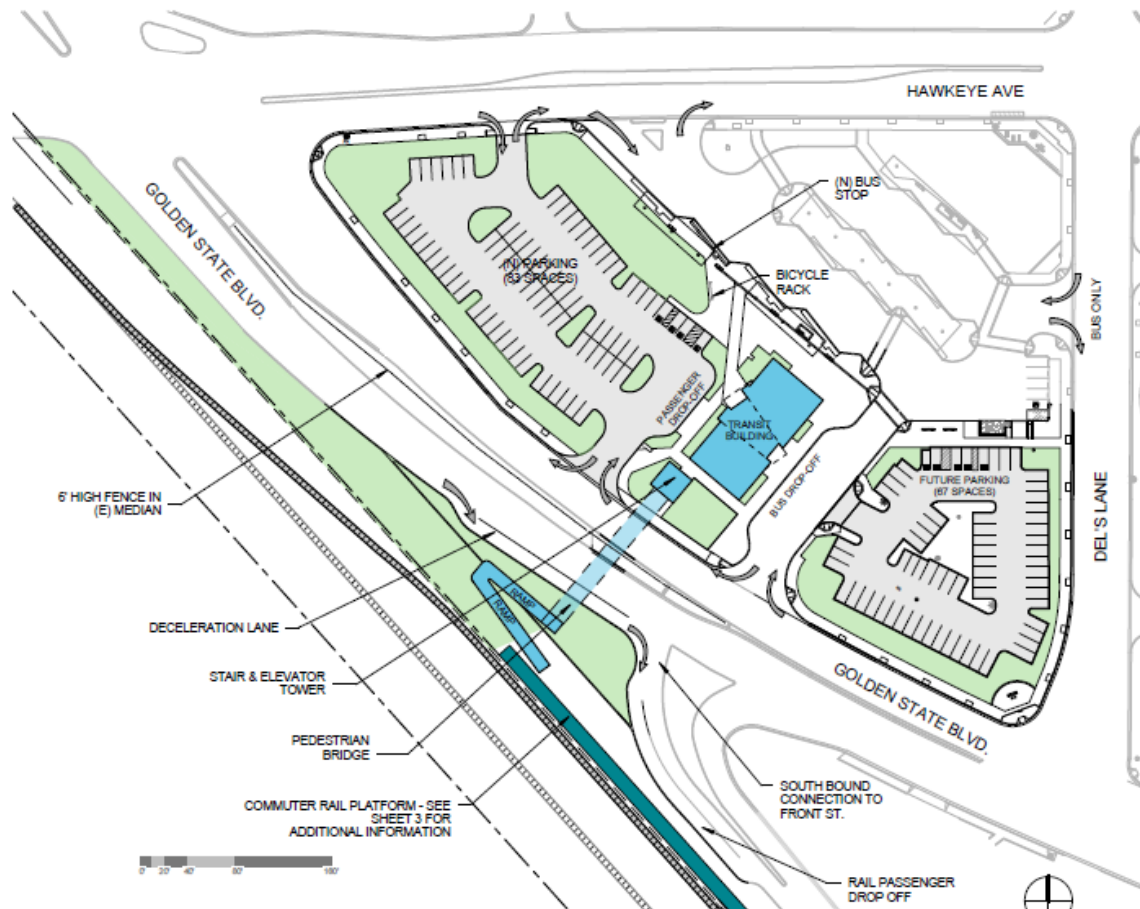
## TURLOCK REGIONAL TRANSIT CENTER

Transit centers can be more than a site to make a transit connection, and can be a community asset by accommodating non-transit purposes. Integrating non-transit purposes, such as public meeting space, can help gain community acceptance in the surrounding area.

The Phase 2 improvements of Turlock Regional Transit Center will include covered canopies at bus stops, an indoor lobby area, public restrooms, ticket sales, parking, and bike storage.

A layout of the Phase 2 expansion of Turlock Regional Transit Center is depicted in Figure 110.

**Figure 110** Turlock Regional Transit Center Phase 2 Expansion



## STREET AND SIDEWALK INFRASTRUCTURE IMPROVEMENTS

The addition of landing pads, connecting sidewalks, and amenities such as seating and shelter enhance the customer experience and have the potential to increase ridership.

Opportunities for minimizing the cost of bus stop improvements include incorporating them into municipal or private projects construction projects that involve streets and sidewalks. Priority street and sidewalk infrastructure improvements are listed below and depicted in Figure 112.

**Figure 111** Priority Street and Sidewalk Infrastructure Improvements

Location	Improvement
Monte Vista & 4 Seasons	Turn Lane Closure
Monte Vista & Dels (NE corner)	Queue Jump
Monte Vista & Geer (NW corner)	Parking Closure
Fulkerth & Golden State	Sidewalk Extension
Geer & Hawkeye (NW corner)	Sidewalk Extension
Olive & Delbon (NW corner)	Sidewalk Extension
Canal & Tully (NE corner)	Sidewalk Extension
Colorado & Canal (SE corner)	Sidewalk Extension
Colorado & Lyons (SW corner)	Parking Closure
West & Main	Signalized Intersection
East & Alpha (SE corner)	Sidewalk Extension
East & Berkeley (SW corner)	Sidewalk Extension
East & Johnson (NW corner)	Sidewalk Extension
Soderquist & Angelus (SE corner)	Sidewalk Extension
Linwood & 5 <sup>th</sup> (SW corner)	Sidewalk Extension

Figure 112 Priority Street and Sidewalk Infrastructure Improvements





## INVESTMENTS IN BICYCLE ACCESS

Improving bicycle access to transit increases catchment areas around transit stops and provides improved mobility. Riders whose destinations are greater than ½ mile from the nearest stop benefit from bringing their bike with them on the bus. Fixed-route vehicles in Turlock are able to carry bicycles using platform racks on the front of the bus, which can help transit riders access the service and/or reach to their destination.

The installation of protected bike lanes and grade-separated paths can bring new riders to the system and help solve first- and last-mile connections. Additional bike-friendly enhancements include the installation of bike storage at the transit center and bike racks at major destinations.

Easily accessible and secure bicycle storage is essential for transit customers who access bus stops by bike. Bike racks can be as simple as a U-shaped metal pole, but can also be designed to function as public art. A bicycle shelter located at transit centers can provide added storage capacity, shelter from the elements, and a greater sense of security. Bicycle shelters typically include amenities such as air pumps, tools for basic repairs, snack/drink machines, and route/schedule information. Bike lockers are a more costly, but more secure, bicycle storage option. Bike lockers are completely enclosed and are only accessible using a key, reducing the risk of theft.

**Figure 113**     **Sample Bicycle Shelter**



## GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Most transit systems utilize GIS to manage bus stop locations, amenities, route alignments, and ridership data. GIS can also be used to assist with National Transit Database (NTD) reporting and Google Transit Feed Specification (GTFS) development. It is recommended that the City of Turlock create and maintain a GIS database. The hiring of a skilled GIS professional dedicating a portion of their time to GIS will ensure proper development, maintenance and application of GIS.

## AUTOMATIC VEHICLE LOCATION (AVL)

Automatic Vehicle Location (AVL) describes the use of computers and Global Positioning Systems (GPS) to track transit vehicles. AVL enables transit providers to improve customer service through the provision of real time schedule information. Real-time information on arrival/departure times has been shown to increase customer confidence in the reliability of transit system. Research has shown that transit customers perceive shorter wait times than reality when they have access to real time information while transit customers who do not have access to real time information tend to perceive their waits to be longer than reality. With the widespread use of smart phones, real-time information is more accessible to the customer than ever.

AVL enables dispatchers to have a visual picture of the actual location of each bus allowing them to take proactive action when necessary to maintain reliability. AVL also provides better data for developing more accurate schedules. Training is important in installing an AVL system. Contracts with AVL vendors should include a training component prior to acceptance and turnover of the AVL system. It is important to train transit staff on how to effectively interpret AVL data.

## AUTOMATIC PASSENGER COUNTERS (APC)

Many transit systems include automatic passenger counters (APC's) as part of the AVL procurement. APC's can be installed on all buses to provide a 100% count of boardings although to reduce costs some systems only equip some of their buses and make sure that they cycle through the entire system over a specified period of time. If APC's are intended to be the primary source for daily ridership counts, they need to be installed on all buses.

A key advantage of APC's is the ability to obtain accurate data of on and off activity at each transit stop. Whether all or only some buses are equipped, far more data can be collected than through manual means. There is no need to hire checkers to collect this data or have drivers fill out on off sheets while driving. While this significantly reduces the need to do manual ridership counts and will increase the amount of data available, occasional manual audits should take place to identify and resolve potential discrepancies between farebox and APC data.

## ANNUNCIATORS

The Americans with Disabilities Act (ADA) requires that all major bus stops be announced. While operators are expected to call out major stops in the absence of annunciators, in reality this often does not occur. Annunciators integrated with the AVL system can be programed to announce designated stops in a consistent tone and volume. GPS provides direction to automatically announce stops without the need for intervention for the driver. Annunciators can be used to make general announcements in multiple languages. The procurement of annunciators typically includes electronic visual signage, which displays text at the front of the interior of the bus.

## TRAFFIC SIGNAL PRIORITY (TSP)

TSP provides priority treatment of transit vehicles at intersections by holding green lights longer or shortening red lights. It is designed to reduce wait time of transit vehicles while minimizing the impacts to surrounding traffic. Successfully reducing wait times improves reliability of transit services which improves the attractiveness of transit and can reduce operating costs. TSP may be implemented at individual intersections or across corridors or entire street systems. The Federal Transit Administration's TSP Planning and Implementation Handbook points out, the distinction between Transit Signal Priority and signal pre-emption is an important one because: "signal priority modifies the normal signal operation process to better accommodate transit vehicles, while pre-emption interrupts the normal process for special events such as an approaching train or responding fire engine".

TSP systems require four components: a detection system aboard transit vehicles; a priority request generator which can be aboard the vehicle or at a centralized management location; a strategy for prioritizing requests; and an overall TSP management system.

## ON-BOARD VIDEO AND AUDIO RECORDING

On board video and audio recording can provide an extra level of security on buses and also can be very effective in addressing a number of issues that can occur during the time a bus is in operation:

- **Resolve customer complaints:** All complaints must be taken seriously and investigated thoroughly. Video and audio provide a robust tool for addressing customer concerns.
- **Accident investigations:** Exterior facing cameras can provide an objective view of what occurred leading up to an accident involving the bus.
- **Insurance claims:** When a customer files a complaint about being injured on a bus the video and audio can depict exactly what happened assuring that only legitimate claims are processed.
- **Assist law enforcement:** If an accident occurs in front of a bus but doesn't involve the bus a forward facing camera can assist police investigating the accident as it is possible the accident was captured by the camera.
- **Identify inappropriate behavior:** The video can be used to identify individuals suspected of violating riding rules. Audio and video can provide the evidence necessary to take proper action.

On board video and recording equipment have become indispensable to many transit systems. As with any hardware and software procurement it is essential to account for proper training of transit staff.



## 12 FARE RECOMMENDATIONS

The BLAST fare structure is detailed in Figure 114. The City of Turlock offers single ride fares, as well as a multitude of pass products. Passengers may transfer between BLAST routes at the Turlock Regional Transit Center for twenty-five cents. Passengers transferring elsewhere in the city must pay the full fare. Discounted fares are available for eligible customers, which include senior citizens, individuals with disabilities, and Medicare card holders. Children under the age of four ride for free.

All-day and monthly pass options are available at full and discounted rates. Ticket books are also available for purchase. A table detailing BLAST fare options is provided in Figure 114.

**Figure 114 BLAST Fare Structure**

Fare Type	Price
<b>BLAST Fares</b>	
Children under age 4 (Limit two children per adult)	Free
Single-Ride Fare	\$1.50
Reduced Fare (Seniors age 65 and older/ Disabled/ Medicare Card Holder)	\$0.75
BLAST Transfer (Valid only at transfer hub)	\$0.25
StaRT Transfer (Between City /Stanislaus County bus systems)	\$0.25
<b>BLAST Passes</b>	
All-Day BLAST Pass (Unlimited rides on day of purchase)	\$3.50
Discount All-Day BLAST Pass	\$1.75
Monthly BLAST Pass (Unlimited rides- purchased from the 1st – 15th)	\$50.00
Monthly BLAST Pass (Purchased after the 15th)	\$25.00
Discount Monthly BLAST Pass	\$25.00
Discount Monthly BLAST Pass (Purchased after the 15th)	\$12.50
Student Monthly BLAST Pass	\$40.00
Student BLAST Pass (Purchased after the 15th)	\$20.00
Field Trips per Student (Pre-arranged Elementary and Jr. High only)	\$0.50
<b>BLAST Ticket Books</b>	
Book of 20 tickets- Regular	\$30.00
Book of 20 tickets- Discount	\$15.00

## FARE RECOMMENDATIONS

In coordination with service expansion and improvements, the project team has designed new fare media and recommended a simplified fare structure. These electronic fare media will work in conjunction with the new fareboxes that the agency is currently acquiring.

The primary goals of the fare restructure are to:

- **Simplify fare structure.** Simplifying fares, including transfers, is a primary goal for transit service in Turlock. Fare products should be provided that make choices simple and clear for customers.
- **Incentivize higher usage of pass products.** Higher use of pass products can be incentivized through discounts. Pass products have operational and fiscal benefits and improve travel times for customers by speeding up the boarding process.

As can be seen in the following figures, the proposed fare structure will simplify the fare options while improving the convenience they offer to passengers.

**Figure 115 Current Fare Structure**

Fare Type	Regular	Discount	Student
Single Trip	\$1.50	\$0.75	\$1.50
Blast Transfer	\$0.25	\$0.25	\$0.25
StaRT Transfer	\$0.25	\$0.25	\$0.25
Day Pass	\$3.50	\$1.75	\$3.50
Monthly Pass (purchased before 15th)	\$50	\$25	\$40
Monthly Pass (purchased after 15th)	\$25	\$12.50	\$20
Book of 20 Tickets	\$30	\$15	\$30

**Figure 116 Proposed Fare Structure**

Fare Type	Regular	Discount	Student
Single Trip	\$1.50	\$0.75	-
StaRT Transfer	Free	Free	-
Day Pass	\$3.50	\$1.75	-
31-Day Pass	\$50.00	\$25.00	\$40.00
Commuter Express	TBD	TBD	TBD

## Day Passes and Transfers

One of the most notable differences between the old and new fare structure is that riders will see an incentive to purchase a Day Pass under the new structure due to the elimination of \$0.25 transfers. Instead of purchasing a second fare to make a transfer, riders will see more value in purchasing a Day Pass up front (which will be the same price as purchasing two one-way trips). Higher utilization of the Day Pass will result in increased operational efficiency seeing as operators will spend less time collecting fares during the boarding process. Day Passes with the elimination of transfers will also make the system easier to understand for new riders and mitigate confusion or conflict stemming from riders attempting to make transfers outside of the Transit Center.

## Monthly Passes

The proposed fare structure also includes simplified monthly passes that will have one fixed price regardless of when they are purchased. Current monthly passes terminate at the end of the month and have two different prices depending on whether they are purchased during the first half or second half of the month. The new 31-Day Pass activates on the first swipe and allows unlimited rides for a 31 day period. Additionally, operators will not have to worry about validating the pass with the new fareboxes.

Figure 117 Proposed Fare Media



## Multiple Vending Locations

In order to further incentivize use of the passes, it is recommended that they be made available for purchase at participating retail establishments, such as grocery stores.

## Smartphone Fare Apps

As smartphone usage has increased, new payment options using smartphones have emerged. Vendors now offer transit agencies the ability to sell fare products such as day passes and monthly passes through smartphone apps, with the vendor receiving a small percentage of each transaction. The passes are displayed on the smartphone screen, and operators visually check the screen to ensure the pass is valid when the rider boards. The City of Turlock should explore the use of options like this to expand its fare options.

## COMMUNITY PARTNERSHIPS

### CSU-Stanislaus Universal Pass (U-Pass)

Many transit providers around the country negotiate with a university (or large employer) for a universal pass agreement. These types of arrangements give all students and/or affiliates unlimited access to the transit system. The transit provider and the institution may negotiate a fare (usually discounted), and the institution pays annually based on the actual number of transit trips taken. Universities may also include the cost of the U-Pass within student fees, typically ranging from \$50-100 per semester. In many cases, institution of a U-pass agreement has led to increased transit ridership.

During the early stages of the project, a potential partnership with CSU Stanislaus was identified as a strategy to improve service for university students, boost system ridership, and create an additional source of dedicated funding to support expanded operations. After presenting service alternatives to CSU students and representatives from Associated Students, Inc. (ASI), the project team went back to the drawing board to provide increased service to campus and an interlined route for students to access shopping and recreation destinations on Countryside Drive.

A funding agreement was proposed based on costs that would be incurred from a goal mode share of 10% among CSU Stanislaus students living in Turlock (2,196). Assuming 10 months of actual usage with a monthly pass priced at \$40, an annual contribution of \$90,000 was calculated and proposed (amounting to less than \$10 per student per year). ASI and the City of Turlock continue to negotiate an agreement that will work for both parties.

### Employee Pass Program

In order to boost ridership and increase revenue, it is recommended that the City explore partnerships with major employers in Turlock, including Turlock Irrigation District and CSUS, to adopt employee pass programs. These agreements are typically negotiated and renewed on an annual basis. By selling passes in bulk, the transit agency is able to offer a substantial discount for passes. In addition to being able to offer their employees a transit benefit at a discounted rate, the program may also appeal to employers as a means to reduce on-site parking demand.

Along with major employer partnerships, the City should also consider offering transit passes to its employees. It is an added benefit that requires no additional cost on the part of the City. Additionally, it demonstrates the City's commitment to local transit service in Turlock.

## 13 MARKETING PLAN

For people to be able to use transit, they must first know that it is there and be able to understand how to use it. This means that it is extremely important for transit systems to provide clear and concise information about their available services.

Successful transit systems provide a wide array of public information, telephone support, printed materials, full-featured websites, and real-time information. The predominant types of information that are widely distributed include:

- **System maps** that provide an overview of available services
- **Route schedules** that provide detailed information for each service
- **Websites**, which are the initial point of access for most people and provide complete information on available services
- **Web and app-based real-time information** that provides predicted arrival times at stations and stops and, often, maps that display the actual location of transit vehicles

In conjunction with planned service expansions, marketing strategies are necessary to draw attention to changes and inform current and potential riders that these changes will improve the user experience. Marketing recommendations fall into three categories – branding, information, and outreach.

### GROWTH MARKETS

- **Current riders.** The improvements recommended as part of the SRTP will enhance the service for people who depend on transit in Turlock, and should encourage more use of the system. Although many existing riders are comfortable with the system and knowledgeable about how it works, even current riders have limited access to information about the system. In addition, current users need to be better informed of policies on both fixed route and dial-a-ride service.
- **California State University-Stanislaus students.** CSUS students are a rider market that is currently underserved and undermarketed. With service recommendations that will improve access to and from campus, student ridership should increase. The proposed U-Pass program will further encourage student ridership.
- **Bay Area Commuters.** Commuter express service to BART and ACE Stations is planned to begin in 2017. Early marketing will help grow awareness and interest in the service prior to implementation. Commuter express riders tend to respond well to online communication such as social media and surveys.

## REBRANDING

All fixed-route transit systems have two basic marketing assets by design: buses and bus stops. These serve as a primary method of informing residents and employees about the existence of service. It is important that these assets are branded in a way that is easily recognizable, easy to understand, and attractive. A visible rebranding effort serves to alert the general public and draw attention to new or improved services.

Discussions with City staff and members of the public indicated a general approval for changing the agency name from 'BLAST' to 'Turlock Transit.' A new name on buses and bus stops, in and of itself, sends out a message that there has been a change. Additionally, moving away from the acronym makes it easier for new users to recognize who operates the service and where it circulates.

A good logo should speak to the product that an agency delivers. A rebranded logo serves as a continual reminder of an agency's commitment to specific service priorities. Below is the proposed rebranded logo for Turlock Transit (Figure 118). Current and new riders will associate the modern and simple look of a new logo with improved, streamlined service. The directional arrows with color gradation evoke a sense of movement to represent the system's improved speed and reliability. Finally, choice riders may also see the use of green as a reminder of the environmental benefits of taking transit instead of driving.

Marketing and branding is only one feature of a successful transit system. However, good information and strong system legibility are critical for people who are learning how to use transit for the first time, as well as for long-time users. And because many people in the community may never use transit, effective branding and marketing of the system might be the only impression they have of transit services available.

**Figure 118** Proposed Turlock Transit Logo



## RIDER INFORMATION

### Buses and Bus Stops

For existing and potential riders, buses and bus stops are also a delivery method for information. It is important that as patrons are navigating the system, they have access to the information they need to get where they want to go. The following features make transit systems user friendly:

- Maps and schedules at major bus stops
- Digital displays showing real-time arrival information at major transit stops
- Bilingual rider guide with maps and schedules on board buses and at the Transit Center
- Regional transit service information at the Transit Center

### Websites

Transit system websites have become the primary source of information for most riders. The types of information that typically are provided on websites include:

- System map (interactive or PDF format)
- Route-by-route schedule information and maps in PDF format
- Complementary paratransit service information
- Service alerts
- Fare information
- Information on how to ride if in a wheelchair or loading a bicycle

Additional website features that improve customer convenience include:

- A simple, stand-alone web address that is easy to remember
- A mobile website for smartphones
- Real-time information displaying vehicle locations and predicted arrivals
- The ability to purchase tickets and passes
- Customizable e-mail or text alerts for service disruptions, agency news, etc.
- Integration with social media such as Twitter and Facebook to provide service alerts and updates on transit initiatives
- Availability in multiple languages to make information accessible for the entire community

### Real-Time Information

Real-time information uses GPS-based Automatic Vehicle Location (AVL) technology to track and predict the locations of transit vehicles in real time. This provides information on estimated arrival/departure times, vehicle locations, and service disruption or delay alerts. Once the back-end system has been installed to track vehicles and deliver the data, the information is presented to riders in basically the same ways as schedule information.



# 14 STAFFING AND VISION

## VISION

It is recommended that the City adopt a vision to guide ongoing and future operations. Per discussions with City staff, the following three principles were chosen to make up the vision for transit service in Turlock: sustainability, excellence and innovation.

### **Sustainability**

Sustainability as a guiding principle relates to both environmental and financial sustainability. From an environmental standpoint, transit service can be an effective tool for attracting riders who would otherwise drive alone, thereby reducing emissions and congestion. In order to continue expanding and offering a quality of service that will attract and retain riders, the City must set and maintain a financially sustainable path.

### **Excellence**

Upcoming route changes, service improvements, and rebranding efforts will give the City a prime opportunity to raise the bar of excellence for local transit service. In turn, the public will come to associate this improved quality of service with riding the bus. Excellence encompasses a wide range of attributes that comprise service delivery and customer information. In the long term, excellence means expanding and refining service to best meet the needs of future riders.

### **Innovation**

Innovation is a vital tool for operating a transit system that is both sustainable and excellent. In the coming years, the City may likely face changes and opportunities related to funding, congestion, shifting demographics, new development patterns, competing/complementary transportation services, and new regulations. Innovation will require ongoing evaluation of system performance and customer expectations.

Innovation requires taking advantage of opportunities to attract new riders, increase funding, and serve new destinations. Examples of innovation often come in the form of collaboration and partnerships: inter-agency coordination to improve connections, pass programs to increase transit mode share, and arrangements with private developers to ensure access to transit. As transit services grow and evolve, it is vital that City staff continue to explore opportunities to innovate.

## STAFFING

The Short Range Transit Plan includes a series of improvements to make transit a more viable and attractive transportation option. Successful implementation and management of the recommended Turlock Transit system requires additional staffing and refined job duties for transit staff. The following staffing structure is recommended to ensure that the future transit system is in alignment with the vision and community expectations.

**Figure 119 Recommended Staffing Structure**

Position	Reports To	Duties
Transit Manager	Director of Development Services	Budget development and administration Procurement and grants Service provider contract management Regional coordination/partnerships Capital projects Active transportation integration
Transit Planner/Analyst	Transit Manager	Performance monitoring State and Federal reporting requirements Route/schedule adjustments GIS analysis Google Transit Feed Specification (GTFS) updates
Transit Technician	Transit Manager	Bus stop database management Point checks Customer comments Riders notices Website and social media updates