



**Auburn Transit  
Short Range Transit Plan  
2018-2025  
FINAL**

**Prepared for the**



**PLACER COUNTY  
TRANSPORTATION  
PLANNING AGENCY**

**Placer County Transportation  
Planning Agency**





# **Auburn Transit Short Range Transit Plan 2018-2025**

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**FINAL**

*Prepared for the*

Placer County Transportation Planning Agency  
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Auburn, California 95603

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# ***Executive Summary***

## **2018 Auburn Transit Short Range Transit Plan**

*Prepared by LSC Transportation Consultants, Inc.*

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This document presents a seven-year Short-Range Transit Plan (SRTP) developed for the Auburn Transit program, serving Auburn, California. An SRTP is intended to provide a detailed business plan to guide the transit organization over the coming five to seven years. It includes a review of demographics and transit needs, a series of surveys and ridership counts conducted for all Auburn Transit services, a review of the effectiveness and efficiency of existing services, a review of similar systems, analysis of a wide range of options, and the results of public input processes. The resulting SRTP provides operational, capital and institutional plans, including an implementation plan. This SRTP plan has been prepared jointly with the development of parallel SRTPs for Roseville Transit, Placer county Transit and the Western Placer Consolidated Transit Service Agency.

### **SURVEYS AND DATA COLLECTION**

This SRTP study included surveys of all routes and runs, which yielded a total of 56 completed surveys, detailing passenger ridership characteristics, trip patterns, and opinions. Data was also collected on all runs, including boarding data and on-time performance data.

### **EXISTING DEMOGRAPHICS**

The population of the City of Auburn, per the 2015 US Census estimates, is 13,785, while the overall Auburn area population is 37,394. Persons living in **households without vehicles** in the area total 1,118, or 7 percent of the total population. **Youth** (persons 10 to 17 years of age) total 3,495, or 9 percent of total population. **Elderly** persons over age 60 total 11,210 (30 percent). There are a total of 1,785 persons living in households below the federal **poverty** level (12 percent of total population). Persons who indicate they have a **disability** total 2,193, or 6 percent of total population.

### **OVERVIEW OF AUBURN TRANSIT**

Auburn Transit is a service provided through the City of Auburn. It consists of two routes (Red and Blue) that operate route deviation loops in opposite directions around Auburn and extending into nearby portions of unincorporated Placer County. One bus operates between 6 AM and 6 PM on weekdays providing service on both routes every other hour, while between 10 AM and 4 PM a second bus is also operated to provide hourly service on both routes. On Saturday, one bus provides (slightly modified) Blue Route service every hour from 9 AM to 5 PM. No Sunday service is provided. Ridership in Fiscal Year (FY) 2016/17 was 43,095, a 15 percent reduction over the previous four years. The service is not currently achieving goals regarding costs and cost effectiveness, though it is attaining service productivity (ridership per vehicle-hour) goals. A peer comparison indicates that ridership per vehicle-hour is exceeding the peer average by 15 percent,

while costs per vehicle-hour are 24 percent higher. The annual average ridership per capita is just slightly (5 percent) lower than the peer average.

## SHORT RANGE TRANSIT PLAN ELEMENTS

### Service Plan

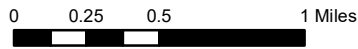
This plan has been developed in particular to help attain the first goal of the Auburn program, to "*Sustainably operate an efficient and effective system that maximizes services and minimizes cost impacts*". In particular, it addresses the two objectives under this goal. It *minimizes operating cost* where appropriate by eliminating or modifying unproductive services. In addition, it *increases transit passengers* by realigning services new services where ridership demand can attain performance standards. An extensive analysis of potential service alternatives based on public and staff input identified the following recommended plan elements. Plan elements are graphically displayed in Figure E-1:

- Revise the Deviated Fixed Routes – The current large one-way routes should be reconfigured into three routes operated by two buses at peak (the Central Route, North Route and South Route), all of which begin and end at Auburn Station. This will improve the convenience of transit service (reduce in-vehicle travel times by 40 percent), improve service to downtown, Old Town and Auburn Station, and expand service to Dairy Road and Luther Road. It will not increase the cost of service. These service enhancements are expected to increase ridership by 10,400 boardings per year (a 24 percent increase).
- Provide Consistent Hourly Weekday Service – If future funding and ridership growth allows, expand the period in which two buses are in operation in order to provide consistent hourly service.
- Eliminate Service to Auburn Municipal Airport area – Terminate existing agreement with PCT to provide service in this area as ridership is low and service is not cost effective.

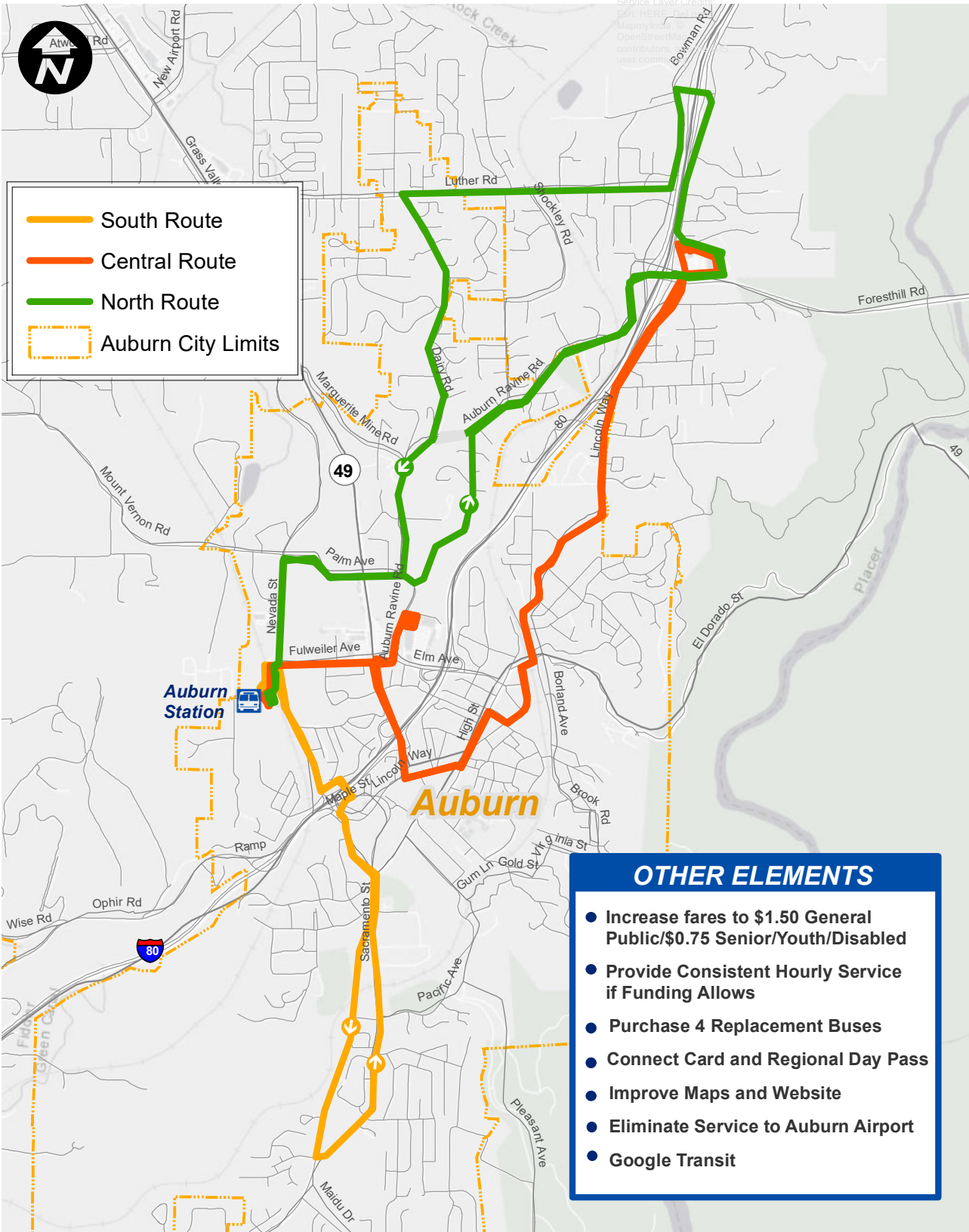
While not part of this Auburn SRTP, it is worth noting that the parallel Placer County Transit SRTP includes the expansion of the existing PCT Highway 89 DAR service area to include the unincorporated Bowman area, which will also benefit Auburn residents

### Capital Plan

- Bus Purchases – No additional buses will be needed to implement the service improvements. A total of four buses will be needed by 2025 for replacements.
- Regional Battery Electric Bus Readiness Study – Auburn should participate in a study regarding Battery Electric Bus vehicle and charging options.



**Figure E-1  
Auburn Transit Plan**



- Passenger Facility Improvements – New stops will need to be located along Luther Road, Dairy Road, and along Lincoln Way between Cleveland Avenue and SR 49. In addition, ongoing stop improvements should be implemented as needed.

### **Financial Plan**

- Fare Increase -- Passenger fares should be increased from the current \$1.00 (general public)/\$0.50 (senior/youth/disabled) to \$1.50/\$0.75. This is necessary to meet State minimum farebox return ratio requirements and fare per passenger standards. It is also consistent with other fares in the region, which range from \$1.25 (Placer County Transit) to \$2.50 (Folsom State) to \$2.75 (Sacramento RT). Even with the estimated loss of 4,940 passenger-trips due to the fare increase, this overall plan will increase Auburn Transit ridership by an estimated 5,460 (12.7 percent).
- Eliminate the Day Pass – This fare option is only used for one boarding per day, on average, and eliminating helps to reduce accounting costs and simplify the drivers' challenging job.
- Regional Day Pass Program – Auburn should, with Roseville Transit and Placer County, investigate a regional day pass (allowing ridership on all systems over the course of a day).
- Connect Card – Auburn should join the region-wide Connect Card program, improving the ease of transfers and fare collection tasks.

### **Institutional/Marketing Plan**

No change in the institutional framework for Auburn Transit is recommended. Improvements to the transit map and schedule are warranted, including improved graphics to better identify key activity centers and deviation service areas. Auburn Transit should also join Google Transit.



Public transportation is a vital service to many residents of western Placer County. Transit services provide mobility to residents, including access to important medical, recreational, social, educational and economic services and opportunities. In addition to being important to the quality of life of residents in the region, public transit services assist in the functioning of educational programs, public and private employers, and social service programs throughout the region.

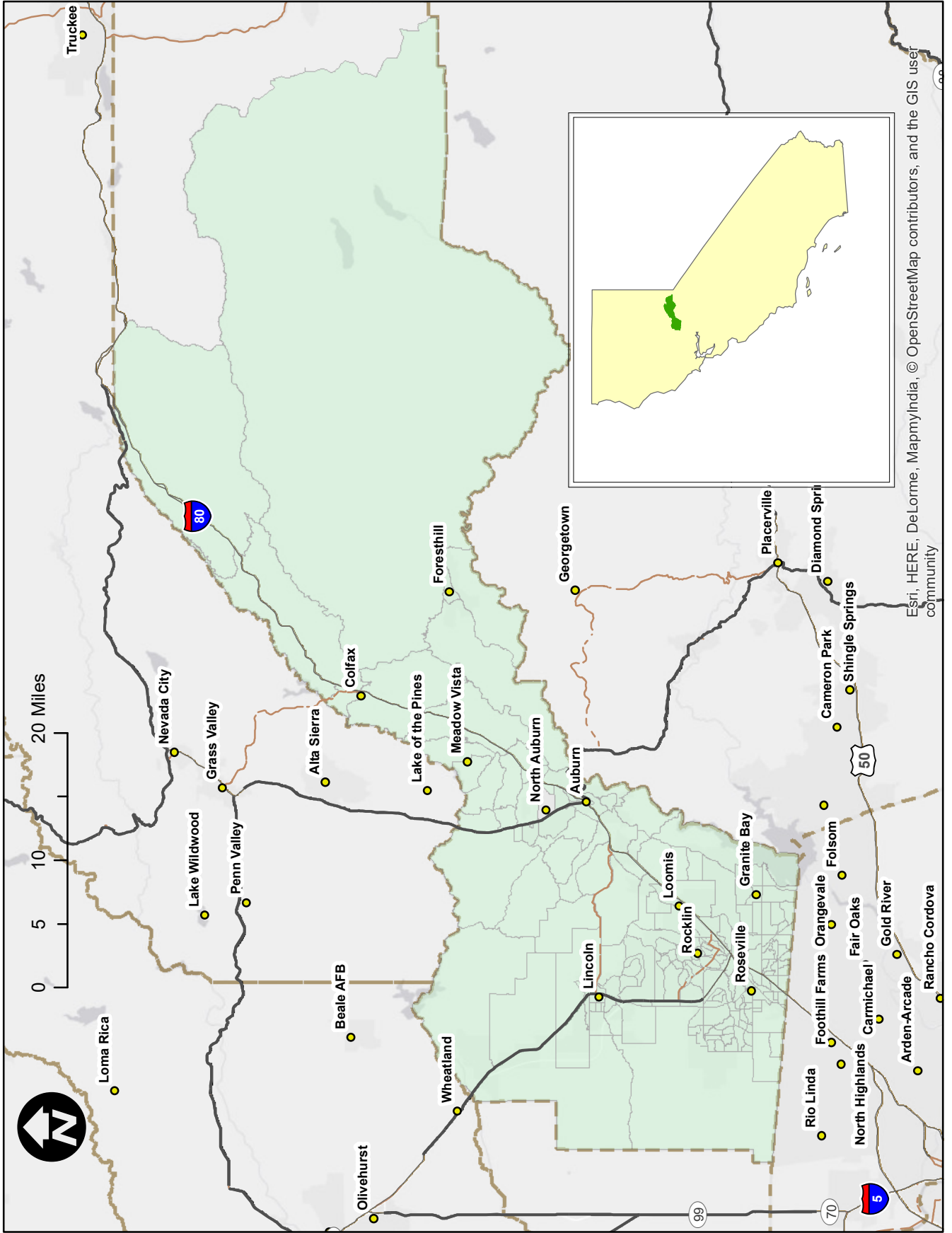


A Short-Range Transit Plan (SRTP) study was conducted to assess transit and related transportation issues in the region and provide a “road map” for improvements to the public transit program over the upcoming seven years. The intent of this study was to evaluate the specific needs for transit services, as well as to develop plans for improvements and service revisions. This was accomplished through the review of existing demographic and transit conditions and evaluation of operations, as well as through public outreach via onboard surveys, online community surveys, and community-based meetings. A wide range of alternatives were evaluated. The ultimate goal of the study is to provide a comprehensive strategy of short-range service, capital, and institutional improvements, with a supporting financial and implementation plan. This plan represents the compilation of several technical memorandums which were prepared and reviewed by stakeholders throughout the course of the study.

The Placer County Transportation Planning Agency (PCTPA) is responsible for allocation of transportation funds to public transit operators outside of the Lake Tahoe Basin or Western Placer County. Figure 1 displays a map of the total study area. Four separate transit operators fall under the jurisdiction of the PCTPA: Auburn Transit, Placer County Transit (PCT), Roseville Transit and the Western Placer Consolidated Transportation Services Agency (WPCTSA):

- The Public Works Department of the City of Auburn provides two deviated fixed routes generally within the incorporated areas of Auburn, Monday through Saturday.
- Placer County Transit (PCT) is the regional transit operator for Western Placer County serving communities not served by the two municipal transit operators. PCT is managed by the Placer County Department of Public Works and provides a variety of services throughout the community such as commuter runs to Sacramento, Dial-A-Ride and fixed routes between communities. Under agreements with the City of Rocklin and the City of Lincoln, City of Loomis and City of Colfax, Placer County Transit operates service in these cities.

**Figure 1  
Western Placer County Site and Location**



- Roseville Transit provides 11 local fixed routes, commuter services to Sacramento, and connections to Placer County and Sac RT transit services. Roseville Transit is operated by the City of Roseville, using MV Transportation as the service contractor.
- The WPCTSA presently sponsors several programs that provide transportation or facilitate the use of public transit services. Services are administered by various agencies and draw upon a variety of funding sources (public and private) including funds allocated through Article 4.5 of the Transportation Development Act (TDA), community transit services. WPCTSA programs such as Non-Emergency Medical Transportation (Health Express) and volunteer driver program (My Rides) are designed to provide transportation for Western Placer County residents only if a trip cannot be served on regular public transit services. WPCTSA programs are administered by PCTPA staff and the PCTPA Board Members serve as WPCTSA Board Members. Overall, there are many individual mobility needs that are not easily met, particularly demand-responsive services for persons unable to make use of fixed-route services between Placer County jurisdictions or to/from regional destinations in nearby Sacramento County. This is particularly important to seniors and persons with disabilities that would find transfers between services to be a difficult if not insurmountable barrier to completing their trip. The WPCTSA is key in addressing these needs.

This document represents the Short Range Transit Plan for Auburn Transit for 2018 to 2026. Transit plans for the other Western Placer County transit operators have been prepared under separate cover.

### **Public/Stakeholder Input**

Public/stakeholder outreach for all the Western Placer SRTP updates was conducted throughout the study with the assistance of AIM Consulting. The public and stakeholders were provided multiple opportunities to comments prior to and after the analysis of a large range of transit service, capital, institutional and financial alternatives. The Public Outreach Plan for the project is included as Appendix A. In summary, outreach included:

- On-line survey distributed concurrently with the Unmet Transit Needs Process
- On-board bus surveys
- Virtual Community Workshop (on-line interactive survey) available prior to the development of alternatives
- April Public Workshop as part of PCTPA Board meeting to present potential alternatives
- April presentation at Roseville Transportation Commission to present potential alternatives
- May Public Workshop as part of PCTPA Board meeting to present alternatives analysis
- June Public Workshop as part of PCTPA Board meeting to present Draft Plans

In addition to public and stakeholder outreach, the Study Team conducted multiple conference calls and face to face meetings PCTPA and transit operator staff to refine alternatives and draft plans.

To meet the goals of the study, it is essential that the regulatory and institutional context of the study effort be fully documented. This section reviews pertinent documents and previous transit planning studies for the transit operators.



### **Auburn Transit Planning Studies**

#### 2011 Auburn Transit Short Range Transit Plan

The last SRTP for Auburn Transit was completed in 2011. The plan conducted a performance review, ride check analysis, and evaluated alternative scenarios. After reviewing a variety of alternatives which outlined different scenarios for different funding levels, a “preferred alternative” was developed that combines elements of the different alternatives evaluated. The service plan identified changes to the existing two route system to more effectively meet shifts in demographics and demand as well as to serve currently un-served trip generators. The two routes would be interlined operating on 60-minute headways from 6:00 AM to 8:00 PM.

#### Auburn Transit Triennial Performance Audit FY 2012/13 to FY 2014/15

Per the Transportation Development Act (TDA), which is the primary funding source for public transit in California, a performance audit must be conducted of each transit operator every three years. The most recent Triennial Performance Audit covered the years from Fiscal Year (FY) 2012-13 to FY 2014-15. Overall during the audit period, productivity (in-terms of passenger-trips per hour) stayed relatively steady during the audit period. Cost efficiency decreased slightly as did farebox ratio due to operating costs increasing more than ridership. The audit outlined the following recommendations:

- Document fare revenue reconciliation in the driver manifests
- Review opportunities for increasing local revenue to boost farebox recovery ratio such as revenue from advertisements. This is particularly important as farebox ratio dropped below the required 10 percent during this audit period.
- Calculate Full Time Equivalent Employee Hours according to TDA definitions

#### Placer County Rural Transit Study, 2016

In 2016 PCTPA conducted a study regarding potential improvements in public transit services in rural western Placer County. The study reviewed the existing transit services, the needs for transit services in currently unserved and underserved rural areas, and assessed the feasibility

of various strategies to expand services. One component of this study was to define performance standards specific to rural transit services and use these standards as performance measurement for alternatives.

The study recommended the following strategies to improving mobility for rural Placer County residents:

- Combined Sheridan/SR 193 Corridor Lifeline Service 1 Day per Week as a three year demonstration program with two round trips per day, one day per week.
- Foresthill lifeline service one day per week as a three year demonstration program.
- Shift the hours of the Alta/Colfax route to allow persons with a traditional work schedule to ride public transit to Auburn as well as provide rural residents requiring services in Auburn with a transit round trip option with a shorter layover time. The strategy would also add one mid-day round trip.
- Roseville Transit operates the Granite Bay DAR
- Conduct a more detailed service review of public transit in the greater Auburn area as there is service overlap between Auburn Transit and PCT.
- Expand PCT Vanpool Budget to Meet Rural Commuter Needs

These strategies as well as other alternatives considered will be revisited as part of this SRTP update.

### **Transit Master Plan for South Placer County (2007)**

In light of anticipated growth in the southern portion of Placer County, PCTPA conducted a transit master planning process in 2007. The principal objectives of the plan was to examine all aspects of transit service delivery and prepare a consistent, coordinated vision for Placer County transit operators over the long term (2030 – 2040). By the horizon year, the plan assumes that annual vehicle miles and hours for South Placer County transit operators will increase by 190 percent.

The plan offered the following service recommendations by transit mode:

#### Local Fixed Route

- Provide a base backbone system with 30 or 60 minute headways.
- Where justified, provide greater frequencies during peak periods (15 minute headways).
- Provide a limited number of “express” routes to link specific pairs or groups of activity centers with limited stops in between.

## Regional Fixed Route

- Identify and “brand” specific routes as providing longer-distance trips between urban or community zones such as Lincoln-Roseville, Auburn-Roseville, Placer Vineyards-Roseville, and Citrus Heights-Roseville.
- Make limited “lifeline” service a priority: Foresthill, Meadow Vista, Sheridan, and Bickford Ranch.

## Commuter Bus

- Continue with all existing routes. Look for a significant increase in Placer County Transit PCE service and Roseville Transit commuter services. Optimize both operations as required.
- Add routes as new development occurs at origins and destinations.
- Add or remove service in concert with changes in Capitol Corridor rail service.
- Consider adding limited commuter service to the Bickford Ranch area.

## Bus Rapid Transit (BRT)

- Continue close coordination with major development projects and Sacramento Regional Transit BRT service planning. In particular, continue a dialog with RT on a Watt Avenue BRT system extension.
- Preserve right-of-way for stations, bypass lanes, transition lanes, and other needs. Continue to work with developers to set aside right-of-way for these needs.
- Implement proposed BRT routes in the following order: BRT-1, BRT-2, and BRT-3 (Refer to BRT Study below).

## Paratransit

- Develop an administrative structure to support cross-jurisdictional trips. Address key issues such as fare collection/distribution and cost allocation.
- Consider consolidation of all paratransit under one provider, or with separate providers under one managing/coordinating entity. At a minimum, establish one fare card for all ADA travel.
- Expand the CTSA dial-a-ride voucher program to include non-emergency medical trips.
- Provide a senior discount.
- Identify areas with most intensive growth in senior populations, such as Rocklin. Identify key trip attractors in other jurisdictions such as the Galleria, Wal-Mart, and Kaiser.
- Set up “Ambassador” program for seniors to assist with trip planning - completed
- Consider removing dial-a-ride service from the Roseville farebox recovery ratio calculation, especially with respect to ADA services.

- Conduct a paratransit needs study to guide design and provision of services targeted to each user group. Include consideration of developing an “accessibility database.”
- Coordinate near-term actions with ongoing dial-a-ride study results in areas such as service integration, addressing cross-jurisdictional problems, establishing ADA certification.

The plan also includes a variety of institutional recommendations to slowly integrate the different transit operators in South Placer County.

### **Bus Rapid Transit (BRT) Service Study for South Placer County (2008)**

The concept of Bus Rapid Transit (BRT) is to combine the frequency and amenities of light rail with the greater flexibility of a bus in an effort to serve high demand corridors cost effectively. BRT services typically include traffic signal prioritization for buses, enhanced transit stations, off-vehicle fare collection and bus only lanes. PCTPA conducted a study of BRT services for the growing South Placer County region. The study recommends the following BRT routes travelling between Sacramento and Placer County:

- BRT 1 – Watt/I-80 Light Rail Station to future Placer Ranch development along I-80 with a transit center at the Galleria in Roseville and stations at Blue Oaks/I-80 and Blue Oaks and Foothill Blvd.
- BRT 2 – Watt/I-80 Light Rail Station to future Placer Ranch development along Watt Ave with transit centers at the proposed Sierra Vista and West Roseville Town Center and a station at the proposed Placer Vineyards Center
- BRT 3 – From the Sunrise Light Rail Station to Hazel Light Rail Station along Hazel Avenue to Sierra College Blvd and the Taylor Park and Ride

The implementation schedule of full BRT is beyond the SRTP’s 7 year horizon however, the BRT Study recommends implementation of BRT “light” from 2010 to 2025. The “light” concept calls for the purchase and use of new stylized buses with longer travel times, less frequency and limited capital improvements than the full BRT concept.

### **South Placer Regional Dial-A-Ride Study (2007)**

The objective of the study was to provide additional guidance to PCTPA and its transit operators as how to cost-effectively meet the needs of residents requiring DAR services within available resources. The study made four basic recommendations some of which have been implemented:

- Establish PCTPA leadership to guide the County’s operators towards an integrated, regional demand response program.
- Promote general public demand response policies that improve efficiencies and build capacity in South Placer County.



- Establish a CTSA for South Placer County that promotes specialized transportation options and addresses the needs of residents.
- Develop a coordinated information strategy for demand response services oriented to the information needs of consumers, agency personnel and transit operators in South Placer County.

## **Unmet Transit Needs Process**

### Background

California’s Transportation Development Act (TDA) legislates funding for transit purposes primarily, and for non-transit purposes under certain conditions. TDA funds are distributed through the Regional Transportation Planning Agencies (RTPA) (in this case PCTPA). An RTPA must assess its jurisdiction’s unmet transit needs prior to allocating any TDA funds for purposes not directly related to public transit or facilities used exclusively by pedestrians and bicyclists. Each year, PCTPA conducts a citizen participation process to receive public comment concerning transit needs within the RTPA jurisdiction and summarizes the comments into a Draft Unmet Transit Needs Report. The PCTPA Social Services Transportation Advisory Council (SSTAC) and the Technical Advisory Committee (TAC) review the draft report and provide input. With recommendations from the SSTAC, at the end of the process the PCTPA Board makes a finding that:

- (a) There are no unmet transit needs; or
- (b) There are no unmet transit needs which are reasonable to meet; or
- (c) There are unmet transit needs, including those that are reasonable to meet. (Section 99401.5)

PCTPA has adopted the following definition of an unmet transit need:

*An unmet transit need is an expressed or identified need, which is not currently being met through the existing system of public transportation services. Unmet transit needs are also those needs required to comply with the requirements of the Americans with Disabilities Act.*

PCTPA has adopted the following definition of an unmet transit need which is reasonable to meet. Unmet transit needs may be found to be "reasonable to meet" if all of the following criteria prevail:

1. Service, which if implemented or funded, would result in the responsible service meeting the farebox recovery requirement specified in California Code of Regulations Sections 6633.2 and 6633.5, and Public Utilities Code 99268.2, 99268.3, 99268.4, and 99268.5.

2. Notwithstanding Criterion 1) above, an exemption to the required farebox recovery requirement is available to the claimant for extension of public transportation services, as defined by California Code of Regulations Section 6633.8, and Public Utilities Code 99268.8.
3. Service, which if implemented or funded, would not cause the responsible operator to incur expenditures in excess of the maximum amount of Local Transportation Funds, State Transit Assistance Funds, Federal Transit Administration Funds, and fare revenues and local support, as defined by Sections 6611.2 and 6611.3 of the California Administrative Code, which may be available to the claimant.
4. Community support exists for the public subsidy of transit services designed to address the unmet transit need, including but not limited to, support from community groups, community leaders, and community meetings reflecting a commitment to public transit.
5. The need should be in conformance with the goals included in the Regional Transportation Plan.
6. The need is consistent with the intent of the goals of the adopted Short Range Transit Plan, as amended, for the applicable jurisdiction.

#### FY 2016/17 Unmet Needs Process

During the FY 2016/17 Unmet Needs Process, PCTPA received 76 comments which pertained to Western Placer County. Common topics brought up during the meetings included:

- Later service hours in Lincoln, Roseville, and on Placer County Transit.
- Sunday fixed route service in Lincoln, Roseville, and on Placer County Transit.
- Sunday dial-a-ride service in Lincoln, Rocklin, and on Placer County Transit.
- Challenges with scheduling dial-a-ride trips.

PCTPA determined that there were no new unmet transit needs reasonable to meet for implementation in FY 2017/18. However, several comments warrant further study or monitoring and will be addressed in the alternatives analysis section of the SRTP updates:

- **Later Evening Weekday Service** - Comments pertaining to later evening weekday service has been voiced annually, but fixed route ridership has not reached prerecession levels, has declined on average one percent annually since FY 2011/12.
- **Challenges Scheduling Dial-a-Ride Trips** – Several comments identified challenges with scheduling dial-a-ride trips in Lincoln, Rocklin, and countywide. Passengers are allowed to schedule trips up to 14 days in advanced and are encouraged to allow sufficient time to accomplish their intended activities between drop off and pickup due to the shared ride

nature of the service. As a result, passengers may encounter challenges with getting their preferred time slot, but call center operators can offer alternative travel time options. Dial-a-ride trips have increased five percent between FY 2014 and 2015 and trip denials totaled approximately 1.6 percent in FY 2015. Beginning FY 2016, PCT began providing contracted dial-a-ride service in Lincoln and the Health Express reservation process was modified to assign intracity trips to the local dial-a-ride and intercity trips only to Health Express, except for under certain circumstances. Given these changes, PCTPA recommends monitoring dial-a-ride trips, denials, or other potential issues.

- **Short Range Transit Plan Updates** – The Unmet Transit Needs report recommends that the SRTP updates should consider past unmet transit needs comments including but not limited to: later service hours, expanded weekend service, dial-a-ride scheduling and capacity, additional service options to Sacramento on the Health Express, and include a review of federal transit policy regulations and any changes resulting from amendments to the federal Americans with Disabilities Act (September 15, 2010).
- **On-board Passenger Surveys** – The Social Services Transportation Advisory Council recommended that the PCTPA and the Transit Operators Working Group pursue funding to conduct on-board passenger surveys in support of the short range transit plan updates. The surveys could provide valuable insight into the factors that influence passenger use and/or community perception given the downward trend of annual ridership statistics system wide. The surveys could seek data, such as but not limited to: demographics, destinations of choice, frequency of use, challenges with using the service, and the mode of choice (i.e., walk, bike, etc.) for pre and post-trip.

Prior common Unmet Need Meetings comments relevant to this study include:

- The PCT Highway 49 DAR area and Auburn Transit deviated fixed route service area do not encompass many residents who require transportation.
- Easier forms of fare payment, particularly for passes on PCT
- Service along the SR 193 corridor
- Service to the communities of Sheridan and Foresthill
- Commuter routes to the Stockton/Broadway corridor in Sacramento
- More service for Lincoln residents
- Additional Commuter Runs for Roseville Transit and PCT (earlier/later times)
- Additional Health Express service options to Sacramento.

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## Population



### Historical and Projected County-wide Population

Placer County was originally settled during the gold rush years and has become an increasingly attractive place to live as it is situated between employment opportunities in the greater Sacramento region and recreational activities in the Sierra Nevada foothills. As shown in Table 1, Placer County (including the portion east of the Sierra Crest which is not in this study area) has grown at a faster rate than that of California as a whole. From the period of 1970 to 2010, Placer County’s population increased by at least 40 percent every ten years whereas statewide population did not increase more than 26 percent during a ten year period. Going forward, the California Department of Finance predicts that the population of Placer County will grow at a rate of 1.2 to 1.4 percent annually or around 12 – 14 percent every ten years.

	Historic					Projected		
	1970	1980	1990	2000	2010	2020	2030	2040
Placer County	77,632	117,247	172,796	248,399	348,432	396,669	454,102	507,740
Annual Percent Growth Over Previous Period	--	5.1%	4.7%	4.4%	4.0%	1.4%	1.4%	1.2%
	--	51%	47%	44%	40%	14%	14%	12%
California Population	19,971,068	23,667,836	29,758,213	33,873,086	37,253,956	40,719,999	44,019,846	46,884,801
Annual Percent Growth Over Previous Period	--	1.9%	2.6%	1.4%	1.0%	0.9%	0.8%	0.7%
	--	19%	26%	14%	10%	9%	8%	7%

Source: California Department of Finance Demographic Research Unit

Of particular interest to public transit is the growth of the older adult population, as these residents become more likely to depend on public transit for mobility. Table 2 and Figure 2 demonstrates that the number of Placer County residents age 60 to 69 is projected to increase by 21.4 percent between 2015 and 2025, while the number of residents age 70 and older is projected to increase by a full 59.6 percent during the same time period. Extending the timeframe to 2030, the number of residents older than 70 could increase by 90.7 percent over existing levels. Put another way, the proportion of total population age 70 and above is expected to increase from today’s 13 percent to 20 percent by 2030.

### Population Density

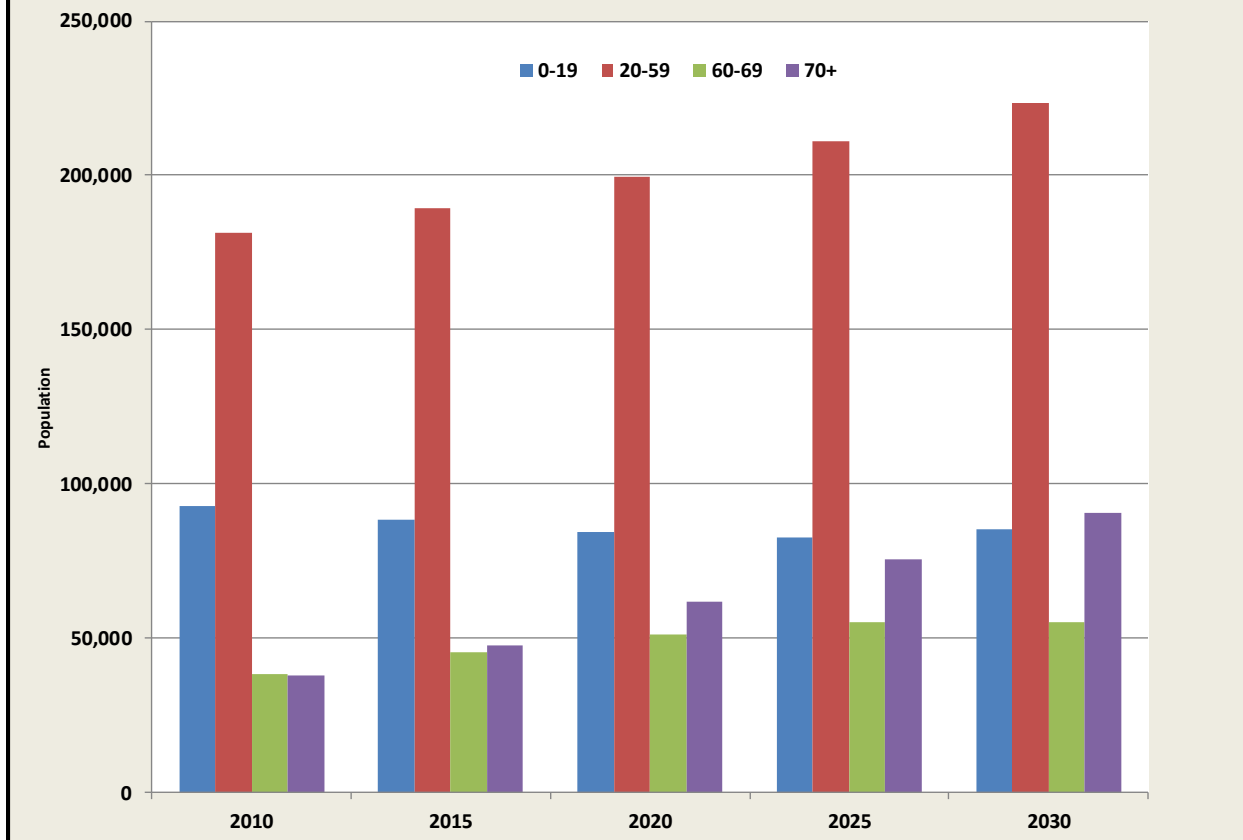
One of the greatest challenges facing public transit in auto-dominated California is how to serve communities and cities with dispersed populations. Buses travelling long distances to serve a

**Table 2: Placer County Population Projections by Age Group**

Year	Population by Age Group			
	0-19	20-59	60-69	70+
2010	92,921	181,200	38,229	37,702
2015	88,236	189,539	45,534	47,429
2020	84,396	199,594	51,076	61,603
2025	82,786	211,095	55,281	75,696
2030	85,076	223,620	54,967	90,439
<b>% Change 2015 to 2025</b>	<b>-6.2%</b>	<b>11.4%</b>	<b>21.4%</b>	<b>59.6%</b>
<b>% Change 2015 to 2030</b>	<b>-3.6%</b>	<b>18.0%</b>	<b>20.7%</b>	<b>90.7%</b>

Source: CA Department of Finance (Estimated and Projected Population for CA counties)

**Figure 2: Placer County Population Projections by Age Group**



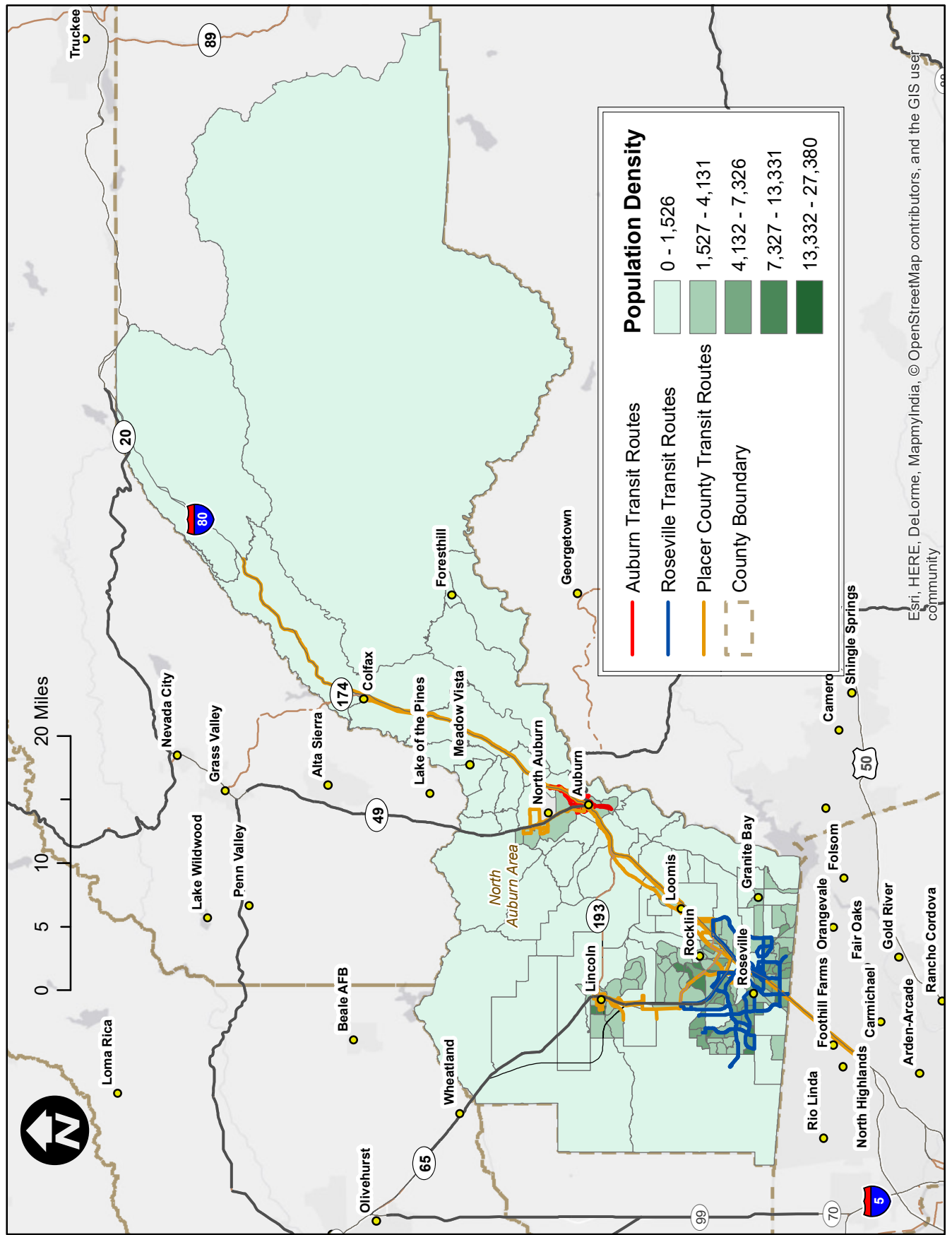
few residents is not cost effective; however these residents may depend on public transit for transportation to commercial and medical centers. Figure 3 illustrates population density for all of western Placer County at the block group level. As shown, population density ranges from less than one person per square mile as one travels east on I-80 to around 27,000 people per square mile in the City of Roseville.

### **Transit Dependent Population**

Nationwide, transit system ridership is drawn largely from various groups of persons who make up what is often referred to as the “transit dependent” population. This category includes youth, elderly persons, persons with disabilities, low income households, and members of households with no available vehicles. There is considerable overlap among these groups. Table 3 and figures 4 through 8 present key demographic data for Western Placer County. The figures illustrate where existing and potential public transit passengers live. A review of this data indicates the following:

- **Youth** – For purposes of this study, youth is defined as persons age 10 – 17 or those who are unlikely to drive yet able to ride the bus by themselves. A total of 39,528 residents (11 percent) in the Western Placer County area fit into this category. A detailed view youth population density at the block group level in the Auburn area (Figure 4) shows a more dense youth population along the Highway 49 corridor inside and outside of the Auburn City limits as well as south of Maidu Drive (150 – 200 youth per square mile).
- **Seniors** – Seniors (defined here as older adults age 60 and older) tend to become more dependent on public transit as they lose the ability to drive. Roughly 24 percent or 83,522 Western Placer County residents are considered seniors. Auburn senior population density by block group (Figure 5) shows that the block group in central Auburn near Mikkelsen Drive has more than 1,000 seniors per square mile. Another pocket of the older adult population is near Oak Ridge Way in North Auburn (780 per square mile) (most of which is within the  $\frac{3}{4}$  mile deviation boundary for the PCT Highway 49 route).
- **Low Income Households** - According to the Census roughly 9 percent of western Placer County households or 31,300 households were living below the poverty level in 2015. There is likely significant overlap between low income households and zero-vehicle households. The block group in downtown Auburn between I-80 and High Street has the largest concentration of low income households (286 per square mile) in the Auburn Transit area, followed by the block group near Sacramento Street (135 per square mile). The block group along the Highway 49 corridor shared by both the City of Auburn and unincorporated Placer County also has a relatively high density of low income households.(Figure 6)
- **Disabled** - Roughly five percent of the western Placer County population age 20 to 64 (16,086 persons) has some type of disability. The block group near the Auburn post office on Lincoln Way has the largest concentration of disabled residents (Figure 7) with respect to

**Figure 3**  
**Total Population Density By Block Group Western Placer County**



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**Table 3: Auburn Area Transit Dependent Population**

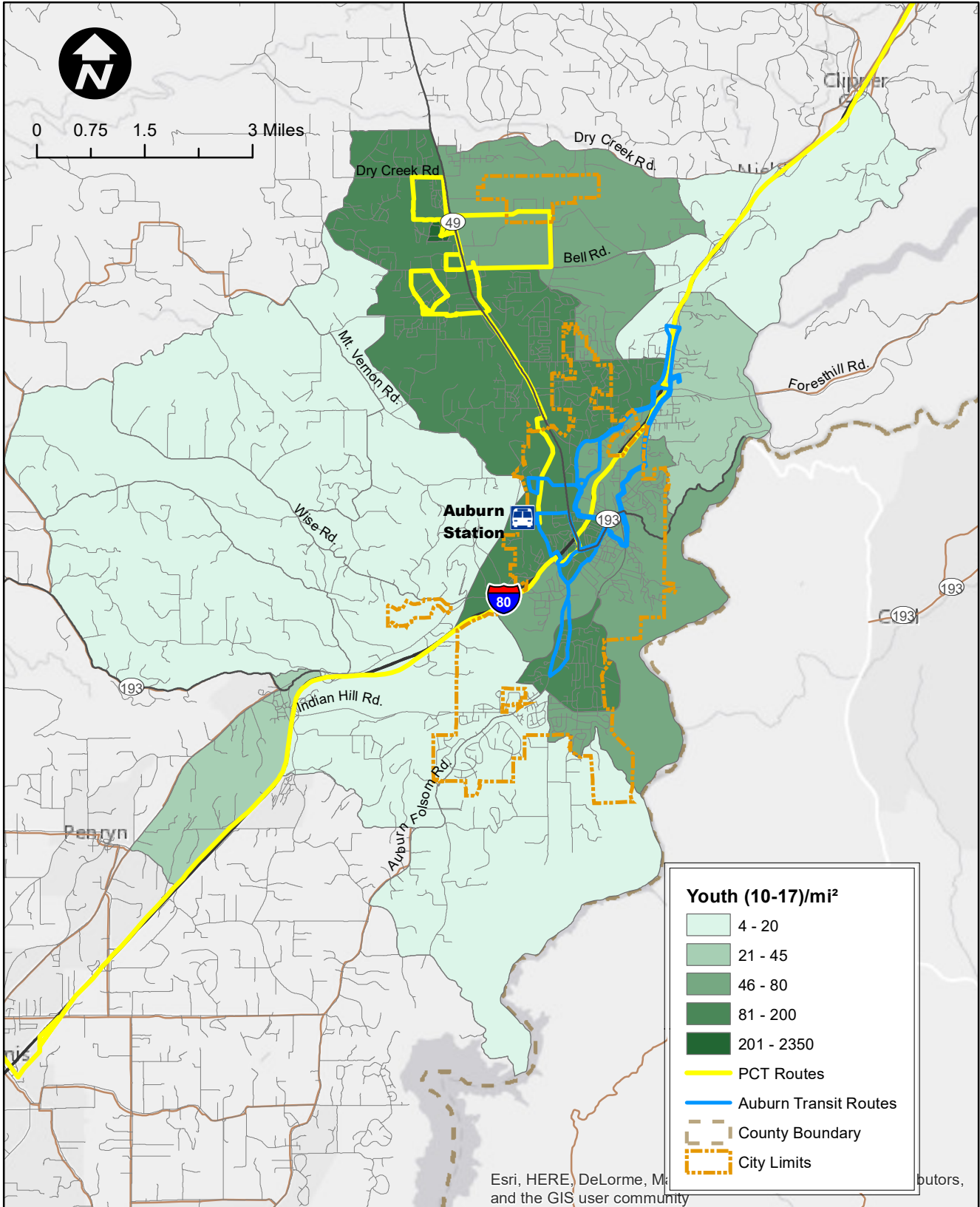
Tract	Group	Description	Total Population	Total Households	Square Miles	Youth (10-17 years)		Senior (60+ years)		Low Income Households		Disabled (Age 20-64)		Zero Vehicle Households	
						#	%	#	%	#	%	#	%	#	%
203	1	Lincoln Way/US Post Office* North of Hwy 80*, between Hidden Creek Road and Auburn Ravine Road	2,297	1,016	1.1	82	4%	332	14%	92	9%	403	18%	65	6%
203	2	Auburn Ravine Road	1,300	565	1.9	190	15%	265	20%	65	12%	113	9%	43	8%
203	3	Central Auburn, Mikkelson Drive*	981	538	0.6	29	3%	602	61%	31	6%	0	0%	214	40%
204.01	1	South of High St. and Sacramento St.	1,553	702	1.4	70	5%	415	27%	185	26%	114	7%	73	10%
204.01	2	Downtown Auburn, between Hwy 80 and High St.	531	282	0.3	32	6%	71	13%	88	31%	43	8%	31	11%
204.02	1	South of Maidu Drive*	1,706	721	4.1	235	14%	450	26%	26	4%	38	2%	35	5%
204.02	2	North of Maidu Drive, South of Rogers Lane	1,969	826	1.2	168	9%	686	35%	81	10%	144	7%	48	6%
205.01	1	Auburn Wastewater Plant*	684	308	6.2	24	4%	301	44%	38	12%	22	3%	0	0%
205.01	2	North of SR 193	1,067	392	2.8	120	11%	253	24%	70	18%	8	1%	0	0%
205.01	3	North of SR 193	1,241	488	8.1	67	5%	428	34%	38	8%	79	6%	6	1%
205.02	1	South Auburn, Sunrise Ridge Circle*	1,737	714	9.8	127	7%	677	39%	10	1%	41	2%	38	5%
205.02	3	Indian Hill Road*	1,759	659	5.8	58	3%	515	29%	110	17%	94	5%	5	1%
215.01	1	West of Auburn City Limits	699	324	7.2	28	4%	256	37%	0	0%	10	1%	19	6%
215.01	2	Wise Forebay*	4,767	1,382	4.3	658	14%	882	19%	101	7%	124	3%	58	4%
215.01	3	Between Vernon Road and Wise Rd*	1,444	419	6.2	54	5%	341	30%	42	10%	96	8%	0	0%
215.02	1	Dairy Road*	2,663	1,037	1.7	256	10%	792	30%	98	9%	167	6%	25	2%
215.02	2	Northeast Auburn*, Flood Road	1,083	427	3.1	90	8%	273	25%	9	2%	49	5%	21	5%
216.03	1	North Auburn/Elders Corner	2,679	1,149	1.9	230	9%	1,154	43%	215	19%	134	5%	196	17%
216.03	2	North Auburn/Elders Corner	1,175	425	0.1	167	14%	92	8%	137	32%	110	9%	56	13%
216.03	3	North Auburn/Elders Corner	885	249	0.8	113	13%	247	28%	28	11%	31	4%	17	7%
218.02	1	Auburn Municipal Airport*	1,543	562	4.9	246	16%	425	28%	141	25%	53	3%	27	5%
218.02	2	Oak Ridge Way West*	3,092	1,230	1.5	289	9%	1,145	37%	129	10%	284	9%	132	11%
218.02	3	Oak Ridge Way East*	839	274	1.4	68	8%	243	29%	5	2%	36	4%	0	0%
218.02	4	Bowman	973	383	6.0	94	10%	365	38%	46	12%	107	11%	9	2%
<b>Total</b>			<b>37,394</b>	<b>15,072</b>	<b>82</b>	<b>3,495</b>	<b>9%</b>	<b>11,210</b>	<b>30%</b>	<b>1,785</b>	<b>12%</b>	<b>2,193</b>	<b>6%</b>	<b>1,118</b>	<b>7%</b>
Auburn city, Placer County, California			13,785												

Source: 2015 American Community Survey, 5-Year Estimates, Table B01003 (Population); Table B25044 (Zero-Vehicle Households); Table B01001 (Age); Table B17017 (Poverty, Universe: Households); Table B23024 (Disability for People Ages 20-64, for whom poverty status is determined)

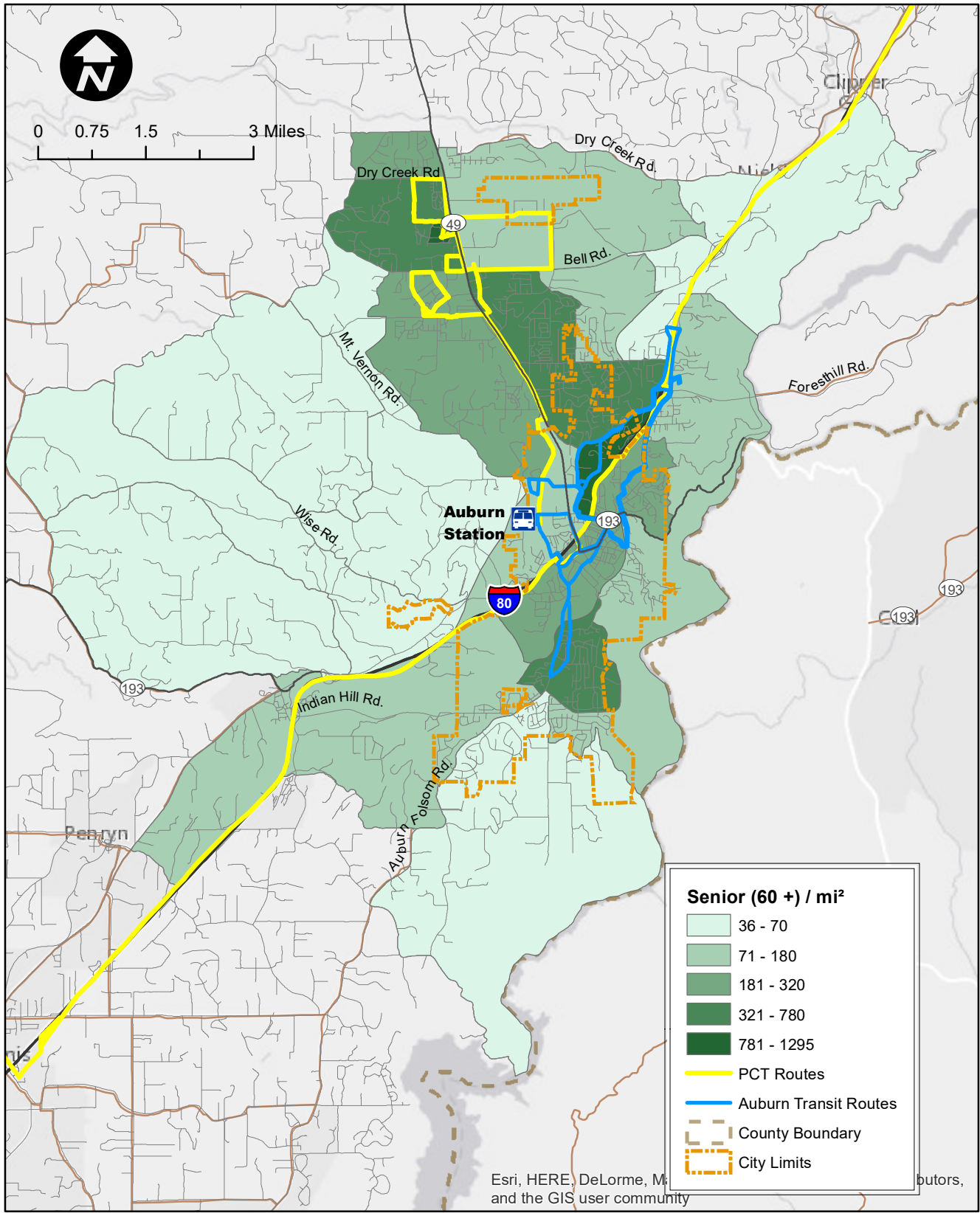
\*A portion of the block group extends beyond the incorporated area of Auburn.

CDP = Census Designated Place

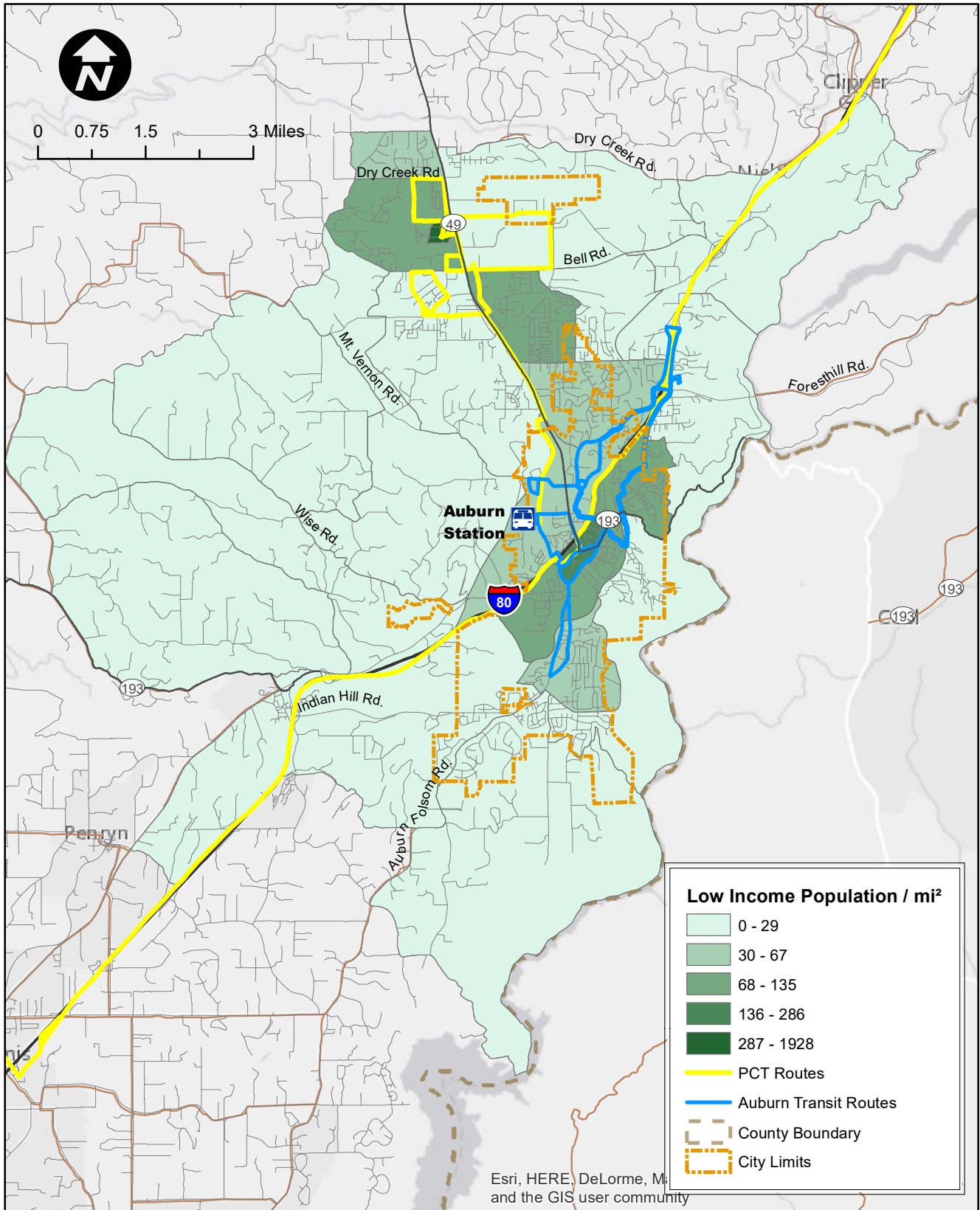
**Figure 4**  
**Auburn Area Youth Population Density by Block Group**



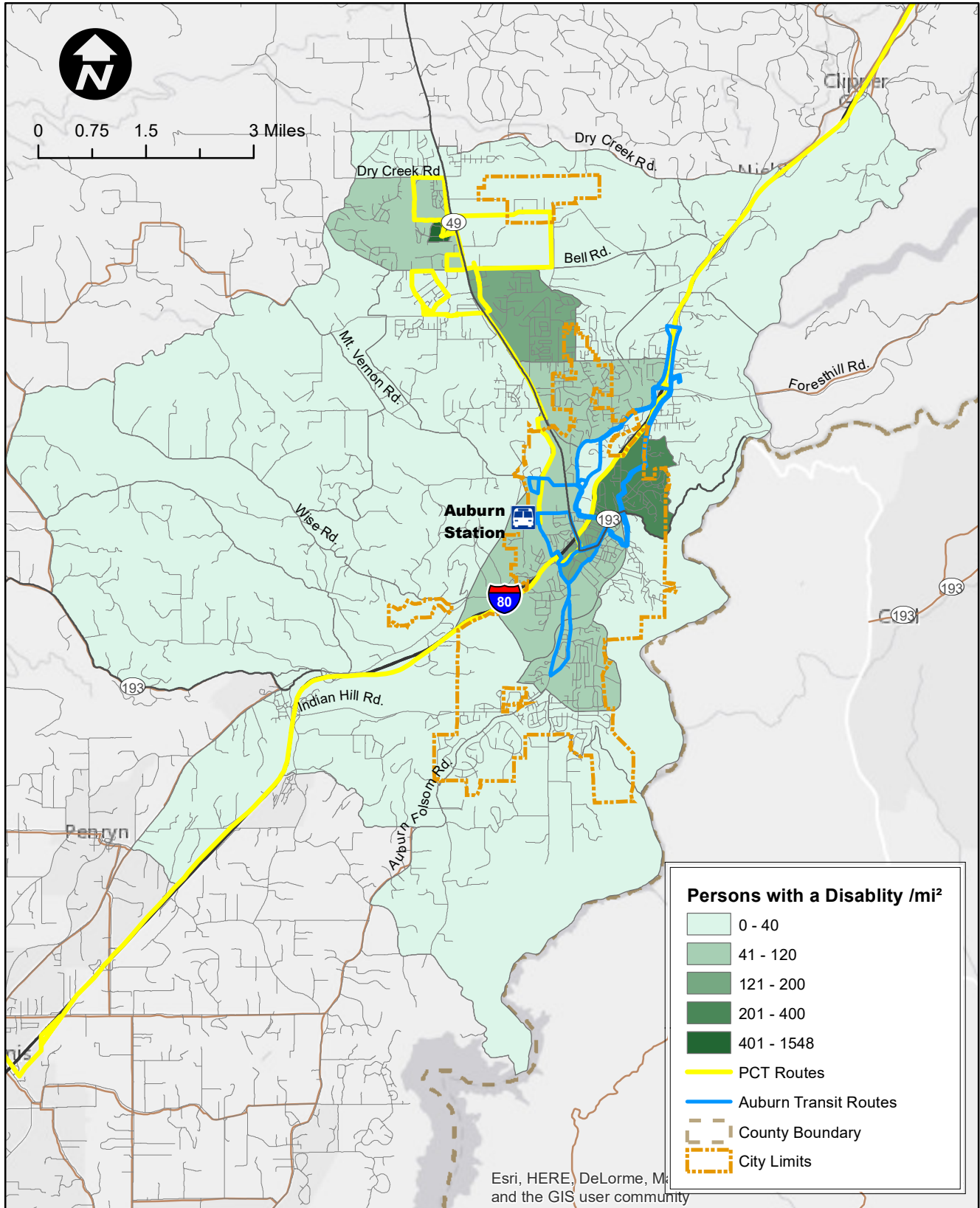
**Figure 5  
Auburn Area Senior Population Density by Block Group**



**Figure 6**  
**Auburn Area Low-Income Population Density by Block Group**

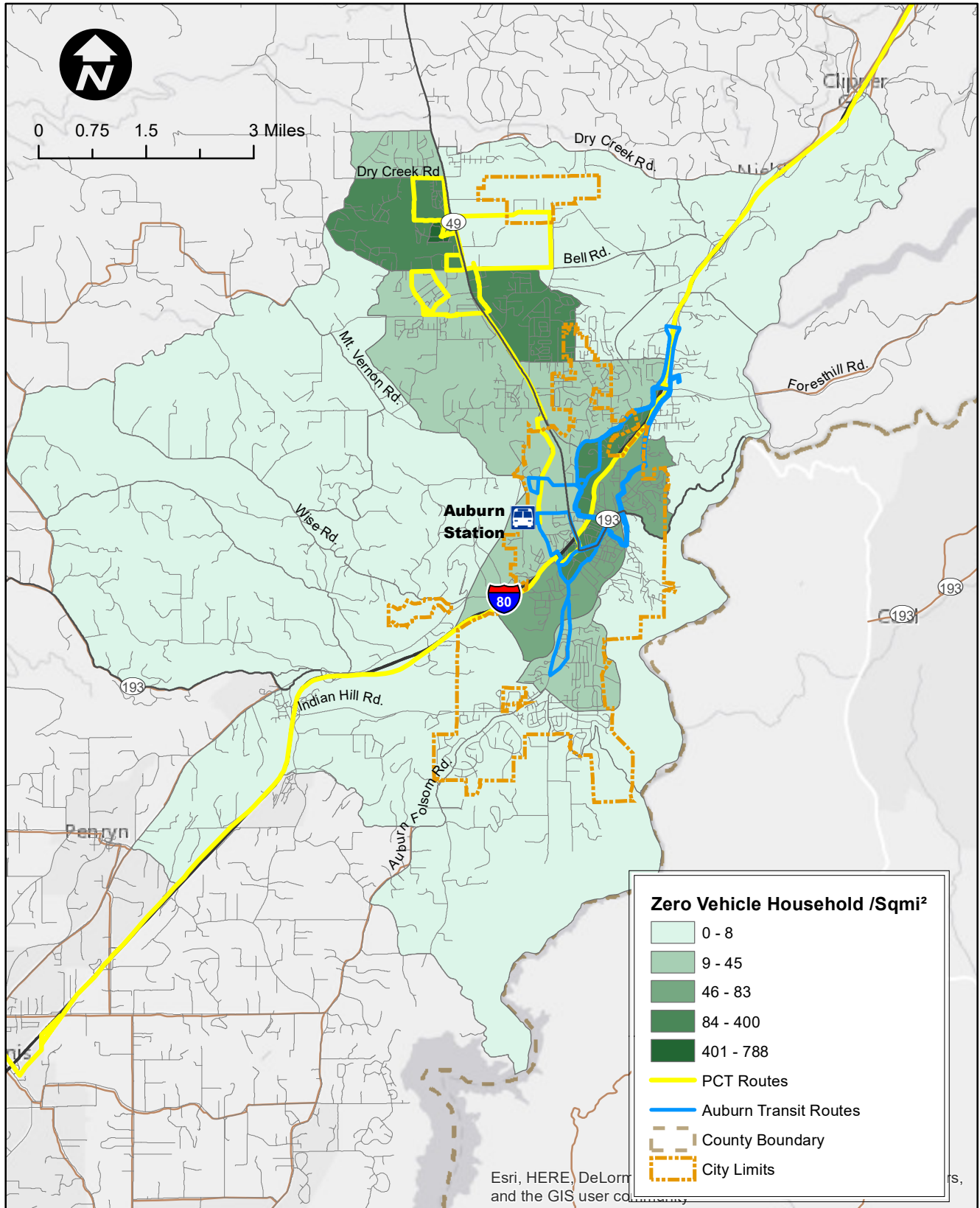


**Figure 7**  
**Auburn Area Population with a Disability Density by Block Group**





**Figure 8**  
**Auburn Area Zero Vehicle Household Density by Block Group**



the Auburn Transit service area (378 disabled residents per square mile). Similar to low income households and youth, the block group along the Highway 49 corridor also has a significant number of disabled residents (194 per square mile).

- **Zero Vehicle Households** – Perhaps the greatest indicator of transit dependency is households with no vehicle available. Western Placer County as a whole has 4,204 zero vehicle households. This represents three percent of the households according to the US Census American Community Survey. At the block group level in the Auburn area (Figure 8), central Auburn near Mikklesen Drive has by far the greatest number of zero vehicle households (389).

## Other Population Characteristics

### Veteran Population

Another subset of transit dependent population is veterans. Veterans often need to travel longer distances to medical centers and clinics which are part of the Veterans Administration (VA). Veterans are potentially eligible for WPTCSA services if they are disabled or over age 60. The closest VA Medical Center for Western Placer County residents is in Mather, CA just outside Sacramento. VA Outpatient Clinics are located in McClellan, Mather and Auburn, CA. A Vet Center is located in nearby Citrus Heights. Table 4 presents the veteran population by census tract and block group for the Auburn area.

**Table 4: Auburn Area Other Population Characteristics by Block Group**

Census Tract	Block Group	Description	Total Population	Total Households	Square Miles	Veteran		Hispanic or Latino, or Other Race, not White		Limited English Proficiency	
						#	%	#	%	#	%
203	1	Lincoln Way/US Post Office	2,297	1,016	1.1	226	10%	836	36%	0	0%
203	2	N. of Hwy 80, between Hidden Creek Rd and Auburn Ravine Rd	1,300	565	1.9	68	5%	446	34%	0	0%
203	3	Central Auburn, Mikkelsen Drive	981	538	0.6	182	19%	138	14%	0	0%
204.01	1	South of High St. and Sacramento St.	1,553	702	1.4	64	4%	410	26%	11	2%
204.01	2	Downtown Auburn, between Hwy 80 and High St.	531	282	0.3	5	1%	190	36%	0	0%
204.02	1	South of Maidu Drive	1,706	721	4.1	244	14%	203	12%	0	0%
204.02	2	North of Maidu Drive, South of Rogers Lane	1,969	826	1.2	189	10%	270	14%	24	3%
205.01	1	Auburn Wastewater Plant	684	308	6.2	77	11%	105	15%	0	0%
205.02	1	South Auburn, Sunrise Ridge Circle	1,737	714	9.8	135	8%	129	7%	12	2%
205.02	3	Indian Hill Road	1,759	659	5.8	154	9%	246	14%	0	0%
215.01	2	Wise Forebay	4,767	1,382	4.3	308	6%	1916	40%	45	3%
215.02	1	Dairy Road	2,663	1,037	1.7	243	9%	480	18%	15	1%
215.02	2	Northeast Auburn	1,083	427	3.1	81	7%	131	12%	0	0%
218.02	1	Auburn Municipal Airport	1,543	562	4.9	43	3%	610	40%	0	0%
218.02	2	Oak Ridge Way West	3,092	1,230	1.5	354	11%	660	21%	73	6%
218.02	3	Oak Ridge Way East	839	274	1.4	55	7%	162	19%	0	0%
<b>Total</b>			<b>28,504</b>	<b>11,243</b>	<b>49</b>	<b>2,428</b>	<b>9%</b>	<b>6,932</b>	<b>24%</b>	<b>180</b>	<b>2%</b>

Source: 2015 American Community Survey, 5-Year Estimates, Table B21001 (Veteran Status for the Civilian Population 18 Years and Over); Table B16002 (Household Language by Household Limited English Speaking Status); Table B03002 (Hispanic or Latino Origin by Race)

For the Auburn area, there are roughly 2,500 veterans or 8.5 percent of the population. By block group, the greatest number of veterans live in North Auburn near Oak Ridge Way (354 veterans). Another 308 veterans live in the Wise Forebay area of North Auburn.

## Minority and Limited English Proficiency Population

An important part of the planning process is ensuring environmental justice. Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Any planning process should not have a greater significant negative impact on minority populations. Additionally, the planning process should ensure meaningful involvement from these populations. The objective of a transit plan is to improve mobility for all community residents, including minority populations. To ensure that all segments of the population are considered in the transit planning process, Table 4 identifies a population number for “Latino, Hispanic, Other Race Non-White” residents and households with limited English proficiency. This data is also helpful for identifying pockets where bilingual transit information and marketing is particularly important.

In the Auburn area, the North Auburn block group in the Wise Forebay area has the greatest number of “Non-White” residents (1,916 or 40 percent). The Oak Ridge Way West block group in North Auburn has the greatest number of LEP households (73 or 6 percent).

## **Employment**

### **Commute Patterns**

#### Countywide

An analysis of commute patterns is important for public transit planning, as it is often a significant source of transit ridership. The US Census Longitudinal Employer Household Dynamics (LEHD) provides commute pattern data for 2015. As LEHD data tracks job locations by employer address, it is difficult to accurately track those who telecommute. For this reason, LEHD data can often show high numbers of employees travelling long distances to work. Nevertheless, the LEHD data is the best data available to review commute patterns.

Table 5 presents commute patterns for Placer County as a whole. As shown, the greatest number of employed Placer County residents work within the City of Roseville (22,193 or 16.1 percent). This is closely followed by the City of Sacramento (19,034 or 13.8 percent). Other Placer County communities with a significant amount of jobs for Placer County residents are Rocklin, North Auburn, Auburn, and Lincoln. For jobs located within Placer County, the greatest number of employees filling these jobs live in the City of Roseville (17,344 or 13 percent), followed by the City of Rocklin (9,440 or 7.1 percent). A significant number of Placer County employees commute from the City of Sacramento (6,858 or 5.1 percent) and an additional 6,255 employees (4.7 percent) commute from nearby Citrus Heights.



**Table 5: Commute Patterns for Placer County Residents and Workers**

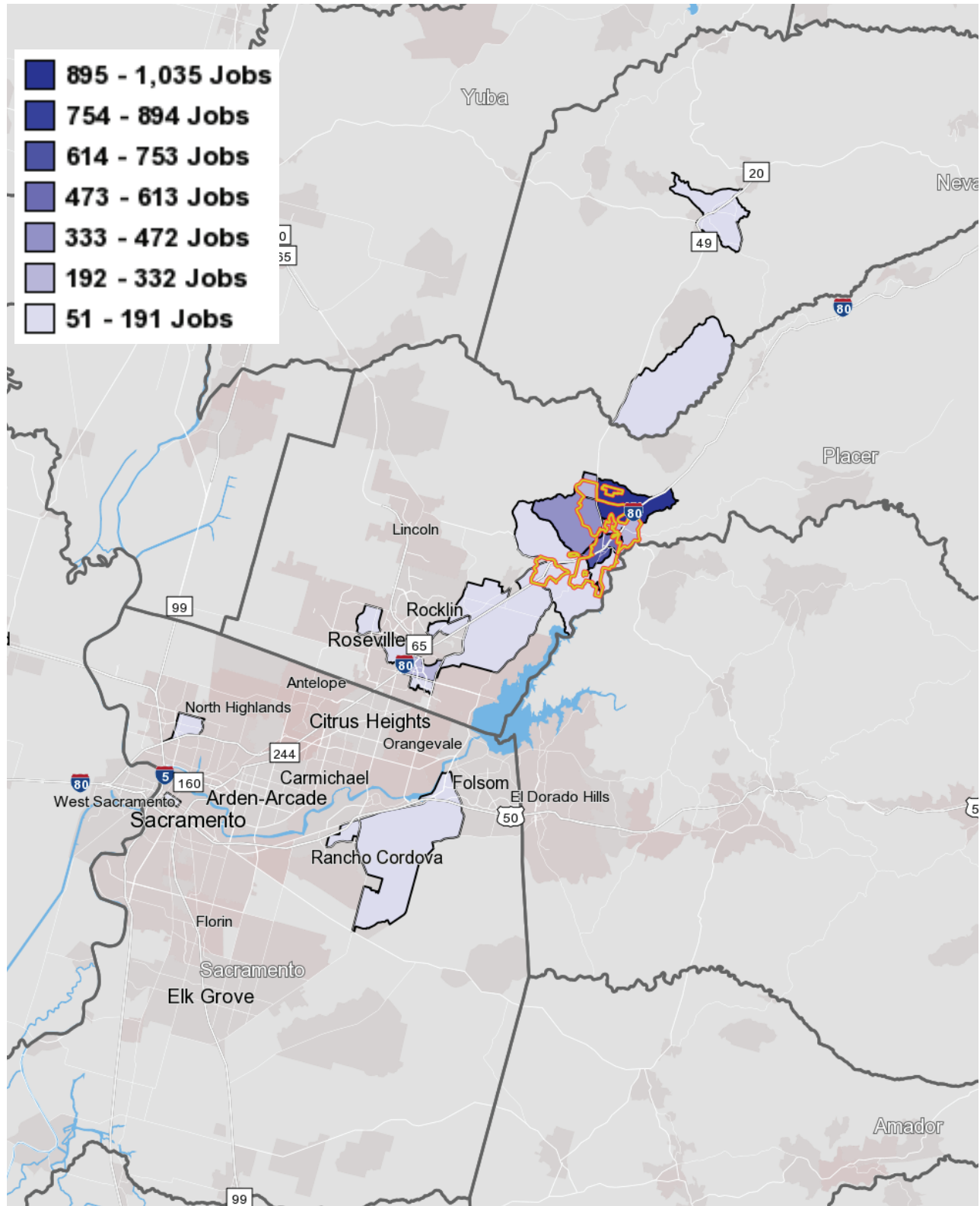
Places Where Placer County Workers are Employed			Placer Where Placer County Workers Live		
	Count	Share		Count	Share
Roseville, CA	22,193	16.1%	Roseville, CA	17,344	13.0%
Sacramento, CA	19,034	13.8%	Rocklin, CA	9,440	7.1%
Rocklin, CA	7,902	5.7%	Sacramento, CA	6,858	5.1%
North Auburn CDP, CA	5,238	3.8%	Citrus Heights, CA	6,255	4.7%
Arden-Arcade CDP, CA	4,109	3.0%	Lincoln, CA	5,995	4.5%
Folsom, CA	3,985	2.9%	Antelope CDP, CA	3,056	2.3%
Rancho Cordova, CA	3,951	2.9%	Auburn, CA	2,840	2.1%
Auburn, CA	3,757	2.7%	Folsom, CA	2,647	2.0%
Lincoln, CA	2,828	2.1%	Granite Bay CDP, CA	2,630	2.0%
San Francisco, CA	2,525	1.8%	Carmichael CDP, CA	2,326	1.7%
Citrus Heights, CA	2,230	1.6%	North Auburn CDP, CA	2,296	1.7%
Carmichael CDP, CA	1,897	1.4%	Arden-Arcade CDP, CA	2,290	1.7%
Granite Bay CDP, CA	1,724	1.3%	Orangevale CDP, CA	1,996	1.5%
North Highlands CDP, CA	1,690	1.2%	Elk Grove, CA	1,822	1.4%
San Jose, CA	1,496	1.1%	North Highlands CDP, CA	1,761	1.3%
West Sacramento, CA	1,434	1.0%	Foothill Farms CDP, CA	1,760	1.3%
Loomis town, CA	1,412	1.0%	Rancho Cordova, CA	1,700	1.3%
Stockton, CA	1,047	0.8%	Truckee town, CA	1,557	1.2%
El Dorado Hills CDP, CA	884	0.6%	Fair Oaks CDP, CA	1,398	1.0%
Elk Grove, CA	881	0.6%	El Dorado Hills CDP, CA	1,326	1.0%
Oakland, CA	831	0.6%	Yuba City, CA	1,227	0.9%
Grass Valley, CA	773	0.6%	Loomis town, CA	1,059	0.8%
Yuba City, CA	745	0.5%	San Jose, CA	1,029	0.8%
Gold River CDP, CA	672	0.5%	Reno, NV	1,022	0.8%
Antelope CDP, CA	666	0.5%	Stockton, CA	782	0.6%
All Other Locations	43,752	31.8%	All Other Locations	50,944	38.2%
<b>Total Employed Residents</b>	<b>137,656</b>		<b>Total Workers</b>	<b>133,360</b>	

Source: US Census Longitudinal Household Employer Dynamics 2015 data

Auburn Region

Figure 9 present the census tracts where residents of the City of Auburn, North Auburn Census Designated Plan (CDP) and Newcastle CDP work. The majority of Auburn region employees (1,035) work in the northern portion of Auburn around Bell Road, east of Highway 49 and another 620 work in the census tract just west which includes the Placer County offices. A fair number (around 300 residents) commute to the eastern portion of Roseville (which includes Kaiser). Less than 200 Auburn area residents work in downtown Sacramento, Rancho Cordova, Folsom or the industrial area east of Truxel Road in Sacramento.

**Figure 9**  
**Where Auburn / Newcastle Area Residents Work**



## Major Employers in Placer County

Data from the California Employment Development Department presented in Table 6 confirms that the majority of major employers in Western Placer County are located in Roseville. Industries range from tech companies to health care. The County of Placer is a large employer and most offices are located in Auburn. The Thunder Valley Casino located in Lincoln is also a major employer for the area.

<b>Employer</b>	<b># of Employees</b>	<b>Location</b>
AT&T	1,000 - 1,499	Lincoln Way, Auburn
Hewlett Packard	1,000 - 1,499	Foothills Blvd, Roseville
Placer County Government Services	1,000 - 1,499	B Street, Auburn
Pride Industries	1,000 - 1,499	Foothills Blvd, Roseville
Sutter Roseville Medical Center	1,000 - 1,499	Medical Plaza Dr, Roseville
Thunder Valley Casino	1,000 - 1,499	Athens Ave., Lincoln
Consolidated Communications	500 - 999	Industrial Ave, Roseville
Placer County Education	500 - 999	Nevada St., Auburn
Advantist Health	500-999	Creekside Ridge Dr., Roseville
Golfland Sunsplash	500-999	Taylor Rd, Roseville
Source: CA Employment Development Department		

## Major Activity Centers

Figure 10 displays likely destinations for transit riders in the Auburn area. These include schools, colleges, government services, medical facilities and large shopping centers. As shown, generally fixed route services serve most transit activity centers. The Auburn Creekside Villas Elderly Care Facility is located off the fixed route but they are served by deviation request.

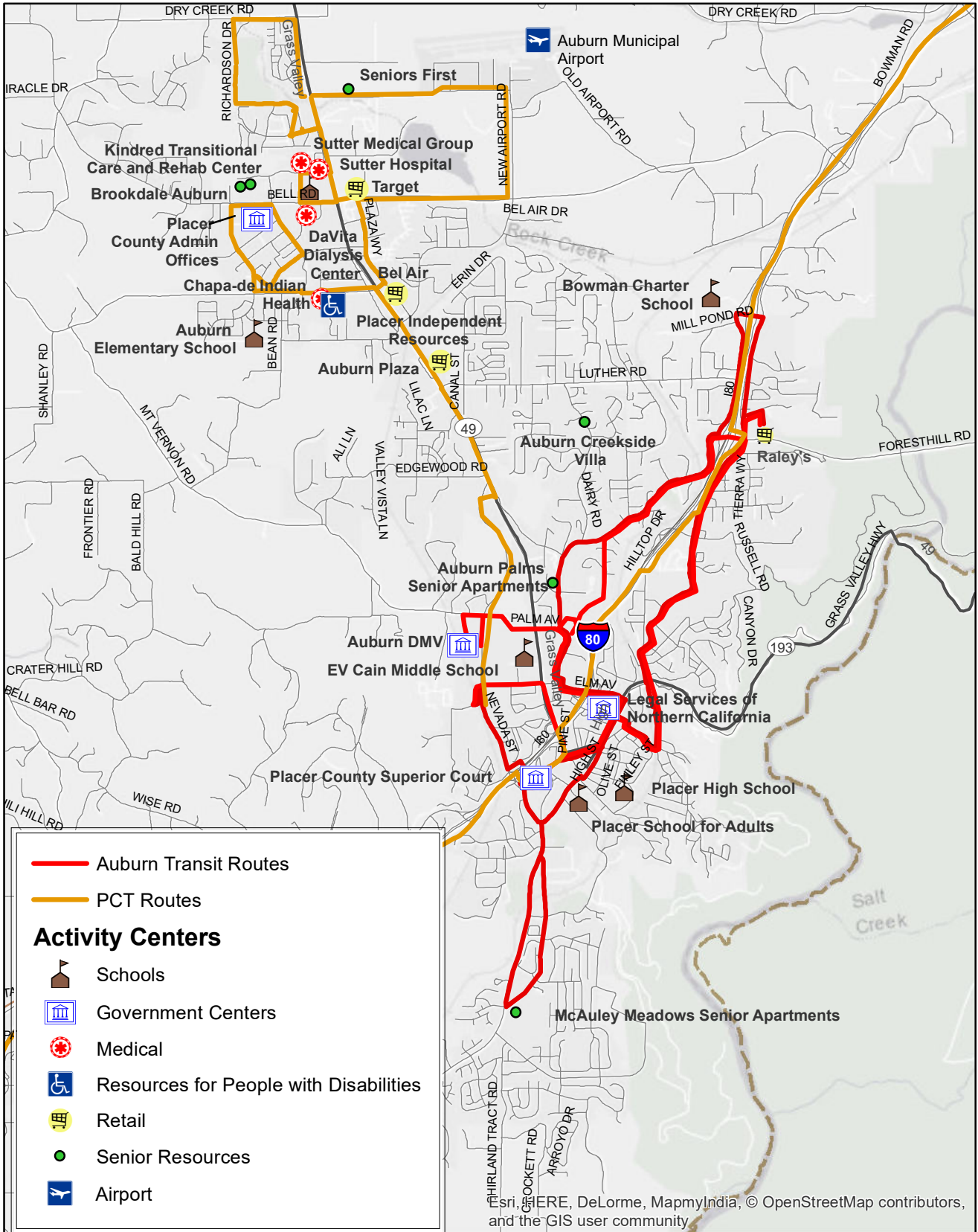
## Demographic Overview Findings for Western Placer County

The following presents a summary of findings from the demographics review of Western Placer County:

- The South Placer area population has the potential to expand significantly over the next 10 years, particularly older adults who may become transit dependent. Another result of



**Figure 10  
Auburn Area Activity Centers**



population growth is an increase in traffic volumes on local roadways. This could make some public transit services (particularly commuter routes) more attractive.

- There are multiple large residential and commercial developments currently going through the planning process. Although many may not be built out during this plans time horizon, they should be considered in drafting the short range transit plans
- Areas in central Lincoln and North Auburn west of Highway 49 repeatedly stood out as having high concentrations of potentially transit dependent population and should be given a close review in the alternatives analysis.
- A significant number of Western Placer area residents commute to Sacramento for work. The majority of these commuters work in the downtown area near the capital. This indicates that although commuter services to other Sacramento locations could be warranted, the majority of services should continue to serve the downtown area.
- Within Placer County, Roseville has the most employment centers as well as major transit activity generators for Western Placer County residents. This underscores the importance of maintaining and increasing good connections between Roseville Transit and Placer County Transit.

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## EXISTING TRANSIT SYSTEM



### Overall Service Description and Organization

The City of Auburn Public Works Department operates Auburn Transit, a deviated fixed-route transit system with two discrete routes that serve passengers on weekdays and one route that runs on Saturdays. Auburn Transit generally serves the incorporated portion of Auburn. All of the routes allow for on-request route deviations of up to three-quarters of a mile from the regular route. Deviations are free to the passenger and must be requested at least one hour in advance. Auburn’s policy is to allow no more than two deviations per hour, prioritizing deviation requests as necessary.

Staffing of Auburn Transit consists of a Transit Manager, a Transit Supervisor, two full-time Drivers, a part-time Driver and a part-time Mechanic.

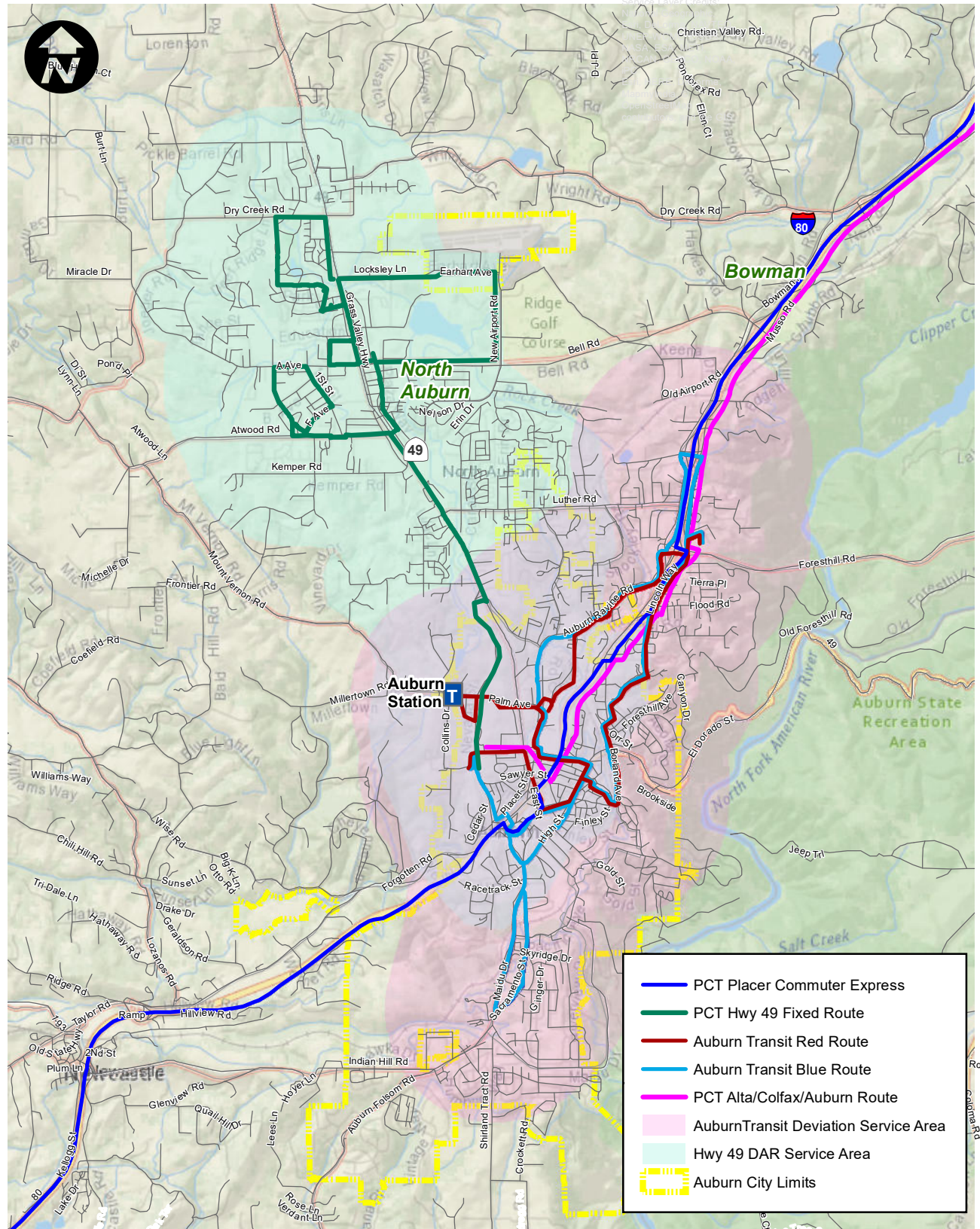
### Auburn Transit Routes

The two weekday routes, the Blue Route and the Red Route, run in opposite directions around an hour-long loop, as shown in Figure 11. They both cover approximately the same area of southern Auburn and northeastern Auburn, with some slight differences by route, as described below.

- **Blue Route** – Between 6:00 AM and 10:00 AM the Blue Route operates every two hours. During this time the same bus is used to operate the Red Route on two-hour headways. The Blue Route runs hourly between 10:00 AM and 4:00 PM, when it again switches to every two hours. From its starting location at Auburn Station (277 Nevada Street) on the southwest side of Auburn, the route heads south along Nevada Street, Sacramento Street and Auburn Folsom Road to serve south Auburn all the way down to Maidu Drive, then heads north along High Street, through Old Town and downtown Auburn, then north to Bowman Road and then south along Auburn Ravine Road, through Old Town/downtown Auburn again and then back to Auburn Station.
- **Red Route** – Between 7:00 AM and 9:00 AM the Red Route operates every two hours. One bus operates both the Red and the Blue Route every other hour during this time. From 9:00 AM to 3:00 PM the route runs hourly, with a final run at 5:00 PM. Departing from Auburn Station, the route heads east along Fulweiler Avenue, circling through downtown Auburn, then crossing I-80 to pass the U.S. Post Office at Nevada Street and Mt. Vernon Road in the western part of Auburn. The bus then returns to Mikkelson Road, heading north as far as



**Figure 11**  
**Public Transit Service in the Auburn Area**





Raley's, returning to Auburn Station along Lincoln Way, through downtown Auburn and back along Fulweiler Avenue.

- **Saturday Route** – The Saturday Route operates hourly between 9:00 AM and 5:00 PM, following the same alignment as the Blue Route.

On weekdays, the system operates between 6:00 AM and 6:00 PM while on Saturdays it operates between 9:00 AM and 5:00 PM.

### **Services Operated by Other Transit Providers**

Placer County Transit (PCT) operates three routes that directly serve Auburn residents. The first is **PCT Route 30 (Highway 49)**. This shuttle serves northwestern Auburn along Highway 49, beginning at Auburn Station and travelling north to Chana Park in North Auburn. Service is hourly from 6:06 AM to 7:34 PM Monday through Friday, and from 9:00 AM to 4:48 PM on Saturdays. There are two additional early morning runs weekdays and Saturdays that serve only selected stops. Placer County also operates a **PCT Highway 49 Dial-A-Ride** from 6:00 AM to 7:30 PM on weekdays and from 8:00 AM to 6:00 PM on Saturdays. The Dial-A-Ride provides pick-ups within three-quarters of a mile from the Highway 49 Route. **PCT Route 40 (Colfax/Alta)** serves Nevada Station, Elders Station and Bowman in Auburn on its way to Colfax and Alta.

At Auburn Station, riders may transfer to the following other services:

- **PCT Auburn to Light Rail Route** – Hourly departures from 5:00 AM through 7:00 PM to Rocklin, Roseville and the Sacramento RT light rail service, as well as hourly Saturday departures from 8:00 AM to 5:00 PM. Arrivals occur hourly from 7:00 AM to 9:00 PM on weekdays, and 10:00 AM to 7:00 PM on Saturdays.
- **PCT Alta/Colfax Route** -- Departures to Meadow Vista, Applegate, Colfax, Dutch Flat and Alta at 7:00 AM and 3:15 PM, with arrivals at approximately 9:10 AM and 5:15 PM, on weekdays only.
- **PCT Placer Commuter Express** – Three weekday daily departures to Sacramento at 5:43 AM, 6:03 AM, and 6:37 AM, with arrivals at 5:40 PM, 6:00 PM, and 6:43 PM.
- **Gold Country Stage Route 5** – Six daily departures on weekdays only from 7:00 AM through 6:00 PM, along with six daily arrivals from 6:50 AM through 5:50 AM.
- **Amtrak's Capital Corridor** – Capital Corridor rail service in Auburn is limited to a 6:35 AM westbound departure and a 6:29 PM eastbound arrival on weekdays, and 8:15 AM westbound departure / 9:16 PM eastbound arrival on weekends/holidays. Amtrak Thruway

bus connection service (providing transfers to rail service in Sacramento) is also offered four times per day in the westbound direction and eight times per day in the eastbound direction on weekdays, and four times westbound and seven times eastbound on weekend days.

## **Service Area**

The greater Auburn area includes the incorporated City of Auburn and unincorporated areas of North Auburn and Bowman. As noted above, transit coverage for the area is shared by Auburn Transit and Placer County Transit. Auburn Transit's service area covers the city limits as well as some unincorporated areas of Placer County, such as Bowman, while Placer County Transit serves the Highway 49 corridor including North Auburn. Despite the multiple service providers, there remain gaps in service. As shown in Figure 11, gaps in service are along Dry Creek Rd, Christian Valley Road and to dispersed homes north and west of Placer County's Highway 49 Dial-A-Ride service area. There are two other gaps in service within the incorporated part of Auburn. One is just south of Maidu Road, and the other is just south of Auburn-Folsom Road, in the very southwest corner of Auburn. The Unmet Needs hearing process documented a request for curb-to-curb transit service in the neighborhood along Sierra Mesa Place, just west of the city limits. As this neighborhood is located within the Auburn Transit deviation service area, rather than additional service, there appears to be a need for better communication of the various service areas to the public. The Placer County Rural Transit Study in 2015 included this recommendation for better communication.

## **Fare Structure**

Table 7 shows the fare structure for Auburn Transit. A single fare for the general public is \$1.00, with a day pass priced at \$2.50. Passengers may purchase a 30-ride pass for a \$6 discount off the full price of 30 rides. A monthly pass, at \$40, is worth purchasing if a rider takes the bus round-trip more than 20 days a month. Fares and passes for seniors, 60 years and older, youth, 6-12 years old, and disabled passengers are half the price of the general fare.

## **Facilities**

Auburn Transit's administrative facility is at 1225 Lincoln Way and the operations facility is at 11500 Blocker Drive. There is also a CNG fueling facility at the corporation yard at Blocker Drive. Auburn Transit's main passenger hub is the Auburn-Conheim Station, which is also served by Placer County Transit, the Placer Commuter Express, Amtrak Capital Corridor rail and bus service, and Gold Country Stage. There is both a park-and-ride lot as well as parking near the train platform. Another key location along the Auburn route is Elder's Station, located in downtown Auburn. Elder's Station has a brick transit shelter and is a central downtown stop. Including Auburn Station and Elder's Station, there are twelve stops with transit shelters, as shown in Table 8. There are forty other marked bus stops without shelters.

**Table 7: Auburn Transit Fare Structure**

<b>Fare Type</b>	<b>Fare</b>
General Public - Single Fare	\$1.00
General Public - Daily Pass	\$2.50
General Public - 30 Ride Pass	\$24.00
General Public - Monthly Pass	\$40.00
Senior/Disabled/Youth - Single Fare	\$0.50
Senior/Disabled/Youth - Daily Pass	\$1.25
Senior/Disabled/Youth - 30 Ride Pass	\$12.00
Senior/Disabled/Youth - Monthly Pass	\$20.00
Transfers	Free
Under Age 5 - Single Fare	Free

Source: City of Auburn website, <https://www.auburn.ca.gov/192/Transit-Services>.

**Table 8: Auburn Transit Bus Shelter Locations**

<b>Main Street (Sign location)</b>	<b>Cross Street</b>
1 Auburn Station	Nevada St/Blocker Drive
2 Alta Vista	Soccer Field Side
3 Auburn Ravine Rd	Auburn Palms
4 Auburn Ravine Rd	Valley Oaks
5 Nevada St	McClung/Chamberlain
6 Lincoln Wy	Elders Station
7 Sacramento St	Near PG&E
8 Palm Terrace Apartments	Mt. Vernon
9 Mikkelsen	Credit Union W Side
10 Sacramento St	Auburn Folsom (Mercy Housing)
11 High St	Depot Bay
12 Lincoln Wy	Raley's

Source: Auburn Transit, 2017

## Fleet Inventory

As shown in Table 9, the Auburn transit fleet includes six vehicles – three Ford Glaval Cutaway buses, one Dodge Dakota PU, one El Dorado National XHF, and one Freightliner/Glaval. The Dodge Dakota is used as a staff vehicle. The three Ford Cutaways were purchased in 2000 and are due to be replaced in 2020. The El Dorado and Freightliner/Glaval, purchased in 2016 and 2017, respectively, will not need to be replaced until 2026 and 2032.

Purchase Year	Description	Condition	Replacement Date
2000	2001 DODGE DAKOTA PU	Green	2020
2017	2017 FREIGHTLINER/GLAVAL	Green	2032
2016	2016 ELDORADO NATIONAL XHF	Green	2026
2010	2011 FORD I GLAVAL CUTAWAY BUS	Green	2020
2010	2011 FORD I GLAVAL CUTAWAY BUS	Green	2020
2010	2011 FORD I GLAVAL CUTAWAY BUS	Green	2020

Source: Auburn Transit, 2017

## ROUTE OBSERVATIONS AND PUBLIC INPUT

### Route Observations

LSC conducted route observations of Auburn Transit on Thursday, November 2, riding the Red Route at 9:00 AM and the Blue Route at 10:00 AM. Both routes were running on-time for nearly all stops and the driver was able to work in route deviations while staying on schedule. The bus was clean and comfortable, with a friendly and helpful driver. A passenger on the bus noted that the system works very well.

#### *Signage and Stops*

At some stop locations bus stop signs were missing, and there was no other kind of marker denoting a bus stop (such as a bench). In other locations, the bus stopped a block or so away from the sign, due to cars parked legally in front of the bus stop. Riders seemed to know where these stops were, but it could be difficult for visitors to find the bus stop in these cases.

Another possible source of confusion for new riders is that the Auburn buses have no visible sign on the bus itself indicating whether the bus is serving the Red Route or the Blue Route. Both regular passengers and LSC surveyors noted that they had to ask the bus driver before boarding to ensure they were on the correct route. This is particularly an issue as some stops are served by both routes in the same direction.

There were several bus stop signs that shared a sign-post with a stop sign. The bus driver found these bus stops to be problematic, as drivers behind the bus are not aware that the bus is stopping to pick up passengers, and become confused when the bus remains at the stop sign for longer than expected.



At the Auburn Station, the public bathroom is locked, although there is a sign stating that the bathroom is open during normal business hours. The nearest alternative bathroom, at True Value Hardware, is a five-minute walk. There was also a fair amount of trash at the station on the observation day. Finally, the Auburn Transit schedule affixed inside the display case was slipping out of place (see below) lending an air of neglect to the waiting area.

### *Service Area*

The Auburn driver reported that when only one route is operating per hour, the bus generally ends up covering the service area for both routes as riders ask for route deviations to stops that are on the other route.

### *Passenger Demand*

The bus driver reported that busy runs include the 7:00 AM run, when students are taking the bus to school, and the 10:20 AM run, when people take the bus to the library (which opens at 10:00 AM). In the summertime many people take the bus to the pool at Recreation Park. Auburn Woods and Auburn Townhomes usually generate a lot of riders, particularly in the morning and at night. High Street at Hale Street is a popular stop for high school students, especially those with special needs. This is not a listed stop on the schedule.

### *Fare and Data Collection*

The driver collected data on ridership using a manual denominator board. The farebox is also manual.

### *Route Operational Issues*

Discussion on the bus focused on whether the Red and Blue routes overlap too much. There was one suggestion that the Red Route should head north up Nevada Street from Auburn Station (a previous alignment), past the movie theater, then cross Highway 49 once rather than twice.

## Passenger Feedback

LSC Transportation Consultants conducted on-board surveys on Auburn Transit between Thursday, November 9 and Saturday, November 18, 2017. Fifty-six individual responses were collected over the course of the survey period. A complete description of the survey protocol and summary of the results is available in Appendix B: Auburn Transit Survey Memorandum.

As part of the on-board rider survey, one question asked respondents, “What transit improvements would you most like to see?” Among the 36 respondents who answered this question, later service and Sunday service were the most popular choices. One or more individuals also listed the following specific suggestions:

- Better coordination with Amtrak
- Cheaper monthly passes
- No smoking at bus stops
- Service down Highway 49 (LSC notes that this is already provided by Placer County Transit)
- Service to Christian Valley Road
- Don’t leave the stop early
- Driver skipped the stop at Save Mart, took bench away at Save Mart

More information about passenger input can be found in Appendix B.

## MARKETING STRATEGIES

Auburn Transit’s marketing materials consist of information available on the City of Auburn’s website, a printed brochure, and the City of Auburn’s Facebook account.

### Website

Auburn Transit’s website, <https://www.auburn.ca.gov/192/Transit-Services>, provides a link to the following:

- A pdf version of the printed schedule and route map,
- Detailed information about fares,
- How and where to purchase passes,
- Code of conduct, contact information for transit staff,
- The holiday schedule,
- Links to other transit services,
- A video about how to use the bus, and
- Information about Auburn Transit’s Title VI process and non-discrimination policy, including a complaint form in both English and Spanish.

## **Printed Brochure**

The printed brochure shows a detailed map of the Blue Route, the Red Route, and the Saturday Route, includes the schedule and explains the policy regarding route deviation requests. There are also details regarding rider etiquette, holidays, and policies for baggage and bikes. The printed brochure is available on the buses, at the post office, the Chamber of Commerce, and the Placer County Transportation Planning Agency offices. It is also posted at Auburn Station.

## **Facebook**

The City of Auburn has a Facebook account on which Auburn events and city-related news is posted. Relevant posts related to Auburn Transit are also posted on this account.

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**OPERATIONS AND PERFORMANCE**

**Current Financial Conditions**

Operating and Capital Revenues

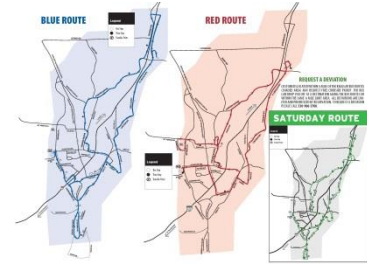


Table 10 shows Auburn Transit’s funding sources for Fiscal Years (FY) 2016-17 and 2017-18. The bulk of Auburn Transit’s operating revenues come from state sources, including California Transportation Development Act (TDA) funding and Proposition 1B Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA) funds. Approximately ten percent of revenues are from federal sources, and another seven percent are from local sources, made up of farebox revenue and contribution from the City General Fund for mechanics’ salaries. In FY 2016-17, one percent of the total budget (just under \$9,000), was anticipated in capital revenues from the Federal Transit Administration.

<b>Table 10: Auburn Transit Operating and Capital Revenues</b>		
	<b>FY 2016-17 Revised Budget</b>	<b>FY 2017-18 Projected</b>
<b>Operating Revenues</b>		
<u>Federal</u>		
FTA 5311	\$68,989	\$78,928
<u>State</u>		
TDA - State Transit Assistance	\$45,465	\$42,337
TDA - Local Transportation Fund	\$352,000	\$466,812
Prop 1B PTMISEA	\$150,000	\$28,800
<u>Local</u>		
Farebox Revenue <sup>1</sup>	\$24,317	\$25,000
Transfers-In	\$22,299	\$20,000
<b>Capital Revenues</b>		
FTA	\$8,748	
<b>Total Revenues</b>	<b>\$671,818</b>	<b>\$661,877</b>
Source: City of Auburn Transit Budget, Fund 27 Dept 530; Auburn Transit Staff		
Note 1: Farebox Revenue are Actuals as of 12/06/17		

## Operating Expenses and Cost Model

Expenses related to the operations of Auburn Transit for FY 2016-17 are presented in Table 11. Total operating expenses for the fiscal year totaled \$597,799. The primary operating expenses are salaries and benefits, followed by vehicle and bus stop maintenance, and fuel.

Operating Expense Category		Cost Model Variable			
		Fixed	Vehicle Service Hour	Vehicle Service Mile	
<b>Table 11: Auburn Transit Expenses and Cost Model</b>					
<i>FY 2016/17 Actual</i>					
		<b>Total</b>	<b>Fixed</b>	<b>Vehicle Service Hour</b>	<b>Vehicle Service Mile</b>
<u>Administrative</u>					
Salaries and Benefits - Administrative	\$109,529	\$109,529			
Salaries and Benefits - Operations Staff	\$362,055		\$362,055		
Office Expenses and Communications	\$2,178	\$2,178			
Worker's Compensation	\$15,216	\$15,216			
Materials, Supplies, and Clothing	\$4,586	\$4,586			
Professional Services, Employee Relations and Personnel Expenses	\$1,406	\$1,406			
SRWCB Fees and Health Dept. Fee	\$1,178	\$1,178			
Training and Education	\$137	\$137			
Maintenance of Buildings	\$574	\$574			
Contract Services <sup>1</sup>	\$26,113	\$26,113			
<u>Operating</u>					
Fuel	\$22,145		\$22,145		
Vehicle Insurance	\$12,126		\$12,126		
Operating Transfers/Out <sup>2</sup>	\$23,000		\$23,000		
Maintenance of Equipment	\$2,831			\$2,831	
Vehicle Maintenance	\$14,724			\$14,724	
<b>Total</b>	<b>\$597,799</b>	<b>\$160,917</b>	<b>\$419,326</b>	<b>\$17,556</b>	
FY 2016/17 Service Quantities			4,944	60,981	
<b>Cost Model FY 2016/17</b>					
Fixed Costs		\$160,917			
Vehicle Service Hour Cost Factor		\$84.82			
Vehicle Service Mile Cost Factor		\$0.29			
Vehicle Service Hour plus Allocated Fixed Cost per Hour		\$117.36			
Source: City of Auburn FY 2016/17 Year-to-date Budget as of 12.06.17					
Note 1: This is money paid to Placer County for services at the Auburn Industrial Park, Locksley Lane bus stop					
Note 2: Mechanic salaries					

To evaluate performance of Auburn Transit at the route level, a “cost model” for FY 2016-17 was developed, also shown in Table 11. As shown in the table, each expense item in the FY 2016-17 budget is allocated to that quantity on which it is most dependent. For example, maintenance costs are allocated to vehicle service miles. This provides a more accurate estimate of costs than a simple total-cost-per-vehicle-hour factor, which does not vary with the differing mileage associated with an hour of service on one route versus the other. For FY 2016-17, this equation is:

$$\begin{aligned} \text{Operating Cost} &= \$0.29 \text{ per vehicle service mile} \\ &+ \$94.45 \text{ per vehicle service hour} \\ &+ \$160,917 \text{ annually for fixed costs} \end{aligned}$$

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

### Annual Operating Statistics

Operating statistics for Auburn’s two weekday routes (the Blue Route and the Red Route) are difficult to separate from one another, as in the early morning and late afternoon one bus alternates between both routes. Drivers do not keep separate passenger statistics for the Blue and the Red Routes. The totals shown in Table 12 for passengers, vehicle service hours and vehicle service miles are actual numbers, while the figures shown for the individual Blue, Red, and Saturday routes are estimates.

<b>Routes</b>	<b>Passenger-Trips</b>	<b>Vehicle Service Hours</b>	<b>Vehicle Service Miles</b>	<b>Total Operating Cost</b>	<b>Fare Revenue</b>
Blue Route	26,112	2,232	27,530	\$269,880	\$13,831
Red Route	12,635	2,232	27,530	\$269,880	\$6,692
<i>Total Blue/Red</i>	<i>38,747</i>	<i>4,464</i>	<i>55,061</i>	<i>\$539,761</i>	<i>\$20,523</i>
Saturday Route	4,348	480	5,762	\$57,993	\$3,793
<b>Total Systemwide</b>	<b>43,095</b>	<b>4,944</b>	<b>60,823</b>	<b>\$597,754</b>	<b>\$24,317</b>

Source: Auburn Transit Total Data Query 2016/2017; Auburn Transit Total Passengers by Day 2016-2017 Report; LSC 2017 Boarding and Alighting Data.

As shown in Table 12, in FY 2016-17 Auburn Transit served just over 43,000 one-way passenger trips, operating nearly 4,500 vehicle service hours, and just under 61,000 vehicle service-miles. Of the total ridership, 11 percent (4,348) occurred on Saturdays, although the Saturday route makes up only about 9 percent of the total service hours (421 hours) of Auburn Transit. Based on ridership counts conducted by LSC in November 2017, the Blue Route carries double the amount of ridership of the Red Route, with 26,112 annual passenger trips compared to the Red Route's 12,635. Weekday vehicle service hours, vehicle service miles and operating costs are split evenly between both routes.

Annual operating costs for the Red/Blue Route were \$541,166, along with \$56,634 for the Saturday Route, as shown in Table 6. These costs were offset slightly by fare revenues of \$24,317.

### Auburn Transit Performance Review

Table 13 shows several performance indicators for Auburn Transit. These performance indicators are useful because they can be compared to other systems, and to internal standards. The first two indicators, passengers per vehicle service-hour and passengers per vehicle service-mile are measures of productivity – i.e., how many riders the system supports per hour or mile of service. The next three indicators are measures of cost-effectiveness – how much does it cost the system to operate each hour of service, and how much does it cost to provide one passenger trip.

	Route				Systemwide Total
	Blue	Red	Total Weekday	Saturday <sup>1</sup>	
Passenger-trips per Vehicle Hour	11.7	5.7	8.7	9.1	8.7
Passenger-trips per Vehicle Mile	0.9	0.5	0.8	0.8	0.7
Operating Cost per Trip	\$10.34	\$21.36	\$13.93	\$13.34	\$13.87
Total Operating Cost per Hour	\$121	\$121	\$121	\$121	\$121
Farebox Ratio <sup>2</sup>	5.1%	2.5%	3.8%	6.5%	4.1%
Fare per Trip <sup>3</sup>	\$0.53	\$0.53	\$0.53	\$0.87	\$0.56
Subsidy per Trip <sup>3</sup>	\$9.81	\$20.83	\$13.40	\$12.47	\$13.31

Note 1: The greater efficiencies generated by Saturdays are attributable to three very high-ridership weekends - one in October and two in December.

Note 2: For official TDA farebox ratio calculation, the City of Auburn provides local support to supplement fare revenue through mechanics' salaries paid by the general fund. The farebox ratio shown here does not include the general fund contribution.

Note 3: Fare per Trip and Subsidy per Trip do not include the general fund contribution for mechanics'

### Passengers per Vehicle Service Hour

One measure of service efficiency is passengers per vehicle-service hour. System-wide, Auburn Transit achieved 9.7 passenger-trips per vehicle service hour. The Saturday route is slightly more productive than the weekday routes, at 10.3 passengers per hour compared to 9.6. The standard, as noted in the 2011 *Short Range Transit Plan*, is 8.0 passenger-trips per vehicle service hour. Auburn Transit is meeting this performance standard.

### Passengers per Vehicle Service Mile

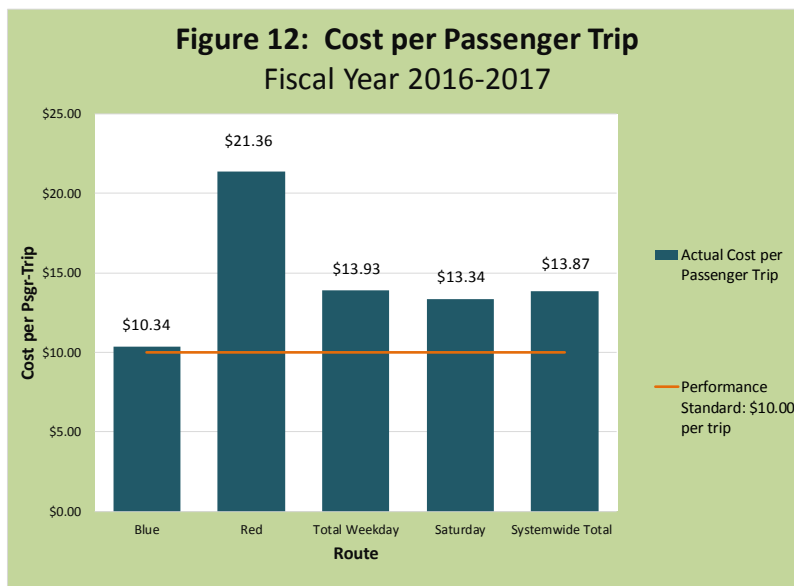
Another measure of service effectiveness is passengers per vehicle service-mile. Auburn Transit generated 0.7 passenger trips per vehicle service-mile in 2016-2017. Again, Saturday's passengers per mile were slightly higher than the weekday passengers per mile, at 0.8 compared to 0.7. As Auburn Transit's standard for passengers per vehicle service-mile is 1.0, Auburn Transit is not meeting this standard.

### Operating Cost per Vehicle Service Hour

The overall operating cost per vehicle service-hour for all of the Auburn Transit routes was \$121 per hour. As Auburn Transit's standard is \$80 per hour, the program is not meeting this standard.

### Operating Cost per Passenger-Trip

Operating cost per passenger trip is a direct indicator of the cost to serve each passenger. It adds an additional level of detail to cost per vehicle service hour, which does not take into account the number of people on the bus. As shown in Figure 12, system-wide the operating



cost per trip was \$13.87. On the weekday Blue and Red Routes, the cost was \$13.97, and \$13.03 on the Saturday route. Auburn Transit's standard is \$10.00 per passenger, which indicates that the program is not meeting this standard.

#### Operating Subsidy per Passenger-Trip

Operating subsidy per passenger trip takes into account the cost to the system after farebox revenue has been considered. For Auburn Transit, the average fare per trip was \$0.53 for the weekday Blue and Red Routes, and \$0.87 for the Saturday route, with an overall average fare of \$0.56. This gives an overall operating subsidy of \$13.31 for the system - \$13.44 for the Blue and Red Routes and \$12.15 for the Saturday route. There is no standard for operating subsidy per passenger-trip identified in the 2011 SRTP.

#### Farebox Ratio

For TDA purposes, Auburn Transit's farebox ratio calculation includes two elements – fares collected on-board, as well as local support provided by the City of Auburn in the form of a supplement to farebox revenues through payment of mechanics' salaries from the general fund. Per the FY 2016-17 TDA Fiscal and Compliance Audit, the City of Auburn contributed additional general fund money as local support so that Auburn Transit had a TDA farebox ratio of 11.1 percent. This is just above the current performance standard of 10 percent.

For operational performance analysis in Table 13, local support from the general fund is not included in the calculation. As shown in the table, systemwide farebox ratio is only 4.1 percent. The Saturday Route has the highest farebox ratio calculation (6.7 percent) and the Red Route has the lowest farebox ratio (2.5 percent).

### **Ridership Patterns and Analysis**

#### Historical Ridership

As shown in Table 14 and Figure 13, ridership has fallen by about 15 percent over the last five years. While ridership rose about four percent between FY 2012-13 and 2013-14, between FY 2014-15 and 2016-17 ridership has declined each year.

#### Ridership by Month

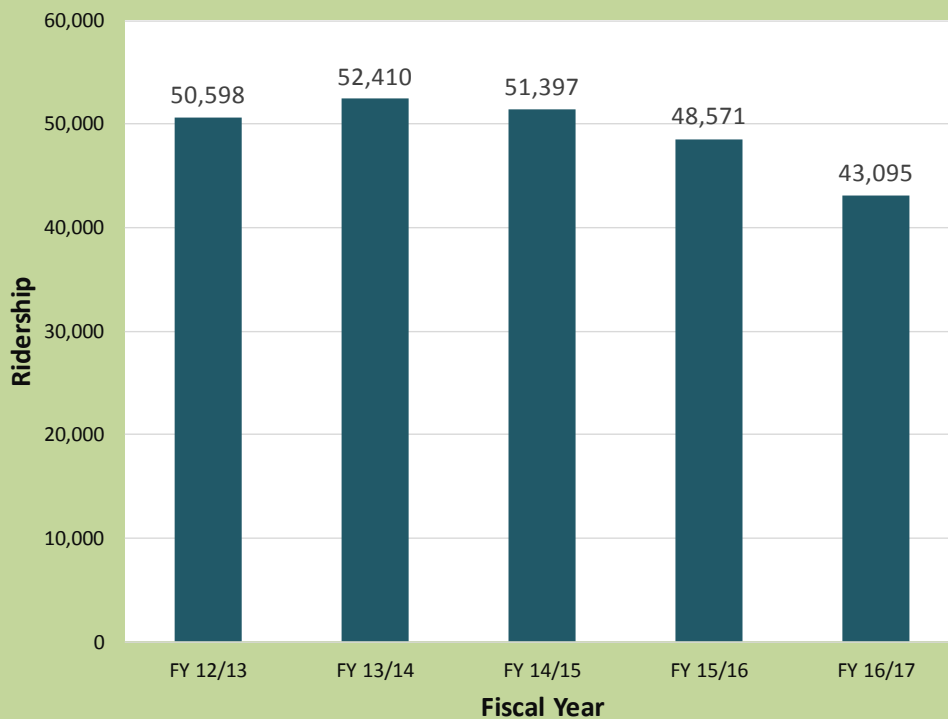
Table 15 shows that in FY 2016-17, ridership was highest during the months of October and May, at 5,250 and 4,780, respectively. October ridership is 46 percent above the average month, while May ridership is 33 percent above average. These two months boast the most pleasant weather of the year, with average temperatures around 75 degrees Fahrenheit. The month with the lowest ridership was February, with ridership 32 percent below average.

**Table 14: Auburn Transit Historical Ridership**

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Auburn Transit Systemwide Ridership	50,598	52,410	51,397	48,571	43,095
Percent Change from Previous Year		4%	-2%	-5%	-11%
Total Change Between FY 2013 and FY 2017					-15%

Source: FY 2013-2015 Triennial Performance Audit, Auburn Transit; Auburn Transit FY 15-16 and 16-17 Passenger Data

**Figure 13: Auburn Transit Historical Ridership  
FY 2013 - 2017**



Ridership by Day of the Week

Table 16 and Figure 14 show ridership by day during select weeks of the year. Table 16 also shows total wheelchair boardings for each of these weeks. As noted above, October and May are the busiest months of the year. As also shown in Table 16, the highest boardings in October

were on Tuesday and Thursday, while in May and November the highest number of boardings was on Friday. Saturday boardings were significantly lower than other days of the week. Over the three sample periods, ridership was highest on Thursdays and Fridays, relatively low on Monday, with Saturdays generating slightly more than a quarter the ridership of weekdays. Wheelchair boardings ranged between zero and three per week.

**Table 15: Auburn Transit Ridership by FY 2016-17**

	Monthly Ridership	% of Monthly Average
July	3,586	100%
August	3,876	108%
September	3,808	106%
October	5,250	146%
November	3,133	87%
December	3,333	93%
January	2,753	77%
February	2,434	68%
March	3,559	99%
April	3,327	93%
May	4,780	133%
June	3,256	91%
<b>Total</b>	<b>43,095</b>	

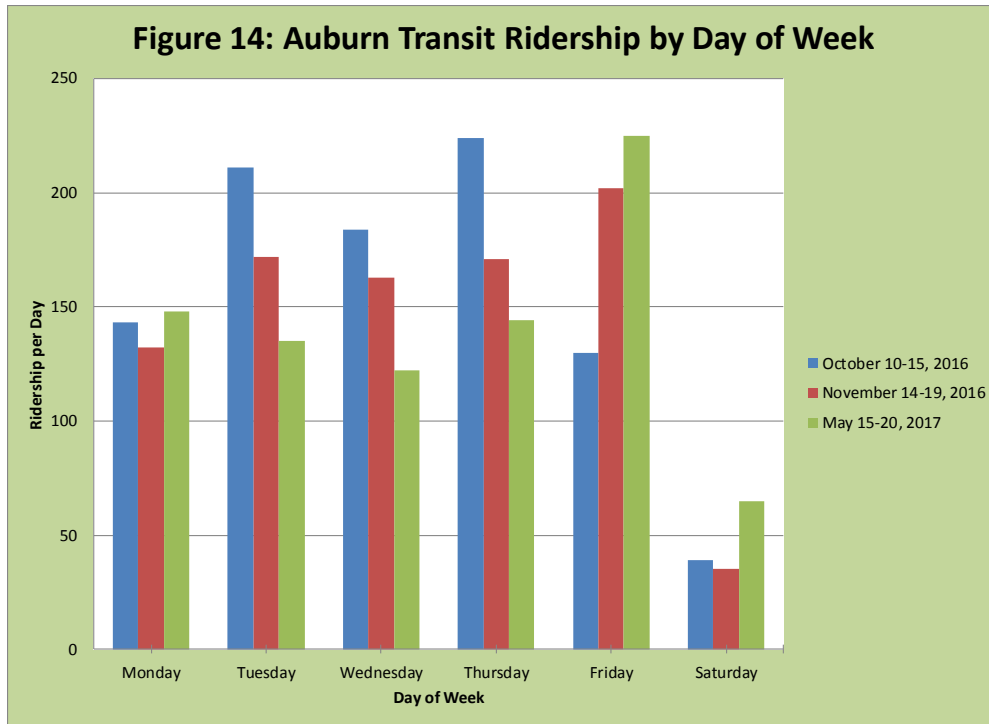
Source: Auburn Transit

**Table 16: Auburn Transit Ridership by Day of Week**

Sample Time Period	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total	Total Wheelchair Boardings
October 10-15, 2016	143	211	184	224	130	39	931	0
November 14-19, 2016	132	172	163	171	202	35	875	2
May 15-20, 2017	148	135	122	144	225	65	839	3
<b>Total over the sample periods</b>	<b>423</b>	<b>518</b>	<b>469</b>	<b>539</b>	<b>557</b>	<b>139</b>	<b>2,645</b>	<b>128</b>
Percent of Weekday Average	84%	103%	94%	108%	111%	28%		

Source: Auburn Transit, Passenger Types by Day





Ridership by Time of Day

LSC conducted boarding and alighting counts on Auburn Transit during the month of November. Using annual ridership data provided by Auburn Transit, these counts were then adjusted to the annual average. Table 17 and Figure 15 show ridership on each route by hour on the data collection days. Looking at each route individually, there is no distinct ridership pattern that emerges, although ridership is slightly higher between 11:00 AM and 1:00 PM on both the Red and the Blue routes. Taking both routes together, ridership is highest between 10:00 AM and 3:00 PM, peaking at 27 riders at 11:00 AM. The 9:00 AM hour (when only the Red Route is operating) saw the lowest ridership, with just two passenger trips. Throughout the middle of the day (between 10:00 AM and 3:00 PM), weekday runs averaged 9.3 passenger trips, very similar to the 9.7 passenger-trips per hour reported above in the performance section. Average ridership before 10:00 AM and after 3:00 PM was 6.9 riders per hour. Overall average ridership throughout the day on a weekday was 8.5 riders per hour.

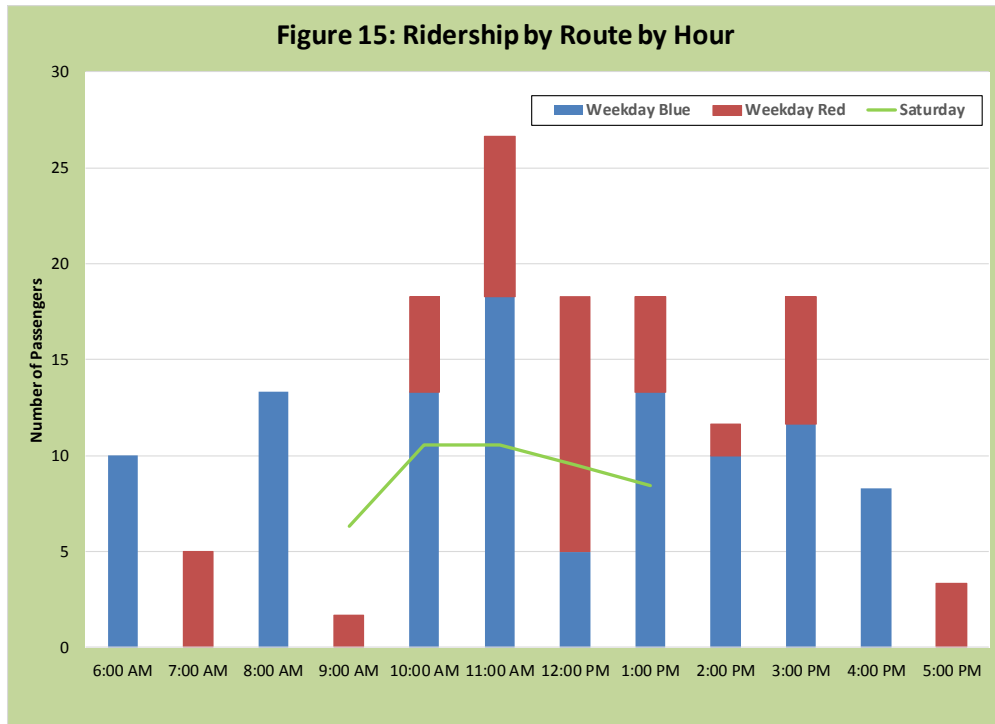
Saturday boarding and alighting counts were conducted between 9:00 AM and 1:00 PM on Saturday, November 18, then scaled up to the average Saturday. As shown in Table 17 and Figure 15, ridership was highest on Saturday at 10:00 AM, 11:00 AM, and 12:00 PM, with eleven riders each on the 10:00 AM and 11:00 AM runs, and ten riders on the 12:00 PM run. Note that average Saturday ridership is influenced by three very high-ridership days in October and December.

**TABLE 17: Auburn Transit Ridership by Route by Run**

Start Time	Weekday Route		Total Weekday	Saturday
	Blue	Red		
6:00 AM	10		10	
7:00 AM		5	5	
8:00 AM	13		13	
9:00 AM		2	2	6
10:00 AM	13	5	18	11
11:00 AM	18	8	27	11
12:00 PM	5	13	18	10
1:00 PM	13	5	18	8
2:00 PM	10	2	12	
3:00 PM	12	7	18	
4:00 PM	8		8	
5:00 PM		3	3	
<b>Total</b>	<b>103</b>	<b>50</b>	<b>153</b>	<b>84</b>

Source: Onboard counts conducted 11/9/17 through 11/18/17

**Figure 15: Ridership by Route by Hour**



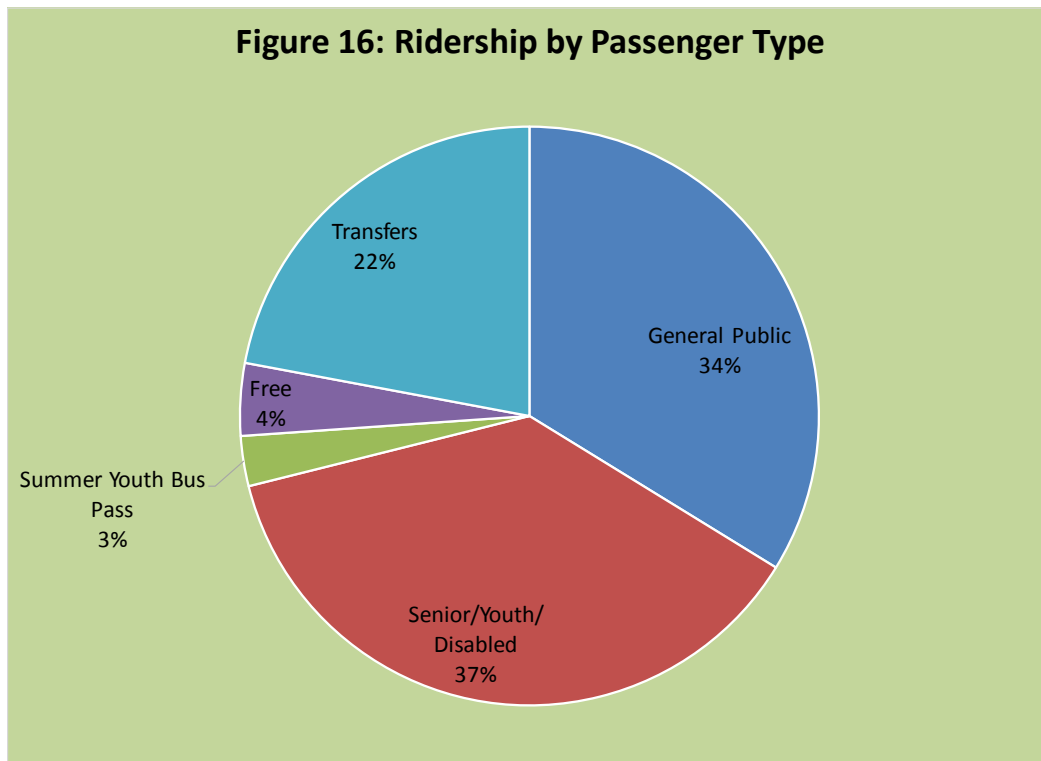
Ridership by Passenger and Fare Type

Table 18 and Figure 16 depict ridership by passenger type. Table 19 and Figure 17 further break down the fare types. Ridership on Auburn Transit is fairly evenly distributed between general ridership fare categories and senior/youth/disabled categories. Table 18 and Figure 16 show that 34 percent of passenger trips paid a full general fare, while 37 percent of passenger trips paid a senior/youth/disabled fare. Transfers made up 22 percent of boardings.

**Table 18: Auburn Transit Ridership by Passenger Type**  
*FY 2016-17*

	<b>Ridership</b>	<b>Percent of Total</b>
General Public	14,555	34%
Senior/Youth/Disabled	16,085	37%
Summer Youth Bus Pass	1,206	3%
Free	1,744	4%
Transfers	9,505	22%
<b>Total</b>	<b>43,095</b>	<b>100%</b>

Source: Auburn Transit, 2017

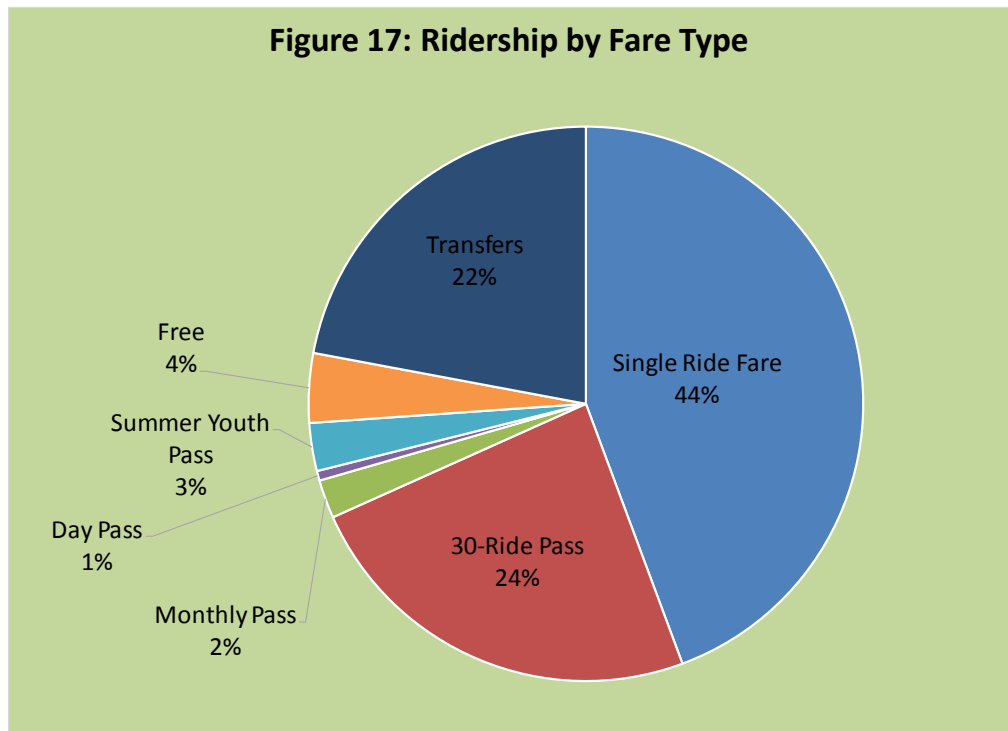


Examining the types of fares that passengers purchase, as shown in Table 19 and Figure 17, most passengers purchase a single-ride fare (44 percent). The next most-common type of fare is the 30-ride pass (24 percent). Very few passengers purchased a monthly pass (2 percent), or a day passes (1 percent). That is most likely because the 30-ride pass offers the greatest cost benefit at a \$6 discount off the price of 30 rides, while the day pass costs more than twice the amount of two single rides, and thus is only a benefit for passengers making round-trips that include transfers, or making more than two one-way trips. The monthly pass, at \$40 per month, requires a rider to ride the bus round-trip for 20 days or more to make the pass worthwhile.

**Table 19: Auburn Transit Ridership by Fare Type**  
FY 2016-17

	Number	Percent of Total
Single Ride Fare	19,108	44%
30-Ride Pass	10,321	24%
Monthly Pass	967	2%
Day Pass	244	1%
Summer Youth Pass	1206	3%
Free	1,744	4%
Transfers	9,505	22%
<b>Total</b>	<b>43,095</b>	

Source: Auburn Transit, 2017



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**PEER TRANSIT OPERATIONS AND PERFORMANCE**



A “peer analysis” is a useful tool in comparing a transit program with other, similar programs. This can provide a good context for the ridership and performance figures, and help in identifying areas of relative strength and weakness. This discussion first presents the peer systems selected for comparison, followed by the data and analysis.

**Peer Transit Operators**

To put Auburn Transit’s performance into context, LSC gathered data from other transit providers operating in environments similar to Auburn, i.e., similar population size, rural, foothill communities or small communities with tourist appeal, and systems that serve discrete towns or cities, rather than systems serving inter-regional or multiple population areas. While no two communities or transit services are exactly alike, four transit services/routes that shared several of these characteristics with Auburn were identified.

El Dorado Transit’s Placerville Route (Route 20)

El Dorado Transit operates multiple routes throughout the county with connections to Sacramento. The county’s Placerville Route, like Auburn’s Red, Blue, and Saturday routes, covers a large portion of Placerville, operates from 7:00 AM to 7:00 PM Monday through Friday, and requires riders to call for pick-up at certain stops on the schedule. Route 20 offers slightly more weekday service than Auburn’s Red and Blue Routes, running hourly in two directions throughout the weekday, whereas Auburn’s routes only provide hourly service in both directions between 10:00 AM and 4:00 PM. Placerville’s population, at under 11,000, is similar to the City of Auburn’s population. Placerville Route 20 offers no Saturday service.

Morro Bay Transit

The primary transit service in Morro Bay is a year-round, deviated fixed-route operated within the city limits for the general public. Service is operated hourly Monday through Friday from 6:25 AM to 6:45 PM and on Saturdays from 8:25 AM to 4:25 PM, which is very similar to the Auburn Transit schedule. Deviations are provided curb-to-curb within three-quarters of a mile of the route. Unlike Auburn Transit, the route operates on a one-way loop. Also included in the route statistics are ridership and financial data from Morro Bay’s seasonal trolley which operates from Memorial Day through the first weekend of October from Friday - Monday. After Labor Day, trolley service is not offered on Fridays or Mondays. Morro Bay’s population, at around 10,500, is similar to that of the City of Auburn.

## Amador County's Sutter Creek/Jackson Shuttle, Route 5

Amador County's Route 5 serves the populations of Jackson, Sutter Creek, and Martell, small communities all within four and a half miles of each other. The total population of all three communities is approximately 7,400. Route 5 is the core of the local fixed route service, and provides connections with several other Amador County Routes. Two shuttles (A and B) are operated, serving the same area but in opposite directions (like Auburn Transit). Route 5 offers slightly less service than Auburn Transit's Red and Blue Routes - as of February, 2017, six round trips are made on Shuttle A at 7:30 AM, 9:05 AM, 10:30 AM, noon, 1:00 PM and 3:15 PM. Another trip to Raley's is made at 5:15 PM. Shuttle B serves seven daily departures at 6:55 AM, 8:15 AM, 10:00 AM, 11:30 AM, 12:30 PM, 2:05 PM and 4:15 PM. The service operates Monday through Friday only, and does not offer route deviations.

## Lincoln Transit

Beginning in FY 2015-16, PCT began operation of the City of Lincoln fixed route. The PCT Lincoln Circulator operates hourly service between 3<sup>rd</sup> and F Street (Walmart) in Lincoln, Ferrari Ranch, area and the Twelve Bridges transfer point to other PCT services. Service begins at 6:40 AM and ends at 6:35 PM. A school "tripper" operates in the morning starting at 7:19 AM which serves Glen Edwards Middle School, Lincoln High School and Twelve Bridges Middle School. The afternoon tripper starts at 1:55 PM on Mondays and 2:55 PM Tuesdays through Fridays. Lincoln's population, at 45,675 is quite a bit higher than Auburn's, but other characteristics of the area are similar, such as the geographic location, the proximity to Sacramento, and the layout of the town.

## **Peer Transit Operators Performance Indicators**

Table 20 and Figures 18-19 present the performance of the peer transit services in several passenger and operating cost categories. All five of the transit services compared had very similar annual vehicle hours, between 3,500 to 5,900 vehicle-hours per year. Annual vehicle-miles were also similar, although Amador's Jackson/Sutter Creek Shuttle was an outlier with 111,000 service miles compared to between 50,000 and 72,000 annual service miles for the other services.

As shown in Figure 18, of the five transit agencies, Auburn Transit had the highest **passengers per service-hour**, at 9.7 passengers per hour, compared to Placerville Route 20 at 9.2, and the other three routes at 8.8 or less. Amador's Jackson/Sutter Creek Shuttle was considerably lower at 4.1 passengers per hour. Similarly, Auburn's **passengers per service-mile** at 0.7 were on par with the other services, all at 0.6 or 0.8 passengers per mile, with the exception of Jackson/Sutter Creek Shuttle at 0.2.

- Auburn Transit had the second lowest **passengers per capita** compared to the other services at 3.1, as also shown in Figure 8. Lincoln's ridership per capita was the lowest, at

0.7, while Morro Bay and Jackson/Sutter Creek Shuttle were similar, at 3.9 and 3.4 respectively. Placerville’s Raley’s, returning to Auburn Station along Lincoln Way, through downtown Auburn and back along Fulweiler Avenue Route 20 had the highest passengers per capita, at 5.2. Auburn Transit’s figure was just under the peer average of 3.3.

**Table 20: Auburn Transit Peer Transit Operator Analysis**

	Annual						Passenger Performance Metrics			Cost Performance Metrics		
	Ridership	Vehicle Hours	Vehicle Miles	Population Served <sup>1</sup>	Operating Expenses	Farebox	Psgr per Veh-Hr	Psgr per Veh-Mi	Psgr per Capita	Cost per Veh-Hr	Cost per Trip	Farebox Recovery Ratio
<b>Auburn Transit (FY 16-17)</b>	43,095	4,944	60,823	13,858	\$597,754	\$46,616	8.7	0.7	3.1	\$120.90	\$13.87	7.8%
Placerville Route, El Dorado Transit (FY 2016)	54,364	5,883	72,035	10,540	\$669,943	\$58,958	9.2	0.8	5.2	\$113.88	\$12.32	8.8%
Morro Bay Transit (FY 2016)	40,635	5,099	52,899	10,519	\$301,151	\$36,314	8.0	0.8	3.9	\$59.06	\$7.41	12.1%
Sutter Creek/Jackson Shuttle (Route 5) (FY 2016)	23,907	5,769	111,085	6,930	\$594,413	\$24,682	4.1	0.2	3.4	\$103.04	\$24.86	4.2%
Lincoln (fixed route, FY 2016-17)	30,867	3,500	49,350	45,675	\$404,325	\$21,976	8.8	0.6	0.7	\$115.52	\$13.10	5.4%
<b>Peer Average</b>	<b>37,443</b>	<b>5,063</b>	<b>71,342</b>	<b>18,416</b>	<b>\$492,458</b>	<b>\$35,482</b>	<b>7.5</b>	<b>0.6</b>	<b>3.3</b>	<b>\$97.27</b>	<b>\$14.42</b>	<b>7.6%</b>

Source: Morro Bay: California State Controller's Office Transit Operators Raw Data for Fiscal Years 2003-2016. Jackson: LSC files from Amador County Transit; Lincoln: Placer County Transit Annual Rpt 16-17; Placerville: El Dorado County Transit FY 2016-17 Administrative Operations Report.  
 Note 1: 2016 Population of the Census Designated Place served by each transit system. Sutter Creek/Jackson includes the population of Sutter Creek, Jackson, and Martell. Auburn Transit only includes the incorporated City of Auburn.

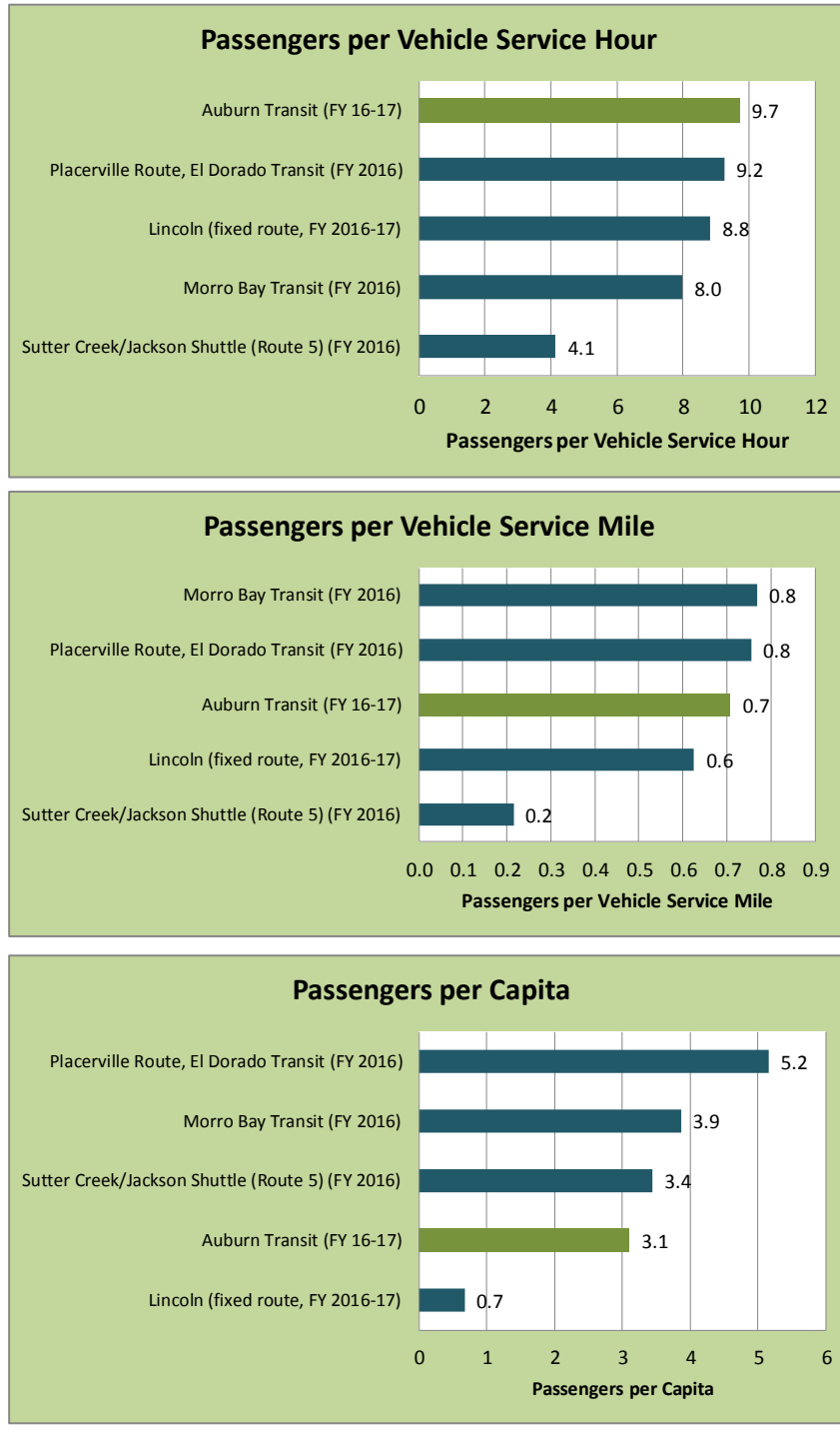
Three cost metrics were compared among the peers, and are shown in Figure 19:

- **Cost per Vehicle-Hour of Service** – The operating cost per vehicle-hour for Auburn Transit (\$134.65) is higher than any of the peer systems. This figure is 38 percent higher than the peer average of \$97.27. The relatively high Auburn Transit figure probably reflects in part the relatively small size of the program (as there are fewer vehicle-hours to spread fixed costs over) and the relatively high wage rates of the Sacramento region.
- **Cost Per Passenger-Trip** -- Auburn Transit’s cost per passenger-trip was the second-highest of the peers, though the Auburn Transit figure of \$13.87 was less than the peer average of \$14.42.
- **Farebox Recovery Ratio** -- At 7.8 percent, Auburn Transit’s farebox recovery ratio was just above the average of the peers, which was 7.6 percent. While this figure was higher for the Placerville and Morro Bay services, it was substantially lower for the Sutter Creek/Jackson and Lincoln services.

In summary, among its peers Auburn performs better in passengers per hour, is in the middle of the peers with regards to passengers per mile, cost per trip, and farebox recovery ratio, and is

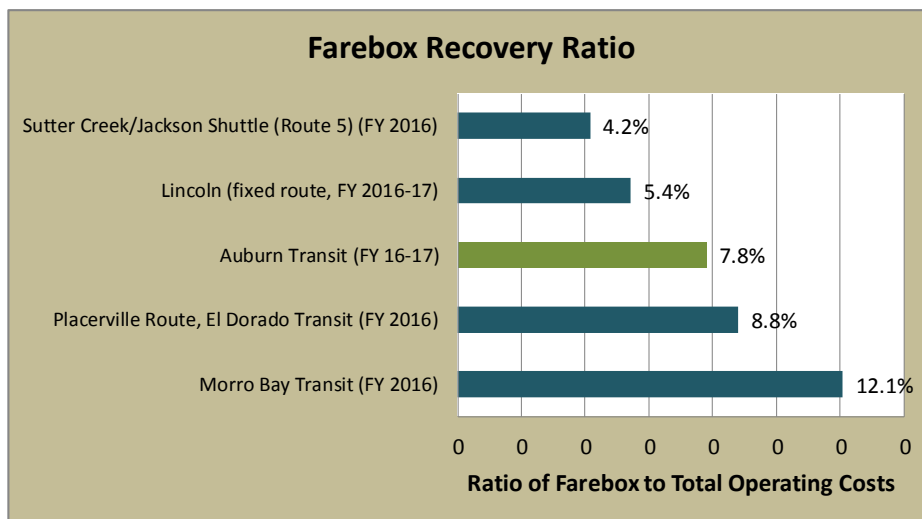
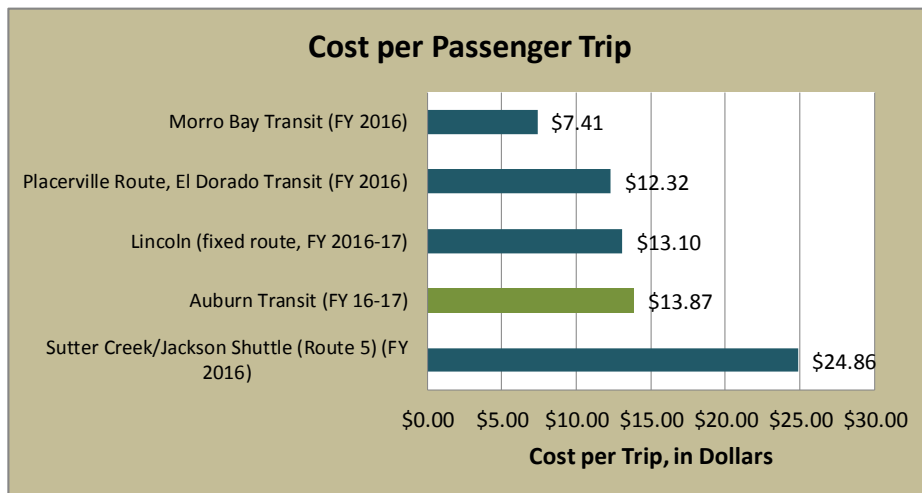
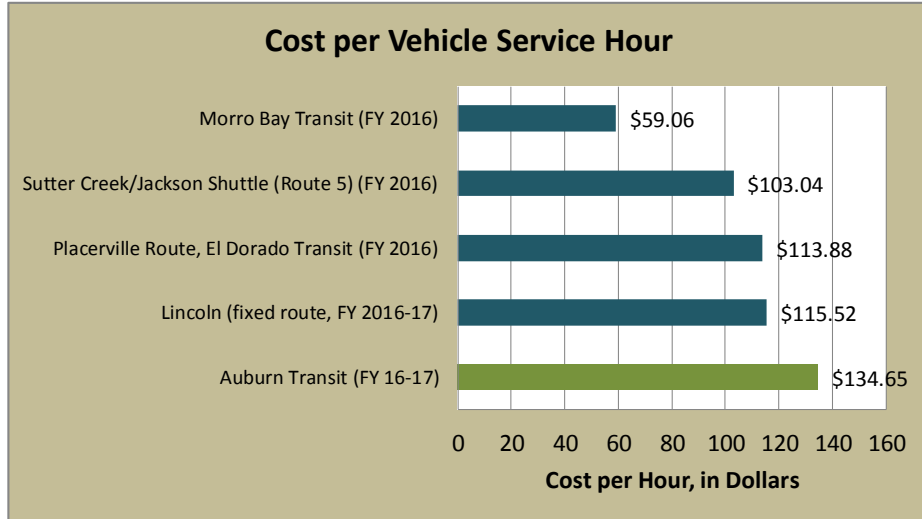
on the slightly lower end of passengers per capita. Operating costs per vehicle-hour are relatively high.

**Figure 18: Peer Passenger Performance Metric Comparison**





**Figure 19: Peer Cost Performance Metric Comparison**



## OVERALL FINDINGS FROM EXISTING SERVICES REVIEW

The Existing Services Review of Auburn Transit reveals the following that should be considered in developing alternatives later on in the study process:

- The Blue Route and the Saturday Route outperform the Red Route. The Saturday Route configuration is similar to the Blue Route.
- Bus stops in the downtown and Old Town areas are not always well-marked and may generate some confusion for riders and car drivers.
- Without local support, farebox ratio for Auburn Transit is low and will continue to require a greater amount of local support going forward unless fare revenues increase or operating costs go down.
- Despite a low farebox ratio, Auburn Transit’s performance is in-line with other municipal transit operators or routes serving cities of similar size. The system’s operating costs per vehicle-hour are relatively high.
- Later service and Sunday service were the top requested improvements from the passenger survey.

An important element in the success of any organization is a clear and concise set of goals and objectives, as well as the performance measures and standards needed to attain them. As a public entity, a public transit organization is expending public funds and therefore has a responsibility to provide the public with transparent information on how funds are being spent and how well it is doing in meeting its goals. Funding partners also have a responsibility to ensure that funds provided to the transit program are being used appropriately. This is accomplished by providing information on the effectiveness and efficiency of the transit program. Additionally, an adopted set of goals and performance standards helps to communicate the values of the transit program to other organizations, to the public, and to the organization staff.



The Study Team reviewed the goals, objectives and performance standards from the prior Short Range Transit Plan. Table 21 presents existing and updated performance standards which will be used for analysis of the service alternatives. The standards are compared to actual performance in FY 2009-10 and FY 2016-17. The recommended standards were based on applicable laws, performance history and peer transit operator performance.

**Table 21: Auburn Transit Goals, Objectives and Performance Standards**

Objective	Performance Measure	Existing Standard	Actual Performance			Standard met in FY 2016-17?	Recommended Standard
			FY 2009-10	FY 2016-17			
<b>Goal 1: Sustainably operate an efficient and effective transit system through maximizing service and minimizing cost impacts</b>							
<b>Minimize Operating Cost</b>	Farebox Recovery	15%	14.5%	7.8%	No	10%	
	Operating Cost per Vehicle Service Hour	\$80.00	\$86.36	\$120.90	No	\$130.00	
	Operating Cost per Passenger	\$10.00	\$7.23	\$13.87	No	\$12.50	
<b>Increase Transit Passengers</b>	Passengers per Vehicle Service Hour	8.0	11.9	9.7	Yes	8.0	
	Passengers per Vehicle Service Mile	1.0	0.9	0.7	No	1.0	
	Annual growth in passengers (from previ	At least 2 percent	-4.4%	-11.0%	No	Positive Growth	
<b>Increase Revenues</b>	Fare per Passenger	\$0.65	\$0.57	\$0.56	No	\$0.65	
<b>Goal 2: Provide safe, reliable, and high quality transportation</b>							
<b>Provide Safe Service</b>	Ratio of passengers to available seats	No more than 145 percent of available seats	Met standard	Met standard (see Table 5, Auburn Transit Survey Memo)	Yes	No more than 145 percent of available seats	
	Passenger injuries	<1 passenger injury per 10,000 boardings	Met standard	1	Unknown	<1 passenger injury per 10,000 boardings	
	Preventable accidents	Minimum of 60,000 miles between preventable accidents	Met standard	1	Unknown	Minimum of 60,000 miles between preventable accidents	
	Offer mandatory and optional training opportunities to improve safety and professional development		Yes	Yes	Yes		
<b>Provide Reliable Service</b>	Frequency of service (headways)	Every 60 minutes	Did not meet standard during off-peak hours (120-min headways), met during peak hours (60-min headways)	Did not meet standard during off-peak hours (120-min headways), met during peak hours (60-min headways)	No	Every 60 minutes	
	On-time performance	90 percent of all monthly trips operate on-time (i.e. scheduled no later than 5 minutes and no earlier than the published schedule time)	61% met on-time definition	85% meeting on-time definition	No	90 percent of all monthly trips operate on-time (i.e. scheduled no later than 5 minutes and no earlier than the published schedule time)	
<b>Goal 3: Provide transit service that is accessible to all persons while maintaining system productivity</b>							
<b>Accessibility</b>	ADA Goal	Fully meet the requirements of the Americans with Disabilities Act	Yes	Yes	Yes	Fully meet the requirements of the Americans with Disabilities Act	
	Wheelchair-accessible vehicles	Maintain a fully accessible transit fleet	Yes	Yes	Yes	Maintain a fully accessible transit fleet	
<b>Bicycle Accessibility</b>	Bicycle-accessible vehicles	Provide bicycle racks on entire fleet to accommodate at least two bikes/vehicle	Yes	Yes	Yes	Provide bicycle racks on entire fleet to accommodate at least two bikes/vehicle	
<b>Goal 4: Evaluate, monitor, and improve transit service on an on-going basis</b>							
<b>Ongoing, Mandatory Enhancement</b>	Regularly programmed service evaluation	Independent evaluations at intervals no greater than 5 years	Yes	7 Years Since Last SRTP	No	Independent evaluations at intervals no greater than 7 years	
<b>Ongoing, Mandatory Reporting</b>	Regularly programmed data collection and reporting	Monthly performance reports including such information as vehicle service hours, vehicle service mileage, fare revenue, ridership, accidents, and injuries	Yes	Yes	Yes	Monthly performance reports including such information as vehicle service hours, vehicle service mileage, fare revenue, ridership, accidents, and injuries	
<b>Goal 5: Undertake effective marketing, outreach, and public participation</b>							
<b>Develop and Implement Marketing Plan</b>	Actual expenditures	Not less than three percent of annual operating budget beginning FY 2011/2012	n/a	na	Standard not met	Approximately three percent of annual operating budget	
<b>Encourage Citizen Participation</b>	Provide various opportunities for customer feedback	Conduct annual outreach prior to meetings to encourage public input on "unmet transit needs" (TDA Article 8)	Yes	Yes	Yes	Conduct annual outreach prior to meetings to encourage public input on "unmet transit needs" (TDA Article 8)	

This chapter presents the analysis of a wide range of transit service alternatives. At the end of this section, the various alternatives are compared and an analysis on system performance is presented.



### Reconfiguration of Deviated Fixed Route Service

Auburn Transit currently provides “deviated fixed route” service. Under this service plan, buses are operated along routes with scheduled stops, but also will deviated from the route to serve requests to specific locations within  $\frac{3}{4}$  mile of the routes. (Based on the onboard surveys conducted as part of this study, approximately 10 percent of passengers request a deviation on one or both ends of their trip.) On weekdays the service consists of two hour-long convoluted routes: a Red Route that is largely clockwise, and a Blue Route that is largely counterclockwise (and which extends service further to the north and south). Service on weekdays is provided with a single bus between 6:00 AM and 10:00 AM alternating between the two routes, after which a second bus is added to provide hourly service on both routes until the end of service at 6:00 PM. On Saturdays, one bus is used to operate a route similar to the Blue Route on an hourly basis. Because the buses can deviate to serve persons eligible for door-to-door service under the Americans with Disabilities Act (ADA), there is no need for additional service to meet ADA requirements. However, to provide the time to serve deviations the routes are scheduled to operate at a relatively low scheduled speed of 10.7 miles per hour.

Table 22 presents a summary of the quality of service that is provided by the existing service plan between various portions of the service area, with regards to three key factors important to transit passengers:

- The in-vehicle travel time (in minutes) is shown, which includes any time spent at layover points between runs.
- The frequency of service is shown in minutes. For instance, a value of 120 indicates that a bus serves the particular trip once every 2 hours.
- The need to transfer (exit one bus and board a second) is shown in green shading.

As shown, many of the potential trips have long waits between buses (poor frequency) particularly when only a single bus is in operation. There are also many trips that require a substantial length of time to complete. In particular, as the Old Town and southern portions of Auburn are only served by the Blue Route, some trips can require up to 58 minute of in-vehicle travel time when two buses are in operation, and 116 minutes with one bus in operation.

**TABLE 22: Existing Auburn Transit Service Quality**

Travel Time and Frequency in Minutes

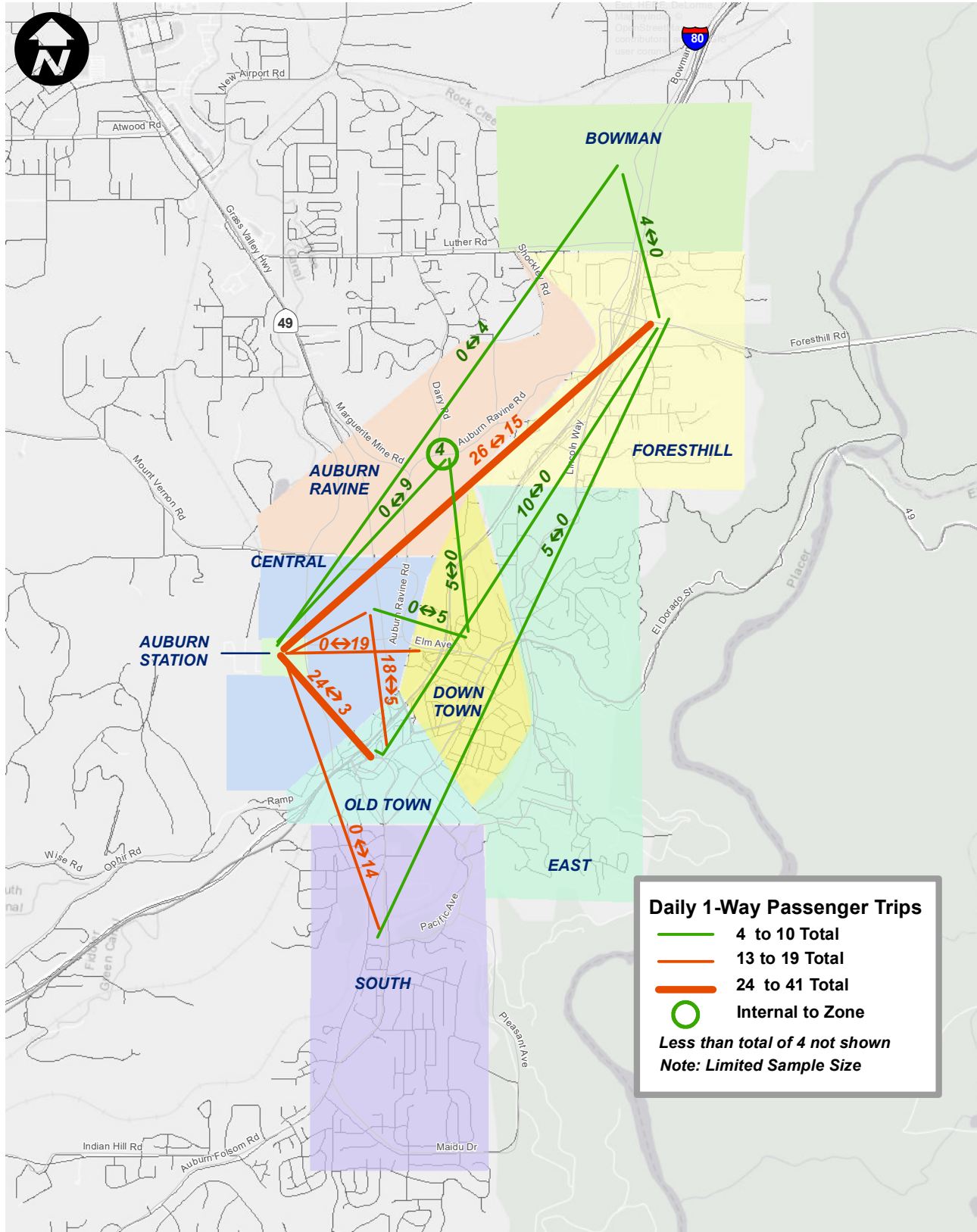
Transfer Required

			To Zone					
			Auburn Station	Old Town	Downtown	South	Central	Foresthill
<b>1 Bus in Operation</b>								
From Zone	Auburn Station	Travel Time		4	10	4	27	31
		Frequency		120	60	120	60	60
	Old Town	Travel Time	6		14	2	38	26
		Frequency	120		60	120	120	120
	Downtown	Travel Time	27	5		18	22	22
		Frequency	60	120		120	60	60
	South	Travel Time	51	116	9		36	24
		Frequency	120	120	120		120	120
	Central (Town Ctr)	Travel Time	23	82	24	50		30
		Frequency	60	120	60	120		120
	Foresthill	Travel Time	24	28	14	30	39	
		Frequency	60	120	60	120	60	
<b>2 Buses in Operation</b>								
From	Auburn Station	Travel Time		4	6	4	14	28
		Frequency		60	60	60	60	60
	Old Town	Travel Time	6		11	2	24	26
		Frequency	60		60	60	60	60
	Downtown	Travel Time	11	5		18	8	15
		Frequency	60	60		60	60	60
	South	Travel Time	51	58	9		36	24
		Frequency	60	60	60		60	60
	Central (Town Ctr)	Travel Time	15	22	6	36		20
		Frequency	60	60	60	60		60
	Foresthill	Travel Time	21	28	14	30	39	
		Frequency	60	60	60	60	60	

The current route plan is also not particularly well designed to accommodate the overall transit travel demand. Figure 20 presents the number of passenger-trips per weekday between various portions of the service area. As shown, there is a relatively strong ridership demand along a corridor stretching between Auburn Station, the central/Old Town/Downtown areas and Foresthill. In comparison, the existing routes spread service relatively evenly around the service area, and provide relatively poor service between Auburn Station and the central zone, as well as between Auburn Station and Old Town.

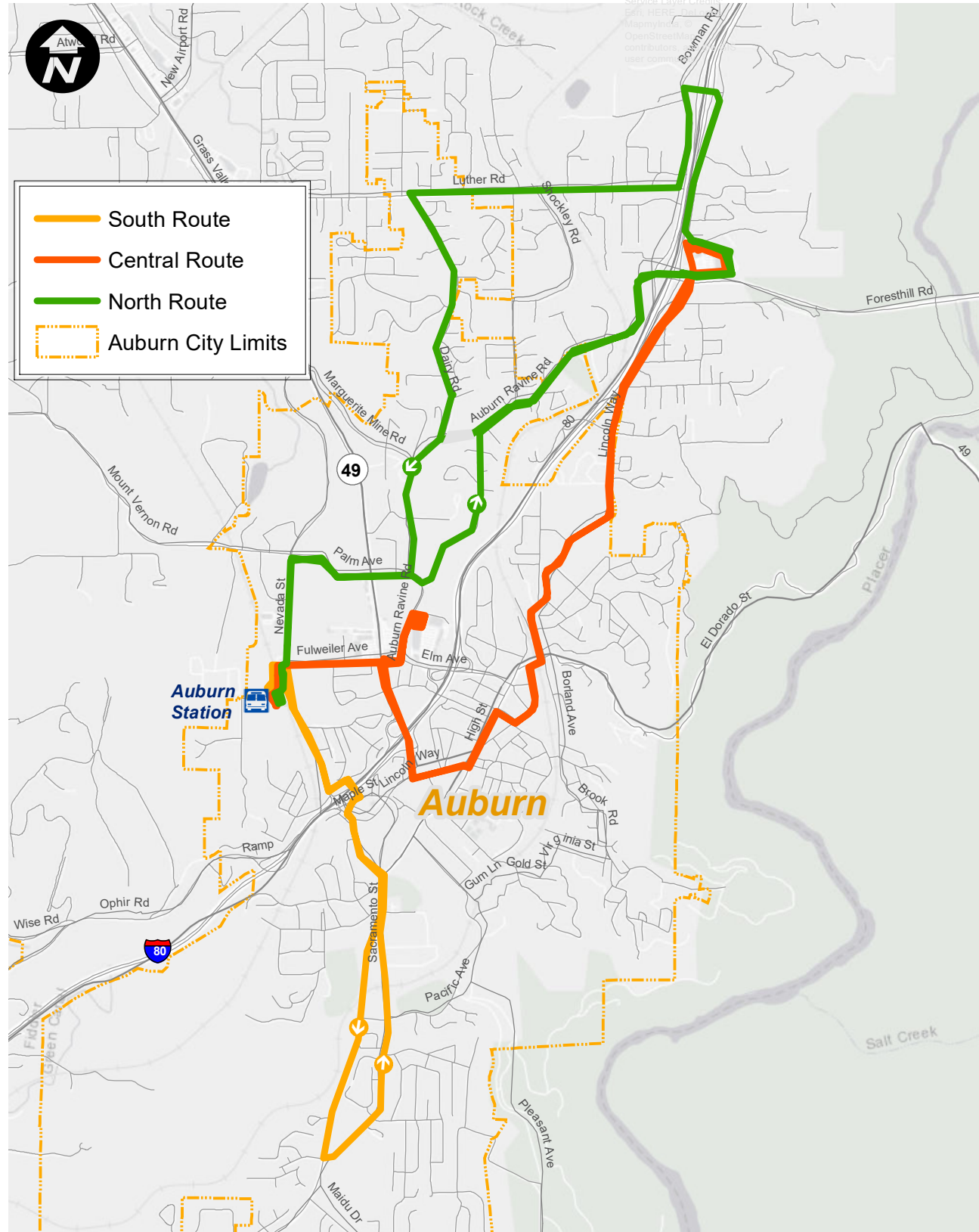
This information can also be used to identify the average in-vehicle travel time as well as the overall effective travel time to complete a trip on Auburn Transit. The proportion of total trips between each origin zone and destination zone can be used to weight the in-vehicle travel time, in order to identify the average travel time. Overall, the average trip on Auburn Transit currently takes 17 minute from boarding time to alighting time (including transfers). In addition, the wait time between buses can be used along with a “penalty factor” for transfers.

**Figure 20**  
**Auburn Transit Average Daily Transit**  
**Passenger-Trips by Origin Destination**





**Figure 21**  
**Revised Deviated Fixed Route Alternative**





Transit planning analysis methodologies indicate that passengers generally consider waiting time for the next available bus to be half as important as in-vehicle travel time, and consider the need to transfer between buses to be equal to an additional 10 minutes of in-vehicle travel time. Using these factors, the overall perceived travel time between when a passenger desires to depart and when they arrive at their destination is currently 34 minutes.

An alternative deviated route plan was developed that better matches passenger trip patterns. As shown in Figure 21, this consists of three individual two-way routes, all beginning and ending at Auburn Station:

- The **Central Route** connects Auburn Station with Town Center, Downtown and Foresthill, primarily via Fulweiler Avenue, SR 49 and Lincoln Highway.<sup>1</sup>
- The **North Route** connects Auburn Station, the northern portions of central Auburn and Foresthill. In the outbound direction from Auburn Station it would travel via Nevada Street, Palm Avenue and Auburn Ravine Road, while in the inbound direction it would travel west on Luther Road and south on Dairy Road and Auburn Ravine Road to Palm Avenue.<sup>2</sup>
- The **South Route** connects Auburn Station, Old Town and the southern portion of Auburn, via Nevada Street, Sacramento Street and Auburn Folsom Road.<sup>3</sup>

**TABLE 23: Auburn Deviated Fixed Route Alternative Schedules**

Route	Station	Type	6:00 AM	8:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	6:00 PM
<b>Central Route</b>	Auburn Station	Dep	6:00 AM	8:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	6:00 PM
	Town Center	Dep	6:04 AM	8:04 AM	10:04 AM	11:04 AM	12:04 PM	1:04 PM	2:04 PM	3:04 PM	4:04 PM	
	Elders Station	Dep	6:08 AM	8:08 AM	10:08 AM	11:08 AM	12:08 PM	1:08 PM	2:08 PM	3:08 PM	4:08 PM	
	Raleys Center	Dep	6:20 AM	8:20 AM	10:20 AM	11:20 AM	12:20 PM	1:20 PM	2:20 PM	3:20 PM	4:20 PM	
	Elders Station	Dep	6:32 AM	8:32 AM	10:32 AM	11:32 AM	12:32 PM	1:32 PM	2:32 PM	3:32 PM	4:32 PM	
	Town Center	Dep	6:36 AM	8:36 AM	10:36 AM	11:36 AM	12:36 PM	1:36 PM	2:36 PM	3:36 PM	4:36 PM	
	Auburn Station	Arr	6:40 AM	8:40 AM	10:40 AM	11:40 AM	12:40 PM	1:40 PM	2:40 PM	3:40 PM	4:40 PM	
<b>North Route</b>	Auburn Station	Dep	7:00 AM	9:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	
	EV Cain	Dep	7:02 AM	9:02 AM	11:02 AM	12:02 PM	1:02 PM	2:02 PM	3:02 PM	4:02 PM	5:02 PM	
	Raleys Center	Dep	7:12 AM	9:12 AM	11:12 AM	12:12 PM	1:12 PM	2:12 PM	3:12 PM	4:12 PM	5:12 PM	
	Bowman/Underpass	Dep	7:13 AM	9:13 AM	11:13 AM	12:13 PM	1:13 PM	2:13 PM	3:13 PM	4:13 PM	5:13 PM	
	Luther Rd/Dairy Rd	Dep	7:18 AM	9:18 AM	11:18 AM	12:18 PM	1:18 PM	2:18 PM	3:18 PM	4:18 PM	5:18 PM	
	EV Cain	Dep	7:26 AM	9:26 AM	11:26 AM	12:26 PM	1:26 PM	2:26 PM	3:26 PM	4:26 PM	5:26 PM	
	Auburn Station	Arr	7:28 AM	9:28 AM	11:28 AM	12:28 PM	1:28 PM	2:28 PM	3:28 PM	4:28 PM	5:28 PM	
<b>South Route</b>	Auburn Station	Dep	7:31 AM	9:31 AM	11:31 AM	12:31 PM	1:31 PM	2:31 PM	3:31 PM	4:31 PM	5:31 PM	
	Pacific/Sacramento	Dep	7:37 AM	9:37 AM	11:37 AM	12:37 PM	1:37 PM	2:37 PM	3:37 PM	4:37 PM	5:37 PM	
	Auburn Station	Arr	7:46 AM	9:46 AM	11:46 AM	12:46 PM	1:46 PM	2:46 PM	3:46 PM	4:46 PM	5:46 PM	

<sup>1</sup> The existing route segment along Cherry Avenue and Borland Avenue is excluded as the on-board surveys indicated zero ridership over the 18 runs surveyed.

<sup>2</sup> The current loop west of Nevada Street on Mt. Vernon Road and Enterprise Drive is excluded as no ridership was observed in this area.

<sup>3</sup> Consideration was given to extending this route south to Indian Hill Road, but there would not be sufficient time available on the schedule.

As shown in an example schedule (Table 23), the Central Route would depart at the top of the hour and arrive back at Auburn Station at 41 minutes after the hour. After a 19-minute recovery/layover period, the North Route would depart at the top of the hour, returning at 25 after and the South Route would be operated between 30 and 45 minutes after. Note that these times assume no deviation; actual runs could be up to roughly 10 minutes behind these times by the end of the run. This schedule assumes no change in the current number of vehicles operated in any one hour. Overall, this route plan reduces the length of a two-hour loop for each individual vehicle (assuming no deviations) from the current 21.4 miles to 20.1 miles.

An analysis of service quality under this alternative is shown in Table 24, while Table 25 shows the change in service quality from the current service plan. As indicated, many of the in-vehicle travel times are reduced, some substantially. As an example, the travel time between southern Auburn and Auburn Station is reduced by 42 minutes. Some of the service frequencies increase (from 60 minutes to 120 minutes) when only one bus is in operation (due to the fact that both existing routes connect downtown, central Auburn and Auburn Station while one route would make these connections under the alternative). However, when two buses are in operation no frequencies increase and some decrease (to 30 minutes). Overall, the average in-vehicle travel

**TABLE 24: Transit Service Quality - Deviated Fixed Route Alternative**

*Travel Time and Frequency in Minutes* Transfer Required

		To Zone						
		Auburn Station	Old Town	Downtown	South	Central	Foresthill	
<b>1 Bus in Operation</b>								
From Zone	Auburn Station	Travel Time		4	8	6	4	16
		Frequency		120	120	120	120	60
	Old Town	Travel Time	6		28	4	24	44
		Frequency	120		120	120	120	120
	Downtown	Travel Time	8	60		63	4	13
		Frequency	120	120		120	120	120
	South	Travel Time	9	6	32		28	44
		Frequency	120	120	120		120	120
	Central (Town Ctr)	Travel Time	4	55	4	59		16
		Frequency	120	120	120	120		60
	Foresthill	Travel Time	17	20	13	23	15	
		Frequency	60	120	120	120	60	
<b>2 Buses in Operation</b>								
From	Auburn Station	Travel Time		4	8	6	4	16
		Frequency		60	60	60	60	30
	Old Town	Travel Time	6		28	4	24	36
		Frequency	60		60	60	60	60
	Downtown	Travel Time	8	60		63	4	13
		Frequency	60	60		60	60	60
	South	Travel Time	9	6	32		28	44
		Frequency	60	60	60		60	60
	Central (Town Ctr)	Travel Time	4	55	4	59		16
		Frequency	60	60	60	60		30
	Foresthill	Travel Time	17	20	13	23	15	
		Frequency	30	60	60	60	30	

**TABLE 25: Change in Transit Service Quality - Deviated Fixed Route Alternative**

*Travel Time and Frequency in Minutes*

		To Zone						
		Auburn Station	Old Town	Downtown	South	Central	Foresthill	
<b>1 Bus in Operation</b>								
From Zone	Auburn Station	Travel Time		0	-2	2	-23	-15
		Frequency		0	60	0	60	0
	Old Town	Travel Time	0		14	2	-14	18
		Frequency	0		60	0	0	0
	Downtown	Travel Time	-19	55		45	-18	-9
		Frequency	60	0		0	60	60
	South	Travel Time	-42	-110	23		-8	20
		Frequency	0	0	0		0	0
	Central (Town Ctr)	Travel Time	-19	-27	-20	9		-14
		Frequency	60	0	60	0		-60
	Foresthill	Travel Time	-7	-8	-1	-7	-24	
		Frequency	0	0	60	0	0	
<b>2 Buses in Operation</b>								
From	Auburn Station	Travel Time		0	2	2	-10	-12
		Frequency		0	0	0	0	-30
	Old Town	Travel Time	0		17	2	0	10
		Frequency	0		0	0	0	0
	Downtown	Travel Time	-3	55		45	-4	-2
		Frequency	0	0		0	0	0
	South	Travel Time	-42	-52	23		-8	20
		Frequency	0	0	0		0	0
	Central (Town Ctr)	Travel Time	-11	33	-2	23		-4
		Frequency	0	0	0	0		-30
	Foresthill	Travel Time	-4	-8	-1	-7	-24	
		Frequency	-30	0	0	0	-30	

time would be 10 minutes, which is 7 minutes less (40 percent less) than the current time. Including the effective travel time generated by the bus frequency and transfers. The total average effective travel time is 27 minutes, 7 minutes or 20 percent less than at present.

The cost of operating these revised routes is shown in Table 26. As indicated, the annual vehicle-hours of service would not change. As the overall routes are slightly shorter, annual vehicle-miles would be reduced by an estimated 3,300. Marginal operating costs can be estimated for FY 2018/19 based upon the following equation developed from existing costs and scheduled service quantities, and assuming a 3 percent annual rate of inflation:

$$\text{Annual Marginal Operating Costs} = \$89.98 \times \text{vehicle-hours of service} + \$0.27 \times \text{vehicle-miles of service}$$

Applying this equation to the alternative service levels and comparing with the existing marginal costs, this option would reduce annual operating costs slightly, by \$900 per year.

**TABLE 26: Auburn Transit Fixed Route Option Service/Cost Analysis**

	Run Parameters		Weekday Service				Saturday Service(1)				Annual		Annual Cost	Peak Buses
	Hours	Miles	Runs	Days/Yr	Hours	Miles	Runs	Days/Yr	Hours	Miles	Hours	Miles		
<b>EXISTING</b>														
Existing														
Blue/Red/Sat	1.00	12.3	18	248	18	222	8	60	8	99	4,944	60,981	\$463,500	2
<b>REVISED DEVIATED FIXED ROUTES</b>														
North	0.67	8.2	9	248	6	74	4	60	2.7	33	1,650	20,381	\$154,700	2
Central	0.75	10.9	9	248	6.8	98	4	60	3	44	1,866	27,009	\$176,200	
South	0.57	5.3	9	248	5.2	48	4	60	2.3	21	1,427	13,193	\$132,400	
<b>Total</b>					18	221			7.993	98	4,944	60,583	\$463,300	2
<b>Net</b>											0	-398	-\$200	0
<b>FIXED ROUTES WITH PARATRANSIT</b>														
North	0.33	3.4	9	248	3	31	4	60	1.332	14	824	8,405	\$76,700	
Central	0.67	9.7	18	248	12	175	8	60	5.328	78	3,296	47,957	\$311,200	
South	0.33	4.4	9	248	3	40	4	60	1.332	18	824	10,877	\$77,500	
<i>Subtotal: Fixed</i>					18	245			7.992	109	4,944	67,238	\$465,400	2
Paratransit											2,230	19,295	\$170,200	1
<b>Total</b>											<b>7,174</b>	<b>86,533</b>	<b>\$635,600</b>	<b>3</b>
<b>Net</b>											2,230	25,552	\$172,100	1
<b>CONSISTENT HOURLY WEEKDAY SERVICE</b>														
<b>Addl. Blue Runs</b>	1.00	13.2	2	248	2	26	0	0	0	0	496	6,564	\$46,600	
<b>Addl. Red Runs</b>	1.00	11.4	2	248	2	23	0	0	0	0	496	5,671	\$46,400	
<b>Total Increase</b>											992	12,236	\$93,000	0
<b>SUNDAY SERVICE</b>														
<b>Sat. Route</b>	<b>1.00</b>	<b>13.2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>52</b>	<b>8</b>	<b>106</b>	<b>416</b>	<b>5,506</b>	<b>\$39,100</b>	
<b>Additional Dispatcher/Mechanic Costs</b>													\$15,600	
<b>Total</b>													\$54,700	0
<b>EXPANDED WEEKDAY HOURS</b>														
<b>Addl. Blue Runs</b>	1.00	13.2	1	248	2	13	0	0	0	0	496	3,282	\$45,600	
<b>Addl. Red Runs</b>	1.00	11.4	3	248	2	34	0	0	0	0	496	8,507	\$47,200	
<b>Additional Dispatcher</b>													\$24,800	
<b>Total Increase</b>											992	11,789	\$117,600	0

Note 1: Includes limited service holidays

The impact on ridership can best be estimated by conducting an “elasticity analysis.” Elasticity analysis is a standard means of assessing the ridership impact of a change in existing service. Based upon the principals of microeconomics, it considered the proportionate change in ridership compared with the proportionate change in service or fare factor (in this case, the effective travel time), as observed in similar transit services that have observed ridership changes associated with changes in the service factor in the past. Applying this methodology to the existing ridership, this option would increase ridership by an estimated 8,400 boardings per year (or 20 percent). In particular, the reduction in average in-vehicle travel time will result in higher ridership. In addition, the expansion of service to the neighborhoods along Luther Road and Dairy Road would increase ridership by an estimated 2,000 per year. Total ridership increase would therefore be 10,400 per year. Applying the existing average fare per passenger, these additional riders would increase farebox revenue by \$4,700 per year. Including the reduction in operating cost, this option would reduce annual operating subsidy by \$5,600.

## Advantages

- Would improve on-time performance, making the service more dependable for all riders
- Slightly reduces cost and subsidy needs
- Improves service frequency between Auburn Station and Foresthill
- Provides substantial reduction in travel times, particularly to/from Old Town and southern Auburn
- Expands service to the northern portions of Auburn

## Disadvantages

- When 1 bus is in operation, some trips are served every 2 hours rather than hourly.

The annual vehicle-hours of service under this alternative would remain unchanged.

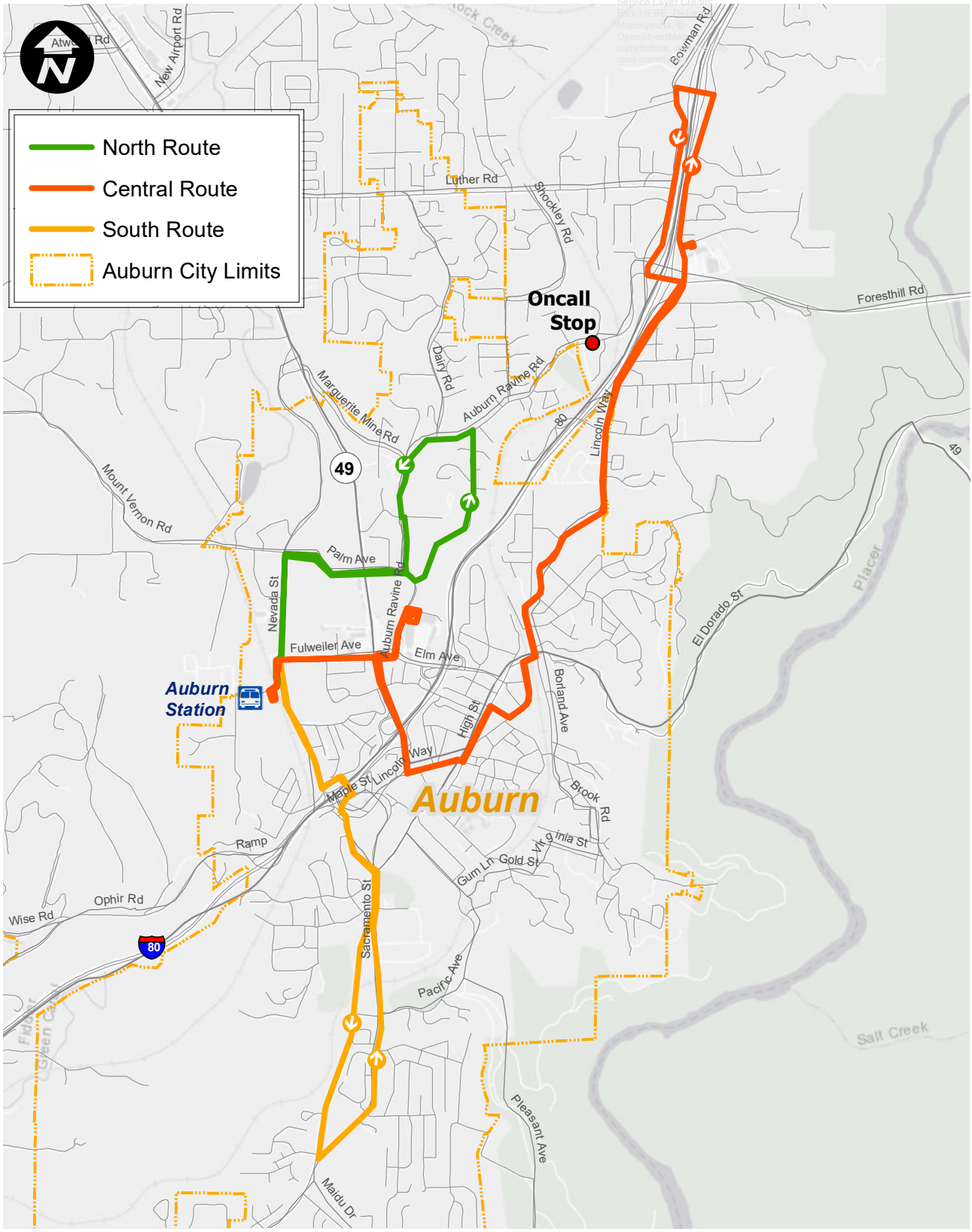
## **Conversion to Fixed Route Service with ADA Paratransit**

Auburn Transit could also be converted to a fixed-route system (operating two vehicles at peak), with ADA service provided by Placer County (through the existing contractor operating the Highway 49 DAR service). With the buses limited to the fixed routes, additional service can be provided. A potential fixed route network is shown in Figure 22:

- The **Central Route** is similar to that discussed above, connecting Auburn Station with the Foresthill area. An “on call stop” could also be served at St. Paul’s Lutheran Church along Auburn Ravine Road.
- The **South Route** is similar to that discussed above.
- The **North Route** would depart Auburn Station and travel north on Nevada Street, east on Palm Street and then operate a counterclockwise loop around Mikkelsen Drive and Auburn Ravine Road before return via Palm and Nevada.

As shown in Table 27, half-hourly service could be provided on the Central Route when two buses are in operation (after 10 AM, per the current service plan), with hourly service provided on the South Route and North Route. The resulting service quality for various trips around Auburn is shown in Table 28, with the comparison to existing service quality shown in Table 29. With two buses in operation, service quality is benefitted from many trips that require substantially less in-vehicle travel time, as well as trips that are available every 30 minutes rather than hourly. As shown, in Table 30, the annual vehicle-hour and vehicle-miles of fixed route service would be very similar to the current service, as would the fixed route operating cost.

**Figure 22**  
**Fixed Route/ Paratransit Alternative**



**TABLE 27: Auburn Fixed Route Alternative Schedules**

AM												
<b>Central Route</b>												
Auburn Station	Dep	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	10:30 AM	11:00 AM	11:30 AM			
Town Center	Dep	6:04 AM	7:04 AM	8:04 AM	9:04 AM	10:04 AM	10:34 AM	11:04 AM	11:34 AM			
Elders Station	Dep	6:08 AM	7:08 AM	8:08 AM	9:08 AM	10:08 AM	10:38 AM	11:08 AM	11:38 AM			
Raleys Center	Dep	6:20 AM	7:20 AM	8:20 AM	9:20 AM	10:20 AM	10:50 AM	11:20 AM	11:50 AM			
Elders Station	Dep	6:32 AM	7:32 AM	8:32 AM	9:32 AM	10:32 AM	11:02 AM	11:32 AM	12:02 PM			
Town Center	Dep	6:36 AM	7:36 AM	8:36 AM	9:36 AM	10:36 AM	11:06 AM	11:36 AM	12:06 PM			
Auburn Station	Arr	6:40 AM	7:40 AM	8:40 AM	9:40 AM	10:40 AM	11:10 AM	11:40 AM	12:10 PM			
<b>South Route</b>												
Auburn Station	Dep	6:40 AM		8:40 AM		10:40 AM		11:40 AM				
Pacific/Sacramento	Dep	6:46 AM		8:46 AM		10:46 AM		11:46 AM				
Auburn Station	Arr	6:55 AM		8:55 AM		10:55 AM		11:55 AM				
<b>North Route</b>												
Auburn Station	Dep		7:40 AM		9:40 AM		11:10 AM		12:10 PM			
EV Cain	Dep		7:42 AM		9:42 AM		11:12 AM		12:12 PM			
Auburn Ravine/Mikkelson	Dep		7:46 AM		9:46 AM		11:16 AM		12:16 PM			
EV Cain	Dep		7:50 AM		9:50 AM		11:20 AM		12:20 PM			
Auburn Station	Arr		7:52 AM		9:52 AM		11:22 AM		12:22 PM			
<b>PM</b>												
<b>Central Route</b>												
Auburn Station	Dep	12:00 PM	12:30 PM	1:00 PM	1:30 PM	2:00 PM	2:30 PM	3:00 PM	3:30 PM	4:00 PM	5:00 PM	6:00 PM
Town Center	Dep	12:04 PM	12:34 PM	1:04 PM	1:34 PM	2:04 PM	2:34 PM	3:04 PM	3:34 PM	4:04 PM	5:04 PM	
Elders Station	Dep	12:08 PM	12:38 PM	1:08 PM	1:38 PM	2:08 PM	2:38 PM	3:08 PM	3:38 PM	4:08 PM	5:08 PM	
Raleys Center	Dep	12:20 PM	12:50 PM	1:20 PM	1:50 PM	2:20 PM	2:50 PM	3:20 PM	3:50 PM	4:20 PM	5:20 PM	
Elders Station	Dep	12:32 PM	1:02 PM	1:32 PM	2:02 PM	2:32 PM	3:02 PM	3:32 PM	4:02 PM	4:32 PM	5:32 PM	
Town Center	Dep	12:36 PM	1:06 PM	1:36 PM	2:06 PM	2:36 PM	3:06 PM	3:36 PM	4:06 PM	4:36 PM	5:36 PM	
Auburn Station	Arr	12:40 PM	1:10 PM	1:40 PM	2:10 PM	2:40 PM	3:10 PM	3:40 PM	4:10 PM	4:40 PM	5:40 PM	
<b>South Route</b>												
Auburn Station	Dep	12:40 PM		1:40 PM		2:40 PM		3:40 PM		4:40 PM		
Pacific/Sacramento	Dep	12:46 PM		1:46 PM		2:46 PM		3:46 PM		4:46 PM		
Auburn Station	Arr	12:55 PM		1:55 PM		2:55 PM		3:55 PM		4:55 PM		
<b>North Route</b>												
Auburn Station	Dep		1:10 PM		2:10 PM		3:10 PM		4:10 PM		5:40 PM	
EV Cain	Dep		1:12 PM		2:12 PM		3:12 PM		4:12 PM		5:42 PM	
Auburn Ravine/Mikkelson	Dep		1:16 PM		2:16 PM		3:16 PM		4:16 PM		5:46 PM	
EV Cain	Dep		1:20 PM		2:20 PM		3:20 PM		4:20 PM		5:50 PM	
Auburn Station	Arr		1:22 PM		2:22 PM		3:22 PM		4:22 PM		5:52 PM	

Return Only

**TABLE 28: Transit Service Quality - Fixed Route Alternative**

Travel Time and Frequency in Minutes

		To Zone						
		Auburn Station	Old Town	Downtown	South	Central	Foresthill	
<b>1 Bus in Operation</b>								
From Zone	Auburn Station	Travel Time		4	8	4	4	20
		Frequency		120	60	120	60	60
	Old Town	Travel Time	6		21	2	17	33
		Frequency	120		120	120	120	120
	Downtown	Travel Time	8	10		16	4	12
		Frequency	60	120		120	60	60
	South	Travel Time	9	6	24		20	36
		Frequency	120	120	120		120	120
	Central (Town Ctr)	Travel Time	4	9	4	14		20
		Frequency	60	120	60	120		60
	Foresthill	Travel Time	18	21	10	24	14	
		Frequency	60	120	60	120	60	
<b>2 Buses in Operation</b>								
From	Auburn Station	Travel Time		4	8	4	4	16
		Frequency		60	30	60	30	30
	Old Town	Travel Time	6		21	2	17	33
		Frequency	60		60	60	60	60
	Downtown	Travel Time	8	10		16	4	12
		Frequency	30	60		60	30	30
	South	Travel Time	9	6	24		20	36
		Frequency	60	60	60		60	60
	Central (Town Ctr)	Travel Time	4	9	4	14		20
		Frequency	30	60	30	60		30
	Foresthill	Travel Time	18	21	10	24	14	
		Frequency	30	60	30	60	30	

**TABLE 29: Change in Transit Service Quality - Fixed Route Alternative**

Travel Time and Frequency in Minutes

		To Zone						
		Auburn Station	Old Town	Downtown	South	Central	Foresthill	
<b>1 Bus in Operation</b>								
From Zone	Auburn Station	Travel Time		0	-2	0	-23	-11
		Frequency		0	0	0	0	0
	Old Town	Travel Time	0		7	0	-21	7
		Frequency	0		60	0	0	0
	Downtown	Travel Time	-19	5		-2	-18	-10
		Frequency	0	0		0	0	0
	South	Travel Time	-42	-110	15		-16	12
		Frequency	0	0	0		0	0
	Central (Town Ctr)	Travel Time	-19	-73	-20	-36		-10
		Frequency	0	0	0	0		-60
	Foresthill	Travel Time	-6	-7	-4	-6	-25	
		Frequency	0	0	0	0	0	
	<b>2 Buses in Operation</b>							
	From Zone	Auburn Station	Travel Time		0	2	0	-10
Frequency				0	-30	0	-30	-30
Old Town		Travel Time	0		10	0	-7	7
		Frequency	0		0	0	0	0
Downtown		Travel Time	-3	5		-2	-4	-3
		Frequency	-30	0		0	-30	-30
South		Travel Time	-42	-52	15		-16	12
		Frequency	0	0	0		0	0
Central (Town Ctr)		Travel Time	-11	-13	-2	-22		0
		Frequency	-30	0	-30	0		-30
Foresthill		Travel Time	-3	-7	-4	-6	-25	
		Frequency	-30	0	-30	0	-30	

To address ADA requirements, some form of paratransit service would need to be provided for all hours of fixed route operation. Based on ridership surveys and boarding/alighting data, it is estimated that approximately 3,300 ADA door-to-door trips would need to be provided annually (approximately 12 per day). At this level of demand, it is more cost-effective to serve these trips through an expansion of the existing Highway 49 Dial-A-Ride service operated by a contractor under Placer County. That service serves 1.55 passenger-trips per vehicle-hour of service, and costs \$71.44 per vehicle-hour of service (in FY 2016/17 dollars). Assuming that the time required to serve Auburn ADA trips is consistent with the existing service, and adjusting by 3 percent per year for two years of inflation, this paratransit service is estimated to cost (approximately \$170,200 per year). In total, annual operating cost would be increased by \$172,100.

Another potential means of providing ADA service would be to establish a system to subsidize trips through a Transportation Network Company (TNC) able to provide a high quality of service to persons with disabilities. At present, TNC firms typically have very limited ability to accommodate persons using mobility devices, and firms specializing in senior transportation are limited to the larger urban areas such as the Bay Area. As this may change rapidly over the SRTP planning period, this could become a viable option. Whether this would be a more cost-efficient strategy to provide service to ADA passengers (whose fare can be no more than twice the general public fixed route fare, per the ADA) would depend on the negotiated total TNC trip cost.



The ridership on the fixed routes can be estimated based on elasticity analysis to be increased due to the higher frequency of service and shorter in-vehicle travel times by 15,600 passenger-trips per year. However, the non-ADA passengers currently served via deviations would either need to walk to the nearest fixed route or would stop using the transit service. Based on the survey data, this is estimated to result in a loss of 1,600 passenger-trips per year. In total, therefore, this option would increase ridership by an estimate 14,000 (or 32 percent).

### Advantages

- Substantial increase in ridership
- Could provide single-seat trips for Auburn ADA passengers to and from destinations in the existing Highway 49 DAR area.

### Disadvantages

- Significant increase in annual transit operating cost (approximately 29 percent)
- Eliminates deviation service for non-ADA passengers
- Many persons with disabilities prefer to ride on a general public service, rather than a paratransit service limited to ADA passengers only
- Requires negotiating an agreement with Placer County for ADA paratransit service.

### **Weekday Hourly Service**

At present, the Blue and Red Routes are operated every other hour using a single vehicle prior to 10 AM and after 4 PM. Service every two hours is typically found to be very inconvenient to transit passengers, given the limited options to serve specific arrival or departure times. Under this option, the second bus would be operated from 7 AM to 5 PM (rather than 10 AM to 4 PM), which would result in additional Blue Route runs at 7 AM and 9 AM, and Red Route runs at 8 AM and 4 PM.

While this option would not increase the number of buses in operation at any one time, it would increase annual operating costs by \$93,000, as shown in Table 30. An elasticity analysis of the existing ridership in the two-hour-headway periods indicates that ridership would be increased by an estimated 7,900 per year.

This alternative has the benefit of providing a consistent easy-to-remember hourly schedule across the weekday span of service. It would be particularly beneficial to persons commuting via Auburn Transit, or accessing all-day programs.

### **Sunday Service**

Like most of the smaller transit services around California, Auburn Transit currently does not operate on Sundays. The most common passenger request regarding service improvements

was for transit service on Sundays (half of all survey respondents). A reasonable alternative would be to operate Sunday service from 8 AM until 4 PM (one hour earlier than Saturday service, in order to better accommodate religious services).

As shown in Table 30, the additional route operations would incur an annual cost of \$39,100. However, additional staff would be required beyond the driver:

- A dispatcher would need to be on duty for all hours of operation to handle passenger service requests and provide back-up to the driver.
- At present, no mechanic is on duty on Saturdays. Extending the period without a mechanic to two successive days could result in operational issues. For purposes of this analysis, four hours of mechanic time per weekend is assumed.

**TABLE 30: Auburn Transit Service Alternatives Summary**

Alternative	Change In Annual Service						Change in Peak Buses
	Service Hours	Service Miles	Operating Cost	Ridership	Fare Revenues	Operating Subsidy	
<i>Existing Service</i>	4,944	60,823	\$597,754	43,095	\$24,317	\$573,437	2
Revised Deviated Fixed Route	0	-398	-\$200	10,400	\$5,900	-\$6,100	0
Fixed Route + ADA Paratransit	2,230	25,552	\$172,100	14,000	\$7,900	\$164,200	0
Hourly Weekday Service	992	12,236	\$93,000	7,900	\$4,500	\$88,500	0
Sunday Service	416	5,506	\$54,700	1,900	\$1,100	\$53,600	0
Expanded Weekday Hours	992	11,789	\$117,600	3,400	\$1,900	\$115,700	0

Adding the cost of this additional personnel (at an assumed average of \$25 per person-hour), the total cost of Sunday service would be \$54,700 per year. Ridership, based upon Auburn Transit Saturday ridership and the observed ratio of Sunday to Saturday ridership in other systems is estimated to be 1,900 passenger-trips per year. Subtracting the increase in fare revenues, the total operating subsidy impact of Sunday service would be an increase of \$53,600 per year.

**Expand Weekday Hours of Service to Match Placer County Transit**

Connections to Placer County Transit routes at Auburn Station are important to Auburn Transit riders, as 31 percent of Auburn Transit passengers are transferring to and from Placer County Transit. At present, Auburn Transit serves the transfer point from 6 AM (departure only) to 6 PM on weekdays. PCT service spans at Auburn Station are as follows:

- **Auburn/Light Rail** – Departures from 5 AM to 7 PM, and arrivals from 7 AM to 9 PM
- **Highway 49** – Departures from 7 AM to 9 PM, and arrivals from 5 AM to 7 PM
- **Colfax/Alta** – Departures at 7 AM and 3:15 PM, and arrivals at approximately 8:40 AM and 5 PM

- **Taylor Road Shuttle** – Departures from 6:35 AM to 6:35 PM, and arrivals from 8:25 AM to 8:25 PM.
- **Placer County Express** – AM departures at 5:43 AM, 6:03 AM and 6:37 AM, and PM arrivals at 5:40 PM, 6:00 PM and 6:43 PM.

To effectively serve the PCT span of service, additional Auburn Transit service (using a single vehicle) would be needed from 5 AM to 6 AM, and from 6 PM to 10 PM. This would consist of two additional Blue Route runs and two additional Red Route runs. Including the additional Dispatcher costs, this service expansion would increase annual operating costs by \$117,600. Based upon the relative ridership in the expanded hours of service to the ridership in the current hours of service in similar communities and on the connecting PCT routes, it is estimated that this service expansion would increase ridership by an estimate 8.2 percent, or 3,400 boardings per year. This service enhancement would be particularly beneficial for Auburn residents commuting “down the hill” on PCT routes, and for evening activities (dining, recreation, etc.) within Auburn. It would also provide local bus service to and from the Capital Corridor train departure at 6:30 AM and the arrival at 6:30 PM. However, it comes with a relatively high cost and subsidy.

### **Limiting Auburn Transit Service to City Limits**

Both the Blue Route and the Red Route currently extend beyond the City boundary along the I-80 corridor. The Red Route extends approximately ½ mile outside the city to the Foresthill interchange, while the Red Route extends 1.1 miles to Undercrossing Road. The transit mileage outside of the City limits is 20 percent of overall Auburn Transit in-service vehicle miles

To an extent, this service outside the City is a result of the limited east-west roadway options, as the first opportunity to travel east-west north of Elm Avenue is at Foresthill Road. Any routing that does not include Foresthill Road would require the buses serving one side of the interstate to backtrack to Elm Avenue before heading back north to serve the opposite side. This is made more difficult by the lack of connected public street blocks that allow for convenient means of turning the bus around. For instance, heading north out of downtown on Lincoln Way, the last public street allowing a bus to turn around within the city limits is at Electric Street, which would eliminate the ability to serve the Auburn Woods or Hidden Glen neighborhoods.

This area outside the city limits also generates a total of 61 passenger trips per day (52 on Blue Route and 9 on Red Route), which is 20 percent of the Auburn Transit ridership. Losing 20 percent of the existing farebox revenue would make meeting minimum farebox ratio requirements even more difficult. Limiting service to the city limits would also not reduce operating costs, as two buses would still be required to be operated to provide hourly service. In sum, the current service area provides the better service plan for Auburn residents, even though it serves areas outside the city limits.

## **Potential Additional Transit Service Areas**

The southern portion of Auburn is current served by the deviated fixed route as far south as the Auburn Folsom Road/Sacramento Street intersection. The area is largely developed as single family dwelling units at approximately 1.5 units to the acre on average. While roughly half of these homes are within the deviation service area, the calls for deviations in the area are low (approximately 2 per day). Several extensions of the existing routes were considered, specifically an extension along Auburn Folsom Road and Indian Hill Road with a terminus at Grandoaks Drive, and an extension east on Maidu Drive with a terminus at Riverview Drive. However, neither of these extensions could be accommodated with the existing vehicles without extending the service headways on the existing routes beyond hourly.

In sum, providing service to this area would require the operation of an additional third bus. This would incur an operating cost (assuming 12 hours per weekday and 8 hours per Saturday of service) of approximately \$324,000 per year. Given the limited ridership potential of this area, this is clearly not an efficient option.

## **Improved Coordination with PCT**

As mentioned above, coordination with Placer County Transit services is important to Auburn riders. In addition to the potential expansion of hours of service, the ability to better coordinate schedules was considered. The current schedules are currently well coordinated at Auburn Station. The Auburn Transit buses, Placer County Transit Highway 49 buses and the Placer County Transit Auburn/Light Rail buses are all at Auburn Station at the top of the hour to provide for convenient transfers. While the Taylor Road Shuttle serves Auburn Station around 30 minutes past the hour, the limited destinations important to Auburn residents on this route (other than Sierra College, which is better access by the Auburn/Light Rail route) makes this less important. The schedule for this route, moreover, is at times that provide direct transfers at Sierra College, which is more important for that route's ridership.

## **Comparison of Alternatives and Performance Analysis New Standards**

A review of Table 30 indicates that the service alternatives would generate ridership increases ranging from 1,900 per year (Sunday service) to 14,000 per year (fixed route/paratransit service), also shown in Figure 23. The operating subsidy impacts vary widely, from a reduction of \$6,100 for the revised deviated fixed route alternative to an increase of \$115,700 for the expanded weekday hours of service. The fixed route/paratransit option is also relatively expensive, at \$110,000 in additional annual subsidy. Finally, it should be noted that none of the alternatives would change the number of Auburn Transit buses required in the fleet (though the provision of paratransit service as part of the fixed route option would require an additional peak vehicle in operating on PCT contracted services.)

## Alternatives Performance Analysis

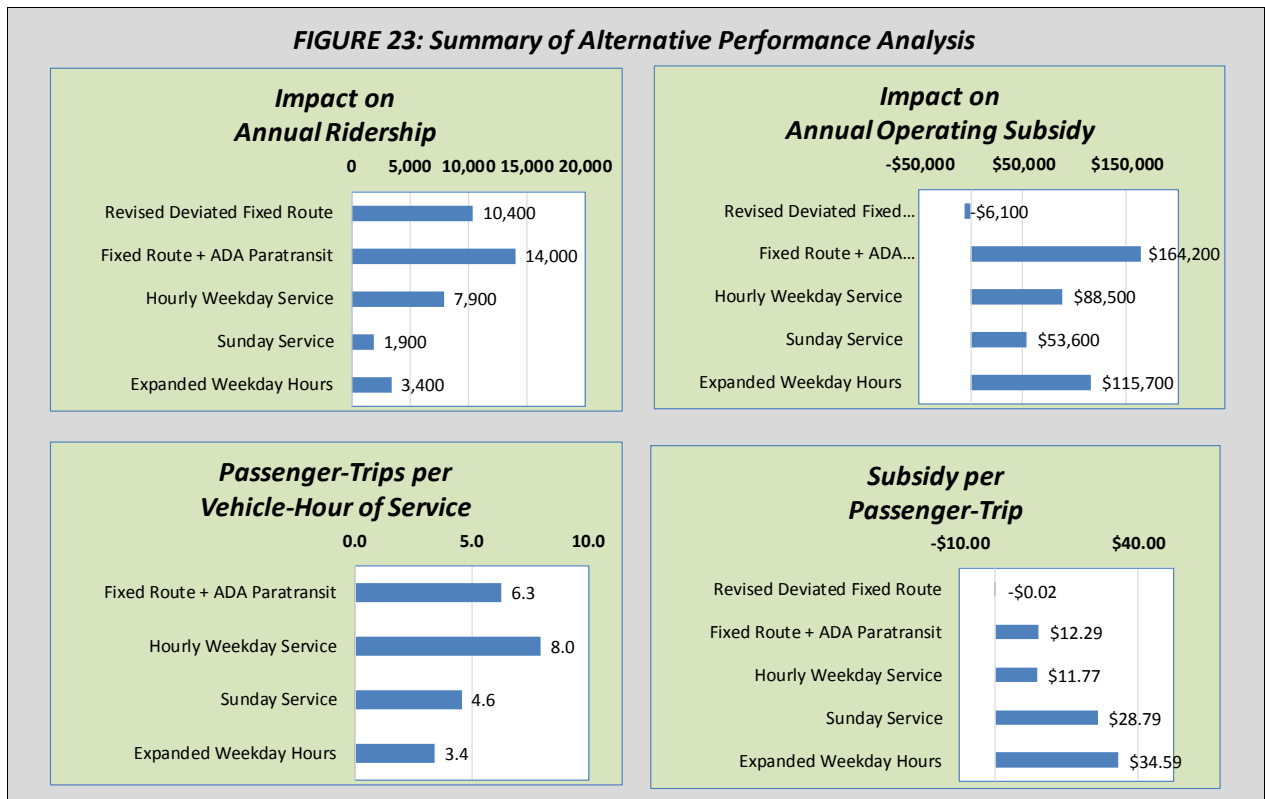
An analysis of the performance of the service alternatives is presented in Table 31 and Figure 23. This considers the following key transit service performance measures.

**TABLE 31: Auburn Transit Service Alternatives Performance Analysis**

	Values Achieving Recommended Performance Standards Shaded					
	Change From Existing Service					Farebox Ratio <sup>1</sup>
	Psgr-Trips per Service-Hour	Psgr-Trips per Service-Mile	Cost per Psgr-Trip	Subsidy per Psgr-Trip	Marginal	Total System with Alt.
Existing Service (FY 2016/17)	8.72	0.71	\$13.87	\$13.31		4.1%
<b>Performance Standard</b>	8.00	1.00	< \$12.50	No Standard	10%	
Revised Deviated Fixed Route	--	-26.11	-\$0.02	-\$0.59	-2950%	5.1%
Fixed Route + ADA Paratransit	6.3	0.55	\$12.29	\$11.73	4.6%	4.2%
Hourly Weekday Service	8.0	0.65	\$11.77	\$11.20	4.8%	4.2%
Sunday Service	4.6	0.35	\$28.79	\$28.21	2.0%	3.9%
Expanded Weekday Hours of Service	3.4	0.29	\$34.59	\$34.03	1.6%	3.7%

Note 1: Considering direct passenger fares only, and does not reflect value of mechanics time.

**FIGURE 23: Summary of Alternative Performance Analysis**



### *Passenger-Trips per Vehicle-Hour*

The marginal passenger-trips per vehicle-hour is a key measure of the productivity of a transit service. Note that the revised deviated fixed route alternative does not result in a change in vehicle-hours, making this measure inapplicable. As also shown in Figure 23, the fixed route/paratransit option is the best of the alternatives that can be evaluated by this measure, at 8.4 passenger-trips per vehicle-hour of service. This is followed by the hourly weekday service alternative, at 8.0. Both of these alternatives meet the proposed new performance standards, while Sunday service and expanded weekday hours of service do not. Those achieving this standard are shown in Table 31 in green shading.

### *Passenger-Trips per Vehicle-Mile of Service*

This measure yields a negative value for the revised deviated fixed route alternative, reflecting an increase in ridership and a decrease in vehicle-miles. Of the alternatives, the “best” is the hourly weekday service, at 0.65 passenger-trips per additional vehicle-mile. However, none of these other alternatives meet the proposed standard of 1.00.

### *Cost Per Passenger-Trip*

The operating cost per passenger-trip yields a negative value for the revised deviated fixed route, reflecting an increase in ridership over a decrease in costs. Of those alternatives resulting in both an increase in ridership and costs, the “best” is the hourly weekday service, as it requires a relatively low \$11.77 in additional cost per new passenger-trip. At the other extreme, expanding the weekday hours of service would require more than \$34 for every new passenger-trip served. The alternatives achieving the performance standard of \$12.50 per passenger-trip (requiring less than \$12.50 for every additional passenger-trip are shown in shading.

### *Subsidy per Passenger-Trip*

This measure directly relates the key public input (funding) to the key desired output (ridership). The results exhibit the same pattern as the previous performance measure. The best of those alternatives is the revised deviated fixed route, which would reduce subsidy requirements by \$0.02 for every additional passenger-trip. Of those that increase subsidy, the best is the hourly weekday service option (\$11.20) while the worst is the expanded hours of service (\$34.03). There is no adopted standard for this performance measure. These figures are also shown in Figure 23.

### *Marginal Farebox Return Ratio – Individual Alternatives*

This is the ratio of marginal passenger-fares to marginal operating costs resulting from each specific alternative. The large negative value for the revised deviated fixed route reflects a positive condition, in that fares increase while operating costs decrease. Of those alternatives

increasing ridership as well as costs, the better alternatives as reflected by a higher farebox ratio, with the fixed route/paratransit service at the best value of 6.6 percent. It is important to note, however, that none of these services that expand costs meet the minimum farebox return standard of 10 percent, which indicates that any of these cost-increasing options would tend to reduce the overall systemwide farebox return ratio from its already-precarious level.

### *Systemwide Farebox Return Ratio – With Alternatives*

The overall systemwide farebox return ratio assuming implementation of each individual alternative can also be calculated, by adding the incremental fares and costs to the ratio. The revised deviated fixed route would increase this ratio to 5.1 percent from the current 4.1 percent (as calculated specifically for this alternatives analysis). The other options would reduce the overall ratio.

### **Summary**

In sum, this review provides useful information for making decisions regarding the individual routes and services. It is also important to consider that there are many other factors (in particular, the ability to provide a dependable and safe transit service) beyond these financial and performance measures. Nonetheless, the following are key overall findings that result from this evaluation:

- The only alternative that both reduces subsidy needs and increases ridership is the revised deviated fixed route alternative. This revision would also improve Auburn Transit service quality.
- The hourly weekday service meets two of the service standards but do not meet another two standards. Along with Sunday service, the fixed route option and expanded weekday hours of service, it does not attain the minimum farebox return standard and would tend to degrade the overall farebox return ratio. Given current financial realities and ridership levels, none of these four alternatives appear currently feasible.
- Overall, Auburn Transit's current service strategy of deviated fixed routes appears to best serve the transit needs of the city.

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## FARE ALTERNATIVES



### Changes in Auburn Transit Fares

The *Final Transportation Development Act Audit* for Auburn Transit indicates that the farebox recovery ratio for Auburn Transit was 11.10 percent for FY 2016-17. This is just above the required 10 percent for TDA<sup>4</sup>. For FY 2016-17, the City of Auburn increased the level of local support by \$16,000 beyond what has traditionally been contributed to offset mechanics salaries so that Auburn Transit would meet the farebox ratio. As such, a fare increase is considered as one means of achieving the minimum farebox return ratio without increasing local support supplementation. In addition, as shown in Table 32, Auburn Transit has the lowest base fare of the three fixed route transit operators in western Placer County. Additionally, Gold County Stage has a higher base fare of \$1.50 for local zones. One option to both raise farebox ratio and align Auburn Transit's fare with other regional transit operators would be to increase Auburn Transit's base fare. The last base fare increase occurred in 2012 (\$0.80 to \$1.00). However, senior/disabled/youth fare was actually decreased from \$0.60 to \$0.50 in order to comply with FTA rules. As most of Auburn Transit ridership is senior/youth/disabled ridership, this was an effective fare decrease. Further, since 2012, inflation has decreased the value of a dollar by 10 percent.

A variety of options fare options were reviewed and presented in Table 33:

- 25 percent across the board increase in all fare types (base fare = \$1.25)
- 50 percent across the board increase in all fare types (base fare = \$1.50)

The impact on ridership can be forecast using an elasticity analysis. Table 33 accounts for a reduction in ridership due to higher fares along with increased fare revenue. Two levels of local support are presented in the table: 1) local support from the City of Auburn (\$21,770) for mechanics salaries and 2) local support from the City of Auburn (\$21,770) for mechanics salaries **plus** additional general fund contribution of \$16,000 for administrative costs as was added in FY 2016-17 in order to meet farebox ratio. Farebox ratios would be as follows for each scenario:

- 25 % fare increase meets farebox ratio only with the higher level of local support (10.8%)

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<sup>4</sup> As the demonstration period for the provision of City of Auburn funding for Placer County service along Locksley Lane is over, these costs will be included in the total operating costs for the City in the future, tending to reduce farebox return ratio.

- 50 % fare increase meets farebox ratio only with the higher level of local support (11.5%)

**Table 32: Western Placer County Public Transit Fares**

	Placer County Transit	Roseville Transit	Auburn Transit
One-Way - General Public	\$1.25	\$1.50	\$1.00
One-Way - Senior/Youth/Disabled	\$0.60	\$0.75	\$0.50
24 Hour Pass - General Public	\$2.50	\$4.00	\$2.50
24 Hour Pass - Senior/Youth/Disabled	\$1.25	\$2.00	\$1.25
10 Ride Pass - General Public	\$10.00	\$15.00	--
10 Ride Pass - Senior/Youth/Disabled	\$5.00	\$7.50	--
14 Day Pass - General Public	\$21.50	--	--
14 Day Pass - Senior/Youth/Disabled	\$10.75	--	--
30 Day Pass - General Public	\$37.50	\$58.00	--
30 Day Pass - Senior/Youth/Disabled	\$18.75	\$29.00	--
Monthly Pass - General Public	--	--	\$40.00
Monthly Pass - Senior/Youth/Disabled	--	--	\$20.00
30 Ride Pass - General Public	--	--	\$24.00
30 Ride Pass - Senior/Youth/Disabled	--	--	\$12.00
5 and under	Free	Free <sup>1</sup>	Free
Summer Youth	\$10.00	\$10.00	\$10.00

\*Free is 4 years old and under on Roseville Transit. Maximum 2 children per adult rider.  
Source: LSC Transportation Consultants, Inc.

**Table 33: Auburn Transit Fare Alternatives**

Alternative	Change in Ridership in Annual Ridership		Net Change in Fare Revenue	TDA Farebox Ratio	
	#	%		Local Support Level	Local Support Level
				\$21,770 <sup>(1)</sup>	\$37,770 <sup>(2)</sup>
No fare increase	--	--	--	7.7%	10.8%
25% fare increase (Base Fare \$1.25)	-2,790	-6.5%	\$2,690	8.2%	10.8%
50% fare increase (Base Fare \$1.50)	-4,940	-11.5%	\$6,590	8.8%	11.5%
Charge \$.50 for deviation	-440	-1.0%	\$1,720	8.0%	10.7%
Charge \$1.00 for deviation	-730	-1.7%	\$3,150	8.2%	10.9%
50% fare increase + Charge \$0.50 for deviation	-5,380	-12.5%	\$9,720	9.1%	11.8%
50% fare increase + Charge \$1.00 for deviation	-5,660	-13.1%	\$11,150	9.3%	12.0%

Note 1: Includes local support (mechanics salaries) of \$21,770 but does **not** include additional local support contributions from general fund for administrative costs made in FY 2016-17.  
Note 2: Includes **both** local support (mechanics salaries) of \$21,770 and additional contribution of \$16,000 (administrative costs) from general fund contributed in FY 16-17 .  
Source: LSC

It is important to note that the ultimate significance of the TDA farebox ratio requirement is that it simply determines Auburn Transit's maximum eligibility for TDA funds. If Auburn Transit has a 9.0 percent farebox ratio, the operator's maximum eligibility for TDA funds is reduced by the difference between actual fare revenues (at the 9.0 percent) and what the required fare revenues would be if farebox ratio were 10 percent. In the example above (50 percent increase in all fare types), the TDA "penalty" for not meeting the 10 percent farebox ratio would be around \$7,000 (assuming local support is not increased). This reduction in eligibility is assessed two years after the actual year of non-compliance with the 10 percent farebox ratio. Also note that a one-time grace year of non-compliance with farebox ratios is allowed by TDA. For Auburn Transit this occurred in FY 2016-17. Alternatively, the City of Auburn increases local support by the amount of the projected penalty (\$7,000) to meet the 10 percent farebox ratio and eliminate the TDA "penalty" process.

### Charge for Deviations

Auburn Transit has a relatively high number of deviation requests. According to the surveys, 10 percent of trips deviate on one or both ends of the trip. It is common practice in the transit industry to charge for deviations, as the transit operator is incurring additional costs. Charging for deviations will also reduce the number of deviations, thereby improving on-time performance and efficiency for the route.

Table 33 presents ridership, fare revenue and farebox ratio impacts if Auburn Transit were to charge \$0.50 or \$1.00 for a deviation. As shown, farebox ratio would not increase above 8.2 percent (assuming only \$21,770 in local support). If charging \$1.00 for deviations were combined with the "50 percent across the board fare increase" option, farebox ratio would be just below the minimum at 9.3 percent without additional local support.

### Summary

Given Auburn Transit's low fare and farebox ratio, it would be reasonable to implement a 50 percent across the board fare increase. The City of Auburn could also increase the level of local support (as it did in FY 2016-17) to maintain the farebox ratio at 10 percent while implementing one of the lower fare increase options.

### Simplifying the Fare Structure

A review of the passenger by fare type data for FY 2016/17 indicates that very few passengers board using the daily passes – only 147 boarding using a general public daily pass and 97 boarding using the discount daily pass over the entire year (0.5 percent of all boardings). Selling, accounting and reporting on daily passes all take staff time and complicate the job of the bus driver. Auburn Transit could consider eliminating this fare option. This would have a negligible effect on ridership or revenue.

Given the high proportion of Auburn Transit passengers that also use other services, another means of simplifying passenger's perception of transit fares is to charge consistent fares across the region. Raising Auburn Transit (and PCT) fares to the \$1.50 fares charged by Roseville would allow residents of the region to remember that transit fares are a single value.

### **Regional Day Pass**

Currently, the three fixed route transit operators in western Placer County charge different fares, although there are free transfers between the different systems. Table 32 shows the different fare structures for each transit operator. Western Placer County communities focus on commercial services in Roseville and Rocklin. Therefore, it is not out of the question for someone to require travel on all three operators in one day. The second leg of the journey would be covered by a transfer but the third leg would require purchasing a new fare. In an effort to make transferring more simple and seamless, a regional day pass could be implemented.

Many other areas, such as Sacramento, San Luis Obispo and King County, Washington have developed universal passes and fare revenue-sharing agreements so that riders can transfer between one system and another without having to pay a second fare. In the San Luis Obispo area, multiple transit agencies have coordinated to offer a universal pass to riders. The San Luis Obispo Regional Transit Authority (RTA) coordinates with South County Transit, Paso Express, and San Luis Obispo Transit. Each system has different fare pricing; however, riders may purchase a one-day pass for \$5.00 which can be used on any of the four different systems. Likewise, there is a regional 31-day pass valid for rides on any of the four transit systems.

Internally, the agencies share revenues by calculating a fare-weighted ridership percentage for each system, and distribute collected pass revenues to each agency based on the percentage of fare-weighted ridership. Fare-weighted ridership is calculated by multiplying the number of pass-holding trips on each transit system by the average fare for that system (presumably the weighted average of adult, senior, and youth single-ride fares collected).

A reasonable regional day pass price for unlimited rides on the three Western Placer County transit operators would be around \$4.50. This represents a 10 percent discount to round trips on all three transit operators in one day (including free transfers).

### **Connect Card**

PCT and Roseville Transit participate in the region-wide Connect Card Program, which is a plastic, reloadable smart card with an embedded computer chip that can store Cash Value, passes and discount fare. Passengers pre-purchase the cards online or at outlets. Passengers eligible for discounts are required to visit a participating transit agency to get a Connect Card with a Photo ID. The Connect Card Program allows transit passengers to use just one card to ride all participating agencies include Sacramento Regional Transit, El Dorado Transit, Etran,

Folsom Stage Line, Roseville Transit, SCT/Link, Yolobus, Yuba-Sutter Transit. The appropriate fare is deducted from the card when the passenger uses it, and the card is reloadable.

Including Auburn Transit in the Connect Card program would achieve and improve upon the simplification goals of the regional day pass as a passenger would not have to carry money to purchase the regional day pass. The regional day pass could be included as a Connect Card option.

## **MARKETING STRATEGIES**

### **Redesign Auburn Transit Brochure**

The Auburn Transit Map and Schedule is simple and easy to find on the website. However, riders, new residents or visitors to the area could benefit from a transit map which has more detail. For example, Elders Station and SaveMart are not identified specifically on the map. In addition, the  $\frac{3}{4}$  mile deviation areas appear to not be accurately represented on the map, and are not labeled. Some transit agencies have developed interactive maps on their websites which allow passengers to more accurately search for the closest stop.

### **Google Transit**

Participating in Google Transit allows google maps users to find directions via public transit as well as see bus stops on Google Earth. Participation in the program is free and increases the presence of the transit system. Auburn Transit should participate in Google Transit.

### **Regional Branding**

Western Placer County is served by three public transit operators as well as a Consolidated Transportation Services Agency (CTSA). As reflected in surveys, many passengers use multiple services to complete trips. However, the overall “presence” of transit is not as strong among the public as it could be, due to the dissimilar images of the various services.

Therefore, a good marketing strategy would be to develop a common name and logo for Western Placer County transit operators. There could be variations of the logo for each transit operator under a common color and graphic scheme, with subtext identifying the operator such as “Operated by Auburn Transit”. Together, the various public transit programs operate a total of 71 active vehicles. If all these vehicles (including the commuter services) presented a similar attractive image, public awareness of the transit network could be greatly enhanced.

A good example of this strategy is the Valley Metro transit network serving the greater Phoenix area. This is actually comprised of individual systems operated by a total of seven individual cities, but branded under a single marketing strategy. Closer to home, the public transit programs for eastern Placer County and for the Town of Truckee recently co-branded as the

Tahoe Truckee Area Regional Transit (TART) program. A common logo was developed except for a minor color scheme difference for each operator. Buses were wrapped to reflect the new logo and color scheme. Both services are marketed through the Tahoe North Tahoe Transportation Management Association as well as independently through each operator. However, the management, planning, operations and funding of the two systems remain fully independent.

Defining and establishing a common regional transit marketing brand would require a specific marketing/branding study, as well as a high level of collaboration among the various individual transit operators. While this would be a substantial effort, the result would significantly enhance the public awareness of transit throughout the region.

The provision of public transit services requires a substantial investment in vehicles, facilities and equipment. This chapter presents the ongoing needs of the transit program. In particular, this chapter discusses the vehicle replacement needs, and passenger amenities needs (bus stop improvements). Also included in the capital category is a discussion of marketing strategies for Auburn Transit.



### ZERO EMISSION BUSES

California Air Resource Board (CARB) staff is currently working to update the Transit Fleet Rule, originally adopted in 2000. The Transit Fleet Rule includes a 15 percent Zero-Emission Bus (ZEB) purchase requirement for fleets with 200 or more buses. However, in 2009 staff concluded that the technology was not commercially ready and the Board directed staff to withhold the ZEB purchase requirement. Since that time CARB staff has been evaluating the commercial readiness of zero-emission technology. In 2015 staff concluded that the commercialization of ZEB technologies had advanced to the point where they may feasibly be incorporated into transit fleets. Staff is now in the process of proposing amendments to the Transit Fleet Rule. A draft proposal, called the Innovative Clean Transit Regulation is available on the CARB website and summarized below.

The regulation would apply to all public transit agencies that own, lease, or operate buses with a gross vehicle weight rating greater than 14,000 lbs. In the draft proposal, buses subject to the regulation include cutaway buses, transit buses (including bus rapid transit), articulated buses, double-deckers, commuter coaches, trolley buses and vintage trolley buses. Based on comments received on the draft, however, CARB staff has indicated that cutaway buses will not be included in the initial implementation requirement as there are currently no Altoona-tested cutaway vehicles and it is unclear when manufacturers may begin testing for zero-emission cutaways.

All transit agencies in more polluted areas of California would be required to purchase low NOx engines if available at the time of conventional bus purchases. Beyond this date, the schedule for implementation depends on the fleet size in 2019. Auburn Transit would be considered a small fleet (less than 30 vehicles). Operators of this size of fleet, by January 1, 2026, would need to meet a 75 percent ZEB purchase requirement, while all bus purchases after January 1, 2029 would need to be ZEBs.

The purchase requirement applies at time of normal purchase and does not require any accelerated purchases. Transit agencies that make ZEB purchases before they are required by

the regulation would generate a ZEB credit that could be banked and used for a future purchase date.

Staff is also proposing an “innovative zero emission” credit mechanism that would count towards the ZEB purchase requirement. Innovative zero emission mobility options are non-bus (nor fixed guide way) transportation services provided by the transit agency with lighter Zero Emission Vehicles (ZEVs) like micro transit, on-demand van or car transportation, or autonomous shuttle services. The transit agency would need to apply to the CARB Executive Officer to determine the appropriate credit amount for new and innovative services based on the details of the program. The credit would be provided in the form of a ZEB purchase credit where 350,000 zero emission passenger miles per year from the program would be deemed to be equivalent to purchasing a ZEB.

As noted above, CARB is currently in the process of meeting with transit agencies to understand the impacts of the proposed rule and to modify the rule as necessary. Another change under consideration is to allow each transit agency to develop and submit an individualized plan, approved by their board, for a transition to zero emissions, including their start date. Staff is interested in providing this flexibility but also wants to encourage near-term action. Another regulatory workshop is planned for April of 2018, and CARB staff plans to bring a proposed recommendation to the CARB board in June 2018.

## **FLEET IMPROVEMENTS**

Acquiring transit vehicles -- from planning stages to funding acquisition to procurement -- takes two to three years. Therefore, identifying potential vehicle needs as well as the appropriate vehicle types (size, fuel source, and etcetera) is important. At the same time, vehicle technology is rapidly changing and it is challenging to know which new technologies will provide the best benefit for a transit system.

Table 34 presents the current Auburn Transit fleet and proposed replacement schedule which reflects useful life standards recommended by the Federal Transit Administration (FTA). The average age of the Auburn Transit fleet is 8 years and has an average of 63,000 miles. Four of the vehicles will need to be replaced during this short range transit plan period in 2020 and another vehicle should be placed at the end of the planning period in 2025. If more than one vehicle is purchased at this time, it should be a ZEB to be compliant with the CARB rule for smaller transit agencies.

## **BUS STOP IMPROVEMENTS**

Passenger facilities include all equipment and amenities that serve the passenger as they access the bus. This includes bus stop shelters, benches and signs, information kiosks, pedestrian crossing amenities and transfer centers. The quality of passenger amenities is a very important factor in a passenger’s overall perception of a transit service. Depending on the trip, a passenger can spend a substantial proportion of their total time using the transit service



waiting at their boarding location. If this is an uncomfortable experience, if it is perceived to be unsafe, or if it does not provide adequate protection from rain and inclement weather, the bus stop can be the deciding factor regarding a potential passenger’s use of the transit system. Below is a discussion of the existing passenger facilities and potential improvements for the plan period.

A review of boarding and alighting data by stop shows that all stops with 10 boardings or more have a shelter. Therefore the existing route alignment has an adequate number of shelters. Passenger amenities should be replaced as needed during the planning period. If an alternative with a new route alignment is chosen, bus stop signs and pullouts will need to be constructed.

**Table 34: Auburn Transit Vehicle Replacement Schedule**

Vehicle No.	Description	Mileage	Mileage Date	Purchase Date	Asset End Date	Months To Replace	Replacement Year	Purchase Price
TR-94	2001 DODGE DAKOTA PU	41,434	06/28/17	07/01/00	06/26/20	31.3	2020	\$50,000
TR-98	2017 FREIGHTLINER/GLAVAL	2,372	08/14/17	08/14/17	08/09/32	239.8	2037	\$155,290
TR-99	2016 ELDORADO NATIONAL XHF	19,867	06/28/17	02/03/16	01/31/26	99.5	2025	\$399,704
TR-101	2011 FORD I GLAVAL CUTAWAY BUS	111,937	06/28/17	07/01/10	06/28/20	31.4	2020	\$50,000
TR-102	2011 FORD I GLAVAL CUTAWAY BUS	102,266	06/28/17	07/01/10	06/28/20	31.4	2020	\$50,000
TR-103	2011 FORD I GLAVAL CUTAWAY BUS	100,564	06/28/17	07/01/10	06/28/20	31.4	2020	\$50,000

Source: Auburn Transit

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The following plan presents service programs, capital improvements, management plan elements and financial strategies to enhance the Auburn Transit program, within the constraints of realistic funding projections. This chapter presents the individual plan elements in brief, based on the substantial discussions presented in previous chapters; the reader is encouraged to refer to previous chapters for additional background on the plan elements. Figure 24 presents an overview of the plan.



## **SERVICE PLAN**

The service enhancements recommended are described below, followed by a discussion of several other plan elements to be implemented if there are changes in funding or system wide needs.

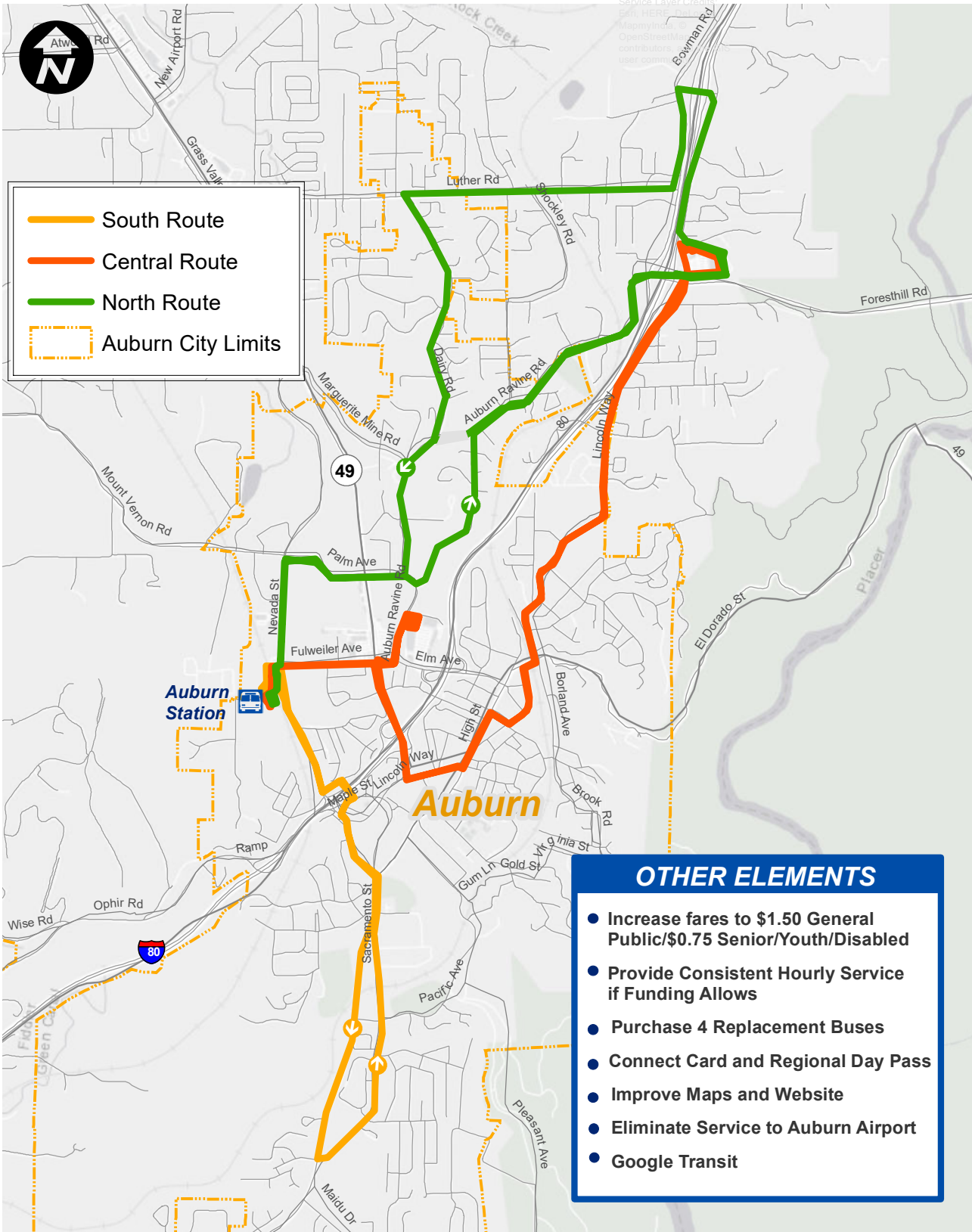
### **Implement the Deviated Fixed Routes**

Auburn Transit should continue to operate deviated fixed routes (scheduled routes that allow the vehicles to deviate for individual requests), as this type of service is the most effective means of addressing transit needs. The current large one-way routes, however, are no longer the most effective route alignments to serve the community. The existing two peak buses used to operate the current routes should be used to instead operate three individual routes (the Central Route, North Route and South Route), all of which begin and end at Auburn Station. Each bus will operate each individual route in turn, providing service every hour on each route when both buses are in operation.

This route revision will provide numerous advantages:

- It does not require additional buses or operating funding, instead resulting in a \$200 reduction in operating costs.
- It substantially improves the convenience of transit service for existing passengers by providing more direct trips between key activity centers. While the average time a passenger currently rides Auburn Transit buses is 17 minutes, the revised routes will bring this down to 10 minutes (a 40 percent reduction). It will also reduce the need for passengers to transfer to complete their trip in the minimum time possible.
- It expands service along Luther Road and Dairy Road, serving residents that have long requested service.

**Figure 24  
Auburn Transit Plan**



- Overall, it will increase ridership by 10,400 per year (a 24 percent increase). Considering the additional fare revenue generated, this plan element will reduce necessary operating subsidy by \$6,100 per year.
- It provides better connections to other transit services at Auburn Station (particularly if half-hourly PCT service is provided in the future).

These new routes would eliminate the current route service along Cherry Avenue and Borland Area east of downtown, as well as the loop along Mt. Vernon Road and Enterprise Drive west of Nevada Street. *No* ridership was observed on 18 surveyed runs. If additional data collection indicates that riders need to be served at specific times, there is sufficient available time in the schedule to provide this service.

### **Consistent Hourly Weekday Service**

The route modification presented above is the only service modification that can be implemented, given current financial resources and the status of the farebox recovery ratio requirements. However, if future funding availability were to expand and/or ridership demand increase, the provision of two buses throughout the weekday operating span (7 AM to 5 PM) to provide consistent hourly service would be beneficial. Specifically, it would expand the availability of Auburn Transit service (particularly in the morning), reduce the need for very long in-vehicle travel times, provide better connections at Auburn Station, and make the service easier to use by providing consistent schedules. This service enhancement would not require additional buses, while increasing ridership by an estimated 18 percent and achieving two transit performance standards.

### **Placer County Transit Service Modifications Affecting Auburn**

While not part of this Auburn SRTP, it is worth noting that the parallel Placer County Transit SRTP includes the expansion of the existing PCT Highway 49 DAR service area to include the unincorporated Bowman area (east of the existing service area and Auburn city limits, west of the American River Canyon and south of Bell Road). As the existing service of necessity serves residents of northern Auburn, this will expand the transit access of Auburn residents to destinations in the Bowman area.

### **Terminate Existing Agreement with PCT to Serve Auburn Municipal Airport Area**

Currently, the City of Auburn contracts with Placer County to serve the Locksley Lane area near the Auburn Municipal Airport. In the past the area included several high transit generators but these services have been moved. Service to this area only generates roughly 10 passenger trips per day and generates a farebox ratio of seven percent and costs the City of Auburn \$30,000 per year. Both Auburn Transit and PCT passengers are inconvenienced by the loop to the airport that is not productive. Therefore, it is recommended in the PCT SRTP plan that this

section of the Highway 49 route be eliminated. This will reduce the City of Auburn’s overall transit costs.

## **CAPITAL PLAN**

Auburn Transit’s passenger fleet currently consists of five transit vehicles (along with a utility truck). Three of these transit vehicles will warrant replacement in 2020, with a fourth needed in 2025.

The California Air Resources Board (CARB) is currently developing updates to the Transit Fleet Rule intended to reduce the greenhouse gas emissions of California’s transit fleets. Current draft regulations would not require Auburn Transit bus purchases within the seven-year SRTP period to be Zero Emission Bus (such as Battery Electric Bus or “BEB”) technology, reflecting the relatively small size of the fleet as well as the lack of BEB options for smaller capacity transit vehicles.

While BEB vehicles are not required to be implemented within the SRTP period, it is clear that this technology will be a requirement not long after 2025. Though BEB technologies are advancing rapidly, there are many factors that need to be evaluated before the right strategy can be identified, including the following:

- Appropriate charging technologies: slow charge (overnight in the storage yard) versus fast charge (at layover points along the routes).
- Impacts on existing maintenance/storage facilities.
- Impacts on transit centers.
- Operating range, particularly given the power demands of air conditioning, heating and climbing grades.
- Cost implications of charging during peak vs. off-peak periods.

Given that all western Placer County transit operators are facing these new requirements and that facilities at the transit centers (such as Auburn Station) could serve multiple transit systems, it would be most effective to address these issues through a “Regional BEB Readiness Plan”. Auburn should be an active part of this planning process.

## **FINANCIAL PLAN**

### **Increase Fares to \$1.50/\$0.75**

State requirements to attain a minimum farebox ratio (the proportion of operating costs covered by passenger revenues) coupled by increases in costs necessitates an increase in Auburn Transit fares. It is recommended that the fares be increased as follows:

	<u>Current</u>	<u>Planned</u>
One-Way – General Public	\$ 1.00	\$ 1.50
One-Way – Senior/Youth/Disabled	\$ 0.50	\$ 0.75
Monthly Pass – General Public	\$40.00	\$60.00
Monthly Pass – Senior/Youth/Disabled	\$20.00	\$30.00
30 Ride Pass – General Public	\$24.00	\$36.00
30 Ride Pass – Senior/Youth/Disabled	\$12.00	\$18.00
Summer Youth Pass	\$10.00	\$10.00

In addition to generating the fare revenues needed to meet the requirements, this will ultimately provide for consistent \$1.50 base fares for all western Placer County transit services (once PCT increases fares).

It should be noted that the current \$1.00 base local fare puts Auburn Transit below any of the other transit services in the region, as follows:

- Folsom Stage -- \$2.50
- Gold Country Stage (Grass Valley) -- \$1.50 to \$3.00 depending on zone
- El Dorado Transit -- \$1.50
- E-Tran (Elk Grove) -- \$2.25
- Roseville Transit -- \$1.50
- Placer County Transit \$1.25
- Sacramento RT -- \$2.75

Even with the recommended fare increase, Auburn Transit would still be near the lowest fare. Raising fares will decrease the local support operating subsidy needed to meet farebox ratio. Additionally, Auburn Transit will exceed the fare per passenger standard of \$0.65 by 24 percent.

### **Eliminate the Day Pass Fare Option**

Auburn Transit should phase out the availability of the day pass, which currently provides the ability to board as many times as desired for \$2.50 for the general public and \$1.25 for seniors/youth and persons with disabilities. Over the most recent entire fiscal year, this option was used for only an average of one boarding per day. As providing, accounting and tracking this fare option requires staff time and it is not being used to any significant degree, this option should no longer be offered.

### **Participate in a Regional Day Pass Program**

Surveys conducted as part of this SRTP indicate that fully 31 percent of Auburn Transit riders also use other transit services as part of their overall trip. A trip from a neighborhood in

Auburn to a medical office in Roseville, for example, can require traveling on Auburn Transit, PCT and Roseville Transit. Even though transfers are available to passengers on their first boarding, a second transfer and the need to understand various fare programs to complete such a trip tends to discourage residents from using transit. A regional day pass program, priced at \$4.50 for general public and \$2.25 for seniors, youth and persons with disabilities should be established that allows for all-day boardings on Auburn Transit, PCT and Roseville Transit local fixed route services. While in the short term this is expected to have a negligible impact on overall ridership and fare revenues, over the longer term it would encourage the growth of longer regional trips via transit. Tracking the passes sold and passenger boardings on each system would allow the operators to “settle up” on a monthly basis to ensure that the revenues are distributed equitably.

### **Promote Use of the Connect Card**

The greater Sacramento Region’s transit operators have invested a great deal of effort in the development and deployment of a region-wide “Connect Card” that provides a convenient means of purchasing fares and boarding transit services throughout the region. This consists of a “reloadable” card that is valid for the major transit services throughout the region (including Roseville Transit and PCT), but not currently Auburn Transit. Given the high proportion of Auburn Transit riders that also use other systems, participation by the City in the Connect Card program would be a benefit to Auburn residents.

### **Overall Financial Impact**

As shown in Table 35, the overall impact of this plan (in FY 2016/17 dollars) will be to reduce operating costs by \$30,200 per year (when the savings from termination of Placer County contract is including) while increasing farebox revenues by \$12,490 per year. Overall annual operating subsidy requirements will be reduced by \$12,690. Given this, it is expected that operating subsidy funding can continue to be provided through existing sources.

Farebox ratio calculations have always excluded the cost of the Placer County contract. With the inclusion of \$21,770 (FY 2016/17 figure) of local support (mechanics salaries), the total farebox revenues (for purposes of Transportation Development Act calculations) is \$58,577. Divided by a total operating cost (with plan but not including savings from Placer County contract) of \$597,554, the resulting farebox return ratio is 9.8 percent – very close to the 10.0 percent requirement without additional local support from the general fund.



**TABLE 35: Auburn Transit Short Range Transit Plan**

Plan Element	Annual Quantities					
	Passengers	Vehicle- Hours	Vehicle- Miles	Operating Cost	Farebox Revenue	Operating Subsidy
<i>Existing Total</i>	43,095	4,944	60,823	\$597,754	\$24,317	\$573,437
Revised Deviated Fixed Routes	10,400	0	-398	-\$200	\$5,900	-\$6,100
Increase Fares to \$1.50/\$0.75	-4,940	0	0	\$0	\$6,590	-\$6,590
Discontinue agreement with PCT to serve Auburn Airport area	--	--	--	-\$30,000	--	--
Total Plan Impact	5,460 12.7%	0 0.0%	-398 -0.7%	-\$30,200 -5.1%	\$12,490 51.4%	-\$12,690 -2.2%
Total With Plan	48,555	4,944	60,425	\$567,554	\$36,807	\$560,747

## INSTITUTIONAL/MANAGEMENT PLAN

This plan includes no recommended changes to the institutional structure of Auburn Transit. City operation of the transit program has proven to be effective. In particular, the “lean” level of management staff needed to oversee the program and the fact that City maintenance staff is available for transit needs allows the public transit program to make good use of the very limited resources.

Improvements to the transit map and schedule are warranted, and the implementation of new transit routes provides a good opportunity to redesign the marketing materials. For both paper and web versions, improved graphics are needed that better identify key activity centers and deviation service areas.

## IMPLEMENTATION PLAN

### Near Term

The following is a “to do” list that can be initiated immediately to start implementation of this plan:

- Run the planned routes using the transit vehicles in a variety of traffic conditions to establish schedules that can be operated in a reliable fashion.
- Establish bus stop locations along the roadways newly served under the revised route plan.

- Along Lincoln Way between Cleveland Avenue on the south and SR 49 on the north (both directions)
  - Along Luther Road from I-80 westbound to Dairy Road
  - Along Dairy Road southbound from Luther Road to Auburn Ravine Road.
- Develop new/improved marketing materials.
  - Hold the public hearing required to implement the fare modifications.
  - Start process of implementing Connect Card for Auburn.
  - Discontinue contract with PCT for service to the airport

### **Mid-Term**

- Implement the new routes.
- Start procurement for three new buses in 2020.

### **Long-Term**

- Procure one new bus in 2025.
- Review financial resources and conditions to assess ability to expand to consistent hourly weekday service.