



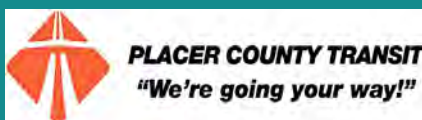
Placer County Transit Short Range Transit Plan 2018-2025 FINAL

Prepared for the



PLACER COUNTY
TRANSPORTATION
PLANNING AGENCY

Placer County Transportation
Planning Agency



Placer County Transit Short Range Transit Plan

Final

Prepared for the

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Executive Summary
2018 Placer County Transit Short Range Transit Plan
Prepared by LSC Transportation Consultants, Inc.

This document presents a Short-Range Transit Plan (SRTP) developed for the Placer County Transit program, serving western Placer County, California. An SRTP is intended to provide a detailed business plan to guide a transit organization in setting service strategies, improvement priorities and implementation sequencing over the coming seven years. An SRTP is also important to state and Federal funding partners so they can ensure that funds for improvements are consistent with a comprehensive overall strategy that has been developed through a public process. It includes a review of demographics and transit needs, a series of surveys and ridership counts conducted for all Placer County 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, marketing, management and institutional plans, including an implementation plan. This SRTP plan has been prepared jointly with the development of parallel SRTPs for Roseville Transit, Auburn Transit and the Western Placer Consolidated Transit Service Agency. It is the first SRTP for the region to address innovative forms of transit service driven by advancement in app-based technologies that can involve public transit operators in partnerships with private firms in the provision of new mobility options.

SURVEYS AND DATA COLLECTION

This SRTP study included surveys of all routes and runs, which yielded a total of 708 completed surveys, detailing passenger ridership characteristics, trip patterns, and opinions. Data was also collected on all Placer County Transit local fixed route, Dial-A-Ride and commuter service runs, including boarding data and on-time performance data.

EXISTING DEMOGRAPHICS

The population of the western portion of Placer County, per the 2015 US Census estimates is 353,847. Persons living in **households without vehicles** total 4,204, or 3 percent of the total countywide population. **Youth** (persons 10 to 17 years of age) total 39,528, or 11 percent of total population. **Elderly** persons over age 60 total 83,524 (24 percent). There are a total of 31,300 persons living in households below the federal **poverty** level (9 percent of total population). Persons who indicate they have a **disability** total 16,086, or 5 percent of total population.

OVERVIEW OF PLACER COUNTY TRANSIT

Placer County Transit is a service provided through the Placer County Department of Public Works and Facilities, providing fixed route services, Dial-A-Ride service and, as well as a commuter service to downtown Sacramento and a vanpool program. Management, marketing, planning and vehicle maintenance are provided by County employees. Local fixed route services are operated with County drivers, while others (Dial-A-Ride and commuter services) are operated through a contractor. The Board of Supervisors is the decision making body.

The fixed-route service consists of up to nine buses at a time operating a total of five bus routes on weekdays and four on Saturdays. Routes consist of the Auburn-Light Rail (10) Route between Auburn and the Watt/I-80 Sacramento RT light rail station, the Lincoln-Sierra College (20) Route connecting Rocklin, Roseville and Lincoln, the Highway 39 (30) Route serving the unincorporated North Auburn area, the Colfax/Alta (40) Route providing limited connections to/from Auburn and the Taylor Road Shuttle (50) route connecting Auburn, Loomis/Penryn and Rocklin via Taylor Road. Hourly service is provided, except the Alta/Colfax Route operates every other hour and the Colfax/Alta Route provides two round-trips per day. Other than this latter route, services start between 4:35 AM and 6:35 AM and end between 6:35 PM and 10:25 PM on weekdays, starting roughly two hours later and ending around 6:00 PM on Saturdays. No Sunday service is provided. Ridership in Fiscal Year (FY) 2016/17 was 262,452 boardings per year, which is a 33 percent reduction from the ridership in FY 2008/09. The fixed route service is not currently achieving goals regarding ridership productivity and cost effectiveness. A peer comparison indicates that ridership per vehicle-hour is 45 percent lower than the peer average while costs per vehicle-hour are 12 percent higher. The annual average ridership per capita is the second lowest of the six peer systems.

The Dial-A-Ride program provides curb-to-curb public transit and ADA paratransit service in four areas: Lincoln, Rocklin/Loomis, Granite Bay and North Auburn. These services require a peak of two, three, one and two vehicles in operation, respectively. Service encompasses all of the hours of local fixed route service. Ridership in FY 2016/17 was 27,146 passengers. This reflects a 14 percent increase from FY 2008/09, but without the addition of Lincoln DAR in FY 2015/16 there would have been a 24 percent reduction. Ridership productivity and cost effectiveness goals are not currently being met. Ridership per vehicle-hour is 30 percent below the peer average, though cost per vehicle-hour is also 30 percent below the peer average.

The Commuter Service consists of four AM runs to downtown Sacramento and four PM runs returning to Roseville. Three runs in each peak period serve Colfax and Clipper Gap, while one does not operate east of Auburn. FY 2016/17 ridership was 70,677, which was an 8 percent reduction from the FY 2008/09 boardings. In addition, the Vanpool Program carried 24,546 passenger-trips in FY 2016/17, a 25 percent reduction over the eight years. While the cost per vehicle-hour and cost per passenger-trip on the Commuter Service does not attain the goals, the ridership productivity achieves the goals. The commuter service costs per vehicle-hour are 127 percent above the peer average, while the passenger-trips per vehicle-hour are 28 percent higher than the peer average.

SHORT RANGE TRANSIT PLAN ELEMENTS

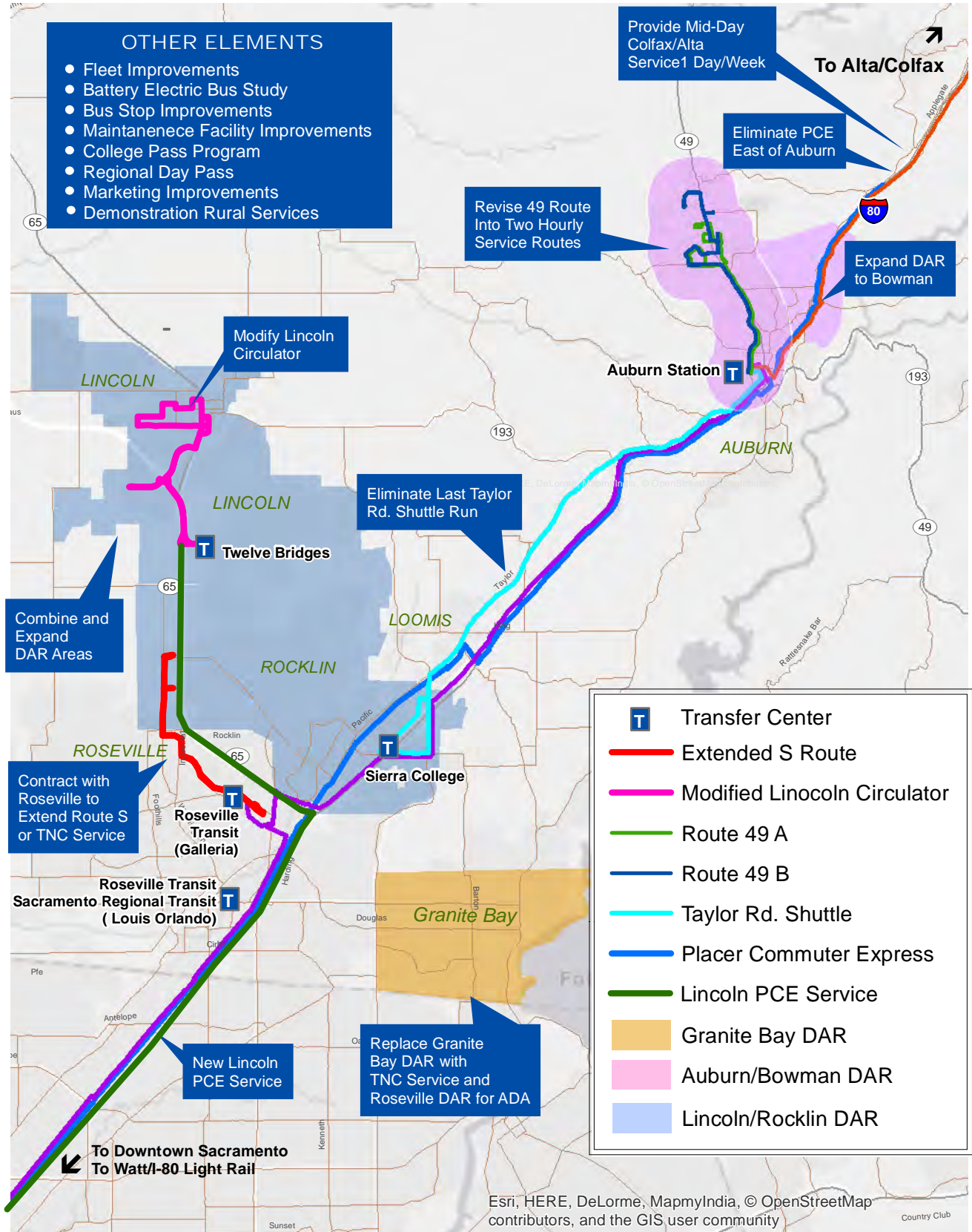
Service Plan

This plan has been developed in particular to help attain the first goal of the PCT program, to "*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 usage* by providing 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 (see Figure E-1):

- Revise the Highway 49 Route into Two Hourly Routes – This will not require any additional buses and will increase costs only modestly, but will substantially improve the quality of service in North Auburn by providing half-hourly service between Auburn Station, Dewitt Center and nearby commercial centers as well as faster connections for North Auburn residents.
- Reduce Evening Hours of Highway 49 Service – Dropping some inefficient evening runs will save \$40,200 per year in operating subsidy.
- Modify the Lincoln Circulator Route – Service two existing stops on-demand will allow the existing service to be extended to the west of downtown, increasing ridership and reducing operating costs.
- Contract with Roseville to Serve the Public Defender’s Office, or Provide a Transportation Network Company (TNC) Discount – The connection between the Public Defender’s Office and the Santucci Justice Center can be served by either providing passengers with a discount on TNC (Lyft, Uber, cab) service, or entering into an agreement with Roseville to extend Route S service to the Office.
- Shift the Last Auburn-Light Rail Run One Hour Later – Shortening one of the existing driver schedules and lengthening the other would allow this route to better serve evening trips at only a small increase in costs.
- Provide a Demonstration Mid-Day Colfax/Alta Service One Day a Week – A mid-day “Shopper Special” run will better serve shopping, medical and other trips that do not require a full day to complete. Ridership should be monitored to determine long-term viability.
- Eliminate the Last Weekday Taylor Road Shuttle Run – The evening round-trip starting at 6:35 should be eliminated, as it serves only 2 passengers per day but costs \$16,400 in annual operating subsidy.
- Provide Demonstration Lifeline Services to Foresthill and Sheridan One Day a Week -- An experimental “lifeline” service should be implemented between Auburn and Foresthill as well as between Lincoln and Sheridan, consisting of a morning round-trip and an afternoon round-trip one day per week. Ridership should be monitored to determine long-term viability.
- Convert the Granite Bay Dial-A-Ride to a TNC Subsidy Program with City of Roseville Paratransit Service – Pending additional work in developing specific service policies and

**Figure E-1
Placer County Transit SRTP**



parameters, TNC discounts can serve the bulk of the passengers (that do not require a paratransit vehicle) while Roseville DAR can accommodate those requiring a paratransit vehicle. In addition to expanding mobility for Granite Bay residents, this could save on the order of \$46,700 in annual subsidy funding.

- Expand the Highway 49 Dial-A-Ride Area to Serve Bowman – This will improve mobility in the area for persons dependent on DAR service, at a minimal cost.
- Expand DAR to Serve Industrial Boulevard Corridor and Combine Rocklin/Loomis DAR with Lincoln DAR – Operating service in this broader area will improve service quality, address ADA needs as the Sunset area develops, and provide the potential for cost and service efficiencies. Additional ridership pattern data should first be reviewed to establish impacts and funding responsibilities.
- Eliminate Placer Commuter Express Service East of Auburn – As service east of Auburn is very costly (\$156,300 per year) and only serves 9 one-way passenger trips per day on the six runs operated, services should be terminated at Auburn. Passengers can instead drive to Auburn to connect with PCE.
- Initiate Lincoln-Sacramento PCE Service – Two AM and two PM runs per day should be operated between Lincoln and downtown Sacramento. This also allows existing service to be modified to provide new express runs between Rocklin and downtown.

Overall, this service plan will increase ridership by 47,180 annual boardings per year, or 13.1 percent. A 5 percent increase in ridership (13,000 per year) is forecast for the local fixed routes along with a 17 percent increase (4,580) on Dial-A-Ride and a 42 percent increase (29,600 per year) for the commuter service.

Capital Plan

- Bus Purchases – Three commuter buses will be needed for service expansion. A total of five commuter buses, one fixed route bus and eight DAR vehicles will also be needed by 2025 for replacements.
- Regional Battery Electric Bus Readiness Study – Placer County should participate in a study regarding Battery Electric Bus vehicle and charging options.
- Passenger Facility Improvements – New stops will need to be located for the Highway 49 and Lincoln Circulator route changes. In addition, ongoing stop improvements are warranted.
- Maintenance Facility Improvements – Additional bus capacity will be needed at the maintenance facility in the Dewitt Center, and modifications to accommodate Battery Electric Buses may also be required.

Financial Plan

The overall impact of this plan will be to increase operating costs by \$49,900 per year (or 0.9 percent). With an increase in ridership and fare revenues, the overall impact of the plan on the need for operating subsidy funding is a decrease of \$110,900 (or 2.6 percent). The **local fixed routes** operating costs will be increased overall by \$27,100 per year (0.7 percent), resulting in a \$13,800 overall increase in operating subsidy requirements (0.5 percent). Annual operating costs of the **DAR** services will be reduced by \$19,900 per year (1.8 percent), while subsidy requirements will drop by \$23,500 (2.2 percent). The **Placer Commuter Express** will have a total increase in operating costs of \$42,700 per year, or 4.9 percent. With additional passenger revenues, operating subsidy requirements will be decreased by \$101,200 (20 percent)

Depending on propulsion technology, other vehicle attributes and the extent of facility modifications, the total costs for vehicle purchases over the next seven years will be on the order of \$7 Million to \$9 Million.

Placer County should participate in a Regional Day Pass program with Roseville Transit and Auburn Transit, should participate in an investigation of a Sierra College Student Pass program, and should continue to promote use of the Connect Card.

Only if necessary to meet minimum farebox return ratios, Placer County Transit should consider a 20 percent fare increase (base fare increase from \$1.25 to \$1.50). While this would also have the benefit of providing consistent fares in western Placer County, it would reduce ridership inconsistent with adopted standards.

Institutional/Marketing Plan

A marketing update study is recommended, including development of new maps, schedules and messages. In addition, PCT should increase social media-based target marketing, participate in joint Roseville/PCT commuter service marketing, note the availability of Nextbus information on the PCT website, and conduct targeted marketing around the Sierra College/I-80 area.

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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.

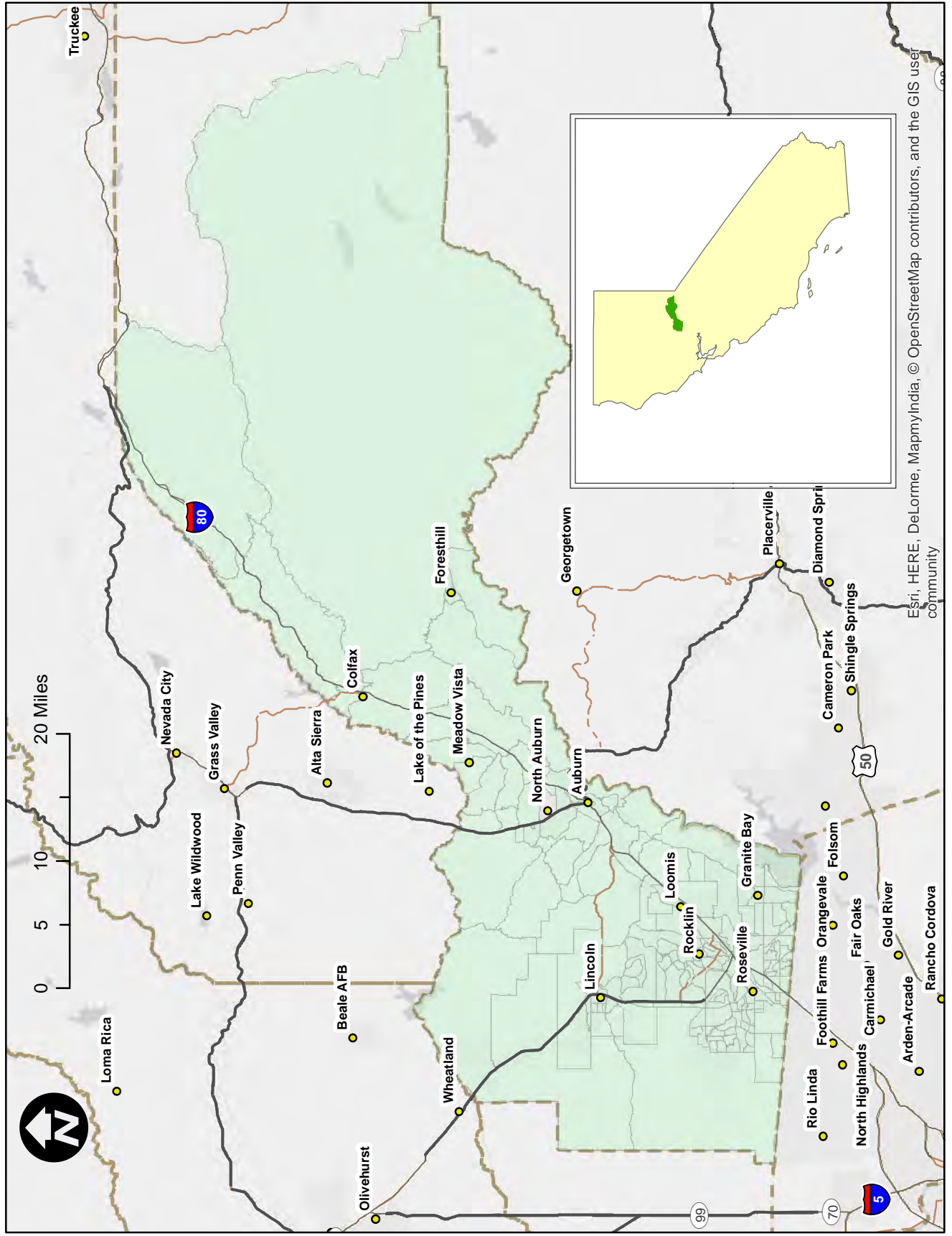


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The Placer County Transportation Planning Agency (PCTPA) is responsible for allocation of transportation funds to public transit operators outside of the Lake Tahoe Basin or Western Placer County. Figure 1 displays a map of the total study area. Four 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 Facilities 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**



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- 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 (MyRides) 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 Placer County Transit (PCT) for 2018 to 2025. 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

Roseville Transit Planning Studies

2011 Roseville Short Range Transit Plan

The prior Short Range Transit Plan for Roseville Transit was completed in 2011 but was not adopted by the City of Roseville. The plan identified two Alternative Plan Scenarios: a status quo scenario with minor improvements (Alternative A) and scenario including additional operational and capital improvements to the existing transit network (Alternative B).

Alternative A represented a low-cost scenario recommending the implementation of minor operational and administrative enhancements to maximize the effectiveness of service within existing resources and included the following recommendations:

- Adjust wait/transfer times.
- Extend hours of operation.
- Modify operating schedules.
- Enhance connections with Placer County Transit
- Introduce “new route” policy.
- Conduct Park & Ride Feasibility study.
- Conduct Transfer Point Locational study.
- Conduct Service Optimization study.
- Conduct annual Community Survey.
- Enhance Route G connection to PCT Taylor Road Shuttle extension.
- Increase farebox recovery ratio standard.

Alternative B incorporated the recommendations made in Alternative A plus additional capital/infrastructure and schedule improvements:

- Establish new stops along Route S.
- Increase off-peak hour frequencies on select routes.
- Reduce Route G and I runs during the late afternoon.
- Assume operation of Placer County Transit Dial-A-Ride services.
- Expand service to new and existing developments.
- Consider Extending Service South Along the I-80 Corridor
- Include Louis Lane/Orlando Blvd stop as a West Roseville Shuttle stop.
- Modify Route M.
- Extend Route R.
- Introduce Western Roseville route.
- Enhance bus stop amenities and transfer points.

Roseville Transit Triennial Performance Audit FY 2012/13 to FY 2014/15

The most recent Triennial Performance Audit for Roseville Transit covered the years from Fiscal Year (FY) 2012-13 to FY 2014-15 and had the following recommendations:

- Recommendation 1: Ensure the timely completion and submittal of the annual State Controller Transit Operators Financial Transactions Reports.
- Recommendation 2: Ensure that Full-time Equivalent Employee hours are calculated properly.
- Recommendation 3 – Track and separate riders by passenger types for Dial-A-Ride (DAR) reports to determine if more riders could be encouraged to ride fixed route.

The audit also noted that operating cost per passenger increased by 13.5 percent during the audit period, with the majority of the increase occurring on the DAR. Similarly, passenger-trips per vehicle service hour increased significantly on commuter services, remained relatively flat on the local fixed routes and decreased on DAR.

Placer County Transit Planning Studies

2011 Placer County Transit Plan

The prior Short Range Transit Plan for Placer County Transit was completed in 2011 but was not adopted by the Placer County Board of Supervisors. The plan identified two Alternative Plan Scenarios: a status quo scenario with minor improvements (Alternative A) and scenario including additional operational and capital improvements to the existing transit network (Alternative B).

Alternative A included minor improvements to address community input:

- Develop a no-show and trip cancellation policy for dial-a-ride.
- Develop a College Transit Pass Program.
- Raise farebox recovery standard from 10 percent to 13.3 percent.
- Reduce number of time points published in transit schedule.
- Extend service hours on the Lincoln/Sierra College route.
- Seek grant funding to support service enhancements.

Alternative B added the following capital and schedule improvements to Alternative A:

- Convert Highway 49 Loop to on-call service.
- Reduce number of vehicles operating on Highway 49.
- Launch a “Foresthill deviated fixed-route” pilot program.

- Convert Rocklin DAR into a deviated fixed-route.
- Introduce commuter bus service along Highway 65 in Lincoln.
- Increase frequency on Auburn Light Rail service.
- Extend service hours on the Lincoln/Sierra College service.
- Extend Taylor Road Shuttle service to Sierra Gardens.
- Develop a route to/within Meadow Vista.
- Enhance Taylor Road Shuttle service by incorporating two round trips into the baseline schedule and formalizing the daily schedule.
- Develop a Highway 193 service

2011 Lincoln Short Range Transit Plan

Prior to 2015, the City of Lincoln operated transit service in the City. Therefore a separate SRTP was developed for Lincoln Transit, most recently in 2011. Recommendations were divided into a Reallocation and Growth Scenario. The Reallocation Scenario would add a fixed route with one route focusing on school trips and the other as a downtown circulator. Dial-A-Ride service was also recommended. The Growth Scenario went further to recommend two additional fixed routes along with an optional tripper to the Roseville Galleria.

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 S RTP update.

Rocklin Community Transit Study 2014

PCTPA conducted a study regarding potential improvements in public transit services in Rocklin, California. Rocklin has grown in recent years and prior public input has indicated a need to serve more residential areas and some new commercial centers. The ultimate objective of this study was to determine if there was a need to modify existing transit services or to establish new routes or services to better serve Rocklin residents. Additionally, the most recent Short Range Transit Plan for Placer County recommended a more detailed study of transit needs in the City of Rocklin and therefore did not identify specific recommendations for new service.

The study reviewed a variety of ways to serve the large residential neighborhoods not currently served by the PCT Lincoln-Sierra College Route but found them to not be cost effective. The study recommended realigning the Lincoln – Sierra College Route along Granite Drive to serve the Rocklin Crossings and Commons shopping centers. In addition, it recommended that the Taylor Road Shuttle be revised to serve the Rocklin Crossings and Rocklin Commons shopping centers during the layover at Sierra College.

Lincoln Transit Route Analysis 2015

As the basis for transfer of the service operations to Placer County, the City of Lincoln retained LSC to conduct an evaluation of existing services and realignment of service. This resulted in the current single route, and the initiation of Saturday service.

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.

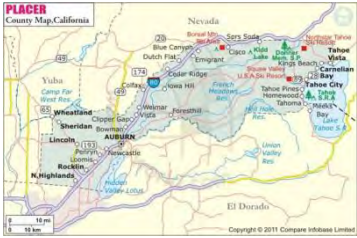
- **Short Range Transit Plan Updates** – The Unmet Transit Needs report recommends that the SRTP updates should consider past unmet transit needs comments including but not limited to: later service hours, expanded weekend service, dial-a-ride scheduling and capacity, additional service options to Sacramento 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.

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.

Table 1: Historical and Projected Population
Total Placer County

	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%

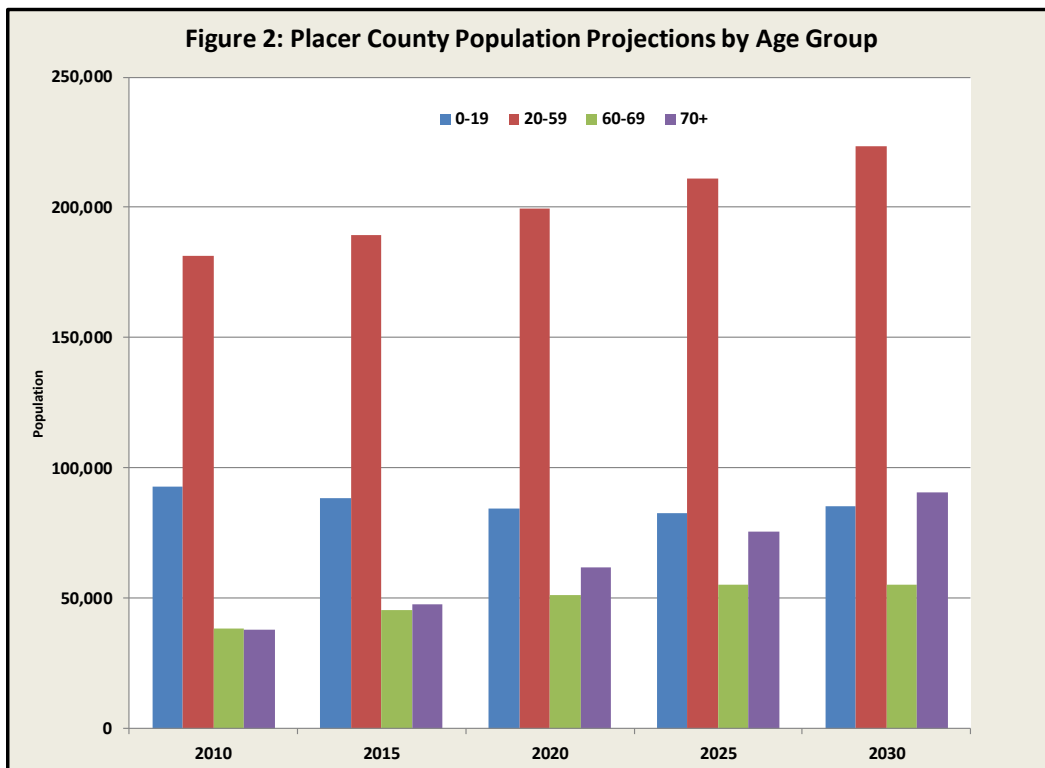
Source: California Department of Finance Demographic Research Unit

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.

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
% Change 2015 to 2025	-6.2%	11.4%	21.4%	59.6%
% Change 2015 to 2030	-3.6%	18.0%	20.7%	90.7%

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



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 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

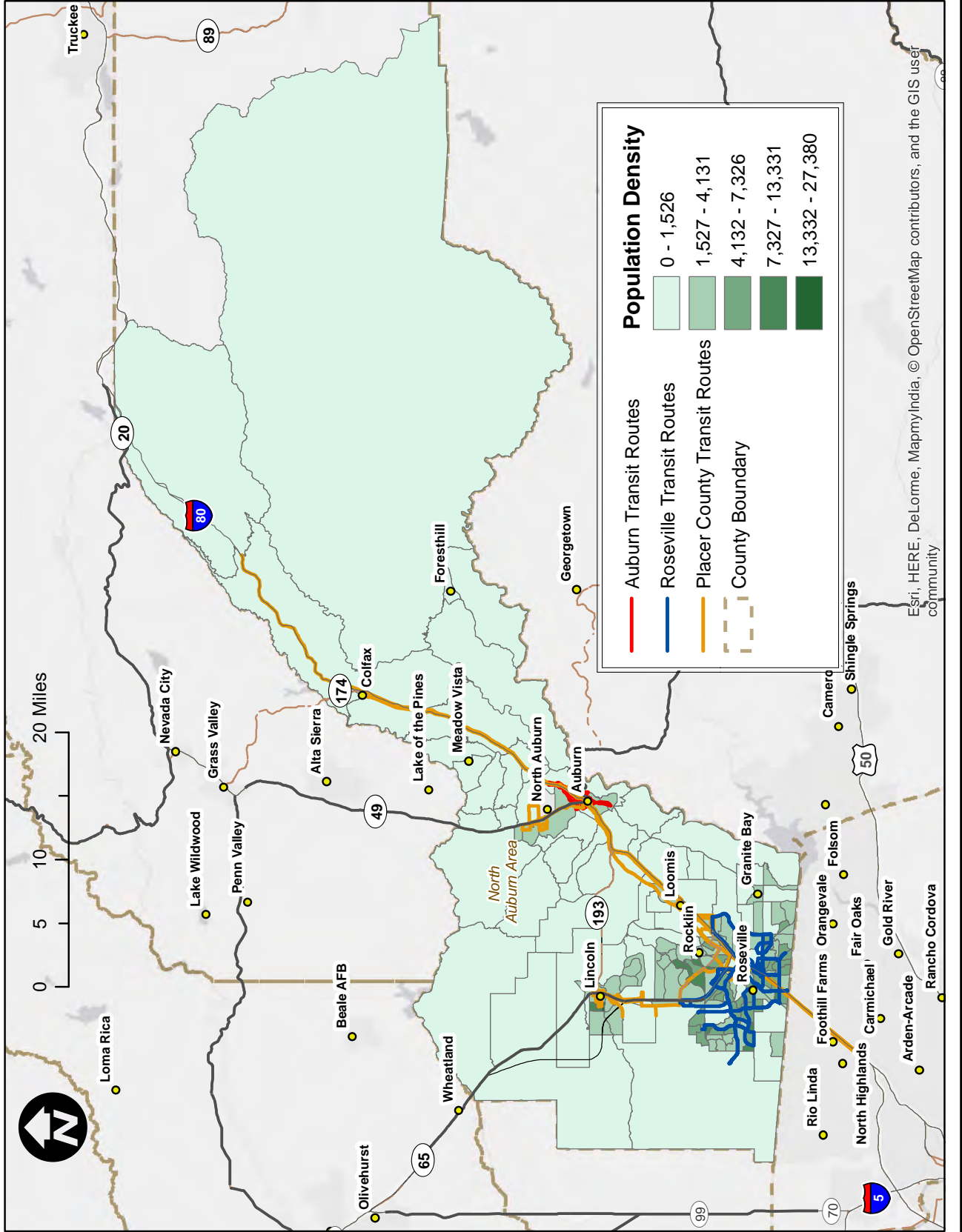
the study area at the block group level. As shown, population density ranges from less than one person per square mile as one travels east on I-80 to around 27,000 people per square mile in the City of Roseville.

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. Figures 4 through 18 present key demographic data for Western Placer County. The figures illustrate where existing and potential public transit passengers live. Transit dependent data is presented in tabular format for each transit operator as part of Appendix B. A review of this data indicates the following:

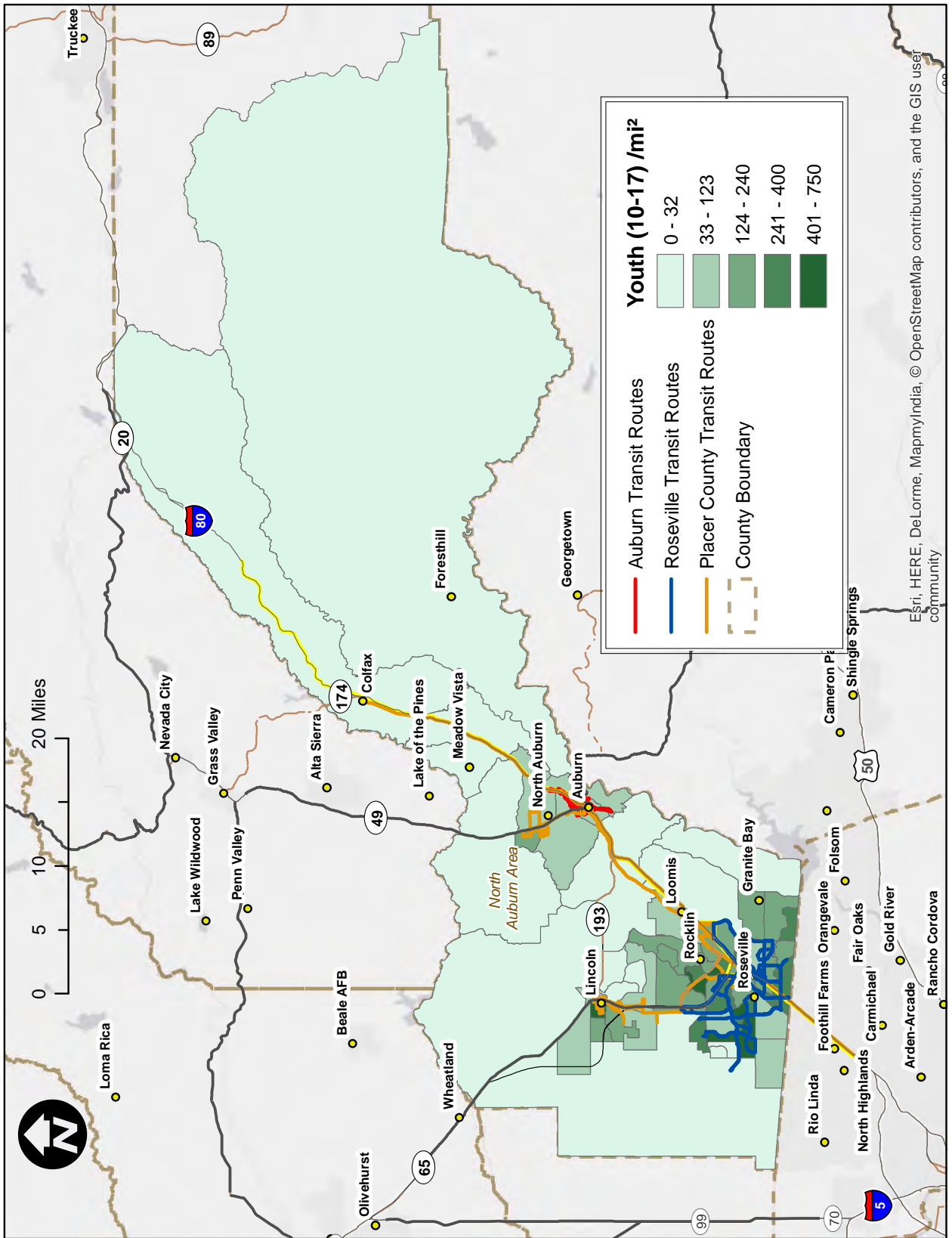
- **Youth** – For purposes of this study, youth is defined as persons age 10 – 17 or those who are unlikely to drive yet able to ride the bus by themselves. Youth travelling to/from school contribute to public transit ridership, particular in the City of Lincoln. A total of 39,528 residents (11 percent) in the Western Placer County area fit into this category.
 - Figure 4 shows the density of the youth population for PCT’s service area at the census tract level. As shown, higher concentrations of youth 400 or more per square mile are generally concentrated in areas served by public transit.
 - A more detailed view youth population density at the block group level in the Auburn area (Figure 5) 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).
 - Figure 6 presents youth population density by block group for the Roseville Transit service area. As shown areas near Junction Blvd and Woodcreek Oaks Blvd have higher concentrations of youth (1,300 – 1,400 per square mile) and are relatively well served by transit.
- **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.
 - For PCT’s service area (Figure 7), the largest concentrations of seniors are located in the North Auburn area and in the residential tracts of the City of Lincoln along Sun City and Del Webb Blvd (1,000 – 1,400 seniors per square

Figure 3
Total Population Density By Block Group Western Placer County



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**Figure 4
Youth Population Density By Census Tract Placer County Transit Area**



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Figure 5 Auburn Area Youth Population Density by Block Group

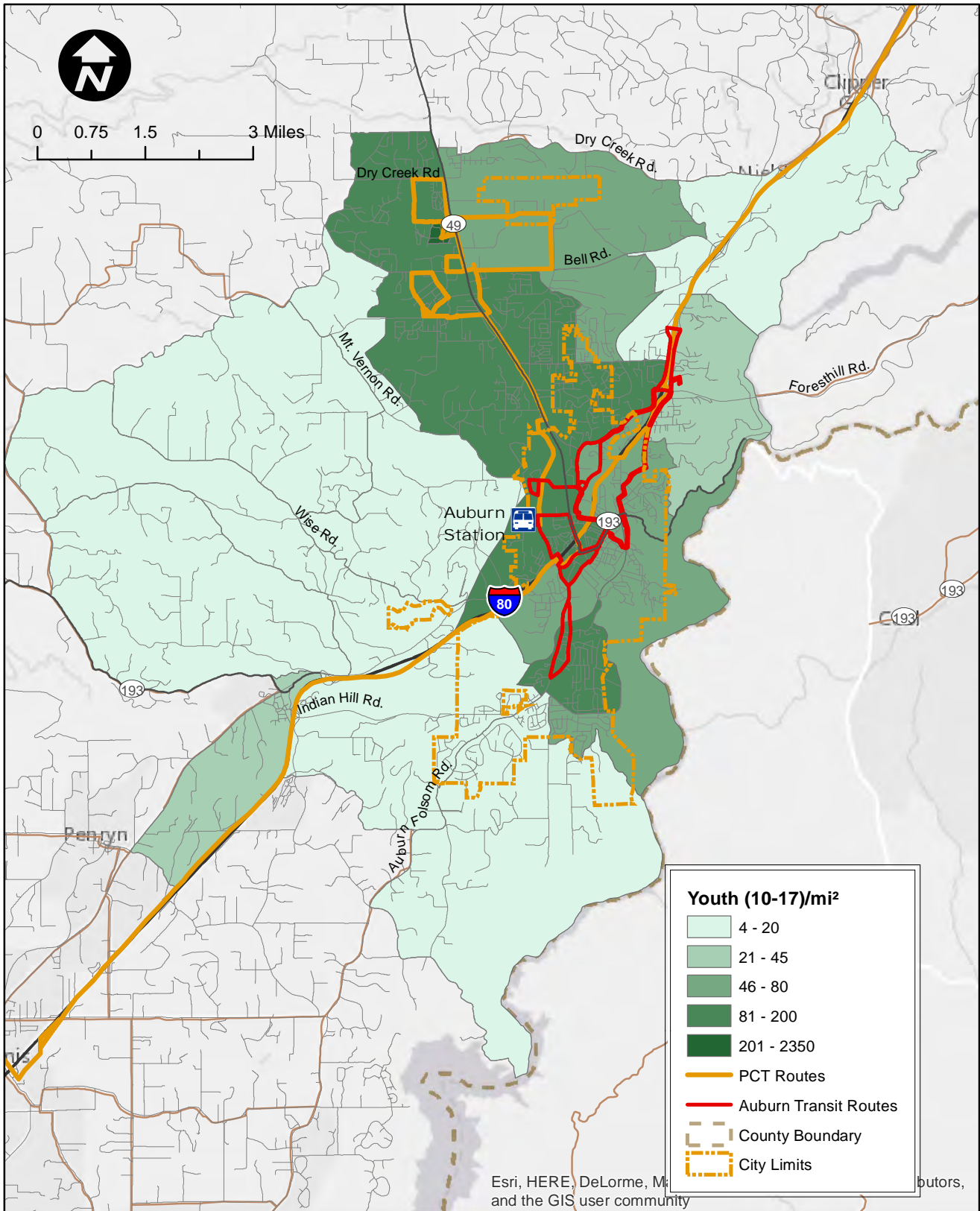
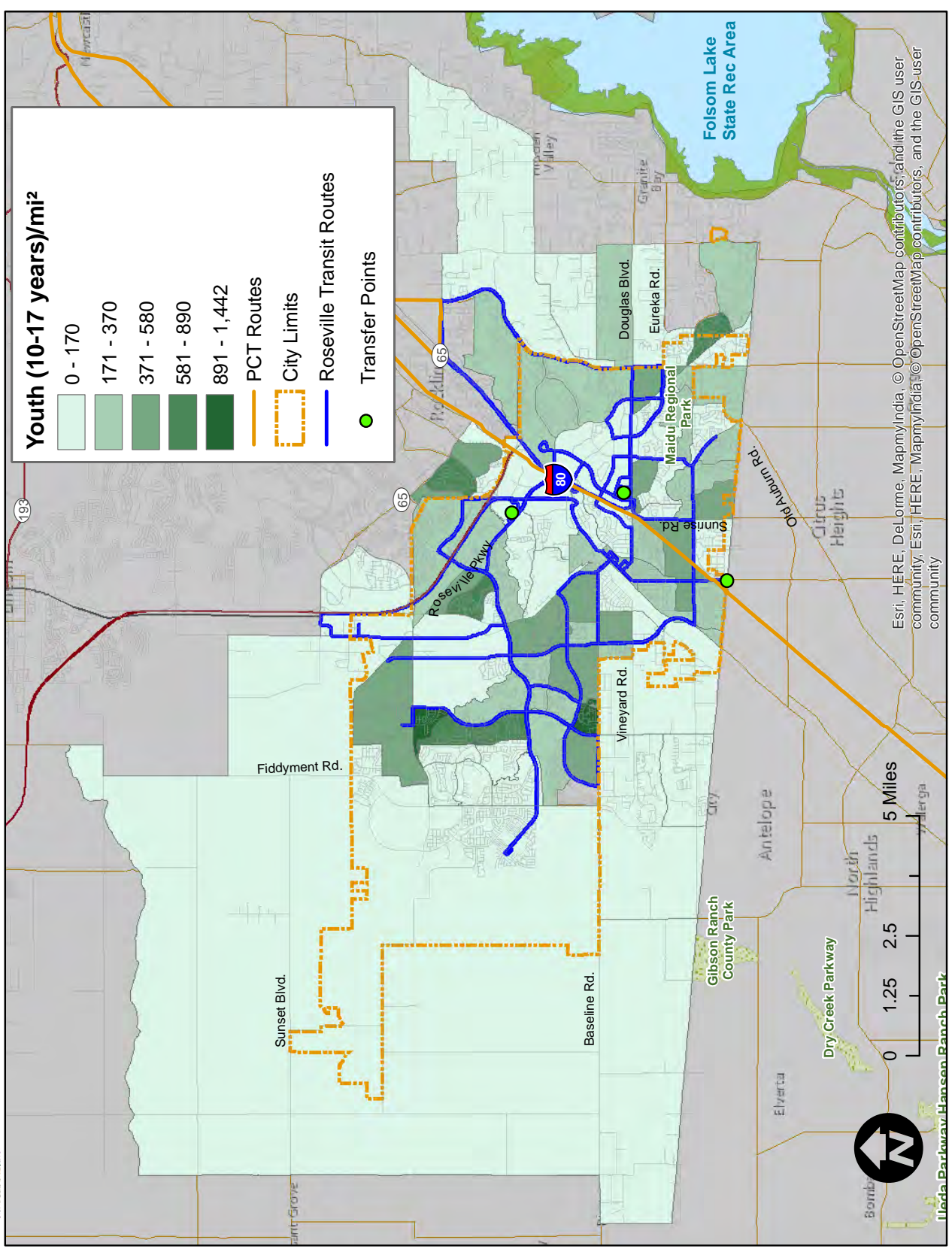
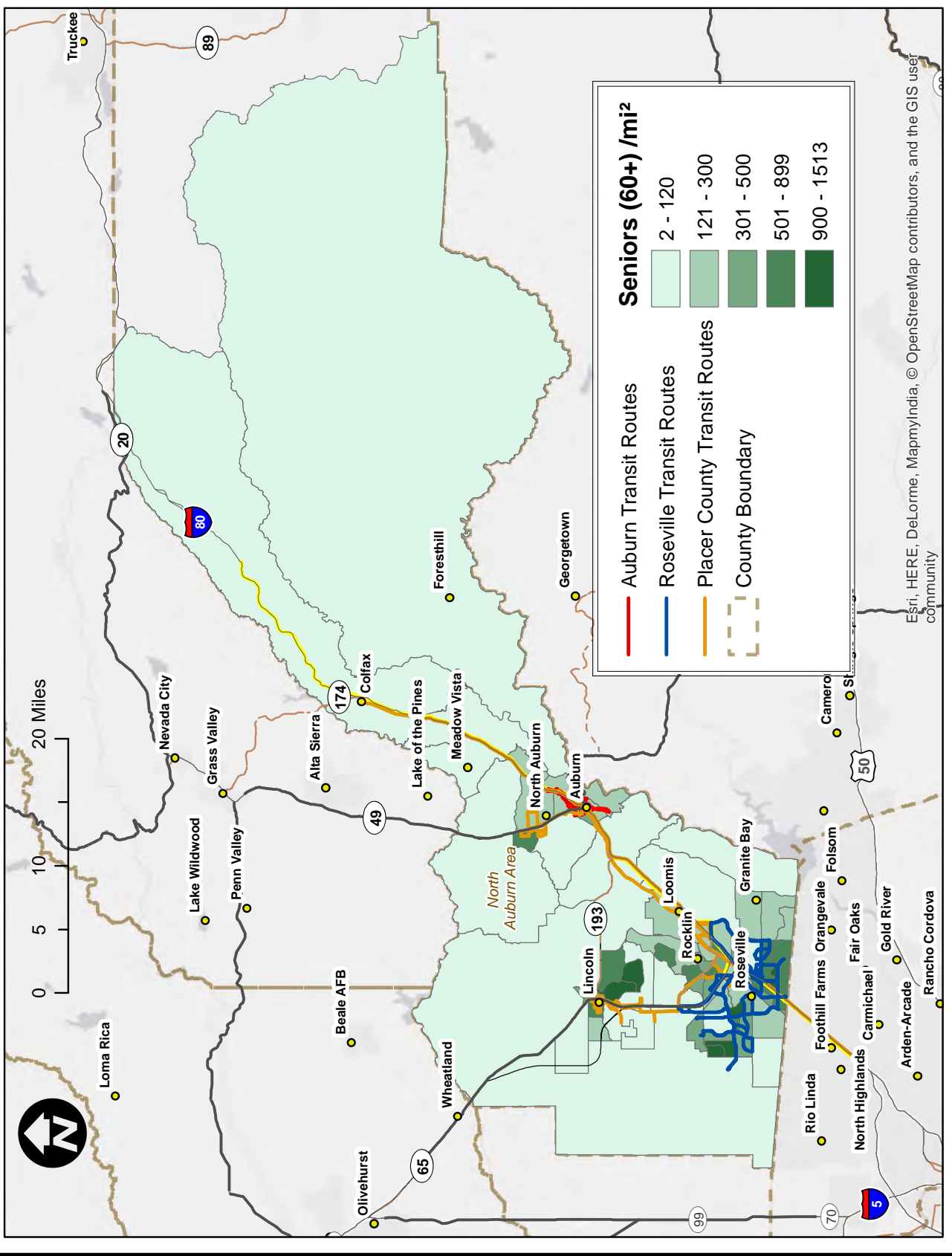


Figure 6
Youth Population Density in the Roseville Area



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Figure 7
Senior Population Density By Census Tract Placer County Transit Area



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mile). Some of these homes in Lincoln are located close to PCT fixed route services but some are over a one mile walk away. However, DAR does serve these areas directly.

- Auburn senior population density by block group (Figure 8) 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).
- In Roseville (Figure 9) the greatest number of residents over age 60 per square mile are found in the block groups near the Sierra Pines Golf Course (1,500 to 1,900 per square mile).
- **Low Income Households** - According to the Census roughly 9 percent of study area 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.
 - Figure 10 (data for PCT service area by census tract) shows that central Lincoln has the greatest concentration of low income households in the study area with over 1,000 low income households per square mile followed by the commercial core area of Rocklin north of Sunset Avenue with 680 low income households per square mile.
 - 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 11)
 - Within the Roseville Transit service area (Figure 12) there are multiple block groups of 300 or more low income households per square mile: between Dry Creek and Cirby Way, near Eastwood Park and in the Enwood area south of Atlantic Ave.
- **Disabled** - Roughly five percent of the study area population age 20 to 64 (16,086 persons) has some type of disability.
 - For PCT’s service area (Figure 13), the census tracts with the densest population of disabled residents are located in Rocklin (commercial core area north of Sunset and the area west of I-80 and south of Rocklin Road) and central Lincoln.

Figure 8 Auburn Area Senior Population Density by Block Group

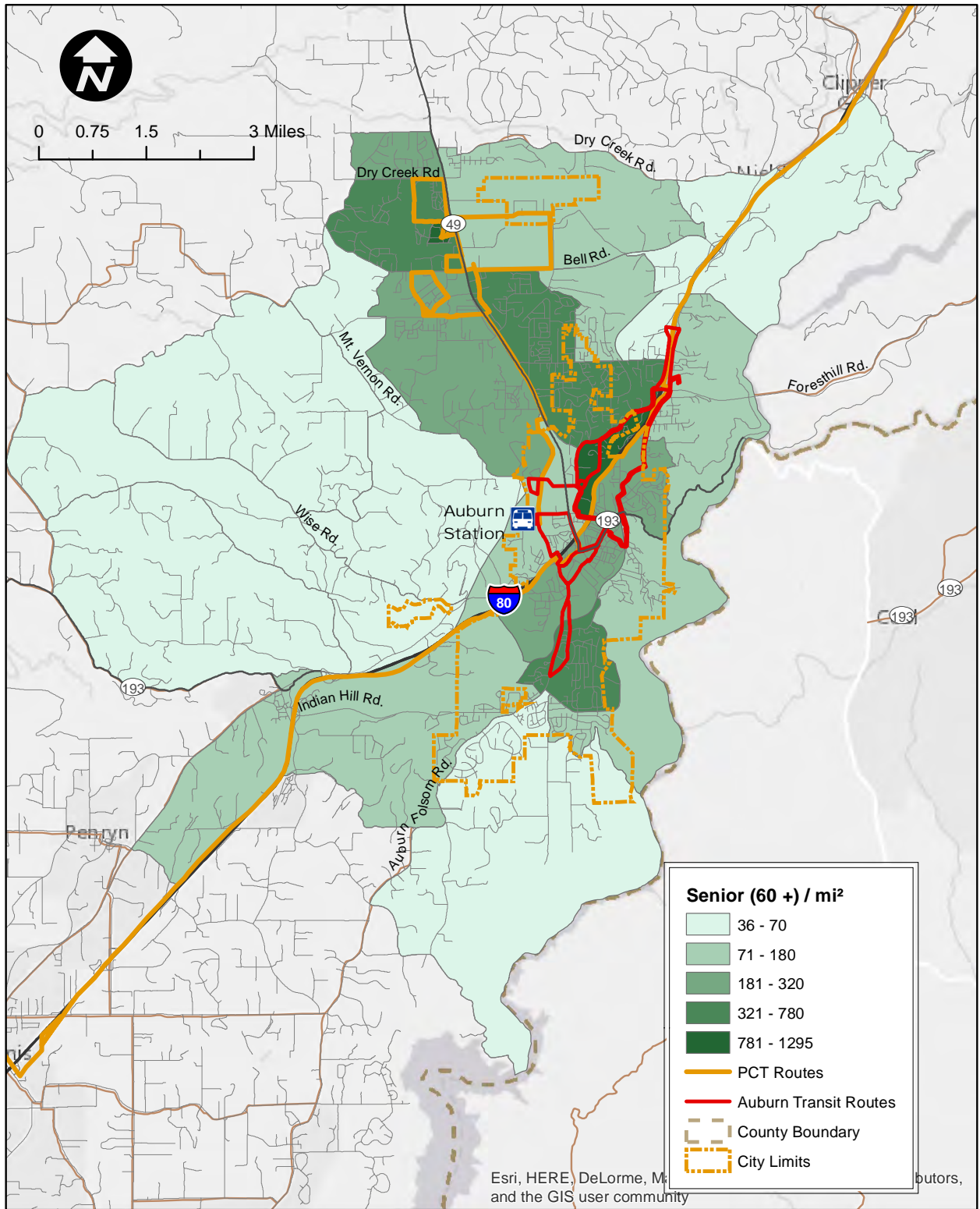
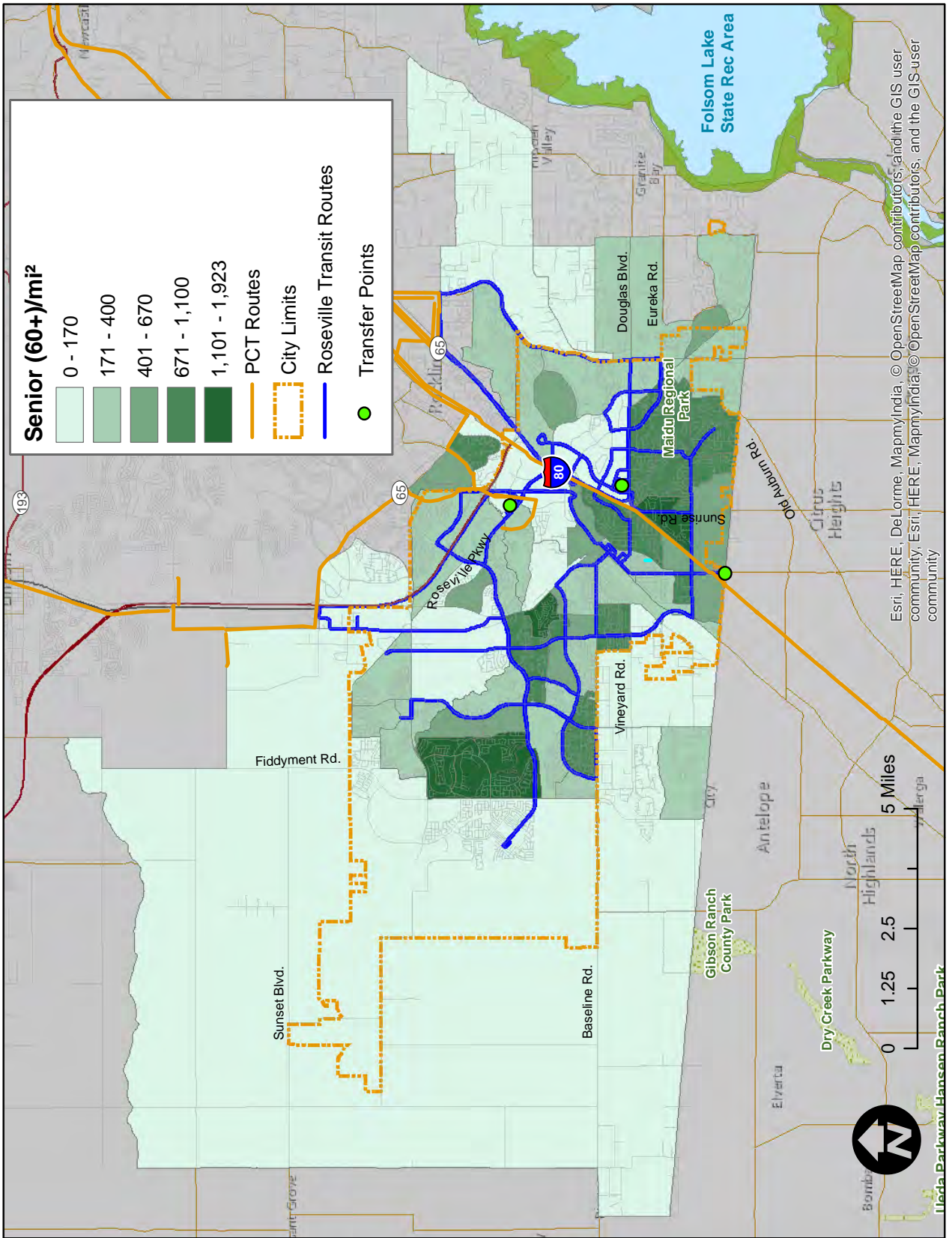


Figure 9
Senior Population Density in the Roseville Area



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Figure 10
Low-Income Density By Census Tract Placer County Transit Area

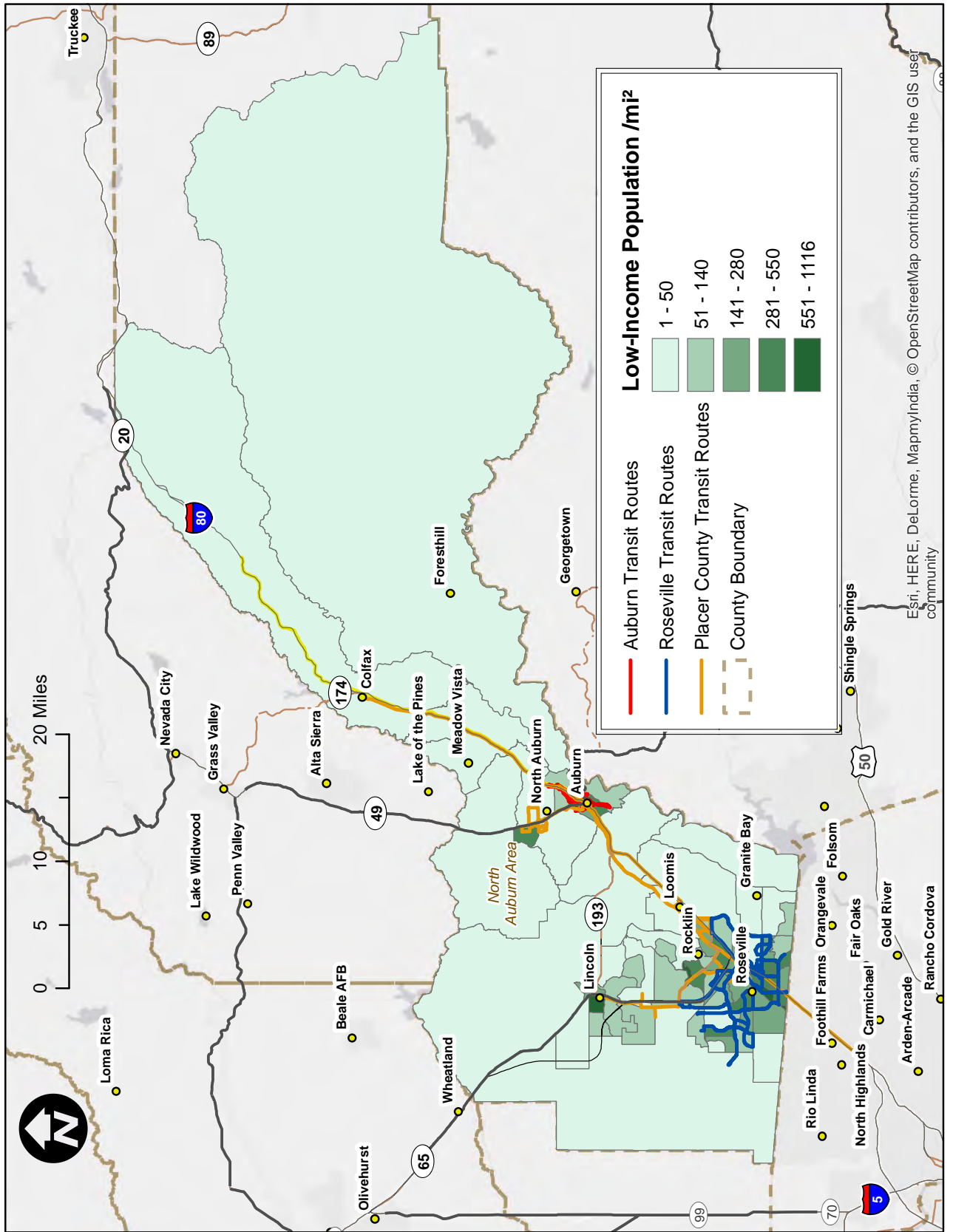


Figure 11
Auburn Area Low-Income Population Density by Block Group

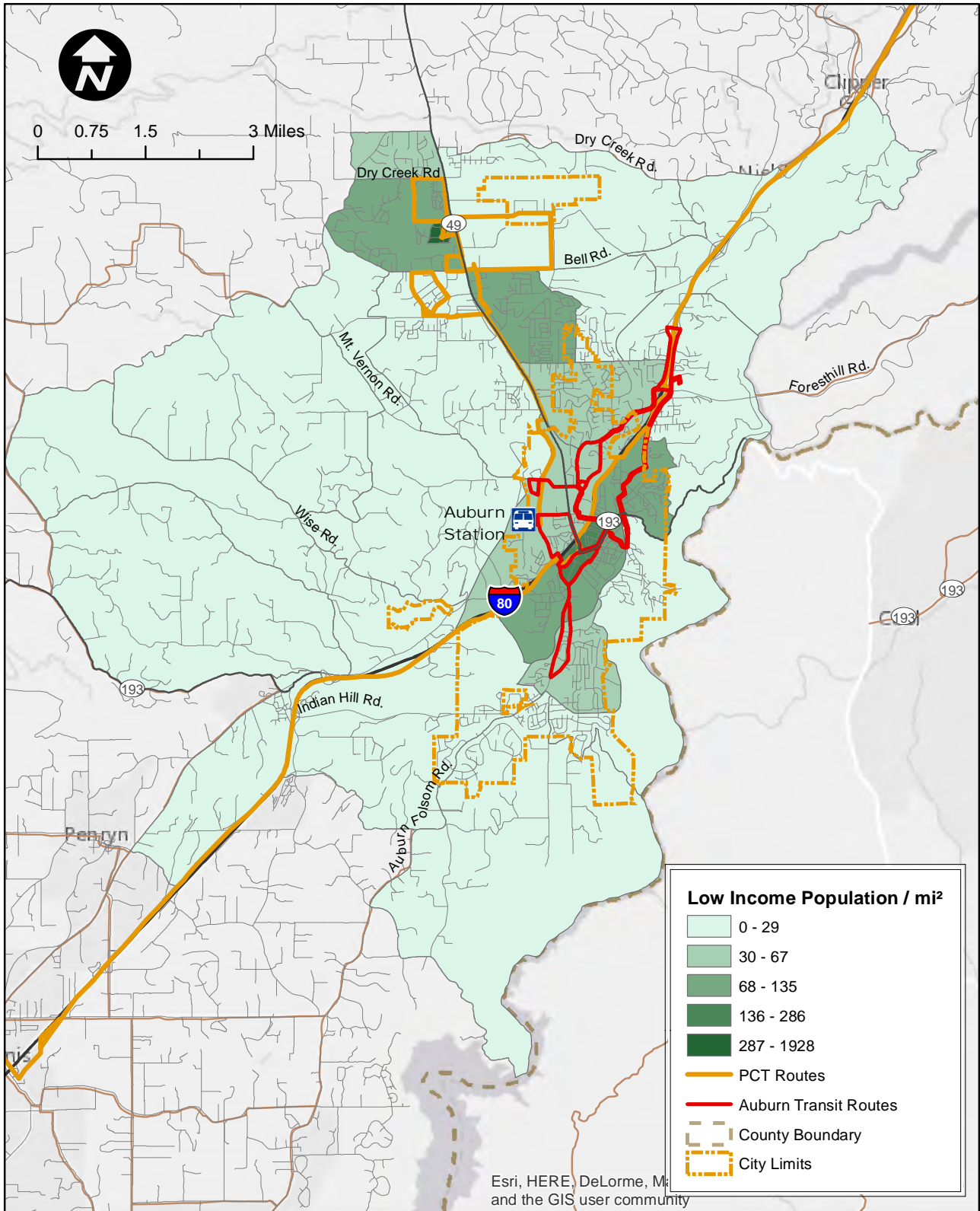


Figure 12
Low Income Household Density in the Roseville Area

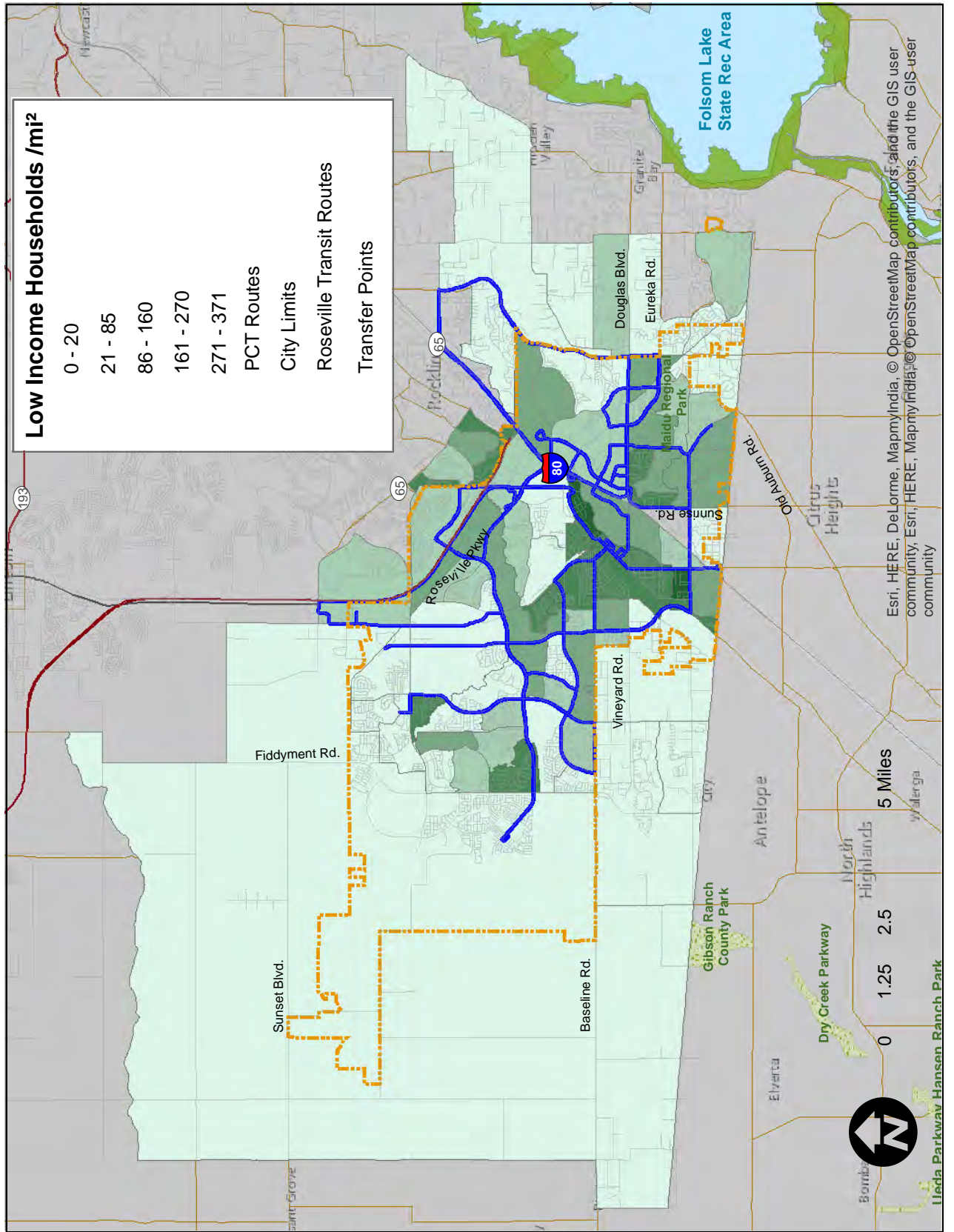
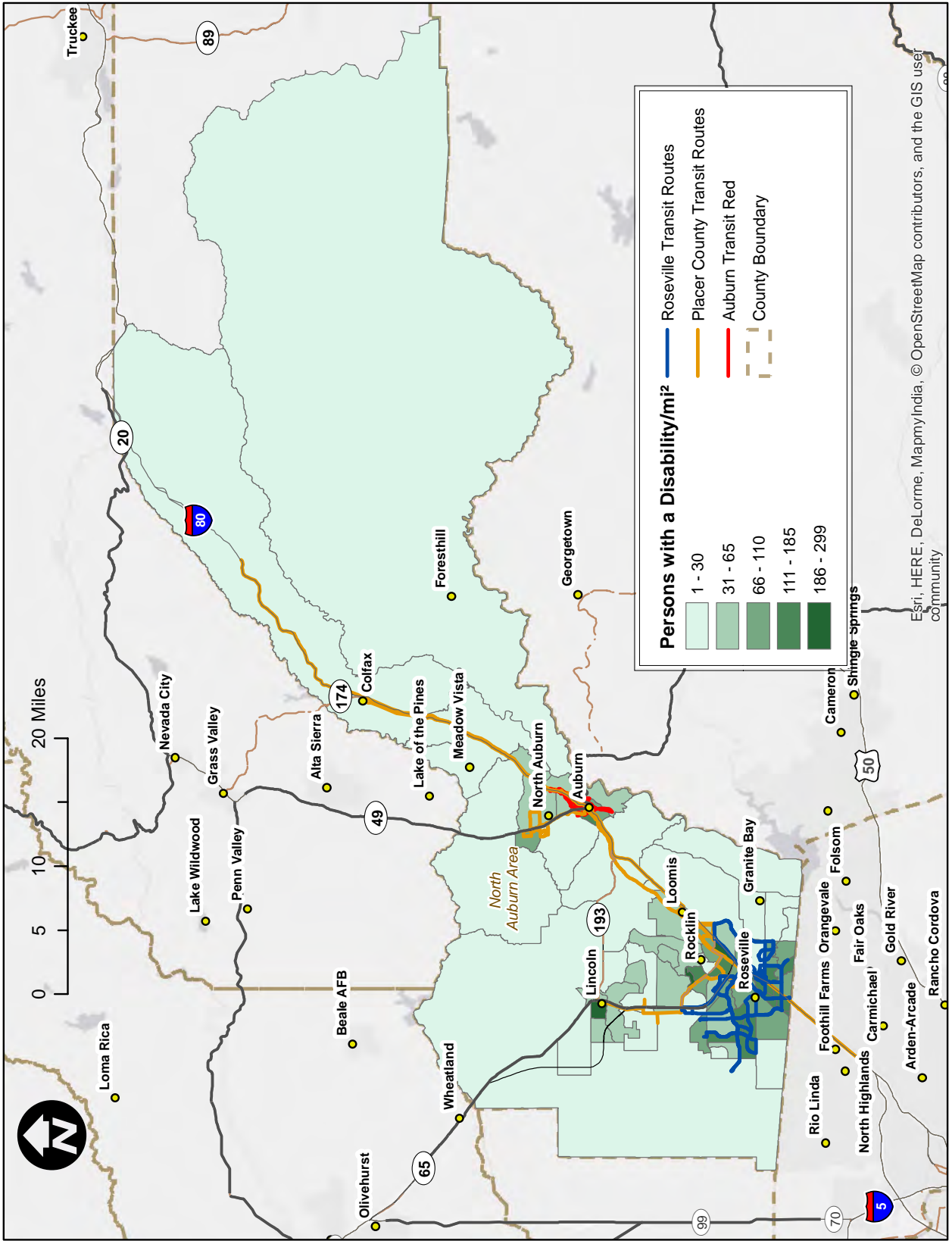


Figure 13
Population with a Disability Density By Census Tract Placer County Transit Area



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- In all these census tracts at least 200 disabled residents per square mile were recorded.
- The block group near the Auburn post office on Lincoln Way has the largest concentration of disabled residents (Figure 14) with respect to 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).
- In the Roseville Transit service area (Figure 15), the block group which stands out as having the greatest concentration of disabled residents is located between Foothill Blvd, Riesling Drive and the City Limits (762 disabled residents per square mile).
- **Zero Vehicle Households** – Perhaps the greatest indicator of transit dependency is households with no vehicle available. The study area as a whole has 4,204 zero vehicle households. This represents three percent of the households in the study area according to the US Census American Community Survey.
 - The census tracts with the largest concentration of zero vehicle households in Western Placer County are found in Roseville (Figure 16). With respect to the PCT service area, west central Lincoln and the commercial core area of Rocklin north of Sunset have close to 60 zero vehicle households per square mile. Both these areas are fairly well served by public transit.
 - At the block group level in the Auburn area (Figure 17), central Auburn near Mikklesen Drive has by far the greatest number of zero vehicle households (389).
 - In Roseville (Figure 18), the block group which includes the Terraces of Roseville retirement community has the greatest concentration of zero vehicle households (438), followed closely by the block group including Eastwood Park (373 zero vehicle households per square mile). Both of these areas are well served by public transit making it possible for residents to live in these areas without a vehicle.

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

Figure 14
Auburn Area Population with a Disability Density by Block Group

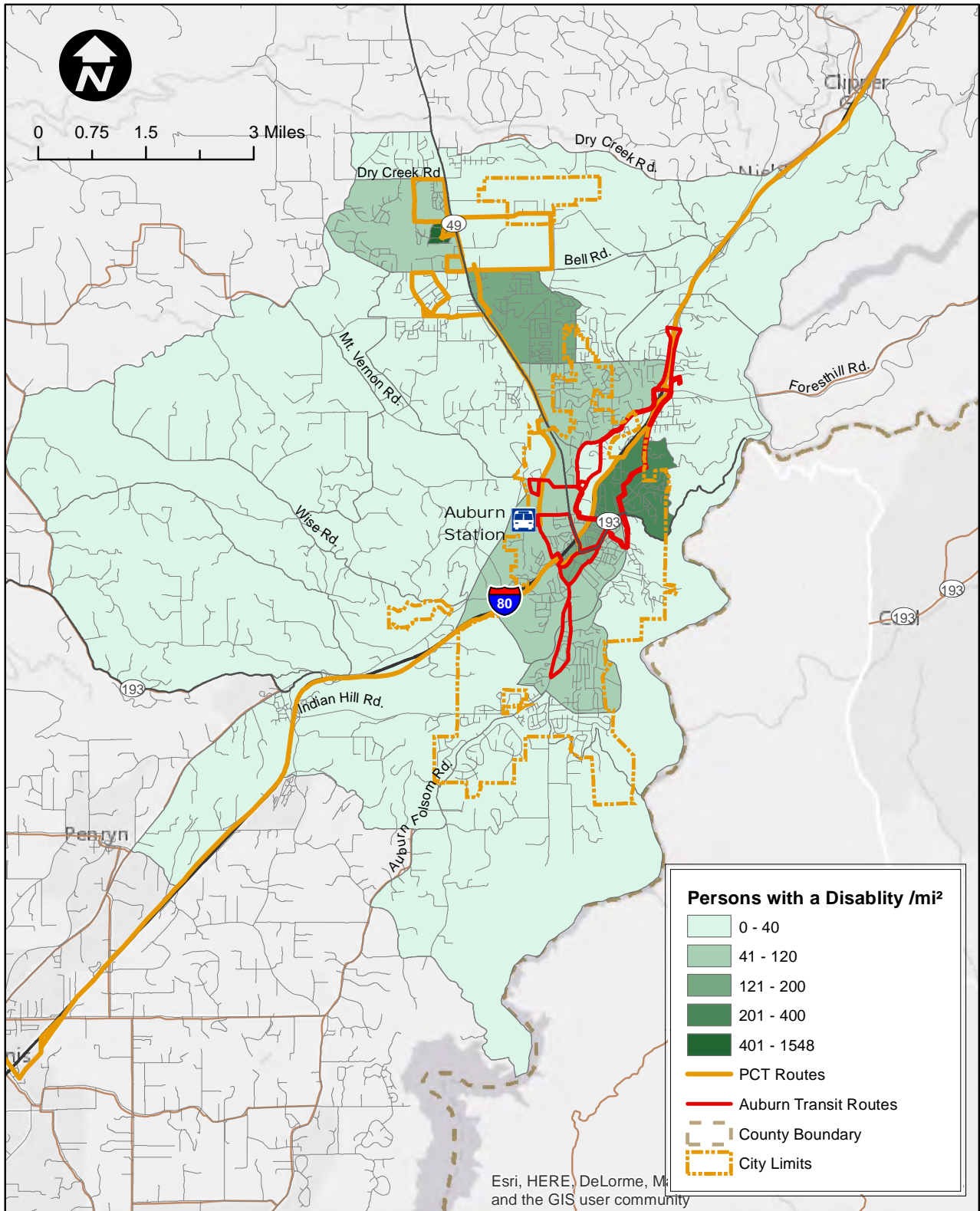


Figure 15
Population with a Disability Density in the Roseville Area

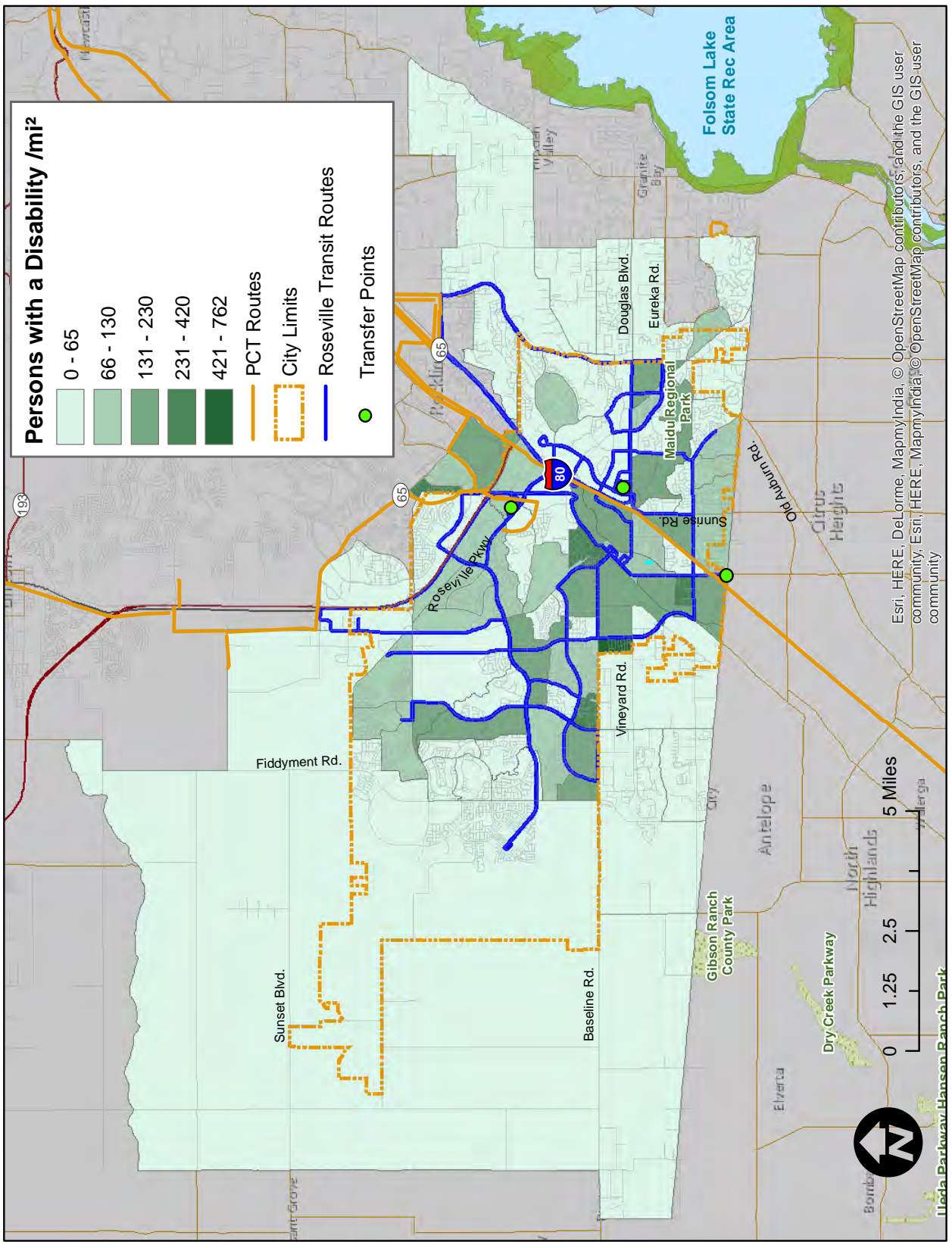
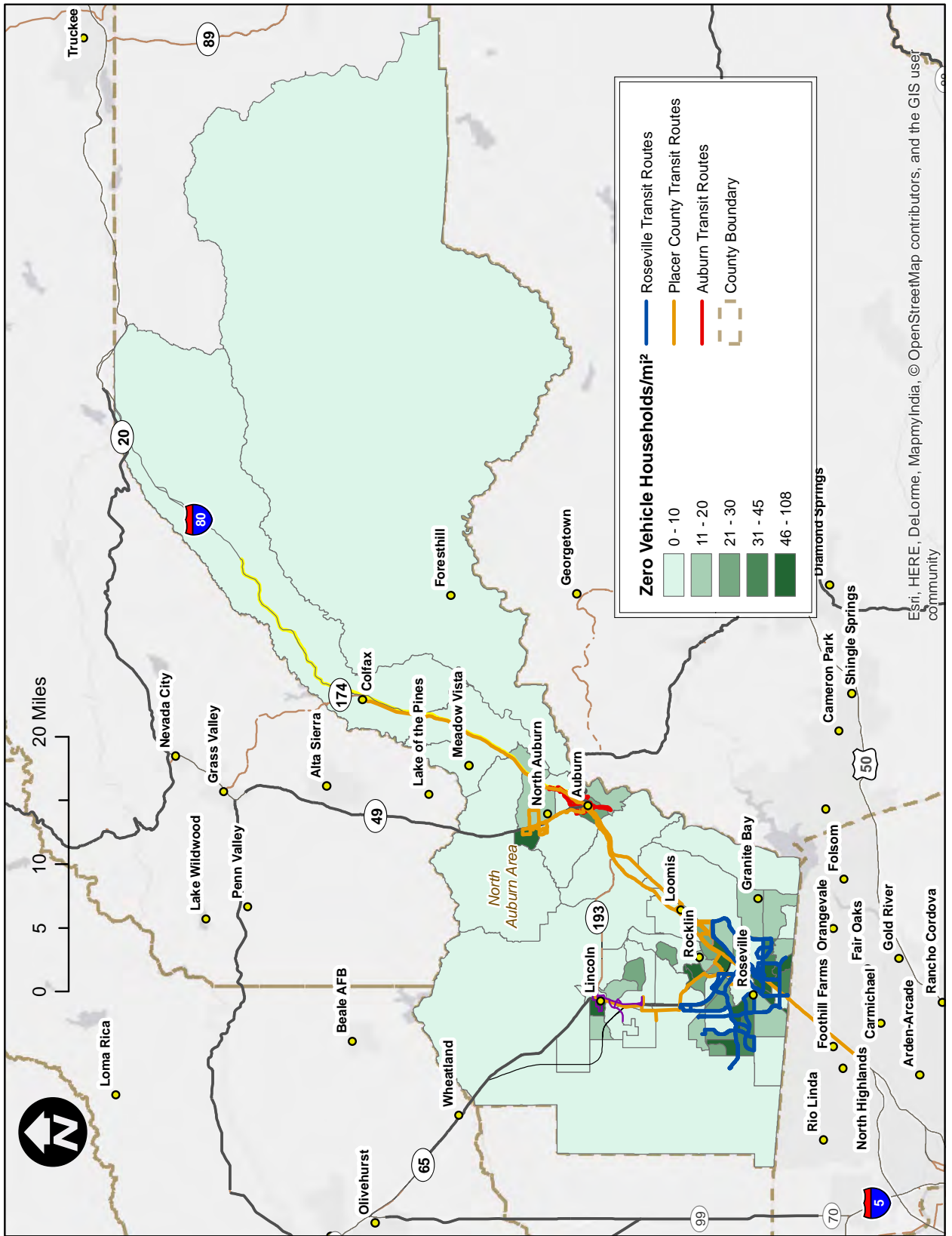


Figure 16
Zero Vehicle Household Density By Census Tract Placer County Transit Area



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Figure 17
Auburn Area Zero Vehicle Household Density by Block Group

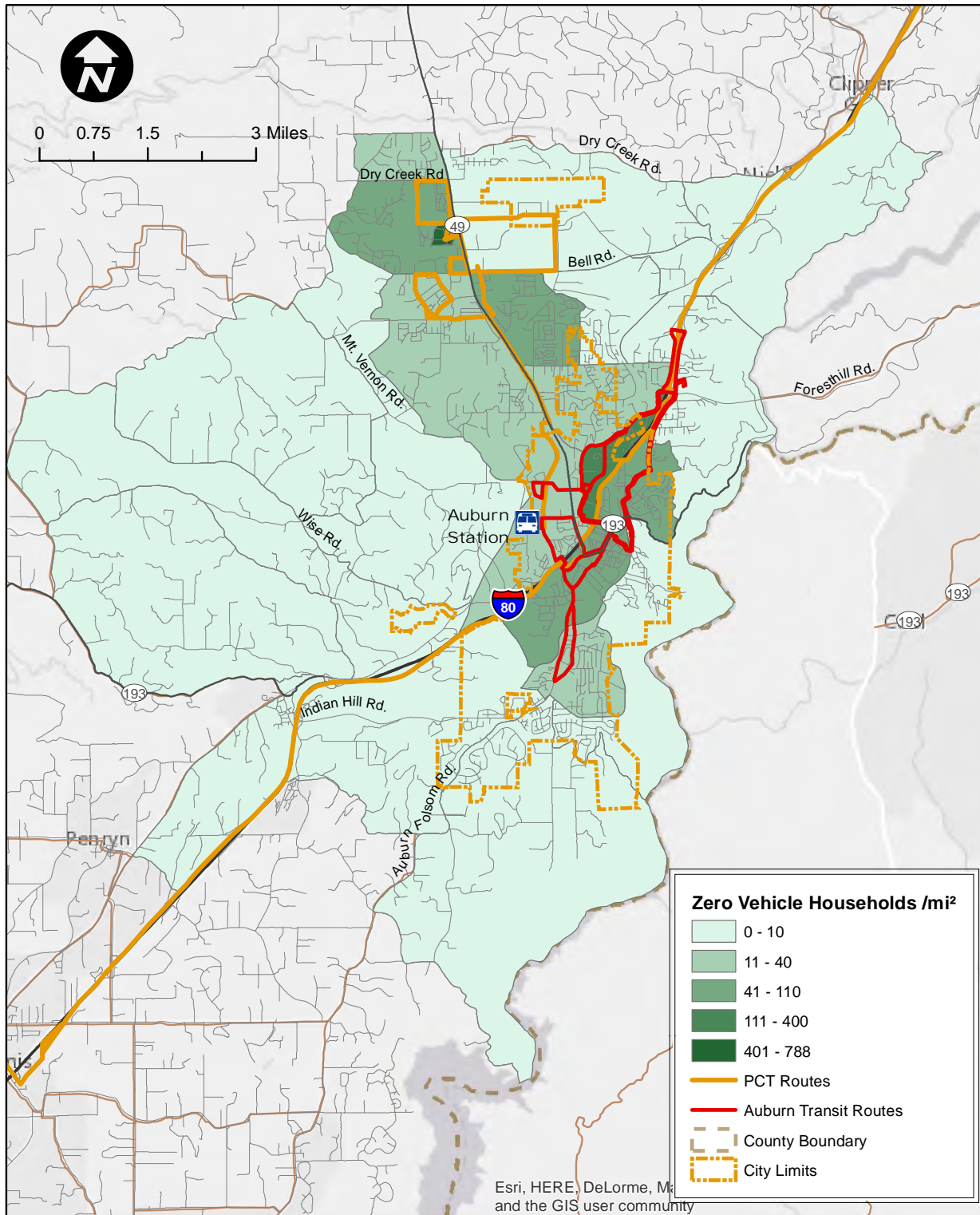
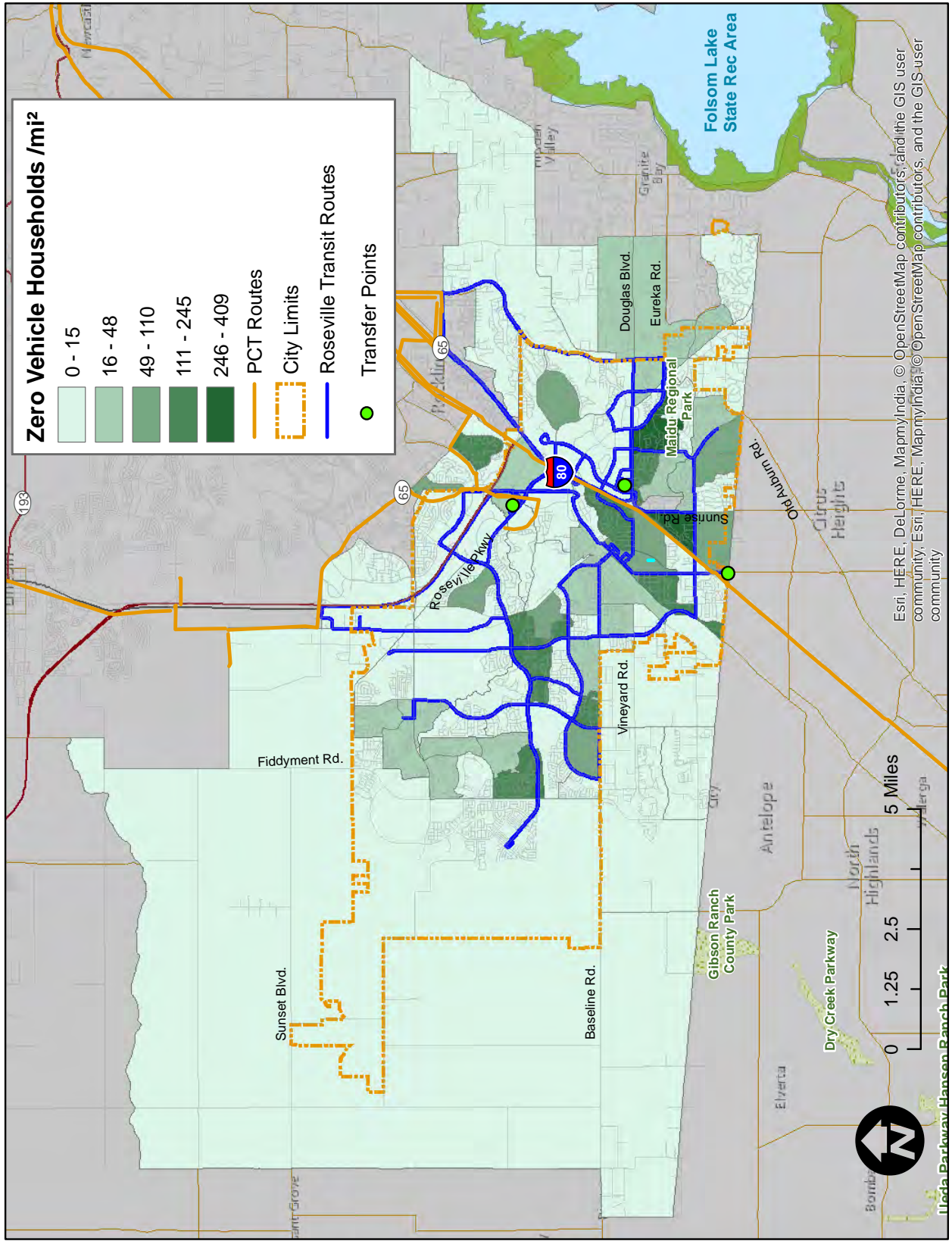


Figure 18
Zero Vehicle Household Density in the Roseville Area



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Sacramento. VA Outpatient Clinics are located in McClellan, Mather and Auburn, CA. A Vet Center is located in nearby Citrus Heights. Table 3 shows the total veteran population for each transit operator service area according to the US Census. Tables A-4 – A-6 in Appendix A present the veteran population by census tract and block group for each region.

Table 3: Western Placer County Other Population Characteristics

Transit Service Area	Total Population	Total Households	Square Miles	Veteran		Hispanic or Latino, or Other Race, not White		Limited English Proficiency Households	
				#	%	#	%	#	%
Western Placer County	353,847	130,482	1,952	27,487	7.8%	# 103,046	29.1%	# 3,243	2.5%
Auburn Area	28,504	11,243	49	2,428	8.5%	# 6,932	24.3%	# 180	1.6%
Roseville Area	135,392	49,325	160	9,254	6.8%	# 45,695	33.8%	# 1,471	3.0%

Source: US Census American Community Survey, 2015 Estimates

- For Western Placer County as a whole, roughly 7.8 percent (27,487 people) of the population are veterans. As for census tracts with the greatest number of veterans: over 1,000 veterans live in the census tract that includes the Sun City Lincoln Homes active adult community. A relatively high number of veterans (around 900) reside in the census tracts which encompass the City of Colfax, Alta and Dutch Flat. Fixed route public transit services are limited to these communities.
- 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.
- In the Roseville area, 9,254 veterans were recorded by the US Census. The block group with the greatest number of veterans is located West of Fiddymont Road (639 veterans)

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 3 and Tables A4 to A6 in Appendix B identify 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.

- Roughly 29 percent of the Western Placer Study Area (103,046 people) is considered Hispanic, Latino or Other Race not-White. In the Roseville Area, the proportion is greater: 33.8 percent. There are 3,243 Limited English Proficiency (LEP) households in the study area (Western Placer County), which represents around 2 percent of total households. The study area census tract with the highest proportion of “Non-White” residents is located in central Lincoln west of Lincoln Blvd, where 57 percent of residents (4,511) fit into the Hispanic, Latino, Other Race Non-White category. This census tract also has the highest number of LEP households in the study area, 387 households or 16 percent. The large census tract west of Lincoln and Roseville also has a high proportion of “Non-White” residents (42 percent or 5,715 people). This area is not served by fixed route public transit.
- 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).
- In Roseville, the block groups in Roseville Heights (1,313 or 64 percent) and Between Dry Creek, Vernon, Cirby and Riverside (697 or 59 percent) have the greatest proportion of “Non-White” residents. The block group west of Fiddymont Road (much of which is outside the City limits) has the greatest number of LEP households (160 or 4 percent).

Employment

Commute Patterns

Countywide

An analysis of commute patterns is important for public transit planning, particularly as both Roseville Transit and Placer County Transit operate successful commuter services into downtown Sacramento. 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 4 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 4: 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%
Total Employed Residents	137,656		Total Workers	133,360	

Source: US Census Longitudinal Household Employer Dynamics 2015 data

Figure 19
Where Roseville Residents Work

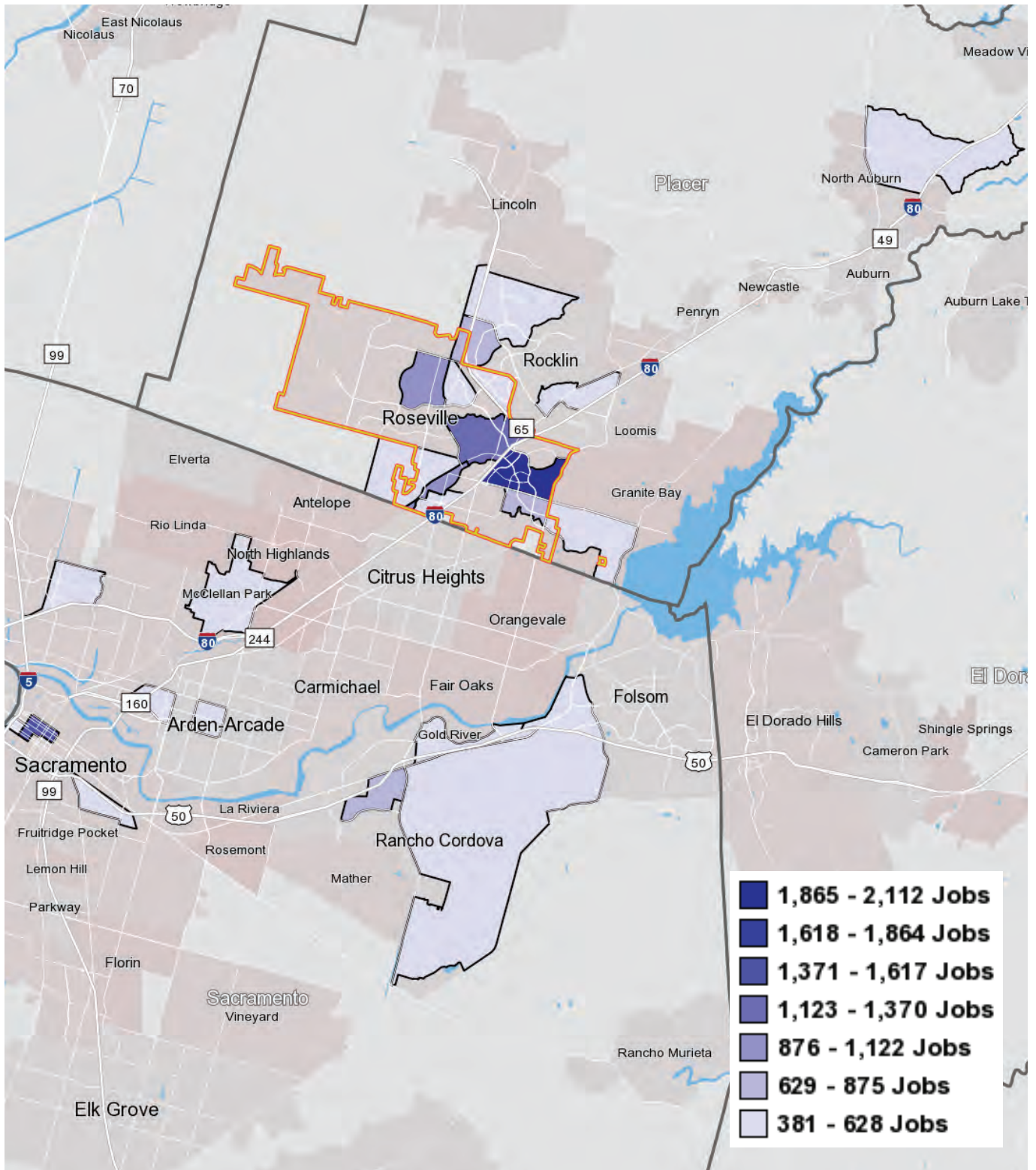
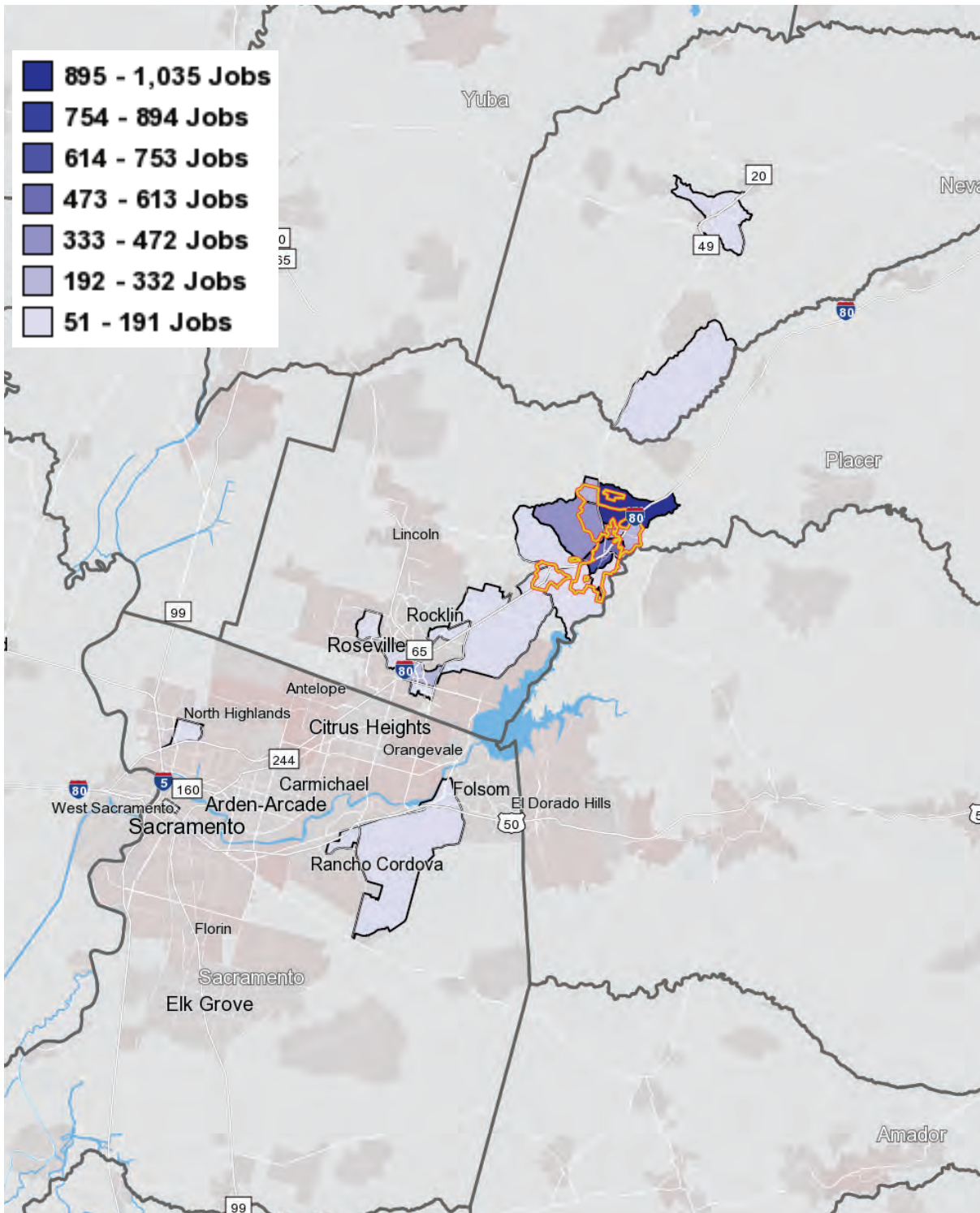


Figure 20
Where Auburn / Newcastle Area Residents Work



Roseville

Figure 19 graphically displays locations of employment for Roseville residents by census tract. The greatest number of Roseville residents (2,112 employees) work in the census tract which encompasses the Lead Hill area, Kaiser Permanente and the Sierra Gardens Roseville Transit Transfer Point within Roseville. The next largest pocket of employment locations for Roseville residents is downtown Sacramento centered around the Capital (1,546 employees). Other areas of note are the census tract including the Galleria Mall and the tract including Foothills Blvd north of Pleasant Grove.

Auburn Region

Figure 20 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.

Rocklin/Loomis/Lincoln/Penryn

Figure 21 shows employment locations for residents of Rocklin, Loomis, Lincoln and Penryn. The greatest number of these residents (1,418) work in East Roseville where Kaiser is located. Another 1,200 work in downtown Sacramento. Other employment areas where 700 – 900 jobs are located is in North Auburn East of Highway 49, Rocklin (Blue Oaks Shopping Center), Rocklin (along Pacific Street and Sierra College).

Major Employers in Placer County

Data from the California Employment Development Department presented in Table 5 confirms that the majority of major employers in Western Placer County are located in Roseville. Industries range from tech companies to health care. Placer County 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.

Major Activity Centers

Figures 22 - 23 displays likely destinations for transit riders. These include schools, colleges, government services, medical facilities and large shopping centers. As shown, generally fixed route services serve most transit activity centers. A few senior apartment complexes are located off the fixed route but they are served by DAR.

**Figure 21
Where Rocklin/Loomis Residents Work**

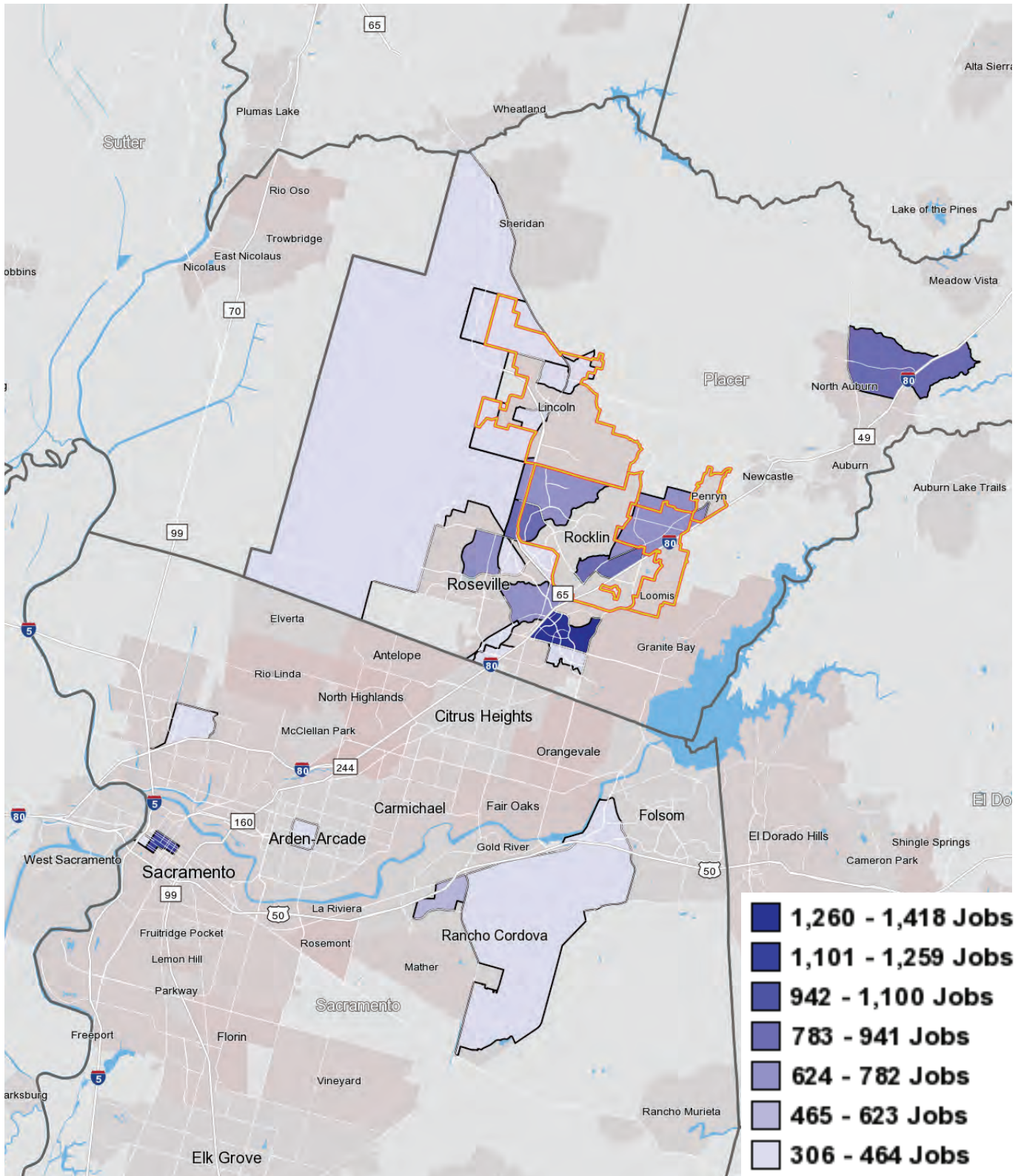


Table 5: Major Employers in Western Placer County

Employer	# of Employees	Location
AT&T	1,000 - 1,499	Lincoln Way, Auburn
Sierra Joint Community College District	1,000 - 1,499	Rocklin
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
Oracle	500 - 999	Sunset Blvd, Rocklin
United Natural Foods West	500 - 999	Sunset Blvd, Rocklin
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, City of Rocklin

Proposed Land Development Projects

As shown in Table 1 above, Placer County has been growing at a rapid rate and is projected to continue to grow at 1.4 percent annually. There is vacant land available on the outskirts of each community and many large development projects have been approved or are under construction. Some of these developments could generate significant demand for new transit services. The following outlines proposed land use development projects by area that are expected to result in at least partial development over the coming seven years.

Unincorporated Placer County

Placer Vineyards

The Placer Vineyards Specific Plan Area consists of approximately 5,230 acres of land located north of the city of Sacramento and southwest of the city of Roseville in an unincorporated area of Placer County. The Specific Plan Area is located at the southwest corner of Placer County and is bound by Base Line Road to the north, the Placer County / Sutter County line and Pleasant Grove Road to the west, the Placer County / Sacramento County line to the south, Dry Creek to the south and east, and an abandoned portion of Walerga Road to the east. At buildout, the specific plan area will increase the population of Placer County by 32,800 new people over the next 20 to 30 years.



0 1 2 4 Miles



Figure 22
South Placer Activity Centers

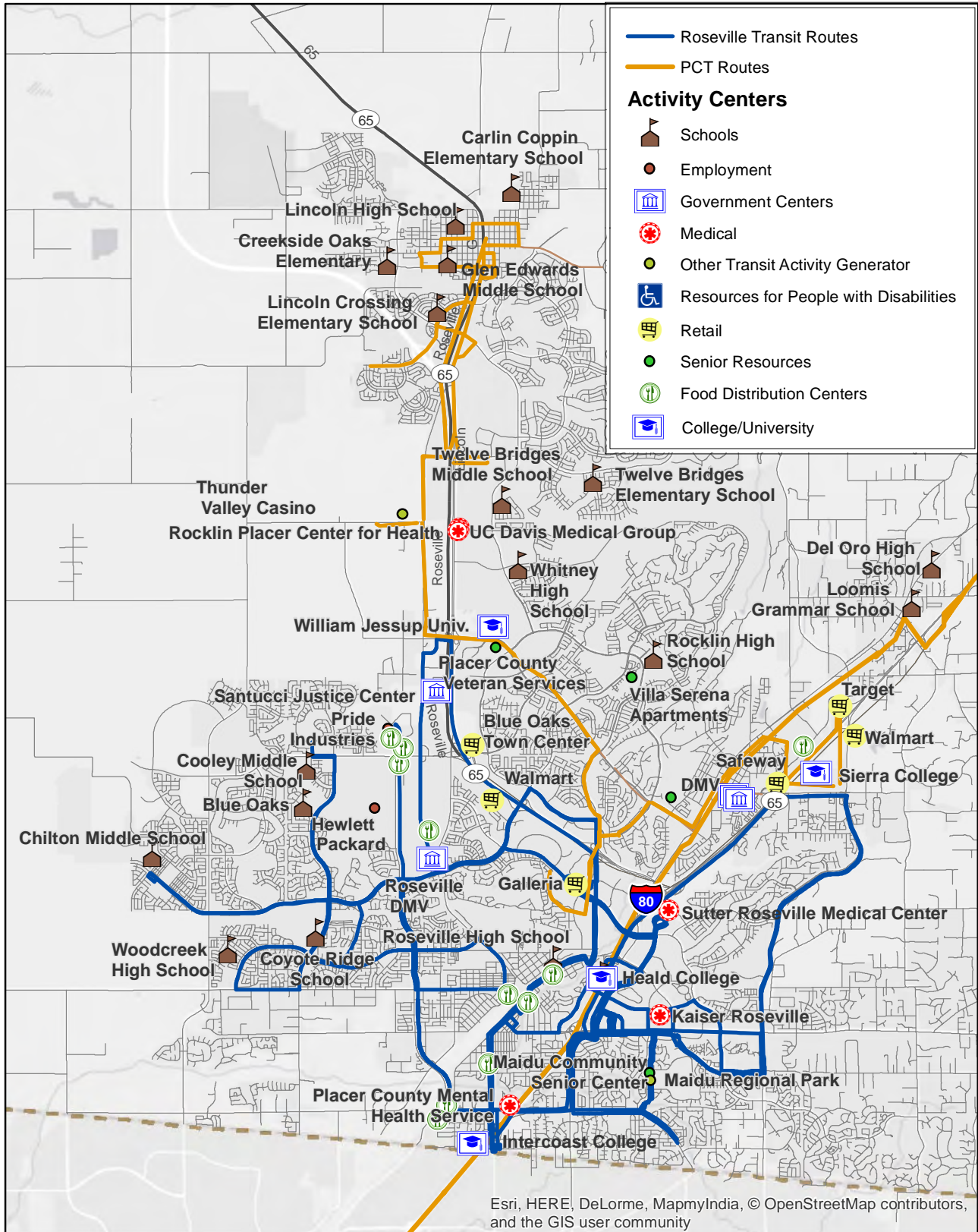
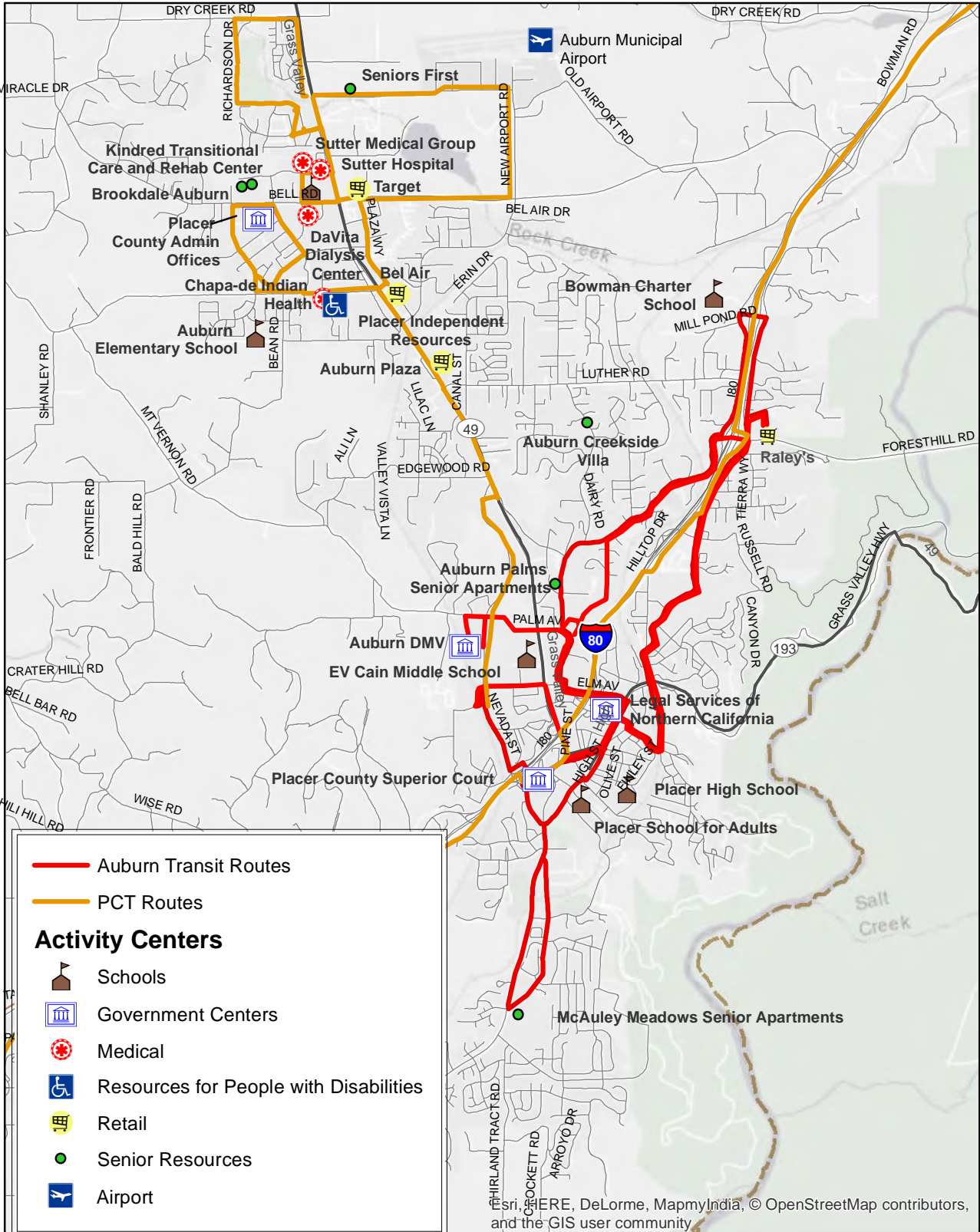




Figure 23
Auburn Area Activity Centers



The first phase of development covers roughly 1,535 acres and will include: 1,106 low density residential units, 2,822 medium density residential units, 1,035 high density residential units, 48 acres of commercial and commercial mixed use development, 37.5 acres of public uses, two schools and parks/open space.

Currently Roseville Transit Routes D and M travel within one mile of the edge of the development and the closest connection to Placer County Transit would be at the Roseville Galleria. The Placer Vineyards Specific Plan requires the development to implement transit-related mitigation requirements. The Placer Vineyards Transit Master Plan outlined the following transit services to be implemented as development occurs:

- Local route circulating around the Specific Plan area on hourly and half-hourly peak headways.
- Commuter route via Watt Avenue to connect residents to Sac RT Light Rail
- Inter-regional service that connects to the Roseville Galleria on hourly headways

At this time, it is unknown who will operate these transit services and if there will be sufficient demand to implement these services within the seven-year SRTP time frame. Regardless, Roseville Transit and Placer County Transit will need to connect to the new Placer Vineyards Inter-regional route at the Roseville Galleria in the future.

Riolo Vineyard Specific Plan

The Riolo Vineyard Specific Plan Area is a 526-acre master planned community planned for 884 single family residential units and 10.5 acres of commercial located just south and east of Placer Vineyards. In 2017 as part of the Riolo Vineyard Specific Plan, a Transit Zone of Benefit was established by the Placer County Board of Supervisors. The Zone of Benefit includes the area bound by Watt Ave to the west, PFE Road to the south and Walerga Road to the east. As part of the program, future home owners in the development will be assessed a fee of \$46.46 per year in property tax to help fund the future transit service identified in the Placer Vineyards Transit Master Plan.

Sunset Area Plan/Placer Ranch Specific Plan

The Sunset Area Plan covers an 8,900-acre area in unincorporated western Placer County, located west of the Highway 65 corridor and situated between the Cities of Lincoln to the north, Rocklin to the east, and Roseville to the south. The Placer Ranch Specific Plan area lies within the Sunset Area, as is the existing Thunder Valley Casino.

The draft land use vision for the area is to include more modern planning concepts, such as an entertainment mixed-use district to bring in visitors and consumers from outside the region; a 400-acre innovation center district similar to a Google corporate campus; and an eco-industrial

district to provide opportunities for energy alternatives, enhanced recovery of materials and solid waste related research and development.

The Placer Ranch Specific Plan area includes 300 acres of land to be dedicated to California State University, Sacramento for a possible satellite campus that could develop into an independent CSU campus. At build out, the school is projected to employ 5,000 faculty and staff who will support 25,000 students. As for residential developments, Placer Ranch may include an active adult community; 5,800 residential units in three density ranges; elementary and middle schools, parks and open space; a university town center with a vibrant, high-density residential and commercial area; and a bike and trail plan that ties into existing trails and connects the university campus with the schools, parks and neighborhoods. Development of this area is likely beyond the time horizon of this SRTP as a Draft Environmental Impact Report (EIR) has not yet been prepared.

Bickford Ranch

Bickford Ranch is an approved but not yet constructed development that would result in 1,890 homes located south of SR 193 and east of Sierra College Blvd. The primary access for the development will be located directly across from Penny Lane on Sierra College Blvd, roughly 0.60 mile south of SR 193, with a proposed secondary access roughly 1,800 feet north on Sierra College Blvd. Although the development will include mostly low density residential with no commercial, 950 of the units will be “age restricted”.

City of Roseville Projects

Amoruso Ranch is a 694 acre specific plan project located northwest of the current City limits, south of West Sunset Boulevard approximately 1.5 miles west of Fiddyment Road. The proposed project will result in the development of a mix of uses, including 337 acres of low, medium and high density residential land developed with 2,827 dwelling units. The land use plan also includes three commercial parcels totaling 51 acres, a 9.6-acre elementary school site, seven neighborhood parks, and a 3-acre fire station/public facilities site. Approximately 135 acres of the site will be set aside as open space preserve.

The **West Roseville Specific Plan** is the 3,162 acres area west of Fiddyment Road, generally north of Pleasant Grove Boulevard. The plan area was annexed into the City of Roseville from unincorporated Placer County. The adopted specific plan allows for 8,792 single and multi-family units, including approximately 704 age-restricted units, 57 acres of commercial, 109 acres of industrial, 255 acres of park, 705 acres of open space, and 108 acres of schools. At build-out the plan area is expected to accommodate approximately 22,332 residents and provide 3,726 jobs. The plan was adopted in February 2004 and development portions of the plan area may be constructed over the next five to ten years. Currently Roseville Transit routes do not serve most of the plan area.

Campus Oaks Master Plan area is located east of Woodcreek Oaks Blvd and south of Blue Oaks Blvd. The approved project will include 948 new residential units with a mixture of high density, medium density and low density. Most of these units will be within one quarter mile of existing Roseville Transit Routes.

Kaiser Riverside and Cirby Medical Office Building – There is a planned expansion of the existing medical office building located on Riverside Drive which will double the capacity of the existing building. The building is currently served by Roseville Transit.

City of Rocklin Projects

The City of Rocklin has a significant amount of residential development approved for construction over the plan period, roughly 5,400 multi and single family units. Much of this is infill development which is currently served by public transit, leaving around 3,530 units not served by existing transit operations. The City of Rocklin also has some commercial infill development planned. There is potential for new commercial development along the Highway 65 corridor due to the recent completion of the Whitney interchange.

City of Lincoln Projects

The City of Lincoln has several development projects currently under construction:

- **Twelve Bridges A** is a 4,335 unit planned development generally low density homes located east of Twelve Bridges Drive. Public transit does not currently serve the area however community is likely not to be a high transit generator.
- **Sorrento** is a 472 unit planned development north of Ferrari Ranch Road. Many of these homes have already been built.
- **Lakeside 6** is a 706 residential unit planned development (of which most has already been constructed) located in the northwest corner of the city north of Venture Drive.

The following projects have been approved but have not yet started construction:

- **Summer Place Lincoln** will be a 194 unit, 228 bed assisted living facility located on the southwest corner of Bella Breeze Drive and East Joiner Parkway across the street from the Twelve Bridges Library.
- **Magnolia Village** is an approved 32 unit condominium development on the northeast corner of Joiner Parkway and 3rd Street, roughly one-quarter mile from the current Lincoln route.

- **Independence** will be a master planned community of potentially 575 single family units on the site of the old City of Lincoln Wastewater Treatment Facility.
- **Meadowlands** will include both single and multi-family development on 59 acres on the northwest corner of 9th Street and East Avenue. The edge of this development is within walking distance of existing transit routes.

Several large developments are proposed just outside the city boundaries but could be annexed into the City of Lincoln in the future:

- **Village 1** encompasses 1,832 acres of land east of the Auburn Ravine both north and south of SR 193. Subdivision maps have been approved for four separate developments within this planning area.
- **Village 5** is located on 4,785 acres along the Highway 65 bypass adjacent to the western city limit within the city's sphere of influence. It includes a wide range of residential housing types, a balanced mix of commercial and business facilities, village centers, schools, fire stations, plentiful open space and parks, a modern and efficient transportation network, and other public and private uses. The project was recently approved by the City Council.
- **Village 7** encompasses 515 acres south and east of Moore Road, just west of Aitken Ranch.

Demographic Overview Findings

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 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.

OVERALL SERVICE DESCRIPTION

Placer County Transit



Placer County Transit is operated by the Placer County Department of Public Works and Facilities (DPWF). Services initially began in 1974. Local fixed route service is provided directly by Placer County and operation of Dial-a-Ride (DAR) services and commuter routes are provided by contract. Maintenance, operations and administrative services are operated out of offices and facilities located on F Avenue and Second Street in Auburn, California. Services are provided Monday through Saturday. No services are operated on Sundays. PCT services are described below and displayed and summarized in Tables 6 and 7. Figure 24 graphically displays the routes.

PLACER COUNTY TRANSIT SERVICES

The regional fixed route service consists of a total of six routes that connect and serve the population centers of western Placer County.

Route 10: Auburn to Light Rail Route

The Auburn – Light Rail Route provides express service between Auburn Station and the Sacramento RT Watt/I-80 light rail station with only three stops along the way: Rocklin Road at Sierra College, Roseville Galleria, and Louis/Orlando in Roseville. This hourly service operates Monday through Friday from 5:00 AM to 9:00 PM with reduced Saturday service hours from 8:00 AM to 7:00 PM. No Sunday service is provided. Passengers can transfer to and from the Sacramento RT light rail blue line, which serves downtown Sacramento and then continues to Consumnes River College. Two buses are operated over a two-hour round-trip.

Route 20: Lincoln/Rocklin/Sierra College Route

The Lincoln Sierra College Route runs hourly between Sierra College and the City of Lincoln, through the City of Rocklin. It also serves the Thunder Valley Casino activity centers in unincorporated Placer County between Rocklin and Lincoln. The first run starts at 6:00 AM and the last run ends at 8:00 PM on Monday through Friday, and from 8:00 AM to 6:00 PM on Saturdays. No service is offered on Sunday. The service provides access to mostly commercial and institutional centers, and some residential areas in the more urbanized area of the City of Rocklin. The Lincoln – Sierra College route provides important regional connections both within the PCT fixed route services and to other area providers. Transfers are possible to Roseville Transit at the Galleria Transfer Point in Roseville and at Sierra College. It is also relatively easy for passengers to transfers to/from the Route 10: Auburn - Light Rail Route and Route 50:

Table 6: Existing PCT Regional Routes Service Plan

		Route					
		Auburn Light Rail	Sierra College/ Lincoln	Hwy 49	Alta/ Colfax	Lincoln Circulator	Taylor Rd Shuttle
Service Frequency -- Minutes Between Buses							
Weekday	Start Time	5:00	6:00	4:35	7:00	6:40	6:35
	5:00 AM	60		2 SB Runs			
	6:00 AM	60	60	60		60	120
	7:00 AM	60	60	60	1 RT	60	120
	8:00 AM	60	60	60		60	120
	9:00 AM	60	60	60		60	120
	10:00 AM	60	60	60		60	120
	11:00 AM	60	60	60		60	120
	12:00 PM	60	60	60		60	120
	1:00 PM	60	60	60		60	120
	2:00 PM	60	60	60		60	120
	3:00 PM	60	60	60	1 RT	60	120
	4:00 PM	60	60	60		60	120
	5:00 PM	60	60	60		60	120
	6:00 PM	60	60	60		60	120
	7:00 PM	60	60	60			120
	8:00 PM	60	60				120
	9:00 PM	60		Drop off only			
End Time	21:00	20:00	21:00	17:15	18:35	20:25	
Saturday	Start Time	8:00	8:00	7:30	--	8:20	8:35
	8:00 AM	60	60	2 SB Runs	--	1/2 run	120
	9:00 AM	60	60	60	--	60	120
	10:00 AM	60	60	60	--	60	120
	11:00 AM	60	60	60	--	60	120
	12:00 PM	60	60	60	--	60	120
	1:00 PM	60	60	60	--	60	120
	2:00 PM	60	60	60	--	60	120
	3:00 PM	60	60	60	--	60	120
	4:00 PM	60	60	60	--	60	120
	5:00 PM	60	60	60	--		120
	6:00 PM		60	Drop off only	--		
	End Time	17:00	18:00	19:00	--	16:15	18:25
Cycle Length (Min)	120	120	103	120	55	110	
Number of Buses in Operation							
							Total
Weekday	2	2	2	1	1	1	9
Saturday	2	2	2	--	1	1	8

TABLE 7: Summary of Existing PCE Service

Weekdays Only

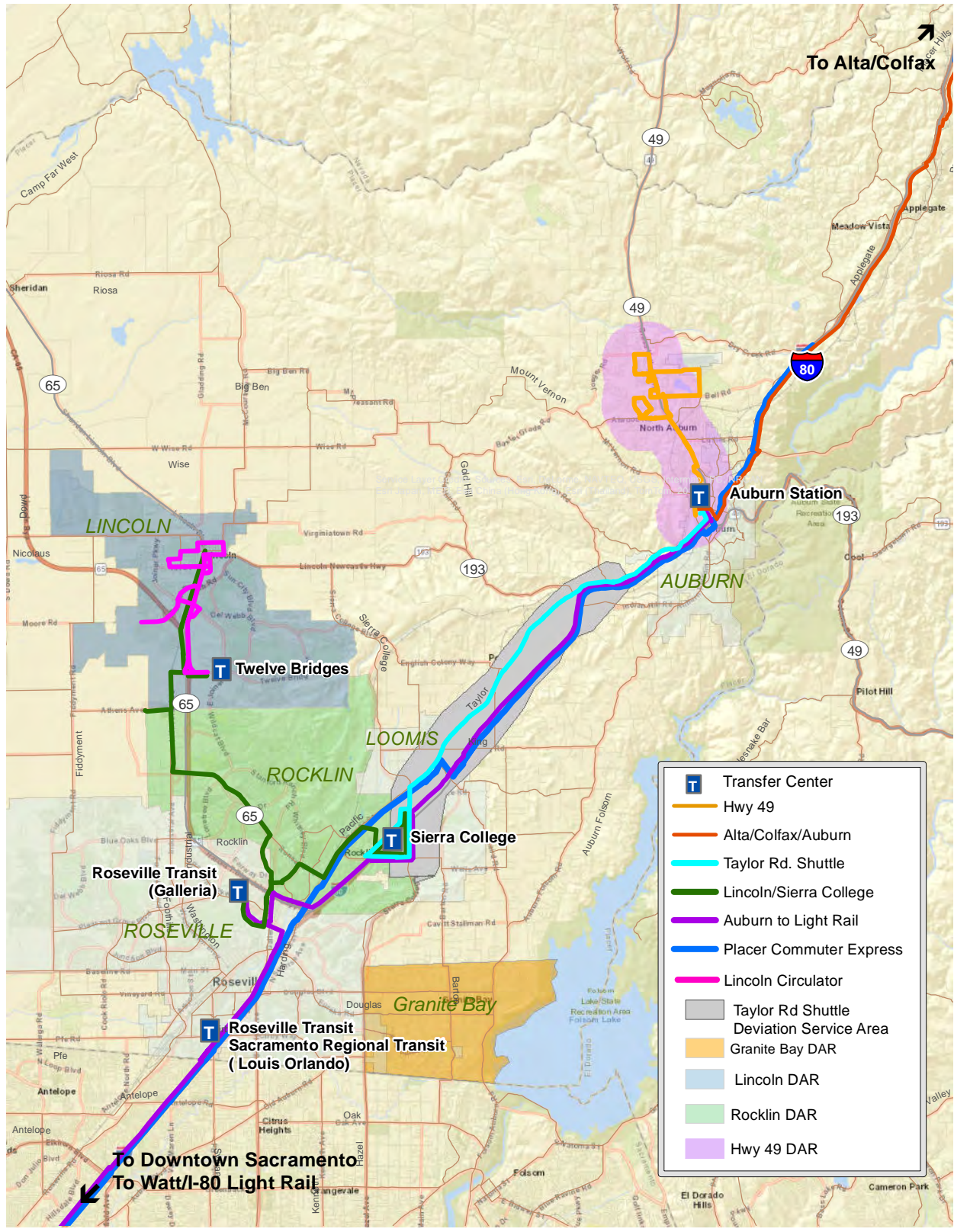
AM					
Stop		Bus 1	Bus 2	Bus 3	Bus 4
Colfax Depot		5:20	5:40	6:18	--
Clipper Gap Park N Ride		5:32	5:52	6:30	--
Auburn Station		5:42	6:03	--	6:37
Penryn Park N Ride		5:55	6:15	6:45	--
Loomis Station		5:59	6:19	--	6:53
Rocklin Station		6:06	6:26	--	7:00
Roseville		6:15	6:35	7:00	--
Downtown Sacramento	From	6:50	7:10	7:40	7:40
	To	7:00	7:20	7:50	7:50
PM					
Stop		Bus 1	Bus 2	Bus 3	Bus 4
Downtown Sacramento	From	4:17	4:22	4:32	5:15
	To	4:32	4:37	4:47	5:30
Roseville		5:12	--	5:27	6:10
Rocklin Station		--	5:17	5:35	6:18
Loomis Station		--	5:24	5:42	6:25
Penryn Park N Ride		5:24	--	5:49	6:32
Auburn Station		--	5:40	6:00	6:43
Clipper Gap Park N Ride		5:39	--	6:12	6:55
Colfax Depot		5:51	--	6:24	7:07

Taylor Road Shuttle, and to the Route 70: Lincoln circulator. Two buses are needed to provide hourly service over the two-hour-long route.

Route 30: Highway 49 Route

The Highway 49 Route provides access to residential and commercial areas along the Highway 49 corridor in the unincorporated area north of Auburn. The first two southbound runs start at Dewitt-1st & E and 4:35 AM and at 1st & C at 5:35 AM. The remainder of the south bound runs leave from Chana Park on primarily hourly headways until the last departure at 6:06 PM on weekdays. Saturday service in the southbound direction operates from 7:30 AM to 4:48 PM. The northbound route runs from the Auburn Station to Chana Park. Many stops are served as “Drop-Off Only”. The northbound service runs from 7:00 AM to 7:34 PM on weekends. The Saturday service runs from 10:00 AM to 5:43 PM, with “Drop-Off Only” service offered through 7:00 PM at the stops Auburn Station through Plaza Dr. No Sunday service is provided.

**Figure 24
Placer County Transit Existing Services Map**



Route 70: Lincoln Circulator and School Tripper

Beginning in FY 2015-16, PCT began operation of the City of Lincoln's fixed route. The PCT Lincoln Circulator operates hourly service between 3rd and F Street (Walmart) in Lincoln, the Ferrari Ranch area and the Twelve Bridges Library. Twelve Bridges also serves as the 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 on Tuesdays through Fridays.

Route 40: Colfax/Alta

This service runs between the Alta Store and the Auburn Station, serving the Colfax Amtrak Station in both directions. Service is on weekdays only. Eastbound runs depart at 7:00 AM and 3:15 PM and westbound runs depart at 8:00 AM and 4:15 PM. Additional stops at Elder's, Bowman, Meadow Vista, Applegate, Gold Run and Dutch Flat are served along the route by reservation only.

Route 50: Taylor Road Shuttle

The Taylor Road Shuttle operates primarily along the Taylor Road corridor between Sierra College and the Auburn Station. Every two hours, the single operates a westbound run and a single eastbound run, as well as a "Campus Shopping Loop" that connects Sierra College with large commercial developments near the campus. The shuttle vehicle will also deviate up to 3/4 mile from Taylor Road by reservation. Stops on Ophir Road between Auburn and the Ophir Road Park 'n' Ride lot are by reservation only.

Placer Commuter Express

The Placer Commuter Express (PCE) is commuter service from western Placer County to downtown Sacramento, provided on weekdays only. Placer County stops include Clipper Gap, Auburn, Penryn, Loomis Rocklin and Roseville. Four runs are operated westbound in the morning (three starting in Colfax and one starting at Auburn Station) and four eastbound in the afternoon. PCE allows commuter work arrival times of around 7:00 AM, 7:20 AM and 7:50 AM, with work departure times between 4:00 PM and 5:00 PM. Operation of PCE service is provided through a private contractor.

Vanpools

Placer County administers a vanpool program for commuters. Vehicles are leased from a private company and each vanpool relies on participants to serve as drivers. Service is available within Placer County and to other nearby destinations; in general, the participants use the service for commuting purposes to surrounding areas such as Sacramento and Davis. There are currently nine vanpools administered by Placer County Transit.

Dial-A-Ride (DAR)

Placer County Transit operates four Dial-A-Ride services, serving Rocklin/Loomis, Lincoln, Granite Bay, and the Hwy 49 corridor in North Auburn. Available service span for each areas is shown in Table 8. DAR provides curb-to-curb transportation by request to the general public with discount fares available to seniors and persons with disabilities.

Rides may be requested 1 to 14 days in advance. No service is available on Sundays. DAR serves as the Americans with Disabilities Act (ADA) complimentary paratransit service for PCT fixed route services. The DARs and the Taylor Road Shuttle Route are operated through a private contractor.

Location	Service Availability			
	Monday-Friday		Saturday	
	First Pick-Up	Last Drop-off	First Pick-Up	Last Drop-off
Rocklin/Loomis ¹	6:00 AM	7:55 PM	9:00 AM	3:55 PM
Lincoln	6:30 AM	6:35 PM	8:20 PM	4:20 PM
Granite Bay (AM)	9:00 AM	11:00 AM	NA	NA
Granite Bay (PM)	2:00 PM	4:00 PM	NA	NA
Highway 49	6:00 AM	7:30 PM	8:00 AM	6:00 PM

Note 1: Drop offs at Rocklin High School are also available at 6:45 and 7:45 AM, and pick ups at 3:00 PM.
 Source: <https://www.placer.ca.gov/departments/works/transit/pct/dialride>

Recent Service Changes

On July 1, 2015, Placer County took over operation of transit services within the City of Lincoln. The process was initiated in 2012 during a period of downsizing and turnover at the City of Lincoln. There were two buses on the Lincoln route. When PCT took over operation of the service, the service was rebranded as the Lincoln Circulator using a single bus throughout the day plus a tripper scheduled around school bell times. The agreement between Placer County and the City of Lincoln offers several advantages, including lower fares for passengers, economies of scale and improved coordination of transit services within Western Placer County. The Lincoln Circulator fixed route and Dial-a-Ride services were extended to include Saturday service.

Additional service on the regional routes was implemented to the Auburn Airport and to the new retail developments located at the I-80/Sierra College Boulevard interchange in Rocklin.

Service Area

The services described above provide a wide array of transit available to much of the population of western Placer County. As would be expected, outlying areas with lower population densities receive service at lower frequencies than the more central and urbanized areas. Although comments in the unmet needs process have identified specific transit service requests, overall, communities in Western Placer County are generally well served by PCT and the network of public transit programs, with some exceptions.

Areas which stand out as having a high number of transit dependent residents with limited transit services are located in Foresthill, Colfax, and North Auburn. As identified by census tracts, these areas have at least 3,800 potentially transit dependent residents (youth, elderly, low income, and disabled). Transit dependent communities with little or no transit service available include: all of Sheridan, Loomis/Penryn, south of I-80, Foresthill, and the northeast Auburn area around the I-80 corridor.

Census tracts with higher than average numbers of households without a vehicle include those located in North Auburn, Loomis Penryn, Colfax/Meadow Vista/Alta, and Granite Bay. In addition to having large concentrations of potentially transit dependent residents and limited transit services, the portion of North Auburn along the I-80 corridor and Loomis Penryn outside the Taylor Road Shuttle service area also have a high concentration of zero vehicle households.

Fare Structure

One way cash fares for PCT fixed routes are \$1.25 for the general public and \$0.60 for disabled persons, seniors (over 60 years of age), or youths (ages 6 to 12 years). Children ages five and under ride free with a paying adult. Day, 14-day, 30-day and 10-ride passes are also available, as shown in Table 9.

One-way trip fares on the Dial-A-Ride are \$1.25 for senior, youth, disabled, and ADA certified persons and \$2.50 for the general public. Multiple ride passes are available at a slight discount. This is also shown in Table 9.

Depending on the route, PCE fares range from \$4.25 to \$5.75 one way. Monthly and 20-ride passes are also available, as shown in Table 9. Regular commuters traveling round-trip 22 work days per month that use the monthly pass pay the equivalent of approximately \$3.00 per trip from Auburn and \$4.00 per trip from Colfax.

Table 9: Placer County Transit Fare Structure

Placer County Transit Fixed Route Fares		
Fare Types	General Public	Senior, Youth, Disabled ¹
One-way Cash Fare	\$1.25	\$0.60
24 Hour Pass ²	\$2.50	\$1.25
10-Ride Pass	\$10.00	\$5.00
14 Day Pass	\$21.50	\$10.75
30 Day Pass	\$37.50	\$18.75

Placer County Transit Dial-a-Ride Fares		
Fare Types	General Public	Senior, Youth, Disabled ¹
One-way Cash Fare	\$2.50	\$1.25
20-Ride Pass	\$42.50	\$21.25

Placer Commuter Express Fares			
Zone	Cash one-way	Monthly Pass	Connect one-way
Colfax/Clipper Gap	\$5.75	\$178.50	\$5.75
Auburn/Penryn/Loomis	\$4.75	\$147.00	\$4.50
Rocklin/Roseville	\$4.25	\$131.25	\$3.70
Sacramento	\$4.25	--	--

Note 1: Seniors = age 60+; youth = ages 6-12; disabled = Medicare card holders.
 Note 2: Transfers between PCT buses have been replaced with the 24 hour pass.
 Source: <https://www.placer.ca.gov/departments/works/transit/pct/fares>

Connect Card Program

PCT participates 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.

Transit Facilities and Equipment

Operations and Maintenance Facility

The regional fixed route and DAR services are operated out of the North Auburn DeWitt Center, located at the 11432 F Avenue in Auburn. The facility includes all administrative and dispatch functions, as well as secured vehicle storage, vehicle maintenance and parking for the fixed route, commuter, and Dial-A-Ride services.

Passenger Facilities

The PCT passenger amenities include a network of bus stops and transit centers to facilitate operations. The PCT system includes 210 bus stops, 40 of which have shelters with benches. Stops with shelters are listed in Table 10. Among these stops are several “transit stations” with capacity for multiple buses to facilitate transfers, as well as additional amenities in some cases. The multi-modal transit stations include the following:

- Auburn Station: This is a multimodal stop with multiple bus pull-outs with shelters, and is located adjacent to the Amtrak train station. The station includes a ticket kiosk. Both Auburn Transit and PCT serve Auburn Station, along with Gold Country Stage (to Nevada County) and Amtrak’s *California Zephyr* rail service, *Capital Corridor* rail service and Thruway bus service.
- Galleria Mall in Roseville: This stop serves both PCT and Roseville Transit and is a major hub for transfers for western Placer County residents. Multiple shelters and benches are available for passengers.
- Colfax Station: This is a multimodal stop with multiple bus pull-outs for PCT and Amtrak Thruway bus service, as well as the *California Zephyr*.
- Loomis Station: this is a bus pull-out with a shelter.
- Rocklin Station: Also along the Amtrak *Capital Corridor* line, this is a multimodal stop with multiple bus pull-outs with shelters and a ticket kiosk.
- Watt & I-80 Light Rail Station: This Sacramento RT Light Rail station includes a platform for RT Light Rail trains as well as multiple bus pull outs for PCT and Sac RT buses.

Park-and-Rides

In addition to the facilities described above, a network of Park-and-Rides and transit stations are key to providing the Placer Commuter Express services. These include:

- Colfax Depot
- Clipper Gap Park ‘N’ Ride
- Auburn Station
- Penryn Park ‘N’ Ride
- Loomis Station
- Rocklin Station
- Roseville Taylor Road Park ‘N’ Ride

Table 10: Placer County Transit Stop Shelter Locations

Route / Segment	Direction	Stop Name/Location	Jurisdiction
Highway 49	NB	Auburn Station (Nev St Station #2 stop)	Auburn
Highway 49	NB	Nevada St. at Theatre	Auburn
Highway 49	NB	Highway 49 at Luther Road	Placer
Highway 49	NB	Richardson Dr. at B Ave.	Placer
Highway 49	NB	Plaza Drive	Placer
Highway 49	NB	Target	Placer
Highway 49	NB	Earhart at Rickenbacker Way	Auburn
Highway 49	NB	Galena Dr. at Quartz Dr.	Placer
Highway 49	SB	Hwy 49 / Dry Dreek (RCMHP)	Placer
Highway 49	SB	Hwy 49 at Quartz Dr.	Placer
Highway 49	SB	Plaza Drive	Placer
Highway 49	SB	Dewitt - Richardson / B Ave.	Placer
Highway 49	SB	Bell Road / County Center	Placer
Highway 49	SB	Dewitt - 1st / C Ave.	Placer
Highway 49	SB	Hwy 49 / Luther Rd.	Placer
Lincoln/Rocklin/Sierra College	SB	Twelve Bridges Library	Lincoln
Lincoln/Rocklin/Sierra College	SB	Thunder Valley Casino	Placer
Lincoln/Rocklin/Sierra College	SB	Sunset / Lonetree	Rocklin
Lincoln/Rocklin/Sierra College	SB	Sunset / Park	Rocklin
Lincoln/Rocklin/Sierra College	SB	Galleria	Roseville
Lincoln/Rocklin/Sierra College	SB	Sunset / Springview	Rocklin
Lincoln/Rocklin/Sierra College	SB	Rocklin Commons Granite Drive (Target)	Rocklin
Lincoln/Rocklin/Sierra College	SB	Rocklin Crossing (Walmart)	Rocklin
Lincoln/Rocklin/Sierra College	NB	Sunset / Park	Rocklin
Lincoln/Rocklin/Sierra College	NB	Sunset / W. Stanford Ranch Rd.	Rocklin
Lincoln Circulator	Loop	3rd St / F St. (Walmart)	Lincoln
Lincoln Circulator	Loop	Sterling Pkwy / Joiner Pkwy	Lincoln
Lincoln Circulator	Loop	1st St. / O St.	Lincoln
Lincoln Circulator	Loop	3rd St. / O St. (Senior Complex)	Lincoln
Taylor Road Shuttle	WB	Loomis - Del Oro High School	Loomis
Taylor Road Shuttle	WB	Loomis - Taylor Rd at King Rd	Loomis
Auburn to Light Rail	WB	Sierra College / Rocklin Rd	Rocklin
Auburn to Light Rail	WB	Louis Ln / Orlando	Roseville
Auburn to Light Rail	WB	Light Rail at Watt / I-80	SacRTD
Auburn to Light Rail	EB	Sierra College / Rocklin Rd	Rocklin
Colfax Alta	EB	Colfax Amtrak	Colfax
Colfax Alta	WB	Auburn Station (Nev St Station #4 stop)	Auburn
Placer Commuter Express	WB	Loomis Station - Taylor / Horsehoe Bar	Loomis
Placer Commuter Express	WB	Rocklin Station - Pacific St / Rocklin Rd	Rocklin
Placer Commuter Express	WB	J St / 4th	Sacramento

Fleet Inventory

Placer County Transit has 34 vehicles in its fleet, with two more arriving in January 2018. The current transit fleet is present in Table 11. The vehicles range from 14-passenger to 57-passenger capacity to meet the varied modes of service, from DAR, to local fixed routes to commuter service. The fleet includes gasoline-fueled, CNG-fueled and diesel-fueled vehicles. There is a CNG fueling station at the facility located in Auburn. As indicated in Table 11, 14 vehicles will need to be replaced within the next seven years, and additional vehicles will need to be replaced in the subsequent five years, including 13 vehicles in 2027.

Route Observations

Consultant staff rode one run of each regional fixed route in November 2017 to gain a better understanding of areas served and potential issues and bus stop deficiencies. Observations consisted of the following:

Alta/Colfax Route: A fair amount of time is spent picking up and dropping off passengers at the reservation only stops. Often the bus is too late to make the connection at Auburn Station with the Auburn/Light Rail Route. Passengers requested mid-day and Saturday service. There are limited passenger facilities on this rural route.

Auburn – Light Rail Route: This PCT route has the highest ridership and the bus was fairly full on the day of observations. The wheelchair lift was deployed at the Galleria but it did not make the route late. Sierra College and the Galleria are the most common stops. Drivers were courteous and announced major stops.

Lincoln – Sierra College Route: On the day of observations, the route ran 1 to 4 minutes late, although the driver noted the route usually runs on time. There appears to be a need for an additional shelter at Sierra College as many passengers were waiting on the curb under a tree. The bus stop across Rocklin Road from the college is in need of maintenance. Overall, the bus was clean and the driver called out stops. Traffic during the holidays can slow routes at the Galleria.

Lincoln Circulator – On the run observed, most of the passengers were school children. The route ran about 5 minutes late. As with some of the other vehicles, the head sign wasn't working properly.

Taylor Road Shuttle – According to the driver, it is the same people riding this route all the time. The manner in which the contractor records deviation information to dispatch is time consuming.

Table 11: Placer County Transit Vehicle Fleet

BUS #	Make	Cum. Mileage	Fuel	Year	Length	Capacity	Funding Source	FTA Funding Percent	Eligible For Replacement
0302	Orion	671,536	CNG	2003	35	35	FTA, SECAT	80%	2018
0422	Orion	736,046	CNG	2004	35	35	FTA, TDA, SECAT	80%	2018
0803	Starcraft	174,028	GAS	2008	24	18	TDA - STA		2020
0804	Starcraft	187,662	GAS	2008	24	18	Prop 1B		2020
0805	Starcraft	227,691	GAS	2008	24	18	Prop 1B		2020
0806	Starcraft	338,340	GAS	2008	24	18	Prop 1B		2020
0807	Starcraft	312,882	GAS	2008	24	18	Prop 1B		2020
0808	Starcraft	197,797	GAS	2008	24	18	Prop 1B		2020
0809	Starcraft	338,181	GAS	2008	24	18	Prop 1B		2020
1601	MCI	218,648	Diesel	2009	45	57	FTA 5307 ARRA	100%	2022
1602	MCI	220,093	Diesel	2009	45	57	FTA 5307 ARRA	100%	2022
1603	MCI	257,417	Diesel	2009	45	57	FTA 5307,Prop 1b	62%	2022
1604	MCI	246,935	Diesel	2009	45	57	FTA 5307,Prop 1b	62%	2022
1605	MCI	202,318	Diesel	2009	45	57	FTA 5307,Prop 1b	62%	2022
1510	GILLIG	152,051	CNG	2015	35	31	FTA 5307,Prop 1b	76%	2027
1511	GILLIG	147,671	CNG	2015	35	31	FTA 5307,Prop 1b	73%	2027
1512	GILLIG	147,406	CNG	2015	35	31	FTA 5307,Prop 1b	87%	2027
1513	GILLIG	141,795	CNG	2015	35	31	FTA 5307,Prop 1b	87%	2027
1514	GILLIG	134,683	CNG	2015	35	31	FTA 5307,Prop 1b	87%	2027
1515	GILLIG	120,914	CNG	2015	35	31	FTA 5307,Prop 1b	87%	2027
1520	Starcraft	57,491	GAS	2015	24	18	Prop 1B		2025
1521	Starcraft	40,345	GAS	2015	22	14	Prop 1B		2025
1522	Starcraft	38,607	GAS	2015	22	14	Prop 1B		2025
1523	Starcraft	37,089	GAS	2015	22	14	Prop 1B		2025
1724	GILLIG	24,848	CNG	2017	35	31	Prop 1B		2029
1725	GILLIG	32,301	CNG	2017	35	31	Prop 1B Lincoln		2029
1726	GILLIG	16,711	CNG	2017	35	31	Prop 1B		2029
1729	Starcraft	2,336	GAS	2017	22	18	Prop 1B		2027
1730	Starcraft	2,333	GAS	2017	22	18	Prop 1B		2027
1731	Starcraft	2,251	GAS	2017	25	18	Prop 1B		2027
1732	Starcraft	2,594	GAS	2017	25	18	Prop 1B		2027
1733	Starcraft	2,462	GAS	2017	25	18	Prop 1B		2027
1734	Starcraft	2,583	GAS	2017	25	18	Prop 1B		2027
1735	Starcraft	2,461	GAS	2017	25	18	Prop 1B		2027
1736	GILLIG	To be delivered	CNG	2017	35	31	FTA 5307,Prop 1b	71%	2029
1737	GILLIG		CNG	2017	35	31	FTA 5307,Prop 1b	71%	2029

Note: Each vehicle has 2 wheelchair stations and 2-3 bike positions.

Source: PCT, as of January 10, 2018.

Highway 49 – This route had low ridership. The route includes many loop deviations. The route ran early on the day of observations.

PCT Staffing Levels

Drivers for the fixed-route services are directly employed by Placer County, whereas drivers for the Dial-A-Ride and commuter services are employees of the private contractor operating the

service. PCT staff includes 1 dispatcher, 17 full-time permanent drivers, 2 part-time permanent drivers, 1 senior bus driver (who is also the assistant supervisor) and 6-7 temporary bus drivers.

MARKETING STRATEGIES

Marketing and public outreach is key to the success of the transit program, which relies heavily on customers understanding schedules and real-time changes. Marketing strategies and outreach are provided on the whole by the Placer County Transportation Planning Agency (PCTPA), which has a web page dedicated to providing public transit information (<http://pctpa.net/transit/public-transit/>). PCTPA also has developed a Public Participation Plan which outlines efforts for public outreach and inclusion.

Placer County Transit Marketing

Transit services in Placer County are marketed through regional efforts in cooperation with peer agencies such as Roseville Transit. The marketing tagline adopted by PCT is “We’re going your way!” The webpage for PCT includes a goal statement which reads:

“Our goal at PCT is to provide a safe and direct means of transportation service for western Placer County residents. We are committed to providing comprehensive and reliable transit service. We want our passengers to enjoy a comfortable and pleasant ride aboard our buses.”

PCT uses the logos, shown to the right, on printed schedules, web pages and buses. The black logo is used specifically for the Placer Commuter Express and the orange logo is used for all other services. The color scheme on buses includes a dark orange line over a lighter orange line, providing consistency with the logo.



Marketing Materials

Printed Marketing Materials

The County publishes a multi-fold pocket transit brochure with route and schedule information. Additionally, the website includes down-loadable PDFs of schedules and maps for each service, which could be printed if one desired. However, PCT has relied less on print media and collateral in recent years as internet access has become widespread and often preferred.

Internet Marketing

Placer County Transit information is accessible online on a dedicated page through the County’s main web portal (<http://www.placer.ca.gov/Departments/Works/Transit/PCT.aspx>). The home page includes the goal (listed above), orange logo, and a photo of a PCT bus. This is followed

with clickable links for further information on routes and schedules, fares and tickets, service announcements, ADA and Title VI policies, rider etiquette, links to other transit providers, and contact information. It is a comprehensive website which allows the viewer to easily find information. The website is updated as needed.

PCT does not have a dedicated social media presence. However, the PCPTA maintains its own social media accounts for general information, including Facebook, Twitter, YouTube and Instagram, as does Placer County, which manages accounts including Facebook, Twitter, LinkedIn, YouTube, Instagram, Flickr, Nextdoor and Soundcloud.

Marketing Activities

In addition to the above marketing materials, Placer County Transit provides information by phone and through outreach activities and events, as described below.

Phone Information

The PCT web page includes a phone number for public information. Phones are answered during office hours Monday through Friday, 6:30 AM to 6:00 PM, and on Saturdays from 8:00 AM to 6:00 PM. The office is closed on Sundays. After hours, information is only available through internet access. Additionally, the South Placer Transportation Call Center provides coordinated transit information that includes PCT services and access to the regional transit ambassador program. The Call Center also plays an important role in scheduling trips on PCT DAR.

Transit Operators Working Group (TOWG)

PCTPA facilitates the Transit Operator's Working Group (TOWG), in an effort to coordinate the various public transit services in Placer County. This forum is used to organize many of the public outreach efforts, and is also used to create and manage such efforts as the Transit Ambassador Program, and the South Placer Transportation Call Center.

Passenger Complaints

Transit Services staff receive and they follow up on complaints. With no formal protocol in place, complaints are generally logged into an Access database. The County has taken steps to strengthen its ADA complaint process with an emphasis on addressing unmet needs and raising customer service standards.

CURRENT FINANCIAL CONDITIONS

Operating and Capital Revenues

Operating and capital revenue sources for PCT are depicted in Table 12. Revenues received in 2016-17 totaled \$7.75 million. The largest source of revenues was the contributions from other agencies, which cover transportation services PCT provides within incorporated cities within Placer County. Contracts for services are in place with the City of Loomis, Colfax, Rocklin and Lincoln. Reimbursements to Placer County from the different municipalities are determined based on an agreed upon formula that reflects the cost per hour, cost per mile and fixed costs. Another important source of revenue is the Local Transportation Fund (LTF), which is derived from the quarter-cent sales tax in California under the Transportation Development Act (TDA).



Table 12: Placer County Transit Revenues

	FY 2016-17 Actual	FY 2017-18 Proposed
Federal		
Federal Operating Assistance	\$20,000	\$961,300
Federal Aid Construction	\$0	\$816,000
State		
TDA - State Transit Assistance	\$490,899	\$375,500
TDA - Local Transportation Fund	\$1,939,000	\$3,000,000
Local		
Farebox Revenue	\$623,454	\$658,400
Contributions from Other Agencies	\$2,948,536	\$2,719,500
Interest Income	\$9,771	\$11,400
Investment Income	-\$16,063	\$0
Other General Reimbursements	\$308,118	\$140,000
Auxiliary Transp. Revenues	\$61,335	\$491,408
Miscellaneous Revenues	\$50,612	--
Operating Transfers In	\$1,319,652	--
Total Revenues	\$7,755,313	\$9,173,508
Source: Placer County Transit Budgets		

Operating Expenses

Operating expenses are depicted in Table 13 for FY 2016-17 (actual) and 2017-18 (adopted). The largest expenses are the salary and benefits for operations (including administrative salaries), which totaled \$2.77 million in 2016-17, increasing by 8 percent to \$3.03 million. The

salaries and wages are for the in-house operations, which include the local fixed routes. The next largest expense is for purchased operations, which is the contract cost for operating DAR and the commuter services. In 2016-17, purchased transportation totaled \$1.79 million, increasing to \$1.85 million in 2017-18.

Table 13: Placer County Transit Expenses

Expense Category	Actual FY 2016-17	Adopted FY 2017-18
Operating Expenses		
Salaries and Benefits - Operations	\$2,777,745	\$3,031,951
Uniforms, Drug Testing	\$7,222	\$7,500
Communications	\$51,491	\$48,180
General Liability	\$324,816	\$257,100
Vehicle Maintenance	\$593,208	\$685,500
Bldgs & Utilities	\$48,183	\$34,100
Office Equip & Supplies	\$33,318	\$51,813
Administration	\$250,261	\$319,400
Purchased Transportation	\$1,791,337	\$1,850,040
Fuel & Lubricants	\$269,650	\$330,200
Training, Dues, Travel	\$8,494	\$13,200
MIS Services	\$32,793	\$31,683
Publications, Notices	\$979	\$1,100
Countywide System Charges	\$20,667	\$24,244
Special Dept. Expense	\$54,195	\$43,441
County Vehicle Mileage	\$63,931	\$63,000
A-87 Expenses	\$127,371	\$178,324
<i>Total Operating Expense</i>	<i>\$6,455,662</i>	<i>\$6,970,776</i>
Capital Expenses		
Capital Asset Transfer (Out)	\$11,160	\$0
Equipment Depreciation	\$553,920	\$0
Bldg & Impr Depreciation	\$161,460	\$0
Equipment	\$1,885,322	\$3,968,104
Capitalized Equipment	-\$1,896,670	\$0
Total Capital Expense	\$715,191	\$3,968,104
Total Expenses	\$7,170,853	\$10,938,881
Note: Includes administrative costs associated with transit services in Eastern Placer County		
Source: Placer County Transit Budget Actual FY 2016/17		

OPERATING AND PERFORMANCE STATISTICS

Operating Statistics

Operating statistics for PCT services are shown in Table 14 for FY 2016-17. A total of 384,821 passenger trips were provided over this period. Approximately 68 percent of the trips were provided on the fixed routes, and 35 percent of the fixed route trips were on the Auburn/Light Rail service. The Dial-a-Ride services totaled 27,146 one-way trips, with the Highway 49 DAR, Lincoln DAR and Rocklin Loomis DAR carrying similar numbers (8,752 to 9,112 passenger trips), but the Granite Bay DAR carried just 261 passenger trips. A total of 55,938 vehicle revenue hours were operated over 1,130,494 vehicle miles.

Route	Passenger- Trips	Vehicle Hours	Vehicle Miles	Operating Cost ¹	Fare Revenue ²
<u>Regional Routes</u>					
Auburn/Light Rail	91,684	8,750	266,875	\$1,171,223	\$65,195
S.College/Lincoln	73,247	8,236	145,171	\$975,724	\$52,039
Highway 49	52,351	6,190	95,434	\$716,957	\$37,359
Alta/Colfax	5,118	1,671	38,550	\$208,785	\$3,652
Lincoln Circulator	30,867	3,500	49,350	\$399,899	\$21,976
Taylor Rd Shuttle	9,185	3,993	67,738	\$316,113	\$6,084
<i>Subtotal</i>	262,452	32,339	663,118	\$3,788,701	\$186,305
<u>Dial-A-Ride</u>					
Highway 49 DAR	9,112	5,881	50,885	\$465,658	\$6,574
Rocklin/Loomis DAR	8,752	5,129	49,561	\$406,097	\$6,705
Granite Bay DAR	261	928	1,642	\$73,436	\$292
Lincoln DAR	9,021	3,523	36,837	\$278,922	\$6,305
<i>Subtotal</i>	27,146	15,461	138,925	\$1,224,114	\$19,877
Van Pool	24,546	4,976	227,173	\$264,966	\$68,459
Placer Commuter Express	70,677	3,163	101,279	\$650,342	\$365,245
Total Systemwide	384,821	55,938	1,130,494	\$5,928,123	\$639,886
<p>Note 1: Operating cost were allocated based on cost model developed by Placer County and include fully allocated fixed costs for both in-house and contracted services.</p> <p>Note 2: Fare revenue accounts only for revenue collected directly on board the vehicle. Other revenue such as local support from the Thunder Valley Casino is not included.</p> <p>Source: PCT Annual Rpt 16-17</p>					

Operating Costs by Service

In-House Operated Services

In coordination with Placer County DPWF staff, operating costs for each route were estimated in the following manner:

- Operating costs for all services operated directly by Placer County (regional routes excluding the Taylor Road Shuttle) were estimated using a cost model developed by Placer County DPWF staff. A cost model allocates line item expenses in the transit operating budget to either fixed costs, vehicle hours or vehicle miles. For example, driver salaries are dependent on the total number of vehicle hours operated; therefore driver salaries are allocated to vehicle hours. Fixed costs represent administrative staff salaries and supplies which will not change if transit service is increased or decreased. When fixed costs are allocated to vehicle hours, PCT in-house operated services cost \$97.41 per vehicle revenue hour plus \$1.19 per vehicle mile. Allocating these cost factors to the PCT operated regional fixed routes shows that the Auburn Lt/Rail Route had the greatest operating cost, \$1,171,223, in FY 2016-17 and the Alta Colfax route had the lowest, \$208,785 (Table 14).
- Operating costs for the DAR services (including the Taylor Road Shuttle), PCE and vanpool services include the contracted hourly rate as well as the fully allocated contractor fixed costs and Placer County fixed costs for administration of the contract. In FY 2016-17, PCE services were the most costly (\$650,342) and the Granite Bay DAR (which operates infrequently) were the least expensive (\$73,436).

Fare Revenues

Fare revenues collected directly on the vehicles tally \$633,742 in FY 2016-17. An additional \$262,505 in fare revenue was received through agreements with the Thunder Valley Casino, Sac RT, and the Vanpool-Enterprise. Subtracting the fares from the operating cost indicates the operating subsidy for the fiscal year was around \$5.1 million.

Placer County Transit Performance

Table 15 presents performance indicators typically used to evaluate public transit's effectiveness and efficiency for each PCT route/service. A review of the data indicates the following:

One-Way Passenger-Trips per Vehicle Revenue Hour- As shown in Table 15 and Figure 25, all PCT operated services (including vanpool) averaged of 6.9 one-way passenger trips were carried for each revenue vehicle hour of service. The commuter services were by far the most

Table 15: Placer County Transit Performance

FY 2016-17

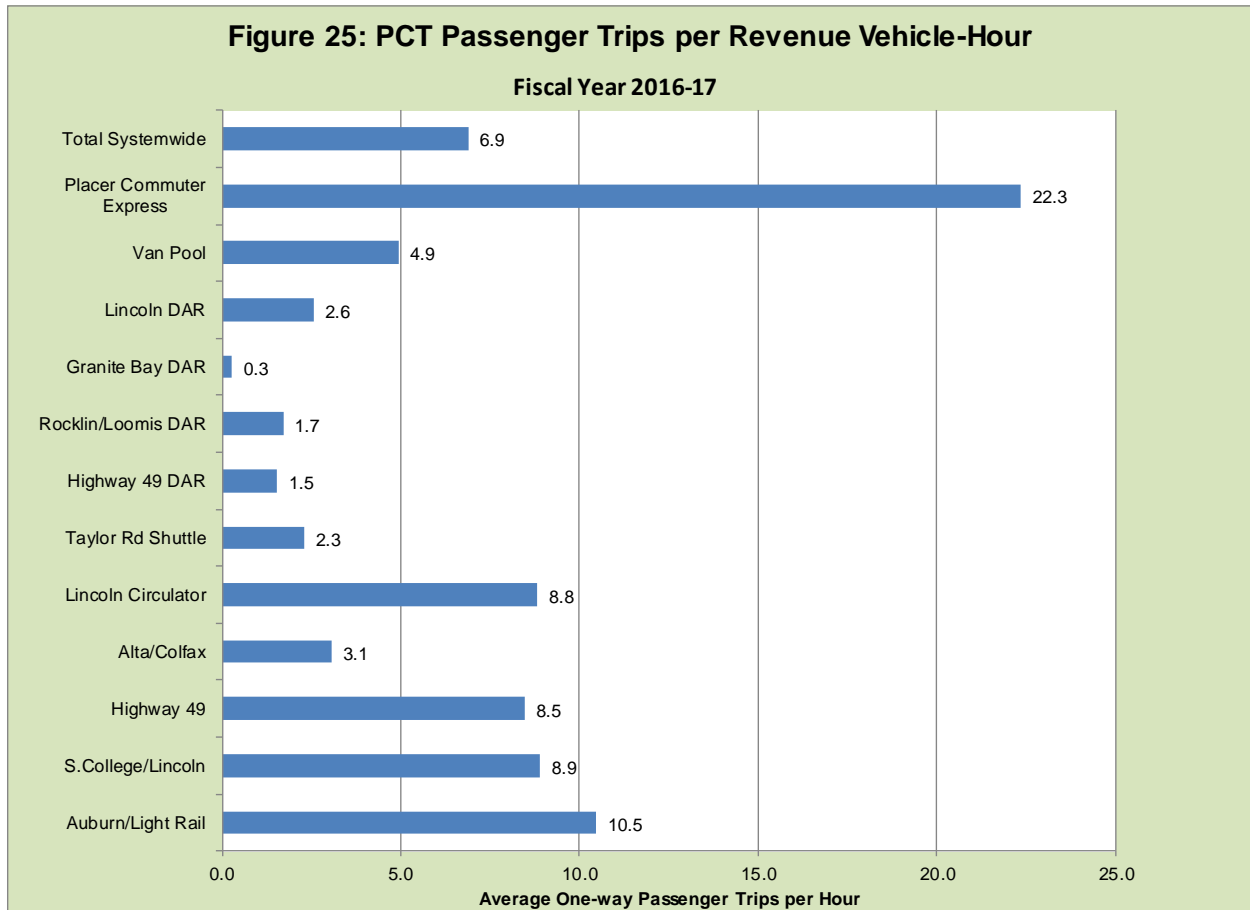
Route	Pax per Vehicle Hour	Pax per Vehicle Mile	Operating Cost per Trip	Operating Cost per Hour	Operating Subsidy per Trip	Farebox Ratio (1)
Regional Routes						
Auburn/Light Rail	10.5	0.34	\$12.77	\$133.85	\$12.06	5.6%
S.College/Lincoln	8.9	0.50	\$13.32	\$118.47	\$12.61	5.3%
Highway 49	8.5	0.55	\$13.70	\$115.83	\$12.98	5.2%
Alta/Colfax	3.1	0.13	\$40.79	\$124.98	\$40.08	1.7%
Lincoln Circulator	8.8	0.63	\$12.96	\$114.26	\$12.24	5.5%
Taylor Rd Shuttle	2.3	0.14	\$34.42	\$79.18	\$33.75	1.9%
<i>Subtotal: Regional Routes</i>	<i>8.1</i>	<i>0.40</i>	<i>\$14.44</i>	<i>\$117.16</i>	<i>\$13.73</i>	<i>4.9%</i>
Dial-A-Ride						
Highway 49 DAR	1.5	0.18	\$51.10	\$79.18	\$50.38	1.4%
Rocklin/Loomis DAR	1.7	0.18	\$46.40	\$79.18	\$45.63	1.7%
Granite Bay DAR	0.3	0.16	\$281.37	\$79.18	\$280.24	0.4%
Lincoln DAR	2.6	0.24	\$30.92	\$79.18	\$30.22	2.3%
<i>Subtotal: Dial-A-Ride</i>	<i>1.8</i>	<i>0.20</i>	<i>\$45.09</i>	<i>\$79.18</i>	<i>\$44.36</i>	<i>1.6%</i>
Vanpool	4.9	0.11	\$10.79	\$53.25	\$8.01	25.8%
Placer Commuter Express	22.3	0.70	\$9.20	\$205.64	\$4.03	56.2%
Total Systemwide	6.9	0.34	\$15.40	\$105.98	\$13.74	10.8%
			Systemwide TDA Farebox Ratio Calculation ⁽¹⁾			14.7%
<p>Note 1: Farebox ratio for each route/service accounts only for revenue collected directly on board the vehicle. Systemwide TDA farebox ratio includes other forms of revenue such as local support from the Thunder Valley Casino.</p>						

productive as they carried an average of 22.3 passenger trips per hour, followed by the Auburn Light Rail, which carried 10.5 passenger trips per hour of service. The Sierra College/Lincoln service, Lincoln Circulator, and Highway 49 routes were not far behind with 8.9, 8.8 and 8.5 passenger trips per hour respectively.

On the opposite end of the spectrum, the Granite Bay DAR carried just 0.3 passenger trips per hour. The Rocklin and Highway 49 DARs also showed low efficiency with between 1.5-1.7 passenger trips per hour.

Passengers per Vehicle Service Mile – One-way passenger trips carried per vehicle mile of service varied from a low of 0.1 (on the Alta/Colfax, Taylor Road Shuttle and the Vanpool service) to a high of 0.7 passengers per mile on the PCE and 0.6 on the Lincoln Circulator. Systemwide, PCT services carried 0.34 trips per mile.

Operating Cost per Vehicle Service Hour – Total operating costs for all PCT services divided by total vehicle revenue service hours equates to \$107.40. For regional routes operated by Placer County, the Auburn Lt-Rail route was the least cost effective (\$133.85), followed by the



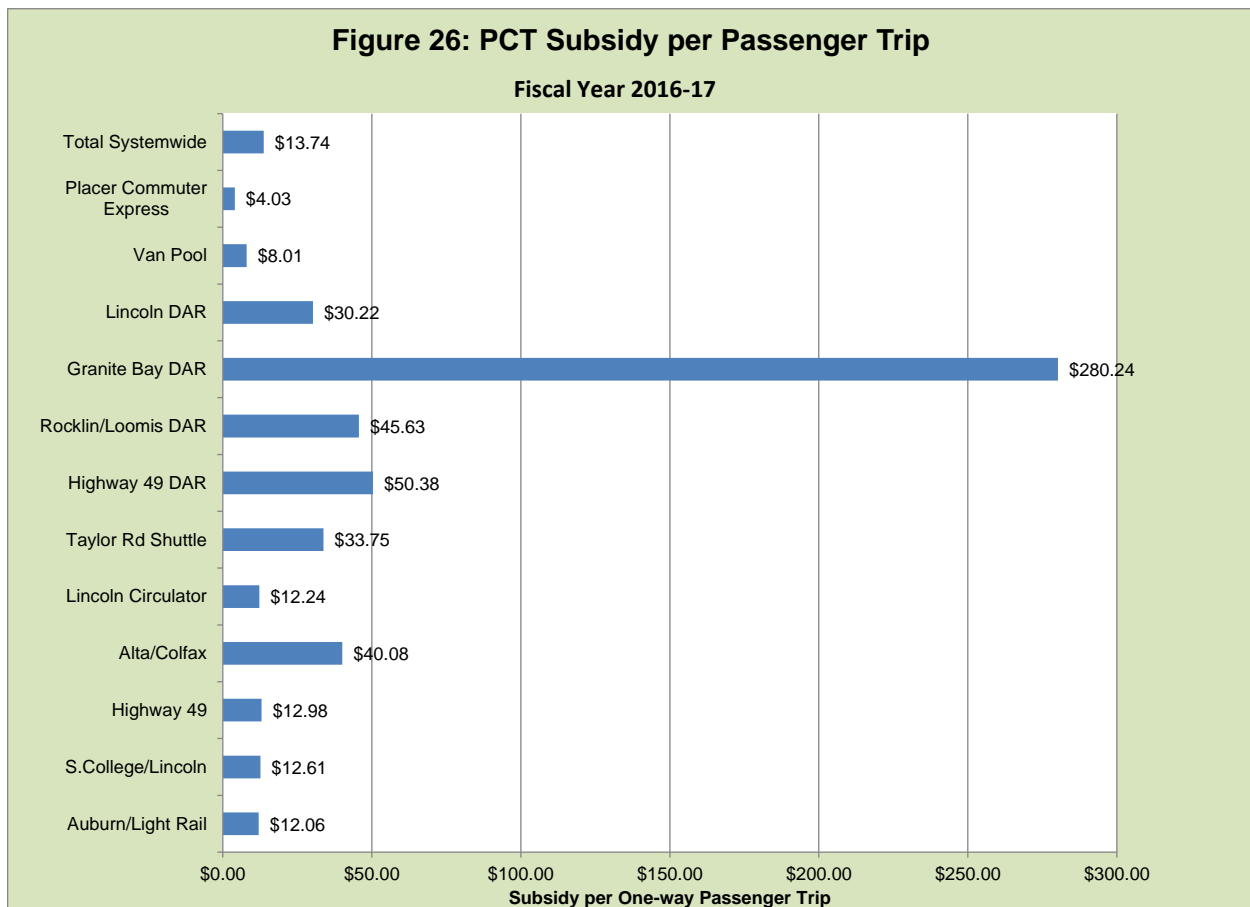
Alta/Colfax Route (\$124.98). The Lincoln Circulator’s operating cost per hour was the lowest among the in-house operated services (\$114.26).

Operating cost per vehicle revenue service hour for contracted services represents the contracted hourly rate and fully allocated contractor and Placer County fixed costs. The Dial-A-Ride services (including the Taylor Road Shuttle) have an operating cost of \$79.18 per vehicle revenue hour while PCE’s operating cost per hour is \$205.64. Many factors contribute to the high cost per hour for the commuter services:

- Half of the hours for each commuter route is deadhead travel and therefore not included in the revenue hour calculation.
- Split shifts and the high proportion of deadhead travel require multiple driver check ins
- Particularly high maintenance costs in FY 2016-17
- Difficulties with the contractor requiring additional administrative oversight

Operating Cost per Passenger-Trip - Applying the operating cost for each route to the number of passenger trips carried on that route provides a good comparison of cost effectiveness. As indicated, the most costly service per passenger trip is the Granite Bay Dial-a-Ride, which costs an equivalent of \$281.37 per passenger trip carried. The most cost-effective is the PCE, which cost \$9.20 per passenger trip, followed by vanpools, which cost \$10.79 per passenger trip.

Operating Subsidy per Passenger-Trip - The operating subsidy per passenger trip is a good measure of cost effectiveness because it shows the public dollars invested per passenger trip. Systemwide, PCT services require an operating subsidy of \$13.74 per passenger-trip. As shown in Table 15 and Figure 26, the lowest (and therefore best) subsidy per trip is for the commuter services (\$4.03 per passenger trip) followed by the vanpools (\$8.01 per passenger trip). Several of the regional fixed routes also have moderate subsidies per passenger trip, including the Auburn Light Rail (\$12.06), Sierra College/Lincoln Route (\$12.61), the Lincoln Circulator (\$12.24) and the Highway 49 route (\$12.98). On the other end of the spectrum, the Granite Bay DAR requires a subsidy of \$280.24 per passenger trip, and both the Rocklin/Loomis and Highway 49 DARs also have subsidies over \$40.00 per passenger trip.



Farebox Ratio - The farebox ratio is calculated by dividing the passenger fare revenue collected on each route by the operating cost¹. As shown in Table 15, the systemwide average farebox return ratio is just over 10 percent. Most of the routes perform under 10 percent, but the high farebox ratio of the vanpool and commuter services significantly boost the overall performance for farebox ratio. When calculating farebox ratio for TDA eligibility purposes, local support is added to fare revenues. This equates to a farebox ratio of 14.7 percent which is above the PCTPA urban/rural blended farebox ratio requirement of 12.94 percent.

Additional Dial-A-Ride Performance Measures

On-time performance data for Dial-a-Ride services from June 2015 to December 2016 indicate that service was on-time for 95 percent of the trips. During this period, there were no trip refusals and no missed trips. A total of 463 trips were denied because they were “adversarial” which is a term used to define trips which could not be accommodated within the window of time desired by the passenger, or within a suggested alternative time allowed under the ADA.

The DAR service operated 26,788 miles between road calls in 2015-16, which improved to 100,727 miles between road calls in the first half of 2016-17. There were no preventable accidents on DAR during this period. In the first half of 2016-17, there were 786 same-day cancellations (equal to 4.8 percent of trips operated) and 582 no-shows (equal to 3.6 percent).

RIDERSHIP PATTERNS AND ANALYSIS

Historical Ridership

Table 16 and Figure 27 present ridership by route for PCT from FY 2008-09 to FY 2016-17. FY 2008-09 represents the peak of PCT ridership (526,270 trips). At this time, PCT ridership benefitted from a downturn in the economy and high gas prices. The following year systemwide ridership decreased by 15 percent to 444,782 but then began to rebound until FY 2013-14. Over the past four fiscal years, PCT systemwide ridership has had a downward trend. Over the entire eight year period, systemwide ridership declined 27 percent or 3 percent annually. This is taking into account the addition of Lincoln DAR and Lincoln Circulator in FY 2015/16.

The fixed routes had the greatest decline in ridership (41 percent) between FY 2008-09 and FY 2016-17 (excluding Lincoln DAR and Lincoln Circulator). By route, Auburn Light Rail carries the greatest number of passengers (91,684 in FY 2016-17). This is a 45 percent decrease from the 166,629 one-way passenger trips in FY 2008-09. None of the fixed routes had less than a 34 percent decline over the eight year period.

The commuter services have seen the least amount of decline in ridership between FY 2008-09 and FY 2016-17. Placer Commuter Express ridership reached a peak of 81,782 in FY 2013-14 and

¹ Note that the farebox return ratio calculation methodology used for Transportation Development Act reporting requirements differ from this simple ratio.

decreased by 13.5 percent to 70,677 in FY 2016/17. Van pool ridership decreased by 25 percent during the eight year period.

Ridership on all the PCT DAR services decreased by 24 percent between FY 2008-09 and FY 2016-17. The Rocklin/Loomis DAR had the smallest decline in ridership (13 percent from 10,061 to 8,752) and the Granite Bay DAR had the largest percent decline in ridership (39 percent from 429 to 261).

Table 16: Placer County Transit Historical Ridership

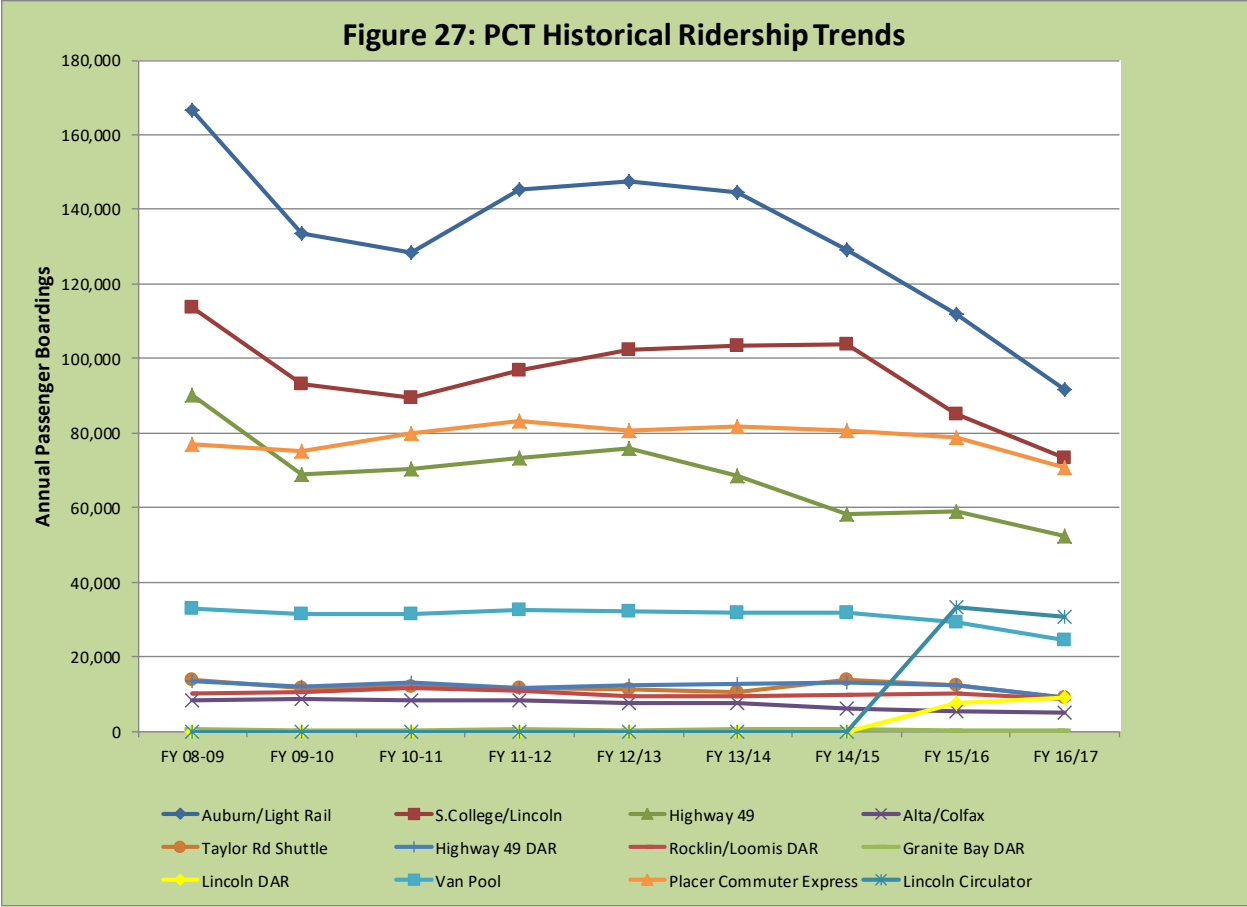
Service	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	Total % Change	Annual % Change
Fixed Routes											
Auburn/Light Rail	166,629	133,462	128,438	145,159	147,490	144,487	129,294	112,044	91,684	-45%	-6%
S.College/Lincoln	113,809	93,162	89,474	96,641	102,306	103,588	103,745	84,932	73,247	-36%	-4%
Highway 49	90,042	69,017	70,459	73,457	76,030	68,392	58,126	58,838	52,351	-42%	-5%
Alta/Colfax	8,226	8,505	8,106	8,429	7,582	7,384	6,042	5,304	5,118	-38%	-5%
Taylor Rd Shuttle	13,818	11,582	11,816	11,507	11,090	10,442	13,902	12,224	9,185	-34%	-4%
<i>Subtotal Fixed Routes</i>	<i>392,524</i>	<i>315,728</i>	<i>308,293</i>	<i>335,193</i>	<i>344,498</i>	<i>334,293</i>	<i>311,109</i>	<i>273,342</i>	<i>231,585</i>	<i>-41%</i>	<i>-5%</i>
Lincoln Circulator	--	--	--	--	--	--	--	33,263	30,867	-7%	-7%
Dial-A-Ride											
Highway 49 DAR	13,253	11,857	13,179	11,505	12,474	12,748	12,962	12,295	9,112	-31%	-4%
Rocklin/Loomis DAR	10,061	10,516	11,700	10,730	9,509	9,462	9,868	10,070	8,752	-13%	-2%
Granite Bay DAR	429	282	208	636	371	487	455	314	261	-39%	-5%
<i>Subtotal DAR</i>	<i>23,743</i>	<i>22,655</i>	<i>25,087</i>	<i>22,871</i>	<i>22,354</i>	<i>22,697</i>	<i>23,285</i>	<i>22,679</i>	<i>18,125</i>	<i>-24%</i>	<i>-3%</i>
Lincoln DAR	--	--	--	--	--	--	--	7,439	9,021	21%	21%
Commuter											
Van Pool	32,883	31,301	31,547	32,418	32,320	31,855	31,811	29,189	24,546	-25%	-3%
Placer Commuter Express	77,120	75,098	80,093	83,114	80,636	81,782	80,767	78,722	70,677	-8%	-1%
<i>Subtotal Commuter</i>	<i>110,003</i>	<i>106,399</i>	<i>111,640</i>	<i>115,532</i>	<i>112,956</i>	<i>113,637</i>	<i>112,578</i>	<i>107,911</i>	<i>95,223</i>	<i>-13%</i>	<i>-2%</i>
Total Systemwide	526,270	444,782	445,020	473,596	479,808	470,627	446,972	444,634	384,821	-27%	-3%

Source: Placer County Transit
 Note :Lincoln Circulator and Lincoln DAR are tallied separately as as these services were operated by Lincoln Transit for the majority of the time period.

Comparing Lincoln fixed route ridership to that prior to conversion to Placer County service, the *Lincoln Transit Route Analysis* (LSC, 2015) indicates that the FY 2013/14 annual ridership of the previous Lincoln two-route service was 43,432, indicating a 29 percent drop to FY 2016/17 levels.

Ridership by Month

Ridership by month is presented in Table 17 and Figure 28. As shown, many of the fixed route services have clear peaks (September, March) and lows (December or January and June). This likely reflects the student use of the transit system. The commuter ridership follows this trend



to a lesser degree, reflecting lulls during holidays. The Taylor Road Shuttle, Alta/Colfax service, and Van Pool services have much more even ridership by month.

Figure 29 shows the DAR ridership by month. The Granite Bay ridership is low throughout the year, without significant variation, although June was higher than all other months. Other DAR services peaked in March and May, with a drop in February and April.

Ridership by Day of the Week

Fixed route ridership by day of the week for FY 2016-17 is presented in Table 18. As shown the most common days to ride the bus are Tuesday through Thursday. Overall, Saturday ridership is 33 percent of average weekday ridership. Saturday ridership is relatively high on the Taylor Road Shuttle and Highway 49 services (at 63 percent and 48 percent of weekday ridership, respectively), and relatively low on the Lincoln Circulator (31 percent).

Ridership by Time of Day

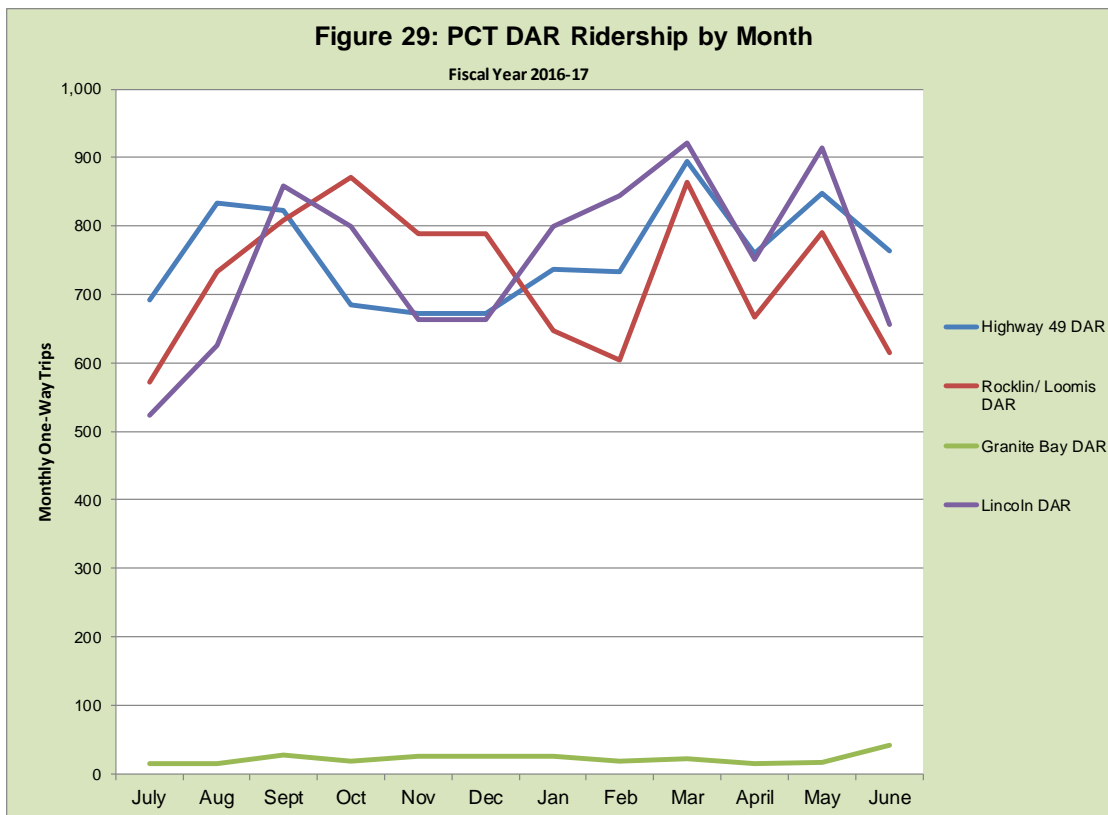
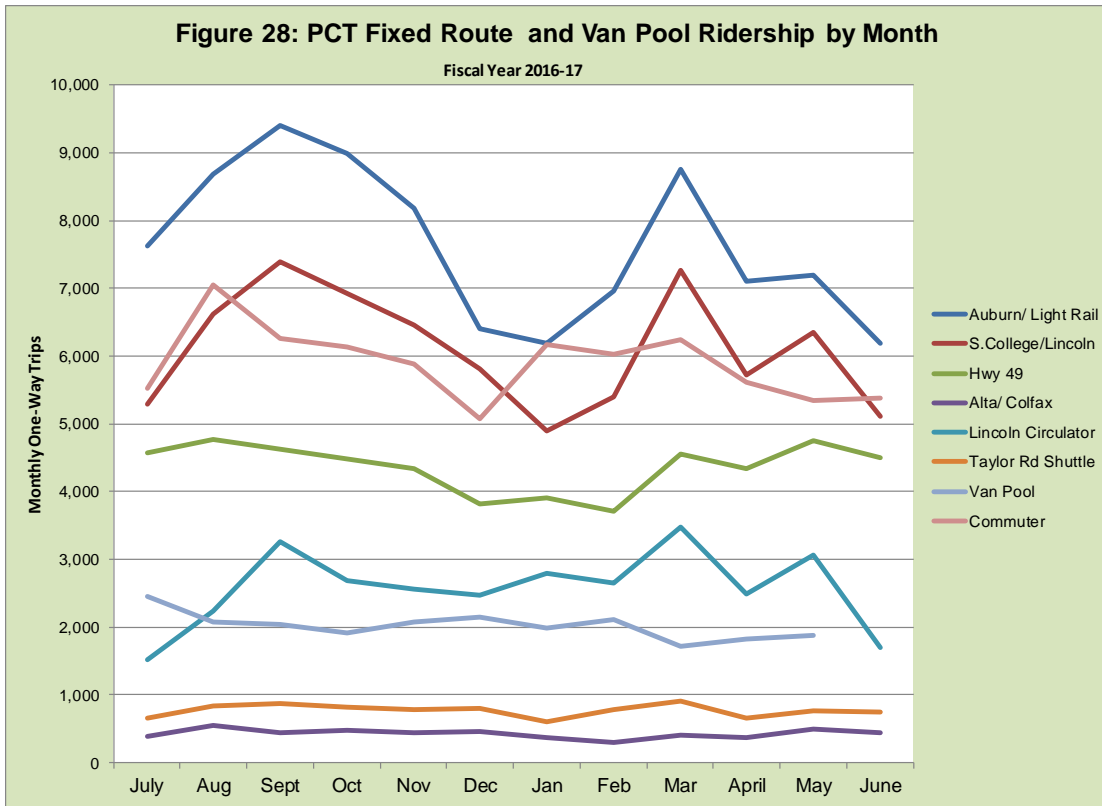
Ridership trends by hour of day for each of the fixed routes are displayed in a series of tables and figures for both FY 2011/12 and FY 2016/17. Overall ridership patterns by time of day have

Table 17: Placer County Transit Ridership by Month

FY 2016-17

	Regional Routes										Dial-A-Ride					
	Auburn/ Light Rail	S.College/Li ncoln	Hwy 49	Alta/ Colfax	Lincoln Circulator	Taylor Rd Shuttle	Highway 49 DAR	Rocklin/ Loomis DAR	Granite Bay DAR	Lincoln DAR	Van Pool	Commuter				
July 2016	7,627	5,297	4,563	384	1,514	661	692	572	14	524	2,344	5,519				
August 2016	8,687	6,615	4,764	539	2,226	829	833	733	14	626	2,450	7,048				
September 2016	9,414	7,391	4,625	441	3,258	862	822	809	27	858	2,070	6,255				
October 2016	8,985	6,924	4,473	470	2,686	806	685	872	18	800	2,036	6,135				
November 2016	8,176	6,464	4,333	446	2,550	780	672	789	25	663	1,906	5,880				
December 2016	6,402	5,819	3,817	455	2,473	801	672	789	25	663	2,079	5,073				
January 2017	6,182	4,902	3,910	374	2,795	604	737	647	26	799	2,153	6,176				
February 2017	6,962	5,392	3,705	292	2,645	777	734	604	19	844	1,982	6,023				
March 2017	8,758	7,269	4,559	407	3,482	908	895	864	21	921	2,112	6,235				
April 2017	7,112	5,718	4,345	374	2,494	651	760	667	14	752	1,719	5,608				
May 2017	7,188	6,354	4,752	495	3,057	760	847	791	16	914	1,818	5,352				
June 2017	6,191	5,102	4,505	441	1,687	746	763	615	42	657	1,877	5,372				
FY 16-17 Total	91,684	73,247	52,351	5,118	30,867	9,185	9,112	8,752	261	9,021	24,546	70,677				
Percent of Monthly Average																
July	100%	87%	105%	90%	59%	86%	91%	78%	64%	70%	115%	94%				
August	114%	108%	109%	126%	87%	108%	110%	101%	64%	83%	120%	120%				
September	123%	121%	106%	103%	127%	113%	108%	111%	124%	114%	101%	106%				
October	118%	113%	103%	110%	104%	105%	90%	120%	83%	106%	100%	104%				
November	107%	106%	99%	105%	99%	102%	88%	108%	115%	88%	93%	100%				
December	84%	95%	87%	107%	96%	105%	88%	108%	115%	88%	102%	86%				
January	81%	80%	90%	88%	109%	79%	97%	89%	120%	106%	105%	105%				
February	91%	88%	85%	68%	103%	102%	97%	83%	87%	112%	97%	102%				
March	115%	119%	105%	95%	135%	119%	118%	118%	97%	123%	103%	106%				
April	93%	94%	100%	88%	97%	85%	100%	91%	64%	100%	84%	95%				
May	94%	104%	109%	116%	119%	99%	112%	108%	74%	122%	89%	91%				
June	81%	84%	103%	103%	66%	97%	100%	84%	193%	87%	92%	91%				

Source: PCT Annual Report FY 16/17



remained steady over time but, as noted above, the number of passenger has decreased substantially. There have been some shifts in directional trends and peak hour trends.

Auburn-Light Rail Route

Figure 30 and Table 19 demonstrate that ridership is highest in the 5:00 PM hour on the Auburn Light Rail Route followed by the 7:00 AM hour. This is true both in FY 2011-12 and FY 2016-17.

Table 19 separates ridership by runs travelling in the either the northbound direction from Light Rail to Auburn from the southbound direction travelling from Auburn to Light Rail. Annually, more passenger trips (3 percent) were carried in the southbound direction in FY 2011-12 while a greater number of trips (5 percent) were carried in the northbound direction in FY 2016-17. Shading indicated the direction with the greater ridership in each hour. The general trend for both fiscal years is that more passengers are travelling south towards Sacramento in the morning and north towards Auburn in the evening. During the mid-day hours from 2:00 PM to 4:00 PM there appears to be a shift from more southbound trips in FY 2011-12 to more northbound trips in FY 2016-17.

Lincoln-Sierra College Route

On the Lincoln –Rocklin-Sierra College Route, ridership is relatively steady between the 8:00 AM Hour and the 5:00 PM Hour (Table 20 and Figure 31). The peak hour is at 4:00 PM and ridership drops significantly during the 6:00 PM and 7:00 PM hours. Interestingly, the only hour with an increase in ridership from FY 2011-12 to FY 2016-17 is the first hour of the operating day.

For both fiscal years, ridership is 10 percent greater in the westbound/northbound direction than the eastbound/southbound direction. Ridership is predominantly eastbound/southbound prior to 10 AM, and westbound/northbound after this time.

Highway 49 Route

The Highway 49 route operates from 4:35 AM to 9:00 PM. As shown in Figure 32 and Table 21, peak ridership occurs between the 10:00 AM and 3:00 PM hour. Early morning ridership during the 4:00 AM and 5:00 AM hour has increased over FY 2011/12 levels. However total FY 2016/17 ridership is down 28.8 percent from FY 2011/12 on the Highway 49 route.

A greater number of passengers travel in the southbound direction than the northbound direction although the split is smaller in FY 2016/17 with 7 percent more southbound trips verses 14 percent more southbound trips in FY 2011/12. Generally, for both fiscal years more passengers travel southbound from the morning until 2:00 PM and then make the return trip in the afternoon.

Table 18: Placer County Transit Regional Route Ridership by Day of Week

FY 2016-17

Route	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Auburn/Light Rail	15,730	18,213	17,868	17,789	15,965	6,284	91,849
S.College/Lincoln	12,190	13,533	14,819	14,166	12,762	6,491	73,961
Highway 49	7,901	9,758	9,926	9,893	9,848	5,177	52,503
Alta/Colfax	809	1,159	1,080	1,077	1,030	0	5,155
Taylor Rd Shuttle	1,349	1,540	1,564	1,449	1,571	944	8,417
Placer Commuter Express	13,263	16,209	15,761	15,101	10,944	0	71,278
Lincoln Circulator	4,929	5,917	6,143	6,328	5,923	1,791	31,031
Total	56,171	66,329	67,161	65,803	58,043	20,687	334,194

Percent of Weekday Average							
Auburn/Light Rail	92%	106%	104%	104%	93%	37%	
S.College/Lincoln	90%	100%	110%	105%	95%	48%	
Highway 49	83%	103%	105%	105%	104%	55%	
Alta/Colfax	78%	112%	105%	104%	100%	--	
Taylor Rd Shuttle	90%	103%	105%	97%	105%	63%	
Placer Commuter Express	93%	114%	111%	106%	77%	--	
Lincoln Circulator	84%	101%	105%	108%	101%	31%	
Total	90%	106%	107%	105%	93%	33%	

Source: RouteSummReport FY 2016-17

Figure 30: Auburn Light Rail Route Weekday Ridership by Hour

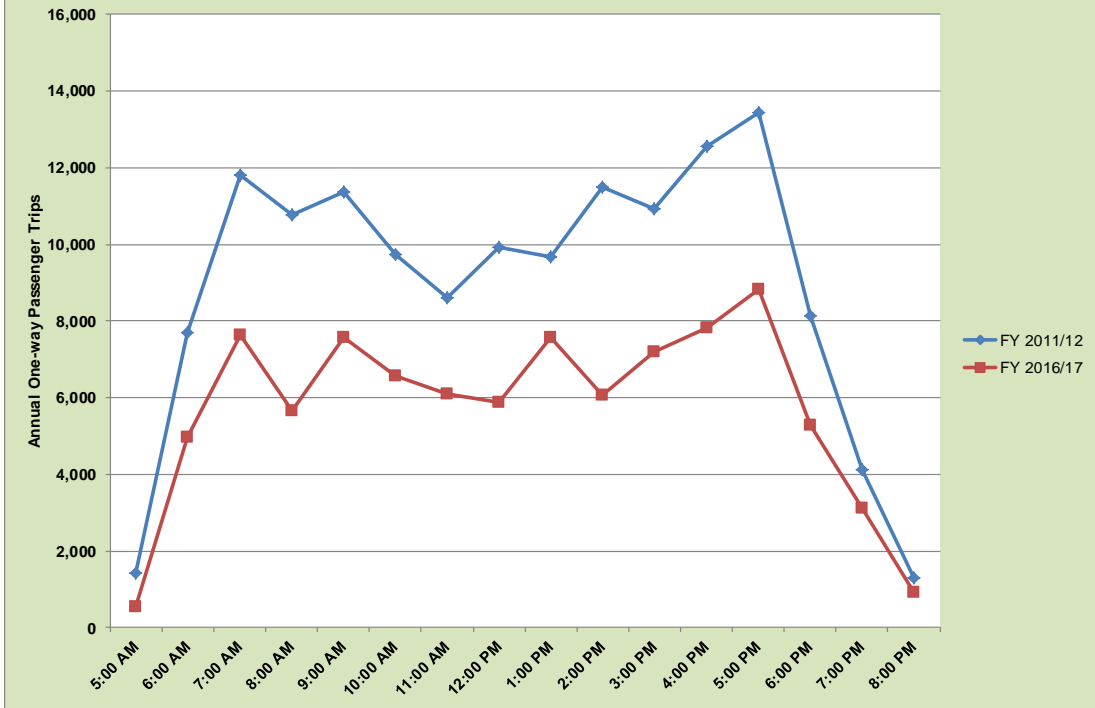


Table 19: Auburn Light Rail Ridership by Hour and Direction

Shading Indicates Peak Direction

Hour Beginning	Northbound		Southbound		Total			Saturday	Weekday Only
	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	% Change	FY 2016/17	FY 2016/17
5:00 AM	--	--	1,414	539	1,414	539	-61.9%	--	539
6:00 AM	3,776	2,627	3,912	2,355	7,688	4,982	-35.2%	--	4,982
7:00 AM	5,080	3,633	6,742	3,989	11,822	7,622	-35.5%	31	7,591
8:00 AM	5,693	2,757	5,080	2,888	10,773	5,645	-47.6%	241	5,404
9:00 AM	4,982	3,192	6,382	4,378	11,364	7,570	-33.4%	672	6,898
10:00 AM	4,227	3,142	5,524	3,440	9,751	6,582	-32.5%	701	5,881
11:00 AM	4,345	3,074	4,257	3,036	8,602	6,110	-29.0%	607	5,503
12:00 PM	5,410	3,311	4,525	2,579	9,935	5,890	-40.7%	531	5,359
1:00 PM	4,851	4,361	4,833	3,205	9,684	7,566	-21.9%	558	7,008
2:00 PM	5,655	3,514	5,828	2,556	11,483	6,070	-47.1%	647	5,423
3:00 PM	5,436	3,972	5,498	3,225	10,934	7,197	-34.2%	703	6,494
4:00 PM	5,998	3,418	6,558	4,410	12,556	7,828	-37.7%	672	7,156
5:00 PM	6,683	4,741	6,757	4,102	13,440	8,843	-34.2%	753	8,090
6:00 PM	4,760	2,996	3,364	2,300	8,124	5,296	-34.8%	146	5,150
7:00 PM	2,224	1,371	1,913	1,755	4,137	3,126	-24.4%	9	3,117
8:00 PM	1,309	919	--	--	1,309	919	-29.8%	--	919
Total	70,429	47,028	72,587	44,757	143,016	91,785	-35.8%	6,271	85,514

Source: PCT Ridership by Run 2012 2017

Table 20: Lincoln - Sierra College Ridership by Hour and Direction

Shading Indicates Peak Direction

Hour Beginning	Westbound		Eastbound		Total			Saturday	Weekday Only
	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	% Change	FY 2016/17	FY 2016/17
6:00 AM	1,792	1,594	2,288	2,741	4,080	4,335	6.3%	17	4,318
7:00 AM	2,695	2,126	2,946	1,987	5,641	4,113	-27.1%	12	4,101
8:00 AM	3,309	2,257	4,687	3,694	7,996	5,951	-25.6%	541	5,410
9:00 AM	3,628	2,578	3,997	3,055	7,625	5,633	-26.1%	687	4,946
10:00 AM	3,855	3,173	3,362	2,638	7,217	5,811	-19.5%	713	5,098
11:00 AM	4,581	3,304	3,284	2,630	7,865	5,934	-24.6%	720	5,214
12:00 PM	4,187	3,275	3,904	2,563	8,091	5,838	-27.8%	798	5,040
1:00 PM	4,749	3,946	3,500	2,475	8,249	6,421	-22.2%	610	5,811
2:00 PM	5,141	3,950	3,396	2,675	8,537	6,625	-22.4%	684	5,941
3:00 PM	4,550	3,077	3,929	2,663	8,479	5,740	-32.3%	633	5,107
4:00 PM	4,572	3,366	4,205	3,093	8,777	6,459	-26.4%	665	5,794
5:00 PM	4,529	3,347	3,398	2,289	7,927	5,636	-28.9%	408	5,228
6:00 PM	1,921	1,814	2,116	1,614	4,037	3,428	-15.1%	2	3,426
7:00 PM	1,204	1,001	1,109	1,030	2,313	2,031	-12.2%	--	2,031
Total	50,713	38,808	46,121	35,147	96,834	73,955	-23.6%	6,490	67,465

Source: PCT Ridership by Run 2012 2017

Alta Colfax Route

The Alta/Colfax route makes only two round trips per day between Auburn and Alta (Table 22 and Figure 33). The 8:00 AM southbound run to Auburn and the 3:00 PM northbound run to Alta are the most popular trips. Ridership on this “lifeline” has decreased by 39 percent over the past five years.

Figure 31: Lincoln Sierra College Route Weekday Ridership by Hour

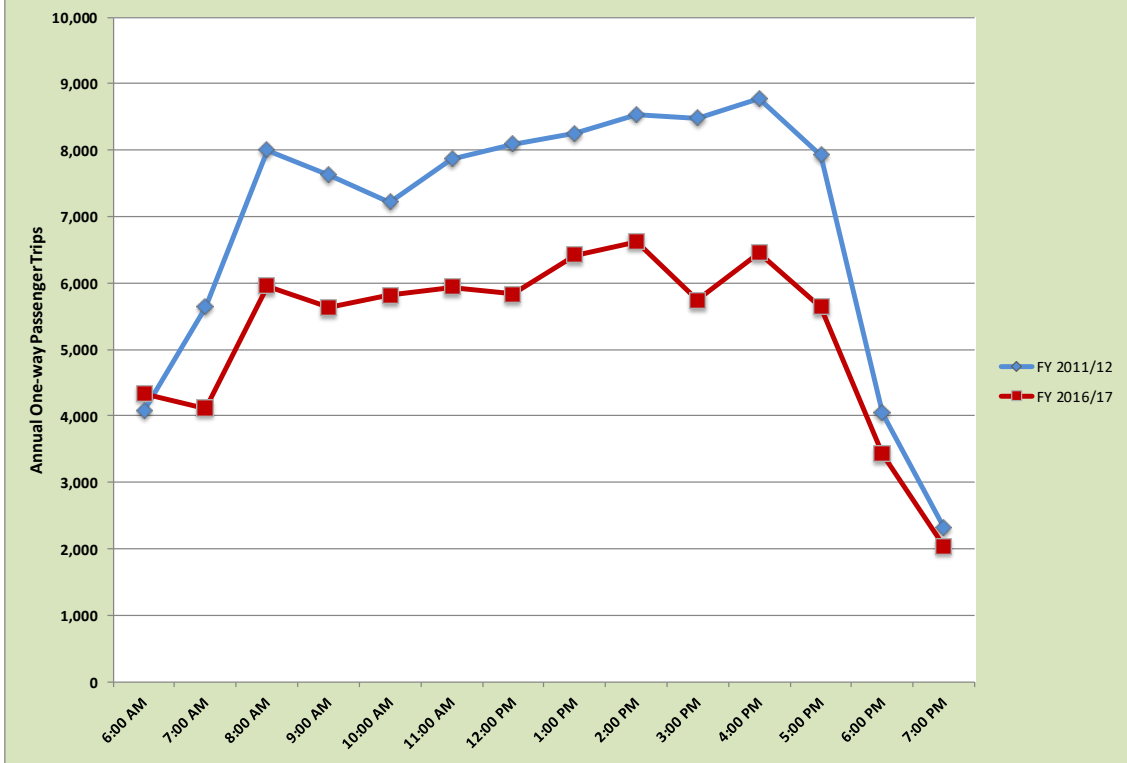


Figure 32: Highway 49 Route Ridership by Hour

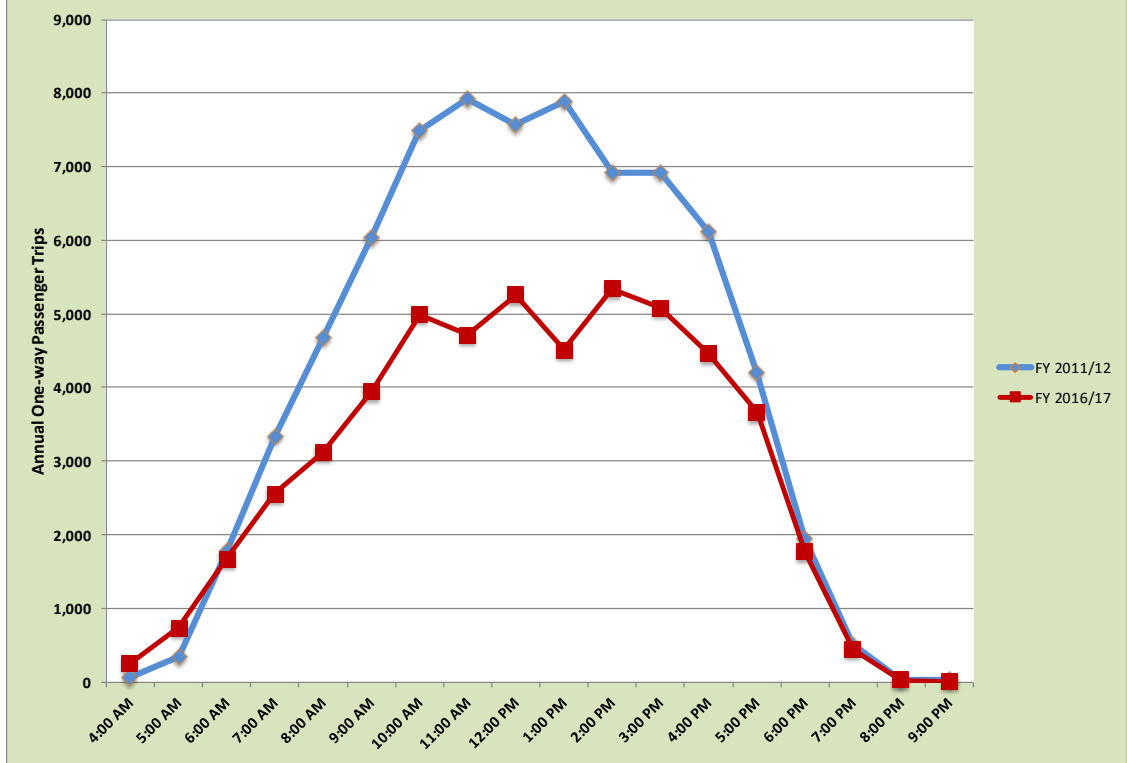


Table 21: Highway 49 Ridership by Hour and Direction

Shading Indicates Peak Direction

Hour Beginning	Southbound		Northbound		Total			Saturday	Weekday Only
	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	% Change	FY 2016/17	FY 2016/17
4:00 AM	64	249	--	--	64	249	289.1%	--	249
5:00 AM	337	736	--	--	337	736	118.4%	--	736
6:00 AM	1,633	1,453	147	213	1,780	1,666	-6.4%	--	1,666
7:00 AM	2,060	1,432	1,281	1,124	3,341	2,556	-23.5%	41	2,515
8:00 AM	2,543	1,846	2,133	1,275	4,676	3,121	-33.3%	104	3,017
9:00 AM	3,749	2,234	2,275	1,714	6,024	3,948	-34.5%	479	3,469
10:00 AM	3,945	2,886	3,540	2,102	7,485	4,988	-33.4%	659	4,329
11:00 AM	3,862	2,495	4,059	2,219	7,921	4,714	-40.5%	612	4,102
12:00 PM	4,277	2,770	3,300	2,490	7,577	5,260	-30.6%	666	4,594
1:00 PM	4,011	2,194	3,882	2,318	7,893	4,512	-42.8%	565	3,947
2:00 PM	3,866	2,814	3,053	2,528	6,919	5,342	-22.8%	574	4,768
3:00 PM	3,107	2,244	3,815	2,838	6,922	5,082	-26.6%	596	4,486
4:00 PM	2,907	2,058	3,203	2,405	6,110	4,463	-27.0%	583	3,880
5:00 PM	2,079	1,007	2,137	2,650	4,216	3,657	-13.3%	277	3,380
6:00 PM	783	741	1,169	1,017	1,952	1,758	-9.9%	11	1,747
7:00 PM	--	--	508	441	508	441	-13.2%	--	--
8:00 PM	--	--	31	26	31	26	-16.1%	--	--
9:00 PM	--	--	23	7	23	7	-69.6%	--	--
Total	39,223	27,159	34,556	25,367	73,779	52,526	-28.8%	5,167	46,885

Source: PCT Ridership by Run 2012 2017 Note: Includes weekday and Saturday only runs.

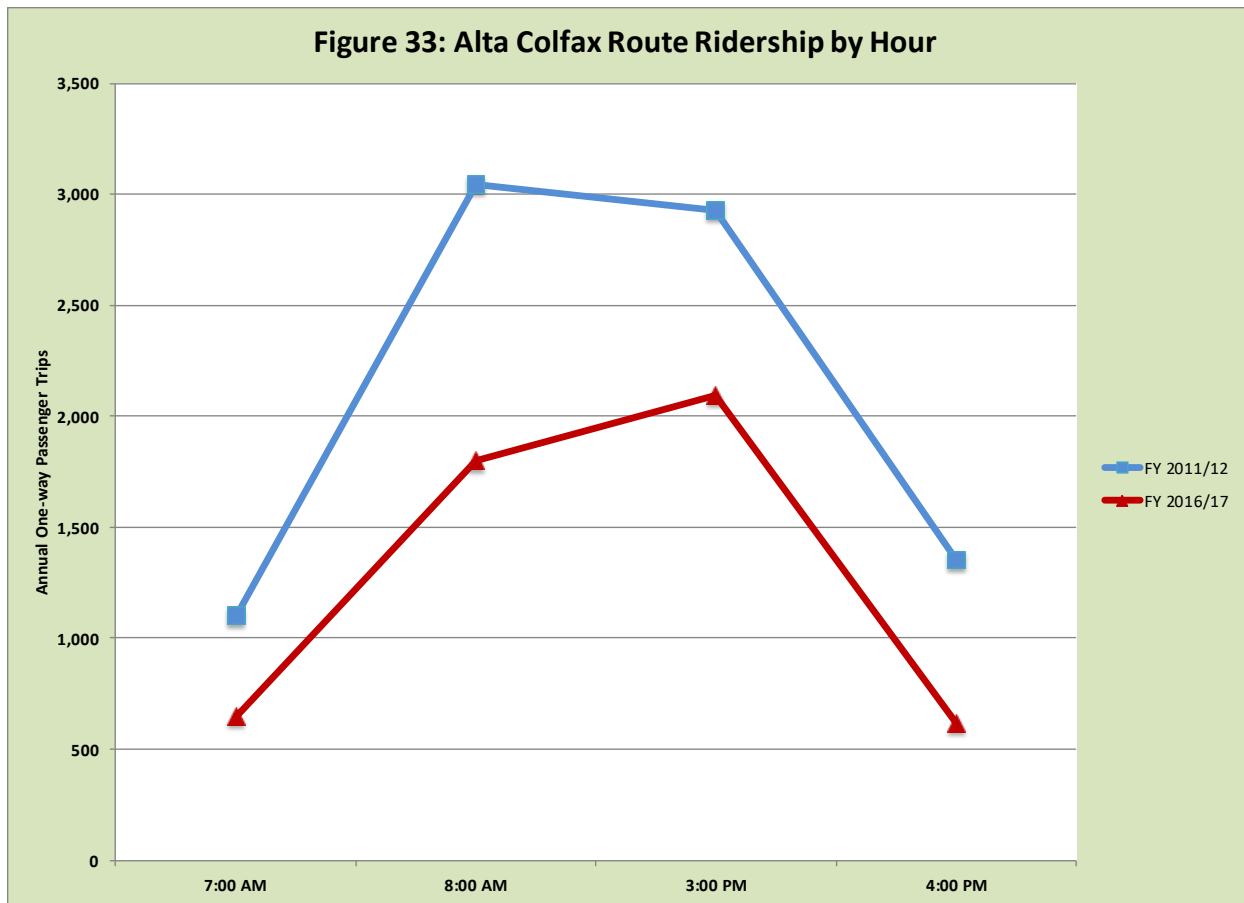
Table 22: Alta/Colfax Ridership by Hour and Direction

Hour Beginning	Southbound		Northbound		Total		
	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	% Change
7:00 AM	--	--	1,098	650	1,098	650	-41%
8:00 AM	3,043	1,797	--	--	3,043	1,797	-41%
3:00 PM	--	--	2,929	2,093	2,929	2,093	-29%
4:00 PM	1,354	615	--	--	1,354	615	-55%
Total	4,397	2,412	4,027	2,743	8,424	5,155	-39%

Source: PCT Ridership by Run 2012 2017

Taylor Road Shuttle

The Taylor Road Shuttle operates on every other hour headways. Ridership numbers in Table 23 and Figure 34 for the westbound direction include the Campus Shopping Loop which was implemented in 2016. The additional ridership generated from the Campus Shopping Loop narrows the gap in ridership between FY 2011-12 and FY 2016-17 for the westbound direction as FY 2016-17 ridership is only 3 percent lower than in FY 2011/12. Ridership in the eastbound direction is 43 percent lower.



There are several interesting differences between FY 2011-12 and FY 2016-17, ridership by hour trends. In FY 2011-12, the morning peak hour was at 9:30 AM in the eastbound direction (1,120 trips). In FY 2016-17 the morning peak hour is at 7:30 AM in the eastbound direction (917 trips) and ridership dropped significantly during the 9:30 AM hour to 445 trips. During the 4:30 PM peak hour in the westbound direction, ridership increased by 60 from FY 2011/12 levels (aided by additional ridership from the Campus Shopping Loop).

Placer Commuter Express

Table 24 and Figure 35 present ridership on the PCE routes by hour. Comparing the two years, there is not significant change in ridership patterns and ridership. FY 2016-17 is only 12 percent lower than five years previous. The greatest number of commuters depart for work during the 6:00 AM hour and leave work during the 4:00 PM hour with the 4:00 PM hour being the peak hour.

Lincoln Circulator

Ridership by hour for FY 2016-17 for the Lincoln Circulator Route is presented in Table 25 and Figure 36. PCT did not operate this service in FY 2011-12 so historical comparisons are not

Table 23: Taylor Road Shuttle Ridership by Hour and Direction

Hour Beginning	Westbound + Campus Shopping Loop		Eastbound		Total			Saturday FY 2016/17	Weekday Only FY 2016/17
	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	% Change		
6:30 AM	748	502	--	--	748	502	-33%	16	486
7:30 AM	--	--	917	939	917	939	2%	--	--
8:30 AM	835	868	--	--	835	868	4%	275	593
9:30 AM	--	--	1,120	445	1,120	445	-60%	72	373
10:30 AM	750	702	--	--	750	702	-6%	67	635
11:30 AM	--	--	798	268	798	268	-66%	60	208
12:30 PM	803	653	--	--	803	653	-19%	64	589
1:30 PM	--	--	792	428	792	428	-46%	52	376
2:30 PM	947	794	--	--	947	794	-16%	70	724
3:30 PM	--	--	1,158	634	1,158	634	-45%	54	580
4:30 PM	781	1,242	--	--	781	1,242	59%	123	1119
5:30 PM	--	--	721	449	721	449	-38%	83	366
6:30 PM	308	255	--	--	308	255	-17%	--	--
7:30 PM	--	--	439	249	439	249	-43%	--	--
Total	5,172	5,016	5,945	3,412	11,117	8,428	-24%	936	6,049

Source: PCT Ridership by Run 2012 2017

Figure 34: Taylor Road Shuttle Weekday Ridership by Hour

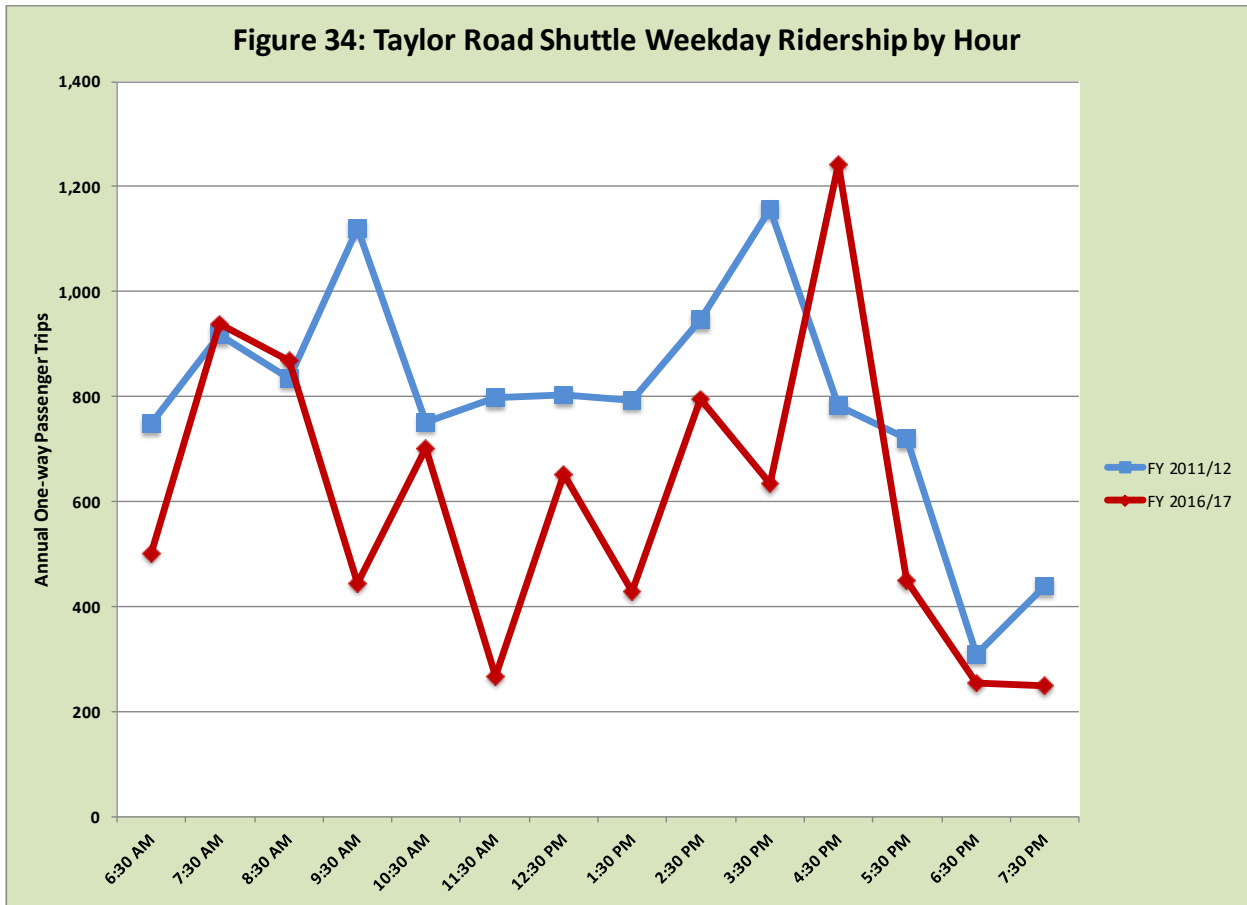


Table 24: Placer Commuter Express Ridership by Hour and Direction

Run Beginning	To Sacramento		From Sacramento		Total		
	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	FY 2011/12	FY 2016/17	% Change
5:00 AM	2,671	3,357	--	--	2,671	3,357	25.7%
6:00 AM	25,114	23,371	--	--	25,114	23,371	-6.9%
7:00 AM	14,017	11,481	--	--	14,017	11,481	-18.1%
4:00 PM	--	--	30,984	27,487	30,984	27,487	-11.3%
5:00 PM	--	--	8,383	5,582	8,383	5,582	-33.4%
Total	41,802	38,209	39,367	33,069	81,169	71,278	-12.2%

Source: PCT Ridership by Run 2012 2017

made. The Lincoln Circulator Route has two distinct peaks: 6:00 AM and 2:00 PM. During both hour periods, over 6,000 one-way trips were carried. Throughout the remainder of the service day, ridership stayed relatively flat with less than 2,000 trips for each hourly period. One of the Lincoln Circulator’s major trip generators is school children.

Fixed Route Ridership by Passenger Type

Table 26 presents ridership by passenger type for the fixed route services. This data was obtained from the electronic farebox database. Roughly 33 percent of boardings are made by general public passengers, 24.2 percent by senior/youth/disabled passengers, 20.2 percent by commuters, and 20.6 percent are classified as “Other”. Other categories include “short fare”, “old ticket” etc. The Day Pass is the most common type of fare media (27 percent of boardings), followed by the 30 Ride Monthly pass (23 percent). Notably, only 8.2 percent of all passengers board by paying the 1-way fare.

Table 27 presents an analysis of boardings made with the Connect Card on PCT routes from January to October 2017. Note that this data is not directly comparable to Table 26. As seen in the Table the Connect Card program is much more popular with commuter route passengers as 85 percent of the total 16,417 Connect Card boardings were on the PCE routes. Roughly 7.4 percent of Connect Card boardings were recorded on the Auburn Light Rail Route but this route could also be considered a “commuter” type service as it provides a connection to the Sac RT light rail system. The table also shows that Connect Card is generally used by general public passengers rather than passengers who pay a discounted fare (senior, youth, disabled). Nearly 80 percent of Connect Card boardings during this time period were with a PCT General Public

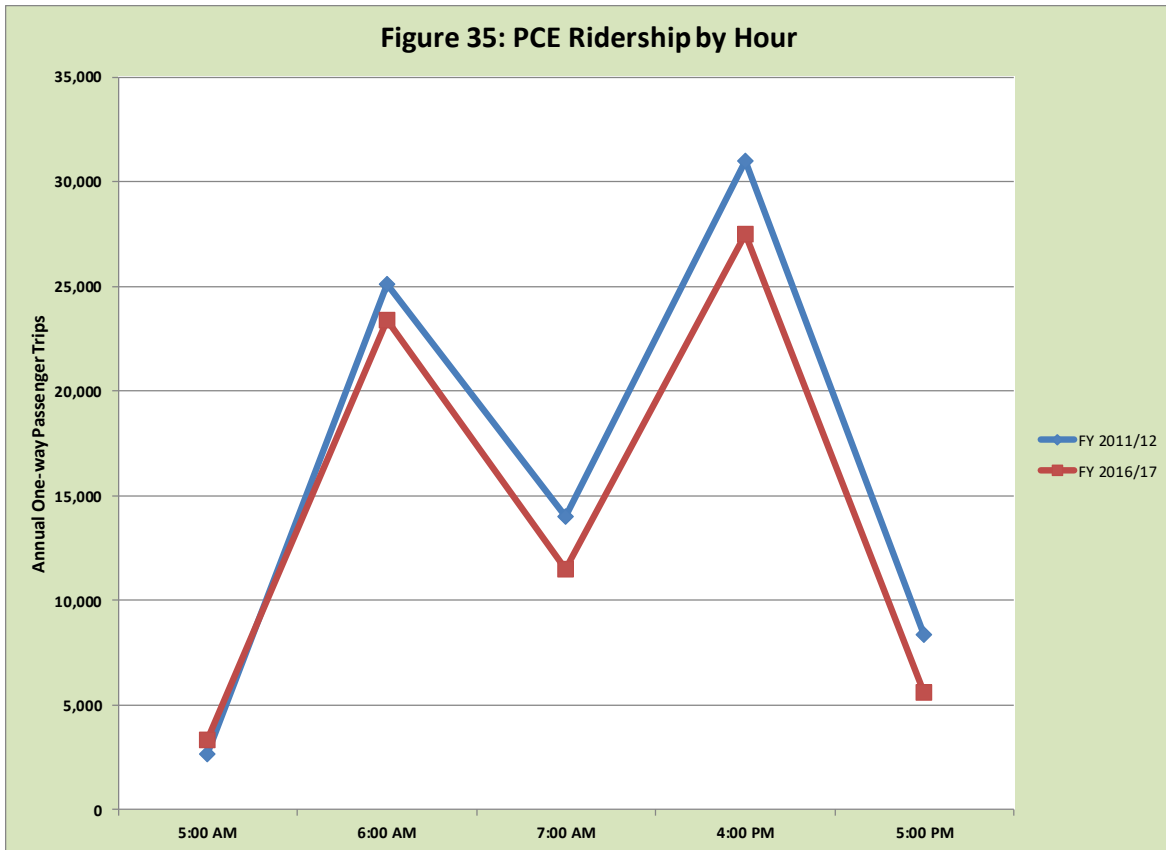


Table 25: Lincoln Circulator Ridership by Hour

Hour Beginning	Total FY 2016/17	Saturday FY 2016/17	Weekday FY 2016/17
6:00 AM	6,076	--	6,076
7:00 AM	2,096	66	2,030
8:00 AM	1,600	225	1,375
9:00 AM	1,658	212	1,446
10:00 AM	1,895	271	1,624
11:00 AM	1,665	225	1,440
12:00 PM	1,603	195	1,408
1:00 PM	2,987	214	2,773
2:00 PM	6,881	225	6,656
3:00 PM	2,032	145	1,887
4:00 PM	1,389	13	1,376
5:00 PM	1,138	--	1,138
Total	31,020	1,791	29,229

Source: PCT Ridership by Run 2012 2017

Figure 36: Lincoln Circulator Ridership by Hour

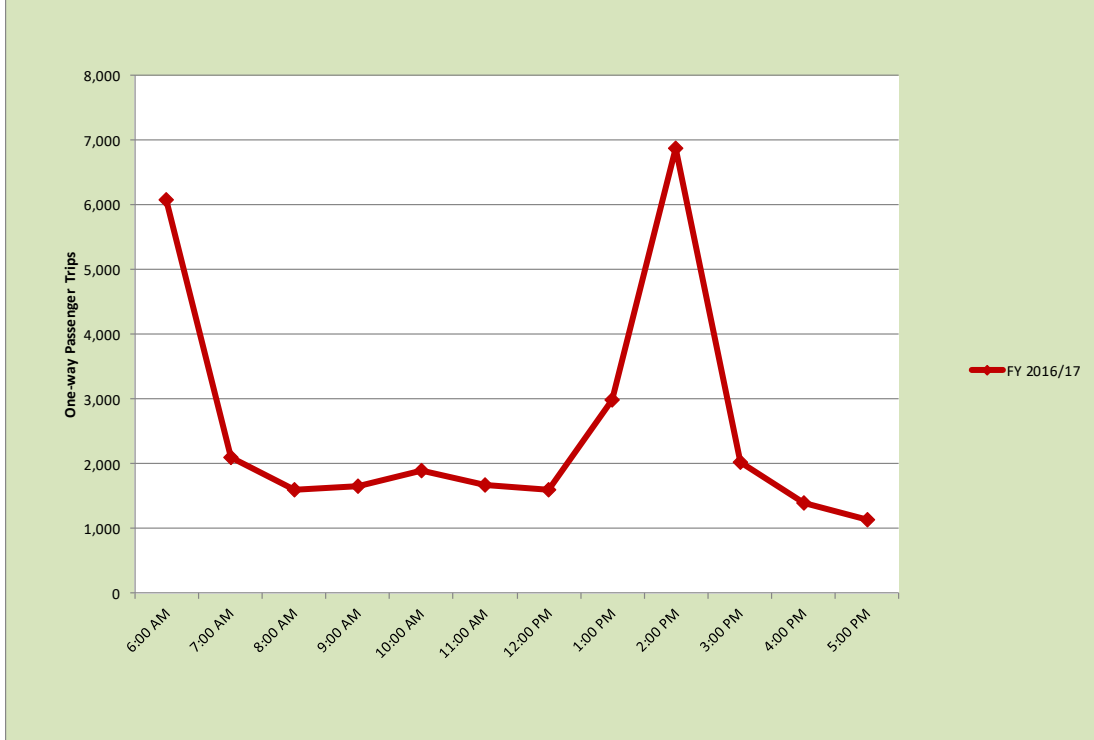


Table 26: PCT Fixed Route Boardings by Type

FY 2016-17

	1-Ride/Fare	Day Pass	10-Ride	14-Ride	20-Ride	30-Ride/ Monthly	Total
Senior-Youth-Disabled	15,314	46,213	19,010	--	--	--	80,537
General Public	11,938	46,243	18,818	1,171	--	30,856	109,026
Commuter	46	--	505	--	20,982	45,685	67,218
Under 5	--	--	--	--	--	--	7,967
Other	--	--	--	--	--	--	68,572
Total	27,298	92,456	38,333	1,171	20,982	76,541	333,320
% of Total							
Senior-Youth-Disabled	4.6%	13.9%	5.7%	--	--	--	24.2%
General Public	3.6%	13.9%	5.6%	0.4%	--	9.3%	32.7%
Commuter	0.0%	--	0.2%	--	6.3%	13.7%	20.2%
Under 5	--	--	--	--	--	--	2.4%
Other	--	--	--	--	--	--	20.6%
Total	8.2%	27.7%	11.5%	0.4%	6.3%	23.0%	100.0%

Source: PCT Annual Revenue and Ridership Report July 2016 - June 2017

Monthly or 30-Day Pass. The second most popular Connect Card fare media was the General Public Single Ride (9.7 percent or 1,598). A review of FY 2017-18 ridership data to date demonstrates that roughly 12 percent of fixed route boardings are made with Connect Card.

DAR Ridership by Passenger Type and Day of Week

Tables 28 to 30 present PCT ridership on the DAR services by passenger type for weekdays only, Saturdays and weekday + Saturday, respectively. The data shows that roughly 9 percent of DAR ridership occurs on Saturdays. Both the Lincoln DAR and Granite Bay DAR have low proportions of “adult” ridership, roughly 6 percent and 10 percent respectively. The largest proportion of passengers for all DAR services fall into the “Disabled” category, roughly 53 percent.

Table 27: PCT Connect Card Boardings by Type

January - October 2017

Route	PCT										Total	% of Total
	Single Ride General Public	Single Ride Discount	14 Day General Public	14 Day Discount	24 Hour General Public	24 Hour Discount	Monthly / 30 Day Pass General Public	Monthly / 30 Day Pass Discount	Roseville Transit Passes	RT Passes		
Auburn Light-Rail	304	149	3	0	10	16	200	253	36	241	1,212	7.4%
Lincoln Sierra College	116	126	2	3	17	8	196	178	28	0	674	4.1%
Highway 49	23	67	0	0	7	12	24	174	3	0	310	1.9%
Colfax/Alta	0	0	0	0	0	0	2	5	0	0	7	0.04%
Taylor Road Shuttle	0	0	0	0	0	0	0	45	0	0	45	0.3%
PCE	1,123	20	0	0	0	0	12,662	0	5	147	13,957	85.0%
Lincoln Circulator	32	7	0	0	3	2	2	115	51	0	212	1.3%
Total	1,598	369	5	3	37	38	13,086	770	123	388	16,417	100.0%
% of Total	9.7%	2.2%	0.0%	0.0%	0.2%	0.2%	79.7%	4.7%	0.7%	2.4%	100.0%	

Note: Connect Card boardings do not represent total ridership
Source: CC Ridership Jan 2017-June 2018

Table 28: Placer County Transit Weekday DAR Ridership by Passenger Type

Dial-A-Ride	Adult		Youth		Senior		Disabled		Free		Total
	#	%	#	%	#	%	#	%	#	%	
Highway 49	453	5%	10	0%	1,393	17%	6,412	77%	56	1%	8,324
Taylor Road Shuttle	2,538	32%	15	0%	1,899	24%	3,378	43%	72	1%	7,902
Rocklin/Loomis	1,861	23%	247	3%	1,938	24%	3,734	47%	178	2%	7,958
Lincoln	320	6%	67	1%	2,820	50%	2,215	39%	194	3%	5,616
Granite Bay	24	10%	3	1%	131	55%	78	33%	2	1%	238
Total Dial-A-Ride	5,196	17%	342	1%	8,181	27%	15,817	53%	502	2%	30,038

Source: 2016-17 DAR Monthly Reports

Table 29: Placer County Transit Saturday DAR Ridership by Passenger Type

Dial-A-Ride	Adult		Youth		Senior		Disabled		Free		Total
	#	%	#	%	#	%	#	%	#	%	
Highway 49	48	7%	0	0%	258	37%	376	54%	18	3%	700
Taylor Road Shuttle	182	18%	4	0%	229	22%	587	57%	24	2%	1,026
Rocklin/Loomis	26	5%	2	0%	233	41%	295	51%	17	3%	573
Lincoln	30	4%	8	1%	295	40%	352	48%	45	6%	730
Granite Bay	-	-	-	-	-	-	-	-	-	-	-
Total Dial-A-Ride	286	9%	14	0.5%	1,015	34%	1,610	53%	104	3%	3,029

Source: 2016-17 DAR Monthly Reports

Table 30: Placer County Transit Total DAR Ridership by Passenger Type

Dial-A-Ride	Adult		Youth		Senior		Disabled		Free		Total
	#	%	#	%	#	%	#	%	#	%	
Highway 49	501	6%	10	0%	1,651	18%	6,788	75%	74	1%	9,024
Taylor Road Shuttle	2,720	30%	19	0%	2,128	24%	3,965	44%	96	1%	8,928
Rocklin/Loomis	1,887	22%	249	3%	2,171	25%	4,029	47%	195	2%	8,531
Lincoln	350	6%	75	1%	3,115	49%	2,567	40%	239	4%	6,346
Granite Bay	24	10%	3	1%	131	55%	78	33%	2	1%	238
Total Dial-A-Ride	5,482	17%	356	1%	9,196	28%	17,427	53%	606	2%	33,067

Source: 2016-17 DAR Monthly Reports

ON-BOARD SURVEY SUMMARY

The following are key findings from the on-board surveys, boarding and alighting, and on-time performance data. Complete results are included as Appendix C.

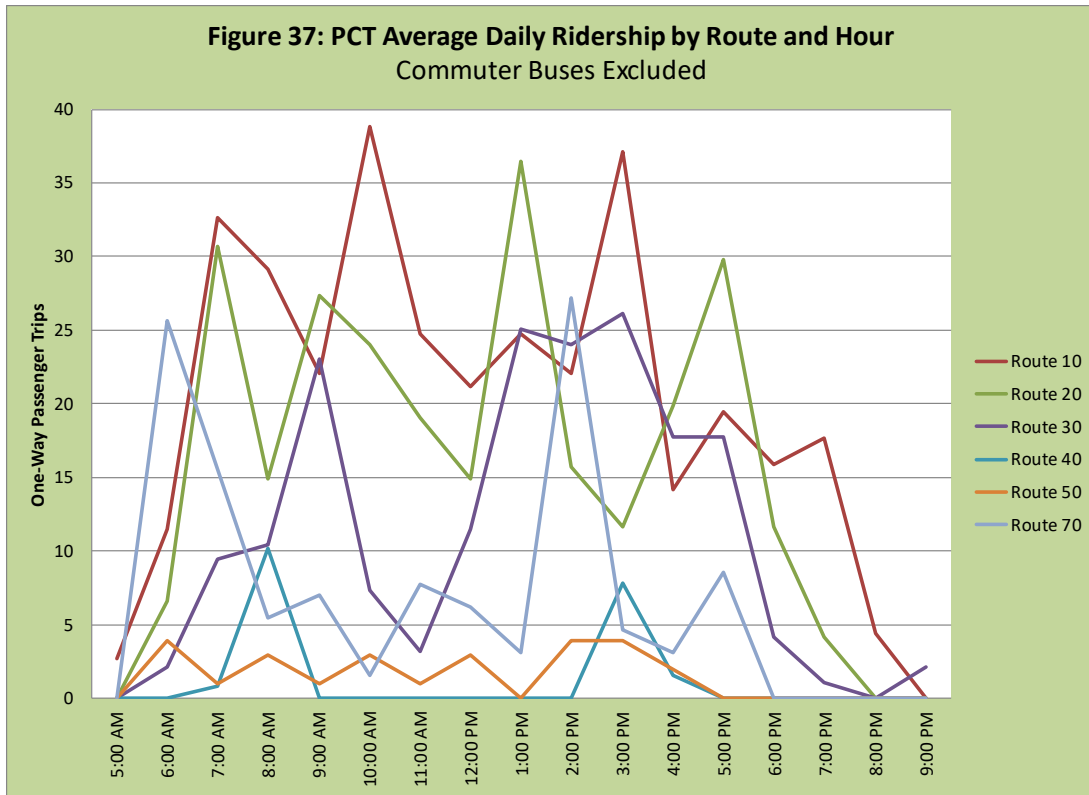
Ridership by Hour

Figure 37 displays ridership by hour for the regional fixed routes during the survey period. The highest average ridership by hour is found in the 10 AM and 3 PM hour on Route 10 (Auburn-Light Rail), and the 1 PM hour on Route 20 (Rocklin/Lincoln).

Boarding and Alighting

Table 31 displays maximum passenger load by route and by run:

- The Taylor & I-80/Sunsplash Park and Ride stop experiences the highest activity of the park and ride stops. Colfax Depot had no boardings the day it was surveyed.



- The afternoon commuter buses experience the highest passenger loads of any of the routes, with as many as 49 passengers on the bus at the same time. The next highest passenger load is on Route 10 (Auburn-Light Rail), with a maximum passenger load of 39 at 10:00 AM. No other routes experience loads greater than 24 passengers.

On-Time Performance

A summary of the observed on-time performance by route is provided in Figure 38, and indicates the following:

- Overall on weekdays, 67 percent of time points were served within Placer County Transit’s standard on-time “window” of zero to five minutes behind schedule, or were early arrivals at the end of the route. Time points served six or more minutes behind the published schedule totaled 17 percent of all weekday observations.
- Route 10 (Auburn-Light Rail) departs from the Watt/I-80 stop in the eastbound direction consistently (and significantly) earlier than scheduled – as much as ten minutes early on some runs.
- Route 40 (Colfax/Alta) does not have scheduled timepoints for arrival at Auburn Station but the driver reported that the bus consistently misses the connection with Route 10 to Light Rail.

- Route 70 (Lincoln Circulator) consistently experiences delay from the scheduled operating times between Twelve Bridges Library and the Ferrari Ranch/Caledon stop. It also experiences significant delay (11 minutes) on the 8:40 AM and 2:40 PM runs.

Passenger Surveys – Fixed Route/Commuters

Key findings of the onboard passenger surveys are as follows:

- The largest percentage of respondents to the onboard survey live in Rocklin (23 percent) followed by Auburn (20 percent). Overall, PCT passengers are well-distributed among the various cities and communities.
- The majority of trip purposes on Placer County Transit were for work (53 percent). The next most common use of the transit system was for a college-based trip, at 14 percent of trips. If PCE responses are removed from the dataset, the percentage of work trips falls to 29 percent, with college trips making up 19 percent of responses.
- When asked about frequency of use, 92 percent of respondents said they use the bus at least two days a week.
- Less than a quarter of respondents (22 percent) noted that they would not have made the trip if transit were not available. Over two-thirds (67 percent) of respondents have a driver’s license, indicating relatively low levels of transit dependency among the ridership. If PCE responses are removed, 50 percent of respondents have a driver’s license.

When asked about their satisfaction with twelve different service categories, overall respondents were very satisfied, with 93 percent rating Overall Service in the “Excellent” or “Good” categories. The categories in the top half of the rankings were:

- Driver Courtesy
- Overall Service
- Safety/Security
- Ease of Transfers
- Cleanliness of Vehicles
- Availability of Route/Schedule Info

The categories in the lower half of rankings included the following:

- Frequency of Service
- On-Time Performance
- Bus Stops
- Areas Served
- Comfort on Board Bus
- Fares (cost)

- Among all respondents, the largest proportion (49 percent) thought that adding more frequency of service would most increase ridership. Among just the non-commuters, respondents thought the options for Sunday service, more frequent service, and later service would be most likely to increase ridership (37 percent, 36 percent, and 34 percent respectively).
- The percentage of respondents who get their information from the internet has increased since the 2010/2011 surveys, from 24 percent to 45 percent among non-commuters.

Passenger Survey – Dial-A-Ride

Among DAR passengers, survey results indicate the following:

- The largest proportion of Dial-A-Ride respondents (35 percent) was using the service to get to work. The next largest groups were using the service for shopping (17 percent) and medical/dental (15 percent).
- Most respondents (86 percent) did not have the option of taking a vehicle for this trip, indicating a high level of transit dependence.
- Over half of Dial-A-Ride survey respondents (53 percent) stated the reason they use only Dial-A-Ride is because they enjoy using door-to-door service.
- Out of eleven rider satisfaction categories, driver courtesy ranked the highest, with 88 percent of respondents providing an “Excellent” rating. No category received less than 81 percent of votes going towards “Good” or “Excellent.” Another category with a very high score was bus cleanliness. The category with the lowest ranking was reservation procedures.
- Of nine proposed improvements, increased service availability, expanded service area, later Saturday service and Sunday service were the most popular choices.

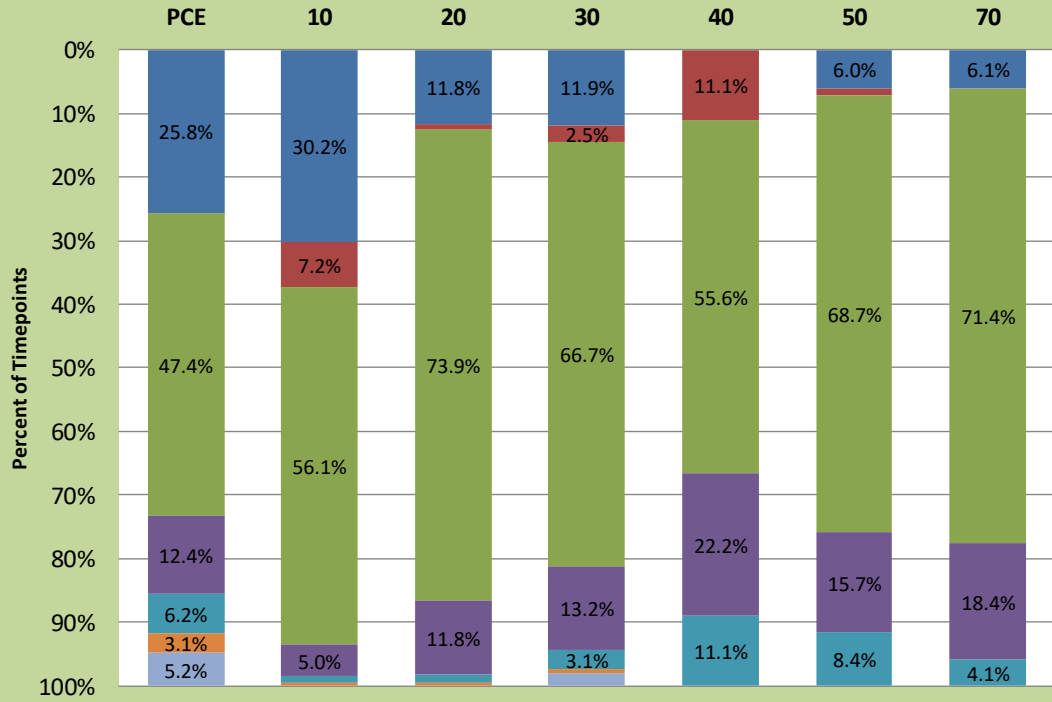
Table 31: Maximum Average Passenger Load by Route by Run

Half Hourly Start Time	Route						
	PCE ¹	10/Auburn-Light Rail	20/Lincoln-Sierra College	30 ² /Highway 49	40/Colfax-Alta	50 ³ /Taylor Road Shuttle	70 ⁴ /Lincoln Circulator #
4:30 AM				1			
5:00 AM	33	3					
5:30 AM	26			0			
6:00 AM	34	11	4	2			
6:30 AM	32				1	4	18
7:00 AM		33	19	9			
7:30 AM					9	1	14
8:00 AM		29	9	9			
8:30 AM						2	3
9:00 AM		22	18	21			
9:30 AM						1	5
10:00 AM		39	17	5			
10:30 AM						3	2
11:00 AM		25	9	2			
11:30 AM						1	5
12:00 PM		21	9	8			
12:30 PM						2	2
1:00 PM		25	20	19			
1:30 PM						0	3
2:00 PM		22	6	13			
2:30 PM					6	2	24
3:00 PM		37	7	21			
3:30 PM					2	4	2
4:00 PM	49	14	12	13			
4:30 PM	48					2	2
5:00 PM	34	9	16	17			
5:30 PM	26					3	6
6:00 PM		16	7	4			
6:30 PM							
7:00 PM		18	3	1			
7:30 PM							
8:00 PM		4		0			
8:30 PM							
9:00 PM				2			

Note 1: AM Run start times 5:20, 5:40, 6:18 and 6:37. PM run start times are 4:17, 4:22, 4:32 and 5:15.
 Note 2: 4:30 run departs 4:35. 5:30 run departs 5:29
 Note 3: 3:30 and 5:30 were scheduled for 3:45 and 5:45. 6:30, 8:30. 10:30, 12:30, 2:30 and 4:30 were scheduled on the :35 of each hour.
 Note 4: All routes are scheduled to depart on the 0:40 of each hour.
 Source: Onboard counts conducted 11/14/17 through 12/22/17

Figure 38: PCT On-Time Performance Summary

- Percent Early (Departures Only) ■ Percent Early (Arrivals Only) ■ Percent On-Time (0-5 Minutes Late)
- Percent 6-9 Minutes Late ■ Percent 10-14 Minutes Late ■ Percent 15-20 Minutes Late
- Percent >20 Minutes Late



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INTRODUCTION

A general review of performance of peers to Placer County Transit can be helpful in determining if PCT falls within the “norms” of transit systems. For this analysis, peers were chosen which similarly provide regional transit and/or commuter or long-distance routes. The peers include:



- B-Line in Butte County, which operates local fixed routes in Chico as well as regional routes.
- El Dorado Transit, which has both local fixed routes, DAR and commuter services, and operates within the foothills and into the Sacramento region.
- San Luis Obispo Regional Transit Authority (SLORTA), which has a combination of regional routes and local fixed routes, plus a county-wide Dial-a-Ride.
- SolTrans (Solano County Transit), which operates local routes and school-based routes (similar to the Lincoln Circulator) in Vallejo and Benecia, with regional services to Walnut Creek and Fairfield.
- Tulare County Area Transit (TCaT) in Tulare County, which offers regional intercommunity fixed routes throughout the county.

Data for this analysis came from three sources. Placer County Transit data was derived from the analyses provided in earlier tables. B-Line, SLORTA, SolTrans and TCaT data were derived from the State Controller’s Office annual reports (2016). Data for El Dorado Transit was obtained from operations reports available online. The data for this analysis is presented in Table 32. Note that the Placer County Transit data includes the regional fixed routes, DAR, and PCE services, but excludes the vanpool program.

Populations Served

Placer County Transit serves a population estimated to be 353,847. This is just over the peer average population. Both SolTrans and TCaT serve greater populations, although in addition to TCaT, Visalia Transit serves the City of Visalia, and the data for this transit service is not included. El Dorado Transit is estimated to serve just 181,000.

Table 32: Placer County Transit Peer Analysis

Excludes Vanpool Services

	Placer County Transit (PCT) ¹	Butte Regional Transit, Butte County (B-Line) ²	El Dorado Transit ³	San Luis Obispo Regional Transit Authority (SLORTA) ²	Solano County Transit (SolTrans) ²	Tulare County Area Transit (TCaT) ²	Peer Average
Population Served	353,847	226,800	181,000	279,100	413,000	460,400	312,060
Annual Ridership							
Fixed Route	262,452	1,081,887	278,842	810,218	1,516,834	338,426	805,241
DAR	27,146	169,260	56,571	55,682	29,110	10,311	64,187
Total	289,598	1,251,147	335,413	865,900	1,545,944	348,737	869,428
Annual Service							
Vehicle-Hours	50,962	118,078	52,414	72,578	111,709	38,157	78,587
Vehicle-Miles	903,321	1,389,541	1,133,180	1,569,887	2,068,631	1,039,336	1,440,115
Operating Cost	\$5,663,157	\$9,589,432	\$6,011,568	\$8,551,799	\$12,404,881	\$2,914,358	\$7,894,408
Revenues							
FR Fares	\$551,551	\$1,348,931	--	\$1,289,871	\$3,549,198	\$381,727	\$1,642,432
Special Services Fares	\$19,877	\$358,513	--	\$132,697	\$138,667	--	\$209,959
Total Fare Revenue	\$571,427	\$1,707,444	\$1,552,453	\$1,422,568	\$3,687,865	\$381,727	\$1,750,411
Total Revenue	\$7,755,313	\$9,579,895	\$6,284,269	\$8,617,490	\$12,404,881	\$3,401,430	\$8,057,593
Systemwide Performance							
Passengers per Hour	5.7	10.6	6.4	11.9	13.8	9.1	10.4
Passengers per Mile	0.3	0.9	0.3	0.6	0.7	0.3	0.6
Passengers per Capita	0.8	5.5	1.9	3.1	3.7	0.8	3.0
Cost per Veh Hour	\$111.13	\$81.21	\$114.69	\$117.83	\$111.05	\$76.38	\$100.23
Cost per Passenger-Trip	\$19.56	\$7.66	\$17.92	\$9.88	\$8.02	\$8.36	\$10.37
Farebox Recovery Ratio	10.1%	17.8%	25.8%	16.6%	29.7%	13.1%	20.6%

Note 1: PCT data is from FY 2016-17. Does not include vanpools, but does include PCE.

Note 2: Data from State Controllers Office (SCO) 2016 report, which combines all fixed route modes (local, commuter, regional) versus all demand response modes. This presentation is for general comparison purposes.

Note 3: El Dorado Transit data was obtained from operations reports available at http://eldoradotransit.com/wp-content/uploads/2017/10/AdminOpsRptFY2016_17.pdf

Ridership

Fixed Route and special transportation (generally Dial-a-Ride) ridership ranges from 335,413 on El Dorado Transit to 360,275 on PCT, to a high of 1,545,944 on SolTrans. PCT provides the lower range of rides among the peers, but on par with El Dorado Transit and TCaT.

Revenue Hours and Miles

The vehicle revenue hours and miles indicate the level of service which is being provided. The hours range from a low of 38,157 on TCaT, to 50,962 on PCT, to over 100,000 on both SolTrans and B-Line. PCT operates the lowest number of vehicle miles among the peers, and SolTrans operates significantly more than the peer average.

Operating Cost

As shown in Table 32, the operating cost among peers ranges from a low of \$2.9 million (TCaT) to \$5.7 million (PCT) to \$12.4 million (SolTrans), with a peer average of \$7.8 million.

Fares

The base fixed route fare and the base regional or commuter fares are shown in Table 32. These base fares are used for general comparison, but numerous types of daily, monthly or multi-use passes are available which are typically used by many of the passengers. PCT has the lowest (local) base fare at \$1.25, while the peer average is \$1.70. PCT has a higher than average commuter/regional fare starting at \$4.25 (the peer average is \$3.81).

Revenues

TCaT receives the lowest amount of fare revenues (\$381,727), followed by PCT (\$571,427), while SolTrans receives the highest amount of fare revenue (\$3.6 million). In terms of total revenues, however, PCT is near the average of \$8.0 million, receiving \$7.7 million in 2016-17.

PEER PERFORMANCE

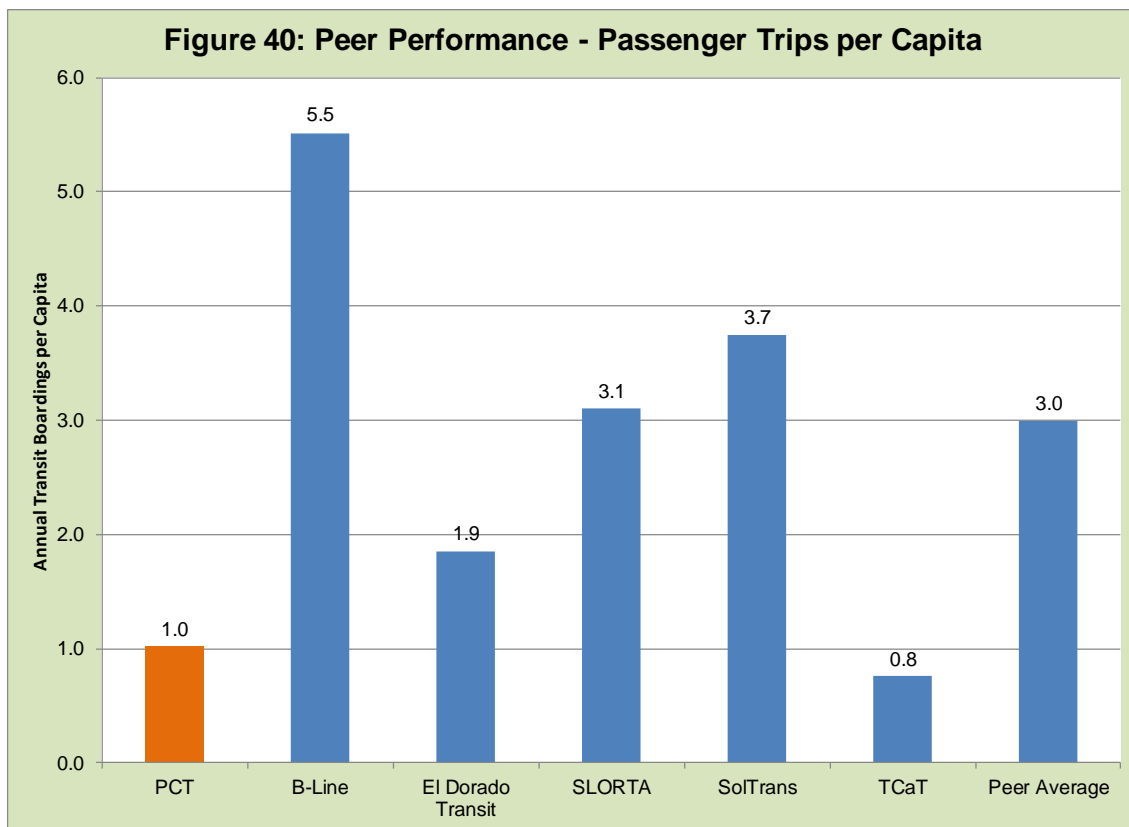
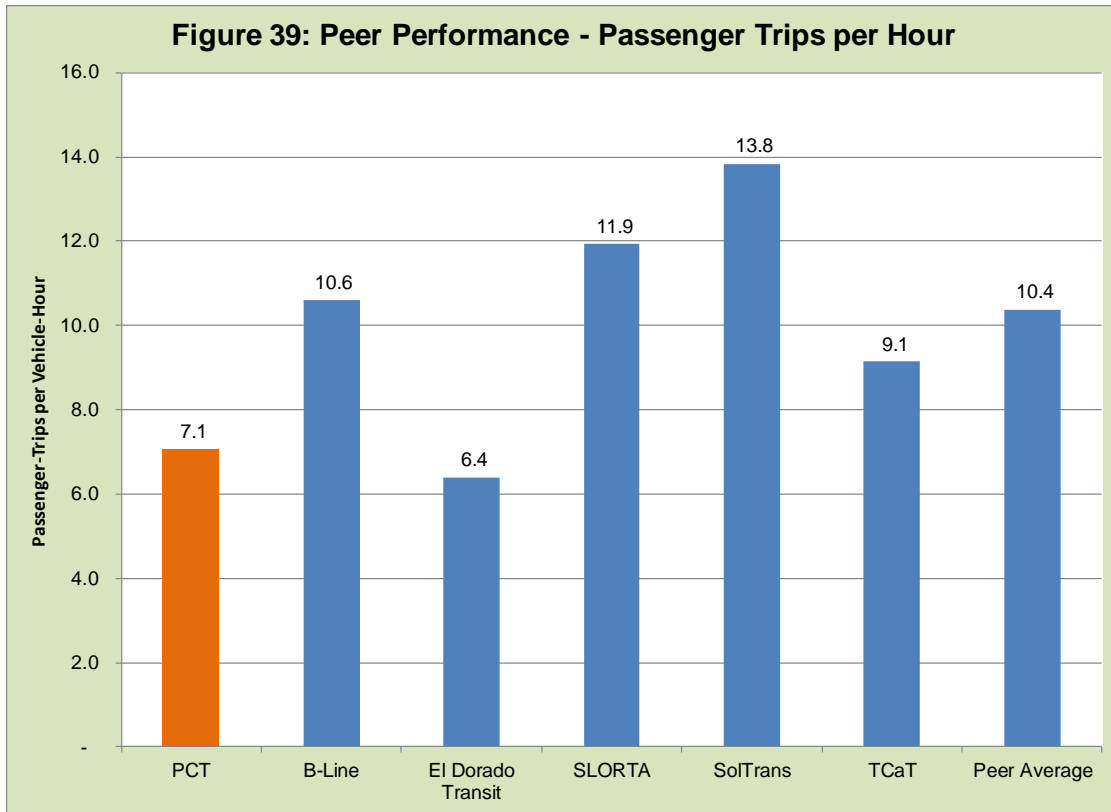
The data in Table 32 also includes a number of system wide performance measures as discussed below.

Passengers per Hour

The system wide average passengers carried per hour of service is shown in Table 32 and Figure 39. As indicated, PCT is below the peer average of 10.4, with 7.1 passengers carried per hour of service. SolTrans, at the other end of the spectrum, carries 13.8 passengers per hour, reflecting the high percentage of commuter ridership on the system.

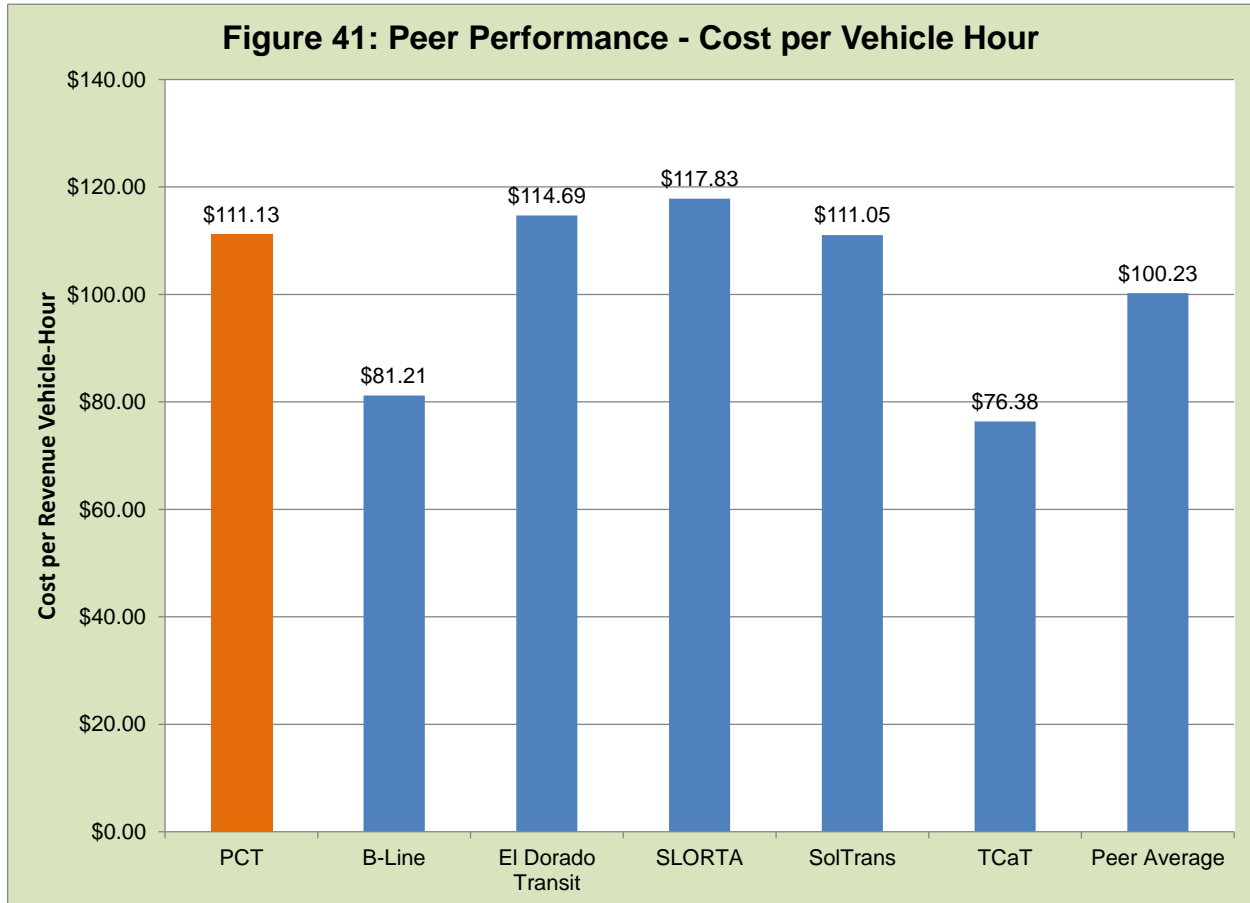
Passengers per Capita

The passengers carried per capita (population served) is depicted in Figure 40. The more rural systems, including PCT and TCaT, carry lower levels per capita (1.0 and 0.8 respectively), while more urban systems including SLORTA and SolTrans provide much higher ridership per capita (3.1 and 3.7). The B-Line is an anomaly, carrying 5.5 passenger trips per capita, which may be a result of both Chico State student ridership as well as the relatively high proportion of low income population.



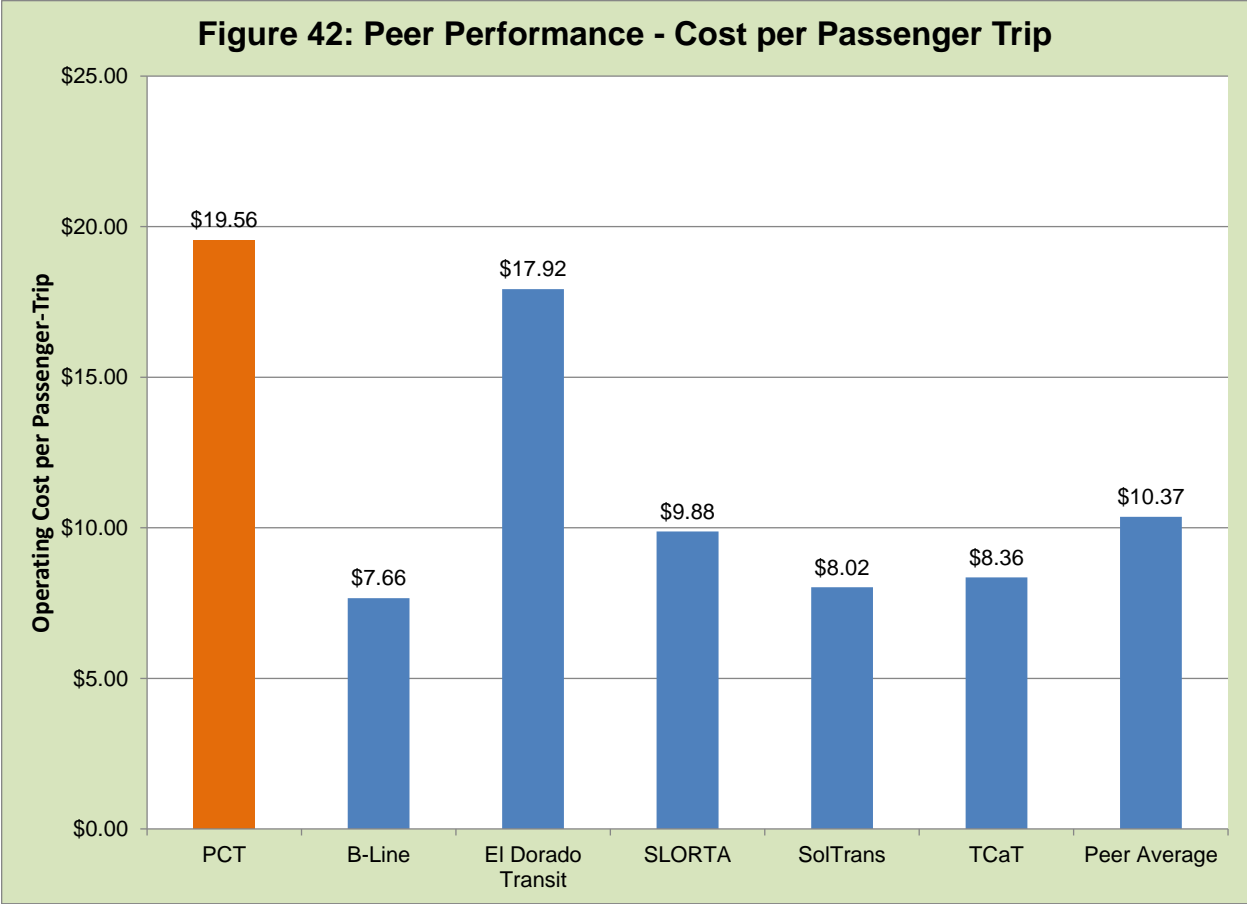
Cost per Vehicle Hour

The operating cost per vehicle hour is depicted in Table 32 and Figure 41. As shown, four of the systems, including PCT, are above the average of \$100.23 (ranging from \$111.05 to \$117.83) while B-Line and Tulare County Transit bring the average lower with their costs of \$81.21 and \$76.38, respectively. If the PCE figures are excluded from the costs and vehicle-operating quantities (in addition to the vanpool figures), PCT's cost per vehicle-hour is \$102.93 – very similar to the peer average.



Cost per Passenger Trip

Table 32 and Figure 42 show the cost per passenger trip. PCT is highest at \$19.56, followed by El Dorado Transit (\$17.92). B-Line has the lowest cost per passenger trip at \$7.66. Excluding the PCE figures, the PCT regional routes and DAR service has an average cost per passenger-trip of \$16.82.



Farebox Return Ratio

The farebox return ratio is measured by dividing the fare revenue by the operating cost. This indicates the percentage of the operating cost which is covered by fares, and mandated minimums are required under TDA law. As shown in Table 32 and Figure 43, the average farebox return ratio for the peer systems is 20.6 percent, with SolTrans reporting the highest farebox recovery at 29.7 percent, and PCT showing the lowest at 10.1 percent.

SACRAMENTO COMMUTER PEER COMPARISON

In addition to the PCE service, several transit operators in the greater Sacramento region provide commuter public transit services into downtown Sacramento: Yuba-Sutter Transit from Marysville/Yuba City, El Dorado Transit from Placerville, Roseville Transit from the City of Roseville and YoloBus from Woodland and Davis. While each system has its differences, the fact that all serve the same employment market makes this a useful peer comparison. Table 33 compares these services to PCT’s commuter routes.

Figure 43: Peer Performance - Farebox Return Ratio

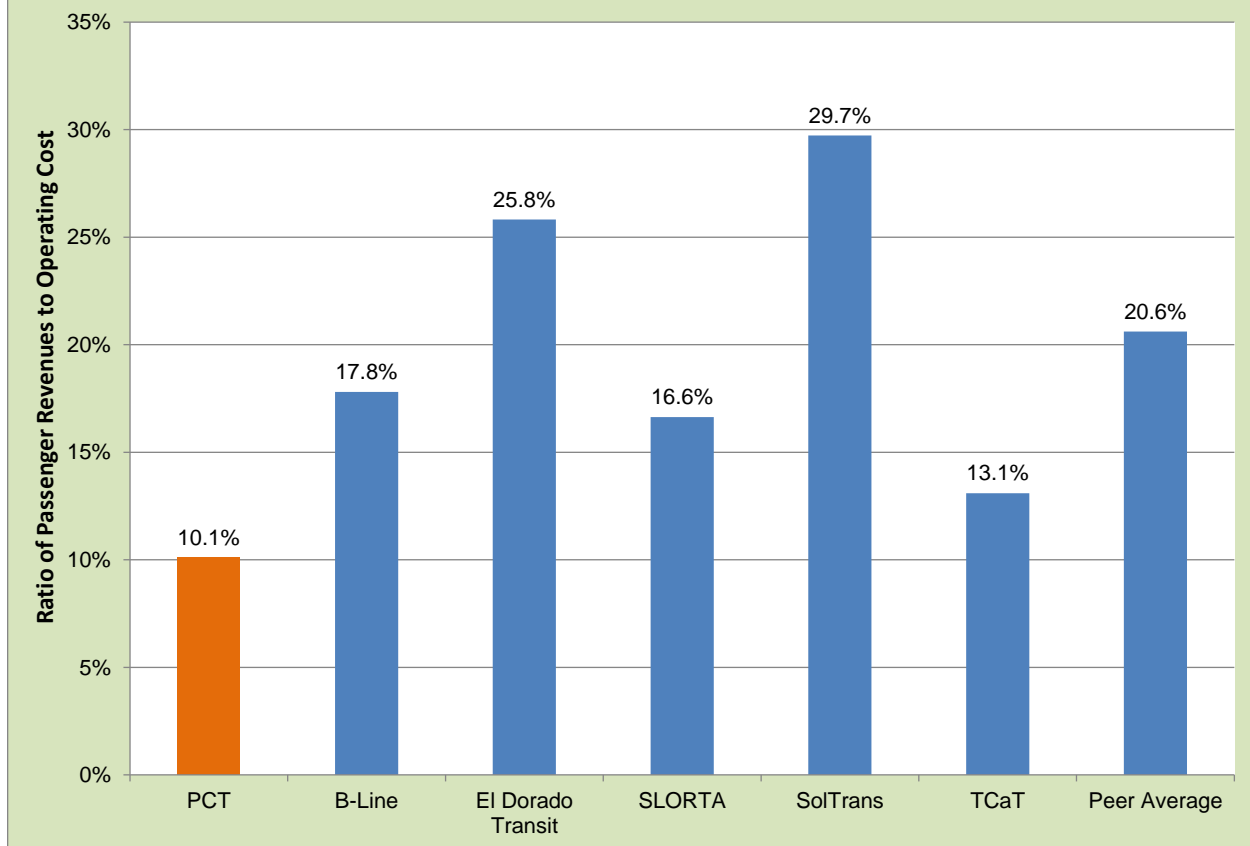


Table 33 : Placer County Transit Commuter Route Peer Analysis

	Annual Data				Performance Measure		
	Ridership	Vehicle Hours	Vehicle Miles	Operating Cost	Pax per Hour	Pax per Mile	Operating Cost per Hour
PCT Commuter	70,677	3,163	101,279	\$650,342	22.3	0.70	\$205.64
Roseville Transit	137,102	6,327	242,187	\$837,296	21.7	0.57	\$132.34
El Dorado Transit	139,792	9,057	281,027	\$1,411,252	15.4	0.50	\$155.82
Yuba Sutter Transit	118,307	11,630	418,000	\$855,307	10.2	0.28	\$73.54
YoloBus Route 45	58,204	2,565	65,323	NA	22.7	0.89	NA
Peer Average	113,351	7,395	251,634	\$1,034,618	17.5	0.56	\$120.57
<i>PCT % of Peer Average</i>					128%	125%	171%
<i>PCT Ranking</i>					4th Highest of 5	4th Highest of 5	Highest of 4

Source: FY 2016-17 data for all but YoloBus, which is FY 2014-15

The peer average ridership for the Sacramento Commuter Services is 113,351, greater than PCT's ridership of 70,677. Annual vehicle hours operated range from 2,565 on YoloBus Route 45 to 11,630 on Yuba Sutter Transit. PCT is roughly half the peer average of 7,395 in terms of vehicle hours. Yuba-Sutter Transit also travels the greatest number of vehicle miles (418,000), much more than the peer average of 251,643. YoloBus Route 45 only travels 65,323 annual vehicle miles. A review of the resulting performance measures indicates the following:

- Roseville Transit, PCT and YoloBus Route 45 all carry over 20 **passenger-trips per vehicle hour**. At 22.3, PCT is 28 percent above the peer average of 17.5. Yuba Sutter Transit has the lowest productivity, at 10.2 trips per hour. The fact that the PCT service is close to the highest productivity is notable, given the relatively long running times to Colfax.
- PCT's **passenger-trips per mile** performance (at 0.70) is above the peer average of 0.56 trips per mile. The PCT figure is exceeded only by the YoloBus Route 45 figure of 0.89.

Yuba-Sutter Transit's Commuter Routes (not including mid-day service to Sacramento) are clearly the most cost effective, with an **operating cost per vehicle-hour** of \$73.54. PCT's cost per hour (\$205.64) is significantly above the peer average of \$120.57. Many factors may contribute to this, including that half of the hours for each commuter route is deadhead travel (and therefore not included in the revenue hour calculation), split shifts and that the high proportion of deadhead travel require multiple driver checks. Additionally, in FY 2016-17 there were particularly high maintenance costs and difficulties with the contractor requiring additional administrative oversight. Also, PCT cost figures include allocated county staff time spent managing the commuter service contract; whereas, that level of detail was not available for the other transit operators.

OVERALL FINDINGS

The following findings can be made from the existing services review of PCT:

- Much of Placer County is suburbanized and does not have significant high density development. This makes public transit attractive less attractive and convenient. Combined with growth in auto ownership and relatively low gas prices, public transit ridership has decreased significantly over the past eight years.
- PCT routes where ridership has seen the smallest decline and overall best performance relative to the others are the commuter routes. As Sacramento is a large centralized employment center (with major employers that subsidize transit passes), the commuter routes are convenient to passengers.
- PCT's fixed route base fare is below the peer average and DAR fares are lower than El Dorado Transit.

- On a per route basis, the Granite Bay DAR has very low productivity (0.3 trips per hour) and a high operating cost per trip of \$254.53. This service primarily serves disabled residents in a community which is not significantly transit dependent. The Alta/Colfax route and Taylor Road Shuttle are also on the low end of the performance spectrum; however these services provide important connections to community centers for rural Placer County residents.
- Despite a high operating cost per hour in comparison to peer services, PCE is very productive (22.3 trips per hour) and has a high farebox ratio of 42.2 percent.
- Systemwide PCT's operating cost per hour (excluding the PCE service) is not significantly above the peer average; however productivity is below the peer average.
- The on-board surveys indicated that more frequent service is one of the top desired improvements.

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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 34 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 34: PCT Transit Goals, Objectives and Performance Standards (1 of 2)

Objective	Performance Measure	Existing Standard	Actual Performance			Recommended Standard
			FY 2009-10	FY 2016-17	Standard Met in 2016-17?	
Goal 1: Operate an efficient and effective system that maximizes service and minimizes cost impacts						
Minimize Operating Cost	<u>Farebox Recovery</u>					
	Systemwide ⁽¹⁾	10%	13.9%	14.7%	Yes	12.9%
	Fixed-Route Overall ⁽²⁾	10%	6.5%	5.0%	No	10%
	Fixed Route- Rural Inter-Community (Alta-)	10%	n/a	1.7%	No	8%
	Fixed Route - Rural DR (Taylor Road)	10%	n/a	2.1%	No	5%
	Commuter ⁽²⁾	10%	58.6%	42.2%	Yes	40%
	Vanpool ⁽²⁾	10%	38.6%	23.1%	Yes	20%
	Dial-A-Ride (Overall) ⁽²⁾	10%	2.9%	1.8%	No	5.0%
	Urban DAR (Rocklin/Loomis, Granite Bay,	10%	n/a	1.9%	No	5%
	Rural DAR (Highway 49) ⁽²⁾	10%	n/a	1.6%	No	5%
	<u>Operating Cost per Vehicle Service Hour</u>					
	Systemwide	n/a	\$100.61	\$105.98	n/a	\$100.00
	Fixed Route	\$40	\$124.82	\$117.16	No	\$115.00
	Commuter	\$50	\$211.29	\$205.64	No	\$225.00
	Vanpool	\$60	\$38.77	\$53.25	No	\$60.00
	Dial-A-Ride	\$40	\$65.45	\$79.18	No	\$70.00
	<u>Operating Cost per Passenger</u>					
	Systemwide	n/a	\$11.27	\$15.40	n/a	\$15.00
	Fixed Route	\$5.00	\$9.97	\$14.44	No	\$15.00
	Commuter	\$3.00	\$8.75	\$9.20	No	\$10.00
Vanpool	\$2.00	\$6.65	\$10.79	No	\$10.00	
Dial-A-Ride	\$15.00	\$32.39	\$45.09	No	\$40.00	
Increase Transit Usage	<u>Passengers per Vehicle Service Hour</u>					
	Systemwide	n/a	8.9	6.9	n/a	10.0
	Fixed Route (Overall)	10.0	12.5	8.1	No	10.0
	Fixed Route- Rural Inter-Community (Alta-)	10.0	5.2	3.1	No	5.0
	Fixed Route - Rural DR (Taylor Road Shuttle)	10.0	n/a	2.3	No	1.5
	Urbanized Area Fixed Route	10.0	n/a	9.3	No	10.0
	Commuter	20.0	24.1	22.3	Yes	20.0
	Vanpool	5.0	5.8	4.9	Yes	5.0
	Dial-A-Ride (Overall)	3.0	3.1	1.8	No	3.0
	Urban DAR (Rocklin/Loomis, Granite Bay, Lincoln)	3.0	n/a	1.9	No	3.0
	Rural DAR (Highway 49)	3.0	n/a	1.5	No	1.5
	<u>Passengers per Vehicle Service Mile</u>					
	Systemwide	n/a	0.43	0.34	n/a	0.5
	Fixed Route	0.5	0.57	0.40	No	0.5
	Commuter	1	0.74	0.70	No	1.0
	Vanpool	0.2	0.13	0.11	No	0.2
	Dial-A-Ride	0.5	0.20	0.20	No	0.2
	<u>Annual growth in Ridership (one year)</u>					
Systemwide	n/a	n/a	-13.0%	n/a	Positive Growth	
Fixed Route	At least 3.5%	-19.7%	-14.4%	No		
Commuter	n/a	n/a	-10.2%	n/a		
Vanpool	n/a	n/a	-15.9%	n/a		
Dial-A-Ride	No more than 3%	8.8%	-9.9%	No		

Note 1: Farebox ratio calculated per TDA regulations and includes local support.

Note 2: Local support not included. Farebox ratio calculation: fare revenue /operating costs.

Table 34: PCT Transit Goals, Objectives and Performance Standards (2 of 2)

Objective	Performance Measure	Existing Standard	Actual Performance			Recommended Standard
			FY 2009-10	FY 2016-17	Standard Met in 2016-17?	
Goal 2: Provide safe, reliable, and high quality transportation						
Reliable transit service	<u>On-Time Performance</u>					
	Systemwide (Fixed Route and Commuter)	n/a	n/a	70.0%	n/a	n/a
	Fixed Route	90 percent of all monthly trips operate on-time (defined as no later than 5 minutes and no earlier than the published schedule)	52.7%	71.0%	No	90 percent of all monthly trips operate on-time (defined as no later than 5 minutes and no earlier than the published schedule)
	Commuter	None	n/a	70.0%	n/a	80 percent of all monthly trips operate on-time (defined as no later than 10 minutes and no earlier than the published schedule)
	Dial-A-Ride	90 percent of all monthly trips operate on-time (defined as within 15 minutes of the scheduled pick-up)	Met standard	n/a	n/a	90 percent of all monthly trips operate on-time (defined as within 15 minutes of the scheduled pick-up time)
	<u>Road Calls</u>					
	Fixed Route	No less than 10,000 miles between road calls. Defined as incidence where service is interrupted longer than five minutes due to a mechanical failure (except for flat tires)	Met standard	Met standard	Yes	No less than 10,000 miles between road calls. Defined as incidence where service is interrupted longer than five minutes due to a mechanical failure (except for flat tires)
Dial-A-Ride	No less than 10,000 miles between road calls. Defined as incidence where service is interrupted longer than five minutes due to a mechanical failure (except for flat tires)	Met standard	Met standard	Yes	No less than 10,000 miles between road calls. Defined as incidence where service is interrupted longer than five minutes due to a mechanical failure (except for flat tires)	
Demand Response	<u>Trip Denials</u>	No more than three percent of total monthly trip requests result in a denial due to capacity constraints, as defined by the Americans with Disabilities Act of 1990.	Met standard	1.4%	Yes	No more than three percent of total monthly trip requests result in a denial due to capacity constraints, as defined by the Americans with Disabilities Act of 1990.

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PLACER COUNTY TRANSIT
"We're going your way!"

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.

In reviewing these alternatives, it is important to consider that the PCT transit service is an interconnected network of routes, with many passengers using a combination of routes to complete individual trips. To provide a background on this, the onboard surveys conducted on the PCT routes (excluding the PCE commuter service) were analyzed to estimate the number of individual one-way passenger trips occurring between various portions of the service area on an average weekday. A total of 384 valid passenger survey responses were evaluated, and then factored by the average one-way passenger-trips (adjusted to eliminate transfers). The resulting origin/destination pattern across the service region is presented in Table 35 and shown in Figure 44. Beyond reflecting the intricate pattern of passenger-trips, this figure indicates the following:

- The busiest overall individual origin/destination pairs are between North Auburn and Central Auburn (93 passenger-trips per day, total of both direction), followed by Galleria to Watt/Orlando (66) and Central Auburn to Sierra College area (62).
- Trips within Lincoln total 85, while those within the North Auburn area total 43.
- Few passenger carried on PCT services north and east of central Auburn (Highway 49 and Colfax/Alta Routes) transfer to travel west of Auburn. However, passengers to/from central Auburn use the PCT system to travel to many destinations to the west.
- Overall passenger-trips carried on each segment along the I-80 corridor between Watt/I-80 and Auburn Station are roughly equal.

This information is useful in assessing how service changes on one element of the PCT system can impact ridership on connecting routes.

TRANSPORTATION NETWORK COMPANY/ MICROTRANSIT

Serving lower-demand areas, serving low-demand periods (such as evenings) and making first-mile/last-mile connection have long been a challenge for public transit agencies. With the nationwide decline in public transit ridership, transit operators and public agencies are looking for new and innovative ways to provide public transit that will attract more riders at a lower cost. Contracting with Transportation Network Companies (TNCs) or "microtransit" companies

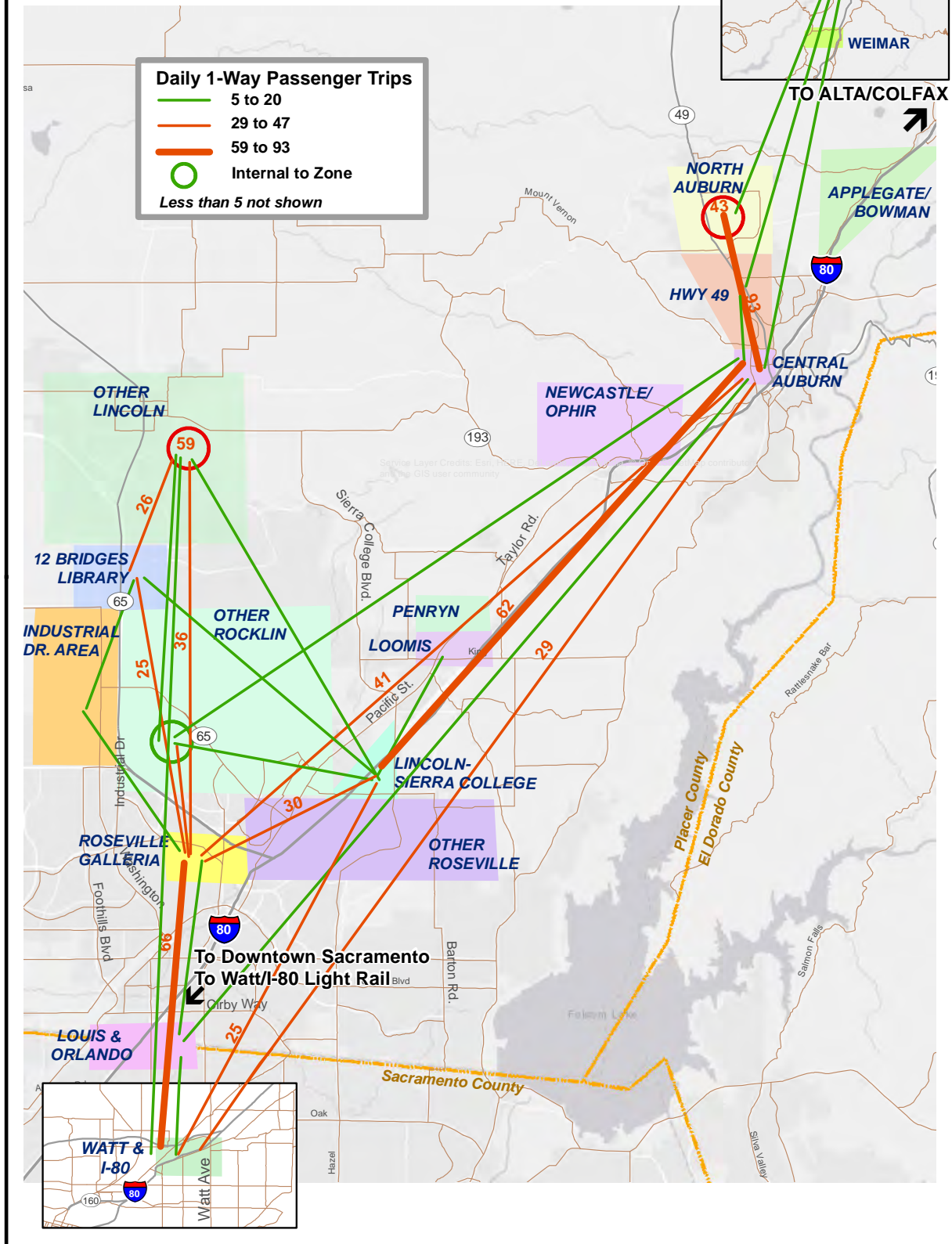
TABLE 35: PCT Fixed-Route (excludes commuters) Average Weekday Transit Passengers Trip Origin Vs. Destination

Source: Survey of 385 Placer County Transit Local Route Passengers.

	Alta/Colfax	Auburn - North Auburn/Dry Creek/DeWitt	Auburn Station	Central Highway 49 Auburn	Lincoln - Other	Lincoln Twelve Bridges Library	Loomis	Newcastle/Ophir	Penryn	Rocklin - Other	Rocklin - Sierra College	Roseville - Other	Roseville Galleria	Roseville Louis & Orlando	Sacramento	Watt & I-80	Applegate/Bowman	Industrial Drive Area
Alta/Colfax	3	7	11	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Weimar		0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Auburn - North Auburn/Dry		43	93	0	0	0	0	0	2	0	2	4	6	0	0	0	0	0
Auburn Station			0	11	0	0	2	0	4	6	60	0	41	13	0	29	0	0
Central Highway 49 Auburn				0	0	0	0	0	0	0	3	0	0	2	0	0	0	0
Lincoln - Other					59	26	0	0	0	11	8	3	36	0	0	8	0	3
Lincoln Twelve Bridges Library						0	0	0	0	8	11	3	25	0	0	0	0	8
Loomis							0	3	0	2	8	0	0	0	0	0	0	0
Newcastle/Ophir								0	0	0	3	0	0	0	0	0	0	0
Penryn									0	0	3	0	0	0	0	0	0	0
Rocklin - Other										17	19	3	74	0	0	3	0	0
Rocklin - Sierra College											0	3	30	11	0	25	0	0
Roseville - Other												0	0	0	0	2	0	0
Roseville Galleria													5	7	0	66	0	11
Roseville Louis & Orlando														0	0	16	0	3
Sacramento															0	0	0	0
Watt & I-80																4	0	3



Figure 44
Placer County Transit Average Daily
Transit Passenger Trips by Origin and Destination



is seen by many as a potential solution. The following section explores this topic in greater detail, while Appendix A presents a review of seven pilot projects which have been conducted throughout the country. Lastly, this section applies the lessons learned from other projects to recommend areas of Western Placer County where contracting with microtransit/TNCs may be feasible.

What is a TNC or Microtransit?

It is first important to define TNCs and microtransit and compare these methods of service delivery to existing/traditional public transit. Table 36 presents a comparison of the different characteristics of each type of service. As microtransit and TNC use is constantly evolving, Table 36 presents the general concept for these types of ridesharing services.

Table 36: Parameters for Shared Transportation Modes

	Fixed Route	Dial-A-Ride	Route Deviation	Microtransit	TNC
Distinguishing Characteristics	Set stops	Generally 3/4 mile of fixed route or municipal boundaries	Fixed route can pick up/drop off passengers outside of published stops within certain limits	Technology enabled reservations and driver routing, defined service area, fixed stops that can be modified to meet demand	Technology enabled reservations and driver routing, complete demand/response, no fixed stops
Dispatching Technology	Generally not required. Radio contact between driver and dispatcher	Transit agency has routing software such as Trapeze. Passengers do not have access.	Radio contact with dispatcher	Driver routing through application	Driver routing through application, no dispatcher
Reservation Method	None Necessary	Telephone, usually at least 24 hours in advance, or standing order	Telephone, 1 hour in advance	Smart phone app, telephone	Smart phone app, telephone
Service Area	urban, intercity, intracity	urban and rural communities	Rural, small city, intercity	Urban, suburban	Urban, suburban, very limited in rural areas
Public or Private	public	public	public	private or public/private partnership	private
Size of vehicle	15-40 pax	2-10 pax	10-25 pax	10-25 pax	0-6 pax
Typical Passengers per Day per Vehicle	200-600	20-50	75	30	15
Typical Passengers per Revenue Hour	10-30	2-4	8	2	1.5
Average Fare	\$1.00 - \$3.00	\$2.00 - 5.00	\$2.00 - 5.00	\$1.50 - \$7.00	\$2.00 and up depends on distance travelled

- **Fixed Route** public transit services work best in dense urban environments, particularly if the service can be operated frequently. The primary distinguishing characteristic is that there is no flexibility as to where a passenger can board/disembark the bus. Given adequate ridership demand, fixed route services should be the most productive type of service in terms of passenger trips per vehicle per day (at least 250) or passenger-trips per vehicle hour (around 10 to 30). The disadvantage of fixed route services is that if a

passenger's destination is not within a quarter mile of the fixed route, the service is not convenient. If demand is not adequate, moreover, this can be an ineffective service strategy.

- **Dial-A-Ride (DAR)** or “paratransit” services evolved as a way to serve passengers who are unable to access a fixed-route bus service as they allow for “curb to curb” transportation within a defined service area. DAR services can be limited to older adults or persons with disabilities or are used as a way to broadly serve the general public in a rural or suburban area where fixed route would not be productive. DAR service typically carry only 2 to 4 passenger trips per vehicle hour or 20 to 50 per day (depending on service span). Passengers must call the transit agency (often at least 24 hours in advance) to schedule a ride, or have a standing subscription for service at specific times. Although curb to curb is very convenient, many passengers find that having to make advance reservations limiting.
- **Route Deviation** is a hybrid of fixed route and DAR that is typically used in rural or low-density suburban areas as a way to cost effectively provide fixed route service while meeting ADA complementary paratransit service requirements. Passengers requesting a deviation must call the transit agency in advance for pick up; however shorter notice may be required than for DAR services. In terms of productivity, route deviation is closer to a fixed route service and may carry around 8 passenger-trips per hour.
- **Microtransit** is a relatively new concept and therefore is bit more difficult to define. For this study, microtransit is defined as a privately operated ridehailing form of transportation which employs on-demand dynamic route transportation technology.

The US Department of Transportation defines microtransit as *“a privately owned and operated shared transportation system that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling. The vehicles generally include vans and buses.”*

It should also be noted that some existing microtransit program have used public agency vehicles and drivers.

The primary difference between microtransit and a route deviation service is that microtransit employs technology that has only recently been available. Microtransit includes the use of software and smartphone technology which: (1) allow the passenger to reserve a ride directly (without the use of a dispatcher), (2) provides the driver with pick-ups and drop off assignments in real time and (3) calculates the most efficient route between passenger pick-ups/drop offs. General routes and schedules are followed, but these can be modified as passenger demands evolve. Microtransit services will typically use vans instead of larger buses but will cost more than a fixed route service. The hope is that technology will allow microtransit programs to carry more passengers than a DAR service for a smaller cost.

- **TNC’s** are widely used in urbanized areas and are a privately operated form of demand response transportation enabled through the use of technology for both reservations and driver routing. Drivers generally choose the hours and areas they serve, rather than being dispatched by the TNC. Passengers must have access to a smart phone or internet to make reservations. Wait times for a TNC are typically less than 15 minutes. Vehicles are not wheelchair accessible, and drivers do not meet FTA drug and alcohol requirements and are not trained in accommodating persons with disabilities. The cost of a ride with a TNC increases with the distance travelled. Therefore, TNC’s are most popular for short distance trips (3 miles or less) where they are more convenient than a city bus or DAR ². In rural areas, there may not be adequate demand for service to make TNC driving profitable. As a result, TNC service is either not available in rural areas, or requires long wait times.

Public transit agencies are beginning to partner with TNCs in areas where demand for DAR service is low and expensive to operate. The challenge with using a TNC is that most are not ADA accessible. Therefore, most transit agencies only use TNCs for operating non-ADA paratransit service.

TNC/Microtransit Success Factors and Applications to Placer County

This section summarizes specific elements which make partnering with a TNC or operating a microtransit program feasible and how this might apply to public transit in Placer County.

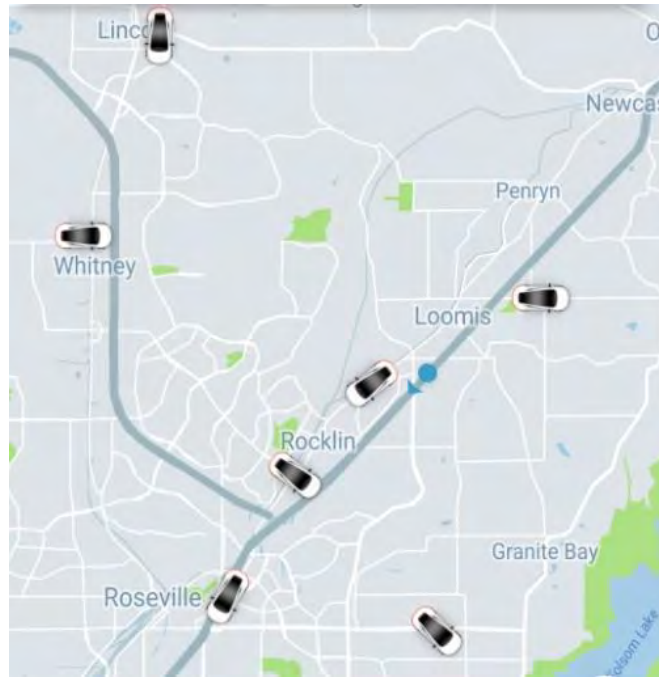
Table 37 presents a list of “success factors” for TNC use and identifies areas in Western Placer County which include these factors.

- **Can TNC drivers make a living?** – Part of the appeal of becoming an Uber or Lyft driver is that the driver dictates his/her own work schedule and therefore will only work when and where he/she feels that there is money to be made. An example of the available Uber vehicle map on a typical weekday afternoon shows that there is sufficient supply of drivers to make a TNC program work in the urbanized areas. In rural areas such as Colfax or Foresthill, there are likely fewer drivers willing to work.
- **Can existing DAR vehicles be used for microtransit service?** – If Placer County transit operators were to take on a microtransit program, a significant cost savings would occur by using existing public transit vehicles.
- **Is ADA compliant service already available?** - The examples discussed in Appendix A show that providing ADA compliant service through a TNC or microtransit program is

² Transportation Research Board “Broadening Understanding of the Interplay Between Public Transit, Shared Mobility, and Personal Automobiles

Table 37: TNC/Microtransit Success Factors

Success Factor	Western Placer County Conditions	Potential Markets in Western Placer County
Adequate rider demand to make serving the area profitable for TNC drivers	Yes, in the more urbanized areas	Roseville, Rocklin, Granite Bay, Lincoln, Auburn
Existing vehicles available for microtransit program	Potentially	Granite Bay, Lincoln, Rocklin, Roseville
Is public paratransit service available to accommodate ADA Trips?	Yes, in Roseville, Rocklin, Lincoln and North Auburn	Roseville, Rocklin, Lincoln, Auburn
Short distance trips	Yes, in the more urbanized areas	Roseville, Rocklin, Granite Bay, Auburn
Evening service demand	No existing service, but potential demand in more urbanized areas	Roseville, Rocklin
Strong ridership demand in peak commute times, generated by regional transit services	Proportion of existing commuter services not driving to their stop is currently low	Rocklin, Roseville
Low proportion of special needs population	Yes, other than in retirement communities	All except retirement communities in Roseville and Lincoln
Paid Parking	None in western Placer County	Not applicable



Example of Uber Vehicle Availability at 5:30 PM Friday

efficient. In many cases, it may not be possible to provide ADA service as most TNC drivers or taxi cab companies do not have wheelchair accessible vehicles. Therefore, a TNC program will be more successful in areas which are currently served by existing complimentary paratransit service. In Placer County, this includes:

- City of Roseville where a separate ADA paratransit service is operated
- Rocklin/Lincoln which is served by a general public DAR
- Auburn area which is served by Highway 49 DAR and deviations of the Auburn Transit fixed route

Service alternatives which replace an existing DAR/deviation service with a TNC program that is not otherwise covered by a paratransit program will be less successful and incur costs of providing the additional paratransit service. Examples in Placer County include:

- Granite Bay – If the Granite Bay DAR is replaced with a TNC program, PCT should contract with Roseville to expand the paratransit service area into Granite Bay for ADA trips.
- Taylor Road Shuttle – Replacing deviations on the Taylor Road Shuttle with TNC service would leave no ADA paratransit option. Deviating the fixed route for ADA passengers only is possible, but could cause significant on-time performance problems. As this is a larger service area, operating a separate paratransit program would offset any cost savings.

In areas with existing DAR service, it should be expected that some level of DAR service would still be required, even with TNC service.

- **Short distance trips** – The Transportation Research Board (TRB) Shared Mobility Center identified price as one of the five key reasons to use a TNC. The research indicates that passengers find TNC use the most cost effective for trips three miles or less. Given this parameter, Placer County TNC programs would be the most successful within areas such as Roseville, Rocklin, Auburn and Granite Bay. Trips within the City of Lincoln may also be feasible. Roughly half the trips originating along the Taylor Road Shuttle route to Rocklin would likely be greater than 3 miles.
- **Evening service** – Drinking/dining in the evening was also noted by the TRB as one of the main factors which increase TNC use. In Placer County, trips between residential developments and downtown areas would be the most successful between the hours of 5:00 PM and 11:00 PM. Again the more urban and commercialized areas of Roseville and Rocklin would be the most successful.
- **Peak times** – TRB research showed that demand for TNC use is the highest during rush hour commutes and weekend evenings. This factor could either achieve or limit the success of a TNC program, depending on the level of supply. If there is too much

demand at peak times, wait times will increase and the service will be less attractive. This could potentially occur during commute times for services providing first mile/last mile transportation to a transit center. The more rural areas served by the Taylor Road Shuttle and in Auburn would likely not be affected.

- **Large proportion of special needs population** – There is a segment of the population with may not technically be eligible for ADA paratransit service. However, they may need special assistance boarding a vehicle. These residents may feel intimidated by TNC’s and prefer the familiarity and personal attention of DAR. A TNC program may be less successful in areas of western Placer County with high concentrations of elderly and disabled residents such as near the Sierra Pines Golf Course and Kaseburg-Kingswood neighborhood in Roseville and Del Webb senior developments in Lincoln and Roseville.
- **Parking** – A third key factor for increased TNC use as noted by TRB research is limited or expensive parking. As western Placer County generally has ample free parking, this factor would not apply to the study area.

Other Considerations

The underlying objective of providing public transit is to provide transportation that is accessible to everyone, particularly those who have no other option. As such, PCTPA and transit operators should consider designing TNC/Microtransit services which are also accessible and usable by passengers without a smart phone.

TNC’s may be more attractive to a segment of the population and are growing at a fast rate but there is a negative side. TNC’s do not help to reduce traffic congestion. Some TNC trips are taking away from existing public transit or non-motorized trips or may even be a trip that would have not been taken all together. Additionally, there is the fact that the TNC must travel to the passenger pick up location. Therefore, in developing partnerships with TNCs, transit agencies and public entities could consider incentivizing shared ride forms of TNC transportation.

AUBURN-LIGHT RAIL ALTERNATIVES

As one important input into the alternatives analysis process, it is useful to review the specific responses to the surveys of passengers using the Auburn-Light Rail Route. A summary of the 188 valid responses indicates the following:

- 36 percent of passengers walked to their boarding bus stop, while 35 percent transferred from other public transit services, 17 percent got a ride in a private vehicle, and 6 percent each bicycled or drove themselves to the stop.
- Of those passengers that transferred, the largest proportion transferred to/from Sacramento RT. Table 38 presents the estimated average weekday number of transfers

to/from the connecting services, indicating that 77 transfers are made each day to/from RT services (of which 53 are to/from the Blue Line LRT). Transfers to/from other PCT routes total 44, split roughly evenly between the Highway 49 Route and the Lincoln-Sierra College Route, while 31 passengers transfer to/from Roseville Transit, 24 transfer to/from Auburn Transit, and 2 transfer to/from Nevada County’s Gold Country Stage. A total of 18 passengers per weekday are estimated to transfer on both ends of their Auburn-Line Rail ride, reflecting PCT’s role in a larger region-wide public transit network.

- The largest proportions of passengers are travelling for work (32 percent) and college (31 percent). Smaller proportions travel for personal business (13 percent) and recreation (10 percent), followed by other purposes.

TABLE 38: Average Weekday PCT Auburn-Light Rail Transfer Activity

1-Way Passenger Transfers by Connecting Service

No Transfer	101	Sacramento RT	
		<i>Blue Line Light Rail</i>	53
		Route 1	2
Other Placer County Transit		Route 15	2
Lincoln-Sierra College	20	Route 21	9
Hwy 49 North	24	Route 26	4
<i>Subtotal</i>	44	Route 84	7
		<i>Subtotal</i>	77
Roseville Transit			
Route A	9	Gold Country Stage	2
Route B	6		
Route M	7		
Route Not Specified	9	TOTAL Transfers	178
<i>Subtotal</i>	31		
Auburn Transit	24	# Auburn-Light Rail Passengers Transferring at Both Ends	18

Source: Onboard passenger surveys of 188 passengers.

- When asked “what would most increase ridership,” the three most popular responses were for more frequent service (29 percent), later evening service (28 percent) and Sunday service (28 percent). In comparison, additional Saturday service (15 percent), more routes (9 percent) and new buses (7 percent) were less often cited.
- Auburn-Light Rail passengers are overall satisfied with the service, with 62 percent giving the service a score of 4 out of 4 and an additional 33 percent scoring it at 3. The overall average score was 3.6 out of 4. By individual category, driver courtesy scored

the highest on average (3.6), followed by on-time performance, safety, ease of transfers and fares all averaged 3.5. The poorest factor was the areas served, at 3.2.

Half-Hourly Weekday Service – All Day

As identified above, the most common request of existing Auburn-Light Rail riders is for more frequent service. Operating an additional two buses at a time would allow the existing hourly frequency to be improved to half-hourly, which would substantially enhance the convenience of transit service along the route. Current ridership is roughly consistent between 7 AM and 6 PM. A reasonable alternative would be to operate additional runs departing Auburn Station every hour from 6:30 AM to 5:30 PM. As shown in Table 39, this option would increase annual operating costs by \$613,200.

TABLE 39: PCT Auburn-Light Rail Route Alternatives Service/Cost Analysis

	Run Parameters		Weekday Service		Saturday Service(1)		Annual		Annual Marginal Cost	Peak Buses				
	Hours	Miles	Runs	Days/Yr	Hours	Miles	Runs	Days/Yr			Hours	Miles		
<i>Existing Auburn-Light Rail Route</i>	2.00	59.0	15	248	30	885	10	53	20	590	8,500	250,750	\$875,700	2
Provide Half-Hourly Weekday Service - All Day	2.00	59.0	12	248	24	708	0	0	0	0	5,952	175,584	\$613,200	2
Provide Half-Hourly Weekday Service - Peak Only	2.00	59.0	4	248	8	236	0	0	0	0	1,984	58,528	\$204,400	2
Provide Additional Weekday Evening Round Trip	2.00	59.0	1	248	2	59	0	0	0	0	496	14,632	\$51,100	0
Additional Dispatch Staff											248		\$6,200	
Total													\$57,300	
Shift Last Weekday Evening Trips 1 Hour Later	2.00	59.0	0	248	0	0	0	0	0	0	0	0	\$6,200	0
Eliminate Last Weekday Evening Trips	2.00	59.0	-1	248	-2	-59	0	0	0	0	-496	-14,632	-\$51,100	0
Reduction in Dispatch Staff											-248		-\$6,200	
Total													-\$57,300	
Sunday Service -- Hourly	2.00	59.0	0	0	0	0	10	52	20	590	1,040	30,680	\$107,100	0
Additional Dispatch Staff											520		\$13,000	
Total													\$120,100	
Sunday Service -- Every Other Hour	2.00	59.0	0	0	0	0	5	52	10	295	520	15,340	\$53,600	0
Additional Dispatch Staff											520		\$13,000	
Total													\$66,600	

Some of the ridership benefit of half-hourly service depends on the ability to make new or improved transfers

- Transfers at Auburn Station are currently well-coordinated to occur at the top of the hour, to/from the Highway 49 Route, Gold Country Stage, and Auburn Transit. New service at 30 after the hour would not currently have other routes available for transfers. However, service options for the Highway 49 route and the Auburn Transit routes (as discussed below and in the Auburn Transit Alternatives Tech Memo) could provide meaningful connections.
- New service times at Sierra College (at 47 after the hour westbound and 10 after the hour eastbound) would not result in any new transfer opportunities (though it would better serve some class schedules).

- At the Galleria, these new runs would provide service in both directions at the top of the hour. This would allow Auburn-Light Rail connections to all Roseville Transit Route A and B service times (rather than only those at the bottom of the hour), but not new connections to PCT Lincoln-Sierra College or other routes.
- At Louis/Orlando, the other routes (Roseville Transit Routes A and B, and RT Routes 21 and 93) are all half-hourly. Half-hourly Auburn-Light Rail service would not create new direct bus-to-bus transfer opportunities, but would double the number of connecting runs at current transfer wait times.
- At Watt/I-80, the existing PCT service is well timed for connections to/from Blue Line LRT service, as well as for passengers traveling northbound on RT Route 84 transferring to PCT. However, there are currently long waits for passengers transferring to or from Route 84 southbound, as well as those transferring from PCT to Route 84 northbound. The additional PCT runs would substantially improve this connection, as well as doubling the number of LRT runs with good connections to/from PCT.

Considering these transfer opportunities, as well as the observed response of ridership on similar routes to changes in service frequency, this service improvement would increase ridership by 26,100 passenger-trips per year. If service frequency on connecting services were to be enhanced, this figure would increase. Including the additional passenger fares, annual operating subsidy would be increased by \$594,600, as shown in Table 40.

TABLE 40: PCT Auburn-Light Rail Route Service Alternatives Summary

Alternative	Change In Annual Service				Fare Revenues	Operating Subsidy	Change in Peak Buses
	Service Hours	Service Miles	Operating Cost	Ridership			
<i>Existing</i>	8,500	250,750	\$875,700	91,684	\$65,195	\$810,505	2
Provide Half-Hourly Weekday Service - All Day	5,952	175,584	\$613,200	26,100	\$18,600	\$594,600	2
<i>% Change from Existing</i>	70%	70%	70%	28%	29%	73%	100%
Provide Half-Hourly Weekday Service - Peak Only	1,984	58,528	\$204,400	9,700	\$6,900	\$197,500	2
<i>% Change from Existing</i>	23%	23%	23%	11%	11%	24%	100%
Provide Additional Weekday Evening Round Trip	496	14,632	\$57,300	3,600	\$2,600	\$54,700	0
<i>% Change from Existing</i>	6%	6%	7%	4%	4%	7%	0%
Shift Last Weekday Run 1 Hour Later	0	0	\$6,200	900	\$600	\$5,600	0
<i>% Change from Existing</i>	0%	0%	1%	1%	1%	1%	0%
Eliminate Last Weekday Run	-496	-14,632	-\$57,300	-2,700	-\$1,900	-\$55,400	0
<i>% Change from Existing</i>	-6%	-6%	-7%	-3%	-3%	-7%	0%
Sunday Service -- Hourly	1,040	30,680	\$120,100	5,300	\$3,800	\$116,300	0
<i>% Change from Existing</i>	12%	12%	14%	6%	6%	14%	0%
Sunday Service -- Every 2 Hours	520	15,340	\$66,600	3,100	\$2,200	\$64,400	0
<i>% Change from Existing</i>	6%	6%	8%	3%	3%	8%	0%

Half-Hourly Weekday Service – Peak Periods Only

Another, less costly, alternative would be to provide additional runs to yield half-hourly service on weekdays during peak periods only. Given ridership patterns and the minimum driver shift times, a reasonable option would be to operate additional runs departing Auburn Station at 6:30 AM, 7:30 AM, 3:30 PM and 4:30 PM. This would still require an additional two buses in operation, but would reduce the impact on annual operating costs to \$204,000. The additional ridership, considering the proportion of overall ridership in these periods, would be 9,700 boardings per year. Additional operating subsidy would increase by \$197,500.

Later Evening Service – 1 Additional Run in Each Direction

At present, the last Auburn-Light Rail weekday runs depart westbound at 7:00 PM and eastbound at 8:00 PM. This limits the ability to serve evening work shifts, school classes, and recreational activities. A reasonable alternative would be to operate one additional round-trip, departing Auburn Station at 8:00 PM and Watt/I-80 at 9:00 PM. This would increase annual operating costs by \$57,300 (including dispatcher time for the one hour extension in the overall PCT service day). Ridership, considering evening ridership in this period on similar transit systems, would be increased by 3,600 passenger-trips per year, resulting in an overall increase in operating subsidy of \$54,700 per year.

One issue that could limit the ridership benefit of this alternative is that the current Roseville Transit schedule does not provide substantial connections at the Galleria at the later times. However, an alternative considered in the Roseville SRTP would extend fixed route hours of service. Another option would be to establish a TNC program to provide evening trips, either focusing on the commercial area including the Galleria or a broader program.

Later Evening Service – Shift Last Run One Hour Later

Another potential means of providing later weekday evening service would be to drop the operation of the existing 7 PM westbound and 8 PM eastbound runs, but operating an 8 PM westbound and 9 PM eastbound run. (As this route operates with two drivers making two-hour-long round-trips, this consists of ending one shift two hours earlier and adding two hours to the other shift.) As no change in vehicle operating costs would occur, the cost increases would consist only of the additional dispatcher costs, estimated to be \$6,200 per year.

These existing runs to be eliminated currently carry approximately 2,700 passenger-trips per year. Some of these riders would continue to use the later run, though many of those trips eliminated consist of ridership that would not also ride PCT runs earlier in the day. Overall, this alternative is estimated to increase ridership by 1,000 passenger-trips per year. With the additional fares, subsidy would be increased by \$5,600 per year.

Sunday Service: Two Buses - Hourly

Sunday service was identified as a high potential to increase ridership among the existing passengers surveyed. This would be a relatively expensive undertaking, as it would require additional dispatcher staff and would also disproportionately increase the driver shift scheduling and associated number of drivers. If the same service were provided on Sunday as is currently operated on Saturday (using two buses), annual cost of service would equal \$120,100. Considering the relatively Saturday versus Sunday ridership on similar systems currently operating on Sundays, as well as the limited connections available, ridership would equal approximately 5,300 per year. Subtracting the additional \$3,800 in additional fares, operating subsidy would be increased by \$116,300.

Sunday Service: One Bus – Every Two Hours

A less costly means of providing at least limited Sunday service would be to operate one bus, providing westbound departures from Auburn Station every other (even) hour from 8:00 AM to 4:00 PM, with eastbound departures from Watt/I-80 every other (odd) hour from 9:00 PM to 5:00 PM. Costs of this option would total \$66,600 per year, while ridership is estimated to equal 3,100 per year. Resulting annual subsidy requirements would total \$64,400 per year.

Revised Transfer Location to Light Rail

The connection point to RT Blue Line Light Rail service at the western end of the Auburn-Light Rail Route is currently very convenient for PCT operations. Buses exit I-80 westbound directly from the #1 HOV lane and make a U-turn just west of the Watt Avenue overpass to serve bus bays directly adjacent to the rail platform, and then proceed directly into the eastbound I-80 HOV lane. Sacramento Regional Transit, however, is currently considering significant modifications to the Watt/I-80 Light Rail station area, focusing on shifting all bus bays roughly 1 mile to the west, to the Roseville Road station. This would add approximately four minutes running time to the existing PCT route.

The Auburn-Light Rail route is already operating with 10 percent of runs at least five minutes late. These additional four minutes of running time would significantly impact the ability to make other key connections along the route, particularly the connections to the PCT Lincoln-Sierra College Route as well as Roseville Transit Routes A, B and M at the Galleria at 30 minutes past the hour. Identifying site designs for realignment of this area that still allow PCT – LRT connections at Watt Avenue are important to maintaining the reliability of the regional public transit network.

ROCKLIN AREA ALTERNATIVES

Rocklin is currently served by the Auburn-Light Rail route (a stop at Sierra College only), the Taylor Road Shuttle (service every two hours in the Sierra College area) and much more broadly

by the hourly Lincoln-Sierra College Route (serving the southern, downtown and western portions of the community. The Rocklin Dial-A-Ride also serves the residents of Rocklin.

Transit strategies were most recently evaluated for Rocklin in the *Rocklin Community Transit Study* (LSC Transportation Consultants, Inc., February 25, 2015). This plan included the following plan elements:

- Realign the Lincoln-Sierra College Route along Granite Drive to serve commercial centers. *(Completed)*
- Serve the Rocklin Crossings and Rocklin Commons commercial centers with a realigned Taylor Road Shuttle *(Completed)*
- Establish new bus stops to accommodate the route changes. *(Completed)*
- Revise the Placer County – Rocklin contract to reflect the changes in routes *(Completed)*
- Address other bus stop improvements along *(Ongoing)*

Reflecting that these plan strategies are fully implemented, below are new alternatives for consideration as part of this SRTP.

Service Along the SR 65 Corridor between Blue Oaks Boulevard and 12 Bridges Drive

There are multiple transit generators in the general area along either side of SR 65 between Blue Oaks Boulevard and 12 Bridges Drive:

- Within the City of Lincoln – Santucci Justice Center on Justice Center Drive
- Within Unincorporated Placer County – Thunder Valley Casino on Athens Drive and the Public Defender’s Office on Corporate Drive
- Within the City of Rocklin – William Jessup University on Sunset Boulevard, as well as other commercial and residential areas along Sunset Boulevard and Lonetree Boulevard.
- Within the City of Lincoln – 12 Bridges Library on 12 Bridges Drive

The Santucci Justice Center is currently served only by Roseville Transit Route S (8 round trips per weekday to and from the Galleria), while the remaining activity centers are served by PCT Lincoln – Sierra College Route (14 round trips per weekday and 10 per Saturday). There are a number of constraints resulting from this current overall service configuration:

- There is a need for passengers to travel between the Santucci Justice Center and the Public Defender’s Office ¾ miles to the north. At present, the only way to make this trip by transit is via the Galleria, which takes 45 minutes to complete including the transfer between Roseville Transit and PCT.
- There are emerging growth areas in northwest Rocklin that are not currently served, particularly along Wildcat Boulevard, including single family residential areas, multifamily residential areas, Whitney High School, and The Pines Senior Living Center. Moreover, there is currently new development under construction in the area, with more proposed. In particular, the Rocklin Community Development Department indicates that 100,000 to 150,000 square feet of commercial development is expected to occur along Whitney Ranch Parkway between SR 65 and Wildcat Boulevard within the seven year framework of this SRTP. An additional assisted living center with 226 units is also under construction along University Avenue south of Whitney Ranch Parkway.
- Service to the Santucci Justice Center has a long break in inbound service from 8:05 AM to 11:35 AM and no arrivals after 1:35 PM, and two-hour-long breaks in outbound service in the mid-morning and mid-afternoon.

A realignment of service in this area that addresses these current constraints is shown in Figure 45. As shown, the existing Lincoln-Sierra College Route would be realigned north of Sunset Boulevard to stay on the east side of SR 65, while the existing Roseville Route S would be replaced by a new route connecting the Galleria with 12 Bridges via Industrial Avenue. Details on these routes are as follows:

- The northbound revised Lincoln-Sierra College route would turn north off of Sunset Boulevard on University Avenue, and could potentially serve a stop more convenient to William Jessup University than the current stop on Sunset Boulevard. The route would continue northward (through areas that are currently under development), east on Whitney Ranch Parkway (serving the Whitney Ranch multifamily area), and north on Wildcat Boulevard (serving Whitney Community Park, Whitney High School and The Pines senior housing). Entering Lincoln on Joiner Parkway, stops could serve Wilson Park (and adjacent 12 Bridges Middle School and residential areas) before turning left onto Fieldstone Drive (serving the adjacent commercial center) and west on Twelve Bridge Drive to the library. Consistent with the existing service, runs occurring prior to and after Lincoln Circulator hours would extend to downtown Lincoln. The southbound route would follow the northbound route in the opposite direction. This route is 3.5 miles shorter per round-trip than the current route, though travel speeds on the new route portion will be lower than along Industrial Avenue. Overall running time should be roughly comparable.
- The route staying west of SR 65 would depart the Galleria on Roseville Parkway northbound, staying on this roadway to Washington Boulevard. (While the existing Route S turns left of Pleasant Grove Boulevard and north on Washington Boulevard,

staying on Roseville Parkway is necessary to reduce running time. This segment missed by the new alignment only serves 3 passengers per day, and is also served by Route M.) After turning north on Washington Boulevard and west on Freedom Way, the route would continue north on Industrial Avenue to the Santucci Center. Departing the center, the route would continue north on Industrial Avenue and turn right on Placer Corporate Drive to serve the Public Defender's Office (and other uses in the area). Turning around (see discussion below), the route would follow the remainder of the existing Lincoln-Sierra College Route north to Twelve Bridges Library via Thunder Valley Casino. The southbound route would follow the northbound route. The overall round-trip length would be 18.4 miles per hour and require approximately 50 minutes to operate.

As shown in Table 41, the overall impact of this option would be to increase annual vehicle-hours of transit service by 2,994 and annual marginal operating costs by \$287,800. It is important to note that this assumes the elimination of Roseville Transit Route S and provision of both new routes by Placer County Transit. The reduction in Roseville Transit service would consist of 1,008 vehicle-hours of service, \$50,800 in annual operating costs and one peak vehicle, while PCT would add 4,002 vehicle-hours of service, \$340,500 in marginal operating costs and 1 peak vehicle.

The provision of expanded service in the Sunset area along Industrial Drive would also trigger the need for complementary paratransit service (which is not necessary at present given the commuter nature of the existing Lincoln-Sierra College Route with limited stops). Expansion of the existing Lincoln Dial-A-Ride to serve this paratransit need is discussed separately, below.

Ridership impacts of this alternative are estimated to be as follows:

- Additional ridership generated by new service areas in Rocklin and Lincoln, including approximately 500 single family homes, 420 multifamily dwelling units, an assisted living center, high school, parks and small commercial areas = **5,000 annual passenger-trips**
- Additional ridership to/from the Santucci Justice Center (and adjacent uses) will be generated by the increased frequency and span of service as well as the better connections to other areas of western Placer County = **2,400 annual passenger-trips**
- The ridership generated for travel between the Justice Center and Public Defender's Office. The Office indicates that they serve six to twelve clients per day, many of which need to travel to and from the Justice Center. For purposes of this study, a figure of 8 passenger-trips per day is assumed = **2,400 annual passenger-trips**



0 0.25 0.5 1 Miles

Figure 45 Route Realignment Along the 65 Corridor

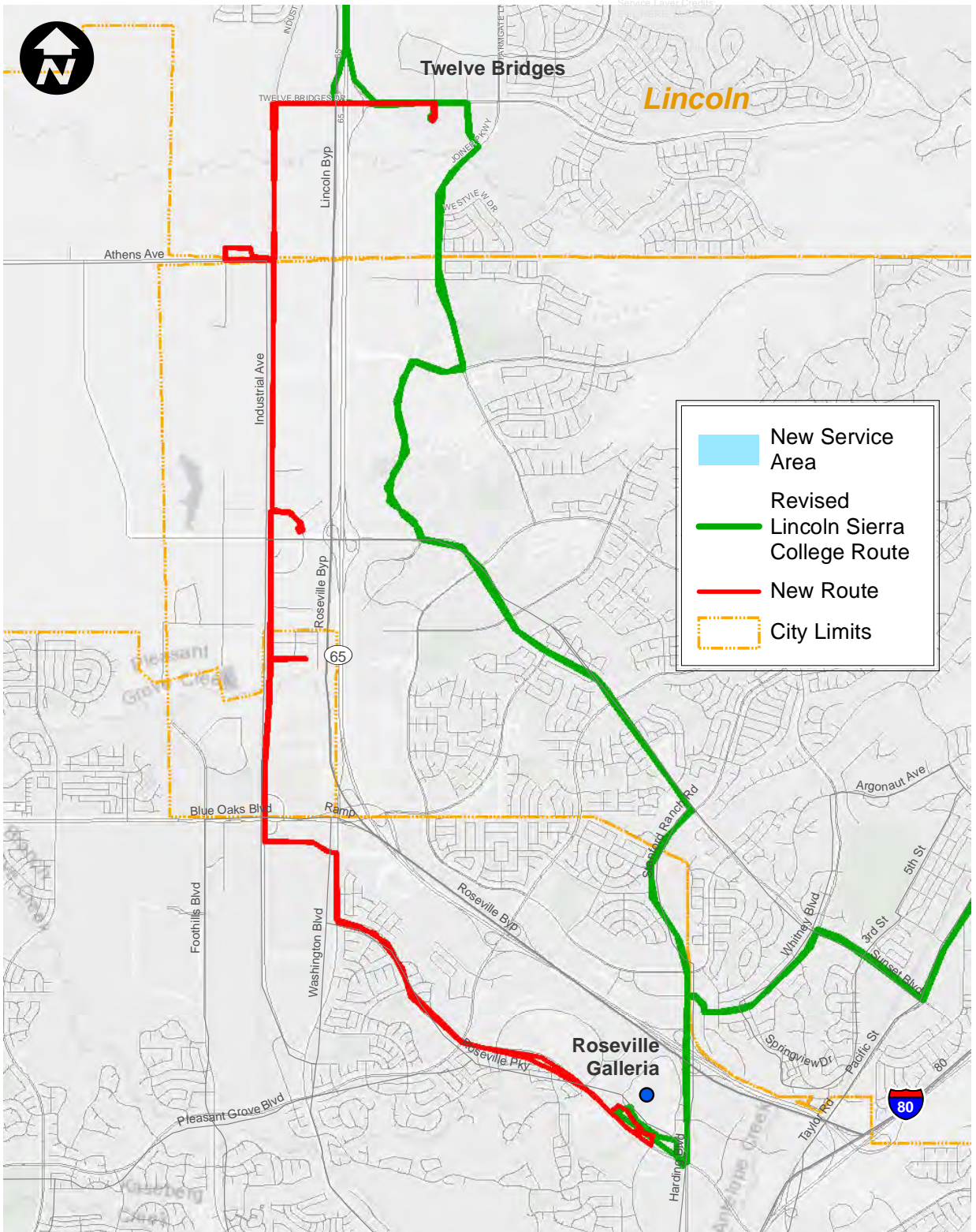


TABLE 41: PCT Lincoln and Rocklin Service Alternatives Summary

Alternative	Change In Annual Service						Change in Peak Buses
	Service Hours	Service Miles	Operating Cost	Ridership	Fare Revenues	Operating Subsidy	
Lincoln-Sierra College Route							
<i>Existing</i>	8,004	125,663	\$688,800	73,247	\$52,039	\$636,761	2
Revised Routes Between Blue Oaks Blvd and 12 Bridges	2,994	49,950	\$287,800	9,600	\$9,600	\$278,200	0
<i>% Change from Existing</i>	37%	40%	42%	13%	18%	44%	0%
Extend Roseville Route S to Public Defender's Office	242	2,420	\$12,800	2,000	\$3,000	\$9,800	0
<i>% Change from Existing</i>	3%	2%	2%	3%	6%	2%	0%
Half-Hourly Weekday Service	4,960	77,872	\$426,800	27,500	\$19,500	\$407,300	2
<i>% Change from Existing</i>	62%	62%	62%	38%	37%	64%	100%
Additional Evening Run	496	9,374	\$44,600	2,300	\$1,600	\$43,000	0
<i>% Change from Existing</i>	6%	7%	6%	3%	3%	7%	0%
Earlier Saturday Run	106	2,003	\$9,500	300	\$200	\$9,300	0
<i>% Change from Existing</i>	1%	2%	1%	0%	0%	1%	0%
Sunday Service -- Hourly	1,040	19,656	\$109,200	4,100	\$2,900	\$106,300	0
<i>% Change from Existing</i>	13%	16%	16%	6%	6%	17%	0%
Sunday Service -- Every Other Hour	520	9,828	\$62,400	2,400	\$1,700	\$60,700	0
<i>% Change from Existing</i>	6%	8%	9%	3%	3%	10%	0%
New Northwest Rocklin Route	4,002	52,026	\$331,100	12,600	\$9,000	\$322,100	1
Rocklin TNC Service (50% Subsidy)	--	--	\$170,000	20,000	\$85,000	\$85,000	0
Rocklin/Loomis DAR							
<i>Existing</i>	5,129	49,561	\$368,980	8,752	\$6,705	\$362,275	2
Expand to Industrial Avenue Area	744	20,678	\$25,100	2,100	\$1,600	\$23,500	0
<i>% Change from Existing</i>	15%	42%	7%	24%	24%	6%	0%
Lincoln Circulator							
<i>Existing</i>	3,500	49,350	\$399,899	30,867	\$21,976	\$377,923	1
Revised Route	0	-2,720	-\$3,300	2,200	\$1,600	-\$4,900	0
<i>% Change from Existing</i>	0%	-6%	-1%	7%	7%	-1%	0%

- Most of the 3 passenger-trips per day on Route 3 not at the Galleria and Santucci Justice Center stops would shift to Route M, leaving an estimated change = - **200 annual passenger-trips**

Overall, this alternative is estimated to increase region-wide passenger boardings by 9,600 per year. This would consist of a loss of 4,000 passenger trips on Roseville Transit, and a gain of 13,600 on PCT. Factored by average fare per passenger, this equates to a loss of \$9,300 in Roseville Transit fares and a gain of \$9,700 in PCT fares, as summarized in Table 41.

The key advantages of this option are:

- Expanded service to new areas in northwestern Rocklin and southern Lincoln, including both existing development and planned future development.

- Improved service to Santucci Justice Center
- Connections between Santucci Justice Center and points to the north

The key disadvantage is the substantial overall cost. This alternative also raises questions that would need to be addressed about the impact on the individual jurisdictions and the cost responsibilities. In particular, as the casino funds a portion of the Lincoln-Sierra College Route, a higher proportion of a new route not serving the casino would fall on the local jurisdictions.

Extend Lincoln-Sierra College Route to Santucci Justice Center

Another option to improve connectivity in the Industrial Avenue area would be to extend the Lincoln-Sierra College Route south along Industrial Avenue from the Sunset Boulevard connector roads to serve the Santucci Center. This would add 1.3 miles to the route in the southbound direction and 2.0 miles in the northbound direction, for a total of 3.3 miles per round-trip. This would add approximately 6 minutes of running time. As 13 percent of runs on this route already operate 5 or more minutes late, simply adding this additional mileage to the route is not a feasible option. Two reductions in service in other portions of the route were considered:

- Between Pacific Street and Granite Drive, the route could stay on Rocklin Road, rather than the current route north of Rocklin Road on Pacific Street and Sierra Meadows Drive. This would eliminate service to 17 passengers per day, but reduce the route length by 1.4 miles in the westbound direction and 0.9 miles in the eastbound direction, providing adequate additional running time to accommodate the extension.
- The route currently operates a clockwise loop around Granite Drive, Sierra College Boulevard and Rocklin Road, to serve Rocklin Commons and Rocklin Crossing on the way to Sierra College. Dropping this loop and proceeding south on Granite Drive from Sierra Meadows Drive and then east on Rocklin Road to Sierra College would save approximately 8 minute of running time. At present, an average of 16 passenger-trips are served on this loop. However, a large apartment complex recently was completed in this area, and more residential development is in the works. In addition, planned new commercial development in the vicinity of the I-80/Sierra College Boulevard interchange will increase ridership potential. While the Taylor Road Shuttle also serves this loop, this is currently only provided every other hour, and requires long waits between the routes at Sierra College. As discussed below, the option of converting the Taylor Road Shuttle to fixed route could significantly improve connections between a truncated Lincoln-Sierra College Route and the Rocklin Commons/Rocklin Crossing commercial area.

If either of these options were pursued and the existing Roseville Route S eliminated, the net increase in ridership generated by PCT service to the Santucci Justice Center would be approximately 10 passenger-trips per day. As this is less than the ridership loss on either of these route reductions, the net impact would be a loss of ridership. In addition, reducing travel time on one side of the Galleria and adding it to the other side would eliminate the ability for

both Lincoln-Sierra College to be at the Galleria at the top of the hour. The direct connections to and from the Roseville Transit routes and to the Auburn-Light Rail route are critical to the ridership on the Lincoln-Sierra College Route. Missing these connections by a few minutes in one or the other direction would greatly increase overall travel times for many passengers. For these reasons, this option is infeasible and is not considered further.

PCT Lincoln-Sierra College Service to the Public Defender's Office

The Placer County Public Defender's office is located at 3785 Placer Corporate Drive, which is the road connecting Sunset Boulevard in the westbound direction with Industrial Avenue to the north. Because of the barrier median on Sunset Boulevard at the Placer Corporate Drive intersection (due to the close proximity of the SR 65 signals and resulting traffic queues), the southbound approach of Placer Corporate Drive to Sunset Boulevard is a right turn only. Moreover, there are no available public street blocks in the vicinity to allow a bus to turn around on public right-of-way. As a result, it is not possible to directly provide access to this location in the southbound direction without the use of private driveways.

The most feasible short-term means of providing a southbound stop would be to establish a stop on the west side of Industrial Avenue just to the south of the existing Placer Corporate Drive intersection signal. This would require a bus pullout, as well as a sidewalk to the intersection and the provision of Walk/Don't Walk indicators at the signal. This would provide a relatively short (less than 600') walk to the office, with a protected crossing of Industrial Avenue³.

Extend Roseville Route S to the Public Defender's Office

Service between the Justice Center and Public Defender's Office could also be provided by extending Roseville Transit Route S service north of the Justice Center to the Public Defender's Office. Reflecting the intermittent need for this service, it would best be offered on an on-call basis, requiring a call to the dispatch office at least 15 minutes prior to the scheduled time. This would add approximately 1 hour of in-service time per day and an additional 10 vehicle-miles per day. Assuming all these hours and miles are "charged" to Placer County by the City, the total cost over 242 annual days of service would be \$12,800. A rough estimate of the additional ridership generated by this extension would be 2,000 passenger-trips per year. The Roseville Transit vehicle would be able to make a U-turn to return to Industrial Boulevard at the cul-de-sac on the end of Technology Way.

³ Another option would be to provide a stop on South Loop Road (the connector roadway opposite Placer Corporate Drive) just south of Sunset Boulevard. However, the pedestrian route from this stop to the office via the southbound ramp signal would be one third of a mile, and pedestrians would be tempted to cross busy Sunset Boulevard at an unprotected location.

Provide Discounts for TNC Rides between Santucci Justice Center and the Public Defender's Office

A final option to provide the connection to the Public Defender's Office would be for Placer County to subsidize the provision of a discount for TNC trips between the Office and the Santucci Justice Center. This discount would only be valid for trips between these two locations, and during the days and hours that the Office is open. Current Uber fares for this trip are approximately \$6.00. To provide a cost to the passenger equal to the \$1.25 PCT fare, a subsidy of \$4.75 per trip would be required. Over the course of 2,000 passenger-trips per year, the subsidy would total roughly \$9,500. The advantage of this option (beyond the lower cost) would be that service would be available beyond the six specific times that could be served by Route S. The disadvantage would be that Roseville residents would need to transfer from Route S and pay an additional fare.

Half-Hourly Lincoln-Sierra College Route Service

A common suggestion among riders of the Lincoln-Sierra College Route is for more frequent service on weekdays. Given the current ridership patterns, this could best consist of ten additional daily round trips, starting at 7:30 AM in Lincoln and ending with a 4:30 PM Lincoln departure / 5:30 PM Sierra College departure. This would require two additional buses in operation (a total of four). The impact on marginal annual operating costs would be \$426,800.

In addition to providing more travel choices for passengers making trips along the Lincoln-Sierra College Route, this would also improve transfer opportunities for travel to and from Auburn. At Sierra College, a Lincoln-Sierra College bus arriving/departing around 30 after the hour would reduce the transfer wait from the westbound Auburn-Light Rail bus from the existing 43 minutes down to 13 minutes, and would reduce the transfer in the opposite direction (to the eastbound Auburn-Light Rail bus) from the current 40 minutes down to 10 minutes. This takes 30 minutes off of the time required to complete a trip between Lincoln and Auburn, in both directions. The additional runs would not improve on existing transfer times for travel to/from the east, nor would they improve transfer times at the Galleria.

Based on an elasticity analysis, this improvement would increase ridership by an estimated 27,500 passenger-trips per year, generating an increase in fare revenues of \$19,500. Overall operating costs would be increased by \$407,300 per year, and capital costs would also be incurred for the two additional buses. This option is not considered feasible given the cost of service in relation to the ridership demand.

Service Along Lonetree Boulevard

Fixed route transit service is not currently provided along Lone Tree Boulevard between Blue Oaks Boulevard and Sunset Boulevard, including service to the large Blue Oaks Town Center commercial complex. Serving this corridor with the existing Lincoln-Sierra College Route would (given the time constraints) require elimination of service along Sunset Boulevard between the

two Stanford Ranch Road intersections, along with service on Stanford Ranch Road between Whitney Boulevard and Sunset Boulevard. Given the ridership generated in this area, this shift in route would lead to a net reduction in ridership.

Another option would be to initiate a new route between the Galleria and the northwestern portion of Rocklin that would serve Lonetree Boulevard as well as the University Avenue/East Joiner Parkway corridor. This route would be similar to the portion of the “Revised Lincoln Sierra College Route” north of the Galleria, except that it would use Lonetree Boulevard, Fairway Drive, Pleasant Grove Boulevard and Roseville Parkway to travel between the Galleria and Lonetree Boulevard/Sunset Boulevard, and would terminate on the north end with a loop around University Avenue, Ranch View Drive, Wildcat Boulevard and Whitney Ranch Parkway.

This route would be 13.0 miles in length, and could be operated hourly using a single bus. Assuming the same span of service as the Lincoln-Sierra College Route, this new route would incur an operating cost of \$441,100 per year. Ridership on this route would be approximately 12,600 per year including ridership generated along Fairway Drive north of Pleasant Grove Boulevard in Roseville). Subtracting the associated fare revenues, an operating subsidy of \$332,100 would be required. While a portion of this subsidy could reasonably be assigned to Roseville (for new service along Fairway Drive), it would still require a large increase in Rocklin subsidy funding.

Changes in the Span of Service

A review of existing ridership patterns as well as public comment indicate the following potential options for changes in the hours or days of Lincoln-Sierra College Route service:

- **One Additional Weekday Evening Run in Each Direction** – At present, the final weekday evening run occurs at 7:00 PM in both the southbound and northbound directions. One additional run in each direction starting at 8:00 PM (including service to downtown Lincoln) would provide additional options for early evening activities, and provide additional connections to the Auburn-Light Rail route. These additional runs would increase operating costs by \$44,600 per year. Ridership, based on the existing route ridership by run and evening ridership on similar services, would be increased by an estimated 2,300 passengers per year. Of this ridership increase, approximately 900 would board in Rocklin, 500 in Lincoln, 700 in Roseville and 200 in unincorporated Placer County. Including the additional fare revenue, subsidy requirements would be increased by \$43,000 per year.
- **7:00 AM Saturday Runs** – Starting service an hour earlier on Saturdays would increase operating costs by \$9,500 per year. Considering the relative ridership on other similar transit systems operating this early on Saturdays as well as the lack of transfer opportunities, this additional service would only serve an estimated 300 passenger-trips per year (approximately 100 in Rocklin and in Roseville, with the remainder in Lincoln and Placer County). Annual subsidy would be increased by \$9,300 per year.

- **Sunday Service: Same Service Plan as Saturday** – When asked what would most increase ridership, one-third of Lincoln-Sierra College Route ridership answered Sunday service. Sunday service would be a relatively expensive undertaking, as it would require additional dispatcher staff and would also disproportionately increase the driver shift scheduling and associated number of drivers. This would increase costs by a minimum of \$109,200, assuming that two buses are used to replicate the Saturday span of hourly service. Ridership would be limited, due to the lack of connecting transit services, and is estimated to be 4,100 passenger-trips per year. Of these, 1,400 would board in Rocklin and in Roseville, 900 in Lincoln and 400 in unincorporated Placer County.
- **Sunday Service: One Bus** – Given the low efficiency of a two-bus Sunday service, another option would be to operate one bus providing service on an every-two-hour frequency. This would reduce driver and mileage costs, but would still incur the additional dispatcher costs. As a result, costs would still be \$62,400 per year, while ridership would be reduced to an estimated 2,400 per year (800 apiece in Rocklin and Roseville, 500 in Lincoln and 300 in Placer County).

TNC Service in Areas of Rocklin Currently Unserved by Fixed Route

The current Lincoln-Sierra College fixed route serves many higher density residential areas and commercial/institutional centers in Rocklin, but does not provide transit service within a five-minute walk of most Rocklin residents. Only an estimated 32 percent of residents are currently served by the fixed route. While this figure is higher for some high-transit-potential groups (45 percent of low income households and 41 percent of zero-vehicle households), it is lower for others (only 24 percent of seniors and 11 percent of teenagers). The Rocklin/Loomis Dial-A-Ride offers service throughout Rocklin to all, but a review of records indicates that very few general public make use of this service (other than students) probably due to the advance reservation requirements, long travel times and limited hours.

Because of the dispersed nature of the portions of Rocklin not currently along the fixed route, adding new fixed routes would be very inefficient. A more effective means of expanding mobility may be to establish a subsidy program for TNC service for trips within Rocklin. As discussed above, this would provide a discount code that passengers would provide when booking their ride. While the total trip cost would vary by distance and time of day, the specific discount could be adjusted to roughly provide a cost to the passenger equal to the price of a PCT fixed route trip. For instance, a typical UberX trip within Rocklin has a total cost of approximately \$8 to \$9 on average. Subsidizing 80% of the cost of a ride up to a maximum of \$7.00 would yield an overall average cost to the rider comparable to the current \$1.25 PCT fare. Alternatively, a lower percent subsidy could be set to reduce the overall cost of the program. The availability of the Rocklin/Loomis Dial-A-Ride addresses the issue that TNC companies are not equipped or trained to fully address ADA passenger service. Requirements for drug and alcohol testing could be avoided by providing a choice of services (potentially including local cab companies).

An estimate of the ridership and subsidy costs associated with this option can be found by a review of the Go Dublin program in Dublin, California. This program serves a similar area, providing subsidy for rides on three services (Uber POOL, Lyft Line, and DeSoto Cab) at a 50% rate up to a maximum of \$5. This program is subsidizing approximately 15,000 trips per year, at an average subsidy of \$2.80 per trip. Dividing the number of trips by the population of Dublin yields a trip rate of 0.3 trips per capita per year. Multiplying this rate by the current Rocklin population yields an estimate of 20,000 Rocklin trips per year, if subsidized at the 50 percent rate. This would require a total subsidy of roughly \$85,000 per year. Administrative and monitoring costs would also be incurred. Note that the City does not currently have staff that could absorb these functions.

There are a range of policy issues that would need to be defined before a TNC subsidy program is established, such as the appropriate subsidy rate, the specific boundaries of service (only areas not served by fixed route, service to destinations outside the city, etc.) and who would be eligible for the service (general public or specific user groups). In addition, other parameters could be defined to reduce the cost and/or focus the program, such as restricting the hours the subsidy is available to existing transit service hours, or focusing only on travel to or from transportation hubs. The interest of the TNC or local cab companies would also need to be established.

Expand the Dial-A-Ride Service Area to Include the Industrial Drive Corridor

At present, the western boundary of the Rocklin/Loomis Dial-A-Ride area is the western limits of Rocklin (although trips to/from the portion of Roseville northeast of SR 65 and nearby commercial centers are also served). The area along Industrial Avenue just to the west in unincorporated Placer County (as discussed above) currently is not served with Dial-A-Ride, though activity centers in this area do generate a modest level of requests for service. There has been a consistent (though limited) number of requests for this service over the year.

This area is not currently provided with Dial-A-Ride service, as the Lincoln-Sierra College Route serves very limited stops in the area. It is thus considered a commuter service, which does not require complementary paratransit service. Additional stops in the area would trigger the need to offer paratransit service in the area. It is worth noting that there is substantial future development envisioned for this area under the *Sunset Area Plan*, which someday will trigger the need for paratransit service regardless of the immediate needs.

One option would be to expand the existing Dial-A-Ride area westward to include this corridor. Given the uses in the area and the DAR trip patterns in the adjacent DAR service areas, a reasonable estimate of ridership generated in this area is approximately 8 passenger-trips per weekday, or a total of 2,100 trips per year.

TABLE 42: Weekday Passenger Boardings and Vehicles in Operation per Hour
PCT Dial-A-Ride Services

	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM
Rocklin/Loomis DAR															
Boardings	2.5	3	3	1.5	2.5	1.5	3	1.5	1.5	6.5	2	3	2	0	
Vehicles in DAR Service	1	2	2	2	2	2	2	2	1.5	1	2	1	1	1	
Available Additional Trip Capacity	0.5	0.5	1	1.5	2.5	2.5	1.5	3	2	0	0.5	0.5	0	1	
Lincoln DAR															
Boardings	3	2.5	2.5	2.5	1.5	2.5	3	4	2.5	1	0.5	0.5	0.5	0.5	
Vehicles in DAR Service	1	1	1	1	1	2	2	2	2	1	1	1	1	1	
Available Additional Trip Capacity During School Run Times	--	1	--	--	--	--	--	--	--	1	--	--	--	--	
Highway 49 DAR															
Boardings	1.5	2	4.5	4.5	1.5	4.5	3.5	2	2	4	4	1.5	1.5	0	0
Vehicles in DAR Service	1	1	2	2	1	3	3	3	2	2	2	1	1	0.5	0.5
Available Additional Trip Capacity	1	1.5	2	3	1	4	4	5	2	2	2.5	1	1.5	1.5	1.5

Source: Contractor Operator Manifests for 4/17/18 and 4/18/18

The cost implications of this alternatives are a function of the available capacity of the existing Rocklin/Loomis DAR program to accommodate new trips. Operator manifest logs for several days were evaluated to identify the typical boardings in each hour of service as well as the number of vehicles in operation, as shown in Table 42. In addition, the detailed passenger pick-up and drop-off times were analyzed to identify the number of additional trip requests in the expansion area that could be accommodated with the existing vehicles. As shown, over most of the day there is adequate available capacity to accommodate the additional trips⁴. However, there are periods between 3:00 PM and 6:00 PM with no available capacity. Given this, an estimated three additional vehicle-hours per weekday would be needed to serve these new trips. This could be accomplished by extending the hours of the existing fleet, rather than requiring additional vehicles. Including the additional vehicle-mile related costs, this option is estimated to increase annual operating costs by \$25,100 per year. Subtracting the additional passenger fares, subsidy needs would be increased by \$23,500 per year. This additional capacity could also be useful in addressing the growth of Dial-A-Ride demand that can be expected to accompany new development in Rocklin.

Combine the Rocklin and Lincoln Dial-A-Ride Services

Reflecting the fact that Placer County has been operating the Lincoln Dial-A-Ride service for only a few years, the Rocklin and Lincoln DAR programs (both operated by a private firm under contract to Placer County) are managed and dispatched as separate services. This has largely been efficient, but the review of dispatch logs indicates that there are infrequent times when

⁴ It is important to note that service times can be (and often are) negotiated as much as an hour from the initial passenger request.

an individual passenger is required to transfer between the two services near the joint border. Perhaps more importantly, there are trips that passengers are choosing not to make due to the difficulty and time involved in arranging timely trips on both services. This need, while small today, is expected to grow substantially over the next few years as the already-approved developments in northwestern Rocklin and southeastern Lincoln are constructed.

Operating the two services as a single DAR service could address this issue, and potentially provide some operational benefits (such as providing the option of shifting resources as needed to address spikes in ridership demand). By combining the area of the Rocklin/Loomis DAR (25.1 square miles) with the area of the Lincoln DAR (23.7 square miles), this would result in a single DAR serving 48.8 square miles.

Many transit agencies in Northern California provide Dial-A-Ride services over a large urban/suburban area. Most are limited to ADA eligible passengers only but a few are similar to PCT's service area. A review of three similar DAR services shows that the larger service area does not necessarily have a negative impact on productivity (passenger trips per vehicle revenue hour).

- Roseville Transit DAR is open to the general public and serves an area that is roughly 43 square miles and is relatively productive (2.4 passenger trips per hour). This is relatively standard for a DAR.
- El Dorado Transit DAR is open to the general public on a space available basis and serves a large portion of the county, around 130 square miles. This service carries 3.26 passenger trips per hour.
- Visalia Transit DAR serves Visalia, Goshen, Farmersville and Exeter or an area of around 44 square miles. Productivity is 3.5 trips per hour.

While this review indicates that large service areas can still be served at relatively good levels of productivity, the reservation and dispatching process for a combined DAR service would need to carefully avoid overtaxing the capacity of the larger service to serve long trips that consume additional vehicle time per passenger. Trips within and between the two communities would be tracked to allocate costs back to the individual municipalities. Given the low frequency of trips between the two communities, it is not possible to quantify ridership and cost impacts of this option. However, this may well warrant implementation on a demonstration basis to test the impact on service efficiency, passenger trip quality, and the real-world demand for trips between Rocklin and Lincoln.

LINCOLN AREA ALTERNATIVES

The existing Lincoln Circulator service consists of a single vehicle operating an hour-long route from 6:40 AM to 6:35 PM on weekdays, and from 8:20 AM to 4:14 PM on Saturdays. In

addition, three school tripper runs (open to all passengers but scheduled to serve middle school and high school bell times) are operated on school days on a truncated route, requiring 33 to 36 minutes of running time apiece. This operating plan is a result of a study conducted by the City of Lincoln in 2014 (prior to Placer County operation of the service), that reduced the fixed route service from two buses to one.

Review of Existing Ridership Patterns

As a basis for evaluating service alternatives, it is useful to review the data collected on this service. Note that this review focuses only on the regularly scheduled service, and excludes the tripper runs.

Passenger Activity by Stop

The single busiest stops are 12 Bridges Library (where most transfers to and from the Lincoln-Sierra College Route occur) and Wilson Park (serving Twelve Bridges Middle School), both with 35 passenger boardings or alightings. This is followed closely by 3rd St/F St. (Walmart) with 30 passengers. Summarizing passenger activity by area indicates that many portions of the existing route generate relatively strong ridership:

12 Bridges/Wilson Park	35 percent of passenger activity
Ferrari Ranch Road W. of Lincoln Blvd	25 percent
Area West of Downtown	19 percent
Downtown	16 percent

The only areas of the existing route with low observed ridership is the Lincoln Hills Town Center (Safeway) and the area northeast of downtown, both with 1 passenger per day.

Passenger Activity by Time of Day

Weekday ridership by time of day is concentrated in the 6:40 AM run (with 22 percent of daily ridership, or 24 passengers on average) and the 2:40 PM run (with 24 percent of daily ridership or 27 passengers per weekday). The remainder of the runs on weekdays carry between 5 and 12 percent of daily ridership. Saturday ridership is only 30 percent of average weekday ridership, and shows relatively even ridership between the 8:20 AM run and the 2:20 PM run (all of which carry between 11 and 13 percent of daily ridership), with only approximately 2 passengers on the last Saturday run.

Onboard Survey Results

The onboard passenger surveys conducted as part of this study yielded a total of 58 passenger responses on the Lincoln Circulator. All 12 runs over the course of a weekday were surveyed. These surveys indicate the following:

- 72 percent of the passengers traveling to their boarding stop by walking. An additional 9 percent transferred from the Lincoln-Sierra College PCT route, 9 percent got dropped off, 5 percent bicycled or rode a scooter, and 2 percent each drove or used a wheelchair.
- Half of the passengers reported they were making a round-trip on the Circulator, while the other half were traveling one-way.
- Fully 45 percent of passengers were traveling to education, consisting of 21 percent for high school, 19 percent for elementary or middle school, and 5 percent for college. An additional 21 percent were traveling for work, 12 percent for shopping, 9 percent for personal business, 7 percent for recreational/social purposes, and 7 percent for multiple purposes.
- Passengers are generally pleased with the service. On a scale of 1 (poor) to 4 (excellent), passengers on average ranked the overall service quality at 3.5, with 65 percent indicating a 4. The highest average score was given for “ease of transfers” while the lowest score of 3.3 was given for “areas served”.
- Lincoln Circulator riders tend to use the service frequently, with 72 percent using it 2 to 5 days a week, 26 percent using it more than 5 days a week, and 2 percent using it once a week.
- Passengers get transit information by largely “low tech” means, with 36 percent indicating they use the printed guide or schedule, 31 percent asking the bus driver, 22 percent using the internet and 11 percent relying on family or friends.
- When asked what they think would most increase ridership, the most popular response was “more frequent service” (27 percent), followed by more routes/extended service area (19 percent), later evening service (18 percent), Sunday service (15 percent), additional Saturday service (12 percent) and newer buses (8 percent)

On Time Performance

At present 71 percent of stops were observed to be operated within the on-time performance window (not early and not more than 5 minutes late), while 18 percent operated 6 to 10 minutes late, 4 percent operated 10 to 14 minutes late, and 6 percent were served ahead of the schedule. The fact that 22 percent of stops are served late indicates that there is no existing time within the current hourly schedule to accommodate an expansion of the existing route, and that any new extension would either require elimination of existing service or provision of a second vehicle.

Revise the Route to Better Serve Northwest Lincoln

One option would be to revise the route west and east of downtown, in order to shift the route to serve new areas to the northwest. This revised route is shown in Figure 46. As indicated, regular service northeast of downtown and to Lincoln Hills Town Center (each of which only generated 1 passenger-trip over a full day of surveys) would be eliminated. Instead, the running time would be used to extend service from the current westernmost point on R Street an additional ½ mile to Fuller Lane. In addition, service could be provided further north on O Street (to 6th Street) on the way eastbound back to Lincoln Avenue and Walmart. On-demand stops would be established at the current stops at Lincoln Hills Town Center and on East Street south of 7th Street.

The resulting route would be 13.5 miles in length, which is 1.0 mile shorter than the current route. The route revision would provide new service to approximately 800 additional homes (within a 5-minute walk). Based on current per-household transit trip rates, this would increase annual ridership by an estimate 2,200 passenger-trips per year. The reduction in mileage would reduce annual operating cost by \$3,300 while fare revenues would increase by \$1,600, yielding a net reduction in operating subsidy of \$4,900.

Serve Sun City Lincoln Hills

Sun City Lincoln Hills, along Del Webb Boulevard, consists of 6,783 homes over five square miles of eastern Lincoln. It is not served by the current route. The main clubhouse is approximately 1.2 miles from the nearest existing stop, and would require approximately 8 to 10 minutes to serve. There is not sufficient time in the existing route to serve this additional stop, and the reductions in the existing route discussed above would not provide sufficient time. As a result, the existing route would either need to be significantly reduced (impacting an existing high ridership area), the schedule would need to be extended beyond an hour (substantially reducing the service quality and ability to transfer to the Lincoln – Sierra College PCT route), or an additional bus would need to be operated. This latter option would increase overall operating cost by an estimated \$285,000 per year (if operated over the same span of service as the existing Circulator route).

The ridership potential, moreover, is limited due to the low density land use pattern, the demographic characteristics, and the availability of other private shuttle options. As an example, the ridership at the Roseville Transit system stop serving the Sun City Roseville development (with 3,110 homes) generates only 12 passenger-trips per day. The cost effectiveness of a new route to accommodate service to Sun City Lincoln Hills would be very low. This option is therefore not considered further.

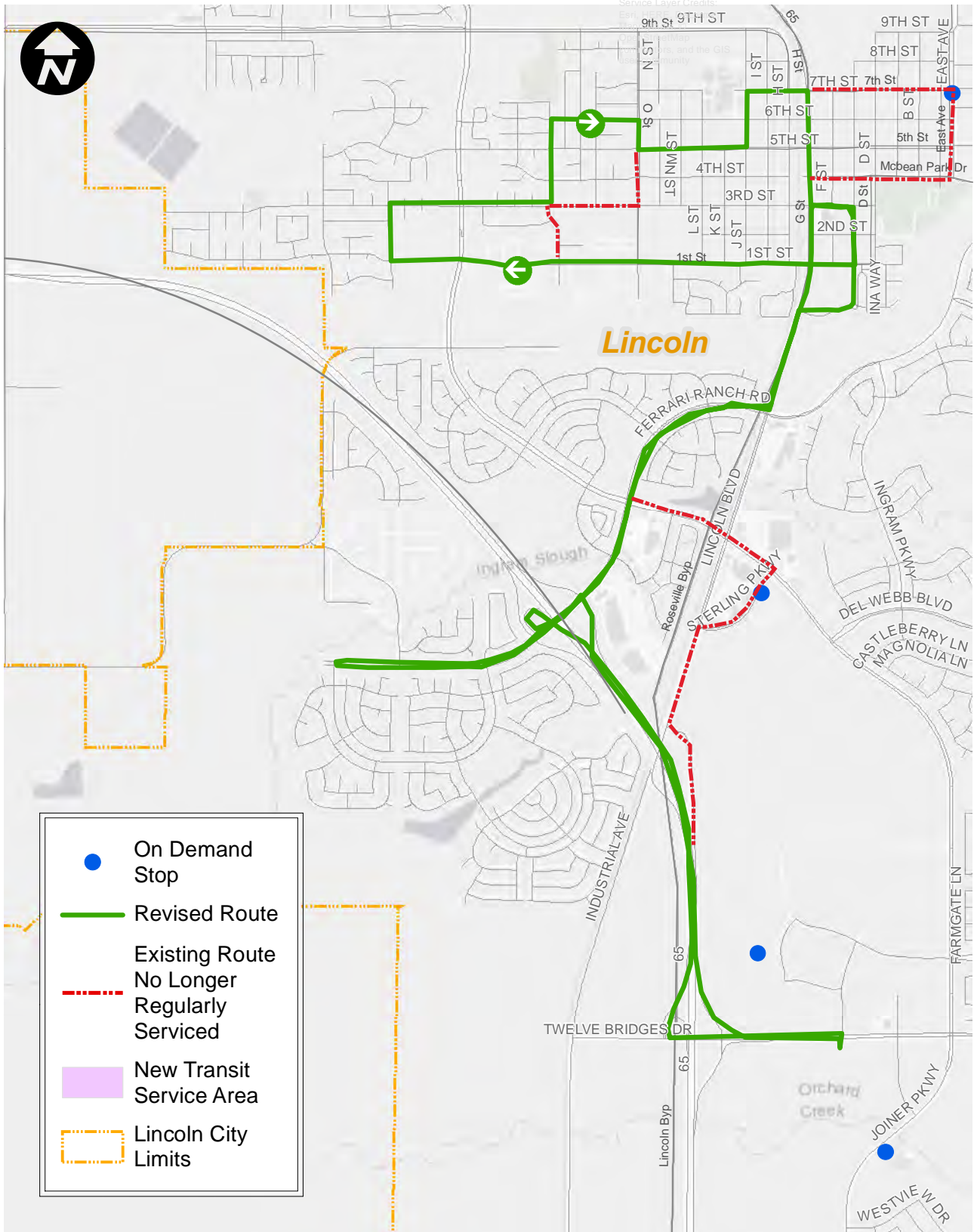
Changes in Operating Hours

The ridership pattern by run of the Lincoln Circulator indicates that the existing hours of operation are appropriate. While on weekdays the first run of the day is one of the busiest



0 0.225 0.45 0.9 Miles

Figure 46 Lincoln Circulator Route Alternative



runs, much of this is generated by school activity, which would not be better served by an earlier run. At the end of the weekday service day, the last run (5:40 PM) has relatively strong ridership, with a substantial number of transfers from the Lincoln-Sierra College Route, but not enough to indicate the need for a later run. The relatively modest Saturday ridership, which is generally consistent over the existing 8:20 AM – 4:14 PM span of service, indicates no need to modify the hours of operation on Saturday.

Lincoln DAR Capacity

As part of this study, the operation of the Lincoln Dial-A-Ride service was reviewed. Specifically, the current practice of using the DAR vehicles to provide school tripper runs was reviewed, to assess whether this strategy is impacting the services ability to accommodate passenger requests. This strategy avoids the substantial costs associated with adding a third driver during these limited period, though it is not allowable if it results in a pattern of trip denials for persons with disabilities. In Fiscal Year 2016/17, a total of 159 trip denials were recorded. This is equal to a rate of 1.8 percent, or slightly more than 1 denial every other service day. To assess this, operator manifests were reviewed to identify if the single DAR vehicle available during the two daily school tripper service periods had capacity to accommodate additional trips. As shown in Table 42, in both periods there was capacity to avoid denials. This indicates that the current school tripper is not currently generating a pattern of trip denials (at least at current levels of DAR demand).

AUBURN AREA ALTERNATIVES

Highway 49 Route

Review of Existing Ridership by Segment

The Highway 49 Route serves Auburn Station along with activity centers along the SR 49 corridor north of the City of Auburn, along with service to the Auburn Airport area (which is within the City). The southern portion of the route consists of a direct two-way route along SR 49 and Nevada Street, south of Atwood Road. To the north, the route consists of a series of one-way loops, designed to serve areas along both sides of the highway and to serve internal trips in this northern area. This area north of DeWitt Center centered on the SR 49/Bell Road area is particularly difficult to serve efficiently. Each of the four quadrants of this intersection have important land uses (commercial, medical, residential, institutional) with limited roadway networks that constrain transit route choices. The width and high traffic volumes on these streets, moreover, make them difficult to cross as a pedestrian, thus increasing the need for direct transit service to the various land uses.

The current route is a result of a long history of various route alignments. Most recently, in 2014 a food closet moved to a location in the Placer County Airport industrial area, which triggered to need for route revisions (approved by both the Board of Supervisors and the City

Council, and implemented in February 2015). This extended route has not generated significant ridership, and the food closet is now moving to another location.

The overall route is 23.4 miles (round trip), and is scheduled to be operated in 48 minutes southbound and 43 minutes northbound. With layovers (at Auburn Station and Chana Park), hourly service is provided by two vehicles operating two-hour-long round-trips. A resident living near Sapphire Drive and Garnet Way, for example, has a 36 minute trip to Auburn Station and a 40 minute return trip, equivalent to an average speed of 5.7 miles per hour for a trip that typically takes only 10 minutes by car.

To evaluate options to streamline this route, the ridership generated by the various individual loops were evaluated, based on the survey data. As shown in Table 43, the following two loops were found to have low utilization:

TABLE 43: Evaluation of Ridership Activity by Loop on Highway 49 Route

Loop	On	Off	Total On/Off	Number of Runs		Percent of Runs with No On/Off
				Runs With Zero Boardings or Alightings	Total Runs Surveyed	
Southbound						
Richardson Dr./Quartz Dr. Loop	28	0	28	4	13	31%
Professional Dr. Loop	0	2	2	11	13	85%
Airport Loop	2	0	2	11	13	85%
Dewitt Center Loop	13	13	26	4	13	31%
Northbound						
Dewitt Center Loop	2	27	29	5	14	36%
Professional Dr. Loop	4	7	11	8	14	57%
Airport Loop	2	6	8	9	14	64%
Richardson Drive Loop	0	18	18	6	14	43%

Source: Onboard surveys conducted on Wednesday Dec. 6 and Thursday Dec. 7, 2017. Excludes passengers served as part of travel by other buses between Dewitt Center and Auburn Station.

- The Airport Loop (along Locksley Lane, Earhart Avenue, New Airport Road and Bell Road, excluding the Target stop) generated only 10 passenger-trips over the course of the day, with 20 of the 27 runs of the loop not serving any passengers. (Of these 10 passenger boardings/alighting, 8 are at the NID stop near Seniors First, and only 2 are at Earhart/Rickenbacker.) This loop requires approximately 9 minutes to operate in the southbound direction and 11 minutes in the northbound direction.
- The other loop with low ridership is the Professional Drive Loop, where 19 of the 27 individual runs did not serve any passengers and only 13 passengers were served over the course of the day. In particular, only 2 passengers were served in the southbound direction, leaving 11 of the 13 southbound runs not serving any passengers.

Placer County also tracks ridership at the Locksley/NID and Earhart Avenue stops on a daily basis. From July 1, 2017 through March 12, 2018, the Locksley/NID stop averaged a total of 8 passenger-trips per weekday (6 on Saturdays), while the Earhart Avenue stop averaged 3 on weekdays and 0.5 on Saturdays. This data is in line with the boarding/alighting data discussed above.

Reduce Highway 49 Route to a Single Bus

A reduced Highway 49 Route was evaluated that would eliminate the Airport Loop in both directions (while serving Target in both directions), serve the Professional Drive Loop only in the northbound direction, and eliminate the southbound diversion off of SR 49 to serve the Quartz Drive area (serving this area in the northbound direction and providing all layover time at Auburn Station). The resulting route is 15.6 miles in length. Excluding any layover or recovery time, it would take approximately 69 minutes to operate. As reducing the service frequency to more than one hour would significantly reduce the quality of service, a one-bus service plan for Highway 49 area is not a viable alternative.

Revised Highway 49 Route Configuration

Per the previous discussion, maintaining the existing hourly headway require two buses in operation. Simply operating more direct routes, however, would not provide a schedule of convenient transfers to/from the Auburn/Light Rail PCT route or the Auburn Transit routes, all of which operate hourly. Assuming a minimum of 10 minutes of layover every two hours, each bus would have approximately 40 minutes of excess layover time every two hours, which would be inefficient. Three options were considered to reconfigure the Highway 49 service, assuming two buses in operation.

Auburn Station – Dewitt Route and North Auburn – Luther Road Route

One option would be to operate one bus on a limited route connecting Dewitt Center with Auburn Station, with the second bus operating a second route serving the northern portion of the existing route (as reduced above), Dewitt Center, and a new route segment along Luther Road between SR 49 and Bowman Road. This would provide new service along Luther Road (including the Woodside Village MHP in the unincorporated county and single family homes both in Auburn and unincorporated areas). While this would generate a modest level of additional ridership, this option would also require all passengers between the area north of Bell Road and Auburn Station to transfer to the shorter route in order to travel to/from Auburn Station. This transfer and associated wait time would be a significant detriment to the roughly 2/3 of North Auburn passengers traveling to/from Auburn Station. As a result, this route (without a direct connection to Auburn Station) would perform very poorly. This option is therefore not considered to be feasible.

Reconfiguration Into Two Hourly Routes

Under the second option, the two buses could be used to operate two routes that both serve Auburn Station. Both routes would serve Auburn Station, Dewitt Center, and the majority of the key commercial centers, as well as a portion of the residential areas. One potential route alignment is shown in Figure 47. Both routes could be operated within an hour (including driver break time) and would be scheduled to provide service to Auburn Station every half hour. These routes would serve the large majority of existing passenger trips without the need to transfer, based on the on-board survey results. Note that final routing will need to reflect additional data collection regarding actual running times (in a variety of traffic conditions) and additional passenger origin/destination data.

As shown in Table 44, this route option would not change the annual vehicle-hours of operation (assuming that all existing span of service continues to be operated), but would increase annual mileage by approximately 13,100. As a result, annual marginal operating costs would be increased by an estimated \$16,200 per year⁵.

Ridership would be impacted in three ways:

- Riders on the southern portion of the existing route between Dewitt Center/Belair and Auburn Station would benefit from the more frequent service. The ridership impact can be evaluated using 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 would indicate an increase of 9,800 passenger-trips per year. However, at least in the short run the benefit of more frequent service would be limited by the lack of connecting service at Auburn Station at the bottom of the hour. This increase was therefore cut in half, to an estimated 4,900 passenger-trips per year.
- Riders traveling between the southern portion of the existing route and the northern portion (but not traveling to Dewitt Center or the airport) would benefit from the reduction in travel times. Based on existing travel patterns and an elasticity analysis, this factor is estimated to increase ridership by 4,100 passenger-trips per year.
- Riders to and from the airport would be eliminated, estimated at 900 per year.

⁵ This cost could be effectively eliminated if the shorter route were to start operation a half-hour later, which may be appropriate as there is no connecting service at Auburn Station at 6:30 AM on weekdays or 9:30 AM on Saturdays.



- 49 A Route
- 49 B Route

Figure 47 Revision of Highway 49 Service into Two Hourly Routes

Service Layer:
Esri, HERE,
MapmyIndia, ©
DeLorme, GeoEye,
AerialMapper,
SwatchVision,
SwatchVisionPlus,
and the GIS User Community

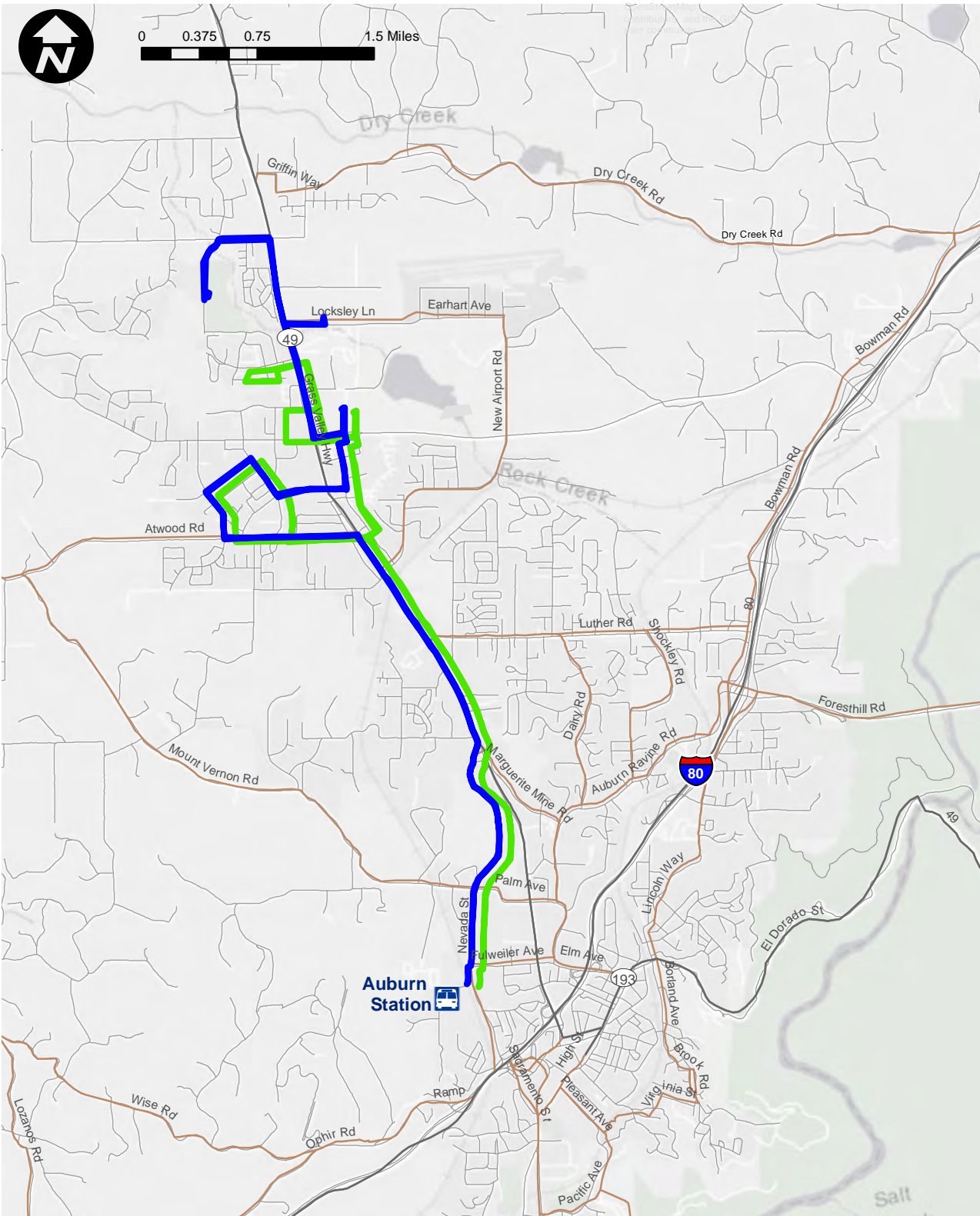


TABLE 44: PCT Highway 49 Alternatives Service/Cost Analysis

	Run Parameters		Weekday Service		Saturday Service(1)		Annual		Annual Marginal Cost	Peak Buses				
	Hours	Miles	Runs	Days/Yr	Hours	Miles	Runs	Days/Yr			Hours	Miles		
Existing Highway 49 Route	2.00	23.4	13	248	26	304	8	53	16	187	7,296	85,363	\$591,900	2
Revised Fixed Routes														
Dewitt Express	0.50	7.5	26	248	13	195	16	53	8	120	3,648	54,720	\$310,800	1
North Auburn	1.00	11.7	13	248	13	152	8	53	8	94	3,648	42,682	\$296,000	1
Total					26	347			16	214	7,296	97,402	\$606,800	2
Net Change											0	12,038	\$14,900	0
Split 49 Route														
49 S	1.00	13.2	13	248	13	172	8	53	8	106	3,648	48,154	\$302,700	1
49 N	1.00	13.8	13	248	13	179	8	53	8	110	3,648	50,342	\$305,400	1
Total					26	351			16	216	7,296	98,496	\$608,100	2
Net Change											0	13,133	\$16,200	0
Eliminate 6PM NB, 6PM SB and 7PM NB Runs	2.00	23.4	-1.5	248	-3	-35	0	0	0	0	-744	-8,705	-\$60,400	0
Sunday Service -- Hourly	2.00	23.4	0	0	0	0	8	53	16	187	848	9,922	\$79,400	2
Sunday Service -- Every 2 Hours	2.00	23.4	0	0	0	0	4	53	8	94	424	4,961	\$45,000	1
Expansion of Hwy 49 DAR to Bowman Area	--	--	7	248	0	42	3	53	0	18	0	11,370	\$1,000	0

In total, this realignment would increase ridership by an estimated 8,100 per year, equivalent to 15 percent of existing Highway 49 ridership. As summarized in Table 45, these additional riders would generate on the order of \$6,100 in additional revenue, yielding a net increase in operating subsidy of \$11,000 per year.

TABLE 45: PCT Highway 49 Corridor Service Alternatives Summary

Alternative	Change In Annual Service						Change in Peak Buses
	Service Hours	Service Miles	Operating Cost	Ridership	Fare Revenues	Operating Subsidy	
Fixed Route							
<i>Existing</i>	6,190	95,434	\$716,957	52,351	\$37,359	\$679,599	2
Split 49 Into 2 Hourly Routes	0	13,133	\$16,200	8,100	\$6,100	\$10,100	0
<i>% Change from Existing</i>	0%	14%	2%	15%	16%	1%	0%
Reduced Evening Runs	-744	-8,705	-\$60,400	-2,200	-\$1,600	-\$58,800	0
<i>% Change from Existing</i>	-12%	-9%	-8%	-4%	-4%	-9%	0%
Sunday Service: Hourly	848	9,922	\$79,400	4,300	\$3,100	\$76,300	0
<i>% Change from Existing</i>	14%	10%	11%	8%	8%	11%	0%
Sunday Service: Every 2 Hours	424	4,961	\$45,000	2,600	\$1,900	\$43,100	0
<i>% Change from Existing</i>	7%	5%	6%	5%	5%	6%	0%
Dial-A-Ride							
<i>Existing</i>	5,881	50,885	\$465,658	9,112	\$6,574	\$459,084	2
Expansion of Hwy 49 DAR to Bowman Area	0	11,370	\$1,000	1,800	\$1,300	-\$300	0
<i>% Change from Existing</i>	0%	22%	0%	20%	20%	0%	0%

Modification of Hours of Service

The passenger activity by hour and by day of week were reviewed, which indicates that the current “span of service” is generally appropriate. As there is a substantially lower ridership on the weekday 6 PM runs and the northbound 7 PM run (a total of approximately 9 passenger-

trips over all three runs), the elimination of these runs was considered. This would reduce the marginal operating cost by \$60,400 per year. Ridership would be reduced by an estimated 2,200 per year. Including the loss of \$1,600 in fare revenues, the net impact on operating subsidy would be \$58,800. The biggest impact on ridership would probably be the loss of the ability to commute home to residences in North Auburn for those persons working traditional day shifts. (Tables 43 and 44)

Sunday Service

Similar to the majority of transit services in smaller communities, the Highway 49 route does not operate on Sundays. Sunday service, however, is a popular request among passengers. In the onboard surveys conducted as part of this study, 26 percent of PCT ridership indicated that Sunday service was the improvement that would most likely increase transit ridership. To assess this potential improvements, two options were considered:

- Sunday service could be provided identical to Saturday service (with two buses providing hourly service). In addition to the standard hourly and mileage-related costs, a dispatcher (assumed to cost \$25 per hour) would need to be on duty for all hours of operation. As a result, the annual cost of this option would be \$79,400 per year. Based on the observed ratio of Sunday to Saturday ridership in similar smaller Northern California transit services, this service would carry approximately 4,300 passenger-trips per year. (Tables 43 and 44)
- Alternatively, Sunday service could be operated using a single bus providing service every two hours. To accommodate religious services, this bus would operate from 8:00 AM to 4:00 PM. Including the additional dispatcher staff costs, this option would cost \$45,000 per year. Considering the relatively low convenience of every-other-hour service, this option would carry only approximately 2,600 passenger-trips per year. Including passenger fares, this option would increase subsidy needs by \$43,100 per year. (Tables 43 and 44)

Expansion of Highway 49 Dial-A-Ride Service Area

Door-to-door service in the northern Auburn area is complicated by the geography of the Auburn city limits and the requirements of the Americans with Disabilities Act. The Highway 49 Dial-A-Ride is generally consistent with (meets or exceeds) ADA requirements that paratransit service be provided for all ADA eligible passengers within a $\frac{3}{4}$ mile distance from a fixed route (in this case, the Highway 49 Route). This includes areas that are within the Auburn city limits, including most areas north of I-80, and east of Auburn along Luther Road as far east as Matson Drive. Within the remainder of Auburn, however, door-to-door trips are provided by the deviation ability of the two Auburn Transit routes. As discussed separately in the Auburn transit study document, this is a cost-effective means of meeting transit needs in Auburn, as it avoids the costs associated with operation of a separate paratransit service.

These limitations on paratransit service result in limitations for persons needing paratransit service in the broader Auburn / North Auburn area. In particular, there is no direct paratransit service to the Bowman area (including the Raley's Center). The Highway 49 DAR service area could potentially be expanded to serve this area. Specifically, the area east of the existing service area and east of the Auburn City limits, south of Bell Road, and northwest of the edge of the American River Canyon was considered, as shown in Figure 48. Based on the relative population of the existing service area to this service area, the ridership generated by this expansion would be an estimated 1,800 passenger-trips per year (or 7 passenger-trips per weekday). Table 42 presents an evaluation of the existing Highway 49 DAR program, showing the typical hourly ridership, vehicles in operation and available capacity. As shown, in each hour there is available capacity to accommodate additional passenger-trips. Overall, the additional 20 percent demand for service could be accommodated without the need to add vehicle-hours, though additional vehicle-miles would be operated. These additional miles would increase annual operating cost by a relatively modest \$1,000 per year. As the additional passenger-trips would generate an estimated \$1,300 in additional fares, annual subsidy requirements would be reduced by roughly \$300. (Tables 43 and 44)

Figure 48 (combined Aub Bow DAR)

TAYLOR ROAD SHUTTLE

The Taylor Road Shuttle serves the areas between Sierra College and Auburn. A contractor operates one vehicle from 6:35 AM to 8:25 PM on weekdays, and from 8:35 AM to 6:25 PM on Saturdays. Every two hours, two 40-minute one-way runs are operated between Auburn Station and Sierra College, along with a 17-minute Campus Shopping Loop that connects the Sierra College stop with Rocklin Commons (Target) and Rocklin Crossing (Walmart). The remaining 23 minutes in every two-hour cycle are layover and break time. In addition to serving fixed stops on a schedule, deviation requests (within $\frac{3}{4}$ mile of Taylor Road) are also accommodated.

Ridership totals just under 9,200 one-way passenger-trips per year. On average, 2.3 passenger-trips are served per hour (or 4.6 per two-hour loop), which is the lowest productivity among the PCT routes. As a result of this low productivity, this service required \$30.61 in subsidy per passenger-trip in FY 2016/17, second-highest (behind the Colfax/Alta Route).

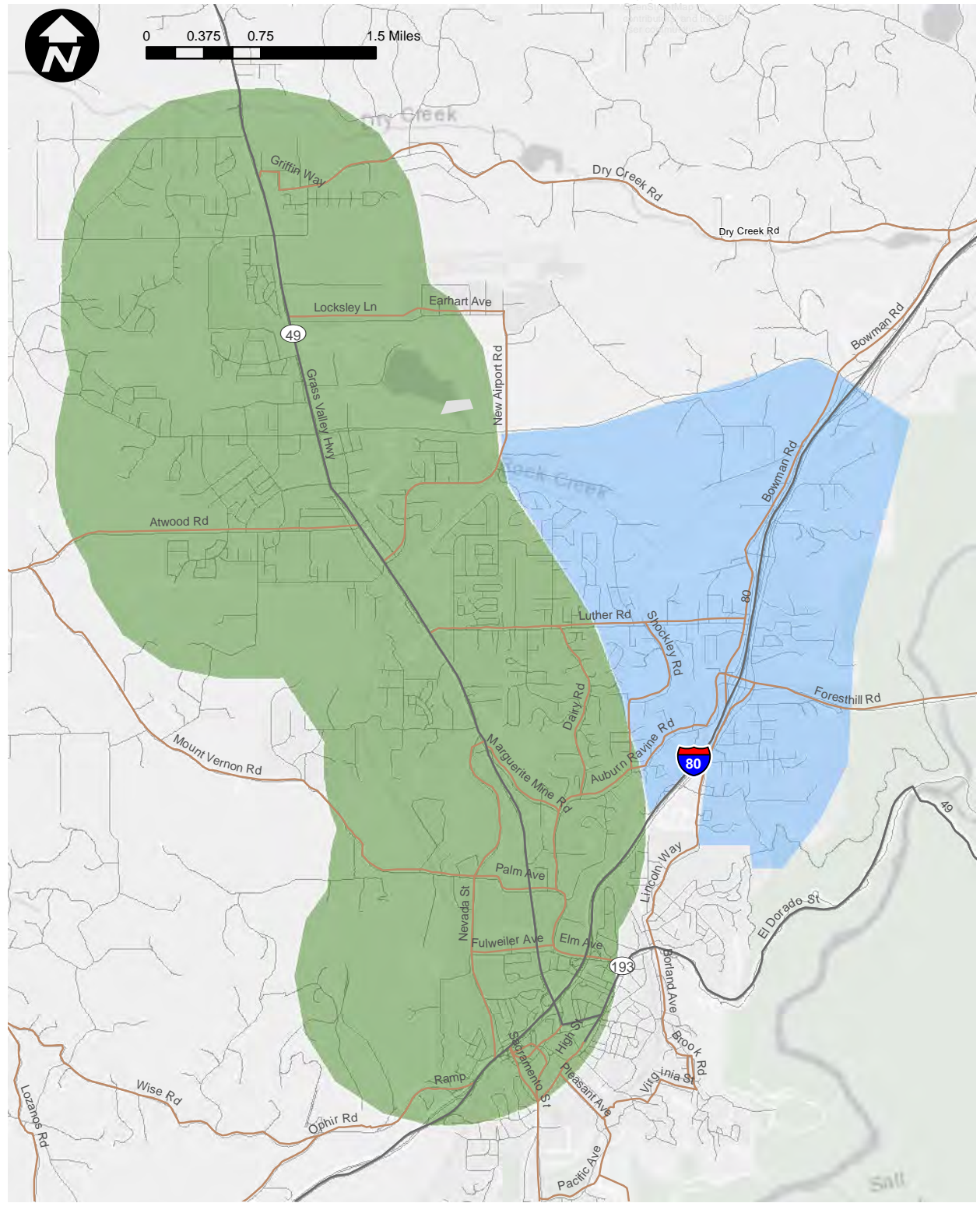
In assessing alternatives, it is also useful to review the ridership patterns and characteristics identified through the on-board surveys:

- More than half of the passengers are traveling to or from Sierra College (or transferring at Sierra College). On the runs surveyed, 17 out of a total of 29 passengers boarded or alighted at Sierra College (58 percent). In comparison, only 8 were boarding or alighting at Auburn Station. The other relatively substantial area of ridership was Loomis (15 trip-ends). Assuming that minimum number of passengers requested deviations on both ends of their trip, 57 percent of passengers requested a deviation.



Existing Area
Potential Expansion Area

Figure 48
Potential Expanded Highway 49
Dial-A-Ride Service Area



- The Campus Shopping Loop portion of the route generated 4 passenger-trips, while the remainder of the route generated 22. This equates to 1.8 passengers per vehicle-hour on the Campus Shopping Loop versus 2.5 on the remainder of the route.
- Of the 20 passengers completing a survey, 13 walked to their boarding stop, 6 transferred from other services and one got dropped off.
- Twelve were traveling round-trip on the PCT bus, while eight were making 1-way trips.
- Seven were adults age 19 to 59, five were seniors age 60 and above, while one was a teenager and one was between 6 and 12.
- When asked how they would have made the trip without the PCT service, eight said they would not have made the trip, five would have been driven by a family member or friend, one would have driven, and one would have hitchhiked.
- When asked the main purpose of the trip, seven (35 percent) were traveling for high school or college, five were shopping or on personal business, three were traveling for work, , two were traveling for recreational/social purposes, and two were traveling for “multiple purposes”. Overall, 60 percent were traveling for work or school, indicating that they are on a fixed schedule, while the remainder have flexibility in their schedule.
- In response to the question “What do you think would most increase ridership?” the most comment responses were more frequent service (8), Sunday service (5) and later service (1). One respondent also asked for hourly service, and another requested a 3:05 PM departure from Del Oro High School.

Eliminate the Campus Shopping Loop

One option would be to eliminate the Campus Shopping Loop, and operate the Taylor Road Shuttle on a 90-minute frequency rather than a 120-minute frequency using a single vehicle⁶. Assuming no change in the span of service, 18 one-way runs could be operated compared to the 14 operated today. This could result in a modest increase in ridership due to the more frequent service. However, much of the existing Campus Shopping Loop ridership (an estimated 1,400 passenger-trips per year) would be eliminated. The Rocklin Community Development Department also indicates that substantial additional commercial development is expected to occur over the next five years around the I-80/Sierra College Boulevard interchange, including a Costco and other retail in the northeast quadrant of the interchange and a restaurant-oriented center in the southwest quadrant.

⁶ The Rocklin Commons shopping center would be served by a loop in both directions from Sierra College Boulevard.

In addition, an 80-minute schedule frequency would mean that Taylor Road Shuttle services would not be coordinated with Auburn-Light Rail service at Sierra College. On balance, this option would reduce overall ridership while not significantly changing operating costs. It is therefore not considered further. Instead, PCT should consider a targeting marketing program to increase awareness of this service in this growing activity center.

Hourly Service

A strong detriment to ridership on the existing Taylor Road Shuttle is the two-hour service frequency, which requires passengers to often endure long waits. One straightforward way to improve service frequency would be to operate a second bus to result in hourly service on the existing route. As shown in Table 46, this would increase annual operating costs by \$111,400 per year. The increased frequency and consistency of service would increase annual ridership by an estimated 4,100 passenger-trips per year. Including the additional fare revenues, operating subsidy would be increased by \$108,700, as shown in Table 47.

TABLE 46: PCT Taylor Road Shuttle Alternatives Service/Cost Analysis

	Run Parameters		Weekday Service				Saturday Service(1)				Annual		Annual Marginal Cost	Peak Buses		
	Hours	Miles	Runs	Days/Yr	Hours	Miles	Runs	Days/Yr	Hours	Miles	Hours	Miles				
<i>Existing Taylor Road Shuttle</i>	2.00	33.9	7	248	14	238	5	53	10	170	4,002	67,900	\$131,200	1		
Provide Hourly Service	2.00	33.9	6	248	12	204	4	53	8	136	3,400	57,686	\$111,400	1		
Fixed Route Service with TNC																
Fixed Route	1.00	19.3	14	248	14	271	10	53	10	193	4,002	77,331	\$132,000	1		
TNC Service	<i>Average of \$9.00 per Passenger-Trip</i>												\$40,500			
Total													\$172,500			
Net Change													0	9,431	\$41,300	
Eliminate Last Weekday Run	2.00	64.0	-1	248	-2	-64	0	0	0	0	-496	-15,884	-\$16,900	1		
Expand Deviation Area to 1.5 Miles	2.00	28.8	6	248	12	173	4	53	8	115	3,400	49,016	\$110,700	1		

TABLE 47: PCT Taylor Road Shuttle 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</i>	4,002	67,900	\$131,200	9,185	\$6,084	\$125,116	1	
Hourly Deviated Fixed Route Service	3,400	57,686	\$111,400	4,100	\$2,700	\$108,700	1	
<i>% Change from Existing</i>	85%	85%	85%	45%	44%	87%	100%	
Hourly Fixed Service with TNC (1)	0	9,431	\$41,300	3,000	\$5,000	\$36,300	0	
<i>% Change from Existing</i>	0%	14%	31%	33%	82%	29%	0%	
Eliminate Last Weekday Round Trip	-496	-15,884	-\$16,900	-700	-\$500	-\$16,400	0	
<i>% Change from Existing</i>	-12%	-23%	-13%	-8%	-8%	-13%	0%	
Expand Deviation Area to 1.5 Miles	3,400	49,016	\$110,700	4,900	\$3,300	\$107,400	1	
<i>% Change from Existing</i>	85%	72%	84%	53%	54%	86%	100%	

Note 1: Excludes miles, hours and vehicles associated with TNC service, and assumes no change in deviation passengers.

Reduce Taylor Road Shuttle to Sierra College – Penryn

Another means of providing hourly service would be to reduce the Taylor Road Shuttle deviated fixed route to that area that can be served on an hourly schedule by a single vehicle and serves the largest proportion of existing ridership. Per the existing schedule, this consists of the route between Sierra College and Penryn, with elimination of the Campus Shopping Loop. The onboard surveys and boarding/alighting surveys, however, indicate that only half of the existing passenger-trips are within this this corridor, while the other half consists largely of passengers traveling through Penryn, or a few making trips between Auburn and Newcastle. As examples, some passengers living in the Newcastle or Ophir areas use the service to travel to/from Del Oro High School or Sierra College. Without any other change in service, this alternative would eliminate service to half of existing riders (approximately 4,300 passenger-trips per year). One means of addressing this loss of service may be to expand the area of the Highway 49 Dial-A-Ride to also include the Taylor Road corridor between Auburn and Newcastle. As the Highway 49 Dial-A-Ride is only serving 1.5 passenger-trips per vehicle-hour at present, the 5 to 7 additional passenger-trips per day that would need to be served can probably be accommodated within the existing program. However, this would only provide service for these passengers to/from Auburn. While it would be possible to complete existing trips using this service, the Auburn/Light Rail Route and potentially the remaining Taylor Road Shuttle, travel times would be significantly increased, leading to the loss of many of these existing riders. Considering this loss of riders, the additional riders generated between Sierra College and Penryn due to the increased frequency, and the loss of College Shopping Loop passengers, the overall impact of this option would be to reduce ridership by an estimated 2,500 passenger-trips per year. As this alternative would reduce ridership but not result in any reduction in operating costs, it is not considered further.

Convert the Taylor Road Shuttle to Fixed Route with TNC Service for Deviation Requests

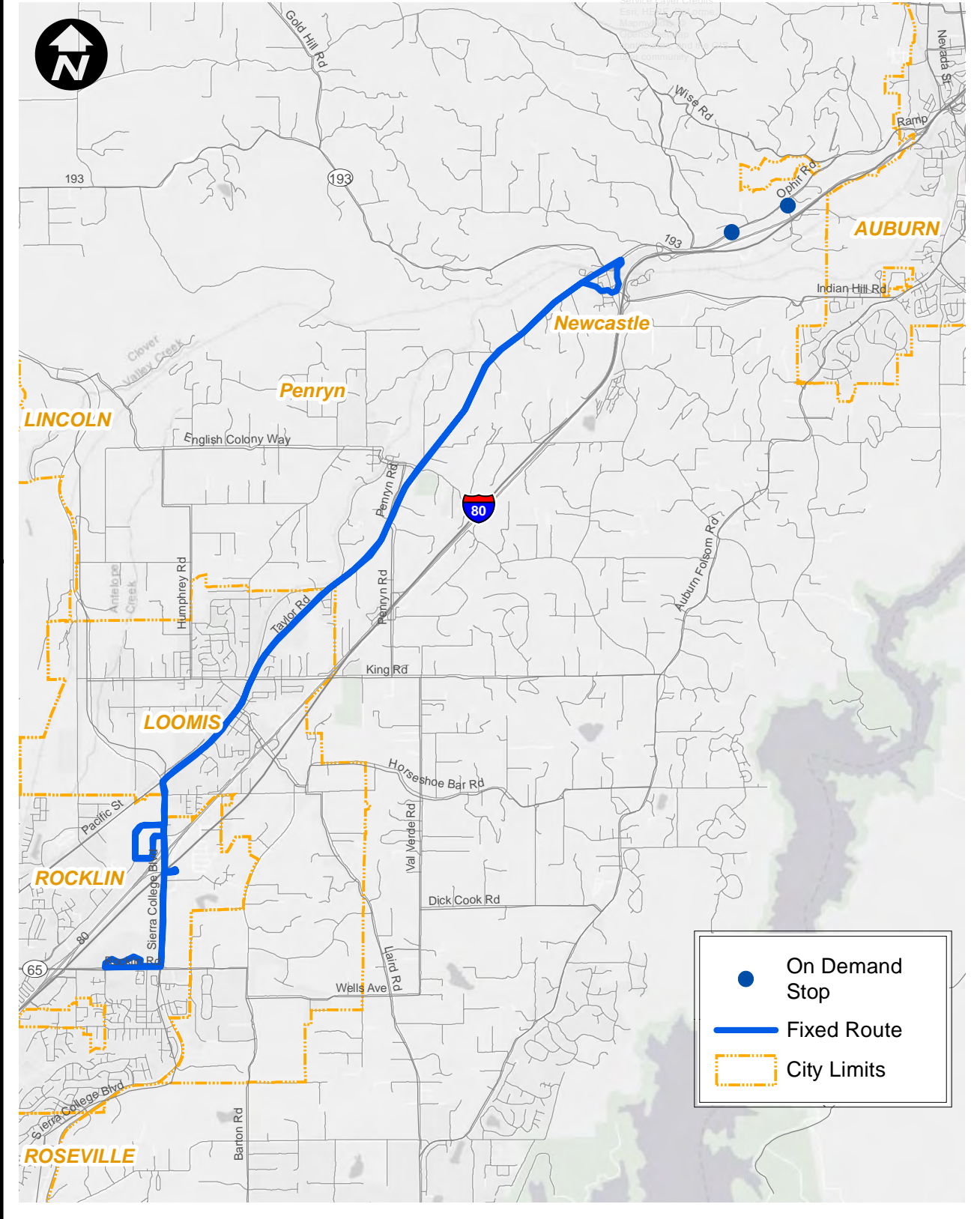
Another option would be to operate the Taylor Road Shuttle as a fixed route using a single vehicle that provides hourly service between Sierra College and Newcastle, with on-call request stops in Ophir. Without deviations, a longer corridor could be served, as shown in Figure 49.

This route would be 18.8 miles per round-trip, extending up to 22.2 to serve on-call requests in Ophir. Layover time would occur in Newcastle, to accommodate the one to two times per day that Ophir would need to be served. This route could accommodate an estimated 63 percent of all existing Taylor Road Shuttle riders.

The existing passengers requesting deviations that would not be served by this fixed route (37 percent of existing passengers) would instead be served through a TNC contractor. As discussed above, an agreement between Placer County and one or more TNC companies could allow residents in the corridor to request a TNC ride to destinations within the corridor



Figure 49
Taylor Road Fixed Route Alternative



(including trips to Sierra College or Auburn Station for transfers to other services)⁷. Transit funding would be used to subsidize these trips, so that the cost to the passenger would be similar to current fares. The hours that this subsidy would be available would be limited to the current Shuttle hours of service.

The total cost of this subsidy would depend on rates charged by the TNC companies and the passenger trip lengths. At present, a review of typical Taylor Road Shuttle passenger trips using the Uber online fare estimator (www.uber.com/fare-estimate/) indicates that the typical (non-surge) rate for trips in the corridor is on the order of \$9.00. Assuming no change in total demand for deviation trips (and for trips to/from Auburn Station not served by the fixed route), this would cost \$40,500 per year in TNC fees. Subtracting the existing fare revenues generated by deviation trips (\$3,000 per year), the TNC subsidy under this scenario would be \$37,500 per year.

There is the potential under this alternative that the demand for subsidized TNC rides could greatly increase from the existing Taylor Road Shuttle demand, as residents of the area can be expected to find the option of a \$1.25 (or \$0.60 for elderly/disabled/youth) TNC ride to be a more attractive option than an every-two-hour bus service. This in turn could greatly increase the subsidy required for the TNC service. Some manner of limitation on availability of the TNC service would be necessary, such as (1) service only to/from a PCT bus stop location or (2) service to general public riders only beyond ½ mile walk distance of a fixed route stop.

The additional PCT route mileage would increase fixed route operating costs by an estimated \$700 per year. Overall, ridership would be increased by 3,000 passenger-trips per year (assuming no change due to TNC service). Total costs would be increased by \$41,300 per year, while subsidy requirements would increase by \$36,300 per year. Actual implementation of this alternative would require (1) additional surveying of existing passengers, (2) developing specific operating parameters to define the TNC service in a manner that addresses passenger needs while controlling subsidy requirements, (3) working with one or more TNC service (or traditional cab service) to arrange financial and monitoring practices, and (4) addressing the requirement for complementary ADA service.

Eliminate the Last Weekday Round Trip

Ridership on the last round trip of weekday service (the 6:35 PM westbound departure, the 7:20 PM Campus Shopping Loop, and the 7:45 PM eastbound departure) is only 2 passengers per day, and has declined 33 percent since Fiscal Year 2011/12. Eliminating these runs would reduce operating costs by \$17,000 per year. Considering that some of the existing passengers would be able to use earlier runs while others would not make round-trips (reducing ridership in the remaining service day), the overall impact of eliminating this run would be a loss of 700

⁷ Accommodation would have to be made to serve ADA passengers within ¾ mile of the fixed route, either through ADA-compliant TNC vehicles or through traditional paratransit service.

annual one-way passenger-trips. Including the loss in farebox revenue, this alternative would reduce operating subsidy requirements by \$16,400.

Increase Deviation Service Area

A common request is to expand the boundaries of the Taylor Road Shuttle area beyond the current 3/4 mile from the route up to 1.5 miles. As discussed in detail in the *Placer County Rural Transit Study*, providing the running time to accommodate the increase in deviation requests (and the longer time needed for the new requests) would require the operation of a second vehicle. While this second vehicle would not serve the Campus Shopping Loop (in order to provide time for deviation requests), this would provide the opportunity to provide hourly service frequency (as discussed above) as well as to serve a broader area.

This option would increase annual operating cost by an estimated \$110,700 per year. Overall ridership, considering both the benefit of hourly service and the expanded service area, would be increased by 4,900 per year. It would be reasonable to charge a higher fare for persons requesting deviations in the expanded area, reflecting the additional cost of serving these trips. Assuming a 20 percent higher fare for the longer deviations, the overall increase in fare revenue would be \$3,300 per year, resulting in a net increase in subsidy requirements of \$107,400.

GRANITE BAY AREA ALTERNATIVES

How best to serve the relatively small mobility needs of the Granite Bay portion of unincorporated Placer County has long been an issue. The current service plan is the provision of Dial-A-Ride service on weekdays from 9 AM to 11 AM, and again from 2 PM to 4 PM, for an area defined by Sierra College Boulevard on the west, Olive Ranch Road on the north, Folsom Lake on the east and the county line on the south. This requires a PCT van to travel from Auburn to the service area when there is a ride request to be served. Ridership served by this service is very limited, totaling only 261 one-way passenger-trips over FY 2016-17 (or just over 1 trip per service day). As a result, this service is very inefficient, requiring 928 vehicle-hours and 1,642 vehicle-miles and a total operating cost of \$66,724 (or \$292 per passenger-trip). Three service alternatives were considered, as discussed below.

Roseville Fixed Route Extension

One option would be to extend the existing Roseville Transit Route L service from its current easternmost point at Sierra College Boulevard/Douglas Boulevard eastward to Auburn Folsom Road, making a loop around Auburn Folsom Road, Eureka Road and Barton Road before returning westbound on Douglas Boulevard. As discussed in more detail in the *Placer County Rural Transit Study*, this would require operation of an additional Roseville Transit bus. If hourly service were provided over twelve hours on weekdays, this would have a marginal cost (excluding any overhead costs) impact of \$90,400 per year. In addition, ADA paratransit service would need to be operated, adding an additional 430 vehicle hours of service. At a marginal

cost of \$24,900 for the paratransit service, the overall marginal costs for Roseville service to Granite Bay would be \$115,300 per year.

This alternative is estimated to generate 11,800 passenger-trips per year in Granite Bay, or roughly 11,500 over the current ridership. To achieve at least a 10 percent farebox return ratio on the fixed route element of the service (at the typical average fare per passenger-trip of \$0.71 for PCT local service), a minimum of 13,200 annual passenger-trips would need to be generated. However, this excludes the loss of existing Route L ridership that would be impacted by the additional running time to complete some trips (those not directly along Douglas Boulevard). Capital costs would also be incurred for an additional bus as well as for new bus pullouts and stops. This option is therefore not considered to be feasible, given current potential ridership demand. If demand for service increases in the future (such as a result of new development), this service option could be reconsidered.

Roseville Dial-A-Ride Expansion

Another option would be to expand the Roseville Transit DAR service area to encompass the existing Granite Bay DAR service area, under an agreement by which Placer County compensates the City for the additional service costs. Service would be provided over the current Roseville DAR hours (5:45 AM – 10:00 PM weekdays, and 8:00 AM – 5:00 PM on weekends). This additional span of service would expand ridership by an estimated 580 annual passenger-trips. Serving the total of 850 passenger-trips would require 816 vehicle-hours and 12,900 vehicle-miles per year, incurring a marginal operating cost increase of \$48,800 per year as shown in Table 48.

TABLE 48: PCT Granite Bay Service Alternatives Summary

Alternative	Change In Annual Service				Fare Revenues	Operating Subsidy	Change in Peak Buses
	Service Hours	Service Miles	Operating Cost	Ridership			
<i>Existing Service</i>	928	1,642	\$63,900	270	\$300	\$63,600	1
Expand Roseville DAR	816	12,897	\$48,800	850	\$1,000	\$47,800	0
<i>% Change from Existing</i>	-112	11,255	-\$15,100	580	\$700	-\$15,800	-1
Transportation Network Company Subsidy	--	--	\$5,700	638			
Roseville DAR Paratransit Service	204	3,200	\$12,200	212			
Total			\$17,900	850	\$1,000	\$16,900	--
<i>% Change from Existing</i>	--	--	-\$46,000	580	\$700	-\$46,700	-1

This option has the advantages of avoiding the need to establish bus stops. Roseville Transit’s fleet has the capacity to accommodate these additional trips in the short run, though it would be appropriate for the City’s fees to the County to include a proportionate cost for vehicle replacement. This option also has the benefits of being easier to incorporate into the existing Roseville Transit services, and expanding the hours of service available to Granite Bay residents.

Transportation Network Company Service

The subsidized use of Transportation Network Company services (such as Lyft or Uber) could replace much of the Granite Bay DAR service. There is a sufficient existing level of TNC drivers in this area to effectively serve the existing passengers that do not require specialized service due to disability. Typical existing Uber fares within Granite Bay and to/from nearby destinations in Roseville are on the order of \$9. Subtracting the average fare per passenger of \$1.12, the subsidy required to serve a trip at no change in cost to the passenger is on the order of \$7.88. Assuming that 25 percent of existing ridership would require paratransit service (as discussed below) if the 638 passenger-trips generated by the Roseville DAR expansion were to be served, the overall costs would be on the order of \$5,700 per year. As TNC companies cannot serve persons using mobility devices, paratransit service (provided under contract with the City of Roseville) would be needed to serve these passengers. Depending on the parameters of this service (such as the area that Granite Bay residents would be transported within), this service would incur a cost of approximately \$12,200. The total cost of this option would therefore be approximately \$17,900. Subtracting the estimated \$1,000 in fares paid by the passenger, the subsidy required would be approximately \$16,900 per year, or fully \$47,700 lower than the current Granite Bay DAR annual operating costs.

Additional PCT administrative staff time would be required to establish and administer this program. This option also raises the potential for demand to increase dramatically, resulting in much higher subsidy requirements. Requiring passengers to enroll in the program prior to riding and placing limitations on the geographic area and hours of trips served may be necessary to ensure that costs are controlled. As TNC service does not specifically accommodate all persons with disabilities, some paratransit trips would still need to be operated⁸. Additional surveys of Granite Bay passengers would be needed to define specific desirable characteristics of a subsidized TNC service. Overall, however, this alternative has a high potential to greatly reduce costs while also increasing mobility options among Granite Bay residents.

RURAL AREA ALTERNATIVES

The following presents alternatives regarding services in rural portions of Placer County. Note that options for Placer Commuter Express service to Clipper Gap and Colfax are evaluated in the section below focused on Placer Commuter Express.

Colfax/Alta Route

The Colfax/Alta Route (Route 40) provides two round trips between Alta and Auburn Station (one from 7 AM to roughly 9 AM, and a second from 3:15 PM to roughly 5:15 PM) on weekdays

⁸ In the survey of overall PCT DAR passengers, 15 percent indicated that they used a wheelchair and 24 percent indicated that they used DAR because disability limited their ability to use fixed route service.

only. As a basis for assessing alternatives, it is useful to review the ridership patterns and characteristics:

- Much of the ridership is traveling to or from Auburn Station. On the runs surveyed, 13 out of a total of 26 passengers boarded or alighted at Auburn Station. Other relatively busy ridership areas are Colfax (6 passenger trip-ends), other areas of Auburn (6), Weimar (5) and Alta (4), with the remainder of the boardings and alighting scattered along the service corridor.
- Of the twelve respondents answering the question of where they live, seven indicated a location in unincorporated Placer County, four indicated within Colfax city limits, and one indicated within Auburn city limits.
- Ridership is roughly evenly split between the AM run (14 surveyed passengers) and the PM run (12 surveyed passengers).
- The large majority of riders (23 out of 26) ride “down the hill” on the AM run or up the hill on the PM run. Of the three trips in the off-peak direction, two were generated by a morning deboarding at Weimar School and an afternoon boarding at the same location.
- Of the 15 passengers completing a survey, 8 walked to their boarding stop, 6 got dropped off, and one drove.
- Six were traveling round-trip on the PCT bus, while 9 were making 1-way trips.
- Seven were adults age 19 to 59, five were seniors age 60 and above, while one was a teenager and one was between 6 and 12.
- Four passengers reported they were employed, an additional four were students, two were retired
- When asked how they would have made the trip without the PCT service, eight said they would not have made the trip, five would have been driven by a family member or friend, one would have driven, and one would have hitchhiked.
- When asked the main purpose of the trip, three (20 percent) were traveling for work, three were traveling for school or college, three were shopping, two were traveling for recreational/social purposes, and one each were traveling for medical purposes or for “multiple purposes”. Overall, the six that were traveling for work or school indicate that just under half of those answering this question can be assumed to have a fixed schedule, while the remainder have flexibility in their schedule.

- In response to the question “What do you think would most increase ridership?”, the most comment responses were more frequent service (5), Sunday service (5) Saturday service (4), and later service (3)

Mid-Day Run

The current Alta/Colfax schedule requires passengers to spend a minimum of 6.25 hour in the Auburn area (or beyond). This can be a detriment to ridership among persons wishing to make a short trip, such as for shopping or a medical appointment – particularly among seniors who find a full day of travel to be a challenge. As discussed above, many of the existing passengers are not tied to a full-day schedule, such as for work or school. One option would be to provide a mid-day run on one or more days per week, to provide for shorter trips away from home. For example, an 11 AM departure from Auburn Station with a 12 Noon return trip from Colfax would provide the opportunity for a two-hour stay in Auburn in the morning, or a 2.25 hour stay in the afternoon (longer stays would be possible in combination with the Placer Commuter Express runs earlier and later in the day). At a minimum, this could be offered one day a week, such as a Tuesday, with a promotion to identify this day as “shopping day”⁹. Considering the current route ridership, the ridership characteristics and the response to increased service frequency in similar rural services, this improvement if implemented one day a week would increase ridership by an estimated 700 passenger-trips per year. As shown in Table 49, this service would increase overall operating costs by \$9,900 per year. Subtracting the additional fare revenue, Table 50 indicates that the annual operating subsidy needs would be increased by \$9,400 per year.

Alternative	Change In Annual Service				Change in		
	Service Hours	Service Miles	Operating Cost	Ridership	Fare Revenues	Operating Subsidy	Peak Buses
Colfax-Alta Route							
<i>Existing</i>	992	22,892	\$94,400	5,118	3,652	90,748	1
Colfax/Alta Rt Mid-Day Service 1 Day per Week	104	2,400	\$9,900	700	\$500	\$9,400	0
<i>% Change from Existing</i>	10%	10%	10%	14%	14%	10%	0%
Colfax/Alta Rt Mid-Day Service 3 Days per Week	300	6,923	\$28,500	1,700	\$1,200	\$27,300	0
<i>% Change from Existing</i>	30%	30%	30%	33%	33%	30%	0%
Revise Colfax/Alta to 3 Runs/Day, 3 Days/Week	-104	-2,400	-\$9,900	-700	-\$500	-\$9,400	0
<i>% Change from Existing</i>	-10%	-10%	-10%	-14%	-14%	-10%	0%
Foresthill Lifeline -- 1 Day/Week	260	4,680	\$23,100	900	\$2,300	\$20,800	1
Sheridan Lifeline -- 1 Day/Week	208	3,172	\$20,400	400	\$800	\$19,600	1

⁹ If this day happens to fall on a holiday, the service would be shifted to another day for that week.

TABLE 50: PCT Rural Route Service Alternatives Summary

Alternative	Change In Annual Service				Fare Revenues	Operating Subsidy	Change in Peak Buses
	Service Hours	Service Miles	Operating Cost	Ridership			
Colfax-Alta Route							
<i>Existing</i>	992	22,892	\$94,400	5,118	3,652	90,748	1
Colfax/Alta Rt Mid-Day Service 1 Day per Week	104	2,400	\$9,900	700	\$500	\$9,400	0
<i>% Change from Existing</i>	10%	10%	10%	14%	14%	10%	0%
Colfax/Alta Rt Mid-Day Service 3 Days per Week	300	6,923	\$28,500	1,700	\$1,200	\$27,300	0
<i>% Change from Existing</i>	30%	30%	30%	33%	33%	30%	0%
Revise Colfax/Alta to 3 Runs/Day, 3 Days/Week	-104	-2,400	-\$9,900	-700	-\$500	-\$9,400	0
<i>% Change from Existing</i>	-10%	-10%	-10%	-14%	-14%	-10%	0%
Foresthill Lifeline -- 1 Day/Week	260	4,680	\$23,100	900	\$2,300	\$20,800	1
Sheridan Lifeline -- 1 Day/Week	208	3,172	\$20,400	400	\$800	\$19,600	1

If service were offered on additional days of the week, costs would increase proportionately. For instance, service three days a week would incur an annual operating cost of \$28,500. Ridership would be increased by an estimated 1,700 per year, resulting in a subsidy increase of \$27,300. It should be noted that this service could potentially be initiated as a demonstration project using California’s Low Carbon Transit Operations Program (LCTOP) funding for up to four years.

Three Runs a Day on Three Days a Week

Another means of providing mid-day service that would not increase funding requirements would be to operate three runs a day, but on only three days per week. This would reduce the weekly number of runs from the current 10 to 9¹⁰. Annual operating costs would be reduced by \$9,900. Ridership impacts would consist of three factors:

- A majority of existing ridership currently riding for school or work would stop using the transit service entirely (though some would ride on the days service is available).
- Some existing passengers riding for other trip purposes with more flexibility would cease using the service, though most would shift their travel to the remaining days of service.
- The ridership generated by mid-day service three days per week would occur, as discussed above.

¹⁰ This would result in an operating plan similar to that of the Yuba-Sutter Transit’s Foothill Route, which connects Marysville with the rural communities of Brownsville and Challenge three times per day on three days a week.

Overall, this option is forecast to reduce annual ridership by 700 passenger-trips per year, due to the loss of student and commuter riders. The net impact would be a reduction in operating subsidies of \$9,400 per year.

Foresthill Lifeline Service One Day a Week

“Lifeline service” is defined as limited service to remote rural areas, intended to provide at least a minimum of access to urban services such as medical facilities, shopping and social service programs¹¹. At a minimum, these services consist of two runs on one day a week. This may be an appropriate service model to serve the 1,340 residents of the Foresthill community. Specifically, a route could be operated between the Foresthill Community Center and Auburn Station, via Foresthill Road and Lincoln Way.

This vehicle would operate on a deviated basis, providing door-to-door service within an area of relatively dense residential development. As reflected in Figure 50, one of the challenges to this service is the large dispersed area of development (the area shown is 14 square miles). This could result in long travel times for individual passengers, as the vehicle diverts into the residential streets to serve other passengers.

Foresthill

This service would be scheduled to arrive in Auburn at 10 AM and depart at 2 PM. This service would incur an annual operating cost of an estimated \$23,100 per year. Based on per-capita ridership generated by similar lifeline services in California, approximately 900 passenger-trips per year would be carried (9 round-trips per day). Assuming a fare of \$2.50 per one-way trip, \$2,300 in fare revenues would be generated. The annual operating cost for this service (including deadhead costs) would be \$23,100 per year, resulting in a subsidy increase of \$20,800 per year.

Sheridan Lifeline Service One Day a Week

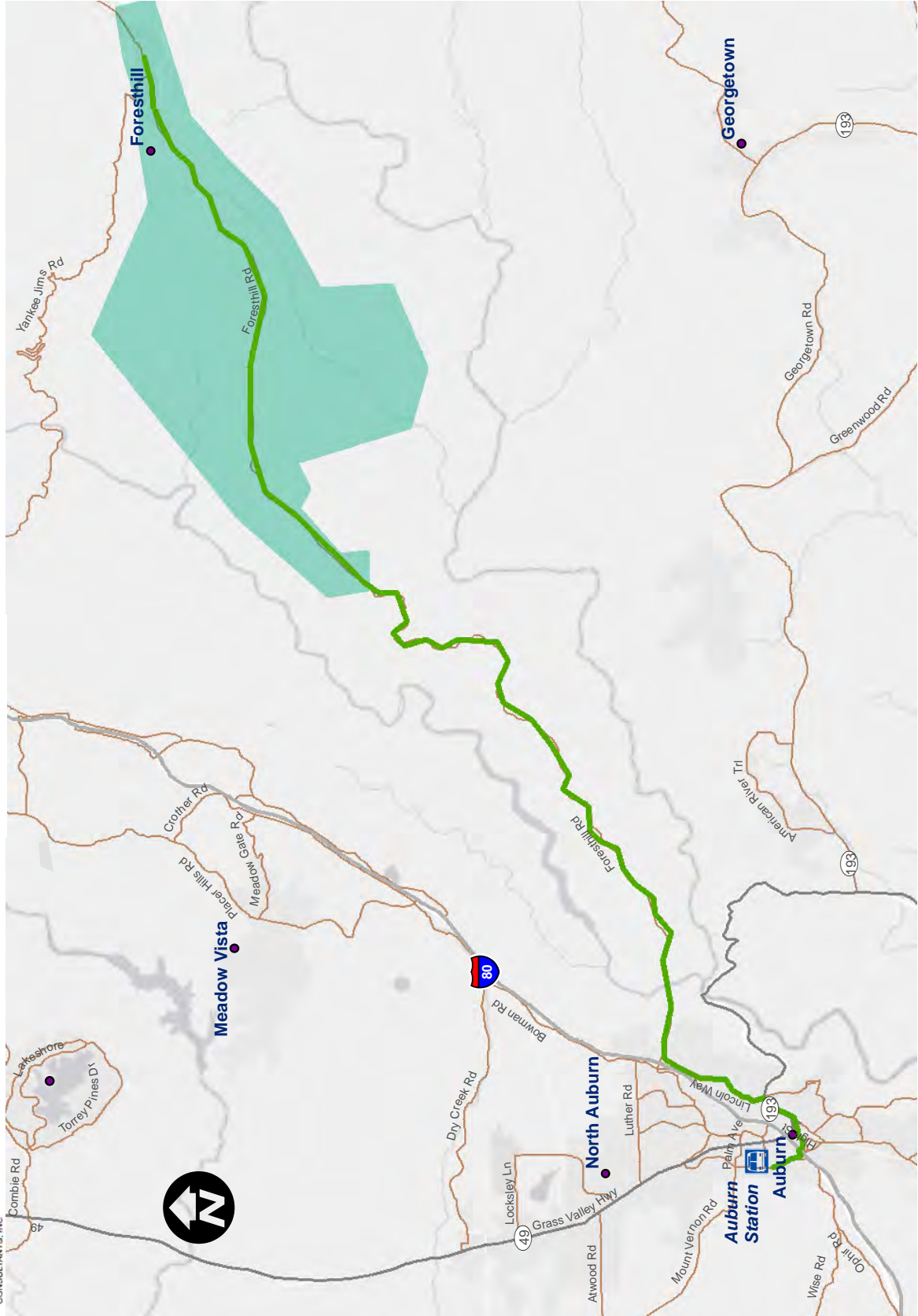
The *Placer County Rural Transit Study* identified Sheridan as another community in rural Placer County not served by public transit that could merit lifeline service. This would operate between the Sheridan Post Office and the Twelve Bridges transfer point in Lincoln, providing access to shopping and medical facilities in Lincoln along the way. It would be timed to provide service arriving at 12 Bridges at 10 AM, and departing at 1 PM. The annual operating cost of this service would be \$20,400, assuming that the driver operates out of the Lincoln corporation yard and is paid for two hours of layover time each service day at \$25 of total cost per hour. Ridership on this service, considering the population of Sheridan and typical per-capita rates for similar services, is 400 passenger-trips per year. Assuming a \$2.00 fare, fare revenue would be \$800 per year, resulting in a subsidy requirement of \$19,600 per year.

¹¹ Additional discussion can be found in the *Placer County Rural Transit Study*, prepared by LSC for the PCTPA in 2016.

**Figure 50
Potential Foresthill Route**

Route
Pickup Area

0 0.75 1.5 3 Miles



Electric Vehicle Ride-Share

An alternative potential strategy to increase mobility in rural areas is to subsidize the purchase and maintenance of automobiles (that could potentially be electric vehicles) for use by members of the community in assisting those without the ability to drive. One example is found in the City of Huron in Fresno County, where a new electric vehicle pilot program is being implemented to address limited transportation options available to low income immigrant workers in Fresno County. The City of Huron already has an informal ride sharing opportunity as retired farm workers or “raiteros” drive community members to medical appointments or work for a small fee. The pilot program would expand on this idea by providing the raiteros with an electric vehicle purchased through grant funding to drive community members to and from Fresno for free. Ideally, an on-line app will be available to organize and schedule rides. This strategy could be implemented to serve outlying communities in rural Placer County (such as Foresthill). This idea could be applied to the WPCSTA My Rides volunteer driver program in Placer County. Currently, volunteers use their own vehicles to drive eligible residents to medical appointments, shopping, etc. and are reimbursed for mileage with WPCTSA TDA funds. Placer County could apply for funds to purchase one or more electric vehicle which could be stationed in Auburn (or an outlying community, such as at a County corporation yard) for use by eligible volunteers. Issues that would need to be addressed include driver insurance requirements, vehicle maintenance, and the reservation/trip assignment system. Other factors will be the demand for this service, availability of interested volunteers and associated costs for such a service. A reasonable estimate of operating costs would be on the order of \$7,000 per year per vehicle, assuming 50 miles of travel per weekday. Additional costs would be incurred for managing the service.

Rural Vanpools

Currently, an 8-passenger vanpool is operated between Foresthill and Sacramento. A vanpool option to Auburn would be a cost effective way of meeting commuter transportation demands. The Enterprise Rideshare vanpool program offers some flexibility in the length of leases and type of vehicle for their vanpool programs. This could be an option for a new Foresthill program.

The strategy of using a vanpool to address commuter needs could be applied to all rural communities in Placer County which are not easily served by PCE. Examples include between Lincoln and Auburn or Alta and Auburn. The benefit of a vanpool is that the user pays a larger portion of the subsidy and therefore is a less expensive option for the county or transit operator. However, the cost is greater for the user and generally only works well when all vanpool users work in the same general location.

NEW SERVICE AREAS

Sunset Area

The Sunset Area Plan district, including Placer Ranch, encompasses almost 14 square miles of unincorporated land west of SR 65 between Lincoln and Roseville. As proposed, it could include a California State University satellite campus of up to 25,000 students, 5,800 residential units, high density commercial development, employment centers and schools. While the California Environmental Quality Act review process has been initiated, significant development warranting new transit service is not currently expected to occur within this SRTP period. Nevertheless, one factor to consider in evaluating the service alternatives along the SR 65 corridor is how they could ultimately coordinate with new services west of the existing development in the area. As plans in the area become more concrete, there will be the need for a transit master plan that considers circulator service within the Sunset Area, connections to Roseville and Lincoln, as well as commuter connections to the remainder of the Sacramento Metro Area.

West Placer Area

Another area of unincorporated Placer County with major planned future development is the West Placer area. Two major developments have been approved in this area. Placer Vineyards will ultimately consist of 5,266 residential units, over 300 acres of commercial uses (including a retail “power center” on the southwest corner of Watt Avenue/Baseline Road), as well as schools and public facilities. It encompasses 5,230 acres of far southwest Placer County, generally between Baseline Road to the north, the Sacramento County line to the south, Walerga Road to the east and Pleasant Grove Road to the west. In addition, the Riolo Vineyards will consist of a total of 933 residential units stretching between Watt Avenue and Walerga Road, just north of the Sacramento County line. Additional transit services will ultimately need to be provided to the West Placer area, though they are likely not to be necessary within the seven years of this SRTP. Financial resources for new services will come in part from transit “zones of benefit” that impose annual assessments on a per-unit-of-development basis. The first zone of benefit specifically for transit purposes in western Placer County was formed in 2017 for the first phase of Riolo Vineyard.

COMPREHENSIVE LOCAL FIXED ROUTE FREQUENCY ENHANCEMENT ALTERNATIVE

While the discussions above consider each of the local services individually, another option would be a more comprehensive improvement in service frequency. Specifically, the following improvements in frequency were considered (for both weekdays and Saturdays) on the key routes:

- Auburn – Light Rail: Improvement from hourly service to half-hourly service

- Lincoln – Sierra College: Improvement from hourly service to half-hourly service
- Highway 49: Improvement from hourly service to half-hourly service
- Taylor Road Shuttle: Improvement from every-two-hour service to hourly service

The analysis of service impacts and ridership impacts is presented in Table 51. Over the course of a year, this service enhancement would increase annual operating costs by an estimated \$2,105,100 (or 92 percent over the current marginal operating costs of these routes). This improvement would require an additional seven buses in operation (along with an additional spare vehicle). Elasticity analysis indicates that ridership would be increased by 96,873

passengers per year (or 39 percent over current ridership). Considering the additional fare revenue, annual operating subsidy would be increased by \$2,036,200, or 96 percent.

COMMUTER SERVICE ALTERNATIVES

Summary of Regional Commuter Services

As background information for the evaluation of Placer Commuter Express alternatives, it is worthwhile to review the overall services providing commuter transit service from western Placer County into downtown Sacramento, specifically the PCE service and the Roseville Transit commuter service.

Table 52 presents a summary of the two systems as a whole. As shown, in total the services carry roughly 208,000 passenger-trips per year, consisting of approximately 2/3 on Roseville Transit and 1/3 on PCE. The quantity of service totals 9,490 vehicle-hours and 343,466 vehicle-miles of service annually, at approximately the same splits. Total operating costs in FY 2016/17 were almost \$1.5 million, of which 56 percent was for Roseville service. The productivity of the two services are very similar, at 22.3 passengers per vehicle-hour of service for PCE and 21.7 for Roseville Transit, for an overall figure of 21.9. Costs for PCE on a per-hour and per-passenger basis are substantially higher than for Roseville's commuter program.

Overall annual ridership trends over the last ten years are shown in Table 53. The region as a whole carried a peak of 225,212 commuter passengers in FY 2014/15, with a slight decline over the most recent years. By system, the Roseville program has dropped only 4 percent, while PCE has dropped by 12 percent.

A comparison of fares on the two programs is shown in Table 54. The base one-way cash fare from Rocklin/Roseville is slightly less on PCE (\$4.25) than for non-residents on Roseville Transit (\$4.50), though the resident fare on Roseville Transit is lower (\$3.25). Similarly the cost of a

TABLE 51: PCT Comprehensive Frequency Enhancement Service/Cost Analysis

	Run Parameters		Weekday Service		Saturday Service(1)		Annual		Annual Marginal Cost	Peak Buses	Annual Ridership	Fare Revenue	Operating Subsidy		
	Hours	Miles	Runs	Days/Yr	Hours	Miles	Hours	Miles							
Double Frequency to Provide 30 Minute Service on Auburn-Light Rail, Lincoln-Sierra College and Highway 49 Routes and Hourly Service on Taylor Road Shuttle															
Existing Total of 4 Routes															
			27,802	529,676			7	248,149	\$160,700			\$2,126,900			
Additional Service															
Auburn-Light Rail Route	2.00	59.0	14	248	28.0	826	9	53	18	531	7,898	232,991	\$813,700	\$24,500	\$789,200
Lincoln-Sierra College Route	2.00	31.4	13	248	26.0	408	9	53	18	283	7,402	116,211	\$636,900	\$19,500	\$617,400
Highway 49 Route	2.00	23.4	12	248	24.0	281	7	53	14	164	6,694	78,320	\$543,100	\$14,000	\$529,100
Taylor Road Shuttle	2.00	33.9	6	248	12.0	204	4	53	8	136	3,400	57,686	\$111,400	\$10,900	\$100,500
Total															
Percent Change															
			91%	92%	92%	92%	100%	39%	43%	96%					

Table 52: Western Placer Commuter Service Summary

	Annual Data			Performance Measure				
	Ridership	Vehicle Hours	Vehicle Miles	Operating Cost	Pax per Hour	Pax per Mile	Operating Cost per Hour	Operating Cost per Pax
Roseville Transit	137,102	6,327	242,187	\$837,296	21.7	0.57	\$132.34	\$6.11
PCT Commuter	70,677	3,163	101,279	\$650,342	22.3	0.70	\$205.64	\$9.20
Total	207,779	9,490	343,466	\$1,487,638	21.9	0.60	\$156.77	\$7.16

Source: FY 2016-17 data from individual operators.

Table 53: Western Placer Commuter Services Ridership Trends

Fiscal Year	Roseville Commuter (1)	Placer County Express	Total
FY 08/09	107,088	77,120	184,208
FY 09/10	109,584	75,098	184,682
FY 10/11	126,214	80,093	206,307
FY 11/12	128,824	83,114	211,938
FY 12/13	128,570	80,636	209,206
FY 13/14	130,448	81,782	212,230
FY 14/15	144,445	80,767	225,212
FY 15/16	134,880	78,722	213,602
FY 16/17	139,084	70,677	209,761
% Change from FY 08/09 to FY 16/17	30%	-8%	14%
% Change from FY 14/15 to FY 16/17	-4%	-12%	-7%

Note 1: Includes Game Day Express Ridership

PCE monthly pass from the Roseville/Rocklin area (\$131.25) is between the Roseville 30-day Pass for non-residents (\$110) and residents (\$155).

Table 55 provides an overall summary of scheduled services, organized by the time that downtown Sacramento is served. This table also presents the average daily ridership on each of the runs. A review of this information indicates the following:

- A total of 14 AM trips and 14 PM trips are provided on Mondays through Thursdays, with two less AM and one less PM trips on Fridays. While PCE AM arrivals in downtown Sacramento are concentrated between 7:00 AM and 7:50 AM, Roseville Transit serves a

Table 54: Western Placer County Commuter Service Fares

Placer County Express				
	Colfax / Clipper Gap	Auburn / Penryn / Loomis	Rocklin / Roseville	Sacramento
Cash One-Way	\$5.75	\$4.75	\$4.25	\$4.25
Monthly Pass	\$178.50	\$147.00	\$131.25	--
Connect One-Way	\$5.75	\$4.50	\$3.70	\$3.70

Roseville Transit			
	Non-Resident	Resident	Reverse Commuter
Single Fare	\$4.50	\$3.25	\$3.25
10-Ride Pass	\$45.00	\$32.50	\$32.50
30-Day Pass	\$110.00	\$155.00	\$110.00
Roseville Transit Commuter/Capital	\$110.00	\$155.00	--
Corridor Monthly Pass			

Source: Individual websites.

wider span between 6:01 AM and 8:18 AM. In the afternoon, the first departure (on Roseville Transit) occurs at 3:31 PM, with the first PCE departure not occurring until 4:31 PM. The last departure time on both services occurs around 5:30 PM. Notably, Roseville Transit runs departing around 3:30 PM and 4:00 PM generate substantial ridership prior to PCE service.

- Passengers per trip are mostly higher on PCE runs than on Roseville Transit runs, with the exception of the two later afternoon PCE runs. This indicates more need for expansion of the PCE service, as well as a need to review service times. In general the highest ridership is seen on AM runs serving work start times around 7:00 AM to 7:30 AM, and PM run times serving work end times around 4:00 PM, 4:30 PM and 5:00 PM.

Total ridership by stop within Placer County is shown in Table 56. This shows the concentration of passenger activity at the Taylor Road Park-and-Ride (adjacent to Sunsplash), where 61.7 percent of all passengers board or deboard (463 total trip-ends per day, on average). The next highest location, Rocklin Station with 85 passenger-trip-ends, serves only 11.3 percent. This table also indicates the low ridership generated east of Auburn.

TABLE 55 : Combined Existing Commuter Schedules and Daily Ridership by Run

In Order of Downtown Service Times

AM															Daily Trips
Stop	Rsvl Bus 1(1)	Rsvl Bus 2	Rsvl Bus 3	Rsvl Bus 4	PCE Bus 1	Rsvl Bus 5	PCE Bus 2	Rsvl Bus 7	Rsvl Bus 6(1)	Rsvl Bus 8	PCE Bus 3	PCE Bus 4	Rsvl Bus 10	Rsvl Bus 9	
Average Daily Riders	13.6	34.8	26.2	35.9	40.5	34.6	40.3	17.9	20.6	30.5	36.8	34.6	28.4	30.5	
Colfax Depot	--	--	--	--	5:20	--	5:40	--	--	--	6:18	--	--	--	3
Clipper Gap PnR	--	--	--	--	5:32	--	5:52	--	--	--	6:30	--	--	--	3
Auburn Station	--	--	--	--	5:42	--	6:03	--	--	--	--	6:37	--	--	3
Penryn PnR	--	--	--	--	5:55	--	6:15	--	--	--	6:45	--	--	--	3
Loomis Station	--	--	--	--	5:59	--	6:19	--	--	--	--	6:53	--	--	3
Rocklin Station	--	--	--	--	6:06	--	6:26	--	--	--	--	7:00	--	--	3
Foothills/Junction	--	5:35	6:00	--	--	--	--	--	--	--	--	--	--	--	2
Mahany PnR	--	5:41	6:07	--	--	--	--	--	--	--	--	--	--	7:10	3
Roseville Amtrak	--	--	6:17	--	--	--	--	--	--	--	--	--	--	--	1
Galleria	--	5:51	--	--	--	--	--	--	--	--	--	--	--	--	1
Louis/Orlando	--	--	--	6:00	--	--	--	--	--	--	--	--	--	--	1
Cirby/Sunrise	--	--	--	6:04	--	--	--	--	--	--	--	--	--	--	1
Maidu PnR	5:10	--	--	6:09	--	--	--	--	--	--	--	--	--	--	2
Taylor/I-80 PnR	5:17	6:00	--	6:18	6:15	6:40	6:35	--	6:45	6:55	7:00	--	7:18	7:23	11
Saugstad PnR	--	--	6:21	--	--	--	--	6:50	--	--	--	--	7:27	7:31	4
Downtown	6:01	6:37	6:58	6:54	7:00	7:16	7:20	7:24	7:30	7:40	7:50	7:50	8:14	8:18	14
REVERSE COMMUTE															
Galleria	--	--	7:44	--	--	--	--	--	--	--	--	--	--	--	--
Louis/Orlando	--	--	--	7:24	--	--	--	--	--	--	--	--	--	--	--
Civic Center	--	--	--	--	--	--	--	--	--	--	--	--	--	9:00	--
Sierra Gardens	--	--	--	--	--	7:51	--	--	--	--	--	--	--	--	--
Sierra Gardens	--	--	--	--	--	--	3:50	--	--	--	--	--	--	--	--
Taylor/I-80 PnR	--	--	--	--	--	--	--	--	--	--	4:15	--	--	--	--
Galleria	--	--	--	--	--	--	--	--	--	--	--	--	4:37	--	--
Civic Center	--	--	--	--	--	--	--	--	--	--	--	--	4:47	--	--
PM															
Stop	Rsvl Bus 1	Rsvl Bus 2 (1)	Rsvl Bus 3	Rsvl Bus 4	Rsvl Bus 5	Rsvl Bus 6	Rsvl Bus 7	PCE Bus 1	PCE Bus 2	Rsvl Bus 8	PCE Bus 3	Rsvl Bus 9	Rsvl Bus 10	PCE Bus 4	Daily Trips
Average Daily Riders	23.4	32.8	23.0	31.8	29.7	32.7	29.4	37.0	43.6	23.4	28.9	32.6	18.8	22.2	
Downtown	3:31	3:36	3:46	3:57	4:02	4:11	4:26	4:32	4:37	4:41	4:47	4:56	5:26	5:30	14
Louis/Orlando	4:05	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Taylor/I-80 PnR	--	4:27	4:37	4:38	4:43	4:55	5:10	5:12	--	5:25	5:27	6:00	6:37	6:10	12
Cirby/Sunrise	4:11	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Maidu PnR	4:15	--	--	--	--	--	5:17	--	--	--	--	--	--	--	2
Saugstad PnR	4:29	--	--	--	--	5:07	5:32	--	--	--	--	6:12	6:22	--	5
Roseville Amtrak	--	--	--	--	--	5:16	--	--	--	--	--	--	--	--	1
Foothills/Junction	--	--	--	--	--	5:25	--	--	--	--	--	6:30	--	--	2
Galleria	--	--	--	--	4:52	--	--	--	--	--	--	--	--	--	1
Mahany PnR	--	--	--	--	5:02	5:33	--	--	--	--	--	6:38	--	--	3
Rocklin Station	--	--	--	--	--	--	--	--	5:17	--	5:35	--	--	6:18	3
Loomis Station	--	--	--	--	--	--	--	--	5:24	--	5:42	--	--	6:25	3
Penryn PnR	--	--	--	--	--	--	--	5:24	--	--	5:49	--	--	6:32	3
Auburn Station	--	--	--	--	--	--	--	--	5:40	--	6:00	--	--	6:43	3
Clipper Gap PnR	--	--	--	--	--	--	--	5:39	--	--	6:12	--	--	6:55	3
Colfax Depot	--	--	--	--	--	--	--	5:51	--	--	6:24	--	--	7:07	3

*Downtown Times Shown for P&7th (Roseville) and P&5th (PCE) Other Downtown Stop Times Not Shown
Note 1: Monday to Thursday only.*

Finally, the onboard passenger surveys conducted as part of this SRTP can be used to evaluate the overall residence location of riders on the combined system. As shown in Table 57, when adjusted to reflect the average daily ridership on the two systems, this analysis indicates that just over half of all transit commuters on the two systems live in Roseville (53 percent) followed by 20 percent that live in Rocklin and 3 percent in Lincoln. Figure 51 also shows the relative proportion of residents in each community choosing to use one or the other service. As

**TABLE 56 : Western Placer Commuter Service Ridership
by Stop**

Average Daily Boarding & Alighting at Stops In Placer County

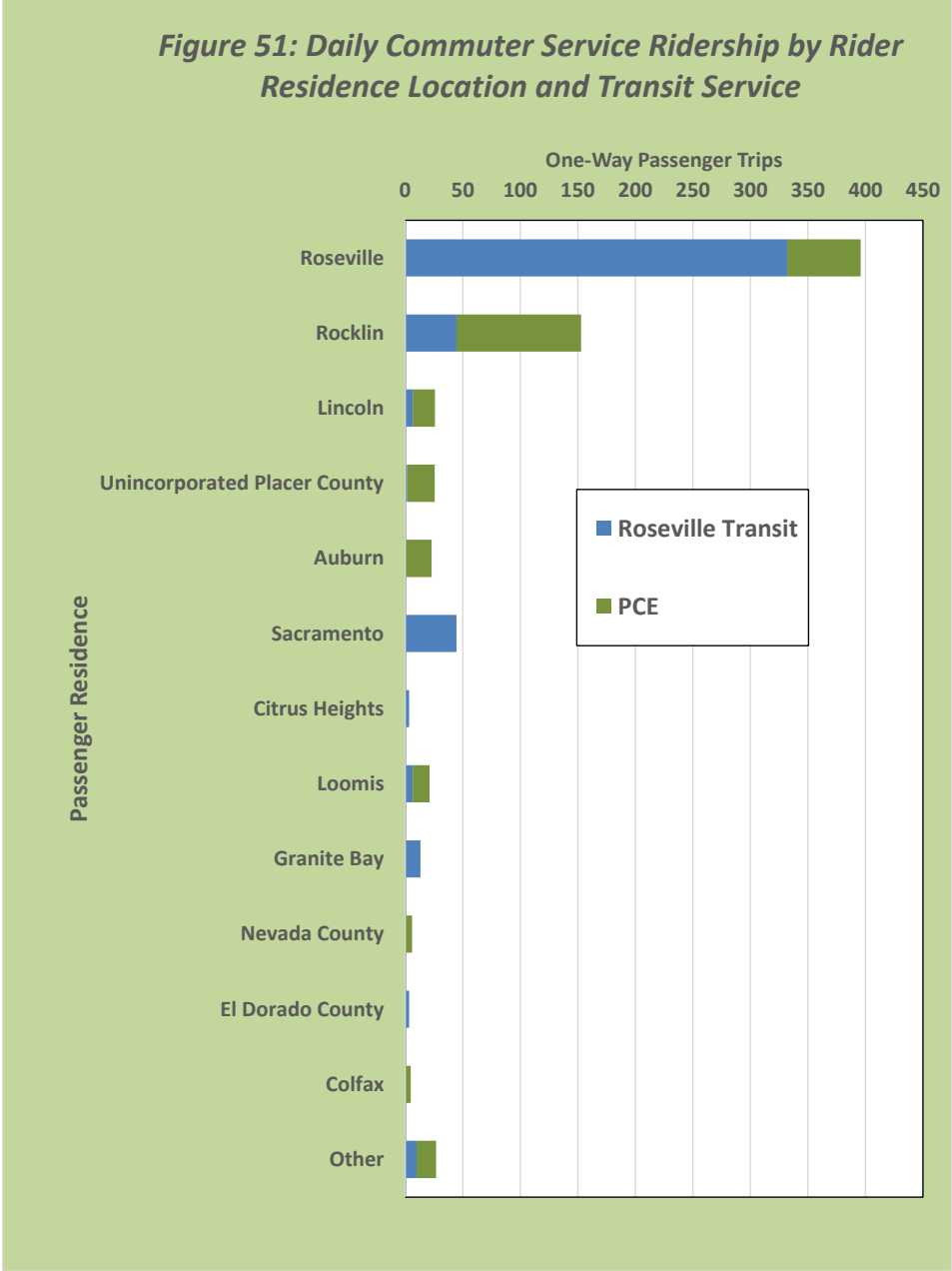
	PCE	Roseville	Total	% of Total
Colfax Depot/Main St	3	--	3	0.4%
Clipper Gap PnR	6	--	6	0.7%
Auburn Station/Nevada St	24	--	24	3.2%
Penryn PnR	14	--	14	1.8%
Loomis Station	18	--	18	2.3%
Rocklin Station	85	--	85	11.3%
Roseville/Taylor Rd PnR	132	332	463	61.7%
Saugstad	--	75	75	9.9%
Mahaney Park	--	28	28	3.7%
Cirby at Sunrise	--	14	14	1.9%
Maidu Community Center	--	10	10	1.3%
Galleria Transfer Point	--	8	8	1.0%
Amtrak	--	5	5	0.7%
TOTAL	280	471	751	

FY 2016/17 figures provided by service providers.

indicated, 16 percent of Roseville residents choose to use the PCE service, while on the other hand 18 percent of Rocklin residents choose to use the Roseville Transit commuter service. This data also indicates ridership coming from other counties (such as Nevada County, the northern portion of El Dorado County, as well as Citrus Heights in Sacramento County) to use the two transit systems. This data also provides the information on the residential location within Roseville of Roseville Transit commuter passengers (by zip code). As shown, 53 percent of these passengers live in the western portion of Roseville (generally west of Foothill Boulevard), 29 percent live in the central portion between Foothill Boulevard and I-80/Rocklin city limit, and 18 percent live east of I-80. This indicates a large number of commuters are driving east from their homes to the park-and-ride locations.

Additional PCE Runs

The PCE service is operating close to full capacity, with runs frequently at or near full seating capacity between Roseville and downtown Sacramento. This is the case particularly for the AM runs arriving downtown around 7:00 AM and 7:30 AM, as well as the run departing downtown around 4:30 PM. Final schedules for new runs would need to be based on more detailed surveys of existing passengers. Below is presented two options that would be appropriate given the existing available data.



One Additional Run in Each Direction per Day

If one additional run were added in each commute period, the AM run could be operated earlier than the current runs, arriving downtown around 6:30 AM to 6:45 AM. This is appropriate given the growth in the period of traffic congestion along I-80, as well as the demand for earlier runs reflected in the Roseville Transit ridership by run. The additional PM run could also start earlier than the existing runs, with departures beginning around 4:00 PM.

Table 57: Western Placer Commuter Programs Average Daily Ridership by Rider Residence

	Transit System			Percent of Total		
	Roseville Transit	PCE	Total	Roseville Transit	PCE	Total
Roseville	332	64	396	71%	23%	53%
<i>Western Roseville</i>	177	NA	NA	38%	NA	NA
<i>Central Roseville</i>	97	NA	NA	21%	NA	NA
<i>Eastern Roseville</i>	58	NA	NA	12%	NA	NA
Rocklin	45	108	153	9%	39%	20%
Lincoln	7	19	26	1%	7%	3%
Unincorporated Placer County	2	24	26	0%	9%	3%
Auburn	0	23	23	0%	8%	3%
Sacramento	45	0	45	9%	0%	6%
Citrus Heights	3	0	3	1%	0%	0%
Loomis	7	14	21	1%	5%	3%
Granite Bay	13	0	13	3%	0%	2%
Nevada County	0	6	6	0%	2%	1%
El Dorado County	3	0	3	1%	0%	0%
Colfax	0	5	5	0%	2%	1%
Rancho Cordova	2	0	2	0%	0%	0%
Carmichael	0	0	0	0%	0%	0%
Orangevale	2	0	2	0%	0%	0%
Fair Oaks	2	0	2	0%	0%	0%
North Highlands	0	0	0	0%	0%	0%
Other	10	17	27	2%	6%	4%
Total	471	280	751	100%	100%	100%

Source: Onboard passenger surveys, factored by ridership totals.

Given the ridership pattern, these additional runs along the existing route would start and end in Auburn (with stops in Roseville and Rocklin). The cost of these additional runs would total \$103,900, as shown in Table 58. In addition to providing additional overall capacity, these runs would expand the service times. An elasticity analysis, in light of the existing PCE ridership and the ridership reflected in the various Roseville Transit runs, indicates that these additional runs would increase ridership by an estimated 18,300 per year, as shown in Table 59¹². At the average fare per passenger, these new riders would increase annual fare revenues by \$88,900, leaving a relatively modest annual operating subsidy increase of \$15,000 per year.

¹² Note that this figure (and those for other PCE expansion alternatives) assume that there is adequate park-and-ride capacity to accommodate the new passengers.

TABLE 58: Placer Commuter Express Service/Cost Analysis

	Run Parameters		Weekday Service		Saturday Service(1)		Annual		Annual Marginal Cost	Peak Buses				
	Hours	Miles	Runs	Days/Yr	Hours	Miles	Runs	Days/Yr			Hours	Miles		
Eliminate Placer Commuter Express Service East of Auburn and Replace with PCT Colfax/Alta Commuter Runs														
PCT Colfax/Alta Commuter Runs	(1)	1.33	44.0	2	250	2.66	88	0	0	0	665	22,000	\$71,400	0
Eliminate PCE Runs E. of Auburn	(2)	0.40	44.0	-6	250	-2.4	-264	0	0	0	-600	-66,000	-\$156,300	0
Net Change											65	-44,000	-\$84,900	0
1 New PCE Run in Each Direction per Day														
Auburn -- Sacramento Runs		1.30	39.2	2	250	2.6	78	0	0	0	650	19,600	\$103,900	1
2 New PCE Runs in Each Direction per Day														
Auburn -- Sacramento Runs		1.30	39.2	4	250	5.2	157	0	0	0	1,300	39,200	\$207,900	2
Four Additional Runs To/From Lincoln		1.25	37.0	4	250	5	148	0	0	0	1,250	37,000	\$199,000	2
Note 1: Includes deadhead miles and hours to/from Auburn														
Note 1: Includes deadhead miles to/from Auburn, but not deadhead hours to/from Auburn (per current contract).														

TABLE 59: PCE Service Alternatives Summary

Alternative	Change In Annual Service			Change in			
	Service Hours	Service Miles	Operating Cost	Ridership	Fare Revenues	Operating Subsidy	Peak Buses
<i>Existing</i>	3,163	101,279	\$650,342	70,677	365,245	285,097	4
1 New Run in Each Direction: Sac-Auburn	650	19,600	\$103,900	18,300	\$88,900	\$15,000	1
<i>% Change from Existing</i>	21%	19%	16%	26%	24%	5%	25%
2 New Runs in Each Direction: Sac-Auburn	1,300	39,200	\$207,900	34,100	\$165,700	\$42,200	2
<i>% Change from Existing</i>	41%	39%	32%	48%	45%	15%	50%
2 New Runs in Each Direction: Sac-Lincoln	1,250	37,000	\$199,000	31,700	\$154,100	\$44,900	2
<i>% Change from Existing</i>	40%	37%	31%	45%	42%	16%	50%
Eliminate Placer Commuter Express Service East of Auburn and Replace with PCT Colfax/Alta Commuter Runs	65	-44,000	-\$84,900	1,500	-\$2,700	-\$82,200	0
<i>% Change from Existing</i>	2%	-43%	-13%	2%	-1%	-29%	0%
Eliminate PCE Runs E. of Auburn	-600	-66,000	-\$156,300	-2,100	-\$10,200	-\$146,100	0
<i>% Change from Existing</i>	-19%	-65%	-24%	-3%	-3%	-51%	0%

Two Additional Runs in Each Direction per Day

With four additional daily runs (two AM and two PM), the runs discussed above could be provided along with a second new AM run scheduled to arrive in downtown Sacramento at approximately 7:10 (relieving overcrowding on existing Bus 1 and Bus 2 runs) as well as a second new PM run providing an earlier departure from downtown around 4:05 PM. In total, these four new runs would incur an annual operating cost of \$207,900, and generate an increase of approximately 34,100 additional passenger-trips. Subtracting the resulting fare increase, the net operating subsidy impact of these four additional runs would be an estimated \$42,200.

PCE Service to Lincoln

Particularly if new runs are added, one possibility would be to start runs in Lincoln rather than in Auburn. As presented in Table 60, 7 percent of existing PCE riders live in Lincoln (compared with only 8 percent that live in Auburn). US Census Longitudinal Employer Household Data regarding commute patterns can also be reviewed to assess this option. As shown in Table 60, 534 Lincoln residents work in downtown Sacramento, compared with 262 Auburn residents and 923 Rocklin residents. Put another way, of all downtown Sacramento workers living in the four major western Placer County communities, 16 percent live in Lincoln compared with 8 percent that live in Auburn.

TABLE 60: Summary of Work Locations by Residents of Western Placer Communities

Residential Location	Work Location (1)					
	Lincoln	Roseville	Rocklin	Auburn Area	Downtown Sacramento (2)	Other City of Sacramento
Lincoln	1,358	2,192	870	610	534	1,550
Roseville	550	10,440	2,656	394	1,587	5,941
Rocklin	392	4,195	3,093	413	923	3,177
Auburn	132	1,129	479	1,970	262	1,106
Total	2,432	17,956	7,098	3,387	3,306	11,774
<u>Percent of Total by Work location</u>						
Lincoln	56%	12%	12%	18%	16%	13%
Roseville	23%	58%	37%	12%	48%	50%
Rocklin	16%	23%	44%	12%	28%	27%
Auburn	5%	6%	7%	58%	8%	9%

Source: US Census, 2016 LEHD

Note: As census tracts do not strictly follow city limits, areas indicated do not exactly reflect residents of each city. Excludes residents working in other areas.

Note 2: Downtown Sacramento defined as Census Tracts 11, 12, 7, 8, currently served by PCE and

There is a “rule of thumb” in commuter service to provide a minimum of two runs in each direction. This is to avoid the disadvantage to the passenger of locking their daily commute pattern into only a single option, and to provide at least some level of flexibility in order to accommodate changes in work hours or after-work activities. It is assumed for this analysis that the two additional trips in each direction discussed above would start and end in Lincoln, with an intermediate stop at Taylor Road Park-and-Ride. Specifically, the route would serve the

existing 156-space park-and-ride on Industrial Avenue just south of the Lincoln Bypass (which appears to be only lightly utilized at present).

This route would be slightly shorter than new runs to/from Auburn, and would incur an annual operating cost of \$199,000 (assuming no change in costs associated with non-revenue hours and miles). Ridership generated by service to Lincoln can be estimated by calculating the rate of commuter transit ridership generated by existing service to Rocklin and Auburn per downtown Sacramento commuter, and applying this to the number of Lincoln commuters. This indicates that service to Lincoln would generate approximately 50 one-way passenger-trips per day among Lincoln residents (or 25 round-trips), equivalent to 12,200 passenger-trips per year. In addition, these runs would generate new passengers in Roseville, for a total of 31,700 passenger-trips per year. While this total is slightly lower than the ridership generated by four additional one-way trips per day to/from Auburn via Rocklin (34,100), this would open up a new service area for the PCE program.

Another, less expensive, option would be to operate one run per day to and from Lincoln, and instead provide two service time options by extending two other new runs to serve stops in Galleria where connections can be made with the Lincoln-Sierra College local PCT route to/from Lincoln. However, this would add approximately 20 minutes of travel time (if timed correctly) in each direction to/from Lincoln as well as approximately 10 minutes to commuters between downtown Sacramento and Rocklin or Auburn. As commuters are sensitive to any additional travel time, this would be a much less attractive option to potential riders. Commute service

for Lincoln residents could also be limited to direct service between Lincoln and Taylor/I-80 Park-and-Ride, for transfers to the existing PCE service. However, this would only add to the existing overcrowding on PCE buses between Roseville and downtown Sacramento, and is thus not feasible.

Service to Other Employment Centers in Sacramento

Providing direct PCE service to other employment centers in Sacramento has long been a request among Placer County residents. There are several factors that make downtown Sacramento employers particularly strong generators of transit ridership, and that tend to work against the potential for effective PCE service to other areas:

- Paid parking is a strong disincentive to commuting by auto, and indeed is typically found to be the single greatest determinate as to whether workers commute by transit. Parking fees in downtown Sacramento range between roughly \$135 and \$185 per month, while many employees in outlying areas of Sacramento do not face parking fees.
- Employer subsidy of transit passes for employees of employers concentrated in downtown, particularly Sacramento County and the State of California. The State will cover 75 percent of the cost of monthly passes, up to a maximum of \$65 per month. While this voucher program is also available to State and County employees at non-

downtown work locations, the proportion of total persons employed in other areas that have transit subsidy programs are much less than in downtown.

- The high density of employment sites within a convenient walk distance of a relatively short (15 minute) loop makes downtown a particularly efficient area to serve with a commuter service. Commuter services are typically only attractive to ridership if the walk between the destination stop and the work site is very convenient. More suburban work locations outside of the downtown typically require long travel times to reach individual employers separated by parking areas.
- The work hours for government and office employees in downtown Sacramento are highly concentrated in the traditional “white collar” commute periods, allowing transit services to be efficiently focused on the busy AM and PM peak periods. In contrast, other areas of Sacramento have a broader mix of employers (such as health care, retail and manufacturing) with a broader array of work shifts that increase the cost of service a substantial proportion of workers.

For these reasons, commuter services provided by other transit programs in the Sacramento area have not proven productive. In particular, the El Dorado Transit service (which operates a successful commuter transit program from El Dorado County into downtown Sacramento) operated a commuter service to the Rancho Cordova area (including the Franchise Tax Board) for several years. As this service only generated 5 to 7 passenger-trips per run, it was ultimately terminated. A similar Placer County Transit route serving other employment sites in Sacramento would face these same challenges, and is not recommended.

It is worth noting that the Connect Card program now provides more convenient means of making transfers in downtown Sacramento to RT services to other employment centers. It also provides greater ability to track transfer activity. If future review of transfers indicates a strong pattern of transfers between PCE and RT routes, the potential for modifications to the PCE service to provide trips to other employment sites could be revisited.

Eliminate Placer Commuter Express East of Auburn and Replace with Alta/Colfax Commuter Runs

Placer Commuter Express ridership east of Auburn is very low. Of the 351 passengers counted, only 11 (3 percent) boarded or deboarded the service at Clipper Gap (7) or Colfax (4). Factoring to reflect average daily ridership, this indicates that 3 one-way passenger-trips are generated in Colfax and 6 at Clipper Gap. All of this ridership was observed on the 6:18 AM westbound run and the 4:17 PM eastbound run. This pattern is further borne out by the results of the onboard surveys: of 235 passengers providing data, only 8 (3 percent) indicates that they boarded or deboarded at the stops east of Auburn – 5 at Clipper Gap and 3 in Colfax.

The cost of the service east of Auburn Station, however, is high. Under the current contract, Placer County pays the private service contractor (Amador Stage Lines) for the vehicle in-service

hours operated (which addresses driver costs, dispatch costs and most of the liability costs), as well as for all fuel and maintenance costs and a portion of the general liability costs. Over the course of a year this totals an estimate \$156,300 in marginal operating costs.

One option would be to eliminate Placer Commuter Express service east of Auburn Station and replace it with Colfax/Alta Route runs to providing connecting service at Auburn Station at 6:37 AM in the westbound direction and at 5:35 PM in the eastbound direction. These new runs could be limited express commuter runs, mimicking the existing PCE schedule. They could also extend to start and end at Dewitt Center to serve some commuters in the Auburn area (arriving at Dewitt Center around 6:50 AM and departing at 5:20 PM, though the fact that this schedule is designed for a standard work day in Sacramento means that it would not be particularly convenient for persons working in Auburn. The existing Alta/Colfax runs, which operate later in the morning and earlier in the afternoon and serve a different market, would continue to be operated. Using PCT's cost model, these new runs would cost an estimated \$73,100 including the deadhead costs. The net impact of this alternative would be a reduction in annual costs of \$84,900.

Fares, for purposes of this analysis, are assumed to be unchanged for persons transferring between the new runs and Placer Commuter Express. However, the need to transfer in Auburn would reduce the attractiveness of the service for existing Colfax and Clipper Gap passengers. Of the estimated 2,100 annual passenger-trips, roughly 500 would be eliminated based on observed response to the introduction of new transfers on other transit systems. This in turn would reduce existing fare revenues by an estimated \$3,100. On the other hand, the new Colfax/Alta runs would generate a modest level of ridership, though as service times are designed to accommodate downtown Sacramento commuters they would result in a long work day period for Auburn area employees which would reduce the potential ridership. These additional runs would also expand travel opportunities for other trip purposes along the corridor, particularly for those residents wanting to stay in Auburn after the existing 3:15 PM run. Overall, these additional runs would increase Colfax/Alta ridership by an estimated 2,000 per year. This option would therefore yield a net increase of 1,500 passenger-trips. As the average fare on the new trips is lower than on the eliminated trips, the overall fare revenue would be reduced by \$2,700, yielding a net reduction in subsidy needs of \$82,200.

Eliminate Placer Commuter Express East of Auburn

Another option would be to simply eliminate PCE service between Auburn, Clipper Gap and Colfax, with no changes in the Colfax/Alta Route. This would reduce operating costs by \$156,300. Some of the existing passengers using this portion of the service would choose to drive to Auburn Station to continue to use PCE. While passenger surveys could better define this figure, for purposes of this analysis it is assumed that half of the existing passengers would drive to Auburn, and the other half cease using PCE. This results in an overall reduction in PCE ridership of 2,100. Considering the loss in fare revenues from the loss in ridership as well as the lower fare rate for passengers boarding in Auburn versus Colfax/Clipper Gap, farebox revenues

would be reduced by \$10,200 per year. Overall reduction in operating subsidy would equal \$146,100.

COMPARISON OF ALTERNATIVES AND PERFORMANCE ANALYSIS

Reflecting the different markets and planning processes, this discussion is provided separately for the PCT fixed route service options, the PCT dial-a-ride/TNC options and the Placer Commuter Express commuter options

Placer County Transit Fixed Route Alternatives

Table 61 summarizes the ridership and operating subsidy requirement impacts of the various PCT alternatives. Figure 52 also presents the ridership impacts in graphical terms. As shown, the greatest potential ridership increases are associated with half-hourly weekday service on the Lincoln-Sierra College route and the Auburn-Light Rail Route, with 27,500 and 26,100 passenger-trips, respectively. Other alternatives with relatively high ridership increases are peak-period half-hourly Auburn-Light Rail service, the revision to service between Roseville and Lincoln that provides full routes on either side of SR 65, and splitting the Highway 49 service into two routes, all of which increase ridership between 6,900 and 9,600 passenger-trips. At the other extreme, four alternatives would reduce ridership with the largest reduction (2,700 passenger-trips) generated by the elimination of the last weekday runs on the Auburn-Light Rail Route.

Impact on annual subsidy requirements also vary widely (Figure 53). The most expensive alternative is half-hourly all-day Auburn-Light Rail Route service, at \$594,600 per year, followed by half-hourly Lincoln-Sierra College weekday service (\$407,300) and the provision of the two routes between Lincoln and Roseville (\$280,100). At the other extreme, seven of the options would reduce subsidy needs, with two (eliminating the last Auburn-Light Rail runs, reducing Highway 49 Route evening runs) generating savings of \$55,400 and \$58,800, respectively.

Performance Analysis

An analysis of the performance of the service alternatives is presented in the right portion of Table 61. This considers the following key transit service performance measures. For those measures with a performance measure, those attaining the recommended performance standard are shown in green shading.

Passenger-Trips per Vehicle-Hour

The marginal passenger-trips per vehicle-hour is a key measure of the productivity of a transit service. Note several alternatives do not result in a change in vehicle-hours, making this measure inapplicable. As also shown in Figure 54, of those that increase both ridership and vehicle-hours, the best is extending Roseville Route S to the Public Defender's Office, which generates 8.3 new passenger-trips per additional vehicle-hour of service. In the other direction, the conversion of the Colfax/Alta service to three runs a day three days a week would eliminate

TABLE 61: PCT Fixed Route Service Alternatives Performance Analysis

	Annual Change				Change From Existing Service				
	Ridership	% Change	Operating Subsidy	% Change	Psgr-Trips per Service-Hour	Psgr-Trips per Service-Mile	Cost per Psgr-Trip	Subsidy per Psgr-Trip	Farebox Ratio
		from Existing		from Existing					
Auburn-Light Rail (10) Route	91,684	--	\$1,106,027	--					
Performance Standard					10.0	0.50	< \$15.00	No Standard	10%
Alternatives									
Half-Hourly Service All Day	26,100	28%	\$594,600	54%	4.4	0.15	\$23.49	\$22.78	3%
Half-Hourly Service Peak Only	9,700	11%	\$197,500	18%	4.9	0.17	\$21.07	\$20.36	3%
Additional Evening Round Trip	3,600	4%	\$54,700	5%	7.3	0.25	\$15.92	\$15.19	5%
Shift Last Run Later	900	1%	\$5,600	1%	--	--	\$6.89	\$6.22	10%
Eliminate Last Weekday Run	-2,700	-3%	-\$55,400	-5%	5.4	0.18	\$21.22	\$20.52	3%
Sunday Service Hourly	5,300	6%	\$116,300	11%	5.1	0.17	\$22.66	\$21.94	3%
Sunday Service Every 2 Hrs	3,100	3%	\$64,400	6%	6.0	0.20	\$21.48	\$20.77	3%
Lincoln-Sierra College (20) Route	73,247	--	\$923,685	--					
Performance Standard					10.0	0.50	< \$15.00	No Standard	10%
Alternatives									
Revised Routes: Blue Oaks Blvd-12 Bridges	9,600	13%	\$278,200	30%	3.2	0.19	\$29.98	\$28.98	3%
Extend Rsvl Rt S to Public Def. Office	2,000	3%	\$9,800	1%	8.3	0.83	\$6.40	\$4.90	23%
Half-Hourly Weekday Service	27,500	38%	\$407,300	44%	5.5	0.35	\$15.52	\$14.81	5%
Additional Evening Round Trip	2,300	3%	\$43,000	5%	4.6	0.25	\$19.39	\$18.70	4%
Earlier Saturday Run	300	0%	\$9,300	1%	2.8	0.15	\$31.67	\$31.00	2%
Sunday Service -- Hourly	4,100	6%	\$106,300	12%	3.9	0.21	\$26.63	\$25.93	3%
Sunday Service -- Every Other Hour	2,400	3%	\$60,700	7%	4.6	0.24	\$26.00	\$25.29	3%
New Northwest Rocklin Route	12,600	--	\$322,100	--	3.1	0.24	\$26.28	\$25.56	3%
Lincoln Circulator (70) Route	30,867	--	\$377,923	--					
Performance Standard					10.0	0.50	< \$15.00	No Standard	10%
Alternatives									
Revised Route	2,200	7%	-\$4,900	-1%	--	-0.81	-\$1.50	-\$2.23	-48%
Highway 49 (30) Route	52,351	--	\$679,599	--					
Performance Standard					10.0	0.50	< \$15.00	No Standard	10%
Alternatives									
Split 49 Into 2 Hourly Routes	8,100	15%	\$10,100	1%	--	0.62	\$2.00	\$1.25	38%
Reduced Evening Runs	-2,200	-4%	-\$58,800	-9%	3.0	0.25	\$27.45	\$26.73	3%
Sunday Service: Hourly	4,300	8%	\$76,300	11%	5.1	0.43	\$18.47	\$17.74	4%
Sunday Service: Every 2 Hours	2,600	5%	\$43,100	6%	6.1	0.52	\$17.31	\$16.58	4%
Taylor Road Shuttle (50) Route	9,185	--	\$310,029	--					
Performance Standard					1.5	0.20	< \$40.00	No Standard	5%
Alternatives									
Hourly Deviated Fixed Route Service	4,100	45%	\$108,700	35%	1.2	0.07	\$27.17	\$26.51	2%
Hourly Fixed Service with TNC	3,000	33%	\$36,300	12%	--	0.32	\$13.77	\$12.10	12%
Eliminate Last Weekday Round Trip	-700	-8%	-\$16,400	-5%	1.4	0.04	\$24.14	\$23.43	3%
Expand Deviation Area to 1.5 Miles	4,900	53%	\$107,400	35%	1.4	0.10	\$22.59	\$21.92	3%
Rural Service									
Performance Standard					1.5	0.50	< \$15.00	No Standard	5%
Alta Colfax Existing Route									
Colfax/Alta Mid-day 1 Day/Week	700	14%	\$9,400	5%	6.7	0.29	\$14.14	\$13.43	5%
Colfax/Alta Mid-day 3 Days/Week	1,700	33%	\$27,300	13%	5.7	0.25	\$16.76	\$16.06	4%
Colfax/Alta 3 Days/Week, 3 Runs/Day	-700	-14%	-\$9,400	-5%	6.7	0.29	\$14.14	\$13.43	5%
Foresthill Lifeline -- 1 Day/Week	900	--	\$20,800	--	3.5	0.19	\$25.67	\$23.11	10%
Sheridan Lifeline -- 1 Day/Week	400	--	\$19,600	--	1.9	0.13	\$51.00	\$49.00	4%
Note: Green indicates alternatives that are consistent with standard by expanding service in a manner that exceeds standard.									
Note: Blue shading indicates alternatives that are consistent with standard by eliminating service not currently attaining standard.									

Figure 52: PCT Alternatives Ridership Impact

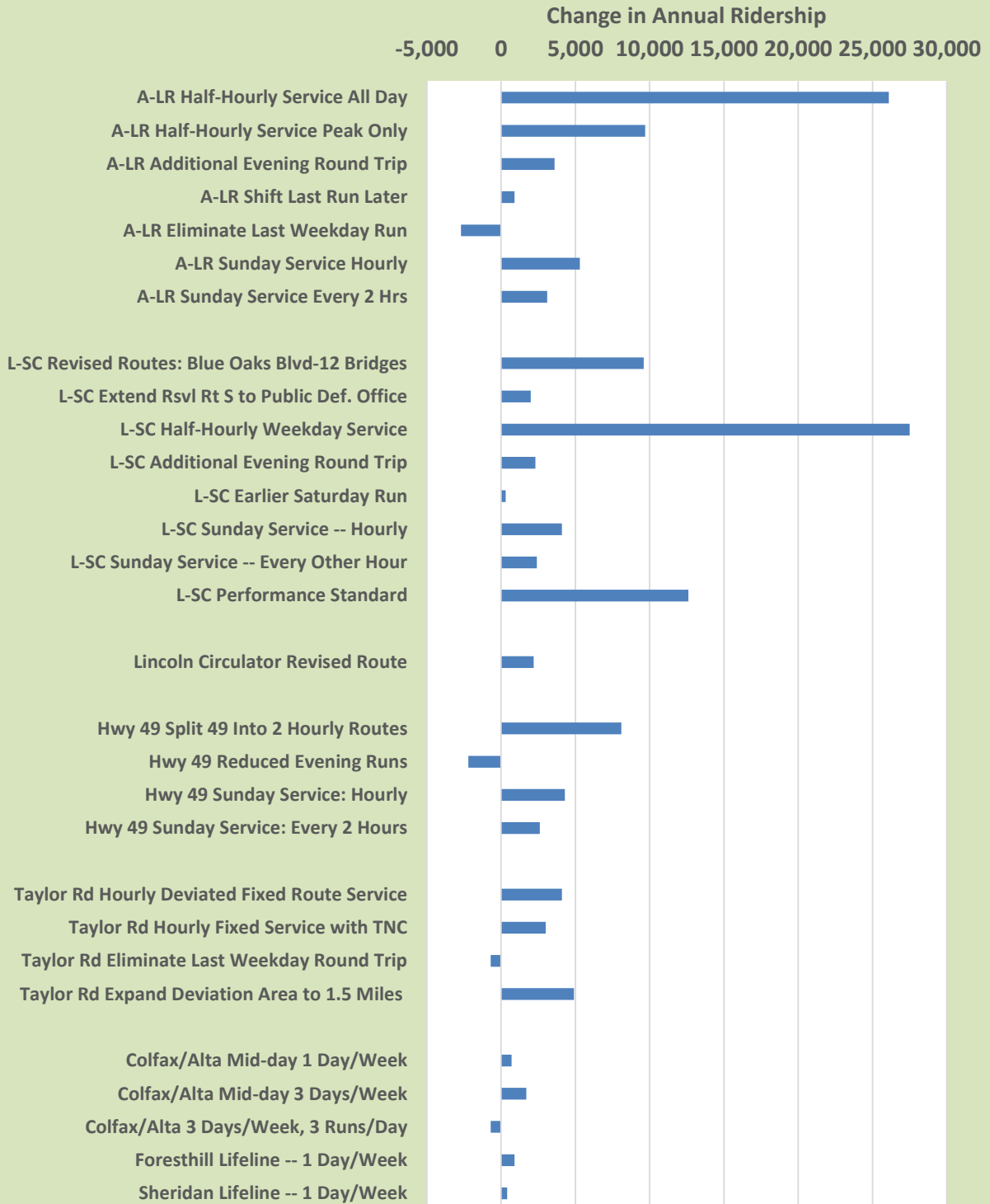
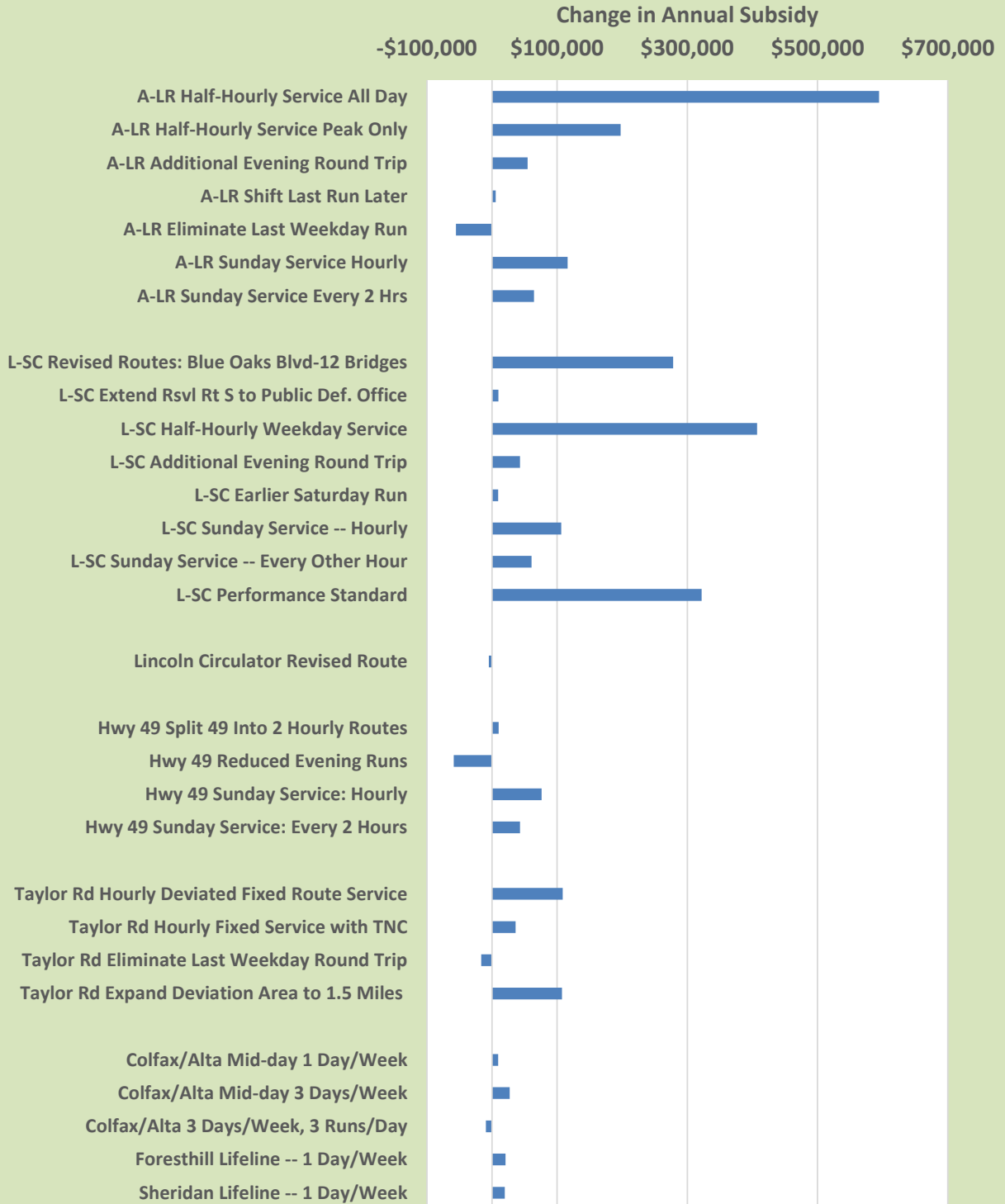
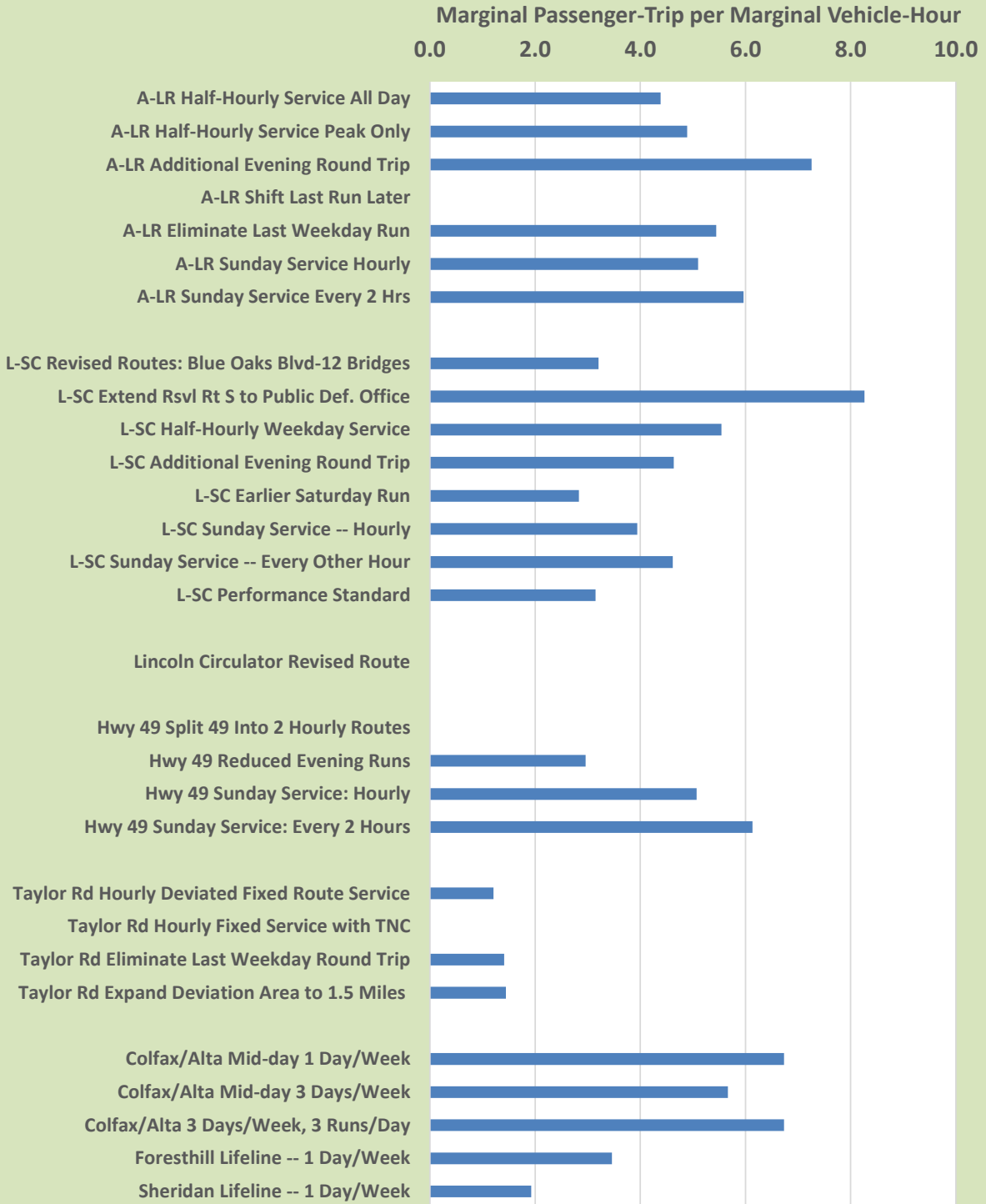


Figure 53: PCT Alternatives Impact on Annual Operating Subsidy



**Figure 54: PCT Alternatives
Passenger-Trips per Vehicle-Hour**



6.7 passenger-trips for every one hour of service reduction, and thus is not consistent with the standard of 1.5 passenger-trips per vehicle-hour for a rural service.

Passenger-Trips per Vehicle-Mile of Service

This measure yields a negative value for the revised Lincoln Circulator alternative, reflecting an increase in ridership and a decrease in vehicle-miles (a good outcome). Of the alternatives that increase ridership and mileage, the “best” is the extension of the Roseville Route S service to the Public Defender’s Office, at 0.83 passenger-trips per vehicle-mile. Other alternatives that achieve the pertinent standard are the conversion of the Highway 49 service to two individual routes, provision of Highway 49 service every two hours on Sunday and eliminating the final weekday Taylor Road Shuttle run (this latter alternative achieves the standard in that only 0.04 passenger-trips are eliminated for every mile not operated).

Cost Per Passenger-Trip

The operating cost per passenger-trip yields negative value for the revision to the Lincoln Circulator, reflecting an increase in ridership and a reduction in cost. Of those alternatives resulting in both an increase in ridership and costs, the “best” is the conversion of the Highway 49 Route into two hourly routes, as it requires a relatively low \$2.00 in additional cost per new passenger-trip. At the other extreme, expanding Sheridan Lifeline service requires \$51.00 in cost per new passenger-trip, followed by \$31.67 for the earlier Saturday Lincoln-Sierra College run and \$29.98 for the provision of a second PCT route between Roseville and Lincoln.

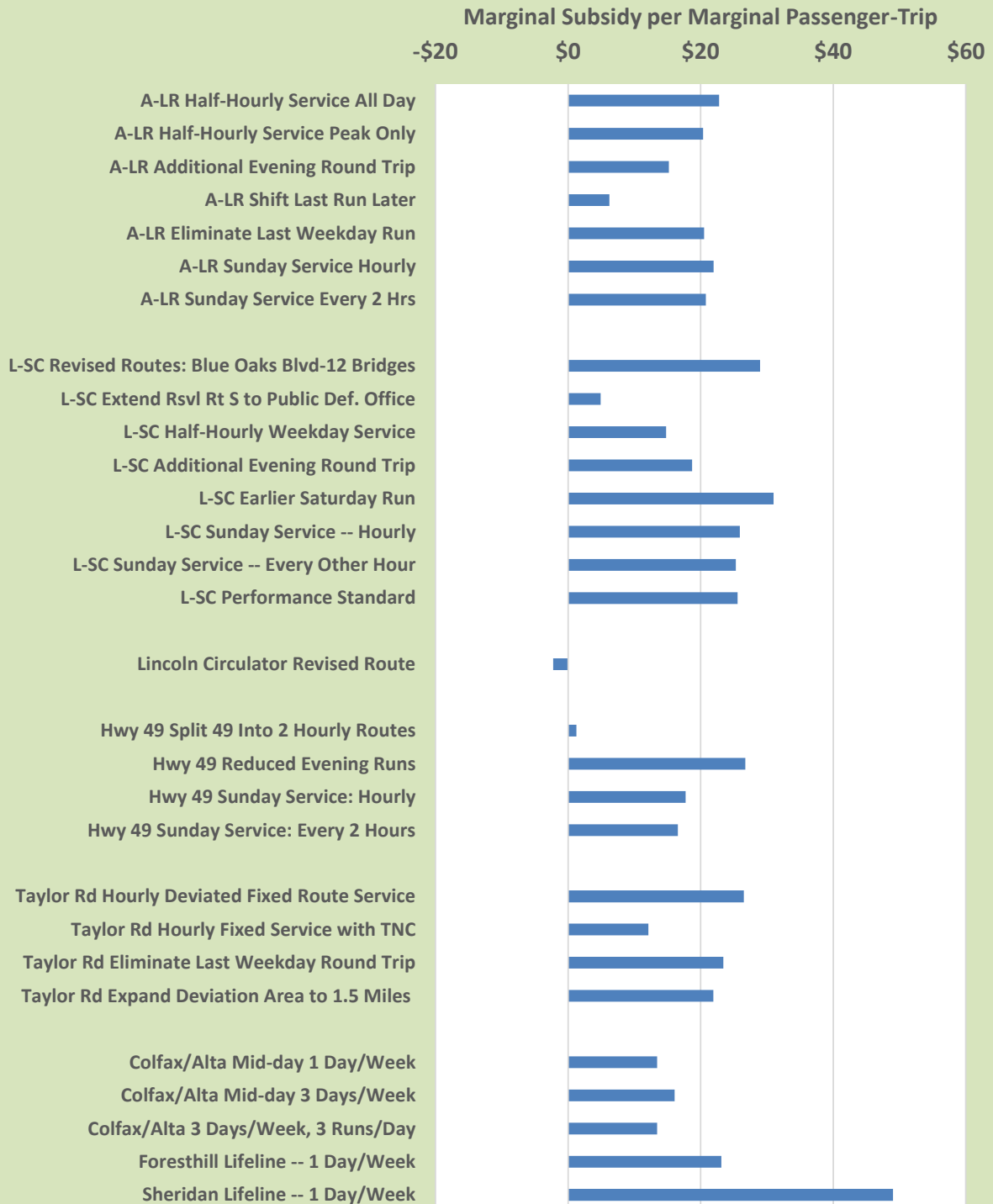
Subsidy per Passenger-Trip

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. Of those that increase subsidy, the best is the conversion of Highway 49 service into two hourly routes, requiring \$1.25 in subsidy per passenger-trip while the worst is the Sheridan lifeline service. There is no adopted standard for this performance measure. These figures are also shown in Figure 55.

Marginal Farebox Return Ratio

This is the ratio of marginal passenger-fares to marginal operating costs. The negative values for the Lincoln Collector modifications reflect a positive condition, in that fares increase while operating costs decrease. Some alternatives (eliminating the last weekday Auburn-Light Rail run, reducing Highway 49 evening runs, eliminating the last Taylor Road Shuttle run and conversion of Colfax/Alta Route service to three runs a day three days a week) have positive ratios reflecting reductions in fares over reductions in costs; of these, the first three are consistent with standards in that the service eliminated has a ratio lower than the minimum standard. Of those alternatives increasing fares as well as costs, the better alternatives as reflected by a higher farebox ratio, with the best being the extension of Roseville Route S

Figure 55: PCT Alternatives Subsidy per Passenger-Trip



service to the Public Defender's Office (23 percent) and the conversion of the Highway 49 Route to two routes, at 33 percent.

Dial-A-Ride / TNC Alternatives

The performance analysis for Dial-A-Ride and Transportation Network Company service alternatives are shown in Table 62, and indicate the following¹³:

- Ridership impacts range from a modest increase of 580 for the Granite Bay alternatives up to 20,000 for a TNC subsidy program in Rocklin.
- Operating subsidy reductions could be as much as \$46,700 for a Granite Bay TNC program. On the other extreme, the Rocklin TNC program could cost on the order of \$85,000 in additional subsidy, as well as administrative costs.

The expansion of Roseville DAR into Granite Bay (to replace the PCT DAR service) would yield an increase of 5.2 passenger-trips per vehicle-hour reduced, attaining the standard. The expansion of the Rocklin/Loomis DAR into the Industrial Avenue area would generate 2.8 additional riders per vehicle-hour, just below the standard of 3.0.

- This standard does not pertain to the expansion of the Highway 49 DAR area, as no change in vehicle-hours of service would occur.
- While the passenger-trips per vehicle-mile ranges as high as 0.16 (for the Highway 49 DAR expansion), none of the DAR alternatives achieve the standard of 0.20. This standard does not apply to the TNC alternatives.
- All of the alternatives achieve the standard regarding the cost per passenger-trip. Both Granite Bay alternatives have negative values (reflecting an increase in ridership and decrease in cost), with the TNC option providing the better value. Of those increasing

¹³ Note that there are no established performance standards for TNC services. For purposes of this review, the DAR standards are applied.

TABLE 62: PCT DAR and TNC Service Alternatives Performance Analysis

	Annual Change				Change From Existing Service				
	Ridership	% Change from Existing	Operating Subsidy	% Change from Existing	Psggr-Trips per Service-Hour	Psggr-Trips per Service-Mile	Cost per Psggr-Trip	Subsidy per Psggr-Trip	Farebox Ratio
Performance Standard					3.0	0.20	< \$40.00	No Standard	5%
Granite Bay DAR	261		\$66,432						
Expand Roseville DAR to Granite Bay	580	222%	-\$15,800	-24%	-5.2	0.05	-\$26.03	-\$27.24	-5%
Granite Bay TNC Subsidy Program	580	222%	-\$46,700	-70%	--	--	-\$79.31	-\$80.52	-2%
Rocklin/Loomis DAR	8,752		\$362,275						
Rocklin TNC Subsidy Program	20,000	--	\$85,000	--	--	--	\$8.50	\$4.25	50%
Expand to Industrial Avenue Area	2,100	24%	\$23,500	28%	2.8	0.10	\$11.95	\$11.19	6%
Highway 49 DAR	9,112		\$416,524						
Expansion of Hwy 49 DAR to Bowman Area	1,800	20%	-\$300	-0.1%	--	0.16	\$0.56	-\$0.17	130%
Note: Green indicates alternatives that are consistent with standard by expanding service in a manner that exceeds standard. Note: Blue shading indicates alternatives that are consistent with standard by eliminating service not currently attaining standard.									

costs, the Highway 49 expansion has the best outcome, requiring only \$0.56 in additional cost per new passenger-trip.

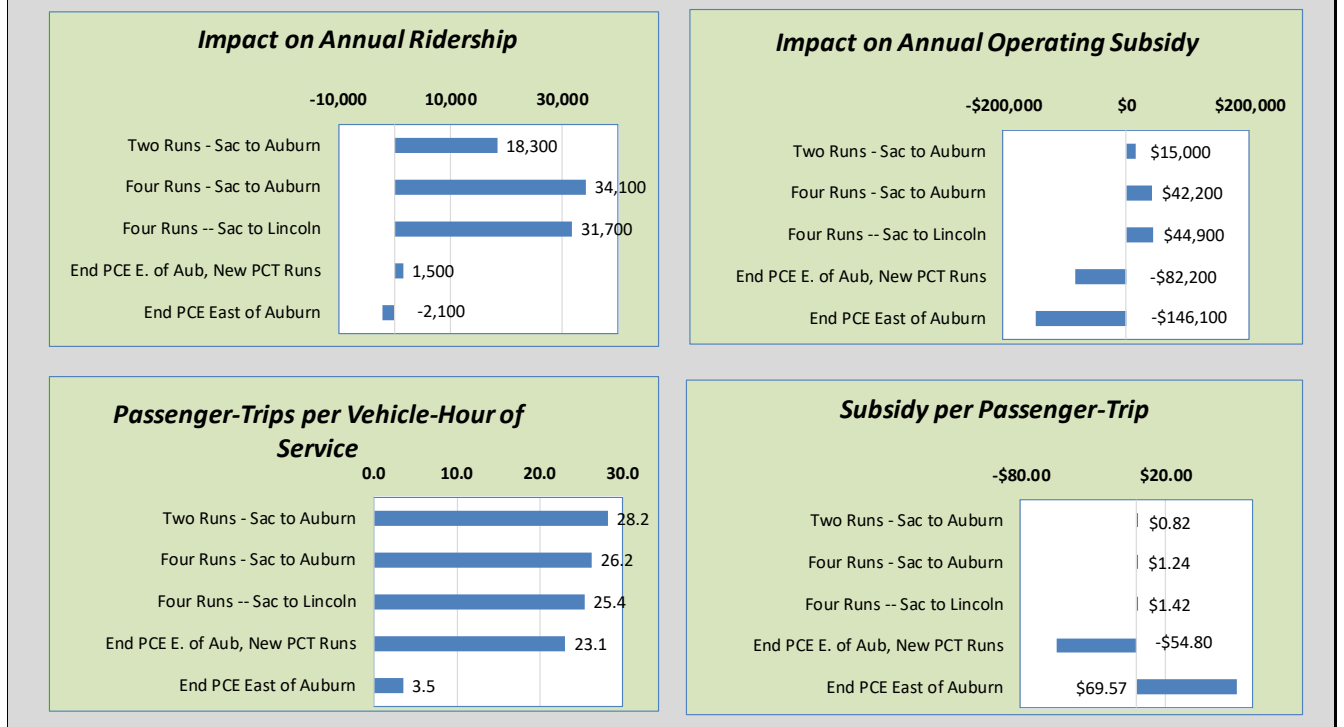
- The subsidy required per passenger-trip follows a similar pattern, except that the expansion of the Highway 49 service area yields a negative value by reducing subsidy while increasing ridership.
- All of these alternatives achieve the farebox ratio standard, with the exception of the expansion of Rocklin/Loomis DAR into the Industrial Drive area.

Placer Commuter Express Alternatives

The performance analysis for PCE is presented in Table 63, while Figure 56 depicts the results. As shown, *all* of the alternatives attain the pertinent performance standards. Those options that reduce service attain standards in that the service eliminated does not currently meet the minimum standards. A review of these results indicate the following:

- Ridership impacts range from a loss of 2,100 from the elimination of PCE service east of Auburn (without replacement) to an increase of 34,100 from four additional runs between downtown Sacramento and Auburn. Providing these additional four runs to Auburn would generate 8 percent more ridership than providing them to Lincoln.
- Subsidy impacts range from a reduction of \$146,100 (elimination of PCE east of Auburn) to an increase of \$44,900 for four additional runs to/from Lincoln. Elimination of PCE

FIGURE 56: Summary of PCE Alternative Performance Analysis



service east of Auburn (even with replacement PCT runs) along with four additional runs (to either Lincoln or Auburn) would result in a reduction in overall subsidy (due largely to the fare revenue generated by the new runs).

- Passenger-trips per vehicle-hour of service would be as high as 28.2 (for two additional runs). Eliminating PCE service east of Auburn would only eliminate 3.5 passenger-trips for every one vehicle-hour reduction in service.
- The impact on passenger-trips per vehicle-mile show a similar pattern, ranging from 0.93 passenger-trips gained per vehicle-mile for the two-run expansion to a loss of 0.03 for elimination east of Auburn.
- By modestly increasing ridership while substantially reducing operating costs, eliminating PCE service east of Auburn and replacing it with new PCT Colfax/Alta runs would save \$56.60 in operating cost per additional new passenger-trip. Simply eliminating the eastern portion of PCE service would save \$74.43 per passenger-trip lost. Of those options that increase both ridership and costs, the provision of two additional runs would require a relatively low \$5.68 per new passenger-trip.

TABLE 63: PCE Service Alternatives Performance Analysis

	Annual Change				Change From Existing Service				
	Ridership	% Change from Existing	Operating Subsidy	% Change from Existing	Psgr-Trips per Service-Hour	Psgr-Trips per Service-Mile	Cost per Psgr-Trip	Subsidy per Psgr-Trip	Farebox Ratio
Existing PCE Service	70,677	--	\$500,499	--					
Performance Standard					20.0	0.80	< \$10.00	No Standard	40%
1 New Run in Each Direction: Sac-Auburn	18,300	26%	\$15,000	3%	28.2	0.93	\$5.68	\$0.82	86%
2 New Runs in Each Direction: Sac-Auburn	34,100	48%	\$42,200	8%	26.2	0.87	\$6.10	\$1.24	80%
2 New Runs in Each Direction: Sac-Lincoln	31,700	45%	\$44,900	9%	25.4	0.86	\$6.28	\$1.42	77%
Eliminate Placer Commuter Express Service East of Auburn and Replace with PCT Colfax/Alta Commuter Runs	1,500	2%	-\$82,200	-16%	23.1	-0.03	-\$56.60	-\$54.80	3%
Eliminate PCE Runs E. of Auburn	-2,100	-3%	-\$146,100	-29%	3.5	0.03	\$74.43	\$69.57	7%

Note: Green indicates alternatives that are consistent with standard by expanding service in a manner that exceeds standard.
 Note: Blue shading indicates alternatives that are consistent with standard by eliminating service not currently attaining standard.

- The subsidy per passenger-trip shows a similar pattern, with the elimination of eastern PCE service and PCT replacement runs saving \$54.80 in subsidy per additional new Passenger-trip, the straight elimination of eastern PCE runs saving \$69.57 per passenger-trip lost, and the addition of two new runs requiring only \$0.82 in subsidy per new passenger-trip.
- The marginal operating farebox ratio ranges as high as 86 percent for the two additional runs. Both of the alternatives to reduce service east of Auburn are far below the current standard.

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. Many alternatives will require additional analysis (including specific surveys and data collection) before a final decision can be made. Nonetheless, the following are key overall findings that result from this evaluation:

- The alternatives with a high potential consist of the following:
 - Conversion of the Granite Bay DAR to a TNC subsidy program or, if not feasible, service as part of the Roseville DAR program.
 - Modification of the Highway 49 service to provide two routes using the existing two vehicles (particularly if modifications are also made to the Auburn Transit services). Of these two options, the provision of two hourly routes that both

serve Dewitt Center and nearby commercial centers generates better performance.

- Expansion of the Highway 49 DAR area to serve the Bowman area.
 - Extension of Roseville Route S service to serve the Public Defender's Office.
 - Modifications to the Lincoln Circulator Route.
 - Provision of a mid-day Colfax/Alta Route run at least one day a week.
 - Conversion of the Taylor Road Shuttle to a fixed route with TNC subsidy for outlying areas.
 - Elimination of PCE service east of Auburn, potentially along with new commute-period PCT Colfax/Alta runs.
 - Expansion of PCE runs, either from Auburn or Lincoln.
- Alternatives that have a low potential consist of the following:
 - Half-hourly service (unless substantial new sources of funding are found)
 - Sunday service
 - Provision of two routes between Roseville and Lincoln
 - Hourly deviated Taylor Road Shuttle service
 - Conversion of the Colfax/Alta Route to three days a week service.

Other alternatives not mentioned largely reflect trade-offs between costs, the benefits of expanding service area, and the benefits of providing more or less evening service.

FARE ALTERNATIVES



This section reviews potential changes to PCT’s fare structure.

Increase Base Fare to \$1.50

As shown in Table 64, PCT’s base fare (\$1.25) is lower than Roseville Transit’s base fare of \$1.50. Other regional transit operators such as El Dorado Transit and Gold Country Stage both have a base fare of \$1.50. Therefore, this alternative reviews ridership and revenue impacts if PCT were to raise the base fare to \$1.50 and the Senior/Youth/Disabled fare to \$0.75. The fare increase would include a corresponding 20 percent fare increase to the 14 day and 30 day pass of \$26 and \$45 respectively. The general public 24 hour pass would be \$3.00 or two one-way trips. It is estimated that this increase in fares for the fixed routes would result in a loss of 14,530 one-way passenger trips and a gain of \$24,930 in fare revenues. It should be noted that a similar increase in Auburn Transit’s base fare to \$1.50 is considered in the Auburn SRTP so as to have a more consistent fare structure among the western Placer County transit operators.

	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	\$ 40.00
30 Day Pass - Senior/Youth/Disabled	\$ 18.75	\$ 29.00	\$ 20.00
30 Ride Pass - General Public	--	--	\$ 24.00
30 Ride Pass - Senior/Youth/Disabled	--	--	\$ 12.00
5 and under	Free	Free ¹	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.

College Transit Pass Program

College transit pass programs have become relatively common, particularly among larger colleges and universities. Under these programs, funds are provided (typically from student activity fees) to offset the loss of transit fares that accompanies a fare program by which students are allowed to board the bus system at no charge. Some programs also include college staff and faculty (with funding provided from non-student-fee sources). Consideration was given both to a college pass program for Sacramento State University and for Sierra College.

Sacramento State University students may ride all Sacramento RT fixed-route transit services, including the light rail, by presenting a valid Sacramento State OneCard and the student commuter sleeve. Students pay a nominal fee for this service through their registration fees. Approximately 5,000 "Sac State" students live in Placer County. This bears the questions whether western Placer County transit operators should also offer discounts or free rides to Sac State students through a registration fee program.

Two factors which contribute to the success of a college transit pass program are student transit demand and parking costs. The demand for transit service between Placer County and Sac State is reduced by the long travel times resulting from the current As an example, a student living in Rocklin wishing to use transit to the Sac State campus faces a total travel time of at least 2 hours (using PCT's Auburn Light Rail Route, RT Blue Line LRT and Sac RT Route 87). A longer travel time would be required, depending on where the student lived. In comparison, driving would take around 30 - 40 minutes. Daily parking fees at Sac State student lots are \$6.00, which does not create much incentive to spend an additional 4 to 5 hours a day commuting to/from campus. Given this, it is not surprising that the onboard passenger surveys did not identify any existing Roseville Transit passengers traveling to or from Sac State. It can be concluded that a pass program for Sac State students would not generate a noticeable level of use on PCT.

A partnership between Sierra College and western Placer County transit operators may be more useful. A reasonable scenario would be a pass program that provides free boardings on Roseville Transit and PCT to current students (showing a current student ID, or ultimately a Connect Card). The reduction in farebox revenue would be offset by funding generated by the campus. To determine the feasibility of this option, surveys would need to be conducted to help determine specific student travel patterns and interest in public transit. Next, the transit operators would need to negotiate with Sierra College an annual subsidy which is reasonable and meets the needs of all parties. College pass programs are typically financed by student fees or parking revenues. If pursued, a college pass program should become part of the Connect Card options.

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 64). 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). This should be implemented through the Connect Card program.

MARKETING STRATEGIES

Significant improvements have been made in marketing and passenger information services for Placer County Transit over recent years. In particular, passengers can plan their transit trip using Google Maps (as of January 2018). In addition, real-time transit information for PCT routes is available on the internet through the Nextbus system as of May 2018. This allows passengers to know the arrival times of upcoming buses and plan their travels to minimize wait times, and also provide PCT with the ability to provide instant notifications with regards to service issues (such as street closures). Finally, annunciators that announce upcoming stops have been installed on all recently-purchased buses (including PCE), and will be activated in the fall of 2018. This is a convenience for all passengers, but particularly those with vision impairments.

Route Maps

The Placer County Transit website provides pertinent transit information such as maps, schedules, links to google transit and other transportation services on the home page. Individual and regional route maps have been produced and are easy to find on the website, although there is not a significant level of detail on the maps in terms of street network. This is challenging for PCT as the operator serves such a large area. An interactive map on the website would allow passengers to more accurately search for the closest stop.

Call Center Number on Buses

A simple strategy to promote public transit is to place the South Placer Information Center telephone number on PCT vehicles.

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 regional logo that would be placed in one or two locations on all vehicles. This could maintain the separate identities of the individual programs, while conveying to the riding and non-riding public that the services act as a regional network. Together, the various public transit programs operate a total of 71 active vehicles. If all these vehicles (including the commuter services) presented a regional logo, public awareness of the transit network could be enhanced.

CAPITAL ALTERNATIVES

This chapter focuses on the capital items needed to operate public transit, focusing on buses and bus stop facilities.



Zero Emission Bus Technology

Placer County Transit's fleet is currently a mix of diesel, Compressed Natural Gas (CNG) and gasoline fueled vehicles. The California Air Resource Board (CARB) is in the process of developing new regulations (the "Transit Fleet Rule") that are expected to ultimately require all public transit fleets in the state to use only Zero Emission Bus (ZEB) vehicles. ZEB technologies consist of Battery Electric Buses (BEBs) and hydrogen fuel cell 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 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 ZEB Altoona-tested¹⁴ cutaway vehicles and it is unclear when manufacturers may begin testing for zero-emission cutaways.

The following is a summary of the overall rule proposal. Fleet size would be based on the number of buses in the active fleet in 2019.

January 1, 2020

- Large transit fleets with 100 buses or more would need to:
 - Purchase 25 percent ZEB when bus purchases are made or implement an equivalent innovative zero emissions mobility program.
 - Purchase renewable fuels when diesel or natural gas contracts are renewed.

¹⁴ FTA regulations require all federally-funded transit vehicles models be tested in a facility located in Altoona, PA.

- Report fleet-wide information for all modes and fuel purchases needed to evaluate their progress in meeting a fleet-wide performance-based goal.
- 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.

January 1, 2023

- The proposed concept would be expanded to include medium-size transit fleets with more than 30 buses.
- Affected transit fleets would need to meet a 50 percent ZEB purchase requirement.

January 1, 2026

- All transit fleets, including smaller transit systems would need to meet a 75 percent ZEB purchase requirement.

January 1, 2029

- All bus purchases 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 guideway) 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. CARB staff plans to bring a proposed recommendation to the CARB board in June 2018.

With the exclusion of cutaway buses, PCT’s bus fleet consists of 21 large buses, within the 30 bus criteria for a small-sized fleet. As such, Placer County is not required to be purchasing ZEBs until 2026 (under the current proposal). However, it is clear that operators of all transit fleets

should be preparing for ultimately transitioning to ZEB fleets over time. Of the two ZEB technologies, by far the more prevalent option is Battery Electric Buses.

Battery-Electric Transit Vehicles

Technology and experience for battery-electric transit vehicles are still fairly new. Some larger transit systems and mid-sized system have purchased battery-electric buses, with any more on order. The closest existing BEB fleet to western Placer County is the 17 buses at the San Joaquin RTD system in Stockton. Recharging BEB's can either occur at the fleet operations facility (generally overnight using a slow charging station), or along the route at stops where at least 10 minutes of time are available (using an overhead fast-charging technology). As an example of cost, Marin County recently purchased two battery-electric vehicles for \$1.6 million. The cost includes purchase of the buses, GPS and fare collection equipment purchase and vehicle inspections.

Beyond the issue of cost, a key factor regarding battery electric buses is the potential range between charges. While buses with a range of 120-150 miles have been available for several years, some manufacturers have recently announced new technology that can operate up to 350 miles between charges. However, these claims do not reflect the requirements to also power onboard heating and cooling systems – an important consideration in Placer County's hot summers.

Defining the appropriate ZEB strategy for PCT will require a detailed study of the operational, facility, capital cost and environmental options. This study should include the following:

- Compare the cost, facility and operational impacts of BEB vs fuel cell options for PCT, including full life cycle costs given local electricity vs. hydrogen unit costs.
- Review existing and planned services and schedules to identify the potential for on-route charging.
- Evaluate the transit centers and bus maintenance facility to identify the physical capacity to accommodate charging equipment and power supply.
- Assess impacts on maintenance staff and facilities as well as on-the-road service reliability.

The overall results of this study should be a ZEB implementation plan that minimizes costs to the local jurisdictions, maintains a good quality of service to the passengers and achieves the environmental benefits of ZEB technology as it matures.

Bus Maintenance Facility Improvements

The alternatives discussed in Chapter 3 could potentially add to the PCT vehicle fleet – particularly those that would increase service frequency. As the existing fleet is close to exceeding the capacity of the maintenance facility at the DeWitt Center, the need for

modifications or additions to this facility should be reviewed once service recommendations have been finalized.

As discussed above, California Air Resources Board proposed regulations are expected to result in eventual shift to Zero Emission Buses (ZEBs). Of the two available technologies, Battery Electric Buses (BEBs) are more feasible than hydrogen fuel cell buses and are being adopted by the large majority of transit operators. Recharging of BEBs can be accomplished either enroute (using overhead catenary charging stations at transit centers) or overnight at a maintenance facility (using an overhead catenary or a plug-in option). While a detailed study of BEB implementation for PCT would be needed to define a specific strategy, it can be expected that at least some of the charging would occur at the existing maintenance facility at the DeWitt Center.

Vehicle Replacement

A review of Placer County Transit's vehicle fleet shows that the following buses will be eligible for replacement during the planning period:

- Currently eligible for replacement – 1 fixed route 35 passenger bus
- 2020 – 3 DAR vehicles
- 2022– 5 commuter buses
- 2025 – 5 DAR vehicles

In order to maintain a good working fleet with minimal maintenance costs, Placer County Transit should seek grant funding to replace vehicles according to the schedule above. By the end of the planning period, Placer County should be purchasing ZEB vehicles in accordance with CARB regulations.

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.

Placer County has recently installed two new shelters in Rocklin near Sunset Boulevard and Lonetree Boulevard, as well as along Bell Road near the Dewitt Center. There are several criteria that should be considered in siting new bus shelters:

- Passenger Activity – Shelters are typically considered to be warranted when 10 or more passengers board over the course of an average day. If passengers at a particular stop tend to be more sensitive to environmental conditions (such as a stop at a Senior Center), a lower number is appropriate.
- The presence of existing shelter – A stop immediately adjacent to a commercial building with adequate roof overhang to provide protection from rain, for example, may not need an additional shelter.
- Spacing along the route – A long route segment of stops that individually do not warrant shelters could benefit from provision of a shelter, particularly if it is needed to provide at least one shelter for a defined residential or commercial activity area.

A bus shelter is typically considered to be warranted at stops with a minimum of 10 passenger boardings per day. A review of the existing location of shelters compared with observed passenger activity indicates that all stops with this level of passenger activity have either a shelter or a roof overhang which provides shelter. The exception is the Twelve Bridges School has a high level of boarding activity (23 passengers per day) but is considered a deviation on the Lincoln Circulator Route.

Passenger amenities should be replaced as need during the planning period. In addition, stops to serve new development should be coordinated with developers and local planning staffs. New route alignments may also require for bus stop signs and pullouts to be constructed. Placer County as well as the City of Lincoln are currently conducting ADA reviews of all bus stops, which may identify new warranted stop improvements.

Pedestrian access (as well as bicycle access) is also crucial to a transit program, as a majority of riders walk to and from their stops. Including short sidewalk connections to serve nearby activity centers or to close gaps with existing sidewalks is appropriate as part of a bus stop improvement project. Furthermore, PCT should be included in the development of regional non-motorized travel plans to provide input regarding where improvements could best enhance transit patronage.

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The following plan presents service programs, capital improvements, management plan elements and financial strategies to enhance the Placer County 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 57 presents an overview of the plan, while Table 65 summarizes the impacts of the plan elements on service levels, ridership and costs.



This plan has been developed in particular to help attain the first goal of the PCT program, to "*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 usage* by providing new services where ridership demand can attain performance standards.

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 systemwide needs.

Local Fixed Route Services

Revise the Highway 49 Route into Two Hourly Routes

The two buses currently used to operate the single Highway 49 Route should instead be used to operate two hourly routes connecting North Auburn to Auburn Station while serving local trips within North Auburn. This will much better align with current transit ridership patterns and needs in the area, which are increasingly generating trips between North Auburn and the regional connections at Auburn Station. The current route was developed largely serve local trips within North Auburn, resulting in a route that requires long travel times (such as a 40 minute travel time for the 5.7 mile trip from Auburn Station to Auburn Green). In addition, the current route serves stops (such as at the Auburn Airport) that no longer generate significant ridership. Conversion to two hourly routes (both of which serve the key trip generators of Auburn Station, Dewitt Center and the commercial centers on the east side of SR 49 near Bell Road) will double the frequency of service between these key centers from hourly to half-hourly and will reduce in-vehicle travel times. As an example, a resident of Auburn Greens currently spends 38 minutes on the bus to travel to/from Auburn Station ... this would be reduced to approximately 25 minutes under the revised routes. As a result, ridership is forecast to increase by 13 percent (6,900 passengers per year). No additional vehicles will need to be operated, and the operating cost will be increased by a relatively modest \$16,200 (2 percent).



**Figure 57
Placer County Transit S RTP**

- OTHER ELEMENTS**
- Fleet Improvements
 - Battery Electric Bus Study
 - Bus Stop Improvements
 - Maintenance Facility Improvements
 - College Pass Program
 - Regional Day Pass
 - Marketing Improvements
 - Demonstration Rural Services

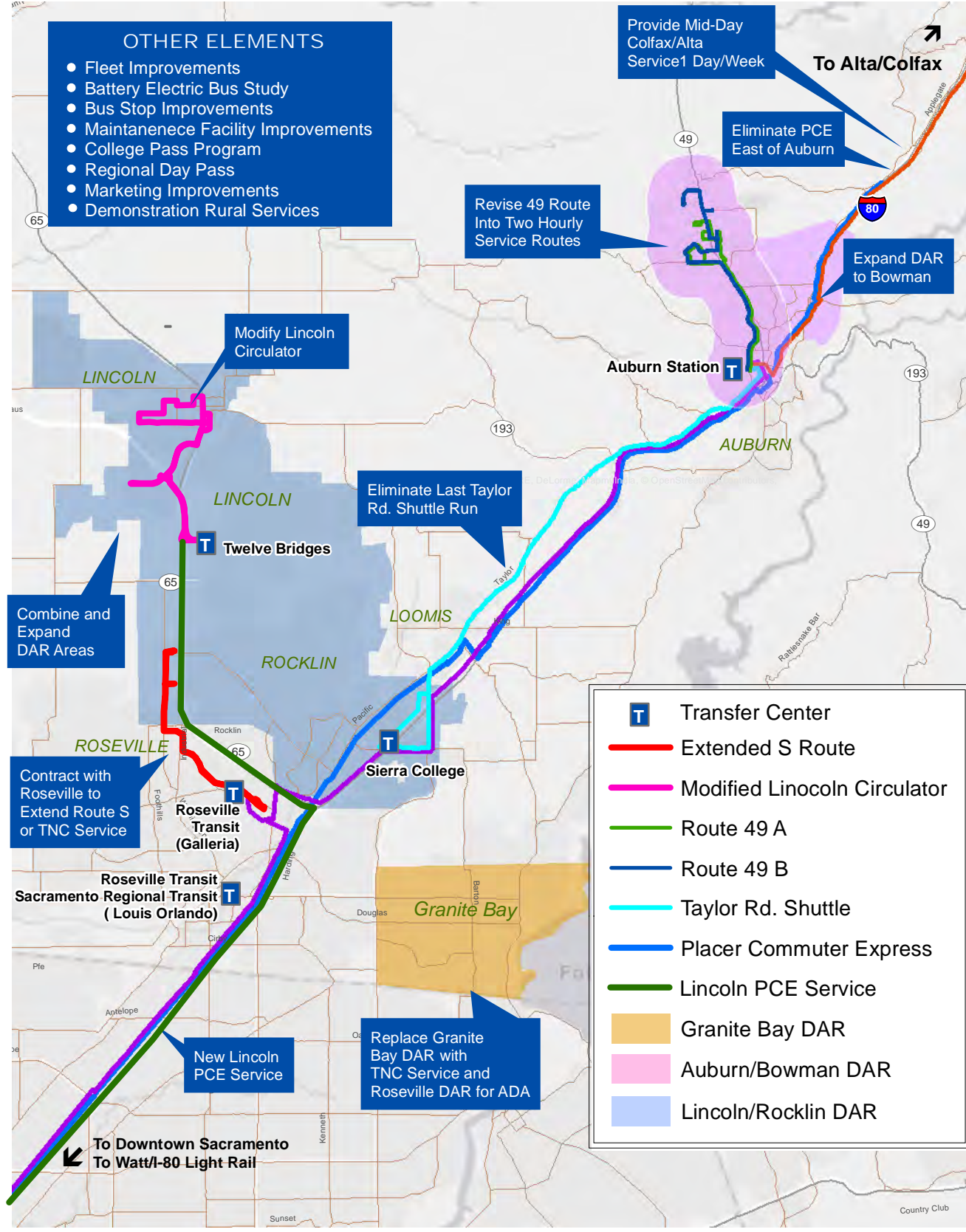


TABLE 65: Placer County Transit Short Range Transit Plan

Plan Element	Annual Quantities -- Change From Existing						
	Passengers	Vehicle-Hours	Vehicle-Miles	Operating Cost	Farebox Revenue	Operating Subsidy	Peak Vehicles
Local Fixed Routes							
<i>Existing Total</i>	262,452	32,339	663,118	\$3,759,809	\$186,305	\$2,720,651	9
Revise the Highway 49 Route into Two Hourly Routes	8,100	0	13,133	\$16,200	\$6,100	\$10,100	0
Reduce Weekday Evening Hours of Highway 49 Service	-1,500	-496	-6,696	-\$41,300	-\$1,100	-\$40,200	0
Modify the Lincoln Circulator Route	2,200	0	-2,720	-\$3,300	\$1,600	-\$4,900	0
Contract with Roseville to Serve the Public Defender's Office	2,000	242	2,420	\$12,800	\$3,000	\$9,800	0
Shift the Last Auburn-Light Rail Run 1 Hour Later	900	0	0	\$6,200	\$600	\$5,600	0
Provide Mid-Day Colfax/Alta Service One Day a Week	700	104	2,400	\$9,900	\$500	\$9,400	0
Eliminate the Last Weekday Taylor Road Shuttle Run	-700	-496	-15,884	-\$16,900	-\$500	-\$16,400	0
Foresthill Lifeline Service One Day a Week	900	260	4,680	\$23,100	\$2,300	\$20,800	1
Total Impacts of Service Modifications	12,600	-386	-2,667	\$6,700	\$12,500	-\$5,800	1
Total With Service Modifications	275,052	31,953	660,451	\$3,766,509	\$198,805	\$2,714,851	10
<i>Percent Impacts of Service Modifications</i>	4.8%	-1.2%	-0.4%	0.2%	6.7%	-0.2%	11.1%
Dial-A-Ride Services							
<i>Existing Total</i>	27,146	3,523	138,925	\$1,112,231	\$19,877	\$1,092,355	8
Granite Bay TNC Service with Roseville DAR Paratransit	580	-261	-928	-\$46,000	\$700	-\$46,700	-1
Expand the 49 Dial-A-Ride Area to Serve Bowman	1,800	0	11,370	\$1,000	\$1,300	-\$300	0
Combine Rocklin/Loomis & Lincoln DAR, Extend to Industrial Blvd Corridor	2,200	744	20,678	\$25,100	\$1,600	\$23,500	0
Total Impacts of Service Modifications	4,580	483	31,121	-\$19,900	\$3,600	-\$23,500	-1
Total With Service Modifications	31,726	4,006	170,045	\$1,092,331	\$23,477	\$1,068,855	7
<i>Percent Impacts of Service Modifications</i>	16.9%	13.7%	22.4%	-1.8%	18.1%	-2.2%	-12.5%
Placer Commuter Express							
<i>Existing Total</i>	70,677	3,163	101,279	\$865,744	\$365,245	\$500,499	4
Eliminate PCE Service East of Auburn	-2,100	-600	-66,000	-\$156,300	-\$10,200	-\$146,100	0
Lincoln Service: 2 AM and 2 PM Runs	31,700	1,250	37,000	\$199,000	\$154,100	\$44,900	2
Total Impacts of Service Modifications	29,600	650	-29,000	\$42,700	\$143,900	-\$101,200	2
Total With Service Modifications	100,277	3,813	72,279	\$908,444	\$509,145	\$399,299	6
<i>Percent Impacts of Service Modifications</i>	41.9%	20.6%	-28.6%	4.9%	39.4%	-20.2%	50.0%
TOTAL PCT							
<i>Existing Total (Excluding Vanpool)</i>	360,275	39,024	903,321	\$5,737,784	\$571,427	\$4,313,504	21
Total Impacts of Service Modifications	46,780	747	-546	\$29,500	\$160,000	-\$130,500	2
Total With Service Modifications	407,055	39,771	902,775	\$5,767,284	\$731,427	\$4,183,004	23
<i>Percent Impacts of Service Modifications</i>	13.0%	1.9%	-0.1%	0.5%	28.0%	-3.0%	9.5%

While not part of this PCT SRTP, it is worth noting that the parallel Auburn SRTP includes realignment of the Auburn Transit routes to provide more service times at Auburn Station. While the current schedule has Auburn Transit buses serving Auburn Station only at the top of the hour, the realigned routes will also provide service at 30 minutes after the hour (arriving from northeast Auburn and Bowman and departing to Old Town and southern Auburn and departing to northeast Auburn and Bowman). Optimally, modifications to the PCT Highway 49 Route and the Auburn Transit routes would be coordinated so that provision of connections at Auburn Station every 30 minutes would be implemented at the same time.

Reduce Evening Hours of Highway 49 Service

The final weekday round-trips operated on the current Highway 49 Route (southbound departure from Chana Park at 6 PM and northbound departures at 6:00 PM and 7:00 PM) currently carries only a total of 9 passenger-trips, falling well below the service standards. Reflecting this pattern, the revised separate hourly runs should end with final southbound

departures at 5:00 PM and 5:30 PM, and final northbound departures at 5:30 PM and 6:00 PM. (These final runs could also drop-off any passengers with destinations on the “other” route.) The northbound 8:00 PM and 9:00 PM runs would still be operated for drop-offs only as part of the Auburn-Light Rail deadhead trips. This plan element will reduce ridership by 1,500 per year (or roughly 6 per weekday), but save \$40,200 in annual operating subsidy funding.

Modify the Lincoln Circulator Route

The Lincoln Circulator Route should be modified to reduce service to areas that do not generate significant ridership, and instead use the same resources to expand service in northwest Lincoln. Specifically, two stops (at Lincoln Hills Town Center and at East Avenue/7th Street, both of which only generate 1 passenger-trip per day) should be converted to “On Demand” stops (requiring the passenger to call ahead for a pickup, or to ask the driver upon boarding at another stop for a dropoff). The running time savings should instead be used to extend the route westward on 1st Street beyond its current turn north onto R Street to instead turn north on Fuller Lane (a half-mile further west), serving stops within convenient walking distance of the residential neighborhood west of Joiner Parkway. Another modification on the way east should also be made to serve a stop at O Street/6th Street, closer to the neighborhood to the north.

Better serving these residential neighborhoods will yield a net increase in ridership of 2,200 boardings per year (7 percent). As the overall route is slightly shorter, however, operating costs will be reduced by \$3,300 per year, or by 1 percent.

Contract with Roseville to Serve the Public Defender’s Office, or Provide a TNC Discount

The need for direct transit service connecting the Santucci Justice Center with the Public Defender’s Office along Placer Corporate Drive can most effectively be addressed by Placer County forming an agreement with the City of Roseville to extend existing Route S (which currently travels between the Galleria and Santucci Justice Center) to serve a stop on Placer Corporate Drive on an “on demand” basis. The following service times could be offered, within the current Route S schedule:

8:00 AM	2:00 PM
9:00 AM	4:05 PM
11:00 AM	5:05 PM
12:00 Noon	

Building the additional time into the Route S schedule, along with the additional mileage, will increase the City’s operating costs by an estimated \$12,800 per year, and subsidy requirements by \$9,800 per year.

Another potential option would be to provide a \$4.75 discount on TNC trips between the two locations during the hours the Public Defender’s Office is open, resulting in a cost to the

passenger equal to the PCT fare. This would incur an annual subsidy totaling approximately \$9,500. To be conservative, the higher subsidy associated with the fixed route extension is assumed in Table 65.

Shift the Last Auburn-Light Rail Run One Hour Later

While a common passenger request is for later weekday evening service on the Auburn-Light Rail Route, adding service to extend the hours would not be productive or attain performance standards. Instead, one of the two driver shifts should be shortened by two hours and the other extended by two hours, in order to provide 8 PM westbound and 9 PM eastbound departures instead of the current last runs westbound at 7 PM and eastbound at 8 PM. This would improve the route's ability to serve evening work shifts and school classes. Overall, a net increase of 1,000 passengers per year is expected. However, a survey of existing passengers should first be conducted to generate detailed information on the need for this modification. As this strategy does not change the vehicle-hours or vehicle-miles of service, operating costs would be unchanged. However, additional dispatcher hours to cover the extended span of service would increase costs by an estimated \$6,200 per year.

This would result in the last eastbound service time at the Galleria at 9:30 PM, under the current schedule. The final Roseville Transit service times at this location on the key Routes A and B depart at 9:25 PM. Given the relatively low traffic levels on I-80 at this hour, it would be possible for the new eastbound Auburn-Light Rail run to make this last connection time.

Provide Demonstration Mid-Day Colfax/Alta Service One Day a Week

A mid-day run of the Colfax/Alta Route should be initiated on one day per week. Ridership patterns in other rural transit services indicates that this "shopper shuttle" service would significantly improve the usefulness of the transit program for residents of the rural areas, as it would allow shorter shopping, errand or medical trips to Auburn rather than the roughly eight hours that are required under the current schedule. This is particularly important for seniors and others that find an eight hour excursion to be difficult. An 11 AM eastbound departure/12 Noon westbound departure will provide roughly two hours for passengers to accomplish their trip purpose in Auburn. A specific schedule and day of the week should be developed based upon a survey of existing passengers as well as social service programs. On weeks when a holiday falls on the scheduled day of service, the additional run should instead be operated on the prior or subsequent day.

This run should be implemented on a demonstration basis, for a minimum of a six month period. Targeted marketing efforts (including social marketing) should be made to increase awareness of this new opportunity. The ridership generated by the additional run (including the one-way trips made by passengers on this run when traveling in the opposite direction on the existing runs) should be monitored. Ultimately, a minimum average of 14 passenger-trips per day are needed to achieve the 5 percent minimum farebox return ratio for rural services. Given the typical time that is required for a new or expanded service to reach the full potential,

a reasonable standard is to average at least 10 additional passenger-trips per day after six months of operation.

Eliminate the Last Weekday Taylor Road Shuttle Run

The Taylor Road Shuttle should be reduced to end at 6:35 PM, eliminating the existing 6:35 PM westbound run, 7:20 PM Campus Shuttle Loop and 7:45 PM eastbound run. These runs carry only an average of 2 passenger-trips per day (a 33 percent decline over the last 6 years). This will save \$16,400 in annual operating subsidy that can more productively be used elsewhere.

Provide Demonstration Lifeline Service to Rural Areas One Day a Week

Experimental “lifeline” services should be implemented serving Foresthill and Sheridan, consisting of a morning round-trip and an afternoon round-trip one day per week to each community. This will provide the roughly 1,500 residents of the Foresthill area a weekly opportunity to access urban services in Auburn, and provide the 1,200 Sheridan residents access to Lincoln and onward to other urban centers. Within the Foresthill area, deviations would be provided to individual residences. While this will increase the time needed to operate the service (and the in-vehicle travel times for residents in the eastern portion of the Foresthill area), it is necessary given the dispersed development pattern in the area. Ridership on existing services in similar rural areas indicates that this service would generate approximately 900 passenger-trips per year in Foresthill and 400 passenger-trips per year in Sheridan.

The specific day that is served should be identified through a survey of social service agencies and area residents. It may also be appropriate to implement service to Foresthill first, followed by Sheridan. A reasonable standard would be to average at least four passenger round-trips per day to Foresthill and three round-trips per day to Sheridan, after a six-month start-up period. This is the ridership level needed to achieve the 5 percent minimum farebox return ratio standard for rural service. If this ridership level is not achieved for the two month period after the six month startup period, service could be eliminated or a minimum number of reservations could be required, such as at least three reservations two days prior to the scheduled day of service.

Dial-A-Ride Services

Convert the Granite Bay Dial-A-Ride to a Transportation Network Company Subsidy Program with City of Roseville Paratransit Service

The growth in Transportation Network Companies (TNCs) such as Lyft or Uber provides a new opportunity to serve the mobility needs of the Granite Bay area in a much more cost-effective manner than the current Granite Bay Dial-A-Ride. Impacted by the distance from the PCT operations facility in Auburn and the low ridership demand, this current service incurs an annual cost on the order of \$67,000 while serving only 261 passenger-trips per year. This

existing service plan is also of limited use to Granite Bay residents, as it is available only two hours in the morning and two hours in the afternoon.

The majority of existing passengers who do not require a wheelchair-accessible vehicle should instead be provided with a publicly-funded discount on TNC service. Once in the program, residents would be provided with a discount code, which is entered as the individual books the trip. The passenger only pays the discounted fare, while the TNC service tracks and bills the transit entity for the discount values. For those passengers who do need paratransit service under the definitions of the Americans with Disabilities Act, Placer County should contract with the City of Roseville to expand Dial-A-Ride service into the Granite Bay area. These services could both be made available over a longer span of the day (within the City's existing DAR span of service), thereby increasing the mobility provided to Granite Bay residents.

There are many decisions that would need to be made prior to initiation of a TNC subsidy service, including the following:

- The service area of both trip origins in the Granite Bay area as well as for destinations in Roseville.
- The appropriate discount level.
- Hours and days in which the discount would be available.
- The need for pre-qualification for the discount.
- Contractual arrangements between Placer County and the City of Roseville
- Contractual and monitoring arrangements between Placer County and the TNC companies.

One additional potential would be to combine this TNC service with a TNC subsidy program for east Roseville, as discussed separately in the Roseville SRTP Plan.

Expand the Highway 49 Dial-A-Ride Area to Serve Bowman

The existing Highway 49 Dial-A-Ride area should be expanded to include service to the Bowman area (east of Auburn and the existing DAR service area, south of Bell Road, and northwest of the American Canyon rim). This would be a benefit to Bowman area residents, as well as to residents in the existing DAR service area (in both Auburn and unincorporated Placer County) unable to complete trips with the existing services in the area. This expansion would increase total ridership by an estimated 1,800 passenger-trips per year (a 20 percent increase). A review of driver logs indicate that there is adequate existing unused driver/vehicle capacity to provide these trips without the need for additional vehicle-hours of service. Additional fares are forecast to more than offset the increase in costs associated with increase miles of operation.

Expand DAR to Serve Industrial Boulevard Corridor and Combine Rocklin/Loomis DAR with Lincoln DAR

The development and growth in services in the Sunset area along Industrial Avenue in unincorporated Placer County is increasing the need for Dial-A-Ride service to the west of Rocklin. At the same time, development in Rocklin and in Lincoln close to the Rocklin/Lincoln Border along Wildcat Boulevard is increasing the need for trips between the existing two Dial-A-Ride service areas. To address both issues and provide a more seamless service to residents of the region, the two Dial-A-Ride areas should be merged, and expanded to the west to include all areas east of a line $\frac{3}{4}$ miles west of Industrial Boulevard.

A focused feasibility study should first be conducted that tracks ridership and unserved ridership requests between the jurisdictions over a long-term basis.). Using this data, the operational requirements will need to be refined and an agreement will need to be developed between the County, Loomis, Rocklin and Lincoln to address funding allocation responsibilities and monitoring for the combined service.

It is expected that additional vehicle-hours of service will be needed to serve the additional passenger-trips, increasing annual operating subsidy requirements by approximately \$23,500 per year. As the service increase is a result of the expansion in service area in unincorporated Placer County, it is appropriate that Placer County be responsible for the additional costs to serve this area. This recommendation is consistent with the findings of the *South Placer Regional Dial-A-Ride Study* conducted in 2007.

Placer Commuter Express

Eliminate PCE Service East of Auburn

PCE service should be eliminated to Clipper Gap and Colfax, with all existing runs terminating in Auburn. While the overall PCE service is successful, the service east of Auburn generates very low ridership – on average of only 9 one-way passenger trips per day on the six runs operated – and is expensive to operate (\$156,300 per year). This is not a productive use of limited public funds, nor does it help to address air quality goals. As the large majority of the passengers using these eliminated stops drive to their boarding location, they will largely be able to extend their drive to Auburn Station to access the PCE service.

One option that could be considered would be to replace the eliminated service with one additional AM and one additional PM run of the Colfax/Alta Route, timed to provide direct connections with PCE runs at Auburn Station. However, these additional runs would not meet performance standards at present, generating only 5.4 passengers per vehicle-hour of service and requiring \$19.84 in operating cost per passenger-trip. This would only be warranted if commuter demand (that cannot be addressed through passengers driving to Auburn) were to increase.

Initiate Lincoln-Sacramento PCE Service

PCE service should be initiated between Lincoln and downtown Sacramento (via the Taylor Road Park-and-Ride), consisting of two AM southwest bound runs and two PM northeast bound runs. US Census data indicates that there are 534 Lincoln residents commuting to downtown Sacramento (roughly twice as many as live in Auburn). These new runs should serve the (largely empty) park-and-ride on Industrial Avenue just south of the Lincoln Bypass (though other potential parking areas may be identified through more detailed planning). The new runs will also provide more capacity between the Taylor Road/I-80 Park-and-Ride and downtown Sacramento, addressing the capacity problems on the existing service. They would also provide the opportunity for one of the existing runs to skip the Taylor Road stop, thereby providing express service between downtown Sacramento and downtown Rocklin. In addition, additional runs could be scheduled to serve new times in downtown Sacramento (in particular, earlier AM and PM service times).

This new service would help address one of the key mobility issues in western Placer County, namely the traffic congestion along SR 65 between I-80 and Lincoln. It would also help address future traffic associated the planned development in the Lincoln, northern Rocklin and Sunset areas.

This service expansion will increase operating costs by an estimated \$199,000 per year, though much of these funds can come from the savings associated with the elimination of service east of Auburn. Farebox revenues will also be substantial (estimated to be \$154,100 per year), particularly once commuters (from all of western Placer County) are aware of the additional capacity. Placer County and the local jurisdictions will need to coordinate on a cost-sharing agreement for this new service, based on monitoring of costs and ridership patterns. A minimum of two additional buses would be needed to provide this service. However, this would result in only one spare PCE bus for the six in operation. A third new vehicle is recommended to provide an adequate spare ratio.

CAPITAL PLAN

Fleet Improvements

The service plan will reduce the peak number of PCT vehicles in operation by one through the replacement of Granite Bay DAR service by TNC and Roseville DAR service. This vehicle can then be used to provide lifeline rural service, resulting in no change in the peak fleet requirements between the local fixed route and DAR programs.

Three full-sized commuter buses will be needed to operate and provide a spare vehicle for the Lincoln PCE service. While in the short term these could potentially be leased, preferably Federal or state funding should be used to purchase these vehicle in the long term.

In addition, the following vehicles in the existing fleet will require replacement over the SRTP period:

- One fixed route 35-passenger bus currently warranting replacement
- Three Dial-A-Ride vehicles in 2020
- Five commuter buses in 2022
- Five Dial-A-Ride vehicles in 2025

Funding these vehicle purchases will require careful management of Federal, state and regional grant sources, as well as local capital reserves. In particular, the five commuter buses will potentially require up to approximately \$4 Million in 2020, depending on propulsion technology and amenities.

Regional Battery Electric Bus Readiness Study

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 Placer County 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.

Under current proposals, BEB technology will be required for large bus purchases in the Placer County transit program¹⁵, though at present the smaller vehicle replacements in 2025 would not be included. 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, Galleria and Watt/I-80) could serve multiple transit systems, it would be most effective to address these issues through a “Regional BEB Readiness Plan”. Placer County should be an active part of this planning process. In particular, it would be useful to have a clear plan for BEB implementation by 2020, in time to inform the purchase of the five commuter replacement buses in 2022.

¹⁵ As both PCT and the TART services are considered as a single program, the total fleet size puts Placer County in the “medium” category.

Passenger Facility Improvements

Providing attractive and comfortable bus stops is important in attracting and maintaining ridership. It is particularly important for sensitive populations, such as seniors or persons with disabilities to be provided with shelter from the weather and seating. While the majority of the busier stops on the PCT network are provided with shelters and benches, the Wilson Park stop (serving the 12 Bridges School in Lincoln) is a busier stop that warrants a shelter based on passenger activity. A continuing program of providing additional shelters and stop improvements is recommended. A reasonable annual budget for stop improvements is \$50,000 per year.

The service improvements called for in this plan will require the provision of new stops along the following roadways:

- The Highway 49 route realignment will require new stops along B Avenue between 1st Street and Richardson Drive and along Willow Creek Drive between 1st Street and SR 49 in the Dewitt Center area, as well as along the north side of Dry Creek Road between Richardson Drive and SR 49.
- The Lincoln Circulator realignment will require new stops along 1st Street and 3rd Street between O Street and Fuller Lane, along Fuller Lane between 1st and 3rd, and in the vicinity of o Street/6th Street.

Note that the Highway 49 route revision will not impact the peak number of buses at the Auburn Station at any one time, as the two hourly routes will not be at this location simultaneously.

Maintenance Facility Improvements

The PCT transit maintenance facility at the Dewitt Center is already operating close to capacity with regards to bus storage. Accommodating the three additional commuter buses may require reconfiguration of the overall site and/or additional land in the Dewitt Center. This warrants a specific study. With regards to mechanic bays, this service plan will not significantly change the total annual vehicle-miles operated by PCT (the increase in DAR vehicle-miles will be offset by reductions in the PCE and fixed route vehicle-miles). This plan therefore does not impact the need for maintenance bays. Changes to the maintenance and storage facilities may also be triggered by BEB vehicles, which will need to be addressed in the BEB Readiness Study discussed above. Improvements of the transit facility will also need to be coordinated with the overall Placer County Government Center Master Plan process.

FINANCIAL PLAN

Overall Financial Impact

As shown in Table 65, the overall impact of this plan will be to increase operating costs by \$49,900 per year (or 0.9 percent). Ridership will increase by 47,180 annual boardings (or 13.1 percent) per year. This ridership increase (particularly on PCE) will increase farebox revenues by \$160,800 (28.1 percent) per year. As a result, the overall impact of the plan on the need for operating subsidy funding is a reduction of \$110,900 (or 2.6 percent).

It is worthwhile to review these financial impacts for the three key elements of the PCT program:

- The **local fixed routes** operating costs will be increased overall by \$27,100 per year (0.7 percent). A 5.0 percent (13,000 passengers per year) ridership increase will generate a 7.1 percent increase in farebox revenues (\$13,300 per year), resulting in a \$13,800 overall increase in operating subsidy requirements.
- **Dial-A-Ride** services (and replacement TNC service) will overall have a net reduction in operating cost of \$19,900 per year (1.8 percent). Ridership is forecast to increase by 4,580 per year (16.9 percent). Considering the additional \$3,600 in farebox revenues, overall operating subsidy needs will drop by \$23,500 per year (2.2 percent).
- The **Placer County Express** program will have a total increase in operating costs of \$42,700 per year, or 4.9 percent. Ridership is forecast to grow by 29,600 (41.9 percent), yielding a \$143,900 increase in farebox revenues. On balance, operating subsidy requirements will be reduced by \$101,200.

Given these figures, operating funding can be provided through existing funding sources, notably Local Transportation Funds and State Transit Assistance funding. However, the conversion of the Granite Bay DAR to a TNC subsidy program could potentially garner funding through the Federal Transit Administration (FTA) competitive 5312 Mobility on Demand Sandbox Demonstration program.

Capital funding requirements over the coming seven years will be substantial (on the order of \$7 to \$9 Million, depending on vehicle specifications and the extent of facility improvements). Potential funding sources include:

- FTA Bus and Bus Facilities Infrastructure Investment Program
- FTA 5309 Capital Investment Grants
- FTA Congestion Mitigation and Air Quality Program
- FTA 5339(a) Grants for Buses and Bus Facilities Program
- FTA 5339 (c) Low or No Emission Vehicle Program

- California Proposition 1B Transit Capital Program
- Sacramento Emergency Clean Air & Transportation Grant Program

Potential Future Changes in Local Fares to Provide a Consistent Regional Fare

A passenger fare increase could be considered in the future, but is not recommended at present. Specifically, a fare increase is not currently necessary to achieve minimum farebox ratio. In addition, it would also yield reduce subsidy funding requirements by only roughly \$1.75 for every passenger not served, and therefore would be inconsistent with PCT’s adopted standards.

If necessary, the fares increase would be as follows:

	<u>Current</u>	<u>Future</u>
One-Way – General Public	\$ 1.25	\$ 1.50
One-Way – Senior/Youth/Disabled	\$ 0.60	\$ 0.75
24 Hour Pass – General Public	\$ 2.50	\$ 3.00
24 Hour Pass – Senior/Youth/Disabled	\$ 1.25	\$ 1.50
10 Ride Pass – General Public	\$10.00	\$12.00
10 Ride Pass – Senior/Youth/Disabled	\$ 5.00	\$ 6.00
14 Day Pass – General Public	\$21.50	\$26.00
14 Day Pass – Senior/Youth/Disabled	\$10.75	\$13.00
30 Day Pass – General Public	\$24.00	\$36.00
30 Day Pass – Senior/Youth/Disabled	\$37.50	\$45.00
Summer Youth Pass	\$18.75	\$22.50

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 Auburn Transit increases fares). Another option that would provide a consistent fare would be for Roseville Transit to reduce fares to a base of \$1.25.

It should be noted that the current \$1.25 base local fare puts PCT below any of the other transit services in the region other than the current \$1.00 Auburn Transit fare, 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
- Sacramento RT -- \$2.75

Participate in a Regional Day Pass Program

Surveys conducted as part of this SRTP indicate that 16 percent of PCT 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.

Investigate a Sierra College Study Pass Program

Pass programs that provide “free” transit boardings for college students in exchange for a per-pupil fee are increasingly common across California and the nation. The Sierra College Rocklin campus is well-served by public transit, and faces parking issues as student population grows. Placer County and PCTPA, potentially along with the City of Roseville, should investigate the potential for a student pass program. An initial meeting with campus administration would be followed up by a survey of student interest and trip patterns. The transit operators would then need to negotiate with Sierra College to identify an annual subsidy which is reasonable and offsets the expected loss of passenger revenue. If pursued, a college pass program should become part of the Connect Card options.

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). PCT should continue its efforts to promote the use of the Connect Card. This could ultimately allow the reduction in the number of multiday/multiride pass options, simplifying the management and accounting of the PCT fare media.

INSTITUTIONAL/MANAGEMENT PLAN

This plan includes no recommended changes to the institutional structure of Placer County Transit. Management through the County allows transit to take advantage of the larger Public Works Department allows the transit management staff to be relatively “lean” (compared to a

separate transit organization) and is particularly useful in the planning and implementation of facility improvements.

Updated Standards

Table 34, above, presents recommended revisions to the PCT performance standards that can encourage improvements in efficiency and effectiveness and that better reflect the realities of the transit “markets” served by the organization. Adoption of these updated standards is recommended.

Marketing Strategies

The growth of social media has increased the ability to provide targeted marketing campaigns to promote specific transit services. For instance, popular social media platforms allow a transit agency to provide ads only in specific geographic neighborhoods, or to persons of particularly demographics that may be more likely to make use of a new service. In light of the far-flung nature and variety of PCT services, the ability to target limited advertising dollars to high-potential new riders is a key benefit.

- The current PCT route maps are of limited usefulness, in that they do not show all of the streets served by all routes, do not show major stops, and show only a limited number of nearby activity centers. The Dial-A-Ride service areas shown in black on the overall transit system map also do not provide for an attractive graphic, and the color differentiation is difficult to make out.
- In addition, the current marketing tag line “We’re Going Your Way!” is not particularly compelling.
- The availability of Nextbus information should be noted on the PCT website, as well as published marketing materials.
- The commuter service could benefit from a joint marketing program between PCE and the Roseville commuter service. Data presented in this document reflects that many residents of all portions of western Placer County choose between the two commuter transit programs. The fact that an individual passenger could use the “other” service when circumstances require (such as a work assignment running late) is a potential strength of the two services that is not currently capitalized.

Improvements to the transit map and schedule are also 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. An overall marketing plan (including new camera-ready materials and website improvements) is warranted.

Targeted Marketing Campaign in the Sierra College Area

In recent years, the area around the I-80/Sierra College interchange has been the location of extensive commercial growth, including the Roseville Commons and Roseville Crossing commercial centers and (more recently) substantial residential development. Additional growth is also on the way, including commercial development in the remaining two quadrants of the interchange. Placer County Transit serves this area both with the Lincoln-Sierra College Route as well as the Taylor Road Shuttle, but to date ridership has been lower than expected. A focused marketing campaign should be targeted at this area, including flyers, presentation of materials to homeowner and business associations, and geographically-targeted ads through Facebook and other social media.

At present, the stops in this area (excluding Sierra College) generate an average of 14 passenger boardings per day. A reasonable goal would be to roughly double this figure to 30 boardings per day.

Planning for Transit Service in Developing Areas

There are two large areas of unincorporated Placer County that will merit detailed transit master planning processes during the course of this SRTP plan period: the Sunset Area (including Placer Ranch), and the West Placer Area (including Placer Vineyards and Riolo Vineyards). While general land uses and policies have been defined for these areas (including the need for transit services and the provision of funding strategies for transit), specific routes, stops and schedules will depend on more detailed planning to be developed over the next several years. Once this detail is available, transit master planning for these areas should be conducted.

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 in North Auburn and Lincoln using the transit vehicles in a variety of traffic conditions to establish schedules that can be operated in a reliable fashion.
- Conduct focused passenger surveys to provide input for refining the service modifications:
 - Lincoln Circulator – For Circulator Route modifications
 - Highway 49 – For route modifications
 - Colfax/Alta – For mid-day service
 - PCE – For Lincoln service and associated changes in run schedules

- Auburn/Light Rail – For potential evening service modification
- Present route and service modifications to individual jurisdictions for discussion and approval.
- Review DAR driver logs to refine any change in the vehicle-hours of service and driver schedules to implement the DAR service expansions.
- Eliminate PCE service east of Auburn.
- Establish bus stop locations along the roadways newly served under the revised route plan.
- Negotiate with the City of Roseville regarding the Route S extension and paratransit service to Granite Bay, and implement the extension.
- Coordinate with TNC companies (and potentially local cab companies) regarding subsidy program in Granite Bay.
- Develop new/improved marketing materials.
- Conduct focused marketing efforts (including social media) for near-term service improvements and for Sierra College area ridership promotion.
- Implement the Lincoln Circulator route modifications.
- Combine the Rocklin/Loomis DAR and the Lincoln DAR, expand the service area, and begin monitoring the results.
- Implement Colfax/Alta mid-day service, and monitor the results.
- Eliminate the last weekday Taylor Road Shuttle run.
- Conduct survey of social service program participants and managers regarding demonstration Foresthill lifeline service.
- Begin grant and procurement process for three additional commuter buses.
- Participate in a regional Battery Electric Bus Readiness Study.
- Investigate the potential for a bus shelter at Wilson Park.
- Conduct evaluation of Maintenance Facility improvements.

- Investigate the potential interest in a Sierra College study pass program.
- Continue ongoing bus stop improvement program.

Mid-Term

- Implement the revised Highway 49 hourly routes, with modified evening schedule.
- Expand the Highway 49 DAR area to serve Bowman.
- Initiate Lincoln PCE service.
- Start procurement for three DAR vehicles in 2020 and five commuter buses in 2022.
- Implement and monitor Foresthill lifeline service.
- Continue ongoing bus stop improvement program.

Long-Term

- Procure five new DAR vehicles in 2025.
- Continue ongoing bus stop improvement program.
- Review the need for transit fare increases.
- Conduct transit master plans for the Sunset and West Placer areas.