



CALAVERAS
connect

SHORT-RANGE TRANSIT PLAN

2020-2025



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In conjunction with:



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Chapter 1: Introduction

PURPOSE

The purpose of the Short-Range Transit Plan (SRTP) is to guide the development of public transportation services for Calaveras residents and visitors over the next five years, from FY20/21 to FY24/25. More specifically, the SRTP:

- Provides opportunities for public input regarding transportation needs and how Calaveras Connect might effectively address them
- Conducts market research to determine who is riding Calaveras Connect, how they are using the system, how satisfied they are with the services provided, and priorities for improvements
- Evaluates the recent performance of existing services
- Provides priorities for service plan and fare recommendations over the next five years
- Establishes a detailed operating and capital financial plan
- Update on zero emission bus requirements

COORDINATED PLAN DEVELOPED IN PARALLEL

A Coordinated Public Transit-Human Services Transportation Plan (Coordinated Plan) was developed in parallel with the SRTP. The Coordinated Plan is required by the Federal Transit Administration (FTA) and specifies that projects selected for funding in several grant programs, including FTA Section 5310, be "*included in a locally developed, coordinated public transit-human services transportation plan.*" These plans must be "*developed and approved through a process that included participation by seniors, individuals with disabilities, representatives of public, private and non-profit transportation and human service provider and other members of the public.*" The Coordinated Plan has been developed as a separate volume. A few of the chapters overlap and are repeated in both the SRTP and Coordinated Plan.

COVID-19 UPDATE

Approximately 80% of the work on the first four chapters of the SRTP were completed prior to March 4, 2020 when the State of California issued a State of Emergency from the threat of COVID-19. On March 18th, CTA released a notice of suspension of the Saturday Hopper service until April 11th. This was in response to the California Department of Public Health notices to postpone or cancel gatherings as well as local advisory regarding closure of certain businesses such as restaurants, bars, etc. Since the Saturday Hopper is supported

primarily by visitors to these types of venues and businesses, it was determined to be in the best interest of the public to suspend the service.

Due to Paratransit Services' (the operations and maintenance contractor for Calaveras Connect) efforts to increase frequency and level of cleaning and sanitizing of buses and facilities, as well as to provide personal protective equipment for employees and riders, Calaveras Connect was able to maintain regular Monday through Friday service through the end of March. When demand for service and trips plummeted after the Stay at Home order and closure of many businesses, schools, and other activities, it was decided to initiate a revised service, with the intent of maintaining lifeline services for those who rely on public transportation.

On March 27, 2020, CTA released a notice that effective March 30th and until further notice, Calaveras Connect would suspend regular service and transition to on-demand service only. Service was further restricted to essential trips, as determined by local and state officials. In addition, Calaveras Connect instituted a no fare policy. The no fare policy was to not only provide some financial relief for those who needed it, but also as another measure to reduce/eliminate the need for drivers to come in contact with riders. Services have slowly returned. The current status of services is reviewed in more detail in Chapter 2.

There is a great deal of uncertainty on both the short-term and long-term impacts of COVID-19 to Calaveras Connect passengers, drivers and management. It is very likely that Calaveras Connect passenger demand and revenue sources will be significantly impacted in both FY19-20 and FY20-21. However, both Federal and California governments have already both responded to mitigate the impacts. In Chapter 4, Service Alternatives, a section has been added on a proposal for Calaveras Connect service responses and fare policy based several milestones are reached for easing shelter in place restrictions.

S RTP CHAPTER DESCRIPTIONS

The following is a description of the first four chapters of the SRTP:

Chapter 2: Existing Services and Performance describes existing services, presents recent service level changes, provides basic performance of key systemwide performance between November 1st, 2018 and October 31st, 2019, as well more limited performance indicators by route.

Chapter 3: Transit Needs Assessment describes public outreach efforts and methodology, the existing and projected demographics of Calaveras County, results of the onboard passenger survey, results of the West Point intercept survey, and. results of the Copperopolis

outreach efforts. The last section provides a synthesis of key themes from the extensive outreach and demographic analysis.

Chapter 4: Service and Fare Alternatives Analysis provides an analysis of potential service improvements that can be made within available financial resources, service improvements that would require additional financial resources, an 18-24 month response to COVID-19 based on milestones in easing the shelter in place restrictions, and associated fare policy responses. The fare recommendations are limited to the response to easing the restrictions to COVID-19.

Chapter 5 Recommended Service Plan provides an aspirational plan for the development of Calaveras Connect services over the next five years. It includes a mix of fixed route and general public dial-a-ride service operated five days a week within Calaveras County and two day a week Direct Connect service to destinations outside Calaveras County.

Chapter 6 Operating and Capital Financial Plan provides the baseline operating costs based on the current contract with Paratransit Services, and the operating revenues needed to fund the operating costs. The capital plan includes a new fleet mix of smaller vehicles with both internal combustion engine and electric vehicles. The capital revenues needed to procure the capital procurements are summarized.

Chapter 2: Existing Services & Performance

This chapter is organized in the following manner:

- Major initiatives since the adoption of the 2016 Short Range Transit Plan: 1) formation of the Calaveras Transit Agency and 2) Rebranding of Calaveras Connect 3) Token Transit and 4) Columbia College Free Fare Program
- Services provided prior to COVID-19 and system performance indicators
- Systemwide route level performance prior to COVID-19
- Services provided in November 2020
- Description of human service transportation and private transportation providers

MAJOR INITIATIVES SINCE 2016 SHORT RANGE TRANSIT PLAN

Forming of a New Organization

Calaveras Connect, the new name for Calaveras County's public transportation service, is now operated under the responsibility of a new organizational sponsor, the Calaveras Transit Agency (CTA), as a result of recommendations made through the previous SHORT-RANGE TRANSIT PLAN process. The CTA was created by a Joint Powers Agreement between Calaveras County and the City of Angels Camp.

2016 SRTP Recommendation

A detailed organizational assessment was conducted for the JANUARY 2016 CALAVERAS COUNTY SHORT RANGE TRANSIT PLAN. At the time of the analysis, Calaveras County was administering Calaveras Transit and providing maintenance services. Calaveras County contracted operation of Calaveras Transit.

The primary conclusion of the analysis was:

"The current organizational structure and lack of ongoing management consideration on the cost structure of public transportation with Calaveras County as the lead agency provides a cost trend that is detrimental to the mobility needs of Calaveras Transit residents. The cost per vehicle service hour has skyrocketed from \$69.85 in FY 2008/09 to \$113.26 in FY 2013/14. Despite a number of recommended strategies in September 2014 that should have reduced the cost per vehicle service hour, the budgeted cost per vehicle service hour is \$127 in FY 2015/16. This is nine months

after the September 2014 recommended strategies to address the cost per vehicle hour escalation.

The primary conclusion was that keeping public transportation with Calaveras County, as a lead agency, will continue to increase costs at a great rate than estimated inflation. There is a need to change the organizational structure to make Calaveras Transit more cost-effective and responsive to mobility market needs in Calaveras County.”

The SRTP utilized other counties of Lassen County, Modoc County, and Tuolumne as peers that had overall lower operating costs per vehicle service hour with contract operations. A primary SRTP recommendation was that other organizational options receive a more detailed evaluation on the prospect for lowering the operating costs per vehicle service hour to below the target of \$100 per vehicle service hour.

Transition Plan and Joint Powers Agreement

Two documents guided the transition processes and resulting Calaveras Connect organizational structure. The first is the CALAVERAS TRANSIT AGENCY JOINT POWERS AUTHORITY TRANSITION PLAN - UPDATE MARCH 29, 2018 which was the guiding document to shape both the resultant Joint Powers agreement and the new organization. It was built from a set of Guiding Principles developed by the Calaveras County’s Transit Policy Group during 2017. Those principles established the goals and timeframes for formation of a new public transportation organization.

The Transition Plan itself addressed: structure and governance; financial management; organization and staffing; operations contract management; capital project management;

and implementation schedule. At the time of start-up of the new agency, the key activities to be undertaken included:

- Assigning the Operations Contract from the County to the new joint powers agency and assignment of other agreements held by the County;
- Transferring existing assets, funds in the bank from Federal Transit Administration and several state project fund balances;
- Developing the first Transit Operations Budget, for FY 2018/2019;
- Complying with state and federal rules to ensure that the new agency could receive funds, execute funding agreements and submit funding applications;
- Beginning an evaluation of services to identify improvements that can be immediately implemented;
- Evaluating existing processes, procedures and reporting to develop improvements;
- Assisting the County and the Operations Contractor with aspects of the transition, including around maintenance.

The second document critical to the transition process away from County-operated public transportation to a new responsible entity was the JOINT POWERS AGREEMENT. This was executed between the County of Calaveras and the City of Angels Camp and sets forth the formation of a joint powers agency “with full power and authority to own, operate and administer a public transportation system” on behalf of the County and City. It became effective on July 1, 2018. Importantly, its Article III Financial Provisions makes two significant points: 1) That the new joint powers agency board shall establish an annual budget that does not be obligate the agency to expenditures in excess of funds available through the Transportation Development Act (TDA); and 2) That the member agencies, the County of Calaveras and the City of Angels Camp, shall claim available funds from the TDA’s Local Transportation Fund necessary to support the new joint powers agency.

Rebranding Campaign

During 2018/2019, the new Calaveras Transit Agency organization undertook a branding project to create a new look for the new organization. Its specific purposes included to:

- Create a new identity and Brand for Calaveras Transit
- Enhance resident and tourist awareness and perception of services
- Communicate the safety, comfort, and convenience of transit
- Create awareness, relationships, and coordination with events, attractions, and key destinations throughout Calaveras County
- Develop collateral specific for different target markets and services



A several part process to the rebranding campaign resulted in:

1. A new brand and look that sought to focus on the benefits of transit - Calaveras Connect
2. The design of marketing tools and a promotional campaign
3. Production of a riders' guide, bus wraps and bus stop signs, among other tools with the re-branded Calaveras Connect logo and look.

Token Transit for Fare Payment

Paying fares on Calaveras Connect has become more convenient due to the implementation of a smart phone application called Token Transit. By downloading the app, riders can purchase and store passes and tickets on their phone in advance of their ride or even as they are boarding the bus. Token Transit allows riders to pay for their ride with a mobile phone app through a "mobile digital fare outlet," a mechanism that is similar to the physical pass outlets that transit agencies such as Calaveras Connect will continue to provide for riders without smart phones.

This smart phone application provides convenience for riders and is cost-efficient for transit providers. In this mobile digital fare outlet, there are no initial capital, software or ongoing licensing costs. Costs of the mobile digital fare outlet are included in the sales commission on each digital fare transacted. For example, per most agency agreements with Token Transit, Token Transit will receive 10% of each transit pass. The gross cost of the fares remains the total collected fare for calculating fare box recovery.

Columbia College Free Fare Program on Calaveras Connect

Columbia College is an important destination for the two-county area, Calaveras and Tuolumne Counties. Calaveras Connect established during 2019 a free-fare opportunity using Low Carbon Transit Program (LCTOP) funding to off-set the lost fare revenue and with contributions from Columbia College and associated organizations including the Columbia College Foundation and Associated Students of Columbia College. Tuolumne Transit had instituted a similar program during 2018.

Calaveras County-only enrollments during the most recent academic year, 2018/2019, are presented in Table 1. Columbia College students living in Calaveras County numbered 1,252 during the most recent year, both full-time and part-time, about 42% of average total enrollments.

Table 1 shows the home communities of these students with Valley Springs, Angeles Camp and Murphys contributing the largest numbers of students, over 200 each. Copperopolis and Arnold follow with 140 and 101 respectively, while other Calaveras County communities have smaller but still significant numbers of students.

Table 1: Columbia College Enrollments, FY 18/19

95252	223	Valley Springs
95222	216	Angels Camp
95247	206	Murphys
95228	140	Copperopolis
95249	107	San Andreas
95223	101	Arnold
95221	63	Altaville
95246	32	Mountain Ranch
95255	28	West Point
95245	26	Mokelumne Hill
95224	25	Avery
95251	21	Vallecito
95233	20	Hathaway Pines
95225	15	Burson
95257	10	Wilseyville
95248	9	Rail Road Flat
95254	6	Wallace
95232	4	Gencoe
Total	1,252	

As reported by the College, there are seasonal differences in enrollment levels. Fall Columbia College enrollments averaged about 680 full-time students and 2,275 part-time students over the last three years from all areas. Spring enrollments are slightly smaller

averaging 620 full-time students and 2,250 part-time students. Summertime enrollments are about half the level of fall enrollments and dominated by part-time students, averaging 1,175 annually over the last three years and slight over 20 full-time students.

CALAVERAS CONNECT SERVICES: PRE-COVID 19

Calaveras Connect is the provider of public transportation services within Calaveras County and to adjacent transit transfer locations in Amador and Tuolumne Counties. Calaveras Transit became Calaveras Connect during FY18/19, concurrent with the transfer of operating responsibility for the program from the County to the newly formed Calaveras Transit Agency.

Public transit routes serving Calaveras County during the fall of 2019, when this Plan's outreach was undertaken, included some service to neighboring Amador and Tuolumne Counties and generally consisted of five weekday routes, plus a special Saturday route. As depicted in Figure 1, a summary of Calaveras Connect routes follows.

- Red Line** – The Red Line is the core route, traveling the length of the County from Valley Springs near the north western corner to Sonora and Columbia College just beyond the southern county line. On weekdays, the Red Line runs about every 90 minutes on nine vehicle runs in each direction. The eastbound bus travels from San Andreas to Angels Camp, leaving at 5:20 a.m. and terminates in San Andreas at 7:15 p.m. The westbound bus leaves Angeles Camp at 7 a.m. and terminates at 7:40 p.m. in Valley Springs.

Figure 1: Calaveras Connect System Map



- **Blue Line** – The Blue Line provides weekday service east and west along Highway 4 between Arnold and Angels Camp, where it connects with the Red Line. Eastbound service runs from 5:40 a.m. until 7:48 p.m. every three hours. Heading west toward Angels Camp, service runs 6:20 a.m. until 8:20 p.m. every three hours.
- **Purple Line** – The Purple Line runs North and South on weekdays from Sutter Creek to San Andreas where it connects the Red and Green Lines in San Andreas. Service runs from 8:15 a.m. to 6:30 p.m. four times each weekday. The Purple Line also continues southbound to Rail Road Flat on-demand on weekdays twice each weekday beginning at 7:35 a.m., ending at 7:05 p.m.
- **Copper Line** – The Copper Line travels in a north to south loop from Angels Camp to Copperopolis. On weekdays, the Copper Line runs every three hours. The southbound bus travels from Angels Camp to Copperopolis, leaving 7:10 a.m. and arriving in San Andreas at 7:15 p.m. The westbound bus leaves Angeles Camp at 7 a.m. and terminate service in Copperopolis at 7:45 p.m. This line also picks up at selected streets with an advanced reservation.
- **Green Line** – The Green Line provides on-demand service east to west from West Point to Rail Road Flat on Mondays and Wednesdays. Green Line A westbound travels three times each service day leaving West Point at 7:55 a.m. and terminating in San Andreas at 2:25 p.m. Traveling east, Green line A provides two trips on Mondays and Wednesdays departing San Andreas at 12:35 p.m. terminating in West Point at 4:50 p.m.
- **Saturday Hopper** – Saturday Hopper provides Saturday only service from Arnold to Angels Camp. The service runs hourly in each direction. The eastbound bus leaves Angels Camp at 10:00 a.m. terminating in Arnold at 6:10. The westbound bus leaves Arnold at 11:10 a.m. and terminates in Angels Camp at 7:10 p.m. Limited service is provided to San Andreas. Two morning eastbound runs depart San Andreas 9:45 a.m. and 10:45 a.m. and two evening runs arrive in San Andreas at 6:25 p.m. and 7:25 p.m.

Riders who have disabilities and are unable to get to the nearest bus stop may request a deviation pick-up, if they are within $\frac{3}{4}$ mile of the fixed route and accessible by a transit vehicle. This deviation policy was negotiated with the Federal Transit Administration in recognition that small rural public transportation systems do not have the resources to maintain a second service network, an Americans with Disabilities Act (ADA) complementary paratransit program.

PERFORMANCE PRIOR TO COVID-19

This section presents performance indicators for the one-year period from November 1st, 2018 to October 31st, 2019, unless otherwise noted. On November 1st, 2018 Calaveras Connect implemented the Zoom! transit tracking system. Prior to this date the boarding data compiled by Calaveras County was unreliable and so this section only uses data that has been recorded in the ZOOM! system.

Systemwide

Table 2 shows performance indicators for the whole Calaveras Connect system, including the Red Line, Blue Line, Purple Line, Copper Line, Saturday Hopper, Green Line, and special services.

Calaveras Connect had 40,978 passengers, operated 13,587 hours of service, and ran 328,912 service miles during the one-year period. The system received \$124,420 in revenue, which includes fares, advertising, and LCTOP funds that were used for a Saturday Hopper free fare promotional program. Operating costs totaled \$1,147,195.

A key objective of the organization change from Calaveras County to the Calaveras Transit Agency, a joint powers authority, was to reduce the operating cost per vehicle service hour to under \$100 per vehicle service hour. Importantly, the management of Calaveras Connect has exceeded all expectations with an operating cost per vehicle service hour of \$84.43. Calaveras Connect is now a very cost-efficient operation.

There was an average of 3.02 passengers per hour and 0.12 per service mile. The average fare that the customer paid was \$1.91. The farebox recovery ratio, which factors in the applicable revenues described above, was 10.8%. The cost per service hour was \$84.43, \$3.49 per service mile, and \$28.00 per passenger trip. Fare Revenue, for purposes of this calculation, includes all eligible revenues such as fares/pass sales, advertising sales, and LCTOP promotional passes.

Table 2: Systemwide Performance Nov. 2018 - Oct. 2019

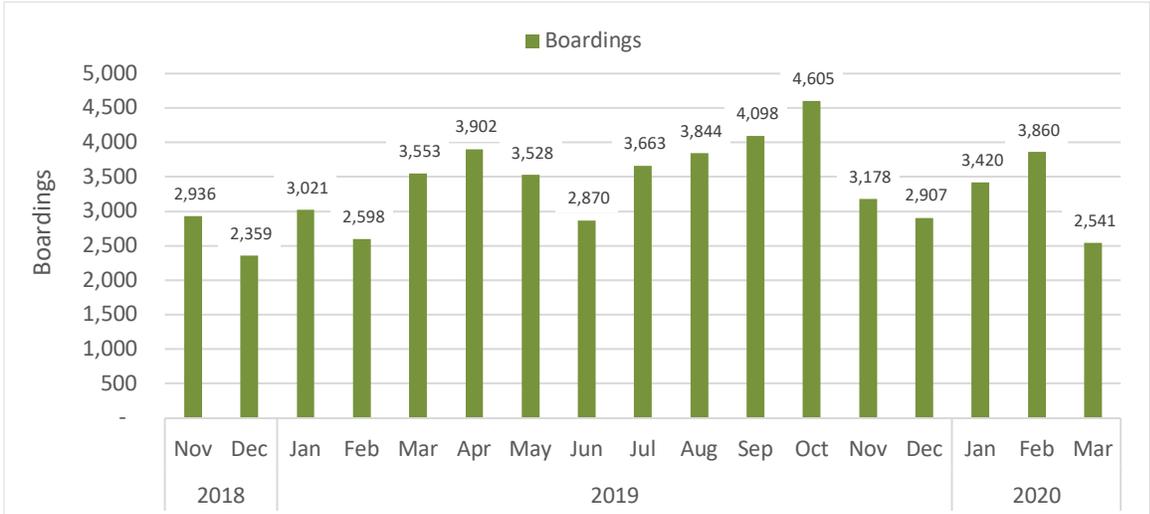
Systemwide	
Ridership	40,978
Service Hours	13,587
Service Miles	328,912
Operating Costs	\$1,147,195
Revenue - All	\$124,420
Fare Revenue	\$78,342
Non-Fare Revenue	\$46,078
Passengers/Service Hour	3.02
Passengers/Service Mile	0.12
Average Fare/Passenger	\$1.91
Farebox Recovery*	10.8%
Cost/Service Hour	\$84.43
Cost/Service Mile	\$3.49
Cost/Passenger Trip	\$28.00
Subsidy/Passenger Trip	\$24.96

*Includes eligible non-fare revenue.

Figure 2 shows the system ridership from November 1st, 2018 to March 31st, 2019. August, September, and October saw high ridership. Ridership in February 2019 was 49% higher than February 2018, but March 2019 ridership dropped significantly due to COVID-19 service cuts.

Calaveras Connect terminated its Saturday Hopper service in mid-March, followed by terminating its regularly scheduled service during the last week of March 2020, as the Governor’s Emergency Order to stay-at-home went into effect. On March 30, a general public demand response program was initiated to support Calaveras Connect riders making essential trips. Ridership dropped to 25 to 30 passengers per day, declining more than 86% from May 2019 to May 2020.

Figure 2: Total Boardings by Month



Route-Level

Table 3 shows the ridership, service hours, and operating costs per line (route) for the one-year period between November 1, 2018 to October 31, 2019. Service miles per route and revenue per route were not available, therefore only passengers per service hour and cost per passenger trip (boarding) are shown for each route. Operating costs per route were determined based on the total operating costs allocated by total vehicle service hours, then allocated based on the vehicle service hours per route. The vehicle service hours do not include vehicle deadhead or operator break times.

Table 3: Route-Level Performance Nov. 2018 - Oct. 2019

	System-wide	Red	Blue	Purple	Copper	Green	Sat. Hopper
Ridership	40,978	22,983	8,476	4,278	989	149	2,611
Service Hours	13,587	5,769	1,808	2,123	1,127	90	603
Operating Costs	\$1,147,195	\$487,081	\$152,651	\$179,246	\$95,153	\$7,599	\$50,912
Passengers per Service Hour	3.02	4.0	4.7	2.0	0.9	1.7	4.3
Cost/ Passenger Trip	\$28.00	\$21.19	\$18.01	\$41.90	\$96.21	\$51.00	\$19.50

The Red Line has the highest ridership (22,983) and accounted for 56% of systemwide boardings, including special event services (Figure 3). The Blue Line had a little over a third of the ridership of the Red Line, with 8,476 boardings. The Purple Line had about half the ridership of the Blue Line with 4,278 boardings. The Saturday Hopper, which is used for some

special event services, had 2,611 boardings. The Green Line, which operates on-demand, had the lowest number of boardings at 149 for the one-year period.

Figure 3: Annual Ridership by Route Nov. 2018 - Oct. 2019

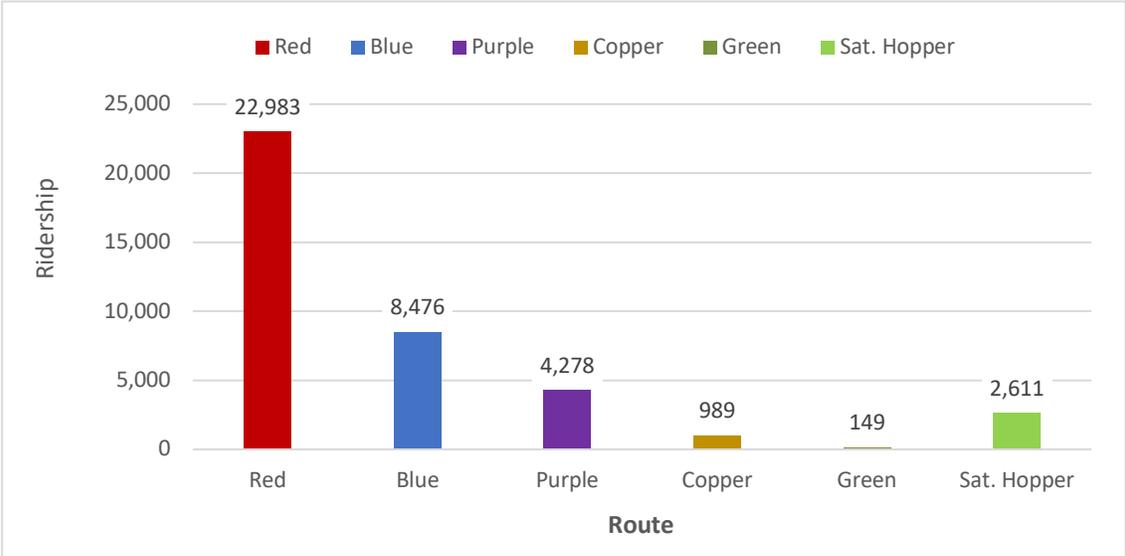
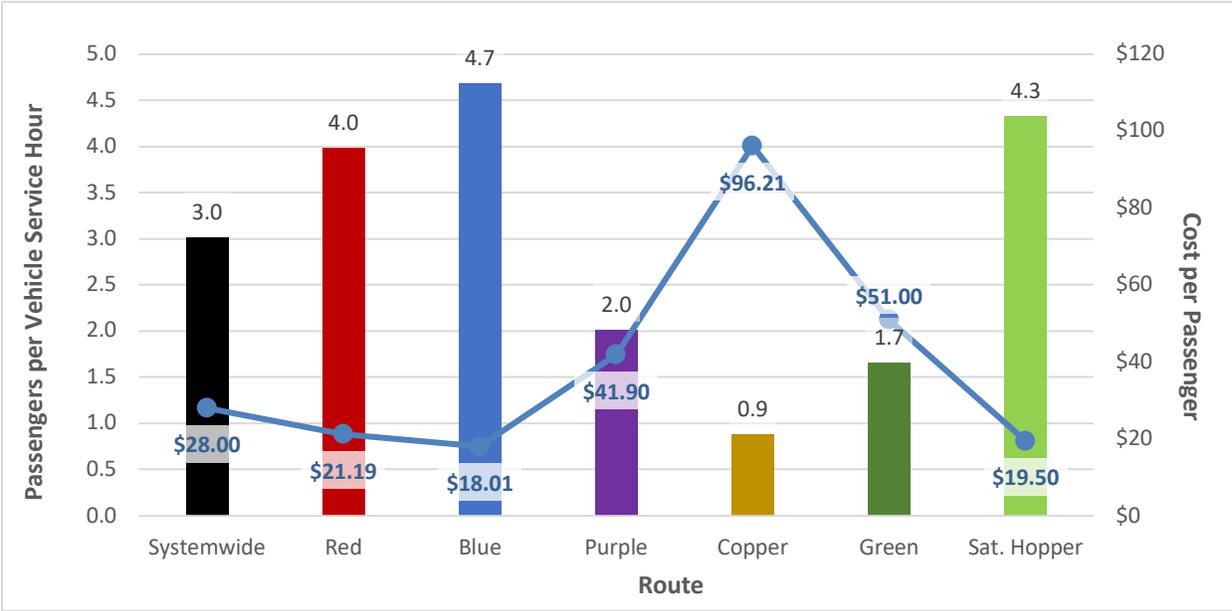


Figure 4 shows the average passengers per vehicle service hour for each line. Systemwide, there were about three passengers per vehicle service hour, which is relatively low for a predominately fixed-route system. The Blue Line has the highest productivity at 4.7 passengers per hour when the vehicle is in service (vehicle service hour), followed by the Saturday Hopper at 4.3, and the Red Line at 4.0. The Copper Line has the lowest productivity at less than one passenger per vehicle service hour.

Figure 4: Boardings per Vehicle Service Hour and Operating Cost per Passenger Nov. 2018 - Oct. 2019



Operating cost per route is based on a uniform operating cost per vehicle service hour, which is then allocated to each route based on the respective number of vehicle service hours. Therefore, operating cost per passenger is tied to operating cost per vehicle service hour and is somewhat inversely correlated to the number of passengers per vehicle service hour when looking at the system as a whole, as shown on the secondary axis in Figure 4. The higher the number of passengers per service hour, the lower the cost per passenger, and vice versa.

SERVICES PROVIDED IN NOVEMBER 2020

Calaveras Connect has implemented an array of services since transitioning to only on-demand services in March 2020 when the shutdown due to COVID-19 occurred. The graphic to the right presents the array of services that are available in November 2020 as approved in a series of votes in the Summer and Fall 2020 by the Calaveras Transit Agency. The services include:



1. Fixed Route (Monday to Friday)

- Red Line between Valley Springs and Angels Camp, every 90 minutes on a fixed schedule with fixed stops.

2. On Demand Dial-A-Ride (Monday to Friday)

Passengers need to make a reservation for a trip for an origin and destination along one of the below corridors by calling Calaveras Connect customer service:

- Blue Line corridor between Angels Camp and Arnold
- Purple Line corridor between San Andreas and Sutter Creek
- Angels Camp and Columbia College

3. Direct Connect Dial-A-Ride (One or Two Days a Week)

Requires an advanced reservation by 3 pm the previous day or up to 7 days in advance.

- Copperopolis and Angels Camp on Tuesdays and Fridays
- West Point/Wilseyville to Jackson on Wednesdays
- West Point/Wilseyville to Mountain Ranch to San Andreas on Thursdays
- Copperopolis and Angels Camp to Sonora on Fridays

HUMAN SERVICE TRANSPORTATION

There are five human transportation services that operate in Calaveras County. The following is an overview of the key aspects of each program. The subsequent section describes the two private transportation services available.

Arc of Amador and Calaveras

Service Description: To enrolled consumers of Arc programs, provides transportation for supported employment, some recreational and non-emergency medical trip purposes.

Area Served: Calaveras County

Service Period: Monday – Friday, Some limited evenings & weekends

Eligibility: Enrolled Arc consumers

Reservations: Through Arc case manager

Vehicle Routes: 7 Vehicle Routes, Accessible

Annual One-Way Trips: Approx. 76,400 trips

Blue Mountain

Service Description: Weekday transport to consumers enrolled in programs at:

- Community Compass in Jackson
- Arc of Amador in Sutter Creek

Area Served: Calaveras County

Service Period: Weekday program hours

Eligibility: Consumers of the Valley Mountain Regional Center with approved Transportation Service Requests (TSRs)

Reservations: Made through Valley Mountain Regional Center

Vehicle Routes: 6 Vehicle Routes

Annual One-Way Trips: Approx. 27,500 trips

Calaveras County Department of Behavioral Health

Service Description: To enrolled consumers of DBH programs, provides transportation for health and wellness, NAMI, and other life-sustaining purposes.

Area Served: Calaveras County

Eligibility: Enrolled clients of DPH

Reservations: Trips arranged through case managers and other Behavioral Health personnel

Vehicle Routes: 21, not all for client transportation

Annual One-Way Trips: 1,500

Common Ground Senior Services

Service Description: Provides rides to those unable to utilize traditional transportation options, such as public transit, and have no other means of transportation for health and wellness appointments.

Area Served: In county: medically-related destinations. Out-of-county: Calaveras and

Tuolumne County destinations; Medical facilities in Sacramento, Stockton, Lodi and Rancho Cordova and other LogistiCare-approved locations.

Service Period: Monday – Friday 8:00am – 5:00pm

Eligibility: 1. Older adults and persons with disabilities who can no longer drive, trying to get to a needed doctor’s appointment, pick up a prescription, or related trips. 2. Veterans and their spouses. 3. LogistiCare approved MediCal riders for approved non-emergency medical trips.

Fare: Free – Donations appreciated

Vehicle Routes: 11 Vehicles

Annual One-Way Trips: 1,559 to Calaveras residents

Volunteer Center of Calaveras

Service Description: Primarily door-through-door, medical-related trips provided through the use of volunteer drivers using private vehicles.

Area Served: Calaveras County; some out-of-county destinations

Service Period: Trips are provided as requested if volunteers are available

Eligibility: Persons of low-income, older adults, persons with disabilities

Reservations: Trips provided upon request and availability

Fare: Mileage reimbursement for drivers, upon request

PRIVATE SECTOR TRANSPORTATION

LogistiCare

Service Description: Non-emergency medical transportation to MediCal enrolled consumers of: Anthem Blue Cross and/or California Health and Wellness

Area Served: Amador County. Out-of-county for approved trips to destinations in Sacramento, Lodi, Modesto and other locations

Service Period: Weekdays

Eligibility: MediCal-approved consumers for LogistiCare-approved trips

Fare: Free

Murphys Taxi Service

Service Description: On-demand taxi service; tours; charters and wine transportation

Area Served: Calaveras County

Service Period: Sunday 10am-6pm, Monday-Thursday 8am-8pm, Friday & Saturday 8am-12am.

Fare: Zone and passenger based. Local Murphys trips start at \$10.00

Chapter 3: Transit Needs Assessment

This section describes the transit needs of Calaveras Connect passengers and the larger Calaveras County community, even if they are not current riders.

A demographic analysis of the County was conducted in order to learn about the County’s population and key sub-populations that have a propensity to rely on transit, including older adults, people with disability, and people living in poverty. In addition, several outreach methods were employed in order to gather input from key stakeholders, current passengers, and members of the community, including:

- Demographic Analysis
- Stakeholder Interviews
- E-survey
- Onboard Passenger Survey
- West Point Outreach and Intercept Survey
- Copperopolis Outreach

The results of the demographic analysis and each of these outreach methods are presented in this Chapter. The final section contains a summary of key themes that arose from the aforementioned efforts, plus the recent performance trends described in Chapter 3. These key themes supported the formulation of the service delivery alternatives described in Chapter 4.

It should be noted that these analysis and outreach activities were conducted prior to COVID-19. An update on COVID-19 actions are included in Chapters 1 and 2.

DEMOGRAPHIC ANALYSIS

County Population Overview

Table 4 presents summary demographic information about this Plan’s targeted populations. Two time periods of 2012 5-Year Estimate and 2017 5-Year Estimate are presented, using the U.S. Census reporting of the American Community Survey. For reference purposes, selected statewide California information is presented.

Table 4: Calaveras County Target Population Groups and Characteristics

Target Groups	American Community Survey 2008-2012, 5-Year Estimates		American Community Survey 2013-2017, 5-Year Estimates		Percent Change	American Community Survey 2013-2017 5-Year Estimates	
	2012 5-Year People Estimate	% of Total County	2017 5-Year People Estimate	% of Total County		% Change 2010-2017	California Statewide Comparison
Total Population Estimate [1]	45,507	100%	45,057	100%	-1.0%	38,982,847	100%
Median Age [2]	49.5		51.6			36.1	
CHILDREN AND YOUTH ages 0 -17 [1]	8,765	19.3%	7,945	17.6%	-9.4%	9,114,720	23.4%
Children with a Disability, Ages 5 to 17 [4]	689	1.5%	382	4.8%		279,466	0.7%
% of Children age 17 and under	7.86%		4.8%			3.1%	
Children living in poverty age 17 and under	840	1.8%	1,455	3.2%		1,865,225	4.8%
% Children living in poverty age 17 and under	9.58%		18.3%				
ADULTS 18-64 [1]	26,926	59.2%	25,527	56.7%	-5.2%	24,719,679	63.4%
Low-income Adults, Ages 18-64 - 100% Federal Poverty Levels [3]	3,096	6.8%	3,732	8.3%	20.5%	3,390,825	8.7%
% of Adults 18-64	11.5%		14.6%			13.7%	
Disability [4] (non-institutionalized) Ages 18-64 (2014)	4,179	9.2%	4,287	9.5%		1,995,286	5.1%
SENIORS [1]	9,816	21.6%	11,585	25.7%	18.0%	5,148,448	13.2%
Seniors, ages 65-74	5,950		7,159			2,946,809	
with % of all seniors	60.6%		61.8%			57.2%	
Seniors, ages 75-84	2,706		3,267			1,509,528	
with % of all seniors	27.6%		28.2%			29.3%	
Seniors, ages 85+	1,160		1,159			692,111	
with % of all seniors	11.8%		10.0%			13.4%	
Low Income Seniors, Ages 65+ - 100% Federal Poverty Levels [3]	707	1.6%	489	1.1%	-30.8%	517,358	
% of Senior Population	7.2%		4.2%			10.0%	
VETERANS [5]	5,378	11.8%	4,511	10.0%	-16.1%	1,661,433	4.3%
Civilian Population 18 years and over	36,725	80.7%	37,105	82.4%		29,740,487	13.3%
Veterans Period of Service							
Gulf War (9/2001 or later) veterans	172		224			280,386	
Gulf War (8/1990 to 2001) veterans	522		302			281,763	
Vietnam era veterans	2,189		2,120			596,130	
Korean War veterans	796		603			174,769	
World War II veterans	570		250			97,626	
INCOME [6]							
Median Household Income	\$54,686		\$60,636			\$67,169	
Per Capita Income in past 12 months			\$29,628				
Total Persons in Poverty [3]	4,643	10.2%	5,676	12.6%		5,773,408	14.8%
Persons age 16+ below 150% of Poverty Levels [3]	8,008	21.0%	8,688	19.3%		9,454,218	30.6%
EMPLOYMENT [7]							
Population 16 years and over	38,046		38,241			30,910,058	
Population 16 years and over employed	17,920		16,711			17,989,654	
Population 16 years and over in labor force	20,317		18,012			19,627,887	
Population 16 years and over unemployment rate	11.8%		7.1%			7.7%	

[1] B01001 Sex by Age, 2012 & 2017 American Community Survey 5-year Estimates.
 [2] B01002 Median Age by Sex, 2012 & 2017 American Community Survey 5-Year Estimates
 [3] S1701 Poverty Status in the Past 12 Months, 2012 & 2017 American Community Survey 5-Year Estimates
 [4] S1810 Disability Characteristics, 2012 & 2017 American Community Survey 5-Year Estimates
 [5] S2101 Veteran Status, 2012 & 2017 American Community Survey 5-Year Estimates
 [6] S1901 Income in the Past 12 Months, 2012 & 2017 American Community Survey 5-Year Estimates
 [7] S2301 Employment Status, 2012 & 2017 American Community Survey 5-Year Estimates

Key demographic changes during these past five years include:

- The overall population of Calaveras County saw a 1.3% decline over the past five years, losing about 500 persons.
- Children and youth age 17 and under have declined at a higher rate, a 9.4% decline.
- Working aged adults, 17 to 64, also declined at higher rates, 5.2% decline.
- Working aged adults with disabilities, ages 17 to 64, decreased by about 500 individuals.
- Older adults increased significantly, an 18% increase with a resultant increase in the countywide median age from 49.5 to 51.6 years.
- Veterans decreased slightly as a proportion of the overall County population, from 11.8% of the County population five years ago to 10%. The raw number decreased by 867 individuals; however, there were increases in the raw number of younger veterans of Gulf War II while era, Gulf War 1, Vietnam, Korean, and World War II veterans and older declined in number and proportion.

Income

Income factors for 2017 show an increase in low-income populations in the younger age groups. Low-income is defined by 100% of Federal poverty thresholds:

- Overall 12.6% of Calaveras County residents are in households at or below Federal poverty thresholds, growing to 19.3% living under 150% of Federal poverty thresholds.
- Children in poverty increased significantly growing from 840 children and youth to 1,455, this is despite the 9% decline in the number of children and youth overall in the County.
- Working aged adults in poverty decreased by 30%.
- Seniors in poverty increased by 20.5%.
- The median household income increased from \$54,686 to \$60,636 but remained 10% below the Statewide median household income of \$67,000.

Employment

Employment rates, as measured by the American Community Survey, have improved significantly with the unemployment rate dropping from 11.8% to 7.1%. This is partly the result of a decreased working age population but also reflects the improved economy and increase in the number of available jobs. Notably, the 7.1% unemployment rate is lower than the statewide 7.7% unemployment rate.

Housing

Calaveras County lost about 500 homes in the 2015 Butte Fire. The September 2019 update to the Housing Element of the CALAVERAS COUNTY MASTER PLAN identified that 88% of homes are single family, in contrast with a statewide proportion of 58% single-family homes. Excessive housing cost burdens are experienced by 47% of all Calaveras County households, as defined by HUD where the cost burden is in excess to 30% to 50% of gross household income. Seniors, who represented 40% of all households in Calaveras County, compared to 22% statewide in California, have high ownership rates in the County and represent 45% of all owner households (2016). Where seniors are also of low-income, the MASTER PLAN suggests that the data indicates many are “house-rich and cash-poor,” likely without savings adequate to support necessary repair costs.

Geographic Distribution of Selected Populations Across the County

The following pages present four maps that show the geographic distribution of the resident population of Calaveras County, as well the three target populations: older adults, people with disabilities, and persons of low income (people living in poverty). Each map also shows the Calaveras Connect fixed-route services as of Fall 2019. The demographic information in the maps is derived from the American Community Survey 2013-2017 5-year estimates, the most recent available at the time.

Calaveras County is bounded by Stanislaus and San Joaquin Counties to the east, Amador County to the north, Alpine County to the east, and Tuolumne County to the south and east. State Routes 4, 49, and 26 are the main roads that serve the County. The eastern third of the County is covered in the protected area of the Stanislaus National Forest.

County Population Overview

The map in Figure 5 shows the estimated number of Calaveras County residents per U.S. Census block group. The block groups with the most residents (colored in blues) are along the southwest edge of the County and include the communities of Rancho Calaveras, Copperopolis, Angel’s Camp, and Valley Springs. Other populous areas are along the State Highway 26 and 49 corridors, and Mountain Ranch Road, each ending in the communities of West Point, Arnold, and Railroad Flat, respectively.

Older Adults

Figure 6 contains a map showing concentrations of where adults over the age of 65 live. Overall, about 25.7% of the County is over the age of 65. The proportion (percentage) of older adults of the total resident population of each block group is shown by color scale. The

map shows that, although the majority of people living in the County are in the southwest portion, there are areas along the Highway 4 (Angels Camp, Murhyps, and Forest Meadows) and Highway 26 corridors (West Point) where there are high proportions of the population that are older adults.

People with Disabilities

The U.S. Census American Community Survey asks six questions to determine disability status and type and defines disabilities status by whether an individual has limitations that hinder participation at school, work, home, or in the community. Figure 7 shows where people with self-identified disabilities live in the County. The map shows the approximate count and proportion of the total County's population of people with disabilities that lives in each block group. It should be noted that this is a different way of displaying the population than the map of older adults, for which the population is displayed as a percentage of each block group.

In Calaveras County, approximately 9.5% of people have a disability. The range in number of people with disabilities per block group is approximately 50 to 660. The block groups with the highest number of people with disabilities are in the same areas that are most populous overall, along the State Highway 49 corridor and in the southeastern portion of the County.

People Living in Poverty

The national poverty thresholds are defined by the number and age of people living in a household. For example, in 2017, an older adult living alone with an income of less than \$11,756 would be considered to be living in poverty and a household consisting of a single parent with two children would be considered to be living in poverty if their household income were less than \$16,895.

In Calaveras County, approximately 12.5% of households are living in poverty. Figure 8 shows where households are that have an income below the poverty level. The map shows the approximate count and proportion of the total County's population of households in poverty within each block group. The range in number of people living in poverty per block group is approximately 15 to 160. The block groups with the highest number of people with disabilities include Copperopolis, the areas along the Highway 4 (Angels Camp, Murphys, and Forest Meadows), and San Andreas.

Figure 5: Distribution of Total Population

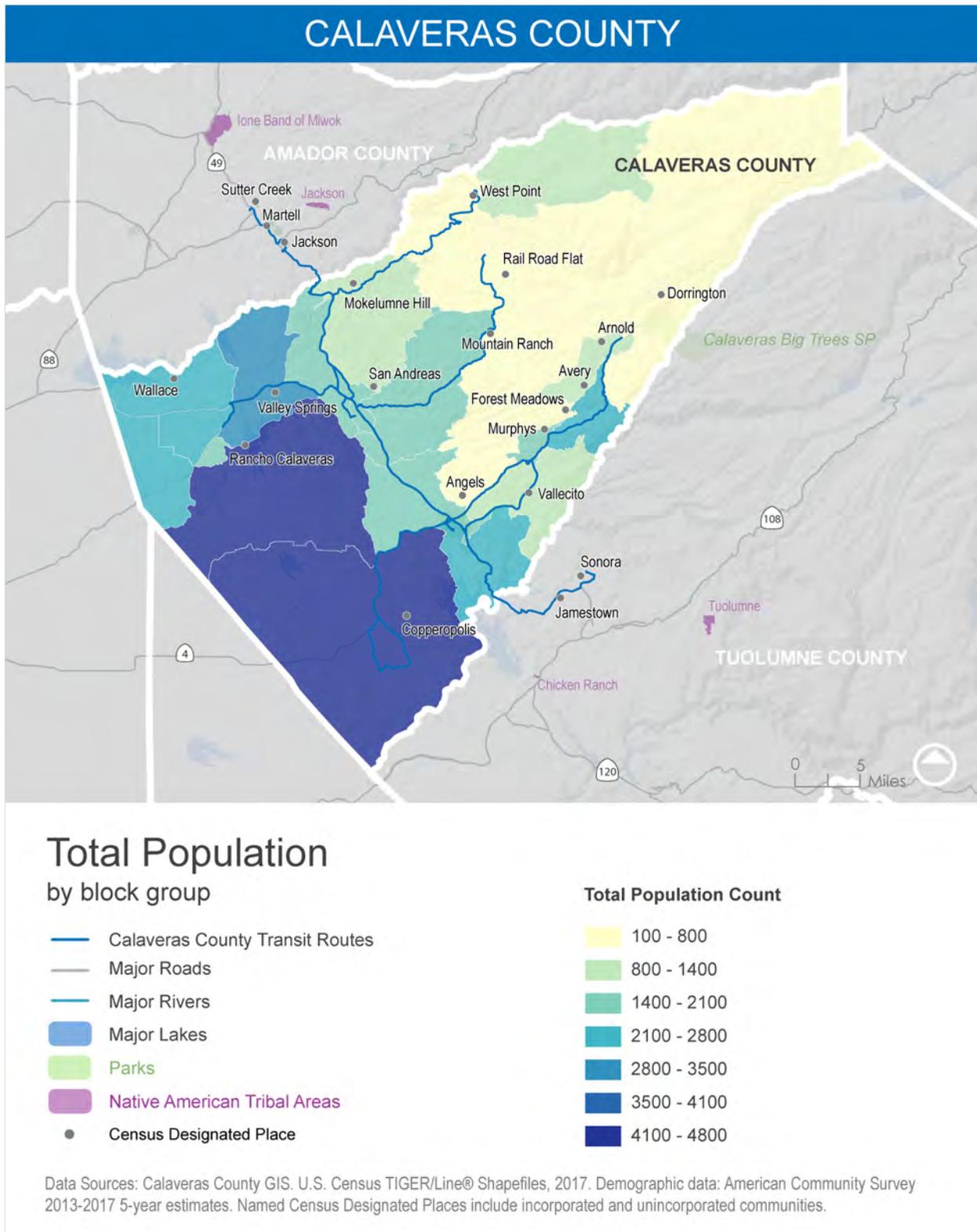


Figure 6: Distribution of Older Adults

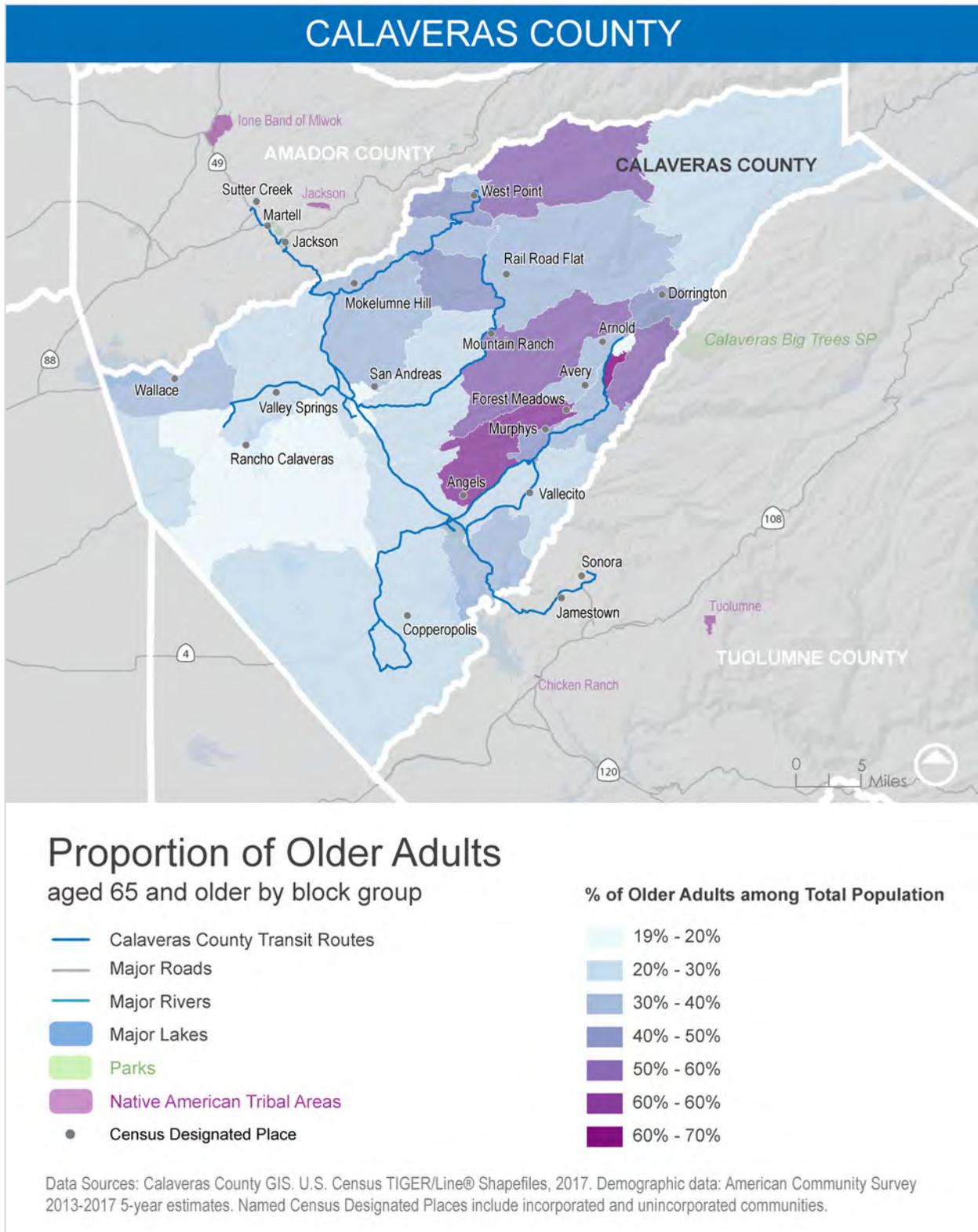


Figure 7: Distribution of People with Disabilities

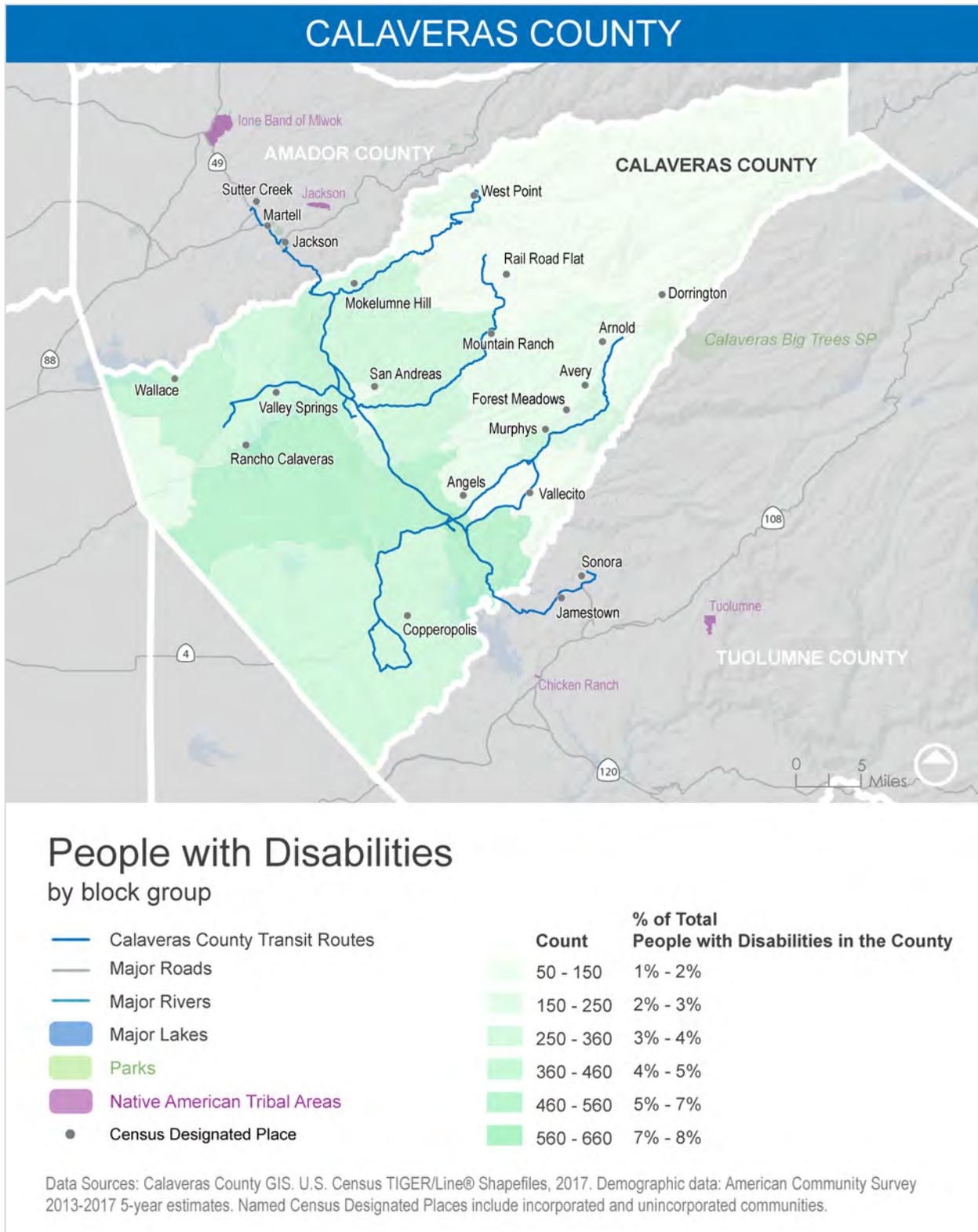
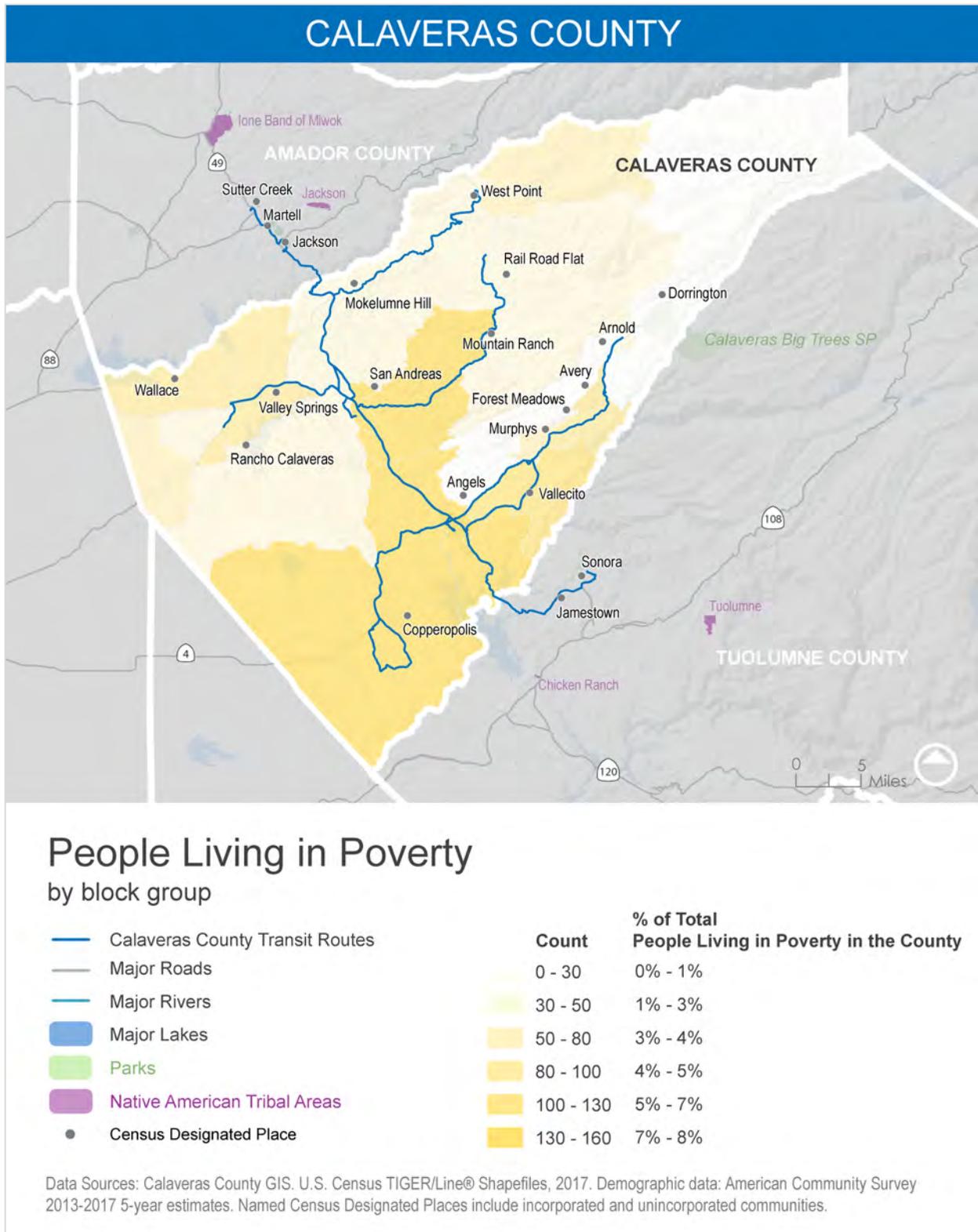


Figure 8: Distribution of People Living in Poverty



PASSENGER SURVEY

Methodology

A survey of Calaveras Connect passengers was conducted the weeks of September 9th and September 16th on weekdays. Surveys were distributed to and collected from passengers in the morning, midday, and evening hours of operation. In most cases, trained surveyor staff approached passengers while riding alongside them on Calaveras Connect transit vehicles on their regular lines. On one day a surveyor distributed surveys to passengers while they waited at major stops in Angels Camp.

Survey staff were trained to ask every rider who appeared over the age of 16 to complete the paper questionnaire. They briefly explained the purpose of the survey, offered a pencil, and were available to answer questions and assist as needed. Survey staff wore smocks identifying them as part of the transit survey team. Passengers were asked to only complete the questionnaire once during the survey period.

The survey questionnaire was distributed on letter-sized cardstock with questions on both sides and was available in English and Spanish. The formatted survey is shown in Appendix A.

The survey included both questions where respondents were instructed to select only one answer and also questions where the respondent was instructed to select all answers that apply to themselves, which are labeled as “select all that apply.”

A previous onboard passenger survey was conducted in April of 2014. Comparison to the results of this survey are included in the analysis where relevant.

How Passengers Use Calaveras Connect

Line

A total of 71 surveys were collected from passengers onboard a Calaveras Connect bus or at a transit stop while awaiting a Calaveras Connect bus. The line on which the passenger was on or intended to board while waiting was recorded on their respective surveys. Due to the low passenger volumes, the Green line and Saturday Hopper line were not surveyed. The Copper line was surveyed, but due to very low ridership did not produce any survey responses. The line is unknown for two of the survey respondents.

Of the 71 surveys collected, 39 were collected from passengers onboard the Red Line, 15 on the Blue Line, 15 on the Purple Line, and two are unknown. Table 2 shows the count and proportion of surveys collected alongside the overall ridership counts and proportion for the

month of September 2019, which is when the survey occurred. The count of surveys collected per line for the Blue and Red Lines roughly correlate to their overall proportion of ridership on the lines. The Purple Line was a bit oversampled because was concern about declining ridership and Calaveras Connect management wanted to ensure sufficient input from Purple Line passengers.

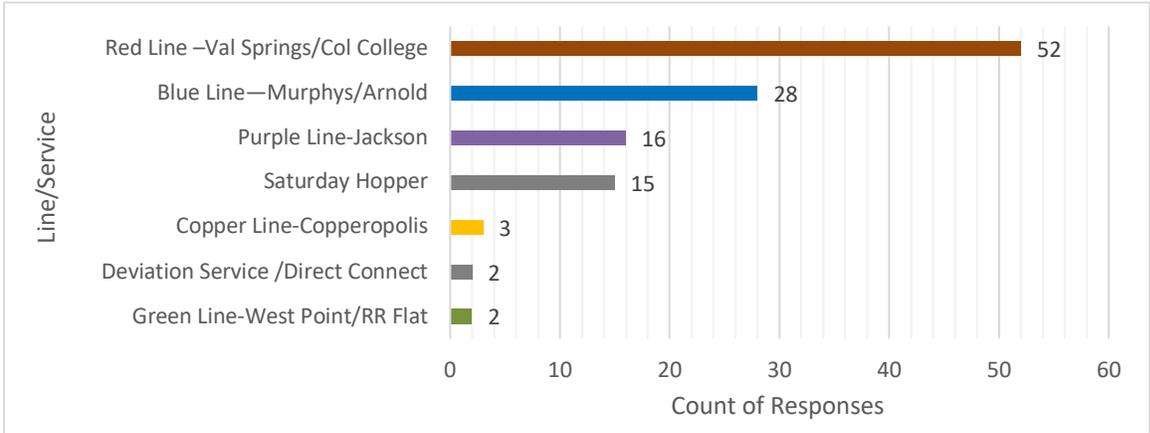
Table 5: Surveys Collected per Line and September 2019 Ridership per Line

Line	Surveys Collected	% of Total Surveys Collected	Sept. 2019 Ridership	Sept. 2019 % of Ridership per Line*
Red	39	55%	2,484	61%
Blue	15	21%	783	19%
Purple	15	21%	431	11%
Unknown	2	3%		
TOTAL	71			

*Percentages do not add up to 100% because they do not include the Copper line, Hopper line, Green line, and line deviations.

Respondents were asked to select the Calaveras Connect services that they've used in the past 30 days. Predictably, the Red Line was the most common response, followed by the Blue Line, and Purple Line. About 40% of respondents selected more than one of the Calaveras Connect services.

Figure 9: Which Calaveras Connect services have you used in the past 30 days?



Respondents were asked to "check all that apply"

Frequency & Length of Time Riding

Passengers were asked, “In the past seven days, how many days have you ridden Calaveras Connect?” Twenty of the respondents (28%) indicated that they had ridden only once or twice in the past seven days, indicating that they are more occasional riders (Figure 10). Sixty percent of respondents had ridden four, five, or six times, which suggests that they rely on Calaveras Connect for transportation more regularly.

Most survey respondents had been riding Calaveras Connect for more than a year (Figure 11). When asked, “What year did you begin riding Calaveras Connect?,” only 21% indicated that they started riding in 2019. A quarter of respondents had been riding since before 2014.

Figure 10: In the past seven days, how many days have you ridden Calaveras Connect?

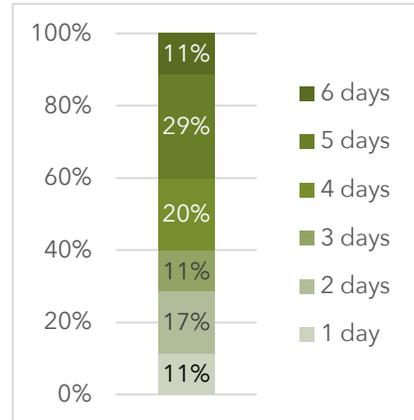
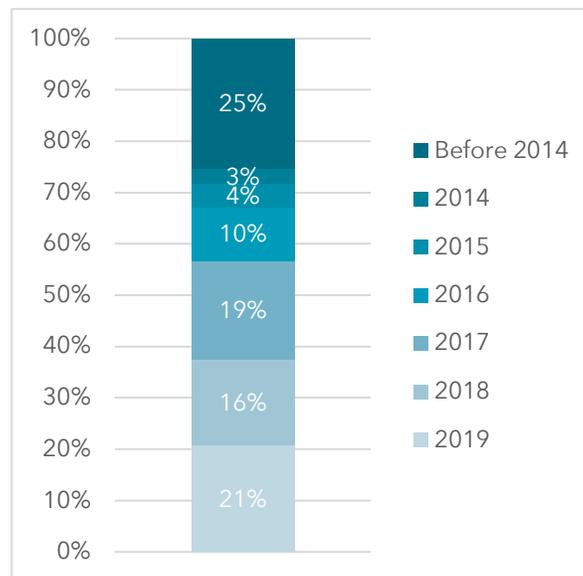


Figure 11: What year did you begin riding Calaveras Connect?



Origins & Destinations

Survey respondents were asked, “Where did you begin the one-way trip you are currently making?” and “Where is your final destination for this one-way trip?” The most common origin reported was Angels Camp (28) followed by San Andreas (13). The most common destination was Columbia College (18) followed by Angels Camp (14). Table 6 shows the array of origin and destination pairs, which varied greatly. Angels Camp to Columbia College was the most common pair (9), followed by Angles Camp to Angels Camp (7), and trips between Jackson and San Andreas (7 total for both directions).

Table 6: Origins and Destinations

		DESTINATION of One-Way Trip												Origin Totals	%
		Angels Camp	Arnold	Copperopolis	Jackson	Mokelumne Hill	Murphys	Columbia College	San Andreas	Valley Springs	Sonora	Another town in Calaveras County	Outside of Calaveras County		
ORIGIN of One-Way Trip	Angels Camp	7	2	1	1		3	9		2	2	1		28	39%
	Arnold	1	1					3						5	7%
	Jackson								3					3	4%
	Mokelumne Hill					2			2					4	6%
	Murphys		1				2			1		1		5	7%
	Columbia College	1	1	1					1	1				5	7%
	San Andreas	2			4		1	4		2				13	18%
	Valley Springs	3						2		1				6	8%
	Another town in Calaveras County											1		1	1%
	Outside of Calaveras County												1	1	1%
	Destination Totals	14	5	2	5	2	6	18	6	7	2	3	1	71	
	%	20%	7%	3%	7%	3%	8%	25%	8%	10%	3%	4%	1%		

Passenger Characteristics

Home Community

The most common community that survey respondents live in is Angels Camp (Table 7), which is in line with the responses to the origin and destination questions. Valley Springs, San Andreas, Murphys, and Arnold were the other common communities where respondents live. The "Other" category includes one survey response from each of the following nine communities: Copperopolis, Jackson, West Point, Avery, Glencoe, Hathaway Pines, Lone, Pioneer, and Vallecito.

Table 7: In what community do you live?

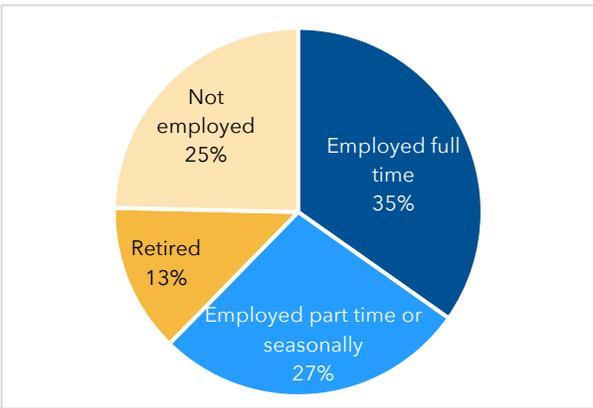
Community	Count of Surveys	% of Surveys
Angels Camp	19	27%
Valley Springs	13	18%
San Andreas	11	15%
Murphys	8	11%
Arnold	7	10%
Mokelumne Hill	4	6%
Other	9	13%
Total	71	100%

Employment & Education

Most survey respondents are employed, either full time (35%) or part time (27%). The remaining 25% are not employed and 13% identify as retired.

Slightly more of the full- and part-time employed respondents reported that their work hours vary, rather than that they work regular work hours (Figure 13). Eight of the 43 employed respondents said that they work weekends and 13 answered that they work later than 7 pm.

Figure 12: Employment Status



Nearly half of the passengers that responded to the question answered that they are a student (Table 8). Of these, 24 of 33 are either full- or part- time students of Columbia

College. Columbia College students ride Calaveras Connect free with their student ID, which likely explains the high proportion of student riders.

Figure 13: If employed, which of these describe your job?



Respondents were asked to “check all that apply”

Table 8: Student Passengers and their Schools

Are you a student?	Count	%
Yes	33	46%
No	31	44%
No response	7	10%
Total	71	100%
If you are a student, where do you attend school or college?		
Columbia College–full time	13	
Columbia College–part time	12	
Bret Harte High School	2	
Calaveras High School	1	
Middle School	0	
Other	5	
Total Students	33	

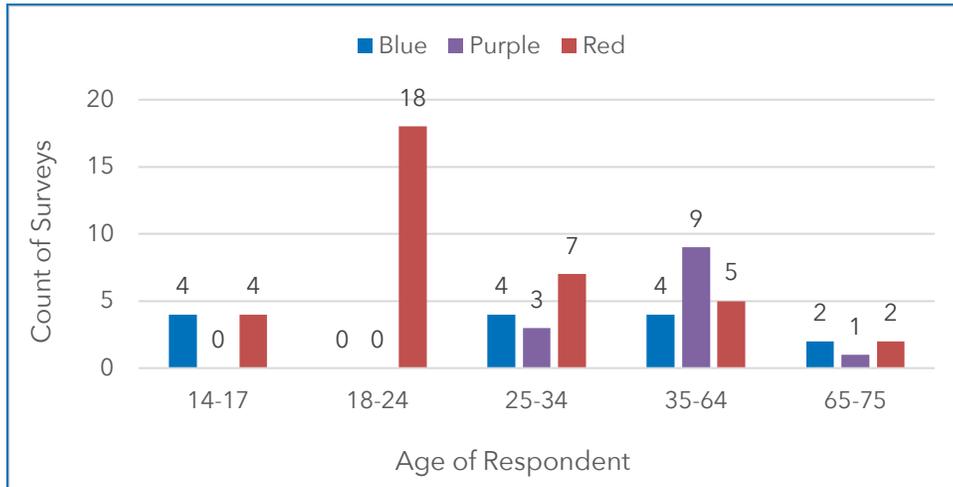
Age & Disability

Overall, nearly a third of respondents to the question of their age were between 18 and 24 and were on the Red Line, which serves Columbia College. This correlates to the high number of respondents that identified Columbia College as their destination on their trip.

About half of respondents were aged 25 to 64, only six were over 65, and another eight were high school aged (14 to 17).

Six of 70 respondents (9%) reported that they have a disability that impacts their travel.

Figure 14: Age of Survey Respondent by Line



Transit Dependence & Income

The survey asked, “How many licensed drivers reside in your household?” About a fifth of respondents reported that they do not have a licensed driver in their household and 30% reported that they do not have a vehicle for use in their household. About a quarter of respondents indicated that other members of their household ride Calaveras Connect.

Of the passengers that responded to the question, most indicated that their annual household income is less than \$25,000 (Table 9). This makes sense given the high proportion of students who responded to the survey. It should be noted that the question contained an error, which was that there was no option to indicate an income of between \$25,000 to \$34,999 in the answer categories.

Table 9: What is your approximate annual household income?

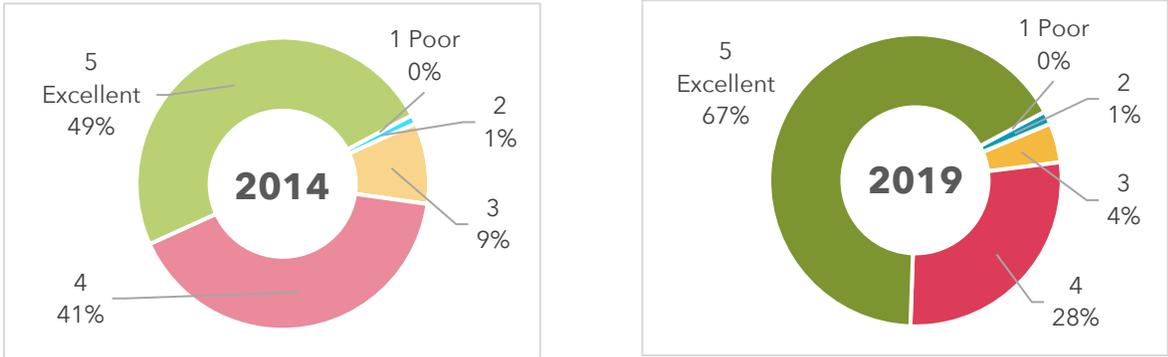
Annual Household Income*	Count	%
Less than \$10,000	11	20%
\$10,000 to \$14,999	15	28%
\$15,000 to \$24,999	12	22%
\$35,000 to \$49,999	9	17%
\$50,000 to \$74,999	1	2%
\$75,000 to \$99,999	6	11%
Total	54	100%

*Questionnaire error omitted category for \$25,000 to \$34,999.

Passenger Satisfaction

Passengers were asked to rate Calaveras Connect on several service factors on a scale of 1 (poor) to 5 (excellent). Survey respondents ranked each of the service factors highly and all of the average ratings, shown in Table 10, are between 4 and 5. Furthermore, overall customer satisfaction with the service increased since 2014. Figure 15 compares the responses to “Overall, how would you rate Calaveras Connect?” from the 2014 survey and the current survey. The percentage of respondents who gave the system a rating of 5 (excellent) increased from 49% to 67% and the proportion that gave it a rating of 2 or 3 decreased from 10% to 5%.

Figure 15: Overall, how would you rate Calaveras Connect?



“Quality of customer service overall” and “Courtesy & helpfulness of the bus drivers” had the highest average ratings and the highest number of “5” ratings, followed by the system overall.

Table 10: Average Rating of Calaveras Connect Service Factors

Service Factor	Average Rating
Quality of customer service overall	4.73
Courtesy & helpfulness of the bus drivers	4.71
Overall, how would you rate Calaveras Connect?	4.59
Cost of bus fares	4.56
The time the buses arrive at Government Center in the morning	4.54
Comfort of the vehicle	4.52
Ease of getting line and schedule information	4.45
Convenience of connecting between Calaveras Connect lines.	4.40
How often your bus is on-time	4.39
Convenience of connecting to and from Tuolumne Transit lines.	4.33
Convenience of connecting to and from Amador Transit lines.	4.27
How frequently your bus runs	4.21

The average ratings broken down by line are shown in Table 11. For each service factor, the average rating shown in green is the high value and the average rating shown in red is the low. In general, the Red Line had the most above average ratings and the Blue Line had the most below average ratings. This corresponds to the average ratings for each line in response to “Overall, how would you rate Calaveras Connect?” Although, there are exceptions.

Table 11: Average Service Ratings by Line

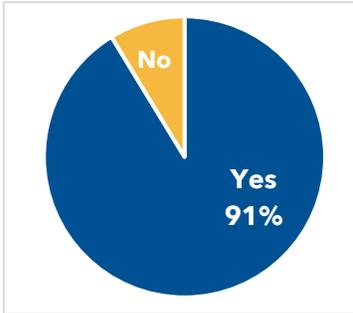
Service Factor	BLUE	PURPLE	RED
Courtesy & helpfulness of the bus drivers	4.86	4.47	4.74
Quality of customer service overall	4.43	4.77	4.81
How often your bus is on-time	4.64	4.40	4.29
Comfort of the vehicle	4.79	4.67	4.39
How frequently your bus runs	3.86	3.87	4.43
The time the buses arrive at Government Center in the morning	4.36	4.50	4.59
Convenience of connecting between Calaveras Connect lines.	4.36	3.91	4.53
Convenience of connecting to and from Amador Transit lines.	4.00	4.17	4.42
Convenience of connecting to and from Tuolumne Transit lines.	4.07	4.38	4.43
Cost of bus fares	4.64	4.29	4.62
Ease of getting line and schedule information	4.36	4.40	4.47
Overall, how would you rate Calaveras Connect?	4.21	4.53	4.74

Passenger Information

The survey included questions to determine how passengers get information about Calaveras Connect and their awareness level of certain services.

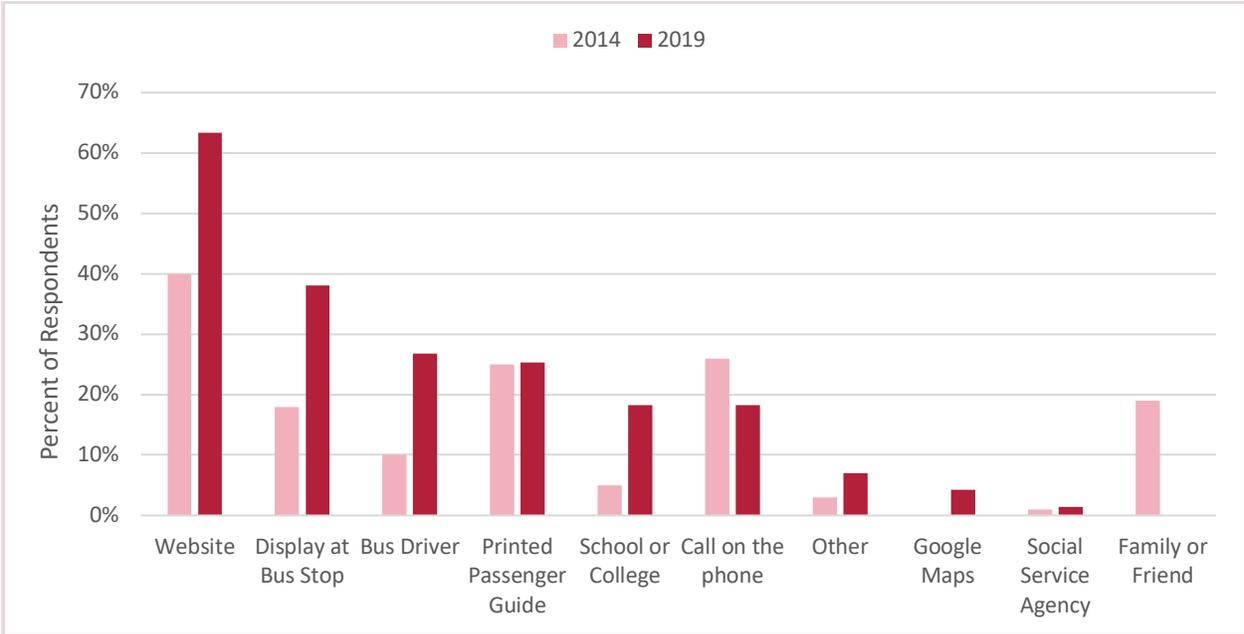
A large majority of respondents (91%) reported that they have a smartphone—a mobile phone with internet access (Figure 16). This is a large increase from 2014, which was when the last passenger survey was conducted. At that time, 75% of passengers owned a cell phone, but only 43% owned a smartphone with access to the internet.

Figure 16: Do you have a Smartphone—a mobile phone with internet access?



Respondents were asked to identify all the ways in which they get information about Calaveras Connect lines and schedules (Figure 17). The most common resource is the website, which is used by 63% of respondents as a source of information. The second and third most common sources are displays at bus stops and bus drivers, which each also saw in increase in popularity since 2014. Google maps and social service agencies were the least common answers.

Figure 17: How do you get information about Calaveras Connect lines and schedules?



Respondents were asked to “check all that apply” and so the sum of percentages is over 100.

Passengers were asked, “How familiar are you with Token Transit—the mobile app that you can use to pay your Calaveras Connect fare with your Smartphone?” Five survey respondents had used the Token Transit app and another 31 survey respondents had heard about the app, but not yet used it. The remaining 31 (46%) were not aware of the Token Transit app.

Most respondents (70%) were aware that they can request the bus to deviate to pick them up or drop them off within ¾ of a mile of the line with a two-hour advance reservation.

Forty respondents (62%) indicated that they are aware that Columbia College students ride free on Calaveras Connect and Tuolumne Transit with a current college ID.

Potential Improvements

Passengers were asked how important a list of potential improvements to Calaveras Connect service would be to them personally on a scale from 1 = “not important to me” to 5 = “very

important to me.” The average rating for each of the seven potential improvements is shown in Table 12 and the proportion of ratings for each are shown in Figure 18.

“Provide shelters at more bus stops” was the improvement with the highest average rating of 3.69. The improvement was ranked highly by riders on all lines, but the Blue Line had the highest proportion of 4 and 5 ratings.

“Operate direct service from Calaveras County to Sonora” and “Improve the frequency of service on lines I use most” were tied for the second highest average rating. For the latter improvement, respondents were asked to name the line(s) that they use most (Table 13). The proportion of lines named reflects the overall proportion of surveys returned for each line, with the Red Line being the highest, Blue as second, and Purple third.

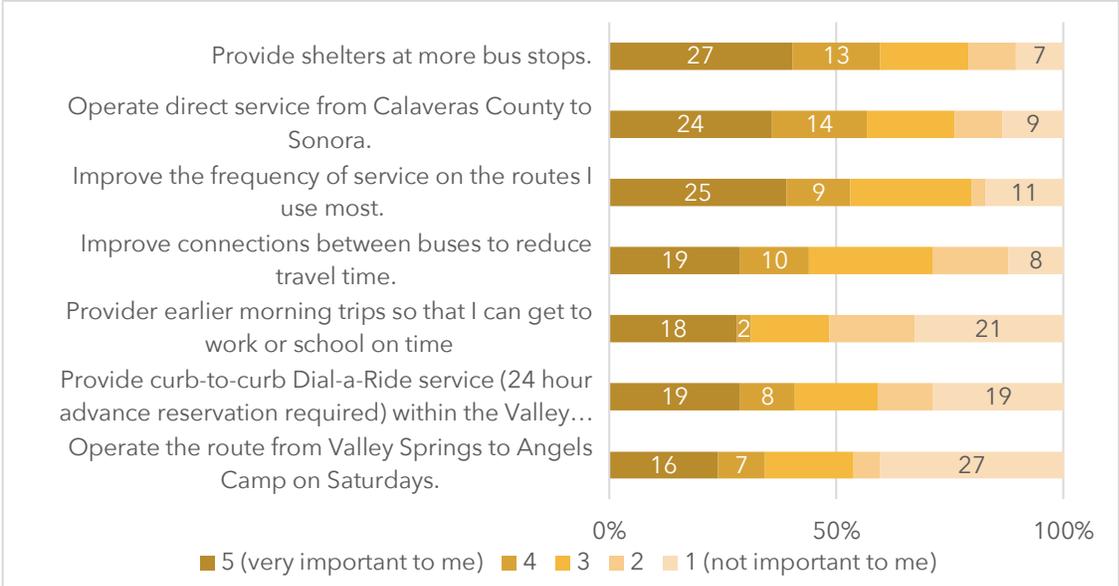
Table 12: Average Rating of Potential Service Improvements

Potential Service Improvements	Average Rating (1-5)
Provide shelters at more bus stops	3.69
Operate direct service from Calaveras County to Sonora	3.55
Improve the frequency of service on the lines I use most	3.55
Improve connections between buses to reduce travel time	3.32
Provider earlier morning trips so that I can get to work or school on time	3.25
Provide curb-to-curb Dial-a-Ride service (24-hour advance reservation required) within the Valley Springs –San Andreas–Angels Camp area	3.00
Operate the line from Valley Springs to Angels Camp on Saturdays	2.72

Table 13: Improve the frequency of service on the lines I use most. Which lines?

Line	All Ratings	Ratings of 4 and 5
Red Line	13	9
Blue Line	11	8
Purple Line	8	6

Figure 18: Ratings of Potential Service Improvements

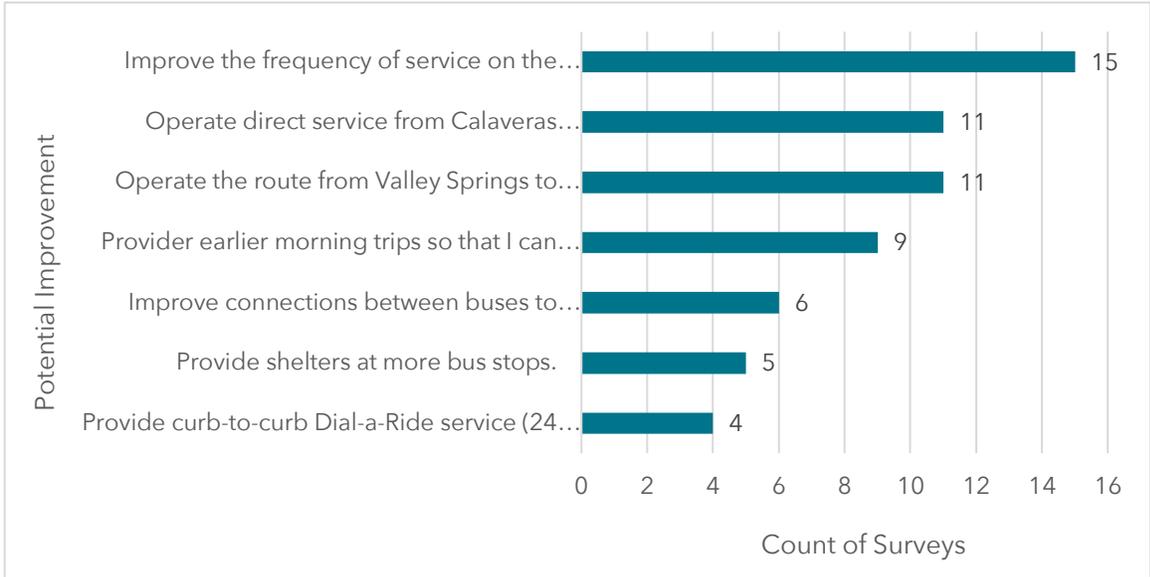


When asked, “Which one improvement listed above would be most important to you?” among the seven potential improvements, “Improve the frequency of service on the lines I used the most” was the top answer (Figure 19). “Operate direct service from Calaveras County to Sonora” was one of two improvements tied for second.

“Operate the line from Valley Springs to Angels Camp on Saturdays” was ranked the least important improvement in terms of average rating, due to the high number of respondents which gave it a “1” rating. However, this improvement tied for second highest number of survey respondents that chose it as the one most important improvement.

Although “Provide shelters at more bus stops” had the highest average rating, it received a low number of responses naming it as the most important improvement.

Figure 19: Which one improvement listed above would be most important to you?



Last, passengers were asked an open-ended question: "Is there another improvement to Calaveras Connect service that would be more important to you?"

A few comments related to frequency and locations the lines serve:

- Better service to Mountain Ranch
- Drive to Rancho Calaveras Club House
- Go to West Point more
- More buses to Jackson. A lot of people ride from Calaveras to Jackson for work.
- Hourly buses from Angels Camp to Arnold

Three comments called for a greater span of service, including: service until 9 pm, weekend service, and service 6 days a week. One comment identified the need for Wi-fi, as is provided in some of the Tuolumne County Transit buses. Five comments were very positive and expressed appreciation for the bus service.

STAKEHOLDER INTERVIEWS

Interviews were conducted with key stakeholder agency representatives within Calaveras County who work with typically transit-dependent populations, namely older adults, persons with disabilities and persons of low-income. Agencies were initially identified by SSTAC members at the SRTP kick-off meeting in April 2019 and the consultant team augmented this working list.

These stakeholder interviews were conducted in July 2019 through 18 meetings that included approximately 35 individuals. Agencies or organizations whose personnel were interviewed included:

- Arc of Amador and Calaveras
- Calaveras County Health & Human Services, Employment
- Calaveras Unified School District
- Columbia College
- Common Ground/ Silver Streak
- Copperopolis - Calaveras County Supervisor, Dennis Mills
- LogistiCare
- Mother Lode Calaveras Job Center
- West Point - Calaveras County Supervisor, Jack Garamendi
- Valley Mountain Regional Center
- Area 12 Agency on Aging
- Blue Mountain Coalition for Youth and Families – West Point
- Calaveras Connect management
- Calaveras Council of Governments Social Services Transportation Advisory Committee
- Calaveras County Office of Education/ Youth Development & Mentoring
- Calaveras County Health & Human Services, Public Health
- Calaveras County Health & Human Services, Behavioral Health

Interview purposes included:

- Identifying the types of mobility needs and gaps of which agency personnel were aware.
- Enabling consultant team refinement of the e-survey
- Securing assistance in promoting the forthcoming e-survey.
- Securing engagement and buy-in from interviewees in the subsequent phases of the Coordinated Plan's public involvement activities.

WEST POINT OUTREACH AND INTERCEPT SURVEY

Introduction and Methodology

West Point has historically had extremely low public transportation ridership despite several efforts to try new types of services. In the 2016 SHORT RANGE TRANSIT PLAN, the last available data in FY 2013/14 showed an average of just 11 passengers per day at a cost of \$44.92 per trip. In June 2019, the Green Line had an average of just 2.9 passenger per day for the whole route, and also included on-demand service to Railroad Flat.

Past planning efforts did not receive direct input on transportation needs from West Point residents. The purpose of conducting an intercept survey was to reach out to a sample of local residents to receive their input on transportation needs and receive input on alternative transportation modes that might improve the mobility of local residents. Stakeholder interviews in July 2019 helped to craft the questions for the intercept survey. A copy of the questionnaire is included as Appendix B.

In stakeholder interviews, there was a suggestion to hire a local resident to help conduct an intercept survey at the Dollar General and Post Office. In advertising for the temporary position at the West Point Covenant Church, one of the respondents, Billie Chavez, was very well connected to the West Point community and also ran the local food pantry. Ms. Chavez provided input on the questionnaire and helped to organize the day for conducting the intercept surveys.

The intercept survey was held on October 3, 2019 in West Point. Surveys were distributed and collected at the:

- Monthly food distribution at the VFW building,
- Luncheon at the West Point Covenant church
- Entrance of the Dollar General store with permission of the store manager
- Thursday dinner at the Blue Mountain Coalition for Youth and Families

Ms. Chavez was responsible for approaching local residents and helping with the collection of the completed questionnaires. She was a trusted messenger and residents were receptive to completing the questionnaire because they knew her. Ms. Chavez was largely responsible for the success of having 78 local residents complete the questionnaire.

While this was not random survey with statistically valid results, it did survey individuals who had a higher probability than normal of being transportation disadvantaged.

Demographics

Due to the fact that the intercept survey was held in West Point, it's not surprising that 85% lived in West Point. However, about 14% of respondents were from Wilseyville, and informal discussions with respondents pointed to the interrelated needs of West Point and Wilseyville.

Where Respondents Live

Table 14: West Point Survey – Where Respondents Live

Town	Count	Percent
West Point	66	84.6%
Railroad Flat	0	0.0%
Glencoe	1	1.3%
Wiseyville	11	14.1%
Total	78	100.0%

Household Composition

About half of the households had individuals aged 16 to 64 in their household, with an average of 1.9 people in that age category. Only five household had children, with an average of just one child. There were 34 households with older adults with an average of 1.33 household members in that age category.

Table 15: West Point Survey – How many people in each of these age groups live in your household?

Age Groups (Multiple Responses)	Age Groups in Household	Average in Household
Adults (16-64)	46	1.89
Children (Under 16)	5	1.00
Older Adults (65-80)	34	1.35
Older Adults (81+)	6	1.33
Total	91	

Employment Status

The sample of respondents we surveyed were mostly retired or unemployed, representing slightly over two-thirds of those surveyed. About 31% were employed, with most being employed part-time. Only two respondents were students.

Table 16: West Point Survey – What is your employment status?

Employment Status	Count	Percentage
Employed full-time	6	9.4%
Employed part-time	14	21.9%
Retired	37	57.8%
Unemployed	7	10.9%
Total	64	100.0%

Table 17: West Point Survey - Are you a student?

Student Status	Count	Percentage
Yes	2	2.9%
No	68	97.1%
Total	70	100.0%

Age

A majority (54%) were between the ages of 22 and 64. However, 45% were above 65 years old.

Table 18: West Point Survey - Age of Respondent

Age	Count	Percentage
16-21	0	0.0%
22-64	38	54.3%
65-74	22	31.4%
75 and Above	10	14.3%
Total	70	100.0%

Income

The distribution of income levels is not surprising given the fact that questionnaires were completed by a mix of individuals picking up food at a food bank, attending a community meal, or shopping at the Dollar General store. Almost 40% had incomes below \$15,000 with two respondents having no income.

Table 19: West Point Survey - What is your approximate annual household income?

Annual Household Income	Count	Percentage
Less than \$10,000	10	15.2%
\$10,001 to \$14,999	14	21.2%
\$15,000 to \$24,999	19	28.8%
\$25,000 to \$49,000	17	25.8%
\$50,000 or more	4	6.1%
No income	2	3.0%
Total	66	100.0%

Travel Patterns

Respondents were asked "In general, which of these phrases best describes how well your household's transportation needs are being met." From discussions with West Point residents, it was general conclusion that West Point residents are a very independent and a self-reliant population. It is very often the case that neighbors help out neighbors. About 70% are usually or always able to get where they need to go at present. What's not reflected in the

survey results is that many expressed informally, that although they own a car now, their car is old, or they are older and know that soon they may not be able to navigate the winding roads to and from West Point. However, about 25% say they sometime or many times not able to get where they need to go.

Table 20: West Point Survey - Ability to Travel Where You Need to Go?

	Count	Percentage
<u>Always</u> able to get to where I need to go	26	34.2%
<u>Sometimes</u> able to get where I need to go	27	35.5%
We can get there but it takes a <u>long time</u>	3	3.9%
<u>Sometimes</u> not able to get where I need to go	11	14.5%
<u>Many time not able</u> to get where I need to go	9	11.8%
Total	76	100.0%

Ability to Travel/Barriers to Travel

By far, the biggest barrier for West Point resident in getting to and from where they need to go is the cost of gasoline, with 42.5 mentioning this. However, the lack of an auto and lack of a driver’s license is also a significant barrier with almost 1 in 5 having this as a barrier. Currently about 9% of respondents age or disability is a barrier, but this percentage will continue to increase with the aging population.

Table 21: West Point Survey - What are the biggest barriers you are having in traveling to where you need to go?

	Count	Percentage
Lack of automobile	10	11.8%
Lack of drivers license	6	7.1%
Age or disability limits my driving	8	9.4%
The cost of gas	36	42.4%
Hilly terrain or distance makes travel difficult	7	8.2%
Family neighbors not available for rides	7	8.2%
Winding roads make driving very difficult	7	8.2%
Other	4	4.7%
Total	85	100.0%

(Multiple Responses Allowed)

Current Transportation Mode of Travel

As a very self-reliant community with very low levels of public transportation services, 58% of respondents drive themselves, 19.2% ride with family members and almost 8% ride with neighbors. Only one respondent currently utilizes Calaveras Connect for some of their travel.

Table 22: West Point Survey - How do you currently get to places you need to go?

	Count	Percentage
Drive myself	60	57.7%
Ride with family members	20	19.2%
Ride with neighbors	8	7.7%
Use Calaveras Connect Green Line	1	1.0%
Use Silver Streak bus	0	0.0%
Use Amador Transit bus	2	1.9%
Walk	8	7.7%
Bicycle.	1	1.0%
Other	4	3.8%
Total	104	100.0%

(Multiple Responses Allowed)

Use of Calaveras Connect

In the past, about 12% have tried Calaveras Transit or Calaveras Connect. About 1 in 5 were not aware of the service. However, in discussions with respondents, most remember the bus schedule when the only morning bus to San Andreas was when it left at 5:40 am, and a bus did not return to West Point until 6:25 pm. Very few were aware of the on-demand service Mondays and Wednesdays.

Table 23: West Point Survey - Have you used Calaveras Connect Green Line?

	Count	Percentage
Yes	9	12.0%
No	51	68.0%
Was not aware of Calaveras Connect	15	20.0%
Total	75	100.0%

Medical Appointment Locations and Frequency

Almost 60% of medical appointments for survey respondents have doctor’s appointments in two primary locations: Jackson (37.6%) and San Andreas (22.7%). Other locations are much more dispersed.

Table 24: West Point Survey - Which towns do you go to for doctor's appointments?

	Count	Percentage
Jackson	53	37.6%
Sutter Creek	4	2.8%
Pine Grove	11	7.8%
San Andreas	32	22.7%
Angels Camp	7	5.0%
Sonora	11	7.8%
Sacramento	10	7.1%
Stockton	6	4.3%
Other	7	5.0%
Total	141	100.0%

(Multiple Responses Allowed)

However, when asked where their most frequent doctor’s office location is, almost 7 in 10 said in Jackson, followed by San Andreas with 14.3%. The average respondent reported they make 21 annual trips to their most frequent doctor’s office location.

Table 25: West Point Survey - What is your most frequent doctor's office location?

	Count	Percentage
Jackson	34	69.4%
Sutter Creek	0	0.0%
Pine Grove	0	0.0%
San Andreas	7	14.3%
Angels Camp	1	2.0%
Sonora	2	4.1%
Sacramento	4	8.2%
Stockton	1	2.0%
Total	49	100.0%

Grocery Shopping Destinations and Frequency

When asked where respondents go to the grocery store, most went to multiple locations. Most common is Jackson, the Dollar General in West Point, or Pine Grove.

Table 26: West Point Survey - Which towns do you go to for grocery shopping?

	Count	Percentage
Jackson	71	50.7%
Sutter Creek	2	1.4%
Pine Grove	18	12.9%
San Andreas	8	5.7%
Angels Camp	1	0.7%
West Point	32	22.9%
Railroad Flat	2	1.4%
Other	6	4.3%
Total	140	100.0%

(Multiple Responses Allowed)

However, when asked where their most frequent grocery shopping location is, an overwhelming 9 in 10 stated Jackson. The average person goes to the grocery store at their most frequent location almost 6 times a month.

Table 27: West Point Survey - What is your most frequent grocery shopping location?

	Count	Percentage
Jackson	44	91.7%
Sutter Creek	0	0.0%
Pine Grove	1	2.1%
San Andreas	0	0.0%
Angels Camp	0	0.0%
West Point	3	6.3%
Other	0	0.0%
Total	48	100.0%

Potential Mobility Improvements

Choose one transportation improvement that would best improve your ability to get where you need to go?

By far, the most important improvement of respondents would be weekday bus service between West Point and Jackson, with 42% naming this option as their first choice. The second tier of most important improvements named, with at least a 10% response rate were:

- Loaner car or van available in West Point where you pay for the gas.
- For important trips to the doctor or grocery store, the ability to have a friend or family member reimbursed for the cost of gas, etc. when they are able to give me a ride to where I need to go a couple times a month.
- Weekday bus service to and from San Andreas.

Table 28: West Point Survey - What improvements would improve your ability to get to places you need to go?

	Count	Percentage
Weekday bus: West Point & Jackson	36	41.9%
Weekend bus: West Point & Jackson	6	7.0%
Weekday bus: West Point & San Andreas	9	10.5%
Loaner car available in West Point	10	11.6%
Help in finding a carpool ride	0	0.0%
For certain trips, mileage reimbursement	10	11.6%
No improvement needed	7	8.1%
Other	8	9.3%
Total	86	100.0%

(Multiple Responses)

COPPEROPOLIS OUTREACH

For the Copperopolis community, stakeholders told us there is intense need for a small community of transportation disadvantaged residents. In particular, stakeholders told us the 3-Circle area of low-income households is home to individuals who are transit-dependent and may or may not be connected with Calaveras Connect Copper Line. The consulting team attempted to conduct an intercept survey of the 3-circle area and received only two responses in three hours. Observations in the 3-circle area found that despite this pocket of lower income residents, the typical household has two or three automobiles, and most are very self-sufficient.

Common Ground/Silver Streak serves a number of Copperopolis riders and they were very helpful in contacting their riders so that the consulting team could conduct a short phone interview or complete a brief questionnaire. The key findings of that effort were:

- 7 of 12 residents were aware of the Copper Route, but only three had utilized the service. Those who did were generally quite satisfied.
- The respondents were highly appreciative of the Common Ground services that provided critical lifeline services to them.
- 9 of 12 listed age or disabilities that limited their ability to drive.
- There was no discernible pattern of visits to the doctor, with most doctor's appointments in San Andreas, Angel's Camp, Sonora, Jackson, and Modesto. The most frequent destination was to Sonora, followed closely by Angel's Camp and Modesto.
- The highest priority improvement for this targeted population was a dial-a-ride bus where they call one day in advance for a reservation. dial-a-ride service was also generally preferred by a number of key stakeholders.

KEY THEMES

The key themes are based on the following community outreach efforts:

- Onboard survey of 71 Calaveras Connect passengers
- Intercept survey of 78 West Point Area Residents
- Survey and interviews of 12 Copperopolis residents
- Existing Conditions Technical Memorandum for the Calaveras County Coordinated Public Transit-Human Services Transportation Plan 2020-2024 (Coordinated Plan), including interviews with 35 stakeholders in Calaveras County
- E-Survey of 19 human service agency personnel
- Results of the November 13th, 2019 Project Development Workshop for the Coordinated Plan
- Review of performance by Route between November 1st, 2018 and October 31st, 2019
- Demographic profile created for the Coordinated Plan
- Discussion and further input received by the Calaveras Council of Governments staff

It must be noted that all community outreach efforts were performed prior to the onslaught of COVID-19. The key themes were utilized in the development of the game plan for re-opening services that exist as of November presented earlier in Chapter 2.

Collectively, these seven methods of public outreach and market research resulted in some key themes that are addressed as strategies in the Coordinated Plan, and as specific service

alternatives for the Short Range Transit Plan. The following are the relevant key themes for the Short Range Transit Plan and build upon the key themes presented for the Coordinated Plan that were presented in the Coordinated Plan Working Paper #1. It should be emphasized that these key themes were developed based on the outreach efforts conducted in 2019 before COVID-19. A lot has obviously changed from March to November 2020, but it provides important themes once Calaveras County is back to normalcy post the COVID-19 era.

1. Calaveras Connect serves some mobility needs well but additional fixed-route, fixed-schedule trip needs exist.

Core Route: Red Line

- Increased frequency from the current 90 minutes on Calaveras Connect's core route, from Valley Springs to Columbia College is desirable, moving towards hourly service, like that of the Saturday Hopper:
 - Stakeholders told us that limited frequency makes it difficult for those seeking jobs. Some types of jobs are easy to come by, but wages are still low and transit options remain important; other jobs require travel outside of the county.
 - After school trips would be better supported by more frequent service.
 - "How frequently your bus runs" by existing passengers received a moderately high ranking of 4.43 on a scale of 1 to 5 with 1 being poor and 5 being excellent. For context, driver courtesy received a rating of 4.74 and "how often your bus runs on-time" received a rating of 4.29.
 - However, when passengers were asked which one improvement would be most important, the highest priority improvement was "improve the frequency of service on the routes I use most."
 - The Saturday Hopper has a higher number of passengers per vehicle service hour of 4.3, than the Red Line at 4.0, despite the much higher ridership on the Red Line.
- Earlier morning service on the core route would help some workers:
 - Dodge Ridge Ski Resort, located in Tuolumne County, is an important job location; worker's bus for employees picks up passengers at Murphy's at 6 a.m. in the Winter season.
 - Arrival at the Government Center in San Andreas before 8 a.m. would better serve County workers there who need to be at work by 8 o'clock.
 - "Earlier morning trips so that I can get to get work or school on time" was ranked #4 as the priority for improving Calaveras Connect service and received an average rating of 3.25 on an importance scale from 1 (lowest) to 5 (highest).
- Later evening service would assist participants at San Andreas' CalWorks and Behavioral Health classes:
 - Some NAMI classes in evenings, support to families of persons with mental illness; mostly during day times.
 - DUI classes run only in the evenings, generally until 7 p.m.
 - Some substance abuse and CalWorks classes run until 8 p.m.

Saturday Service

- Murphy's has many employers, particularly during tourist seasons.
- Murphy's jobs commonly include Saturday shifts, namely restaurants and retail.
- Saturday social and recreational trips to Valley Springs would benefit multiple populations, including those within the Behavioral Health system.

Out of County Connections

- Increased frequency on the Purple Line to Jackson and Sutter Hill Transit Center, improving its current two to three -hour intervals, would serve more work and other trip needs, and improve transfers opportunities on the Amador Transit routes. Recent service cutbacks for Amador Transit will likely make connections with Amador Transit more difficult.
- The Green Line on-demand route on Mondays and Wednesdays from West Point to San Andreas does not serve the medical and shopping needs well for the West Point area residents. In the West Point intercept survey, 37.6% have doctor's appointments in Jackson and 22.7% have doctor's appointments in San Andreas, with 69.4% naming Jackson as their most frequent medical appointment destination. For Grocery shopping, 50.7 of intercept survey respondents go to Jackson and just 5.7% go to San Andreas, with 91.7% listing Jackson as the most frequent destination.
- Service to Sonora is important to support job opportunities that are limited in Calaveras County. Sonora is also a primary destination for shopping and medical trips according to both stakeholders and interviews with existing Common Ground clients residing in Copperopolis. In the onboard survey, operating direct service from Calaveras County to Sonora received a tie for the second highest rating of potential service improvements with improving the frequency of bus routes.

Other Relevant Comments

- For persons without valid CA driver's license, with DUI driving prohibitions or without car insurance public transit is critical.
- Multiple human service agencies are purchasing bus passes from Calaveras Connect, through an organized program, which contributes to fare box recovery and helps secure ridership.

2. For some remote communities in Calaveras County, there is distinct need for transportation, but all of the needs cannot be met effectively by traditional fixed-route public transit alone.

West Point

- For the West Point community, the existing Calaveras Connect Green Line service does not meet needs well:
 - The service is not predictable and is therefore not perceived as reliable; must have two riders to secure the trip.
 - As discussed previously, many residents orient to Amador County, Sutter Creek and Jackson - to Walmart, Raley's, and the Food Bank; trips to San Andreas are of much less value to residents.
 - Stakeholder told the consulting team the number of residents is small, but the mobility challenges faced by many of these residents is great.
 - The West Point intercept survey found that about 1 of 4 respondent sometimes or many times were not able to get to where they needed to go. The biggest barriers were the cost of gas, the lack of an automobile, and age and disability that limits their driving.
 - Some people commute "to" West Point to connect with certain employers (CHIPS) by 6:30 and 7:30 a.m. From there they are transported to distant and changing work locations.
 - Common Ground/Silver Streak serves some West Point riders who live beyond the $\frac{3}{4}$ mile deviation service area: persons in wheelchairs; providing trips to Arnold, to Valley Springs, to Tuolumne City for persons who have not connected with public transit.
 - The Green Line had the lowest ridership among the routes during the one-year period from November 2018 to October 2019 with only 149 total boardings. The productivity was very low at an average of 1.7 boardings per vehicle service hour.
- When West Point area residents were asked to choose one transportation improvement that would improve your ability to get where you need to go, by far, the most important improvement of respondents would be weekday bus service between West Point and Jackson, with 42% naming this option as their first choice. The second tier of important improvements with at least a 10% response rate were:
 - Loaner car or van available in West Point where you pay for the gas
 - For important trips to the doctor or grocery store, the ability to have a friend or family member reimbursed for the cost of gas, etc. when they are able to give me a ride to where I need to go a couple times a month
 - Weekday bus service to and from San Andreas

Copperopolis

- For the Copperopolis community, stakeholders told us the 3-Circle area of low-income households is home to individuals who are transit dependent and may or may not be connected with the Calaveras Connect Copper Line. The consulting team attempted to conduct an intercept survey of the 3-circle area and received only two responses in three hours. Observations in the 3-circle area found despite this pocket of lower income residents, the typical household has two or three automobiles, and most are very self-sufficient.
- Stakeholders told us there is intense need for a small community of transportation disadvantaged residents.
- Common Ground/Silver Streak serves a number of Copperopolis riders and they were very helpful in contacting their riders so that the consulting team could conduct a short phone interview or complete a brief questionnaire. The key findings of that effort were:
 - 7 of 12 residents were aware of the Copper Route, but only three had utilized the service. Those who did were generally quite satisfied.
 - The respondents were highly appreciative of the Common Ground services that provided critical lifeline services to them.
 - 9 of 12 listed age or disabilities that limited their ability to drive.
 - There was no discernible pattern of visits to the doctor, with most doctor's appointments in San Andreas, Angel's Camp, Sonora, Jackson, and Modesto. The most frequent destination was to Sonora, followed closely by Angel's Camp and Modesto.
 - The highest priority improvement for this targeted population was a dial-a-ride bus where they call one day in advance for a reservation. dial-a-ride service was also generally preferred by a number of key stakeholders.
- Human service agencies told us their clients need to get to the Government Center in San Andreas for classes, DUI appointments, training, and probation appointments.
- Community stakeholders exist and could potentially play a role in alternative transportation: volunteers at Community Gardens at the Elementary School; Tulloch Lake Church; and Copper Cove Lake Tulloch Homeowners Association were mentioned by stakeholders.
- The Copper Line, which runs between Copperopolis and Angels Camp, had the second lowest ridership among the routes at 989 passengers in the one-year period from November 2018 to October 2019. The productivity was the lowest at an average of only 0.9 passengers per vehicle service hour.

Other Considerations

- Communities north of Arnold, above where the Blue Line terminates include additional transit-dependent households and some employment opportunities.
- It is important to coordinate with local employers, including Big Trees Market and ACE Hardware, as well as smaller restaurant employers regarding needs and any potential changes to bus service schedules.

3. Student needs and enhanced coordination with Columbia College and Calaveras Unified School District point to additional potential riders.

- 46% of onboard survey respondents indicated they were a student with 35% of all respondents indicating they were attending Columbia College. Only 3 respondents said they were attending high school.
- Ensuring good connections with Columbia College is important to high school youth who can attend summer classes there.
- Promoting free rides with Columbia College ID will continue to be an important marketing avenue for Calaveras Connect.
- High school after-school activities are difficult for students without transportation access; ensuring good coordination around after school timeframes is important; Unified School District cut this transportation component about 5 years ago. However, in stakeholder interviews and follow-up by CCOG staff, it was generally found that existing services meet most of their needs. The unmet needs are for four students living in Burson with no existing service available and service to Copperopolis.
- The Superintendent of the Calaveras Unified School District conducted a survey for after school transportation for “upcountry” residents. There were 32 respondents and 18 would pay \$1-\$2 for transportation and 10 were maybes for transportation home at 5:30 pm from Calaveras High School.

4. Demographic patterns and trends show a very geographically dispersed, but growing need for mobility services for those who cannot drive.

Key changes during these past five years include:

- The overall population of Calaveras County saw a 1.3% decline over the past five years, losing about 500 persons.
- Children and youth age 17 and under have declined at a higher rate, a 9.4% decline.
- Working aged adults, 17 to 64, also declined at higher rates, 5.2% decline.

- Working aged adults with disabilities, ages 17 to 64, decreased by about 500 individuals.
- Older adults increased significantly, a 18% increase with a resultant increase in the median age from 49.5 to 51.6 years. About 25.7% of the Calaveras County is over the age of 65.
- Veterans decreased slightly as a proportion of the overall County population, from 11.8% of the County population five years ago to 10%. The raw number decreased by 867 individuals; however, there were increases in raw number of younger veterans of Gulf War II while Vietnam era, Gulf War 1, Korean, and World War II veterans and older declined in number and proportion.
- Overall approximately 12.5% of Calaveras County residents are in households with poverty-level incomes.
- Children in poverty increased significantly by 73% despite the decrease in the overall raw number.
- Working aged adults in poverty decreased by 30%.
- Older adult in poverty increased by 20.5%.
- The *median household income increased* from \$54,686 to \$60,636, but remained 10% below the Statewide median household income of \$67,000.

Important demographic trends over the next ten years include the growing number of older adults that eventually will need alternatives to driving:

- The number of older adults 80 to 84 is estimated to increase by 89%
- The number of older adults 85 to 89 is estimated to increase by 102%
- On average, women outlive their decision to stop driving by 10 years and 7 years for men.
- The need for providing mobility services to an aging population that is aging in place will continue to grow.

Chapter 4: Service Alternatives

This chapter is divided three sections. The first section is the general conclusions from the community outreach and performance review that provide overall guidance to public transportation service delivery in Calaveras County. The second section provides the responses to COVID-19 that Calaveras County should consider during the COVID-19 crisis including actions that Calaveras Connect has implemented as of November 2020. The final section provides more details on specific service alternatives that could be considered once the COVID-19 era and its immediate aftermath is done and the economy fully reopens and recovers.

I. GENERAL CONCLUSIONS FROM COMMUNITY OUTREACH EFFORTS

At the end of the last chapter, the key themes from the community outreach and demographic analysis were presented. These general conclusions are meant to provide appropriate context to the planning of mobility services in Calaveras County.

Focus fixed route services on the core routes between Valley Springs and Arnold to Angels camp

Development and demographic patterns in Calaveras County will continue to result in very low transit demand even after COVID-19 subsides. In order to maximize ridership, the focus of fixed route services should be on the Valley Springs to Angels Camp portion of the Red Line and between Arnold and Angels Camp, the Blue Route. Both of these had the highest productivity, but depended on school ridership.

The link between Angels Camp and Columbia College will likely only attract sufficient ridership when Columbia College returns to a significant proportion of in-person classes. School based ridership has been historically important to Calaveras Connect and ridership levels will not return until schools are again teaching in person and it is perceived to be safe to ride the bus without community infection spread. When this occurs, the focus would return from Valley Springs to Columbia College.

Public transportation works best when there is significant density of both residential and employment demand along specific corridors with convenient high frequency service. BART and AC Transit, for example, work very well between the dense cities of Oakland and San Francisco. Calaveras County, on the other hand, has very low population and employment density. The demand patterns are generally very dispersed, often with key destinations

located outside Calaveras County. The one corridor where demand is concentrated is between Valley Springs to Columbia College, generally along Highway 49. Before COVID-19, 90-minute service along this corridor had an average of approximately 90 daily passengers with an average productivity of 4 passengers per hour. Overall, this is very low productivity for a core fixed route along the spine of the Calaveras Connect service area. The productivity is about what most general public dial-a-ride services provide.

Match demand patterns to service delivery modes

Calaveras Connect has historically provided lifeline services to those who do not own a vehicle or do not have a driver's license. Calaveras Connect has historically operated fixed route services when demand patterns are extremely low and do not support fixed route services. Due to budgetary limitations and development patterns, service levels on existing routes has been low. The Blue Line to Arnold have frequencies of every 3 hours Mondays to Fridays, with service to Copperopolis less frequent. Nevertheless, the Blue Line has the highest productivity of any route at 4.7 passengers per hour. When schools are back to full in-person teaching, and demand from the general public dial-a-ride warrants it, then fixed service levels might be improved to match the service levels of the Red Line.

The Purple Line from San Andreas to Jackson/Sutter Creek had just 2 passengers per vehicle service hour prior to COVID-19. The service is operated every three hours five days a week on a fixed route basis. Unless the dial-a-ride service productivity shows otherwise, it is very likely that the demand levels will not warrant operation of fixed route service again.

Service to the up country locations of West Point, Mountain Ranch, Glencoe, and Railroad flat have gone through multiple service configurations, but the ridership response has historically been extremely low.

The Saturday Hopper was implemented as a means to also provide service to the tourist market, providing an alternative to the tourists wishing to utilize a bus, as opposed to driving, for wine tasting, events at the Ironstone Vineyards, or enjoying meals in Murphy's or Angels Camp. Prior to COVID-19, the Saturday Hopper averaged about 40 passenger per Saturday with a productivity just slightly higher than the Red Line with 4.3 passengers per hour.

In its history, Calaveras Connect has only provided fixed route service, with the provision of regularly established bus stops, flag stops where the passenger waves the at bus driver to stop at a safe location, or a direct-connect stop at any location within $\frac{3}{4}$ of the bus route. This type of service works well for a proportion of the population who need lifeline mobility services. However, the general conclusion is that there is a need to diversify the type of services that Calaveras Connect provides over the next five years by matching service

demand to the appropriate mobility option. The Calaveras Connect Response to COVID-19 provides the opportunity for beginning this process.

II. CALAVERAS CONNECT RESPONSE TO COVID-19

Background

On March 4, 2020, the State of California issued a State of Emergency from the threat of COVID-19. On March 18th, CTA released a notice of suspension of the Saturday Hopper service until April 11th. This was in response to the California Department of Public Health notices to postpone or cancel gatherings as well as local advisory regarding closure of certain businesses such as restaurants, bars, etc. Since the Saturday Hopper is supported primarily by visitors to these types of venues and businesses, it was determined to be in the best interest of the public to suspend the service.

Due to Paratransit Services' (operations and maintenance contractor for Calaveras Connect) efforts to increase frequency and level of cleaning and sanitizing of buses and facilities, as well as to provide personal protective equipment for employees and riders, Calaveras Connect was able to maintain regular Monday through Friday service through the end of March. When demand for service and trips plummeted after the Stay at Home order and closure of many businesses, schools, and other activities, it was decided to initiate a revised service, with the intent of maintaining lifeline services for those who rely on public transportation.

On March 27, 2020, CTA released a notice that effective March 30th and until further notice, Calaveras Connect would suspend regular service and transition to on-demand service only. Service was further restricted to essential trips, as determined by local and state officials. In addition, Calaveras Connect instituted a no fare policy. The no fare policy was to not only provide some financial relief for those who needed it, but also as another measure to reduce/eliminate the need for drivers to come in contact with riders. Three vehicles currently operate, essentially mimicking the fixed route schedule for the Red Line between Angels Camp and Valley Springs. At this writing, between 25 and 30 passengers per day are utilizing Calaveras Connect for essential services.

It is widely expected that the transition from sheltering in place and social distancing to more normal social and business operations will be phased. It is very likely that full normalcy will not return until there is a vaccine, and the general population is fully inoculated. Most experts project that this could take 12 to 18 months from March 2020. The State of California has provided guidance on a four-stage re-opening. Calaveras County is currently in the first part of Stage 2, which allows for retail curbside pickup, manufacturing, offices (when telework not

possible), opening more public spaces and limited personal services. Some counties may move through Stage 2 more quickly following guidelines from California Department of Public Health. Opening schools and dine-in restaurants with modification will be part of a later Stage 2 statewide opening. Travel is allowed only for permissible activities during Stage 1 and 2: work and local shopping related to open sectors, healthcare, food, personal exercise and outdoor recreation. The following is a brief summary of Stages 3 and 4:

- Stage 3 will phase in higher-risk workplaces, beginning with higher risk personal care and recreational venues (with workplace modifications). Travel is also limited to Stage 1 to 3 activities.
- Stage 4 is the end of the stay at home order. Larger gathering venues, including nightclubs, concert venues, and live audience sports will be open. Non-essential activities and travel will resume.

Even after government officials decide to relax restrictions over the next 18 months, it must be stressed that the use of public transportation as we knew it before COVID-19 may very likely change. The productivity of Calaveras Connect prior to COVID-19 was extremely low. A review of available data from the ZOOM! Database system, between November 1, 2018 and October 2019, shows that the average passengers per vehicle service hour was just 3.02 passengers per vehicle service. A vehicle service hour is when the bus is available to passengers to pay a fare. This productivity is more typical of dial-a-ride productivity. Therefore, the transition to on-demand service actually reflects the transit demand patterns of Calaveras County.

It could take 18 months to two years or more for Calaveras Connect to return to three passengers per vehicle service hour. Most transit trips will only be made if the passengers utilizing the service perceive the trip to be safe from potential COVID-19 infection spread. For our purposes, it is assumed there will be a one to two-year phase-in period when full reopening of the economy is made and the need for social distancing is eliminated. Therefore, we may see more of a “plural transportation” than the more commonly used mass transportation service. “Plural” transportation can mean a handful or less of passengers on a bus, increased ridesharing with families, or trusted friends, in addition to general public dial-a-ride services, and moderate levels of fixed route transit with social distancing practices.

The following is a progression of recommended operational steps and options for this transition period, broken down into:

- Administrative actions that should be implemented and evaluated immediately.
- Initial lifeline services to West Point, Railroad Flat and Copperopolis to provide lifeline mobility options throughout Calaveras County.
- When schools re-open, examine how service levels should change.
- Decide when fares should be re-established.
- Determine when the Saturday Hopper will return.

These are actions that were presented to the Calaveras Transit Agency Board in June 2020. Many of these recommendations have now been implemented as of November 2020.

Immediate Administrative Actions

Marketing and Communications

Calaveras Connect is working with Transit Marketing LLC to help get the word out about the change to existing services. To provide communication with riders and the broader community about the on-demand transit services being provided during the COVID-19 pandemic, a series of marketing tools have been developed:

- A series of four Facebook posts focusing on the availability of service, safety, and what essential trips are
- Two digital ads for use on local news websites
- A series of news releases focusing on different aspects of Calaveras Connect's response to COVID 19 - availability of service, safety and what qualifies as an essential trip
- Revamped content for calaverasconnect.org website

As additional services have been introduced it has been critical to actively communicate with riders and the community through the website, social media, conventional media, and targeted outreach to key populations.

Preparations for General Public dial-a-ride

Paratransit Services should ensure, in consultation with the California Highway Patrol, that General Public Paratransit Vehicle (GPPV) requirements will be adhered to if a general public dial-a-ride in Angels Camp and Copperopolis is implemented, one of the recommended future actions. In the California Vehicle Code, GPPV means any motor vehicle designed for

carrying no more than 24 persons and the driver, that provides local transportation to the general public, including transportation of pupils at or below the 12th grade level, to or from a public or private school or activity, as part of a dial-a-ride subscription for route-deviated bus services. In order to drive a GPPV bus with 10 or more passenger seating, a driver must have a GPPV certificate. Paratransit Services drivers that operate Calaveras Connect currently do not have GPPV certificates.

Paratransit Services currently utilizes ZOOM!, a database program for entering real-time operations data, which has capability to provide information for on-demand response trips. Paratransit Services should investigate the benefits of a paratransit software package for higher passenger volumes when Phase 3 and 4 reopening occurs. Paratransit Services currently does not have paratransit software to assist with optimizing demand response/dial-a-ride services. The current volume of 25-30 daily trips can easily be handled with manual dispatching. However, if and when on-demand transportation increases substantially, paratransit software can help to optimize the routing and booking of trips which would optimize productivity, measured by passengers per vehicle service hour. Paratransit Services as a company operates many demand-response services throughout the United States. Paratransit Services has investigated whether the paratransit software utilized in other Paratransit Services properties would add productivity benefits to Calaveras Connect. The purchase of paratransit software is schedule for procurement in FY 20/21.

Beginning in March 2020, Paratransit Services began operating the on-demand service with three vehicles, in a similar fashion that the fixed-route service was operated before the COVID-19 shelter in place order. The primary distinction is that passengers need to call to determine where and when they will be picked up within $\frac{3}{4}$ mile of the previous fixed route. The on-demand service is currently serving about 25 to 30 passengers daily with those three vehicles. This means that the current productivity is about 1 passenger per vehicle service hour. Half of the vehicle service hours provided should be able to serve this level of demand. There may be a need to transition to a general public dial-a-ride service where passengers request a trip from origin to destination the day before the trip is made so that better grouping of shared rides can be arranged. The actual routing of the vehicles would be based on the advanced reservations. The objective would be to have up to three passengers aboard the bus at any one time. Same day trip requests could be accommodated by dispatchers along the routing established by the advanced reservations if space is available.

CARES Act Funding

Caltrans released a letter on April 10th, 2020 to rural transit agencies who are recipients of FTA 5311 funds, specifying Caltrans' process for applying for and further sub allocating the available CARES Act funding through FTA. Through the CARES Act, California is to receive

\$95 million for distribution through the State administered FTA 5311 program. To expedite payment to local agencies, Caltrans is applying for approximately one third (\$30 million) for immediate disbursement. The amount available to each agency is based off the existing 5311 formula. The Calaveras Transit Agency is eligible to apply for \$480,981 in this first round. To put this in perspective, Calaveras Transit Agency's annual apportionment of FTA 5311 is typically around \$250,000, which makes up about a quarter of the Calaveras Transit Agency budget.

At the May 6th Calaveras Transit Agency (CTA) Board meeting, staff recommended applying for funds to cover operating costs from January 20th, 2020 through April 30th, 2020. This would include all operations contractor (Paratransit Services) costs, fuel and oil, and other expenses for purchase of supplies and equipment. Staff recommended additional requests be made on a monthly or quarterly basis until CTA has reached the maximum amount available during the first phase or until costs are no longer eligible. For this first phase, CTA submitted the first invoice on May 12th, 2020 for \$263,612 to cover operating costs, gas and oil, facility rent, maintenance of equipment, purchase of cleaning supplies and additional equipment for COVID-19, as well as communications. This is to be reimbursed at 100%, with no local match required and would cover any lost revenues during this time.

Caltrans made a second phase of CARES Act funding available in July 2020. According to Caltrans correspondence dated July 17th, 2020, Calaveras County will be receiving up to \$554,450 in Phase II CARES funding. This funding can be utilized for any FTA 5311 eligible expenditure including capital expenditures. The Calaveras Transit Agency has budgeted part of this apportionment in FY 20/21 and plans to carryover the remainder in FY 21/22.

Initiate Pilot Lifeline Services to West Point, Railroad Flat, and Copperopolis

The existing Calaveras Connect on-demand service essentially mimics much of the Red, Purple, and Blue lines, with communities of Arnold, Murphys, Angels Camp, San Andreas, Valley Springs and Mokelumne Hill all having five day a week on-demand service within $\frac{3}{4}$ miles of the previous routing of the three lines.

In curtailing services in response to COVID-19, it made sense to stop service on the Copper and Green lines. There was little passenger activity on the Copper Line serving Copperopolis or the Green Line serving the Railroad Flat and West Point area. Passenger activity on both of these lines has been extremely low. On the Copper Line, in FY 2018/19 there were a total of 1,087 passenger trips on 248 operating days or 4.38 daily passengers, or an average of one one-way trip per run. Since most passengers make a round-trip, this is an average of two individuals making a round trip per day. For both the Green Line A and Green Line B from

Railroad Flat, there were a total of 269 passengers on 104 possible operating days, or approximately 2.5 passenger trips, one individual taking one round trip for both Green Line A and Green Line B. During the current COVID-19 on-demand service, residents from Copperopolis, Railroad Flat, Wilseyville, and West Point can request and receive an on-demand trip, but according to management at Paratransit Services, there have been very few requests.

Both the West Point and Copperopolis areas were a focus of the outreach efforts for the Short Range Transit Plan in the Fall of 2019. There are lifeline mobility needs in these areas that need to be addressed.

Community Outreach in West Point

In West Point, a community leader was recruited to help organize intercept surveys in the following locations:

- Monthly food distribution at the VFW building
- Luncheon at the West Point Covenant church
- Entrance of the Dollar General store with permission of the store manager
- Thursday dinner at the Blue Mountain Coalition for Youth and Families

A total of 78 surveys were completed. While this was not a random survey with statistically valid results, it did survey individuals who had a higher probability than normal of being transportation disadvantaged. The majority of respondents were retired with just 9% employed full time and 22% employed part-time. Respondents were asked, "In general, which of these phrases best describes how well your household's transportation needs are being met." From discussions with West Point residents, it was the general conclusion that West Point residents are a very independent and self-reliant population. However, about 25% say they sometimes or many times are not able to get where they need to go. Almost 60% of survey respondents have doctor's appointments in two primary locations: Jackson (37.6%) and San Andreas (22.7%). When asked where their most frequent grocery shopping location is, an overwhelming 9 in 10 stated Jackson.

Service alternatives were developed to serve both areas with lifeline services, but several delays, including the onslaught of the COVID-19 shelter in place order, delayed consideration of these services. The follow-up consideration of alternatives with the communities of West Point and Copperopolis, which were originally scheduled for March, was not carried out. However, based on the initial outreach effort, it is recommended to test several pilot projects to meet the lifeline mobility needs of these communities.

West Point to Jackson Hybrid On-Demand Service

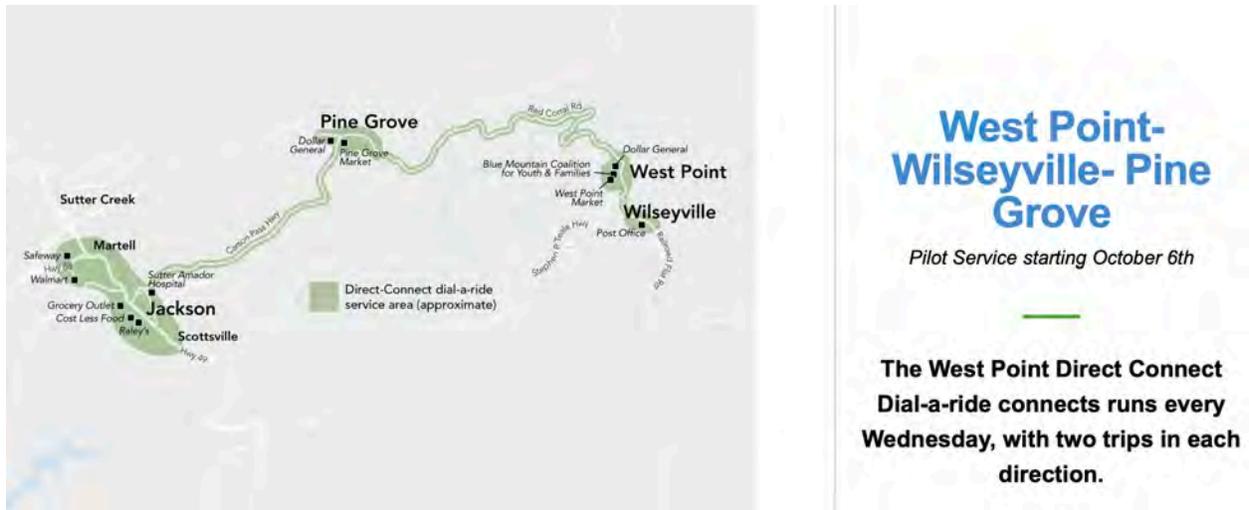
In the intercept survey in West Point, the most important improvement requested by respondents would be weekday bus service between West Point and Jackson, with 42% naming this option as their first choice.

The proposed pilot project would provide a one-day a week shuttle from West Point/Wilseyville for grocery and medical trips, and other errands, with a choice of two trips in each direction on the day of service.

Passengers from the Wilseyville and West Point area would need to make reservations the previous day by phone or two hours in advance by phone for a general public dial-a-ride pick-up in a defined area around Wilseyville and West Point either between 8:05am and 8:35 am or 12:20 pm and 12:50 pm. Reservations would be limited to four passengers on board the bus at any time to provide social distancing. After picking up passengers on a demand response basis, the small bus would have a fixed route stop in Pine Grove at 8:55 am and 1:10 pm and a fixed route stop at Raley's in Jackson at 9:10 am and 1:30 pm. The bus would then drop off other passengers in the Jackson area before taking a meal break. This would allow passengers to connect to the Southbound Purple Line at 9:20 pm and return to Jackson's Raley's in time for the connection for the bus back to West Point. This connection would need to be scheduled as part of the initial reservation. The bus would start picking up passengers in Jackson at 11:00 am and 3:20 pm and depart Jackson at approximately 11:20 am and 3:40 pm with fixed route stops in Pine Grove at 11:35 am and 3:35 pm and start dropping passengers off on a demand response basis at 11:55 am and 4:15 pm and would finish after the last passenger is dropped off in the West Point/Wilseyville area.

The pilot program is operational on Wednesdays as of November 2020 with two trips in each direction. The pilot program is limited to four passengers aboard the bus at any one time to maintain social distancing, if demand exceeds available passenger capacity, a second day a week could be added to the schedule if a waiting list reached three passengers. Passengers need to reserve a trip on Tuesdays by 3 pm.

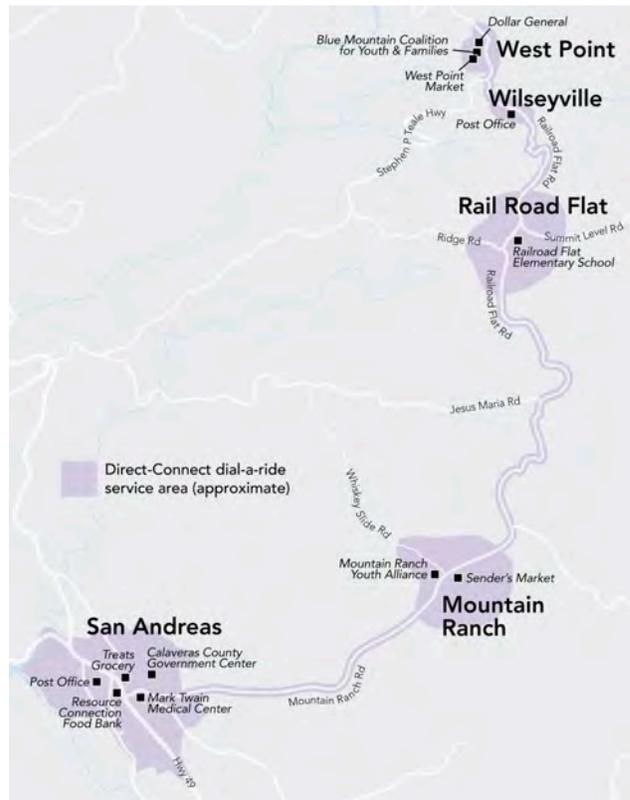
During the time that fares are free for the rest of Calaveras Connect, the pilot project would also have no fares through FY 20/21.



West Point - Rail Road Flat - Mountain Ranch - San Andreas

The Green Line B provided services from Rail Road Flat to San Andreas on an on-demand basis five days a week. The service started at 9:50 am at the Railroad Flat Community Center and arrived in San Andreas at 10:30 am. The bus left San Andreas at 10:40 am and arrived back at Railroad Flat at 11:20 am. The schedule did not allow a resident of these communities to perform any business in San Andreas and return to their community on the same day. As cited above, ridership was extremely low.

The pilot service is operational in November 2020 along the West Point/Railroad Flat/San Andreas corridor on Thursdays as a dial-a-ride, on demand service. Passengers need to make a reservation for a trip has both an origin and destination in the corridor by 3 pm on Wednesdays. The return trip can be scheduled at the same time.



Community Outreach in Copperopolis

For the Copperopolis community, stakeholders told the consulting team that the 3-Circle area of low-income households is home to individuals who are transit dependent and may or

may not be connected with the Calaveras Connect Copper Line. The consulting team attempted to conduct an intercept survey of the 3-circle area and received only two responses in three hours. Observations in the 3-circle area found despite this pocket of lower income residents, the typical household has two or three automobiles, and most are very self-sufficient. Stakeholders told us there is intense need for a very small community of transportation disadvantaged residents.

Common Ground/Silver Streak serves a number of Copperopolis riders and they were very helpful in enabling the consulting team to contact their riders to conduct a short phone interview with a standard set of questions. The key findings of that effort were:

- 7 of 12 residents were aware of the Copper Route, but only three had utilized the service. Those who did were generally quite satisfied.
- The respondents were highly appreciative of the Common Ground services that provided critical lifeline services to them.
- 9 of 12 listed age or disabilities that limited their ability to drive.
- There was no discernible pattern of visits to the doctor, with most doctor's appointments in San Andreas, Angel's Camp, Sonora, Jackson, and Modesto. The most frequent destination was to Sonora, followed closely by Angel's Camp and Modesto.
- The highest priority improvement for this targeted population was a dial-a-ride bus where they call one day in advance for a reservation. dial-a-ride service was also generally preferred by a number of key stakeholders.

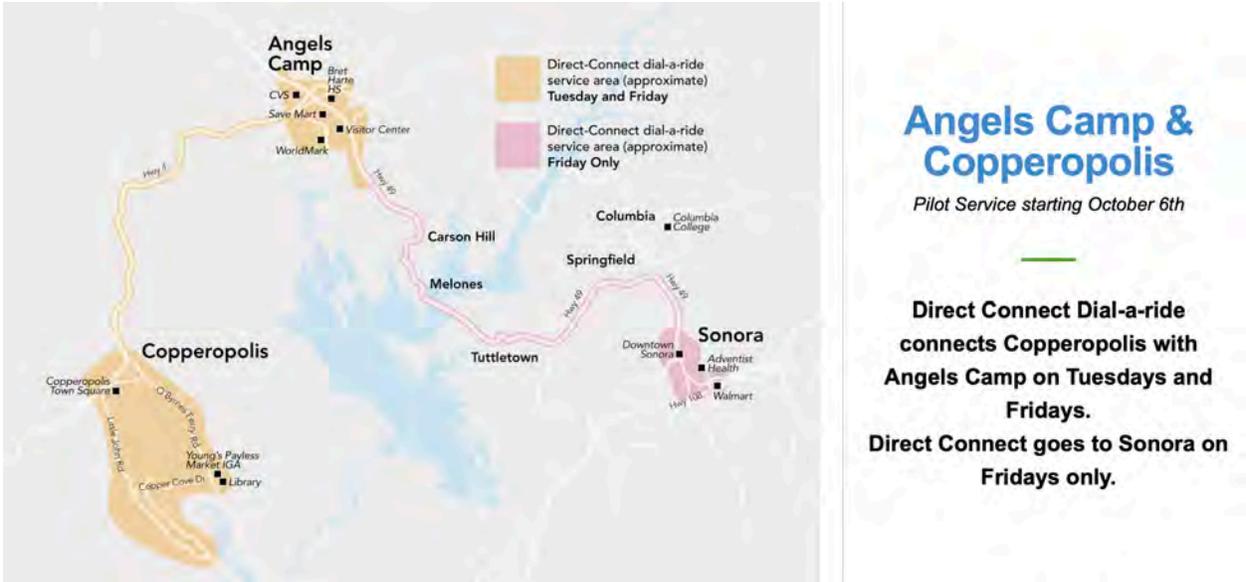
Human service agencies told us their clients need to get to the Government Center for classes, DUI appointments, training, and probation. Community stakeholders could potentially play a role in alternative transportation: volunteers at Community Gardens at the Elementary School; Tolloch Lake Church; and Copper Cove Lake Tulloch Homeowners Association were mentioned by stakeholders.

Dial-a-ride Service in Copperopolis and Angels Camp Two Days A Week

The Copper Line operated four fixed route trips a day Monday through Friday. In FY18/19, there were a total of 1,087 passenger trips on 248 operating days or 4.38 daily passengers, or an average of one passenger per one-way trip per run. Since most passengers make a round-trip, this is an average of two individuals making a round trip per day.

A pilot program is operational in November 2020 on Tuesdays and Fridays providing traditional general public dial-a-ride in a zone that covers all of Copperopolis and the City limits of Angels Camp. The service is provided from 9:00 am to 4:00 pm and reservations for

up to four passengers onboard the bus at any one time would be allowed up to seven days in advance or by 3 pm the previous day of the requested trip. Any trip origin and destination would be served with a single dial-a-ride vehicle. This would enable City of Angels Camp residents to make trips more easily within the City of Angels Camp. Copperopolis residents could make reservations for trips within Copperopolis or between Copperopolis and Angels Camp. The service is free during the same time period that other Calaveras Connect services are free. If demand exceeds more than 15 trips per day, then Calaveras Connect could consider adding a third day per week of service.



Scheduled Service Between Copperopolis and Sonora One Day a Week

In phone interviews with clients of Common Ground, and in discussions with key stakeholders, most residents of Copperopolis want to go to Sonora for medical trips and grocery shopping.

Calaveras Connect as of November 2020 is currently operating a pilot project on Fridays that would enable Calaveras County resident to make a dial-a-ride trip to Sonora. The service is offered between 9 am and 4 pm and can be easily combined with a trip from Copperopolis, for example. Passengers need to make a reservation by 3 pm the previous day or up to seven days in advance.

If the Calaveras Connect service on Fridays does not work out, a back-up option would be to partner with Common Ground. Common Ground currently goes between Copperopolis and Sonora for mostly non-emergency medical transportation four days a week. Currently, they have regularly scheduled trips for dialysis in Sonora on Tuesdays, Thursdays, and Saturdays.

An example schedule that would work with Common Ground's other trips would be for passenger pick-ups between 8:00 am and 9:00 am in Copperopolis with return trip pick-ups starting at 12:30 pm from Sonora and returning to Copperopolis. Due to social distancing protocols, the limit would be two passenger trips per day. The service would only be operated if there were an advanced reservation by 4:00 pm the day prior.

If this option is considered, it is recommended that Calaveras Connect negotiate a flat fee trip rate for the service. This rate could be substantially lower than a trip provided with a dedicated Calaveras Connect driver and vehicle.

Expand Tuolumne Trip (Volunteer Driver) Program to Calaveras County

One or two day a week lifeline service in low demand areas should be supplemented with a mileage reimbursement program modelled after the Tuolumne Trip program. Tuolumne Transit provides a supplementary transportation option that is called Tuolumne Trip. The service provides residents 60 and over, persons with disabilities, or persons with limited means, or veterans, with a mileage reimbursement program for eligible trips. Tuolumne Trip is intended to provide a transportation alternative for those isolated or homebound individuals who cannot utilize public transportation services provided by Tuolumne Transit, Southside Community Connections or Sonora Veterans Clinic. The eligible participant finds a driver which can include a friend, neighbor, family member, taxi, Uber, or Lyft driver. With mileage restrictions, the person is reimbursed at the IRS standard mileage reimbursement rate per mile. Reimbursements are made on a monthly basis.

Approved Social Service Care Representatives, Social Service Coordinators, or Mobility Coordinators may also submit ride reimbursements on behalf of participants. Tuolumne Trip participants are responsible for recruiting their own drivers and arranging their own schedules.

A participant must submit an eligibility application with Tuolumne County Transit and be approved. The overall consideration for determining eligibility for the Tuolumne Trip Program is, "Can the individual access needed transportation if Tuolumne Transit doesn't help?"

The type of trips eligible for reimbursement are limited to those that are pre-approved through the eligibility determination process and include:

- Health care
- Banking
- Personal errands
- Shopping

- Visits to friends and family
- Religious activities
- Volunteering
- Drug and alcohol rehabilitation
- Dining
- School
- Recreation
- Meetings
- Events
- Other type of trips approved by Tuolumne County Transit

Program guidelines specify that eligible trips must be made during normal hours of service for Tuolumne County Transit unless otherwise approved. The allowable miles to be reimbursed include:

- If a participant resides within 10 miles of the City of Sonora, the mileage reimbursement is limited to a 30-mile one-way trip, and they are limited to 300 miles per month.
- For all other participants, the mileage reimbursement is limited to a 38-mile one-way trip or 375 miles per month.
- Out of county travel is determined on a case by case basis but cannot exceed 300 miles per round trip.

Institutionally, there are three options for administering a Calaveras Trip program. The Calaveras Transit Agency could replicate the Tuolumne Trip program, make minor adjustments, and administer the program independently of Tuolumne Trip. Since the hiring of the Planner position for Calaveras Transit Agency is currently in process, it is very unlikely that Calaveras Transit Agency would have sufficient staffing in the near term to administer such a program.

The second option would be to make a proposal to Tuolumne Trip for administering the Trip program for both Calaveras and Tuolumne counties. A coordinated approach between Tuolumne and Calaveras County is the preferred alternative. Such a coordination effort is worth attempting, but given the COVID-19 crisis, may not be successful in the short-term.

The backup plan would be to utilize a third party provider like Assisted Rides:

<https://assistedrides.com/>.

Assisted Rides provides a fee-based turnkey cloud-based software program that provides the administrative tools for a mileage reimbursement program. It is relatively low cost and can be implemented quickly. If Calaveras Transit Agency cannot negotiate a partnership with

Tuolumne Trip in the near term, this program administration tool is recommended to quickly implement a mileage reimbursement program. Initially \$10,000 should be budgeted for a pilot Calaveras Trip program.

Provide Stipends to Community Organizations/Individuals to Help with Community Outreach to Promote Lifeline Services

Since Calaveras Connect has not been able to fill the Planner position responsible for outreach, to provide immediate support in promoting the pilot lifeline services in the communities of West Point, Mountain Ranch, and Copperopolis, it is recommended that Calaveras Connect provide a stipend to a local community organization or individual. Ideally this individual or organization would be one that has ties to the community and who the community looks to as a source of trusted information. It will take extensive outreach effort to get the word out for these services in these hard-to-reach communities. The outreach effort in West Point points to the need for such intensive outreach efforts. Through the SRTP effort, in trying to hire a local to help with the community intercept survey, the pastor at West Point Covenant Church recommended an individual who runs the food bank. The recommended individual turned out to be well connected to the community and opened doors for a successful survey. Providing a stipend for a set period of time and scope of work can be an efficient use of resources. At \$15 per hour, 200 hours of outreach and promotion would be \$3,000 per individual or organization. A simple scope of work should be developed for such a localized community outreach effort. The individual or organization could utilize promotion materials and digital ads created by the Transit Marketing LLC.

Options for Serving Columbia College

In the onboard passenger survey conducted in September 2019, 46% of passengers surveyed were students, so this represents almost half of Calaveras Connect ridership. While the large majority of students are Columbia College students (35% of all passengers), there were students from Bret Harte High School and Calaveras High School.

In correspondence between Calaveras Connect and Columbia College, teaching in the Fall 2020 has been primarily remote learning with just 10-15% at maximum on campus. This means that at least in the Fall 2020, there will likely be very little demand to Columbia College. It is soon to determine what the Spring 2021 on-campus rate will be.

A second major factor in Columbia College ridership potential is degree of economic recovery. Normally, during recessionary periods, community college enrollment increases substantially as students upgrade employment skills. Overall, it is expected that Columbia College transit ridership will be lower than pre-COVID-19. Even though Calaveras Connect

will enforce social distancing requirements by limiting the number of passengers onboard the bus, and sanitizing the bus regularly, there will likely be fears about public transportation that may take a long time for many passengers to overcome.

At present, the modified Calaveras Connect service is not operating out to Columbia College. In November 2020, the Red Line is operating between Angels Camp and Valley Springs. A key question is how much of the Red Line schedule to and from Columbia College should be restored. Pre COVID-19, there were eight trips in each direction approximately every 90 minutes to Columbia College.

At present, trips to Columbia College are provided on an on-demand basis from Monday to Friday. Passengers desiring to travel to Columbia College need to call and make a reservation for a dial-a-ride trip to and from Columbia College.

The next level of service would be to add subscription service to and from Columbia College. For example, a student taking a lab class on Tuesdays and Thursday from 9:30 to 11:30 could make a single standing order reservation to be picked at their home for arrival at Columbia College at 9:15 am and to be picked up at 11:45 am every Tuesday and Thursday. The subscription trip would remain in place unless the student cancels the trip. Dispatchers would attempt to group as many trips as possible, and therefore the student might be picked up at 12:00 or 12:15 if trips can be grouped.

Prior to COVID-19, there were students who lived in Arnold or other communities along the Blue Line who transferred to the Red Line. On-demand service is currently being provided along the Angels Camp to Arnold corridor. A student living in Arnold could make a subscription dial-a-ride trip reservation for a trip to Columbia College, similar to a subscription trip described above.

Three months after schools reopen, it would also be helpful to receive passenger feedback on services. Plans should be initiated for an online survey of passengers using on-demand services by text with a link to an online Survey site. Passengers calling to make on-demand services during a two-week period should be asked to complete the survey at least once. The Red Line drivers should hand out a questionnaire that can be returned to a manila envelope onboard the bus. The online survey would gather information as to who is using the on-demand services, the Red Line, and how satisfied they are with the services, as well as any issues they are having.

Additional alternatives for providing increased service levels to Columbia College are reviewed in subsequent section on Post COVID-19 service alternatives.

When to Re-Establish Fares

Fares have been historically increased to achieve the state required farebox recovery requirement, a minimum of 10%. The California Transit Association and CalACT have requested that Caltrans suspend farebox recovery requirements for a year due to the COVID-19 crisis, and this has been approved for FY 20/21. Fares are currently free on Calaveras Connect. This section addresses when fares should be re-established and to what level. There are several factors to consider.

Affordability of the fares to a very low-income population

In the September 2019 onboard survey, 48% of passengers had household incomes of \$15,000 or less, and another 22% had incomes below \$24,999. The average Calaveras Connect passenger is very low income and most passengers do not own an automobile or have a driver’s license.

The fares are currently a \$2.00 base fare for adults and students with \$0.25 for each additional zone travelled. Youth from 7-12 have fares of \$0.50 per ride. Columbia College passengers ride free with a student ID. Senior fares are \$1.00 with a \$0.25 for each additional zone. Adults can pay \$28 for 15-ride ticket book or \$60 for a monthly pass.

As mentioned earlier, the onboard survey revealed that almost half of riders are students, many of whom are Columbia College students with no fares. Another 13% are retired and are eligible for the \$1.00 discounted fare.

Fare revenues are a declining share of the farebox recovery ratio calculation

Over the past decade, changes have been made to allow additional local contributions to the farebox recovery requirement. In FY18/19, the fiscal audit highlighted the following revenues for the farebox recovery calculation:

Table 29: FY18/19 Farebox Revenues

Town	Count
Fare Revenues	\$79,417
Special transit fares: LCTOP	\$20,845
Local funds-advertising	\$11,760
Local funds-interest	\$ 5,352
Proceeds from sale of capital assets	\$ 4,950
Total fares and local funds	\$122,314

With total operating expenses of \$1,187,855, Calaveras Transit was just over the 10% requirement with a farebox recovery of 10.3%. For the historical farebox recovery calculation of only fare revenues divided by operating expenses, Calaveras Connect had a farebox recovery ratio of just 6.7%. Fare revenues have been a declining share of the revenues needed to make the farebox recovery ratio. The Calaveras Transit Agency can utilize more of its LCTOP allocation as local contribution toward the farebox recovery requirement.

State Legislature may lower the Farebox Recovery requirements

If a transit operator is not in compliance with the 10% farebox recovery requirement, a sizable penalty can be imposed. The penalty year is the fiscal year that begins one year after the end of the fiscal year during which the required ratio was not maintained. The requirement was first established in 1978. However, as many rural transit agencies have difficulty achieving the requirement, the California State Legislature has periodically added exemptions to the TDA's requirements and allows certain non-fare revenue to be counted in the farebox calculation if such revenue is available.

There has been much discussion in the California transit industry on whether the original TDA legislation needs to be revised based on other statewide goals to reduce greenhouse gas emissions and encourage sustainable communities. In August 2018, the chairs of the Assembly Committee on Transportation and the Senate Committee on Transportation and Housing wrote a joint letter requesting that the, "California Transit Association (CTA) spearhead a Transportation Development Act Policy Task Force to fully examine performance measures for our state's public transportation system and produce a legislative recommendation for any reforms or changes to the current program."

A Task Force was formed and conducted extensive outreach and several meetings. Their preliminary recommendations for legislative changes were released on January 8, 2020. This is a draft framework that public transit agencies are providing additional feedback on during a comment period. After this review and any revisions are made, it is very likely that legislation will be drafted in the near future to adopt the key recommendations:

- Retains the current farebox recovery performance indicator as an important data set for policymakers at all levels. However, it transitions farebox recovery ratio as firm requirement to a target that transit agencies would strive to hit.
- Lowers the rural farebox recovery ratio from 10% to 7.5%.

- Further adjusts what would be included in the numerator and denominator for calculating the farebox recovery requirement, possibly including some federal funds and all LCTOP funds received in a year.
- Removes the financial penalties within the requirements for missing farebox recovery for all transit agencies.
- For agencies not meeting their farebox recovery targets it offers the options of 1) developing an action plan to meet the targets with the regional transportation planning agency (RTPA) or 2) developing new targets for different performance indicators that monitor the transit agency's contribution to local, community and regional goals.

The COVID-19 crisis may help to facilitate legislative change to the farebox recovery requirements. If the above framework becomes law, it would be a potential game-changer for Calaveras Connect. With most transit agencies in California offering free fares during the Shelter in Place order, the State Legislature will need to act, at a minimum, to suspend the farebox recovery requirement for at least a year.

Reconsider Fares When State Legislature Provides Direction

Taking the above factors into consideration, it is recommended that fares not be re-established until the State Legislature makes a decision on the farebox recovery requirement. It is quite possible that the farebox recovery requirements will be lowered to 7.5% by the California legislature with no penalties for non-compliance. When fares are necessary, the affordability for existing and passengers who need transit service should be carefully considered.

There may be a need to consider a rollback of the \$2.00 base fare at that time. There should be an incentive for those who can utilize fixed-route service to do so. A base fare of \$1.50 plus \$0.25 per zone for dial-a-ride, with a \$1.00 +\$0.25 fare for seniors and disabled individuals is recommended. A flat fare of \$1.00 and \$.50 for seniors and disabled individuals is recommended for fixed route services if farebox recovery requirement allow such a low fare.

Saturday Hopper Should Be Initiated When Stage 4 is Implemented

The Saturday Hopper service had been experiencing significant momentum in building ridership when the COVID-19 emergency was declared nationally and statewide. It was one of the first services eliminated by Calaveras Transit Agency management. While some level of

tourism is beginning to return to Calaveras County, full levels of tourism will likely not return to Calaveras County until shelter in place and social distancing restrictions are lifted in Stage 4. This is when the Saturday Hopper service should be resumed.

Looking Forward: Service Levels Based on Demonstrated Demand

One of the key principles articulated above is that transit service levels and the type of service being provided should be based on demonstrated demand. In the past, fixed route service had been provided on the Copper Line five days a week with very little ridership. While the Short Range Transit Plan will further develop the threshold standards for increasing service level based on meeting productivity standards, some preliminary guidance has been provided above.

The pilot projects recommended and now implemented will provide the opportunity to determine if there is sufficient demand to justify the pilot service. If services do not meet minimum thresholds of ridership and productivity, then the services should be discontinued.

An example of demonstrated demand would be increasing the on-demand service from Wilseyville/West Point to Jackson. If there is demonstrated demand by having a waiting list for the one-day a week service, then a second day of service should be added. The service would start with two round trips per day. If it turns out that only one of the round-trips is being consistently utilized and the second round trip is not being utilized, then the second round trip should be cancelled.

Prior to COVID-19 buses on Purple Line to Jackson and Sutter Creek were often operating with zero or one passenger onboard as just one example. In order for fixed route service levels to return, the demonstrated demand should be at least three passengers per hour with the prospect of achieving five passengers per vehicle service hour over the long term.

III. POST COVID-19 SERVICE ALTERNATIVE SCENARIOS

The recommendations for Calaveras Connect during the COVID-19 crisis were based on the key themes and conclusions from the community outreach effort conducted in the Fall 2019. Monitoring the results of the implementation effort will be key to making decisions on what services should be improved or implemented during the five-year time frame of the Short Range Transit Plan. Of course, it is not known when the COVID-19 crisis will subside and then be fully eradicated. In addition to the experience with implementing the COVID-19 response in the coming months, the degree of unemployment, poverty levels, price of gas, and overall attitudes toward safety of public transportation will all be important variables to consider.

Guiding Principles

- Invest finite resources where there is demonstrated ridership.
- Provide an array of lifeline services to meet the basic transportation needs of the transportation disadvantaged.
- Lifeline services should provide the coverage and hours of operation to complete trips to desired destination for medical trips, shopping, and government services in a timely manner. Target service destinations where there is the highest probability of multiple riders on the bus.
- Increase lifeline service levels when they meet minimum ridership and productivity thresholds. The following thresholds should be considered
 - When general public dial-a-ride exceeds 4 passengers per vehicle service hour with the potential for a fixed-route service to achieve 6 or more passengers per hour, consider fixed route or extension of existing fixed route service from, at a minimum, 8 am to 5 pm.
 - If scheduled round trips on the upcountry or Copperopolis pilot projects fall below an average of 2 passengers per trip (2 round trips by these passengers = 4 passenger trips) over a three month period, consider eliminating one of the scheduled round trips per day. If a pilot project is only operating one round trip per day, consider adding a second round trip per day if an average of 3 passengers per day is reached over a 3-month period.
 - If pilot services from upcountry communities achieve 80% or more seated capacity over a three-month period, consider increasing the number of days per week the service is provided. Likewise, if passenger volumes are less than 50% of seated capacity over a three-month period, consider reducing the number of days per week the service is provided.

The service alternatives discussed below provide opportunities for either improving Calaveras Connect services or diversifying the mix of services. However, the alternatives need to be considered in context of a finite constrained budget. How the finite resources are allocated is a decision that the Calaveras Connect Board will need to make.

Fixed Route Options

Prior to COVID-19, passengers could request a direct-connect (also called route deviations) pick-up within $\frac{3}{4}$ mile of the fixed route. This enables Calaveras Connect to operate without having to provide ADA Complementary Paratransit Service. ADA Paratransit service requires that equivalent service be provided to ADA certified individuals as the fixed route service with demand response service. There was very little utilization of the direct-connect option according to Calaveras Connect management.

Based on the planning principles articulated above, the future development of Red and Purple Lines should be based on demonstrated demand. Potential service level improvements will be constrained by the operating funds available to Calaveras Connect.

Core Route: Red Line

Performance Prior to COVID-19

The Red Line had 22,982 annual passengers between November 2018 and October 2019, representing 56% of total Calaveras Connect ridership. The next closest route was the Blue Line with 8,476 annual passengers. The Red Line had the highest level of service of any route with nine runs in each direction, with a frequency of every 90 minutes. However, the productivity of the Red Line was just 4.0 passengers per hour, the same productivity range that most general public dial-a-ride services have.

Improve Frequency to every 60 minutes with Direct-Connect Option

The potential for increased ridership is greatest on the Red Line if and when Columbia College returns to having a significant volume of students attending on-campus classes. Stakeholders prioritized improved frequency on the Red Line as a high priority strategy. When passengers were asked which one improvement would be most important, the highest priority improvement was “improve the frequency of service on the routes I use most.” Like the current Saturday Hopper service, the hourly frequency would allow the bus to arrive and depart at the same time each hour, making the schedule easy to remember for the stop they most utilize.

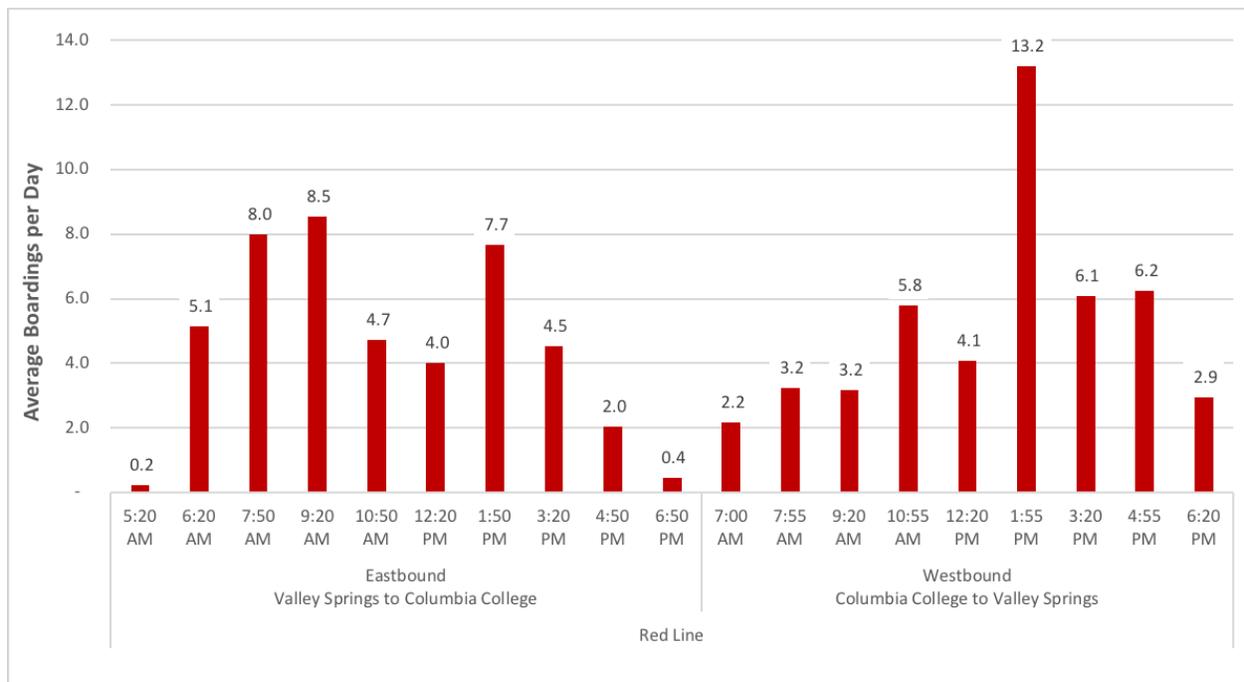
In order to consider 60-minute service, the threshold of demand should be at least an average of 7 passengers per hour for at least three months. The ability to reach this threshold will be dependent on future high school and Columbia College ridership. Based on past travel patterns before COVID-19, it is very unlikely that the Angels Camp to Valley Spring fixed route service will achieve this productivity. School ridership would likely need to surpass pre-COVID levels in order for this threshold to be reached.

The provision of direct-connect route deviations would require that the schedules allow for adequate recovery time to enable for the bus be on-time and make a route deviation request. This lowers the productivity of the route. If sufficient recovery time is not built into the schedules, then there would be significant schedule adherence problems.

Figure 20 shows the ridership by run for the Red Line from November 2018 to October 2019. The 5:20 am eastbound run and the 6:50 pm westbound runs have very low passenger volumes but are essentially deadhead runs for the bus to return to Paratransit Services yard in

San Andreas. Although, the ridership is very low, it wouldn't make sense to close the door since passengers will see the bus and want to ride it. The 6:20 pm run is the only run that might be considered for cancellation, but it essentially provides an important "sweeper run" for passengers who missed the 4:55 pm run and plays an important role in building Columbia College ridership. However, if post COVID-19 ridership is significantly below that of pre-COVID-19 ridership, and a run needs to be cancelled for budgetary reasons, this is the run that would need to be cancelled.

Figure 20: Ridership by Run - Red Line - Nov. 2018 to Oct. 2019



It is projected that this alternative would increase the annual number of vehicle revenue hours by 2,884 and the additional annual marginal cost would be \$128,000

Improve Frequency to 60 Minutes with no Direct-Connect Option All Year Round

In this alternative, there would be traditional fixed route and fixed scheduled service on the Red Line, with no direct-connect option. This would be coupled with general public DAR with at least a ¾ mile buffer surrounding the Red Line. This is addressed in the Demand Response alternatives discussed in the following section.

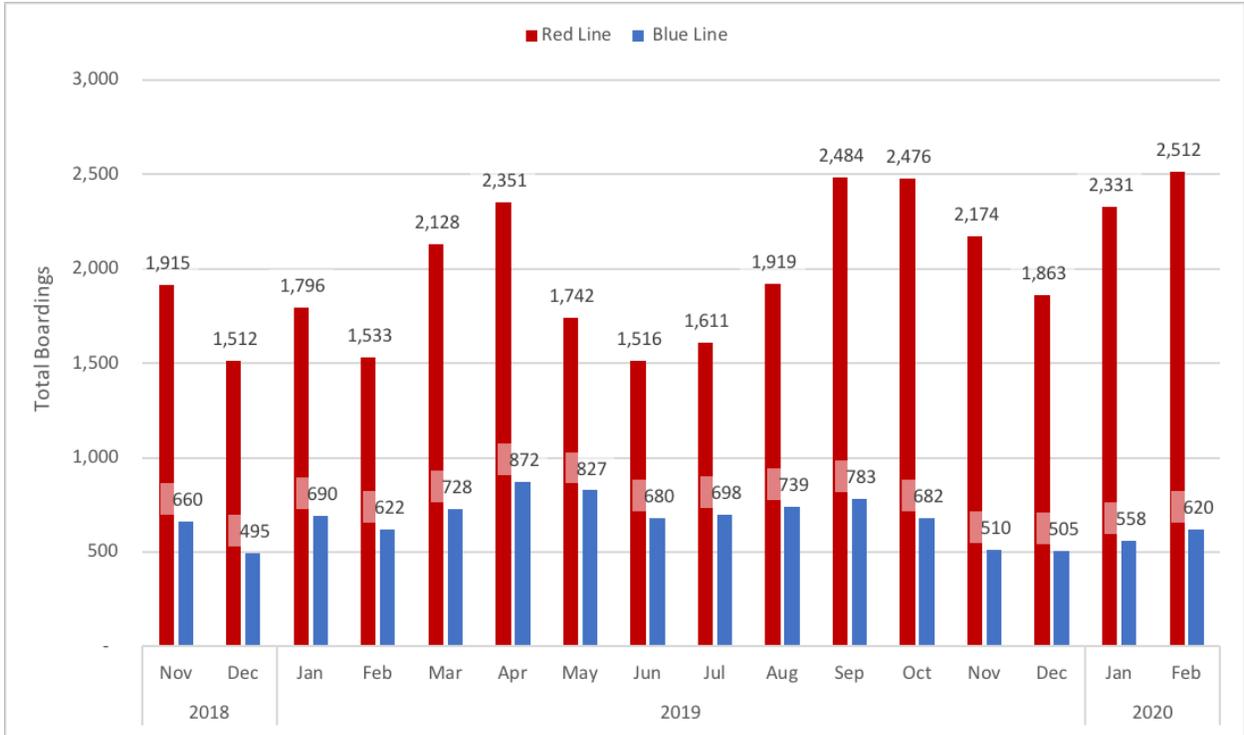
Without the direct-connect option, it is estimated that approximately 10% could be saved in additional vehicle service hours. Therefore, the additional annual cost of providing 60-minute frequencies would be reduced to \$115,193.

Operate the Angels Camp to Columbia College link only during the Fall and Spring semesters

In this alternative, when the Red Line is able to return and operate to Columbia College, the link between Angels Camp and Columbia College would only be operated when Columbia College is in session during the Fall and Spring semesters. Before COVID-19, about one-third of the Calaveras Connect trips were by Columbia College students.

Figure 21 shows that overall ridership by month on the Red Line is very low in December, June, and July when Columbia College is not in session. The Blue Line ridership does not have as pronounced ridership decline in those three months.

Figure 21: Red Line and Blue Line Ridership by Month



There are 101 weekdays when Columbia College is not in session for Fall or the Spring semester. Reducing the link between Angels Camp and Columbia College would reduce operating costs by approximately \$42,000 per year.

The link between Angels Camp and Columbia College could be operated essentially a shuttle service between Angels Camp and Columbia, only on the days when Columbia College is in session. It would have timed transfers in Angels Camp to the Red Line and Blue Line, providing seamless transportation to Columbia College.

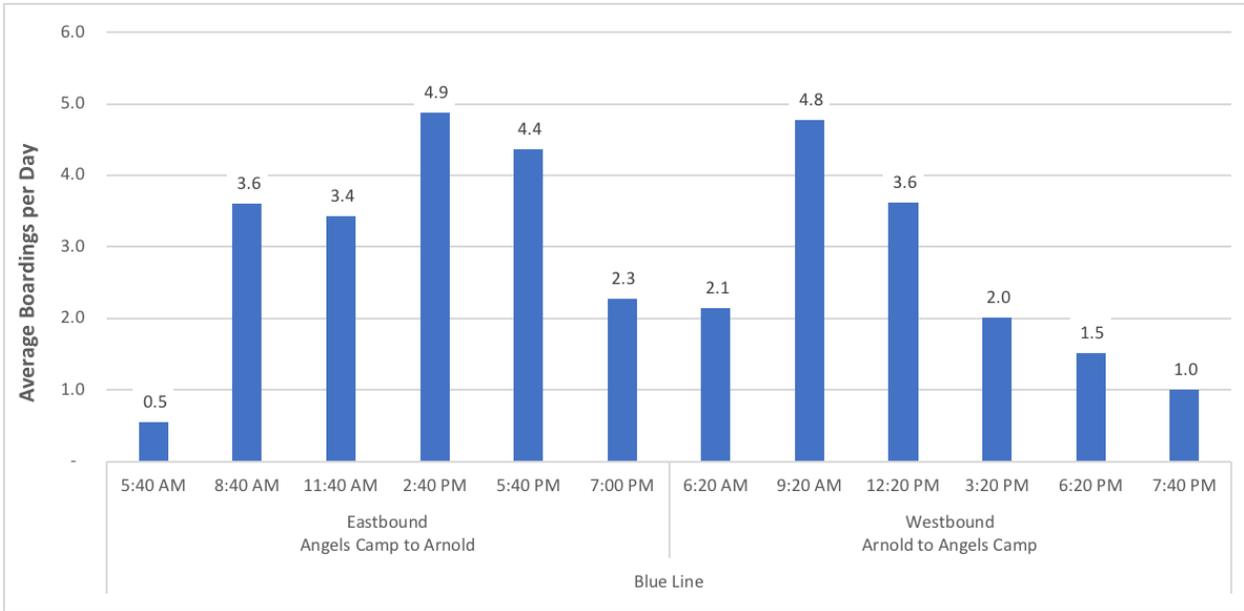
Blue Route

Performance Prior to COVID-19

The Blue Line has the second highest ridership, but the highest productivity. Between Nov 1st, 2018 and October 31st, 2019, the total ridership was 8,479 or 20.6% of the total ridership. However, the Blue Line has the highest productivity of all routes at 4.7 passengers per vehicle service hour. Service is every three hours from 5:40 am with the last run departing in Arnold at 7:40 pm and arriving Angel’s Camp at 8:20 pm. The schedule coordination between the Blue Route and the Red Route is excellent for connections to the Red Line in both directions.

Figure 22 shows the ridership by run for the Blue Line between November 1st, 2018 and October 31st, 2019. The 5:40 am run is essentially a deadhead run from the Paratransit Service yard to Arnold to begin the 6:20 am run. Likewise, the 7:40 pm run is essentially a deadhead run from Arnold back to the Paratransit Services yard in the evening. However, the 7:00 pm run from Angels Camp to Arnold is only receiving an average of 2.3 passengers. When service is re-implemented, consideration should be given to eliminating the 7:00 pm eastbound and 7:40 pm westbound runs. This would make the 6:20 pm run the last run for the vehicle before it returns to the Paratransit Services yard.

Figure 22: Ridership by Run - Blue Line - Nov. 2018 to Oct. 2019



Transition to Fixed Route, Fixed Schedule Service

In the first stage of re-opening, it was recommended that the Blue Line have general public dial-a-ride with subscription trips allowed for regular trips to Angels Camp or when Columbia College opens trips to the College for the few on-campus classes. The Blue Line should

transition to fixed route, fixed schedule service when productivity of general public dial-a-ride exceeds 3.5 passengers per hour over a three-month period. It may be desirable to start the fixed route service eastbound at 8:40 am and westbound at 9:20 am and end the service eastbound at 6:18 and westbound at 7:00 pm. It will be important to maintain the connection between the Blue and Red Lines. With general public dial-a-ride, it may be possible to service early morning and the last run with demand response service.

With the Red Line operating every 90 minutes and the Blue Line operating every three hours, the Blue Line service could match the Red Line frequency if the Blue Line achieved 7 passengers per hour. This will only be feasible if and when student ridership from the high school and Columbia College returns or exceeds pre-COVID-19 levels. However, if the Blue Line were to increase to 90 minutes, the annual marginal cost would be \$80,200.

Alternative Routing: Extension of Red Line from Angels Camp to Arnold

With minimal ridership generated at Columbia College during the COVID-19 era, one possibility would be to extend the Red Route to Arnold instead of going to Columbia College during this period. The scheduled running time between Angels Camp to Arnold is currently 38 minutes, while the running time between Angels Camp and Columbia College is 30 minutes. Under this alternative, the Red Line would continue to operate with two vehicles as was the case pre-COVID 19. If this alternative is considered for implementation, then more detailed scheduling would need to be conducted. The alternative would likely require service frequencies from 90 minutes to two hours. The marginal cost saving of eliminating the Blue Line and re-routing the Red Line to Arnold would also be approximately \$80,200.

As an interim step, the extension of the Red Line from Valley Spring to Angels Camp, could start with an extension to Murphy's. Demand would be monitored to determine if there is sufficient demand to extend the route to Arnold.

Longer Term Alternative

If Columbia College does return to most classes on campus, the overall ridership to Columbia may not fully return. With two buses, it should be possible to operate frequency between Angels Camp and Valley Springs every hour, with the buses alternating serving Arnold and Columbia College, with both links from Angels Camp to Arnold and Angels Camp to Columbia College operating every two hours. More detailed scheduling feasibility would need to be conducted if this alternative is carried forward to the final SRTP.

Again, as stated above, this would only be possible if the Angels Camp to Valley line had an average of 7 passengers per hour over a three month period, which given ridership patterns pre-COVID-19 may not be feasible over the 5-year time frame of the Short Range Transit Plan.

Options for General Public Dial-a-Ride Post COVID-19

The section earlier on the Calaveras Connect Response to COVID-19 had a significant amount of discussion on getting ready and implementing general public dial-a-ride in Calaveras County. This section highlights further enhancements to the dial-a-ride service that could be implemented during the 5-Year SRTP timeframe.

Improving Productivity on General Public Dial-a-Ride

Paratransit Services is currently operating the on-demand service with three vehicles, in a similar fashion that the fixed-route service was operated before the COVID-19 shelter in place order. The primary distinction is that passengers need to call to determine where and when they will be picked up within $\frac{3}{4}$ mile of the previous fixed route. The on-demand service is currently serving about 25 to 30 passengers daily with those three vehicles. This means that the current productivity is about 1 passenger per vehicle service hour. Half of the vehicle service hours provided should be able to serve this level of demand. There may be a need to transition to a general public dial-a-ride service where passengers request a trip from origin to destination the day before the trip is made so that better grouping of shared rides can be arranged. The actual routing of the vehicles would be based on the advanced reservations. The objective would be to have up to three passengers aboard the bus at any one time. Same day trip requests could be accommodated by dispatchers along the routing established by the advanced reservations if space is available.

As also mentioned previously, this may require the procurement of general public dial-a-ride software to achieve these productivity levels. Paratransit Services utilizes Easy Rides software at other dial-a-ride services they operate in the Western United States and it is an excellent software package.

Easy Rides includes features such as automatic vehicle location tracking and electronic manifests along with advanced tools to streamline reporting, billing, and data analysis. It is a very user-friendly software package for both dispatchers and the drivers. The operator software runs on any standard Android tablet. Easy Rides is being utilized by 90 transit agencies across the United States. It is typical for such software to enable productivity of 2.5 to 4.0 passenger per hour range when advanced reservations the previous day or up to seven days in advance enable passengers to guarantee a trip. The key is to group in advance as many trips as possible, and to fill in available seats from same day requests.

Potential Role of General Public Dial-a-ride when Fixed Route on Red and Blue Resumes

In the section on the Calaveras Connect Response to COVID-19, in addition to the general public dial-a-ride replacing fixed route services, there were a number of pilot projects for upcountry communities such as West Point and Mountain Ranch and services from Copperopolis to Angels Camp and Sonora. Once the Red and Blue Lines transition back to fixed-route service, this section reviews the options for general public dial-a-ride.

Dial-a-ride Valley Springs, San Andreas with Trip to Jackson

During COVID-19 service, a vehicle is currently available for general public dial-a-ride in the San Andreas to Jackson corridor, essentially replacing the fixed route service. The service is currently available five days a week. This vehicle would continue to provide general public dial-a-ride in the San Andreas and Valley Springs corridor, with dial-a-ride trips by Calaveras County residents to Jackson upon request. It will be important to continue the service five days a week, allowing the scheduling of general public dial-a-ride trips to meet the Red Line bus for a trip to the final destination, for example to Mokelumne Hill, Jackson, or Sutter Creek. To guarantee a trip, passengers would need to make a reservation up to 7 days in advance or by the previous day the trip is needed. Dispatchers may be able to accommodate same trip requests, but only on a space available basis.

Potential Continuation of Pilot Programs to Upcountry, Copperopolis, and Angels Camp

In the section above on the Calaveras Connect response COVID-19, several pilot programs were recommended to provide lifeline mobility to Copperopolis, upcountry communities, and throughout Angels Camp. The continuation of these pilot programs will be dependent on the ridership response to the pilot services provided.

Hybrid Demand Response Among Wilseyville, West Point, and Jackson Pilot Service

The existing pilot project would provide one-day a week shuttle Wilseyville/West Point for grocery and medical trips, and other errands, with a choice of two trips in each direction on the day of service.

While the pilot program one day a week would be limited to four passengers aboard the bus at any one time to maintain social distancing, if demand exceeds available passenger capacity, a second day a week would be added to the schedule if a waiting list reached three passengers.

In order for the program to continue, there would need to be an average of four passenger trips (or two passengers taking a round trip = 4 passenger trips) per day over a three-month

period. However, if there is community input on how the service might be changed to achieve the 4-passenger trip threshold, the pilot program could be extended 3 to 6 months at the discretion of Calaveras Connect management.

The annual marginal cost of operating the Wilseyville-West Point-Jackson one day a week is estimated at \$19,800. Operating two days a week would be \$39,600.

West Point - Rail Road Flat - Mountain Ranch - San Andreas Pilot Service

The same parameters should be utilized as the standards described above for the Wilseyville, West Point, Jackson pilot program.

The marginal annual cost of continuing this program would be \$18,600 for one day a week and \$37,200 for two days a week.

Dial-a-ride Service in Copperopolis and Angels Camp Two Days A Week

The existing pilot program would provide traditional general public dial-a-ride in a zone that covers all of Copperopolis and the City limits of Angels Camp. The service is provided two days a week from 9:00 am to 4:00 pm and reservations for up to four passengers onboard the bus at any one time would be allowed up to seven days in advance and up to two hours in advance of the requested pick-up time. The pilot program enables City of Angels Camp residents to make trips more easily within the City of Angels Camp. Copperopolis residents could make reservations for trips within Copperopolis or between Copperopolis and Angels Camp.

If demand exceeds more than 15 trips per day, then Calaveras Connect could consider adding a third day per week of service. The service would need to average a minimum of four passenger trips per day over a three-month period for the service to continue. However, if there is community input on how the service might be changed to achieve the 4-passenger trip threshold, the pilot program could be extended 3 to 6 months at the discretion of Calaveras Connect management. Calaveras Connect management could also decide to transition this service to the user-side subsidy model being proposed for implementation between Copperopolis and Sonora two days a week.

The marginal annual cost of continuing this service would be approximately \$32,300.

Replace Direct-Connect on Blue and Red Lines with General Public Dial-a-ride

Since general public dial-a-ride will continue in most of Calaveras County when the Red and Blue Lines come back online, one option would be to eliminate the direct-connect route deviations on the Blue and Red Line. This would enable both lines to provide regular fixed route and fixed schedule service, providing more convenient service to the passengers with

reliable on-time performance. During the COVID-19 era, passengers will be used to making advanced reservations and it is likely that the direct-connect requests will not only become more common but could create a significant amount of out of direction travel to pick-up and drop off passengers with the $\frac{3}{4}$ mile limit. Flag stops would still be accepted.

In this alternative, there would be no direct-connect route deviations. Passengers who cannot make it to a bus stop or flag stop location would need to call to make a reservation for a general public dial-a-ride trip. If it is a longer trip, say from outside Arnold to Valley Springs, if the rider was not certified as ADA Paratransit eligible, the dispatcher would have the option of scheduling a trip from the origin to a bus stop that would enable the passenger to complete the trip on the Blue or Red Line or both.

ADA Paratransit Service Compliance

Under this alternative, the general public dial-a-ride service would also serve ADA Paratransit trip requests. These individuals who need a trip within $\frac{3}{4}$ mile of the Blue or Red Line could make a trip request between any origin and destination being served by Calaveras Connect dial-a-ride service. Because the proposed service area for general public dial-a-ride would include all of Angel's Camp and Copperopolis, eligible ADA paratransit individuals would be able to travel well beyond the $\frac{3}{4}$ mile boundary of the Blue and Red lines. However, reservations would need to be made the previous day by 5:00 pm. The hours of operation for ADA Paratransit trips need to be the same as the hours that the Red and Blue Lines operate.

Potential Technology Enhancements

Earlier, it was recommended that Paratransit Services procure a dial-a-ride software package. Paratransit Services has utilized Synchromatics' Easy Ride software for other agencies and this would be an excellent dispatching software choice for Calaveras Connect. This is the highest priority technology improvement.

Synchromatics also has suite of tools available that help with transit management and the provision of transit information. It has been repeatedly shown that the provision of real-time information about when the bus will arrive for both fixed route and dial-a-ride is very important in building transit ridership.

When ZOOM! was implemented, tablets with GPS tracking were made available onboard all of the buses. Synchromatics can provide real-time information that can be pushed to Google Transit for real-time information through GTFS-RT. Making real time passenger information available on the web and through Google Transit would be an important second priority enhancement for Calaveras Connect.

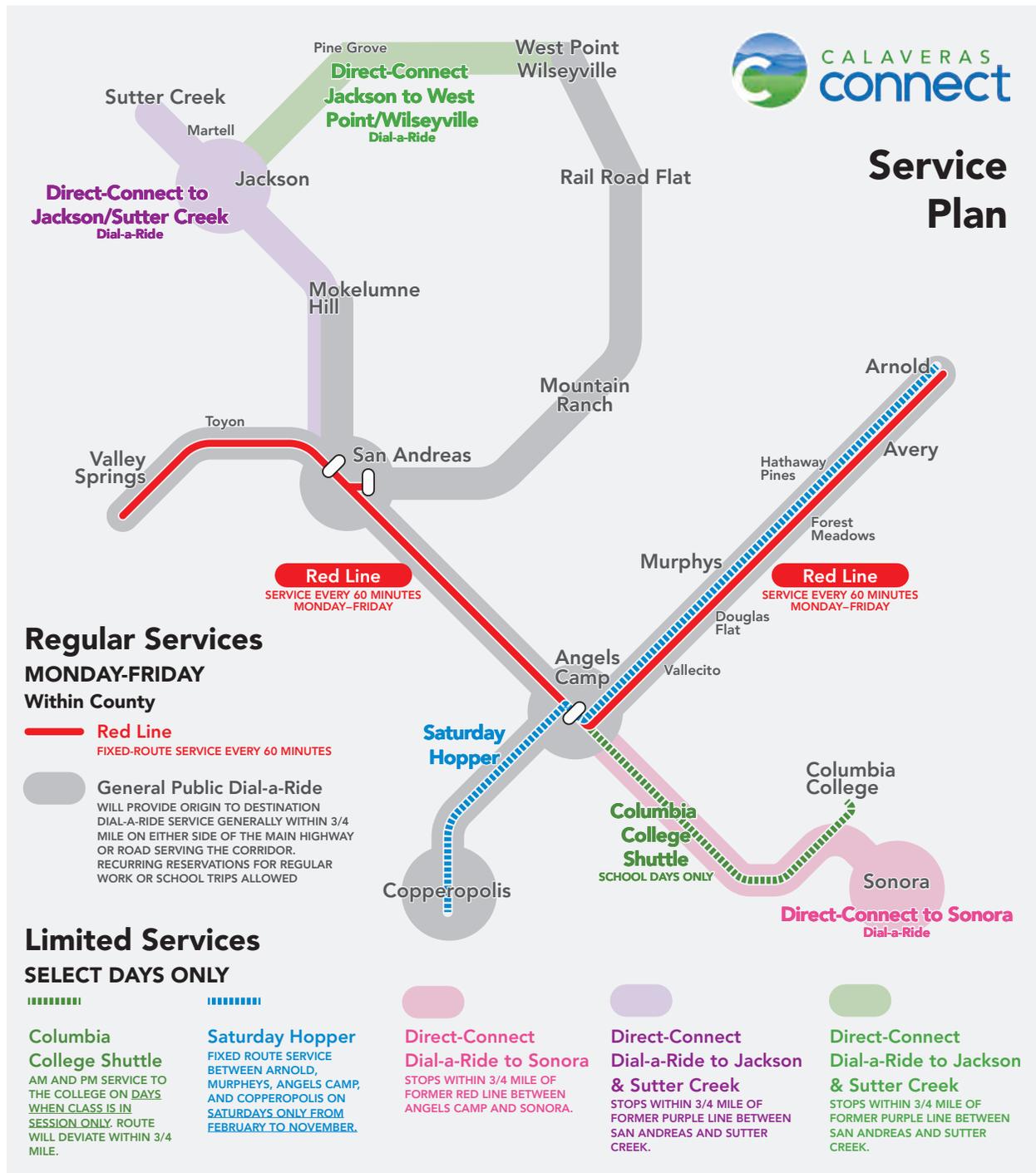
There is a new generation of services of general public on-demand services with an app that are typically called Microtransit. "Microtransit" is a term without an accepted and common meaning that has recently come into use. In general, it refers to transit services delivered in small vehicles, mini-bus size or smaller, in which the service itself has some type of demand responsive or flexible element. Most importantly, the route of each vehicle is determined at least in part by explicit requests for service. Those requests may be of a somewhat fixed nature, such as a person who is making a work trip each day, or they may be completely dynamic, such as a person wanting to make a trip from their home to the grocery store 15 minutes from now. In the former case, the service would have the character of a vanpool or buspool, in which specific locations are served but the vehicle may not stop at intermediate locations enroute to its final destination; in the latter case, the service has more of the characteristics of a general public dial-a-ride (DRT) or is commonly called a Flex service. Many of these flex type services with the use of an app are being utilized for first/last mile services to and from rail stations. However, Shasta Regional Transportation Agency has implemented Shasta Connect, a new microtransit service in the Redding area for Sunday service. Tuolumne Transit considered transitioning their Saturday dial-a-ride service to a micro transit service, essentially a general public dial-a-ride service with an app. However, Tuolumne County decided that the benefits of microtransit were not worth the high cost in a rural area. This is also the case for Calaveras County, and at least for now, microtransit is not recommended in Calaveras County.

CHAPTER 5 RECOMMENDED SERVICE PLAN

In Chapter 2, the Calaveras Connect services that were operated before the COVID-19 shelter in place restrictions in March 2020 were presented. Chapter 2 also described the services that are currently operating in November 2020. In Chapter 4, a variety of service alternatives during the COVID-19 era and after were presented. Suggestions were made on how service might progress in several level improvements based on service improvements. This chapter provides a recommendation for a five-year vision on how Calaveras Connect services could be operating at the end of the SRTP five-year planning horizon. It is recognized that there is significant uncertainty on how much transit demand will return after the COVID-19 era is over.

The following are the key elements of the five-year recommended plan as presented in Figure 23 below. This is an aspirational plan over a five-year time as several elements will not be implemented if there is not demonstrated demand or sustainable funding sources to warrant full implementation. In some cases, there will need to implement pilot programs to determine if there is sufficient demand for the service levels to be sustained over time. These potential caveats are described in the service element features below.

Figure 23: 5 Year Service Plan Vision



- Red Line between Valley Springs and Arnold operating Monday to Friday every 60 minutes. As discussed in Chapter 4, this could be from Valley Springs to Murphy's if the link between Murphy's and Arnold does not generate sufficient demand. Also, as described in more detail in Chapter 4, the transition from 90 minute to 60 minute service is predicated on a higher demand level than what was shown prior to the COVID-19, and may not be feasible within the five-year planning horizon.
- Columbia College shuttle between Angels Camp and Columbia three times in the morning and three times in the afternoon on days that Columbia College is in operation. There would be a timed transfer at the Save-Mart stop in Angels Camp between the Red Line and the Columbia College shuttle on days that Columbia College operates. The Columbia College shuttle is dependent on sufficient demand for in-person classes at the college. The interim subscription dial-a-ride service should provide data on demonstrated demand before the Columbia College shuttle service is implemented. The Columbia College shuttle would operate in a route deviation manner for trips within $\frac{3}{4}$ mile of the shuttle route. In the five-year plan, there would no longer be dial-a-ride service between Columbia College and Angels Camp.
- Improved general public dial-a-ride service five days a week for trip origins and destinations within Calaveras County that are currently being served with public transportation. The generalized gray areas in Figure 23 would enable all residents in these corridor to make a reservation by 3 pm the day before the trip is needed and travel to any other destination served by general public dial-a-ride. So, for example, anyone who lives in the service area in Copperopolis (currently served by Direct Connect two days a week) who want to travel to San Andreas for government business, for example, would be able to book a trip to and from San Andreas between 7 am and 7 pm from Monday to Friday. Individuals who work or go to school, can make a recurring subscription trip on dial-a-ride, for example from Copperopolis to a job in San Andreas, as long as the working hours are between 7 am and 7 pm Monday to Friday. Along the Red Line corridor, the route deviation or Direct Connect service would be discontinued, and trips with an origin or destination within $\frac{3}{4}$ mile of the route would be served with the general public dial-a-ride, including ADA eligible trips. This will enable the 60-minute service on the Red Line to maintain excellent on-time performance.
- For out of county trips, Direct-Connect service would be provided on select days of week between eligible Calaveras County origins and out of county destinations. The three Direct-Connect services are:
 - San Andreas-Mokelumne Hill-Jackson-Sutter Creek
 - Wilseyville-West Point-Pine Grove-Jackson
 - Angels Camp-Sonora

The latter two Direct-Connect services are being operated one day a week. The upgrade from the existing pilot program assumes that ridership during the pilot program justifies the two day a week service.

- Saturday Hopper would be maintained and improved as market conditions dictate. During the community outreach, there was the desire to have the Saturday Hopper extended to the new hotel that is just about to open in Copperopolis Town Square. Figure 23 shows this extension.

6. Operating and Capital Plan

INTRODUCTION

The financial plan provides the details of the operating and capital costs and revenues from FY20/21 to FY24/25, based on the recommendations in the previous chapters. The financial plan is founded both on known facts and projections based on historical precedence. Since the last SRTP (2015), the administration and governance has shifted from Calaveras County to the Calaveras Transit Agency (CTA) with a very cost-effective transition. However, even before COVID-19, all rural transit agencies have been not only seen major fluctuations in transit revenue sources, but also the elimination and sunseting of capital revenue sources including PTMISEA (CTA is utilizing the last of these funds this fiscal year). New funding sources became available to CTA, including LCTOP and State of Good Repair funding. The future of public transportation funding continues to contain a great deal of uncertainty. Therefore, the plan is based on what is known in 2020, with key assumptions stated in the relevant sections below.

This chapter is broken into four sections over a five-year period:

- Operating Costs
- Operating Revenues
- Capital Expenditures
- Capital Revenues

It is not known what the effects of COVID-19 will be on several important revenue sources. There is currently an economic turndown, but it also not known how severe of a recession Calaveras County will be facing and what the timing of the economic recovery will be. Therefore, the baseline operating costs are presented on what is known in 2020.

BASELINE OPERATING COSTS

Table 30 shows the baseline operating cost between FY 18/19 and FY 24/25. The baseline costs are based on what is known in August 2020 without any further service improvements. The baseline operating cost supply assumes that CTA keeps the vehicle service hours and vehicle service miles at the assumed level of 11,864 vehicle service hours and 368,000 in the operations and maintenance contract with Paratransit Services.

Of course, based on actual service levels, the actual vehicle hours and vehicle service miles can fluctuate in the contract by 20% without affecting the terms of the contract. This gives

CTA the flexibility to increase the vehicle services to 14,236 without changing the terms of the contract. Most of the service recommendations provided in Chapter 5 could be implemented within the 20% limit if there is demonstrated demand to do so. However, moving to 60-minute frequencies on the Red Line could exceed the 20% contract limit depending on the service levels of other services provided by Calaveras Connect.

The baseline operating costs are budgeted at \$1,212,942 in FY 2020/21. It should be noted that the operations and maintenance contract is 75% of the total operating budget. The operations and maintenance contract specifies the variable operation cost per vehicle service hour and maintenance cost per vehicle service mile. The projected costs for future years utilize these cost escalation factors. The escalation is very moderate, with expected baseline operating costs expected to increase to \$1,344,458 in FY 2024/25.

The decision to move forward with any of the service recommendations in Chapter 5 or interim steps provided in Chapter 4 will be dependent on sustainable revenue sources and demonstrated demand. These sequential improvements will hopefully lead to the recommended service types and service levels recommended in Chapter 5.

Table 30 Baseline Operating Costs

Expense Categories	FY 2018/19 Actuals	FY 2019/20 Actuals	FY 2020/21 Rev. Budg.	FY 2021/22 Projected	FY 2022/23 Projected	FY 2023/24 Projected	FY 2024/25 Projected
Operations Contract	\$ 780,211	\$ 744,554	\$ 834,730	\$ 857,620	\$ 874,070	\$ 891,552	\$ 909,383
Maintenance Contract	\$ 124,634	\$ 82,421	\$ 74,507	\$ 76,202	\$ 77,689	\$ 79,243	\$ 80,827
CCOG Administration	\$ 53,467	\$ 42,182	\$ 65,585	\$ 67,553	\$ 69,579	\$ 71,667	\$ 73,816
Fuel	\$ 140,979	\$ 117,932	\$ 132,500	\$ 139,125	\$ 146,081	\$ 153,385	\$ 161,055
Transit Center Lease		\$ 45,603	\$ 41,820	\$ 43,075	\$ 44,367	\$ 45,698	\$ 47,069
Marketing/materials		\$ 3,196	\$ 30,000	\$ 30,900	\$ 31,827	\$ 32,782	\$ 33,765
Professional Services	\$ 27,353	\$ 18,032	\$ 12,500	\$ 12,875	\$ 13,261	\$ 13,659	\$ 14,069
Other/contingencies	\$ 16,034	\$ 9,393	\$ 21,300	\$ 21,939	\$ 22,597	\$ 23,275	\$ 23,973
Total	\$ 1,142,678	\$ 1,063,313	\$ 1,212,942	\$ 1,249,288	\$ 1,279,471	\$ 1,311,260	\$ 1,343,957

BASELINE OPERATING REVENUES

Operating Revenues by Source

In this section, the available operating revenues for Calaveras Connect are reviewed. The sources are defined, and the recent history of revenues utilized is provided.

Farebox Revenues

Audited farebox revenues in FY 18/19 were \$79,417 and declined to an estimated \$63,345 in FY 19/20. This is in part due to suspension of fares for the last quarter of FY 19/20. There will

be no fares collected in FY 20/21 due to COVID-19. LCTOP funds are contributing \$63,000 in funds to provide for "fare equivalents" in FY 20/21.

Assuming the recommended fare reductions are implemented in July 2021, both passenger levels and passenger fare revenues are expected to be \$26,827 in FY 21/22 and slowly increase to \$50,077 by FY 24/25. This is substantially lower than the \$79,417 collected in FY 18/9, due to 1) expected lower passenger levels and 2) a lower average fare. This is based on an average of \$1.25 per passenger in FY 21/22 and FY 22/23, with a small fare increase in FY 23/24, increasing the average fare to \$1.40. These fare assumptions do not account for farebox recovery requirements which have been suspended this fiscal year. It is very possible that the State Legislature will establish revised farebox recovery requirements in FY 21/22. The fare levels may need to adjusted upwards if Calaveras Connect is not able to achieve the farebox recovery requirements if not offset by local contributions.

Local Contributions

Transportation Development Act allows local contributions to count towards fare revenues in the farebox recovery calculation. The local contributions that Calaveras Connect utilizes includes:

- Advertising income
- Interest income
- Sale of capital assets
- LCTOP fare subsidy

Advertising revenue was \$11,750 in FY 18/19 and is estimated at \$33,089 in FY 19/20. Advertising revenues are budgeted at \$25,000 in FY 20/21 and are forecast at that same level through FY 2024/25.

Interest income made on monies utilized for operating capital and the capital reserve fund can also be utilized as local contribution in farebox recovery calculations. Interest income was \$5,352 in FY 2018/19 and is estimated to have declined to \$1,495 in FY 2019/20. Interest income is budgeted at \$4,500 in FY 2020/21. This is also the assumed amount through FY 2024/25.

When Calaveras Connect sells a bus that has exceeded its useful life and is no longer needed as a spare bus, the sale proceeds can also be utilized as local contributions. In FY 18/19, there was the sale of one surplus bus for \$4,950. In consultation with Calaveras Connect, it is assumed that Calaveras Connect will sell on average, at least one bus per year. Therefore, it is assumed that \$5,000 per year will be earned from the sales each year through FY 24/25.

The Low Carbon Transit Operations Program (LCTOP) is one of several programs in the Transit, Affordable Housing, and Sustainable Communities Program established by the California Legislature in 2014 by Senate Bill 862. LCTOP was created to provide operating and capital assistance for transit agencies to reduce greenhouse gas emissions and improve mobility with a priority on serving disadvantaged communities. The program is administered by Caltrans.

LCTOP is allocated based on population and percentage of local transit agency fare revenues to all transit fare revenues in the state. Caltrans approves the use of LCTOP funds for programs that contain a component to reduce greenhouse gas emissions.

LCTOP monies were utilized for the free fare program at Columbia College in FY 19/20 and \$63,000 in LCTOP monies are being utilized this fiscal year as “fare equivalents” since fares are free as of November 20 due to COVID-19. It is anticipated that a lower amount of funding will be required for the Columbia College free fare program from FY 21/22 to FY 24/25, and therefore \$15,000 is included for a free fare program per plan year. LCTOP monies utilized for free fare programs are eligible to be counted towards local contribution in farebox recovery calculations.

The balance of the LCTOP monies or approximately \$68,000 per year will be utilized in the Capital Reserve Fund for electric buses, charging stations and associated electric bus infrastructure.

Local Transportation Fund

The Local Transportation Fund (LTF) is part of the funds received from Transportation Development Act (TDA) monies. TDA funds are derived from the state sales tax and are earmarked for public transportation purposes. The law (SB 325, enacted in 1971) created a local transportation fund (LTF) in each county that is funded from ¼ cent of the base statewide six-cent retail sales tax collected in each county.

For the Calaveras Transit Agency, \$157,734 was utilized in FY 18/19 and no LTF monies were utilized in FY 19/20 due to CARES Act funding availability. \$375,00 is budgeted in FY 20/21. It should be stressed that while LTF funding is the most important funding source for Calaveras Connect, there is a great deal of uncertainty on how severe the expected economic downturn will be and how much overall sales tax revenues will drop. There is also a great deal of uncertainty on how fast sales tax revenues will rebound.

LTF funds are utilized in the SRTP as the fund of last resort after all other potential funding sources are utilized. As will be discussed in greater detail below, the extra CARES Act funding, in particular, has decreased the need for LTF funding from FY 2019/20 to FY

2023/24. If Calaveras County has available LTF monies that are not needed transit, they can be apportioned to streets and road programs.

It is important to note that the need for LTF funding, even with this baseline revenue scenario, is expected to jump to \$580,631 in FY 2024/25 after the CARES Act funding is exhausted.

State Transit Assistance Funding

The second source of TDA funding is State Transit Assistance (STA) Funds. STA was originally derived from the statewide sales tax on gasoline and diesel fuel. On March 22, 2010, STA funds were restored under a new legislative package known as the “gas tax swap.” Designed to be revenue neutral, the tax swap replaces the sales tax on gasoline and increases the sales tax on diesel fuel to partially supplement STA funds. Now, STA funds come solely from the statewide sales tax on diesel fuel. Therefore, STA revenue to the region depends on diesel fuel prices and diesel consumption. Availability of STA funding has varied substantially over the past ten years.

STA funds can be utilized for either operating or capital purposes. However, STA funds can only be utilized for operating purposes, if the operator’s average total operating cost per revenue hour in the latest three years does not exceed the Consumer Price Index for that three-year period. This regulation has been suspended this fiscal year due to COVID-19.

The Calaveras Transit Agency is utilizing STA funding for only operating purposes at present. As mentioned above, there have been wide fluctuations in STA funding availability for transit statewide and this is very true in Calaveras County. In FY 19/20, Calaveras Transit Agency received \$383,583, but the estimate for the budget in FY 20/21 has been reduced to \$236,977. Based on expected recovery of diesel fuel sales, STA funding is estimated to increase to \$350,000 in FY 2021/22 and to increase to \$390,000 in FY 2024/25. However, these are just preliminary estimates and could fluctuate a great deal based on historical patterns over the past 10 years.

Federal Transit Administration 5311

Section 5311 is a non-urbanized area formula funding program. This federal grant program provides funding for public transit in non-urbanized areas with a population under 50,000 as designated by the Bureau of the Census. FTA apports funds to states for rural areas and Caltrans administers the funds in California. FTA 5311 funds can be utilized for either operating or capital purposes. Calaveras Transit has been utilizing FTA 5311 to support operating expense. In FY 20/21, Calaveras Connect has budgeted \$275,000 in FTA 5311. Congress needs to reauthorize Federal funding authorization, and when they do, historically FTA funding levels have increased. However, to be conservative, funding levels for regular

FTA 5311 is increased to \$288,750 in FY 21/22 and held steady at that funding level through FY 2024/25.

As part of the CARES Act, public transportation has received additional funding due to the pandemic. For rural areas like Calaveras County, the funding is allocated by Caltrans as additional FTA 5311 funding. The CARES Act funding has been allocated in two phases. The first phase funding was \$480,981. Calaveras Connect utilized \$382,356 of it in FY 19/20 to offset operating expenses. A second phase of funding of \$554,450 was made in July 20. In FY 20/21, \$207,753 in CARES Act Funding is budgeted. The remaining CARES ACT funding is spread over the next three years equally at \$148,441 per year.

Table 31 provides a summary of the operating revenues between FY 18/19 and FY 24/25.

Table 31 Baseline Operating Revenues

	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
	Audited	Est. Actuals	Rev. Budg	Projected	Projected	Projected	Projected
Local Revenues							
Passenger Fares	\$ 79,417	\$ 63,345	\$ -	\$ 26,827	\$ 34,279	\$ 41,731	\$ 50,077
Local contributions							
Advertising	\$ 11,750	\$ 33,089	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Interest	\$ 5,352	\$ 1,495	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500
Sale of capital assets	\$ 4,950	\$ -	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
LCTOP fare subsidy	\$ 20,845	\$ 32,197	\$ 63,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ -
State Funding Sources							
Local Transportation Fund	\$ 157,734	\$ -	\$ 375,712	\$ 385,770	\$ 378,502	\$ 397,838	\$ 580,631
State Transit Assistance	\$ 340,227	\$ 383,583	\$ 236,977	\$ 350,000	\$ 380,000	\$ 385,000	\$ 390,000
Other LCTOP/carryover	\$ 29,902	\$ -	\$ 20,000	\$ -	\$ -	\$ -	\$ -
Federal Funding							
FTA 5311 Regular	\$ 512,618	\$ 275,920	\$ 275,000	\$ 288,750	\$ 288,750	\$ 288,750	\$ 288,750
FTA 5311 CARES Act		\$ 382,356	\$ 207,753	\$ 148,441	\$ 148,441	\$ 148,441	\$ -
Total Operating Revenues	\$ 1,162,795	\$ 1,171,985	\$ 1,212,942	\$ 1,249,288	\$ 1,279,471	\$ 1,311,260	\$ 1,343,957
Total Operating Costs	\$ 1,142,678	\$ 1,063,313	\$ 1,212,942	\$ 1,249,288	\$ 1,279,471	\$ 1,311,260	\$ 1,343,957

CAPITAL COSTS

For Calaveras Connect, there are just four categories of capital expenditures over the five-year period covered in the Short Range Transit Plan.

- Vehicle procurements
- Charging Equipment and Infrastructure
- Bus stop improvements
- Equipment and Minor Facilities

Vehicle Procurements

Current Calaveras Connect Fleet

Calaveras Connect has a fleet of 11 vehicles, which includes a mix of medium duty cutaway buses, light duty mid-sized buses and modified vans as shown in Table 32. All vehicles are wheelchair accessible to comply with the Americans with Disabilities Act (ADA).

Table 32 Fleet Inventory

	TAM* Useful		TAM* Useful		Seating Capacity
ID	Life-Yrs.	7-20 Mileage	Life Miles	FTA Vehicle Type	Amb/WC
65	8	207,118	300,000	Medium duty bus	26/2
66	8	209,526	300,000	Medium duty bus	26/2
68	6	211,517	200,000	Light duty mid-sized bus	21/2
69	6	186,925	200,000	Light duty mid-sized bus	21/2
70	6	187,523	200,000	Light duty mid-sized bus	16/2
71	6	187,136	200,000	Light duty mid-sized bus	16/2
72	6	202,574	200,000	Light duty mid-sized bus	16/2
73	6	23,804	200,000	Light duty mid-sized bus	17/2
74	6	14,257	200,000	Light duty mid-sized bus	17/2
V01	6	78,320	100,000	Modified van	6/1
V02	6	61,491	100,000	Modified van	6/1

Before discussing the planned vehicle procurement, it is important to discuss a new requirement for zero emission buses.

Transition to Zero Emission Buses

In December 2018, the California Air Resources Board (CARB) approved the Innovative Clean Transit (ICT) regulation that outlines the requirements for transit agencies to gradually transition to a 100 percent zero emission vehicle fleet. The following is a brief summary of the requirement. Additional detail is presented in Appendix C “Zero Emission Buses, Short Range Transit Plan, Vehicle Procurements” which was presented to the Calaveras Transit Agency Board on October 7, 2020.

This assessment of zero-emission vehicle and infrastructure is intended to provide the Calaveras Transit Agency with a planning tool to prepare for requirements set forth in Innovative Clean Transit (ICT) regulation by outlining the potential capital costs of converting its conventional internal combustion engine (ICE) vehicle fleet to zero-emission buses (ZEB). This also provides context for the development of a full ZEB Rollout Plan that must be

developed by July 1, 2023 and highlights potential funding sources to support the transition to a full ZEB fleet.

California transit agencies are required to develop and submit a ZEB Rollout Plan that demonstrates how the agency will meet a goal of full transition to ZEBs by 2040 and identifies the type of zero-emission technology the agency will deploy. The rollout plan must also include schedules for construction of ZEB infrastructure and bus purchases or the conversion of combustion engine vehicles to zero-emission buses. Transit agencies must also demonstrate how it proposes to deploy ZEBs in disadvantaged communities and identify potential funding sources for the purchase of ZEB vehicles, equipment and infrastructure.

Small transit agencies must submit ZEB Rollout Plans by July 1, 2023 but are not required to begin purchase of ZEB vehicles until 2026. Calaveras Connect would like to begin the purchase of electric buses sooner than the 2026 requirement. The Short Range Transit Plan has a planning horizon through FY 2024/25. As provided in more detail, two electric buses are scheduled for procurement over the next five years. The ZEB Rollout Plan will provide a longer range plan between 2025 and 2040 for achieving the ICT requirements.

Fleet Mix Objective

In Appendix C, three vehicle procurement scenarios were reviewed by the CTA Board on October 7, 2020. The CTA approved the fleet mix objective described below over the next five years. The fleet mix transitions to a fleet of smaller vehicles of both internal combustion engine and electric vehicles with the procurement of:

- Two larger capacity 26 passenger buses (internal combustion engine).
- Two 17-21 passenger medium capacity buses (internal combustion engine).
- Three smaller 10-14 passenger smaller capacity buses (two internal combustion engine and one electric).
- Four 5-6 passenger modified vans (three internal combustion and one electric bus).

The fleet mix objective over the next five years is shown in Table 33.

Table 33 Fleet Objective as Approved by CTA Board

	No.	Fleet	Min. Seating	Desired	2020
Service Type/Capacity	Buses	Type	Capacity*	Propulsion	Costs
Fixed Route Only					
Large Capacity	2	Class E Cutaway	26	Diesel	\$ 367,000
Fixed Route or Dial-A-Ride					
Medium Capacity	2	Class C Cutaway	17-21	Gas	\$ 210,000
Small Capacity	2	Class B Cutaway	10-12	Gas	\$ 190,000
Small: Capacity	1	Z-2 Electric Cutaway	12-14	Electric	\$ 266,152
Dial-A-Ride Only					
Vans	3	Class V Modified Van	6	Gas	\$ 151,500
Vans	1	Z-1 Electric Van	5-6	One	\$ 189,821
Total	11				\$ 1,374,473

Vehicle Procurement Schedule

Over the next five years, Calaveras Connect is scheduled to replace ten buses in order to achieve the fleet objective described above. Table 34 is the Five-Year Vehicle Procurement Plan for Calaveras Connect. In order to garner more industry experience with electric vehicles, the first electric vehicle purchase would be in FY 22/23.

Table 34 Vehicle Replacement Schedule

ID	Existing Seating Capacity	Planned Replacement Order Year	Replacement Propulsion	Replacement Vehicle Type	Typical Replacement Model	Replacement Cost (2020)	Actual Replacement Cost (Inflation)	Replacement Seating Capacity
68	21/2	FY 20/21	ICE	Class C Cutaway Bus	EL DORADO Aerotech 240	\$102,044	\$105,373	21/2
72	16/2	FY 20/21	ICE	Class B Cutaway Bus (2)	Ford Glaval	\$190,000	\$190,000	12/2 (2)
69	21/2	FY 21/22	ICE	Class C Cutaway Bus	EL DORADO Aerotech 240	\$102,044	\$110,208	21/2
70	16/2	FY 21/22	ICE	Class V Modified Van	Ford Transit	\$50,500	\$54,540	6/2
65	26/2	FY 22/23	ICE	Class E Diesel Cutaway	Ford Glaval	\$180,000	\$201,600	26/2
71	16/2	FY 22/23	ICE	Class V Modified Van	Ford Transit	\$50,500	\$56,560	6/2
V01	6/1	FY 22/23	ZEB	Class V Transit Electric Shuttle Van	Z-1 Ford Transit Electric	\$189,821	\$220,192	5-6/2
66	26/2	FY 23/24	ICE	Class E Diesel Cutaway	Ford Glaval	\$180,000	\$208,800	26/2
V02	6/1	FY 24/25	ICE	Class V Modified Van	Ford Transit	\$50,500	\$60,600	6/2
73	17/2	FY 24/25	ZEB	Class C Electric Cutaway Bus	Z-2, StarCraft/Diamond	\$266,152	\$319,382	14/2

Charging Equipment and Infrastructure

Charging Equipment

Charging infrastructure is a crucial part of the zero-emission system that must be factored into the transition of transit fleets to ZEB propulsion. ZEB vehicles typically have a range of about 150 miles that can fluctuate depending on vehicle size, battery specifications, vehicle load and the grade of streets and highways. For small transit properties, plug-in charges are the most economical choice to support smaller fleets. Planning for ZEB charging equipment requires a strategic approach that assesses the charge time of ZEB vehicle batteries, configuration of transit facilities or charging sites and the number of current and future vehicles in the ZEB fleet.

The associated costs for site construction to upgrade the delivery of electricity is also a significant factor in planning for charging systems. Smaller plug-in charges can operate on existing 220V infrastructure but take much longer to charge a vehicle. More appropriate charging equipment suitable for transit demand require 480V infrastructure which will typically require power upgrades from the utility provider to deliver enough power to support faster charging as well as site construction to accommodate adequate power delivery to the charging system.



Open source communications protocol V2G Bi-directional V2G capability Smart grid ready Telematics-enabled

The CalACT/MBTA Vehicle Purchasing Cooperative offers two version of the Proterra Energy Charging System that operate on 480V. Both charging systems are capable of charging a single standard ZEB vehicle battery in approximately three hours and can support up to four additional charging dispensers to charge additional vehicles simultaneously, however, charging multiple vehicles at the same time increases overall charging time. In FY 22-23 the procurement of a Proterra Universal Plug-In Charger Depot with two dispensers is recommended. The purchase of an additional Charger Depot with two dispensers in FY 24-25 will support the charging capabilities toward the delivery of future electric vehicles.

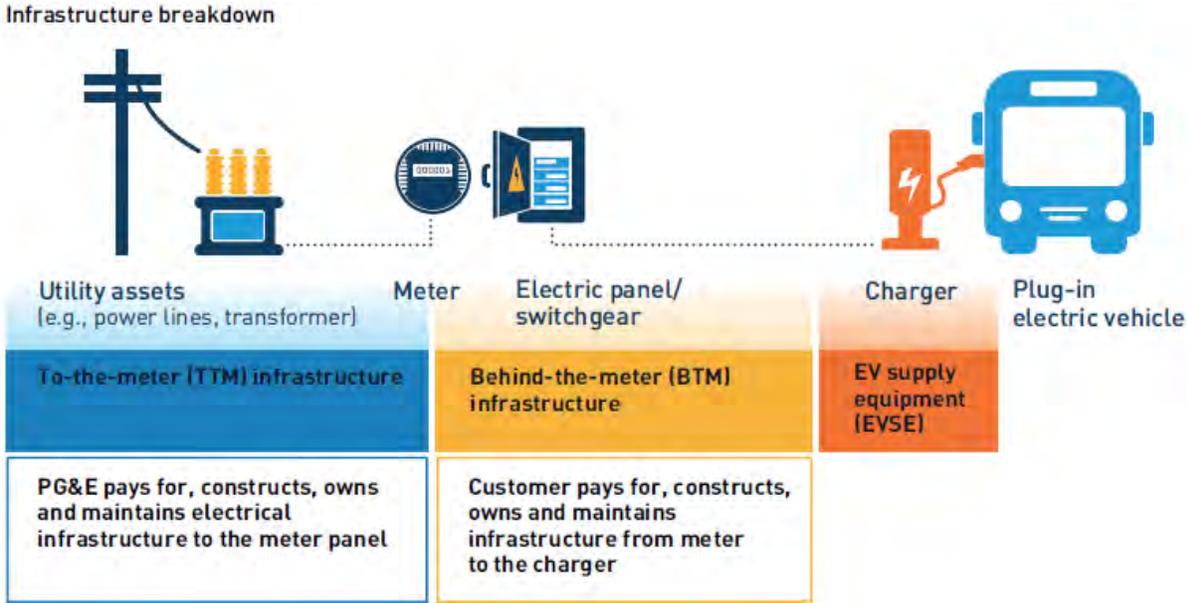
Charging Site Infrastructure

To support charging capabilities for electric vehicles, Calaveras Connect must first determine the infrastructure requirements of its charging site. Based on the desired electric vehicles and charging equipment the ZEB Rollout Plan must analyze how much energy is needed and when and how quickly the vehicles will need to be charged. Construction may be required for the installation of vehicle chargers and related platforms and for electrical upgrades to the existing power system to deliver adequate power to electric vehicle charges. Calaveras

Connect is currently leasing the property that houses its transit yard. It is expected that any new construction or upgrades to the property to support electric vehicle charging will need to be negotiated with the current owner or the agency may explore options to purchase the current property or a new location for a new facility.

Pacific Gas and Electric Company (PG&E) as the electricity provider for Calaveras County, will play a crucial role in the assessment of the charging site. PG&E Electric Vehicle Fleet specialists can make recommendations towards the appropriate vehicle and chargers, reviewing logistical considerations and assisting electrical contractors with site design. Figure 24 shows the responsibilities for electric charging infrastructure.

Figure 24 Charging Infrastructure Responsibilities



Initial site assessment should consider vehicle entry and parking locations, potential charging surfaces, and locations of existing electrical equipment. Using existing surfaces can reduce capital costs by eliminating the need for additional surface construction and in-ground wiring.

In addition to planning assistance, PG&E also offers some financial support in converting existing transit centers to include ZEB charging capability. Once it is determined how much energy is needed to support electric vehicle charging, PG&E will can determine whether the existing electricity deliver is sufficient for Calaveras Connect needs.

PG&E will pay for the cost of construction upgrades from the power transformer to the transit center’s electricity meter (To-the-meter (TTM)). Calaveras Connect will be required to select

an electrical contractor to design the behind-the-meter (BTM) infrastructure and is responsible for all costs from the meter to the electric vehicle charger.

Bus Stop Improvements

Calaveras has two existing bus stop improvement projects. The first is at Bret Harte High School in Angels Camp and is being funded through the Caltrans SHOPP program. The second bus stop improvement project on Mt. Ranch Rd. near the Department of Motor Vehicles. Calaveras Connect does not have any financial involvement in both current bus stop improvement projects.

There will be a need for future bus stop upgrades, but these have not been identified to date. \$50,000 per year is included in the SRTP is included from FY 22/3 to FY 24/25 to fund future bus stop improvement programs.

Equipment and Minor Facilities

In the current FY 20/21, Calaveras Connect is planning to procure the following:

- Dispatch software to improve general public dial-a-ride operations and productivity
- Generator for the transit facility for power outages
- Plastic shields on the buses for passenger and driver safety due to COVID-19
- Solar lighting on bus stops to improve passenger safety and visibility

Summary of Capital Costs

Table 35 is a summary of the capital costs for Calaveras Connect between FY 20/21 and FY 24/25

Table 35 Summary of Capital Costs

Year of Procurement Order*	FY 2020/21 Projected	FY 2021/22 Projected	FY 2022/23 Projected	FY 2023/24 Projected	FY 2024/25 Projected
Vehicle Acquisition					
Class E Large Cutaway ICE*			\$ 201,600	\$ 208,800	
Class C Medium Cutaway ICE	\$ 105,373	\$ 110,208			
Class C Medium Cutaway Bus Electric					\$ 319,382
Class B Small Cutaway ICE (2)	\$ 190,000				
Class V Modified Van ICE		\$ 54,540	\$ 56,560		\$ 60,600
Class V Small Van Electric			\$ 220,192		
Subtotal Vehicle Procurement	\$ 295,373	\$ 164,748	\$ 478,352	\$ 208,800	\$ 379,982
Charging Equipment and Infrastructure					
Charging Equipment			\$ 96,543		\$ 104,420
Charging Infrastructure			\$ 50,000		
Subtotal Charging Equipment/Infrastructure			\$ 146,543	\$ -	\$ 104,420
Bus Stop Improvements			\$ 50,000	\$ 50,000	\$ 50,000
Equipment and Minor Facilities					
Facility Generator	\$ 30,000				
Dispatching Software	\$ 50,000				
Plastic Shields for COVID-19 Safety	\$ 9,078				
Solar Lighting for Bus Stops	\$ 10,916				
Subtotal Equipment and Minor Facilities	\$ 99,994	\$ -	\$ -	\$ -	\$ -
Total Capital	\$ 395,367	\$ 164,748	\$ 674,895	\$ 258,800	\$ 534,402
*Actual accounting can occur in the following year			Five Year Total		\$ 2,028,212
** Internal Combustion Engine					

CAPITAL REVENUES

The following are capital revenue sources that the Calaveras Transit Agency has historically utilized:

Proposition 1B PTMISEA

As approved by California voters in the November 2006 general election, Proposition 1B enacts the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Statewide, this is a \$19.925 billion state general obligation bond that is meant to fund high priority projects. There are 16 different programs under Proposition 1B. The first is the Public Transportation Modernization, Improvement, and Service Enhancement Account Program (PTMISEA), with \$3.6 billion allocated statewide for transit rehabilitation, safety or modernization improvements, capital service enhancements, or expansions, including bus

procurements. While most of these funds have been allocated, the 2019 Budget Act (SB 840) re-appropriated the remaining PTMISEA funds with the current balance of \$253,972 as of November 2020. It is expected that these funds will be fully exhausted this fiscal year with the purchase of a bus, the dispatch software and the facility generator. Depending on the actual procurement amount, some of the funding for the dispatch software may need to tap into the capital reserve fund.

A second Proposition 1B program is the CalOES program for safety procurements. This funding source is paying for the bus stop solar lighting program.

State of Good Repair (SB1)

Approved as part of SB1, the State of Good Repair (SGR) funds transit vehicle and infrastructure repair and replacement as well as service improvements. For transit, Calaveras Connect is eligible for a formula share of this program if they submit nominated projects to the Caltrans Division of Rail and Mass Transportation for approval to be funded by using SGR funds. State of Good Repair Monies are being utilized by the Calaveras Transit Agency to fund the Capital Reserve Fund. It is assumed that \$60,000 per year will be received by CTA over the next five years.

Federal Transit Administration Section 5339 (Bus and Bus Facilities Program)

The Federal Transit Administration (FTA) Section 5339 (Bus and Bus Facilities Program) provides funding for capital projects to replace, rehabilitate, and purchase buses and bus-related equipment and to construct bus-related facilities. This program was established under Moving Ahead for Progress in the 21st Century (MAP-21), replacing the previous Section 5309 discretionary program established under the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It was reauthorized as part of the Fixing America's Surface Transportation (FAST) Act in Section 3017 in 2015, with authorizations from federal fiscal years 2016 through 2020. For rural areas like Calaveras County, the Caltrans Division of Rail and Mass Transportation (DRMT) administers a discretionary grant program. DRMT administers these funding components to eligible sub-recipients, including public agencies and private nonprofit organizations engaged in public transportation.

In order to receive Section 5339 funding, projects must have a significant impact on desirable long-term outcomes for improving and maintaining California's buses and bus facilities to keep the State's public transportation systems in good physical condition and successfully accomplishing their performance objectives. According to Caltrans, the current guidelines for

selecting discretionary applications is based on vehicle age and mileage. Calaveras Connect should score well in applications due to its aging fleet and mileage figures.

The Short Range Plan includes having a funding application for FTA 5339 funding for bus procurements in all five years of the Short Range Transit Plan. However, such funding applications are discretionary and if not approved, there should be back-up or contingency funding.

The first contingency would be to utilize as much of the Capital Reserve Fund as possible. The next would be to utilize State Transit Assistance (STA) funds, described earlier in the operating revenue sections. All STA funds are currently programmed for operating purposes. If the Calaveras Transit Agency needs to utilize STA for capital purposes, there would likely need to be service reductions to make up STA operating funding loss.

Low Carbon Transit Operations Program (LCTOP)

The Low Carbon Transit Operations Program (LCTOP) is one of several programs in the Transit, Affordable Housing, and Sustainable Communities Program established by the California Legislature in 2014 by Senate Bill 862. LCTOP was created to provide operating and capital assistance for transit agencies to reduce greenhouse gas emissions and improve mobility with a priority on serving disadvantaged communities. The program is administered by Caltrans.

Calaveras Connect is expected to receive \$83,000 per years in LCTOP funding. \$68,000 is programmed for Capital Reserve Fund to pay for the expected 20% in matching funds for electric bus, charging stations and infrastructure. Approximately \$158,000 of these funds will be utilized over the next five years, leaving a fund balance for future electric vehicle procurement matching funds of \$113, 892 at the end of FY 2024/25.

Placeholder Grant for Electric Buses, Chargers and Infrastructure

As mentioned previously, the cost of electric buses is about 2.5 times the cost of internal combustion engine buses. While the cost of electric buses is expected to drop, there is no currently identified funding source to pay for the higher cost of electric vehicles. A placeholder grant program is utilized for the procurement of electric vehicles, charging stations and infrastructure. The funding source will need to be identified in FY 21/22 for a potential application of about \$293,000 in FY 22/23. The unspecified grant program would pay for 80% of the expected cost of the electric modified van and associated charging station and infrastructure costs.

Summary of Capital Revenues

Table 36 is a summary of capital revenues required to pay for capital procurements over the next five years between this fiscal year 20/21 and FY 24/25.

Table 36 Captial Revenues

Shown in year of projected order (1)	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	5-Year
	Projected	Projected	Projected	Projected	Projected	Total
Capital Reserve Fund (CRF) Contributions						
CRF Inflow: State of Good Repair (SGR)	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 300,000
CRF Inflow: LCTOP for Electric Buses		\$ 68,000	\$ 68,000	\$ 68,000	\$ 68,000	\$ 272,000
Capital Revenues for Procurements						
SGR Reserve Fund Outflow	\$ 40,912	\$ 24,712	\$ 88,724	\$ 81,320	\$ 59,090	\$ 294,758
LCTOP Electric Outflow			\$ 73,347		\$ 84,760	\$ 158,108
Grant funding for Electric Bus Balance			\$ 293,388		\$ 339,042	\$ 632,430
CalOES	\$ 10,916					\$ 10,916
PTMISEA	\$ 253,972					\$ 253,972
Federal FTA 5339 Grant (85%)	\$ 89,567	\$ 140,035	\$ 219,436	\$ 177,480	\$ 51,510	\$ 678,028
Total Capital Revenue Procurements	\$ 395,367	\$ 164,748	\$ 674,895	\$ 258,800	\$ 534,402	\$ 2,028,212
<i>CRF Balance State of Good Repair (2)</i>	<i>\$ 82,081</i>	<i>\$ 117,368</i>	<i>\$ 88,644</i>	<i>\$ 67,324</i>	<i>\$ 68,234</i>	
<i>CRF Balance LCTOP Electric Vehicles (2)</i>		<i>\$ 68,000</i>	<i>\$ 62,653</i>	<i>\$ 130,653</i>	<i>\$ 113,892</i>	
CRF= Capital Reserve Fund						
1) Due to required approvals and production, accounting for procurement often occurs the next fiscal year.						
2) End of Fiscal Year						

Appendix A: Onboard Survey Questionnaire

The following two pages show the front and back of the survey that was distributed to passengers in English. A Spanish version was also available.



CALAVERAS CONNECT PASSENGER SURVEY

Please help us improve Calaveras Connect by completing this survey. Circle, check or PRINT your answers. All answers are voluntary.

1. In the past seven days, how many days have you ridden Calaveras Connect?
 1 2 3 4 5 6
2. What year did you begin riding Calaveras Connect?
 2019 2018 2017 2016 2015 2014 Before 2014
3. Which Calaveras Connect services have you used in the past 30 days? (Check all that apply)
1 Red Line -Val Springs/Col College 5 Copper Line-Copperopolis
2 Blue Line—Murphys/Arnold 6 Saturday Hopper
3 Purple Line-Jackson 7 Deviation Service /Direct Connect
4 Green Line-West Point/RR Flat
4. Where did you begin the one-way trip you are currently making? (Choose ONE)
1 Angels Camp 5 Jackson 9 San Andreas
2 Arnold 6 Mokelumne Hill 10 Valley Springs
3 Copperopolis 7 Murphys 11 West Point
4 RR Flat 8 Columbia College 12 Sonora
13 Another town in Calaveras County _____
14 Outside of Calaveras County _____
5. Where is your final destination for this one-way trip? (Choose ONE)
1 Angels Camp 5 Jackson 9 San Andreas
2 Arnold 6 Mokelumne Hill 10 Valley Springs
3 Copperopolis 7 Murphys 11 West Point
4 RR Flat 8 Columbia College 12 Sonora
13 Another town in Calaveras County _____
14 Outside of Calaveras County _____
6. What is the one main purpose of this trip today? (Choose only ONE)
1 Work 5 School/College
2 Shopping 6 Medical Appointment
3 Social Service Appointment 7 Recreation
4 Other _____
7. How did you pay your fare for this trip? (Choose ONE)
1 Cash 3 All Day Pass 5 Token Transit App
2 Ticket 4 Monthly Pass 6 Columbia College ID
8. Do you have a Smartphone—a mobile phone with internet access?
1 Yes 2 No
9. In what community do you live?
1 Angels Camp 5 Mokelumne Hill 9 San Andreas
2 Arnold 6 Murphys 10 Valley Springs
3 Copperopolis 7 RR Flat 11 West Point
4 Jackson 8 Sonora
12 Other _____
10. Which best describes you? (Choose One)
1 Employed full time 3 Retired
2 Employed part time or seasonally 4 Not employed
11. If employed, which of these describe your job? (check all that apply)
1 My work hours vary 3 I work weekends
2 I work regular hours (for example:8 am-5 pm) 4 I often work later than 7 PM
12. Are you a student? 1 Yes 2 No
13. If you are a student, where do you attend school or college?
1 Columbia College—full time 4 Calaveras High School
2 Columbia College—part time 5 Middle School
3 Bret Harte High School 6 Other _____
14. How old are you? _____
15. Do you have a disability that impacts your travel?
1 Yes 2 No
16. How many licensed drivers reside in your household? _____
17. How many working vehicles are available for use by your household? _____
18. Do other members of your household ride Calaveras Connect? 1 Yes 2 No
19. What is your approximate annual household income?
1 Less than \$10,000 5 \$35,000 to \$49,999
2 \$10,000 to \$14,999 6 \$50,000 to \$74,999
3 \$15,000 to \$24,999 7 \$75,000 to \$99,999

Continue on back

20. Please RATE Calaveras Connect @ 1=Poor	5=Excellent
A. Courtesy & helpfulness of the bus drivers	1 2 3 4 5
B. Quality of customer service overall	1 2 3 4 5
C. How often your bus is on-time	1 2 3 4 5
D. Comfort of the vehicle	1 2 3 4 5
E. How frequently your bus runs	1 2 3 4 5
F. The time the buses arrive at Government Center in the morning	1 2 3 4 5
G. Convenience of connecting between Calaveras Connect routes.	1 2 3 4 5
H. Convenience of connecting to and from Amador Transit routes.	1 2 3 4 5
I. Convenience of connecting to and from Tuolumne Transit routes.	1 2 3 4 5
J. Cost of bus fares	1 2 3 4 5
K. Ease of getting route and schedule information	1 2 3 4 5
L. Overall, how would you rate Calaveras Connect?	1 2 3 4 5

23. How familiar are you with Token Transit—the mobile app that you can use to pay your Calaveras Connect fare with your Smartphone?
1 I've used 2 Heard about, but haven't used 3 Not aware of
24. Did you know that Columbia College students ride free on Calaveras Connect and Tuolumne Transit with a current college ID? 1 Yes 2 No
25. How important would each of the following improvements to Calaveras Connect service be to you personally?

1 = not important to me 5 = very important to me

- A. Operate the route from Valley Springs to Angels Camp on Saturdays.
 Not Important - 1 2 3 4 5 - Very Important
- B. Provide shelters at more bus stops.
 Not Important - 1 2 3 4 5 - Very Important
- C. Operate direct service from Calaveras County to Sonora.
 Not Important - 1 2 3 4 5 - Very Important
- D. Provide curb-to-curb Dial-a-Ride service (24 hour advance reservation required) within the Valley Springs—San Andreas—Angels Camp area.
 Not Important - 1 2 3 4 5 - Very Important
- E. Improve connections between buses to reduce travel time.
 Not Important - 1 2 3 4 5 - Very Important
- F. Improve the frequency of service on the routes I use most...
 Not Important - 1 2 3 4 5 - Very Important

Which Routes? _____

- G. Provider earlier morning trips so that I can get to work or school on time
 Not Important - 1 2 3 4 5 - Very Important

26. Which one improvement listed above would be most important to you?
 A B C D E F G

27. Is there another improvement to Calaveras Connect service that would be more important to you? If yes, please describe here (PRINT).

21. Did you know that you can request the bus to deviate to pick you up or drop you off within 3/4 mile of the route (with a two hour advanced reservation)?
1 Yes 2 No

22. How do you get information about Calaveras Connect routes and schedules?
 (Check all that apply)

- 1 Printed Passenger Guide 5 Google Maps
2 Website 6 Call on the phone
3 Display at Bus Stop 7 Bus Driver
4 School or College 8 Social Service Agency
9 Other _____

Please return the completed questionnaire to the surveyor before you get off the bus. THANK YOU!



Appendix B: West Point Survey Questionnaire

6. What are the primary towns that you have gone to for grocery shopping in the past year? (circle letters for all that apply)
- a. Jackson b. Sutter Creek c. Pine Grove
d. San Andreas e. Angels Camp f. West Point
g. Railroad Flat h. Other _____
- Letter ___ is my most frequent destination and I travel there ___ times a month
7. Please circle appropriate employment status: a. employed full time b. employed part-time
c. retired d. unemployed.
If you work, what town do you work in? _____
8. Are you a student? a. Yes b. No IF yes: a. Part-Time b. Full-Time
IF yes, what town do you go to school in? _____
9. How do you currently get to places you need to go? (circle letters for all that apply)
- a. Drive myself b. Ride with family members
c. Ride with neighbors d. Use Calaveras Connect Green Line bus
e. Use Silver Streak bus f. Use Amador Transit bus
g. Walk h. Bicycle
i. Other _____
10. Have you or a family member rode the Calaveras Connect bus that goes between West Point and San Andreas twice a day on Mondays and Wednesdays?
a. Yes b. No c. Was not aware of Calaveras Connect bus
11. What improvement to transportation in West Point would best improve your ability to get to the places you need to go? (Circle just ONE letter)
- a. Weekday bus service from West Point to and from Jackson and Sutter Creek
b. Weekend bus service from West Point to and from Jackson and Sutter Creek
c. Weekday bus service from West Point to San Andreas
d. A loaner car or van available in West Point where you pay for the gas
e. Help in finding a carpool rider or passenger where everyone share the costs
f. For important trips to the doctor or grocery store, the ability to have a friend or family reimbursed for the cost of gas, etc. when they are able to give me a ride to where I need to go a couple of times a month.
g. No improvements are needed
h. Other _____

The following questions will allow us to provide a profile of who has responded and individual information will not be utilized.

12. How old are you? a. 16-21 b. 22-64 c. 65-74 d. 75 and above

13. What is your approximate annual household income?

- a. Less than \$10,000 b. \$10,000 to \$14,999 e. \$50,000 or more
c. \$15,000 to \$24,999 d. \$ 25,000 to \$49,000 f. No income

Appendix C:

ZERO-EMISSION BUSES

SHORT RANGE TRANSIT PLAN

VEHICLE PROCUREMENTS

INTRODUCTION

This assessment of zero-emission vehicle and infrastructure is intended to provide Calaveras Connect with a planning tool to prepare for requirements set forth in Innovative Clean Transit (ICT) regulation by outlining the potential capital costs of converting its conventional internal combustion engine (ICE) vehicle fleet to zero-emission buses (ZEB). This also provides context for the development of a full ZEB Rollout Plan that must be developed by July 1, 2023 and highlights potential funding sources to support the transition to a full ZEB fleet. CARB Regulations

In December 2018, the California Air Resources Board (CARB) approved the Innovative Clean Transit (ICT) regulation that outlines the requirements for transit agencies to gradually transition to a 100 percent zero emission vehicle fleet. A revised version of the ICT was approved by the Office of Administrative Law (OAL) on August 13, 2019 and made effective October 1, 2019. The ICT outlines the requirements for both large and small transit operators, including the procurement guidelines for transit operators and the timeline for full compliance. By the definitions set forth in the ICT, Calaveras Connect is classified as a small operator.

ZEB ROLLOUT PLANS

California transit agencies are required to develop and submit a ZEB Rollout Plan that demonstrates how the agency will meet a goal of full transition to ZEBs by 2040 and identifies the type of zero-emission technology the agency will deploy. The rollout plan must also include schedules for construction of ZEB infrastructure and bus purchases or the conversion of combustion engine vehicles to zero-emission buses. Transit agencies must also demonstrate how it proposes to deploy ZEBs in disadvantaged communities and identify potential funding sources for the purchase of ZEB vehicles, equipment, and infrastructure. Small transit agencies must submit ZEB Rollout Plans by July 1, 2023 but are not required to begin purchase of ZEB vehicles until 2026. Transit agencies can collectively comply with the

ICT requirements by submitting a joint Rollout Plan as long as the plan is approved by the governing bodies of each agency.

ZEB Rollout Plans must include the following elements to meet ICT requirements:

- A plan for full transition to ZEB vehicles by 2024 that avoids the early retirement of ICE vehicles
- Details of the ZEB vehicles, equipment, and infrastructure the agency is planning to deploy
- Schedule for the construction or upgrades of facilities to charge and maintain ZEB vehicles
- Schedule for the purchase or lease of ZEV vehicles, or the conversion of existing ICE vehicles to ZEB vehicles
- A deployment plan for ZEB vehicles in disadvantaged communities
- A training plan for ZEB bus operators and maintenance personnel
- Identification of potential funding source to support the ZEB transition plan

Calaveras Connect is encouraged to seek the assistance of an experienced consulting firm to develop the ZEB Rollout Plan. Costs for completion of the Rollout Plan will be included in the financial plan of the SRTP to provide ample time for completion by July 1, 2023.

ZEB TRANSITION REQUIREMENTS

As defined by the ICT, Calaveras Connect is classified as a small transit agency due to the following operating characteristics:

- A. Calaveras Connect does not operate in either the South Coast or the San Joaquin Valley Air Basin and does not operate more than 65 buses in annual maximum service; or
- B. Calaveras Connect does not operate in the South Coast or San Joaquin Valley Air Basin and does not have at least 100 buses in annual maximum service in an urbanized area with a population of at least 200,000 as last published by the Bureau of Census before December 31, 2017.

Calaveras Connect operates in the Mountain Counties Air Basin and has a fleet of only 11 vehicles in active service. According to the 2018 American Community Survey, Calaveras County has a total countywide population of 39,148 people, categorizing the service area as non-urbanized.

In its classification as a small operator, Calaveras Connect is required to adhere to the following ICT requirements to transition to a ZEB fleet:

1. Starting January 1, 2026, twenty-five percent of the total number of new bus purchases in each calendar year must be zero-emission buses (ZEB); and
2. Starting January 1, 2029, all new bus purchases must be zero-emission buses (ZEB).

At its October 7th meeting, the Calaveras Transit Agency Board will determine if the agency wants to start procurement of electric vehicles before the current mandate in 2026. As will be discussed in more detail later, this will likely be dependent on the availability of grant funding or other funding to fund the additional costs of electric vehicles.

ICT EXEMPTIONS

Recognizing that transit operators may face many obstacles in transitioning to ZEB fleets, the ICT outlines the criteria for exemption requests where an operator might be adversely affected by compliance. A request for exemption must be submitted by November 30th of each calendar year and must demonstrate that one of the following circumstances exist:

1. Delay in bus delivery is caused by setback of construction of infrastructure needed for the zero-emission bus. An exemption may be requested if a transit agency cannot finalize the ZEB infrastructure within two years of the initial bus purchase and in time to operate the purchased buses due to circumstances beyond the transit agency's control.
2. When available ZEB buses cannot meet a transit agency's daily mileage needs. An exemption may be requested if no battery electric bus can meet the daily mileage or operational needs of any similar bus type in the fleet.
3. If available ZEB buses do not have adequate gradeability performance to meet the transit agency's daily needs for any bus in its fleet. The agency must show that no other buses in the fleet can meet the transit agency's gradeability requirements and that the available ZEB buses of that bus type cannot be placed into service anywhere else in the fleet.
4. When a required ZEB bus type for the applicable weight class based on gross vehicle weight rating (GVWR) is unavailable for purchase.
5. When a required ZEB bus type cannot be purchased by a transit agency due to financial hardship. An exemption may be requested if a fiscal emergency is declared under a resolution by a transit agency's governing body following a public hearing and the transit agency can demonstrate that it cannot offset the incremental cost of purchasing all available ZEB buses when compared to the cost of the same type of conventional bus, or cannot offset the managed, net electricity cost for depot charging battery electric buses when compared to the fuel cost of the same type of conventional internal combustion engine buses.

Based on the topography of Calaveras County and the longer distances of many of Calaveras Connect's transit routes, a thorough assessment of ZEB applicability should be conducted before new vehicles are procured. Many ZEB dealers offer battery upgrades to extend the range of ZEB performance. ZEB chargers and charging stations vary in charge time and the number of vehicles that can be charged simultaneously. Transit agencies must consider the runtime of potential ZEB vehicles and battery configurations while also considering the length of time required to recharge a vehicle and the opportunities for down time to perform a charge.

ZERO-EMISSION MOBILITY OPTION

The ICT offers an alternative method to meet the required minimum number of zero-emission buses through the Zero-Emission Mobility Option, where a transit agency may choose to provide zero-emission mobility services by using bicycles, scooters, or other zero-emission vehicles with a GVWR of 14,000 pounds or less. The mobility service must be directly operated by the transit or by an entity contracted to provide the service on the agency's behalf. The transit agency must track and record zero-emission passenger miles for each zero-emission vehicle and achieve at least 180,000 zero-emission passenger miles per year to be eligible to receive each mobility credit.

CURRENT CALAVERAS CONNECT FLEET

Calaveras has a current fleet of 11 vehicles, with two medium duty buses, seven light duty mid-sized buses and two mini vans as shown in Table 1. All vehicles are wheelchair accessible to conform with the Americans with Disabilities Act (ADA). Calaveras Connect recently purchased two passenger light-duty Glaval cutaway buses that were placed into service in the fall of 2019.

Table 1 Calaveras Active Fleet Inventory

ID	Year	Make	Model	Age	TAM* Useful Life- Yrs.	7-20 Mileage	TAM* Useful Life Miles	FTA Vehicle Bus Type	Seating Capacity Amb/WC
65	2014	GLAVAL	LEGACY	6	8	207,118	300,000	Medium duty	26/2
66	2014	GLAVAL	LEGACY	6	8	209,526	300,000	Medium duty	26/2
68	2015	EL DORADO	AEROTECH 240	5	6	211,517	200,000	Light duty mid-sized	21/2
69	2015	EL DORADO	AEROTECH 240	5	6	186,925	200,000	Light duty mid-sized	21/2
70	2016	EL DORADO	AEROTECH 240	4	6	187,523	200,000	Light duty mid-sized	16/2
71	2016	EL DORADO	AEROTECH 240	4	6	187,136	200,000	Light duty mid-sized	16/2
72	2016	EL DORADO	AEROTECH 240	4	6	202,574	200,000	Light duty mid-sized	16/2
73	2019	GLAVAL	FORD	1	6	23,804	200,000	Light duty mid-sized	17/2
74	2019	GLAVAL	FORD	1	6	14,257	200,000	Light duty mid-sized	17/2
V01	2015	DODGE	CARAVAN	5	6	78,320	100,000	Modified van	6/1
V02	2015	DODGE	CARAVAN	5	6	61,491	100,000	Modified van	6/1

*Transit Asset Management Plan

Calaveras Connect has developed an internal Transit Asset Management (TAM) plan guideline for the replacement of service vehicles. The TAM plan identifies the useful life schedule based on the age and mileage of each vehicle class. The TAM useful life schedule differs from the Federal Transit Administration’s (FTA’s) useful life schedule by extending the vehicle replacement age and increasing useful life vehicle mileage. The TAM plan has been submitted to Caltrans.

As shown in Table 1 above, all 9 of the 11 vehicles will need to be replaced during the five year planning horizon of the Short Range Transit Plan. Vehicles #68 and #72 are already beyond their useful life miles and are scheduled to be replaced first.

VEHICLE REPLACEMENT COST COMPARISON OF ICE AND ELECTRIC VEHICLES

Replacement costs for each vehicle are shown in Table 2 and are reflective of the current 2020 vehicle pricing offered through the CalACT/MBTA (California Association for Coordinated Transportation/ Morongo Basin Transit Authority) Vehicle Purchasing Cooperative and presents both Conventional Internal Combustion Engine (ICE) vehicle and electric vehicle equivalent pre-tax pricing. The cooperative provides a federal, California state and ADA compliant purchasing menu for a variety of transit vehicles. Vehicle costs are presented as like-for-like replacements for both ICE and ZEB/electric vehicles. Both sets of potential vehicle replacements include additional costs for purchase options towards vehicle amenities and upgrades consistent with the vehicles being replaced.

As shown in Table 2, ZEB vehicles are generally two and half times that of conventional ICE vehicles. Currently, there is no available ZEB equivalent for the 2014 Glaval Legacy, providing a ZEB replacement exemption opportunity until a replacement becomes available.

Table 2 Comparison of Internal Combustion and ZEB/Electric Buses

Calaveras Connect			Combustion Equivalent	Combustion Price	ZEB Equivalent	
ID	Year	Make		ICE 2020	CalACT-MBTA ZEB Vehicle Class/Mfrs	ZEB 2020
65	2014	GLAVAL	Glaval	\$138,626.00	Exempt/No Available ZEB Equivalent	Exempt
66	2014	GLAVAL	Glaval	\$138,626.00	Exempt/No Available ZEB Equivalent	Exempt
68	2015	EL DORADO	EL DORADO	\$102,044.00	Z-2, StarCraft/Diamond.	\$266,152.00
69	2015	EL DORADO	EL DORADO	\$102,044.00	Z-2, StarCraft/Diamond.	\$266,152.00
70	2016	EL DORADO	EL DORADO	\$102,044.00	Z-2, StarCraft/Diamond.	\$266,152.00
71	2016	EL DORADO	EL DORADO	\$102,044.00	Z-2, StarCraft/Diamond.	\$266,152.00
72	2016	EL DORADO	EL DORADO	\$102,044.00	Z-2, StarCraft/Diamond.	\$266,152.00
V01	2015	DODGE	DODGE	\$ 48,616.00	Z-1, Driverge/NorCal/Sunset	\$189,821.00
V02	2015	DODGE	DODGE	\$ 48,616.00	Z-1, Driverge/NorCal/Sunset	\$189,821.00
73	2019	GLAVAL	EL DORADO	\$ 98,915.00	Z-2, StarCraft/Diamond.	\$266,152.00
74	2019	GLAVAL	EL DORADO	\$ 98,915.00	Z-2, StarCraft/Diamond.	\$266,152.00

ELECTRIC BUS RANGE

Electric cutaway buses typically have a maximum range of 120 miles, but this varies depending on the passenger load, use of air condition and the grade the vehicle is utilizing. Therefore in practice, the effective operational range is currently between 60 and 100 miles. The industry is continually increasing the range and in 2021, the vehicle range, according to industry experts, is supposed to increase by 20%

The average fixed route bus travels 24 miles per hour. Data is not readily available on the general public dial-a-ride, but the normal range is 16-18 miles per hour in most transit systems. Due to the longer fixed route, electric buses do not have the vehicle range to be operated on the Red Line. However, for general public dial-a-ride, shifts can be scheduled to work with the vehicle range available for a particular shift.

VEHICLE PROCUREMENT SCENARIOS

The following provides three vehicle procurement scenarios for consideration and discussion by the Calaveras Transit Agency. There are procurement schedules that both include and do not include the procurement of electric vehicles. The following are important considerations:

- The ICT does not require procurement of ZEB/electric buses until January 1, 2026, which is beyond the planning horizon of the Short Range Transit Plan. All ZEB buses that Calaveras Connect is considering are electric buses.
- If electric buses are purchased before 2026, the accompanying charging and infrastructure will need to be installed. This is reviewed later in this working paper.
- The available capital revenue sources are reviewed later in this chapter. It must be stressed that the Calaveras Transit Agency does not have guaranteed funding source to purchase replacement vehicles with internal combustion engines (ICE). Since electric vehicles are about 2.5 times that of ICE vehicles, procurement of electric vehicle will be dependent on successful grant applications.

The scenarios below provide different fleet mix objectives at the end of the five-year Short Range Transit Plan horizon. All scenarios maintain the existing fleet size of 11 vehicles for comparison purposes.

Scenario One: Current Vehicle Replacement Plan

In the current vehicle replacement plan, two of the Class C light-duty mid-size buses with 17-21 passengers are replaced with a Class B, light duty small bus that typically has 10-12 passengers. In addition, one of the Class C light duty mid-sized buses are replaced with a small Class D modified van. At \$1.1 million, this is the lowest cost vehicle replacement scenario.

Table 3: Scenario One, Current Vehicle Replacement Plan

Scenario One Service Type/Capacity	No. Buses	Fleet Type	Min. Seating Capacity*	Desired Propulsion	2020 Costs
Fixed Route Only					
Large Capacity	2	Class E Cutaway	26	Diesel	\$ 367,000
Fixed Route or Dial-A-Ride					
Medium Capacity	4	Class C Cutaway	17-21	Gas	\$ 420,000
Medium	2	Class B Cutaway	10-12	Gas	\$ 190,000
Dial-A-Ride Only					
Vans	3	Class D Modified Van	6	Gas	\$ 151,500
Total	11				\$ 1,128,500

*Plus 2 wheelchair positions for cutaway buses and 1 wheelchair position for vans

Scenario Two: Greater Shift to Smaller Vehicles, Two Pilot Electric Vehicles

This scenario provides a greater shift to smaller vehicles, including the purchase of one Z-1 electric van, and one Z-2 12-14 passenger electric cutaway. This scenario also includes two smaller 10-12 passenger Class B gas vehicles, and three Class D gas modified vans, for a total of seven smaller vehicles. The total cost would be about \$1.4 million to replace all vehicles.

Table 4: Scenario Two Greater Shift to Smaller Vehicles, Two Electric Vehicles

Scenario Two Service Type/Capacity	No. Buses	Fleet Type	Min. Seating Capacity*	Desired Propulsion	2020 Costs
Fixed Route Only					
Large Capacity	2	Class E Cutaway	26	Diesel	\$ 367,000
Fixed Route or Dial-A-Ride					
Medium Capacity	2	Class C Cutaway	17-21	Gas	\$ 210,000
Medium Capacity	2	Class B Cutaway	10-12	Gas	\$ 190,000
Medium Capacity	1	Z-2 Electric Cutaway	12-14	Electric	\$ 266,152
Dial-A-Ride Only					
Vans	3	Class D Modified Van	6	Gas	\$ 151,500
Vans	1	Z-1 Electric Van	5-6	Electric	\$ 189,821
Total	11				\$ 1,374,473

*Plus 2 wheelchair positions for cutaway buses and 1 wheelchair position for vans

Scenario Three: Greater Shift to Small Vehicles, 50% Procurement of Applicable Electric Vehicles

In this scenario, five of the applicable buses and vans are replaced with electric vehicles. There currently is not an electric vehicle for the 26 passenger medium buses, buses #65 and #66. In this scenario, there would not only be a significant shift to smaller vehicles, but a significant shift to electric buses during the planning horizon of the SRTP as shown in Table 5 on the next page.

Table 5: Scenario Three Greater Shift to Smaller Vehicles, 50% Electric Vehicles During SRTP Horizon

Scenario Three Service Type/Capacity	No. Buses	Fleet Type	Min. Seating Capacity*	Desired Propulsion	2020 Costs
Fixed Route Only					
Large Capacity	2	Class E Cutaway	26	Diesel	\$ 367,000
Fixed Route or Dial-A-Ride					
Medium Capacity	2	Class C Cutaway	17-21	Gas	\$ 210,000
Medium Capacity	1	Class B Cutaway	10-12	Gas	\$ 95,000
Medium Capacity	2	Z-2 Electric Cutaway	12-14	Electric	\$ 532,304
Dial-A-Ride Only					
Vans	1	Class D Modified Van	6	Gas	\$ 50,500
Vans	3	Z-1 Electric Van	5-6	One	\$ 569,463
Total	11				\$ 1,824,267

*Plus 2 wheelchair positions for cutaway buses and 1 wheelchair position for vans

CONSULTANT RECOMMENDATION

As discussed earlier, there is no requirement for Calaveras Connect to purchase a ZEB/electric vehicle during the planning horizon of the Short Range Transit Plan. There will be a more detailed study for a more detailed ZEB rollout plan in 2023. By this time, there will likely be greater maturity and range with electric cutaway buses.

However, at the September 2nd Calaveras Transit Agency Board there was interest in discussing the potential procurement of at least one or more electric vehicles. While there are very positive environmental reasons that are driving forces for procurement of electric buses, there are two significant constraining forces that should be considered. The 80 to 100 miles effective range (current maximum of 120 miles) is not conducive to even a general public dial-a-ride bus out on the road for an 8-hour shift. This would require a range of 154 miles for normal general public dial-a-ride service miles, including deadheading to and from the beginning and end of service.

The second is that electric vehicles are currently two and half times the price of combustion engine vehicle. This price is expected to come down significantly as the technology matures. This will require the Calaveras Transit Agency to solicit grants or tap into available CMAQ funding to pay for the cost of the vehicle.

Scenario Two (Table 4) would transition Calaveras Connect to a smaller fleet that has more emphasis on general public dial-a-ride, but enables Calaveras Connect to start on the path for the procurement of electric vehicles. Ford Transit is coming out with an electric vehicle next year, and there the procurement of this van type vehicle would be a good place to start, with perhaps the procurement happening in FY 2022-23. Calaveras Connect could then start the procurement process for a Z-2 Electric Cutaway at the same time it is developing a ZEB Rollout Plan. The Rollout Plan will provide guidance on future procurement of electric vehicles.

CHARGING EQUIPMENT

Charging infrastructure is a crucial part of the zero-emission system that must be factored into the transition of transit fleets to ZEB propulsion. ZEB vehicles typically have a range of about 150 miles that can fluctuate depending on vehicle size, battery specifications, vehicle load and the grade of streets and highways. For small transit properties, plug-in charges are the most economical choice to support smaller fleets. Planning for ZEB charging equipment requires a strategic approach that assesses the charge time of ZEB vehicle batteries, configuration of transit facilities or charging sites and the number of current and future vehicles in the ZEB fleet.

The associated costs for site construction to upgrade the delivery of electricity is also a significant factor in planning for charging systems. Smaller plug-in charges can operate on existing 220V infrastructure but take much longer to charge a vehicle. More appropriate charging equipment suitable for transit demand require 480V infrastructure which will typically require power upgrades from the utility provider to deliver enough power to support faster charging as well as site construction to accommodate adequate power delivery to the charging system.



The CalACT/MBTA Vehicle Purchasing Cooperative offers two version of the Proterra Energy Charging System that operate on 480V. Both charging systems are capable of charging a single standard ZEB vehicle battery in approximately three hours and can support up to four additional charging dispensers to charge additional vehicles simultaneously, however, charging multiple vehicles at the same time increases overall charging time. Proterra charger

pricing is presented in Table 6 below. Charger purchases should begin in FY23-24 in anticipation of the procurement of the first ZEB vehicles and the purchase of an additional in FY 25-26 to support charging capabilities towards the delivery of future Zeb vehicles.

Table 6 Charging Station Costs

Power (kW)	Charger Model	Price
60	Proterra Universal Plug-In Charger (Depot) with Single Dispenser	\$50,250
125	Proterra Universal Plug-In Charger (Depot) with Single Dispenser	\$67,750
125	Proterra Universal Plug-In Charger (Depot) with Two Dispensers	\$82,525
Purchase Schedule		
FY 2023-24	Proterra Universal Plug-In Charger (Depot) with Two Dispensers	\$96,543
FY 2025-26	Proterra Universal Plug-In Charger (Depot) with Two Dispensers	\$104,420

CHARGING SITE INFRASTRUCTURE

To support charging capabilities for ZEB vehicles, Calaveras Connect must first determine the infrastructure requirements of its charging site. Based on the desired ZEB vehicles and charging equipment the ZEB Rollout Plan must analyze how much energy is needed and when and how quickly the vehicles will need to be charged. Construction may be required for the installation of vehicles charges and related platforms and for electrical upgrades to the existing power system to deliver adequate power to ZEB vehicle charges. Calaveras Connect is currently leasing the property that houses its transit yard. It is expected that any new construction or upgrades to the property to support ZEB charging will need to be negotiated with the current owner or the agency may explore options to purchase the current property or a new location for a new facility.

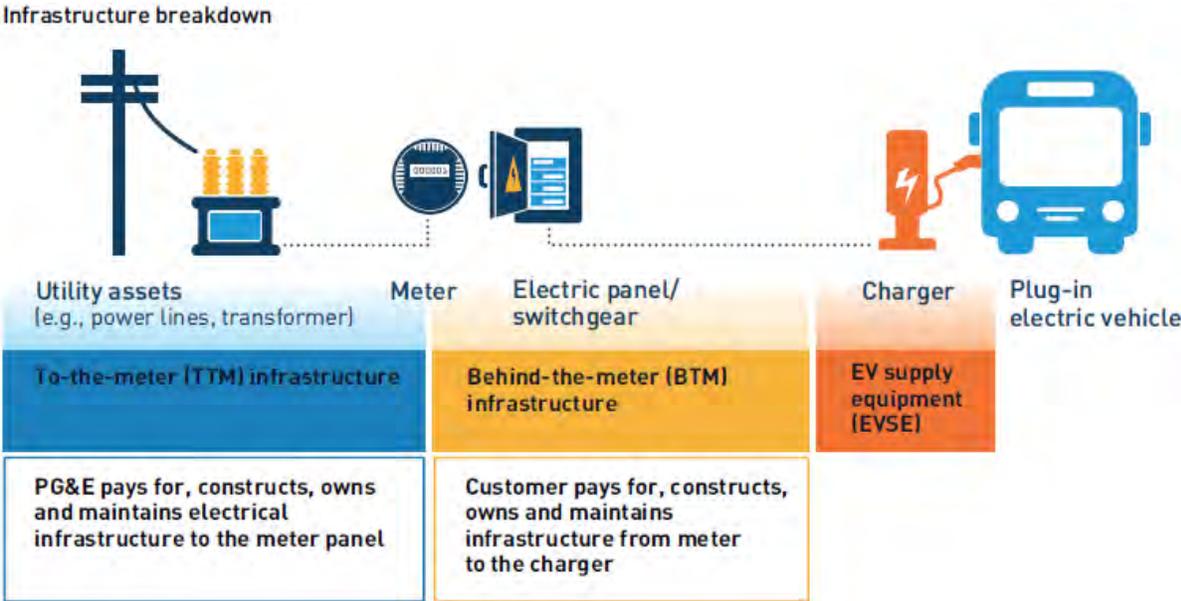
Pacific Gas and Electric Company (PG&E) as the electricity provider for Calaveras County, will play a crucial role in the assessment of the charging site. PG&E Electric Vehicle Fleet specialists can make recommendations towards the appropriate vehicle and chargers, reviewing logistical considerations and assisting electrical contractors with site design.

Initial site assessment should consider vehicle entry and parking locations, potential charging surfaces, and locations of existing electrical equipment. Using existing surfaces can reduce capital costs by eliminating the need for additional surface construction and in-ground wiring.

In addition to planning assistance, PG&E also offers some financial support in converting existing transit centers to include ZEB charging capability. Once it is determined how much energy is needed to support ZEB vehicle charging, PG&E will can determine whether the existing electricity deliver is sufficient for the Calaveras Connect’s needs.

PG&E will pay for the cost of construction upgrades from the power transformer to the transit center's electricity meter (To-the-meter (TTM)). Calaveras Connect will be required to select an electrical contractor to design the behind-the-meter (BTM) infrastructure and is responsible for all costs from the meter to the ZEB vehicle charger.

Figure 1: Charging Infrastructure Responsibilities



Recognizing that upfront costs for ZEB vehicle charging infrastructure can be significant, PG&E is attempting to establish new commercial electric vehicle charging rates and charging equipment rebates to help drive more rapid customer adoption and progress California’s climate and emissions goals. Under the existing rate structure, high-power electric vehicle chargers on business electric rates can incur demand charges based on the peak electricity usage during a billing period. New PG&E rates would replace demand charges with subscription billing, allowing customers to choose the amount of power they need for their charging stations, resulting in lower and more predictable energy costs.

Electricity rebates on charging equipment are also available for shuttle bus fleets that operate in disadvantaged communities, that suffer from a combination of economic, health, and environmental impacts. The proposed rebate amount is determined by the ZEB vehicle charging equipment’s power output:

- Up to 50kW is eligible for a rebate up to \$15,000 per charger
- 50.1kW to 150kW is eligible for a rebate up to \$25,000 per charger
- 150.1kW and above is eligible for a rebate up to \$42,000 per charger.

Additionally, PG&E offers infrastructure incentives for each electric vehicle in its fleet. The incentive for transit buses can range between \$4,000 and \$9,000 based on vehicles size, up to 25 vehicles.

Calaveras Connect can also offset its electricity load through solar energy generation. Installation of solar equipment can be expensive, but the California Public Utilities Commission (CPUC) allows businesses to install solar to support power generation up to 110% of their usage which can offset the expected increases in power usage to charge electric vehicles. PG&E can work with the agency to develop a solar plan based on projected power needs.

CAPITAL REVENUES

The following are capital revenue sources that Calaveras Transit has historically utilized to fund the procurement buses. There are a few other additional funding sources that have been added that are potential options for future procurements.

Capital Reserve Fund

In June 2019, the Calaveras Transit Agency established a policy for a Capital Reserve Fund intended to provide required matches for grants and capital expenses that do not receive grant funding. CTA Board action is required to allocate any amount from this reserve fund to any expenditure. The policy is based on 20% of the five-year annual average capital projects cost. This 20% amount represents the typical local match required for Federal Transit Administration funded capital projects. The primary funding sources for the Capital Reserve Fund are the Local Transportation Fund, which is derived from ¼ percent of the general sales tax collected statewide. The other source is the State Transit Assistance Fund which is derived from the local sales tax on diesel fuel.

State Funding Sources

Proposition 1B PTMISEA

As approved by California voters in the November 2006 general election, Proposition 1B enacts the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. Statewide, this is a \$19.925 billion state general obligation bond that is meant to fund high priority projects. There are 16 different programs under Proposition 1B. The first is the Public Transportation Modernization, Improvement, and Service Enhancement Account Program (PTMISEA), with \$3.6 billion allocated statewide for transit rehabilitation, safety or modernization improvements, capital service enhancements, or expansions, including bus procurements. While most of these funds have been allocated, the 2019 Budget Act (SB 840) re-appropriated the remaining PTMISEA funds and extended the deadline for allocation until June 30, 2020. Calaveras Connect is planning to utilize some of its remaining PTMISEA funds to replace bus #68, in FY 20/21.

State Transit Assistance (STA)

The State Transit Assistance funding source can be utilized for either operating or capital purposes. Due to the sunset of the PTMISEA program, many rural transit agencies are utilizing STA funds for capital purposes. The Calaveras Transit Agency currently utilizes some of its allocation to fund the Capital Reserve Fund. It is recommended that additional STA funds be utilized for capital purposes only if FTA 5339 grant applications are not approved.

State of Good Repair (SB1)

Approved as part of SB1, the State of Good Repair (SGR) funds transit vehicle and infrastructure repair and replacement as well as service improvements. For transit, Tuolumne Transit is eligible for a formula share of this program if they submit nominated projects to the Caltrans Division of Rail and Mass Transportation for approval to be funded by using SGR funds. In FY 2019/20, the Calaveras County Council of Governments was allocated \$61712 for vehicle replacements

Low Carbon Transit Operations Program (LCTOP)

The LCTOP provides operating and capital assistance for transit agencies to reduce greenhouse gas emission and improve mobility, with a priority on serving disadvantaged communities. Projects must support new or expanded bus or rail services, expand intermodal transit facilities, and may include the acquisition of equipment. For agencies whose service area includes disadvantaged communities, at least 50 percent of the total funds received shall be expended on projects that will benefit disadvantaged communities. SB 824 in 2016 amended LCTOP legislation to expand project eligibility to support stand-alone ZEB vehicle and infrastructure costs. In Calaveras County in FY 20/21, LCTOP funding is being utilized to finance the free fare program.

Affordable Housing & Sustainable Communities

Affordable Housing & Sustainable Communities program provides funding for affordable housing developments (new construction or renovation) and transportation infrastructure. This may include sustainable transportation infrastructure, such as new transit vehicles and transportation-related amenities such as bus shelters, benches, or shade trees; and other programs that encourage residents to walk, bike, and use public transit.

Federal Funding Sources

Federal Transit Administration Section 5339 (Bus and Bus Facilities Program)

The Federal Transit Administration (FTA) Section 5339 (Bus and Bus Facilities Program) provides funding for capital projects to replace, rehabilitate, and purchase buses and bus-related equipment and to construct bus-related facilities. This program was established under Moving Ahead for Progress in the 21st Century (MAP-21), replacing the previous Section 5309 discretionary program established under the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). It was reauthorized as part of the Fixing America's Surface Transportation (FAST) Act in Section 3017 in 2015, with authorizations from federal fiscal years 2016 through 2020. For rural areas like Tuolumne County, the Caltrans Division of Rail and Mass Transportation (DRMT) administers a discretionary grant program. DRMT administers these funding components to eligible sub-recipients, including public agencies and private nonprofit organizations engaged in public transportation.

In order to receive Section 5339 funding, projects must have a significant impact on desirable long-term outcomes for improving and maintaining California's buses and bus facilities to keep the State's public transportation systems in good physical condition and successfully accomplishing their performance objectives. According to Caltrans, the current guidelines for selecting discretionary applications is based on vehicle age and mileage. The Calaveras Transit Agency is planning on utilizing FTA 5339 to replace bus #72 with two smaller vehicles in FY 20/21. This is a competitive funding source and Calaveras Connect will continue to apply for this funding for future procurements.

Congestion Mitigation and Air Quality Improvement (CMAQ) Program

The FAST Act authorizes funding to the CMAQ program for apportionment to the states. States, local governments, and transit agencies can use these funds to invest in transportation project that support the Clean Air Act. Project eligible for the funds include "alternative fuel vehicles and infrastructure." A project supported by CMAQ funds must demonstrate that the project reduces emissions, is located in or benefits an EPA designated nonattainment or maintenance areas and is a transportation project.

In Calaveras County, Calaveras Connect could utilize CMAQ funding to pay for the difference between internal combustion engines buses and electric buses. However, this would require re-programming of CMAQ funds for this purpose. This is the primary utilization of the CMAQ funding for the Short Range Transit Plan.

FTA 5310 Enhance Mobility of Seniors & Individuals with Disabilities Program

FTA's 5310 grant program provides funding for transportation programs that primarily serve seniors and persons with disabilities. In California, the grant program is administered by Caltrans for small urban and rural areas of the state. Vehicles are purchase through a state contract and monitored by Caltrans during the first five years of vehicle life. Through the use of toll credits, Caltrans allows for 100 percent funding of transit vehicles, requiring no local match. Caltrans has yet to offer ZEB vehicles as a purchase option.