El Dorado Transit
Park-and-Ride Master Plan
Draft Final


Prepared for the

El Dorado County Transit Authority

October 1, 2023

Prepared by LSC Transportation Consultants

El Dorado Transit
Park-and-Ride Master Plan Update

Draft Report

Prepared for the

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Chapter 1
INTRODUCTION

INTRODUCTION

The El Dorado County Transit Authority (EDCTA) has retained LSC Transportation Consultants, Inc., (LSC) to prepare the El Dorado Park-and-Ride (PNR) Master Plan Update. The PNR Master Plan begins by providing an inventory of assets, conditions, and current uses of the western El Dorado County PNRs, focusing on the PNR facilities served by EDCTA commuter services and Route 50 Express. Previous, recent, and current plans that affect or are affected by this PNR Master Plan are reviewed.

Given the COVID-19 pandemic's pivotal impacts on transit services, forecasts of commute patterns are explored and projections for potential ridership activity on the relevant EDCTA services are presented. LSC also conducted an onboard passenger survey on the EDCTA commuter service to better assess both current and future commute patterns as well as to determine popular ideas for PNR service and capital improvements. Forecasts of parking demand and passenger survey input were both considered in order to develop recommendations for future capital projects and uses of the PNR facilities. Ultimately, the El Dorado PNR Master Plan presents recommendations for improvements that will result in a more efficient, functional, and safe PNR system for western El Dorado County.

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Chapter 2

EXISTING EL DORADO COUNTY PARK-AND-RIDE FACILITIES

INTRODUCTION

Many El Dorado County residents are employed by businesses or agencies located in the Sacramento area. The Park-and-Ride (PNR) network in western El Dorado County helps to enhance the commuter experience and relieve automobile congestion by providing locations for commuters to park so they can ride transit, carpool, or vanpool into Sacramento. This chapter provides an overview of the existing PNRs in El Dorado County, shown in Figure 1, with a focus on the PNRs served by transit. Appendix A provides additional details regarding the PNRs, including information on pedestrian and bicycle access conditions, ownership, and maintenance agreements.

PARK-AND-RIDES SERVED BY EL DORADO TRANSIT

EDCTA is the primary public transportation provider in western El Dorado County. EDCTA services are discussed in more detail in Chapter 3, below. This section describes the six PNRs currently served by the EDCTA transit routes, in order from westernmost to easternmost. Table 1 provides information on these seven facilities and identifies which EDCTA services visit each location.

El Dorado Hills Park-and-Ride

The El Dorado Hills PNR, constructed in 1994, is located near the town center of El Dorado Hills south of US Highway 50. The El Dorado Hills PNR has 128 parking spots; most of the spaces are for regular drivers, but there are also four spots designated for drivers eligible for protections under the American Disability Act (ADA), or ADA spots and four spots for motorcycles. There are also two parking spots with charging infrastructure for electric vehicles (EVs). There are five benches and four shelters for waiting passengers. In addition, there are multiple bike racks and five bike lockers for people to store bicycles. The bus pullout can accommodate up to three buses along the west side of the PNR. Lighting is installed throughout the lot, as well as along nearby streets. There is a well-developed network of sidewalks near the PNR and crosswalks at White Rock Road with push buttons for pedestrians crossing the street. The El Dorado Hills PNR is the last stop on the EDCTA's commuter service before the bus heads into Sacramento. Traditionally, the El Dorado Hills PNR has been the most popular stop among commuter service passengers.

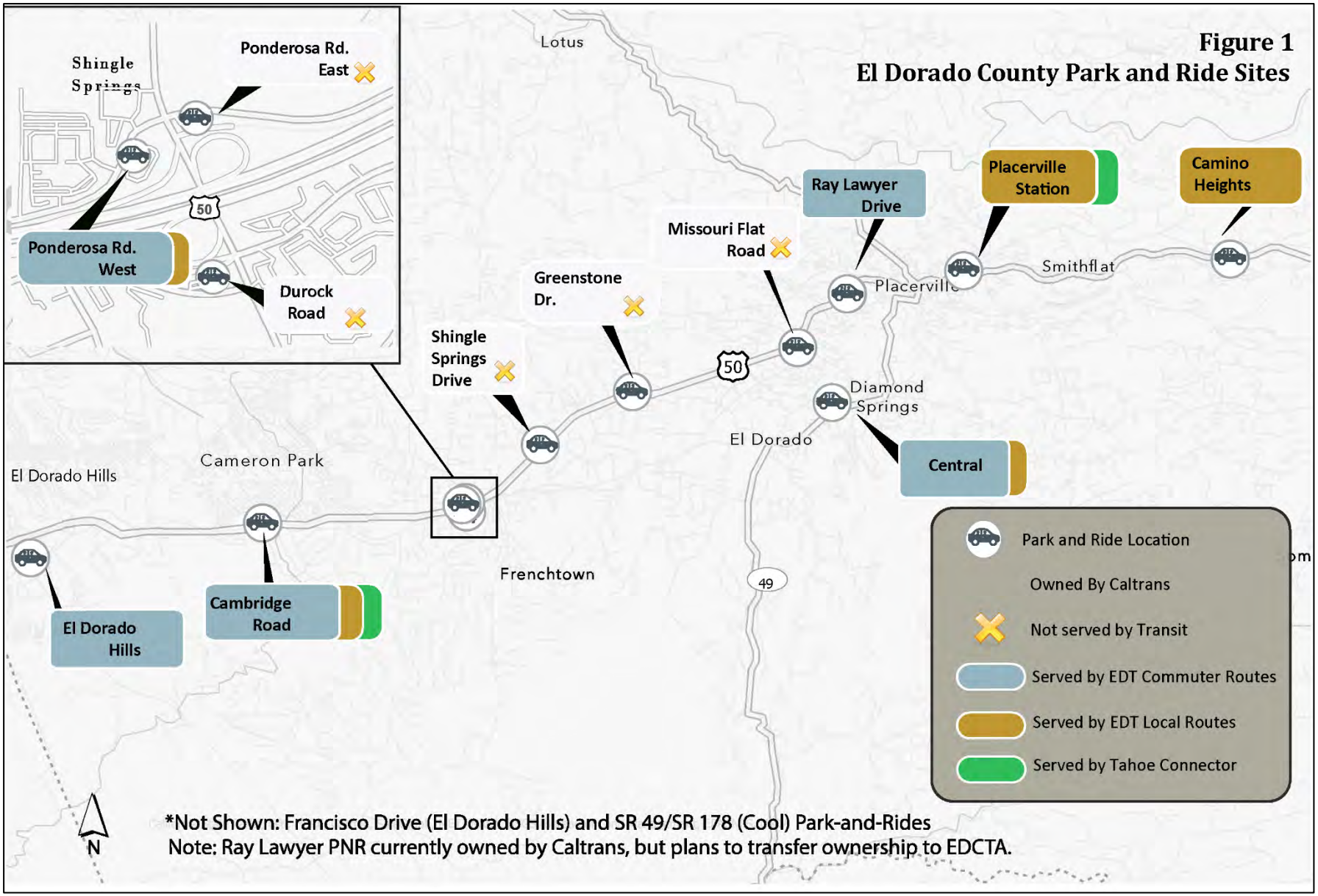


Figure 1
El Dorado County Park and Ride Sites
Lotus
Shingle Springs
Ponderosa Rd. East
Ponderosa Rd. West
Durock Road
50
Ray Lawyer Drive
Placerville Station
Camino Heights
Missouri Flat Road
Greenstone Dr.
Shingle Springs Drive
Placerville
Smithflat
Diamond Springs
El Dorado
Central
El Dorado Hills
Cameron Park
Frenchtown
Cambridge Road
El Dorado Hills
49
Park and Ride Location
Owned By Caltrans
Not served by Transit
Served by EDT Commuter Routes
Served by EDT Local Routes
Served by Tahoe Connector
N
*Not Shown: Francisco Drive (El Dorado Hills) and SR 49/SR 178 (Cool) Park-and-Rides
Note: Ray Lawyer PNR currently owned by Caltrans, but plans to transfer ownership to EDCTA.

Table 1: Summary of Existing Park-and-Rides Served by EDCTA

Name / Location	Year Built	Number of: Bus Pullouts	Parking Spaces	EV Charging Stations	Bike Lockers	Amenities	Lighting	EDCTA Weekday Service: Routes Serving PNR	# of Daily Departures
El Dorado Hills Park and Ride *El Dorado Hills*	1994	3	128	2	5	Shelter (4) Bench (5) Bike racks	Yes	EDT Commuter Service EDT Route 50	4 WB/4 EB 10 WB/9 EB
Cambridge Rd Park and Ride *Cameron Park*	2007	2	68	--	1	Shelter Bench	Yes	EDT Commuter Service EDT Route 40 EDT Route 50 Sac/SLT Connector [1]	4 WB/4 EB 13 OB/12 IB 10 WB/9 EB 1 EB/1 WB
Ponderosa Rd Park and Ride *Shingle Springs*	1990	--	94	--	--	Bike Rack	Yes	EDT Commuter Service EDT Route 40	4 WB/4 EB 13 by Request
Central Park and Ride *Diamond Springs*	2009	2	82	--	6	Shelter Bench (2) Bike rack	Yes	EDT Commuter Service EDT Route 30	4 WB/4 EB 24 OB/IB
Ray Lawyer Dr Park and Ride *Placerville*	2020	2	184	--	--	Shelter (2) Bench (2)	Yes	EDT Commuter Service	4 WB/4 EB
Placerville Station *Placerville*	2001	--	55	6	--	Shelter Bench (5+)	Yes	EDT Route 20 EDT Route 50 EDT Route 60 Sac/SLT Connector [1]	13 OB/12 IB 9 WB/9 EB 12 OB/IB 1 EB/1 WB
Camino Heights Park and Ride *Camino Heights*	--	--	24	--	--	None	No	Route 60	12 EB

"EDT" = El Dorado Transit "Sac" = Sacramento "SLT" = South Lake Tahoe

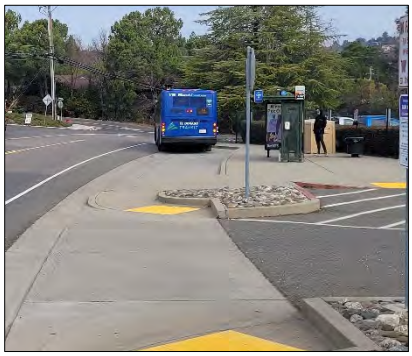
"OB" = Outbound "IB" = Inbound "EB" = Eastbound "WB" = Westbound

Note 1: Sac/SLT Connector Route is an Amtrak Thruway bus route operated by EDT, connecting to Amtrak Capital Corridor.

Sources: EDCTA, Caltrans, LSC Transportation Consultants, Inc., Google Maps

Cambridge Road Park-and-Ride

The Cambridge Road (Cambridge) PNR is located on Cambridge Road in Cameron Park just north of the interchange on US Highway 50. The Cambridge PNR was constructed in 2007 and contains 68 spaces; there are regular parking spaces and ADA spots. There is no charging infrastructure for electric EVs. For amenities, there is a shelter, a bench, and three bike lockers. There is a bus pullout for up to two buses fronting the lot on the west. The Cambridge PNR also has lighting throughout the lot, and the shelter is lit. On the west side of the lot, there is a paved, 6-foot wide, ADA-compatible sidewalk that ends just north of the bus pullout and on the south side extends to a crosswalk providing access to commercial businesses across the road to the west, and to the freeway overpass to the south (ending 0.17 miles from the PNR lot). The sidewalk along the block west of the PNR is incomplete.



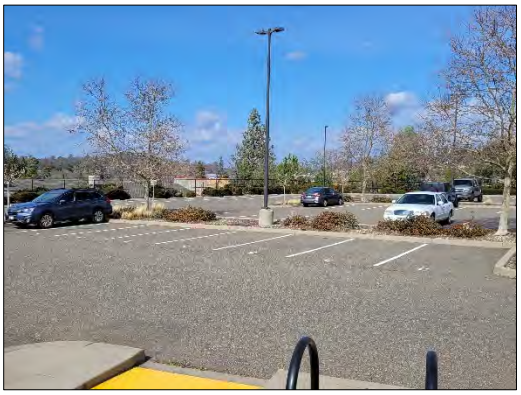
On weekdays, the Cambridge PNR is served by EDCTA's commuter service, the Connector Route, Route 40 (Cameron Park), and the Route 50 Express. The stop is also served eastbound in the morning and westbound in the afternoon by Capitol Corridor Sacramento to South Lake Tahoe Connecting Bus operated by EDCTA, weather permitting (Table 1).

Ponderosa Road Park-and-Ride

The Ponderosa Road West (Wild Chaparral) PNR is located at the northwest quadrant of the Ponderosa Road and US 50 interchange in Shingle Springs. There are two other PNR facilities also located in the Ponderosa Road/US 50 Interchange; the Ponderosa Road "East" PNR is located in the northeast quadrant and the Durock Road PNR is located in the southwest quadrant. Caltrans owns and maintains all three of these PNR facilities. The Ponderosa Road West PNR is the only facility served by EDCTA. In this study, the "West" location is simply referred to as the Ponderosa Road PNR.

Constructed in 1990, the Ponderosa Road PNR has 94 spots divvied up for normal cars, compact cars, and ADA drivers. There is no EV charging infrastructure, bike lockers, or bike racks, however, there is a shelter and bench for waiting passengers and lighting at night. Pedestrian access is limited to dirt or gravel pathways and is not well-developed. The EDCTA commuter service and Route 40 (Cameron Park) both serve the Ponderosa Road PNR. The bus circles through the lot clockwise to serve the shelter.

Central (Commerce Way) Park-and-Ride



The Central PNR (also referred to as the Commerce Way PNR) is located adjacent to the EDCTA offices in Diamond Springs near State Route (SR) 49. The Central PNR is the first stop served by the EDCTA commuter service on morning runs. Constructed in 2009, the Central PNR has 82 total parking spaces, which are either regular, ADA, or compact vehicle spaces. Amenities include one shelter, two benches, two bike racks, six bike lockers, and lighting. There are two bus pullouts above the PNR on the east side and an ADA-accessible ramp between the bus pullout and the parking lot. The bus stop has a 232' ADA accessible sidewalk, and a crosswalk to a sidewalk to the east which accesses the EDCTA offices, but no pedestrian amenities beyond these. The Central PNR is served by the EDCTA commuter service and Route 30 (Diamond Springs).

Ray Lawyer Drive Park-and-Ride

The Ray Lawyer Drive PNR, located on the south side of US 50 between Forni Road and the Ray Lawyer Drive/US 50 eastbound off-ramp, is the newest facility served by EDCTA. Completed in 2020, the site has a total of 184 parking spaces for normal-sized, compact cars, and ADA drivers, but no spots for EVs. There are lampposts throughout the lot to provide lighting, and there are two shelters and two benches for passengers to utilize. There is a pullout for two buses. If necessary, bus drivers can make a U-turn on Forni Road at the west entrance of the lot.

There is a walkway between the shelter and the parking lot. There are no bike lockers or bike racks currently, though these are planned to be added once ownership is transferred to EDCTA (Caltrans plans to pass ownership to the City of Placerville, and then the City will pass ownership to EDCTA). As with Placerville Station, there is access to the El Dorado Trail, which provides a Class I bike path east to downtown Placerville and west to Missouri Flat Road/El Dorado. The pedestrian infrastructure is well-developed along Forni Road. The County Jail is a 0.25-mile walk from the PNR lot but without sidewalks on a moderately steep, 30' wide road. The Ray Lawyer Drive PNR is served by the EDCTA commuter service.

Currently, there is no signage prohibiting overnight parking, which has allowed people to park their campers and RVs long-term. Once ownership is eventually transferred to EDCTA, the signs will be placed, and policy enforced.

Placerville Station (Mosquito Road Park-and-Ride)

Placerville Station (also referred to as the Mosquito Road PNR) is located west of Mosquito Road and south of Clay Street in Placerville near US 50. The facility has 49 spots (regular and ADA) and EV charging stations for six parking spots (though two were out-of-order on a site visit). There is also an adjacent dirt lot that can be used for parking, and which was paved in August 2023. The currently paved lot at Placerville Station has lighting features throughout, but the dirt lot has only one light. There are plenty of benches at the bus stop, all covered by one large shelter structure. There are restrooms with flush toilets.

The Placerville Station also serves as parking for the El Dorado Trail, a multi-use trail[1]. From Placerville Station, the trail travels west to Bedford Avenue and along Main Street to another section of paved path near Forni Road. The eastbound section of the paved path across from Mosquito Road extends to Camino. A crosswalk on the northeast side of the paved PNR lot accesses the trail. Sidewalks are well-developed in the area.

EDCTA Route 20 (Placerville Local), EDCTA Route 50 Express (Placerville to Folsom), and EDCTA Route 60 (Placerville to Pollock Pines) all stop at Placerville Station. The Capitol Corridor Sacramento to South Lake Tahoe Connecting Bus operated by EDCTA also serves Placerville station daily, weather permitting.

[1] The El Dorado Trail includes two railroad rights-of-way. The twenty-eight mile segment of the Sacramento-Placerville Transportation Corridor in El Dorado County extends from the western end of the County near the Latrobe area east, to the western portion of the city of Placerville. The Michigan-California portion runs east from Placerville east into the Camino area. This former rail corridor is a part of the Designated Cross State Bicycle Route which runs from San Francisco to South Lake Tahoe.

Camino Heights Park-and-Ride

The Camino Heights PNR is located at the corner of Sierra Blanca and Camino Drives near US 50 in the community of Camino. The facility has 24 total parking spots, one of which is a designated ADA space. As of December 2022, passengers board the bus at the gas station across the street from the PNR. There are no designated bus pullouts, but there is adequate shoulder space for the bus to load outside of the travel lane. There are no crosswalks, sidewalks, benches, shelters, or bicycle amenities. The Camino Heights PNR is served hourly by EDCTA's Route 60 (Pollock Pines).

Park-and-Ride Operating Costs

The EDCTA pays annual utility and maintenance costs for the PNRs it serves. The costs owed for each PNR vary depending on the amenities present, who owns the facility, and existing maintenance agreements. Current ownership and maintenance information for the western El Dorado County PNRs is detailed in Appendix A. Utilities paid by EDCTA, depending on the PNR, include electric, trash, surveillance camera system fees, landscaping, water, and other miscellaneous costs.

Table 2 shows EDCTA's PNR utility costs for the last five complete fiscal years (FYs). As shown, annual costs for these seven lots have averaged $31,701. The utility costs fluctuated over time, with FY 2019-20 being the cheapest year and FY 2021-22 being the most expensive. EDCTA used to pay for the EV charging infrastructure at the El Dorado Hills PNR before the El Dorado Air Quality Management District assumed the costs in 2019, which contributed to the decrease in utility costs in FY 2019-20. Even without paying for the EV charging infrastructure, the El Dorado Hills PNR has continued to be the most expensive site for EDCTA, followed by the Central PNR. The Bass Lake Hills PNR, Placerville Station, and Ponderosa Road PNR had the lowest utility costs in FY 2021-22 because EDCTA is responsible for only a few utilities at each site.

Table 2: EDCTA Park-and-Ride Utility Costs

	Fiscal Year					
Park-and-Ride	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	**Average**
Bass Lake Hills	--	--	--	$600	$750	$675
Cambridge	$5,024	$5,152	$5,370	$4,587	$6,977	$5,422
Central	$8,184	$9,478	$8,282	$9,174	$11,290	$9,282
El Dorado Hills	$17,405	$14,169	$10,492	$11,327	$12,032	$13,085
Placerville Station	$529	$559	$604	$524	$570	$557
Ponderosa Road	$577	$1,768	$748	$943	$996	$1,007
Ray Lawyer Dr	$498	--	$1,719	$3,899	$4,278	$2,598
Total	**$32,217**	**$31,126**	**$27,215**	**$31,054**	**$36,893**	**$31,701**

Source: EDCTA

OTHER PARK-AND-RIDES IN WESTERN EL DORADO COUNTY

In addition to the PNRs listed above, the Missouri Flat Transfer Center on Missouri Flat Road and Forni Road is a key transfer location for local routes and the Highway 50 Express route and includes a few park-and-ride spots within the Walmart parking lot.

There are other PNRs in western El Dorado County that are not served by EDCTA. Most of these facilities are owned and maintained by Caltrans. These lots provide parking for residents who are carpooling to work, school, or other destinations. Many people also use these PNRs, as well as the ones served by EDCTA, for public parking while visiting nearby businesses and attractions. Details regarding the western El Dorado County PNRs which are not served by transit are included in Appendix A.

FUTURE PARK-AND-RIDES IN WESTERN EL DORADO COUNTY

One of the conditions of development in the approved Bass Lake Hills Specific Plan area is the construction of a 200-space PNR facility. Construction of this facility, or the Bass Lake Hills PNR, has been postponed multiple times. The project is finally moving forward, however, and construction began in 2023.

The Bass Lake Hills PNR will be located on the corner of Old Bass Lake Hills Road and the future County Club Extension. The facility will be built in two phases; Phase 1 will be paid for by the developers and will result in 100 spots, then Phase 2 will be paid for by EDCTA and will consist of constructing an additional 100 spots. The facility is intended to serve as a parking area for the east-west pedestrian trail.

PARKING COUNTS

LSC conducted parking counts at most of the western El Dorado County PNRs, including those served by EDCTA as well as some that are not served by transit, on Wednesday, January 25, 2023, at 8:30 AM, 1:00 PM, and 7:00 PM. The parking counts were to assess the relative use of each lot throughout the day. LSC conducted counts based on the type of parking spot occupied; as previously mentioned, depending on the PNR there are normal, ADA, compact, motorcycle, and EV spots.

The parking count data collected by LSC is shown in Table 3. Overall, peak utilization over the 11 lots surveyed was only 19 percent. Peak utilization for those lots not served by EDCTA was slightly higher (at 22 percent) than for those served by EDCTA. Only one of the facilities was ever more than 50 percent utilized on the day of counts. The PNRs with the highest peak utilization rates were the Ponderosa Road "East" PNR at North Shingle Road (67 percent of total spots were used at 1:00 PM on the day of data collection) and the El Dorado Hills PNR (37 percent of total spots used at 8:30 AM). Almost all of the lots saw greater use at 8:30 AM and 1:00 PM compared to 7:00 PM, with the only exception being the Durock Road PNR. Across all the PNRs, the most ADA spots occupied at any one time was one.

Considering the peak observed utilization at each lot, the total parking observed at those lots served by EDCTA was 114. Of this, 41 percent (47) was seen at the El Dorado Hills lot, followed by 22 percent at Ray Lawyer Drive PNR, 11 percent at Placerville Station, and 10 percent at Cambridge.

The peak overall utilization rates presented in Table 3, or the greatest percentages of total parking spots being used at any one time on the day of sampling, are significantly lower than the average utilization rates presented in the *2017 El Dorado PNR Master Plan.* LSC's parking count data suggests an approximately 80 percent decrease in use at the Cambridge Road PNR, Ponderosa Road PNR, Durock Road PNR, the Missouri Flat Transfer Center, and the Shingle Springs PNR.

Table 3: Parking Counts at Existing El Dorado Park-and-Ride Lots

January 2023

Park-and-Ride	Spots		Time of Count			Peak Utilization Rate by Spot Type	Peak Overall Utilization Rate
	Type	#	8:30 AM	1:00 PM	7:00 PM		
Cambridge[1]	Cars	64	11	11	0	17%	16%
	ADA	4	0	0	0	0%	
Central[1]	Cars	54	6	7	2	13%	12%
	ADA	3	0	0	0	0%	
	Compact	25	0	3	0	12%	
El Dorado Hills[1]	Cars	118	46	43	0	39%	37%
	ADA	4	0	0	0	0%	
	EV	2	1	1	1	50%	
	Motorcycles	4	0	0	0	0%	
Placerville Station[1]	Cars	45	12	9	2	27%	22%
	ADA	4	0	0	0	0%	
	EV	6	0	1	0	17%	
Ponderosa Road[1] (Wild Chapparal)	Cars	88	10	12	2	14%	13%
	ADA	4	0	0	0	0%	
	Compact	2	0	0	0	0%	
Ponderosa Road (North Shingle Rd)	Cars	18	10	12	2	67%	67%
Ponderosa Road (Durock Rd)	Cars	44	5	7	7	16%	16%
Ray Lawyer Drive[1]	Cars	140	19	20	4	14%	14%
	ADA	6	0	1	0	17%	
	Compact	38	0	4	0	11%	
Greenstone Rd	Cars	20	3	4	0	20%	20%
Missouri Flat	Cars	48	14	13	5	29%	21%
	ADA	3	0	1	0	33%	
	Compact	20	0	1	0	5%	
Shingle Springs	Cars	19	2	0	0	11%	11%
Subtotal: Served by EDCTA		611	105	112	11		
Subtotal: Not Served by EDCTA		172	34	38	14		
TOTAL		783	139	150	25		
Percent: Served by EDCTA			17%	18%	2%		18%
Percent: Not Served by EDCTA			20%	22%	8%		22%
Percent: Total			18%	19%	3%		19%

Source: LSC Transportation Consultants, Inc.
Note 1: Park-and-Rides served by El Dorado Transit
Note 2: Dirt lot spots excluded from counts

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Chapter 3

EL DORADO COUNTY TRANSIT AUTHORITY SERVICES

INTRODUCTION

EDCTA provides public transit services for the western slope of El Dorado County. EDCTA offers fixed route, dial-a-ride, and paratransit services locally, as well as a commuter service between El Dorado County and Sacramento and the Connector Route between Sacramento and South Lake Tahoe. This chapter explores the transit services that serve the El Dorado County PNRs and forecasts future ridership levels on the commuter service.

EDCTA COMMUTER SERVICE

EDCTA operates a weekday commuter service to Sacramento, with four morning westbound runs and four afternoon eastbound runs. The commuter service schedule is depicted in Table 4. This schedule is a decrease from pre-COVID service levels. Before the pandemic, EDCTA was operating eleven morning and eleven afternoon commute runs, as well as two morning and two afternoon reverse commute runs.

Table 4: El Dorado Transit Commuter Services Schedule

February 2023

	Morning Runs			
Stop	AM 1	AM 2	AM 3	AM4
Central Park and Ride (Commerce Way)	5:10 AM	5:40 AM	6:10 AM	--
Ray Lawyer Dr. Park and Ride	5:20 AM	5:50 AM	6:20 AM	8:00 AM
Ponderosa Rd. Park and Ride	5:30 AM	6:00 AM	6:30 AM	8:10 AM
Cambridge Rd. Park and Ride	5:40 AM	6:10 AM	6:40 AM	8:20 AM
El Dorado Hills Park and Ride	5:50 AM	6:20 AM	6:50 AM	8:30 AM
S St. @ 65th St. (Sac.)	--	6:45 AM	7:15 AM	8:55 AM
P St. @ 30th St. (Sac.)	6:20 AM	6:50 AM	7:20 AM	9:00 AM
↓ (Sacramento Stops)				
15th St. @ N St. (Sac.)	6:45 AM	7:15 AM	7:45 AM	9:25 AM
	Afternoon Runs			
	PM 1	PM 2	PM 3	PM 4
P St. @ 13th St. (Sac.)	3:20 PM	4:00 PM	4:40 PM	5:40 PM
↓ (Sacramento Stops)				
Q St. @ 29th St. (Sac.)	3:45 PM	4:25 PM	5:05 PM	6:05 PM
S St. @ 65th St. (Sac.)	--	4:30 PM	5:10 PM	6:10 PM
El Dorado Hills Park and Ride	REQ	REQ	REQ	REQ
Cambridge Rd. Park and Ride	REQ	REQ	REQ	REQ
Ponderosa Rd. Park and Ride	REQ	REQ	REQ	REQ
Ray Lawyer Dr. Park and Ride	REQ	REQ	REQ	REQ
Central Park and Ride (Commerce Way)	REQ	REQ	REQ	REQ

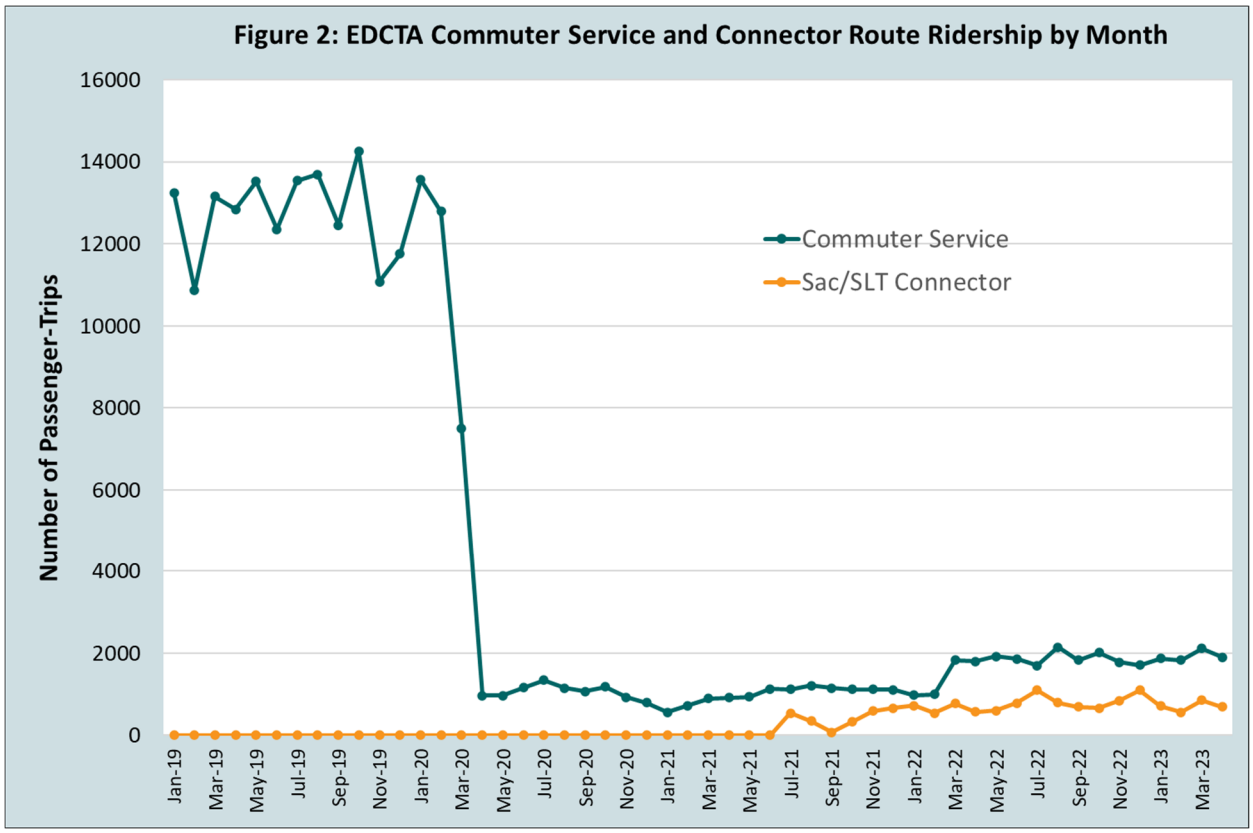
Source: El Dorado Transit
Note: "REQ" means by Request.

Fares on the service are $5.00 for a one-way ride and $180.00 for a monthly pass, which is also valid on local routes. A combination EDCTA/Sacramento Regional Transit monthly pass is available for $210.00. Many Sacramento-area employers, including state and federal agencies, pay for monthly transit passes. According to a 2022 survey of Sacramento-area employers conducted by the Sacramento Area Council of Governments (SACOG), 20 percent of the companies surveyed either provide their employees bus passes or provide a subsidy to purchase passes.

Monthly Ridership

The COVID-19 pandemic greatly impacted transit ridership across the nation. This impact is evident in Figure 2, which shows EDCTA commuter service and Connector Route ridership by month from January 2019 through December 2022. Commuter service ridership plummeted from 12,798 passenger-trips in February 2020 to only 971 passenger-trips in April 2020 (a 91 percent decrease) as stay-at-home orders were put in place across California.

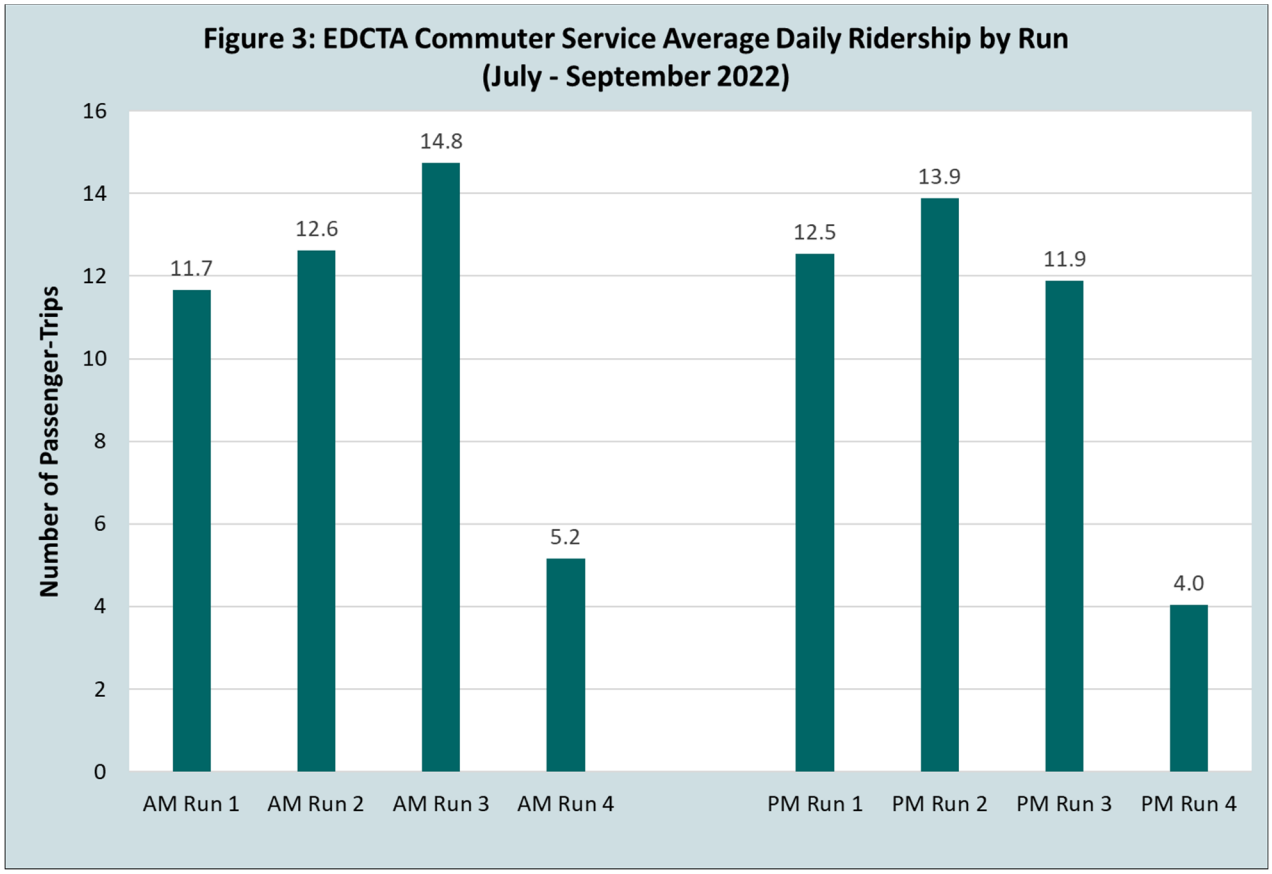
Commuter service ridership averaged only 1,022 passenger-trips per month from April 2020 until February 2022 before experiencing an uptick in March 2022. Since March 2022, commuter service ridership has averaged 1,864 passenger-trips per month, which equates to 15 percent of the average monthly ridership seen in 2019 (the last full calendar year before the pandemic). The slow recovery of ridership on the commuter service has been primarily due to the more widespread implementation of hybrid and remote work arrangements since the pandemic. It is also possible that the reduction of service levels by EDCTA has prevented some riders from returning to the service. Commuting trends will be discussed further in later chapters.



The Connector Route provides transfer opportunities to the Amtrak Capital Corridor train service. The Connector Route is operated by EDCTA and provides service between Sacramento and South Lake Tahoe daily with stops at the Cambridge Road PNR and Placerville Station in El Dorado County. This service was initiated in July 2021 and has progressively grown, carrying an average of 866 passenger-trips per month from July through December 2022. The Connector Route ridership is included in Figure 2.

Ridership by Time of Run

Figure 3 displays the average daily ridership by run for July through September 2022. The morning run with the greatest ridership was the third of four morning departures from El Dorado County (6:10 AM start) and the afternoon run with the greatest ridership was the second of four departures from Sacramento (4:00 PM start). The first three morning and the first three afternoon runs all saw much greater average ridership (over 11 passenger-trips per run) compared to the final morning and afternoon runs (5.2 and 4.0 passenger-trips per run, respectively).



Boarding and Alighting by Stop

Table 5 shows the average daily boarding and alighting activity at each of the PNRs served by EDCTA during October 2022. The El Dorado Hills PNR was by far the most popular among commuters, accounting on average for 62 percent of the commuter service's daily boardings and 77 percent of the daily alightings. The next busiest lot was the Ray Lawyer Drive PNR, which accounted for 20 percent of the average daily boarding and 5 percent of the alighting activity. At the other PNRs, less than five people on average boarded or alighted per day.

Table 5: EDCTA Commuter Service Boardings and Alightings by Park-and-Ride
October 2022

Park-and-Ride[1]	Average Daily Boardings/Alightings By Stop and Run									
	AM Run Boardings					PM Run Alightings				
	1	2	3	4	Total	1	2	3	4	Total
El Dorado Hills	6	8	13	4	30	12	10	10	4	36
Cambridge	1	1	1	0	4	1	2	1	0	4
Ponderosa Rd.	1	1	1	1	3	0	1	1	0	2
Central	1	1	0	0	2	0	1	1	0	2
Ray Lawyer Dr.	3	4	2	1	9	1	1	1	0	2
Total	12	14	17	6	49	15	14	12	4	46
	% Average Daily Boardings					% Average Daily Alightings				
El Dorado Hills	12%	16%	27%	8%	62%	27%	21%	21%	9%	77%
Cambridge	2%	3%	3%	0%	8%	3%	5%	1%	0%	10%
Ponderosa Rd.	2%	1%	2%	1%	6%	1%	2%	2%	0%	5%
Central	2%	2%	0%	0%	4%	0%	2%	1%	0%	4%
Ray Lawyer Dr.	7%	7%	3%	2%	20%	2%	1%	1%	0%	5%
Total	25%	29%	35%	11%	100%	33%	31%	27%	9%	100%

Note 1: No data available for Camino Heights PNR.
Source: EDT

OTHER EDCTA SERVICES

EDCTA also operates local and express routes within El Dorado County. This section discusses the EDCTA local and express routes that serve the PNRs and how these routes contribute to the overall use of the PNR facilities.

Transfer Opportunities

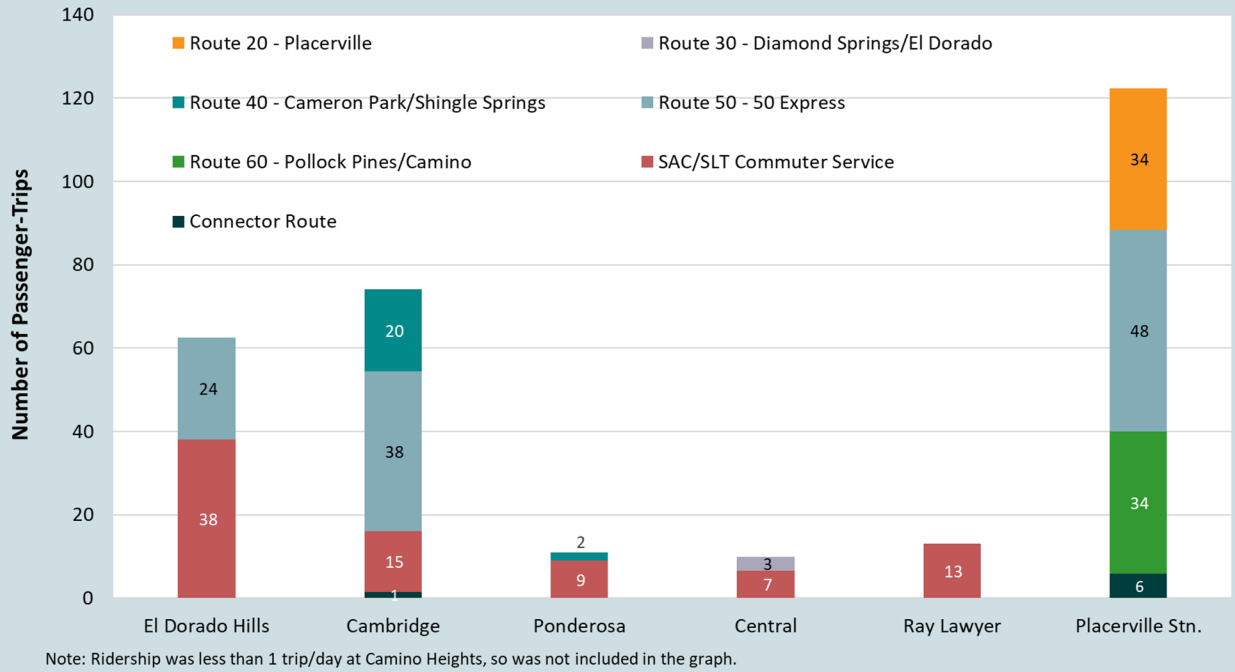
PNRs which serve both EDCTA's local routes and commuter service provide opportunities for transfers between services. This includes Cambridge, El Dorado Hills, Ponderosa, and Placerville Station PNRs. The EDCTA services and the number of daily bus departures by service at each PNR facility are shown in Table 1 of Chapter 2. Other EDCTA routes that serve the PNRs in addition to the commuter service and Connector Route are Route 20 (Placerville), Route 30 (Diamond Springs/El Dorado), Route 40 (Cameron Park/Shingle Springs), Route 50 (50 Express), and Route 60 (Pollock Pines/Camino).

Local Route Boarding and Alighting Activity at PNRs

Passengers on the local routes contribute to the overall use of the western El Dorado County PNRs. Figure 4 shows the average daily boarding and alighting activity at each PNR for 2022, broken down by service. Considering all the routes serving each location, Placerville Station saw the greatest daily boarding and alighting activity on average in 2022 (122 boardings/alightings), with Route 50 Express passengers

generating the most activity (43 percent). The Cambridge PNR experienced the second-greatest average daily boarding and alighting activity in 2022 (74 boardings/alightings), with Route 50 Express passengers also generating the most activity (51 percent). The majority of the boarding and alighting activity at both the El Dorado Hills, Ponderosa Road, and Central PNRs was generated by commuter service passengers (61, 70, and 82 percent of the boarding/alighting activity at each site, respectively). The Ray Lawyer PNR is only served by the commuter service, so all boarding and alighting activity at this site was by commuter service passengers. As the Camino Heights PNR is only served on-demand, there was no adequate data to calculate the average daily boarding/alighting activity.

Figure 4: Average Daily Boarding and Alighting Activity at EDCTA Park-and-Rides (2022)



Note: Ridership was less than 1 trip/day at Camino Heights, so was not included in the graph.

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Chapter 4

EDCTA COMMUTER SERVICE PASSENGER SURVEY

PASSENGER SURVEY

Transit demand and ridership patterns have changed significantly in recent years. This has been especially true on transit services catered towards the needs of commuters, as the COVID-19 pandemic prompted many companies to shift to more remote work models, therefore reducing the frequency workers have to commute. A passenger survey was conducted during the development of the EDCTA PNR Master Plan update to gather data on both current and future commuter service ridership patterns, Park-and-Ride (PNR) utilization, and perceptions of both the EDCTA commuter service and the PNR facilities.

The survey effort was conducted from January 16 to February 10, 2023. During this four-week period, physical surveys were available on both the morning and afternoon commuter service buses for passengers to self-administer. Flyers with QR codes were posted onboard for passengers to scan and access the online version of the survey if preferred. EDCTA also emailed a contact list of both previous and current commuter service passengers with information on how to take the survey online.

The paper survey consisted of a one-page questionnaire in English on one side and Spanish on the reverse side, printed on card stock. This survey is provided in Appendix B. The surveys included a simple introduction, with 16 questions in multiple-choice, short-answer, or comment format. A total of 116 previous or current EDCTA commuter service passengers participated in the survey, all of whom completed the survey in English. This section presents the survey results.

CURRENT TRAVEL PATTERNS

Data regarding how passengers are currently utilizing the EDCTA commuter service and PNR facilities is detailed below.

Q1. How Often Survey Respondents Go to Sacramento for Work or School (In-Person) (115 Responses)

Before the pandemic, many El Dorado County residents were required to travel to Sacramento each weekday to attend work or school. However, as of winter 2023, most of the El Dorado County residents employed or attending school in Sacramento were not traveling to the city five days per week, but rather three days a week or less (Figure 5). According to the survey results, commuter service passengers are traveling to Sacramento an average of 2.6 days per week. In the last six months, only 17 percent of the respondents commuted to Sacramento each weekday.

Q2. How Often Survey Respondents Used EDCTA Commuter Services In the Last Six Months (116 Responses)

The survey respondents indicated that, on average, they used the commuter service 2.2 days per week during the last six months, slightly less than the rate they traveled to Sacramento. (Figure 6). This data suggests that while most of the commuter service passengers rely on transit to get to and from Sacramento, some passengers also use other forms of transportation for commuting.

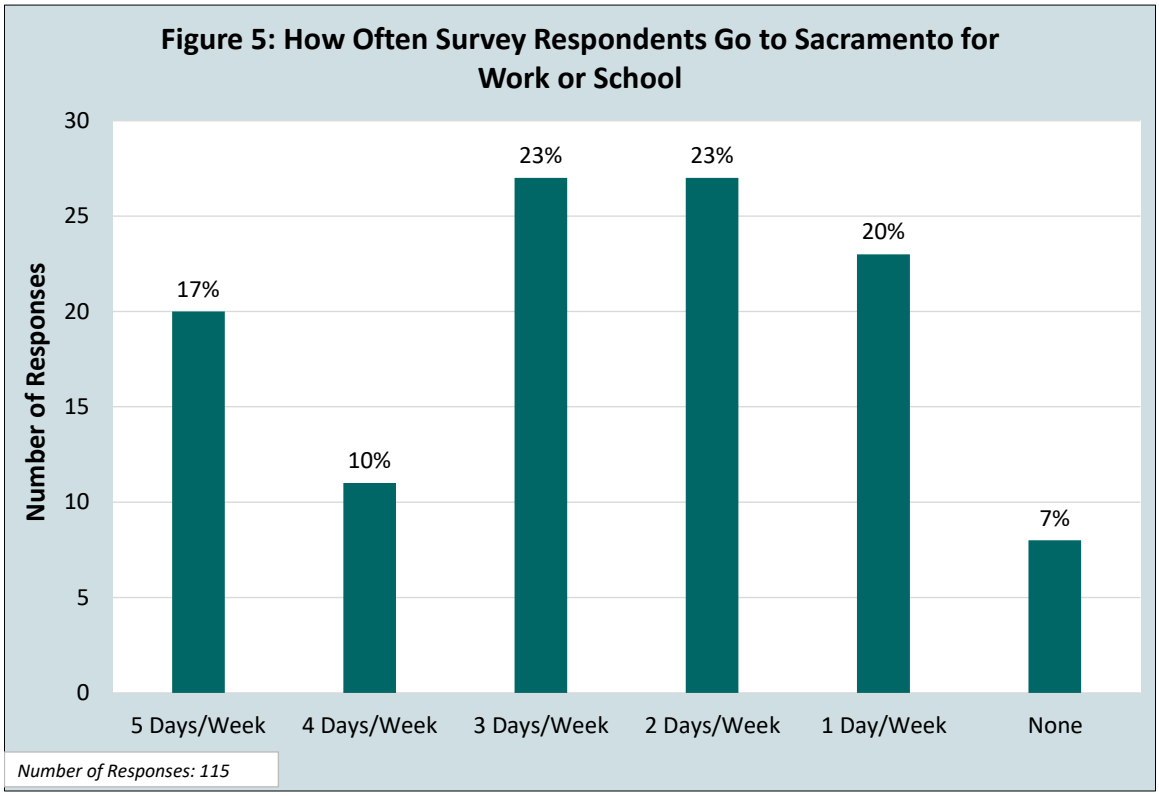
Figure 5: How Often Survey Respondents Go to Sacramento for Work or School
Number of Responses
30
25
20
15
10
5
0
17%
10%
23%
23%
20%
7%
5 Days/Week
4 Days/Week
3 Days/Week
2 Days/Week
1 Day/Week
None
Number of Responses: 115

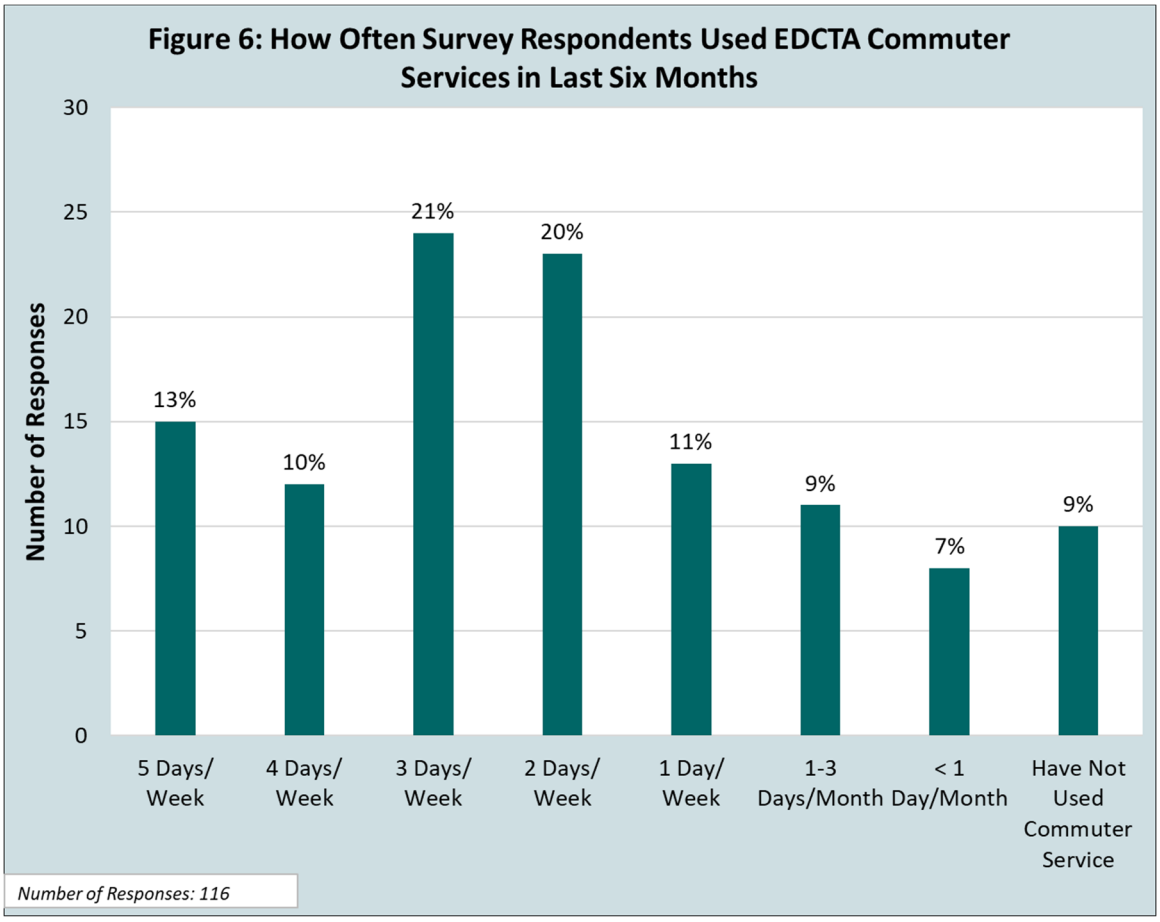
Figure 6: How Often Survey Respondents Used EDCTA Commuter Services in Last Six Months
Number of Responses
30
25
20
15
10
5
0
13%
10%
21%
20%
11%
9%
7%
9%
5 Days/ Week
4 Days/ Week
3 Days/ Week
2 Days/ Week
1 Day/ Week
1-3 Days/Month
< 1 Day/Month
Have Not Used Commuter Service
Number of Responses: 116

Q3. Where Passengers Typically Board EDCTA Commuter Service (114 Responses)

The El Dorado Hills PNR is the most popular among the survey respondents; 43 percent reported that is where they typically board the EDCTA commuter service (Figure 7). The Ponderosa Rd. PNR is the second most utilized (27 percent).

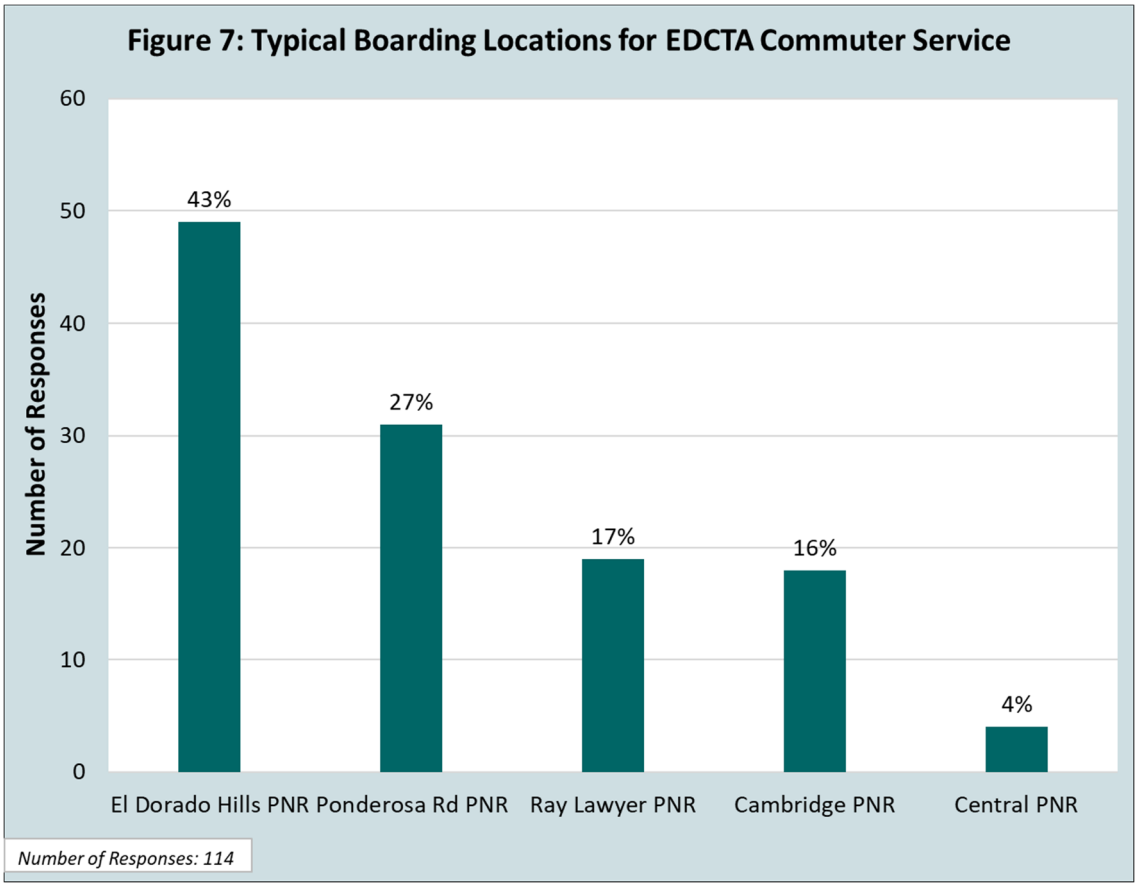

Table 6 shows how often the passengers rode the EDCTA commuter service in the last six months (Question 2) based on the PNR where they typically boarded (Question 3). The darker shades of green indicate a greater number of respondents. Based on the table, the El Dorado Hills PNR is the most popular PNR among the surveyed passengers. However, the passengers who typically boarded at the El Dorado Hills PNR rode the bus the least frequently (only 1.9 days per week on average). Passengers at the Central PNR rode the EDCTA commuter service most frequently (3.3 days per week), followed by the Ponderosa Rd. and Ray Lawyer PNRs (both 2.6 days per week).

Q4. How Passengers Get to PNRs to Board EDCTA Commuter Service (114 Responses)

Over 83 percent of the surveyed passengers get to their typical morning boarding location for the EDCTA commuter service by driving themselves. 12 percent said that they get a ride from someone else to catch the commuter service bus.

Table 6: Frequency Passengers Rode EDT Commuter Service by Park-and-Ride

During Last Six Months

Park-and-Ride	Frequency								Total
	Have Not Used Service	< 1 Day/ Month	1-3 Days/ Month	1 Day/ Week	2 Days/ Week	3 Days/ Week	4 Days/ Week	5 Days/ Week	
Cambridge	1	2	0	1	3	5	4	0	16
Central	0	0	0	0	1	1	2	0	4
El Dorado Hills	5	1	8	8	9	9	1	5	46
Ponderosa Rd.	1	1	2	2	8	7	1	6	28
Ray Lawyer	1	3	1	2	2	2	4	4	19
Total	8	7	11	13	23	24	12	15	**113**

Source: LSC Transportation Consultants, Inc.

Q5 & Q6. Typical Times Respondents Report to Work/School in Sacramento (112 Responses)

Table 7 shows when the survey respondents typically report to work or school in Sacramento. Most of the respondents said they arrive between 7:30 and 8:29 AM (46 percent), suggesting the commuter service buses arriving in Sacramento during that hour would see the greatest ridership. Only 10 percent of the respondents report to work/school after 9:00 AM.

Table 7: Typical Times Respondents Report to Work/School in Sacramento

Time Period	# of Participants	% of Participants
6:00 AM- 6:29 AM	3	3%
6:30 AM - 6:59 AM	18	16%
7:00 AM - 7:29 AM	20	18%
7:30 AM - 7:59 AM	31	28%
8:00 AM - 8:29 AM	20	18%
8:30 AM - 8:59 AM	4	4%
9:00 AM - 9:29 AM	10	9%
9:30 AM - 10:00 AM	1	1%
Unspecified	5	4%
Total Responses	**112**	**100%**

Table 8 shows when the survey respondents typically leave Sacramento. The majority of the respondents leave work/school between 4:00 and 4:59 PM (51 percent). 23 percent leave the city before 4:00 PM, and only 12 percent leave later than 5:30 PM.

Table 8: Typical Times Respondents Leave Work/School in Sacramento

Time Period	# of Participants	% of Participants
3:00 PM - 3:29 PM	12	11%
3:30 PM - 3:59 PM	13	12%
4:00 PM - 4:29 PM	38	34%
4:30 PM - 4:59 PM	19	17%
5:00 PM - 5:29 PM	16	14%
5:30 PM - 5:59 PM	5	4%
6:00 PM - 6:29 PM	2	2%
6:30 PM - 6:59 PM	0	0%
Unspecified	7	6%
Total Responses	**112**	**100%**

FUTURE COMMUTE PATTERNS

EDCTA needs to consider not only current but also anticipated commuting patterns when planning commuter service levels and PNR capital projects. California's COVID-19 State of Emergency ended on February 28, 2023, marking the end of pandemic-era restrictions regarding social distancing. The survey questions about how future commuting habits may change in this new "post-pandemic" era are discussed below.

Q7 & Q8. How Frequently do Respondents Expect to Travel to Sacramento in the Upcoming Year Compared to Now (114 Responses), and will Respondents Ride EDCTA on the Additional Days? (112 Responses)

The survey results indicate that commuting rates will increase somewhat in the future. As shown in Table 4, 44 percent of respondents (excluding those indicating they do not know about future commuting) report they will be commuting at least one more day per week in the future. This consists of 30 percent that will commute 1 more day a week, 11 percent commuting two more days a week, and only 3 percent commuting three more days per week. The remaining 56 percent expect no change in their commuting. Considering all respondents reporting both existing and future commuting data, the average days per week of commuting is currently 2.6 and is expected to rise to 3.1 (a 23 percent increase in overall commuting). Currently, only 15 percent indicate they are commuting 5 days per week; this figure is expected to increase only slightly to 18 percent in the future. The fact that nearly a quarter of the respondents are unsure about whether they will attend work/school in person more often in the upcoming year suggests remote work policies will likely continue to change over time.

Table 9: How Frequently Respondents Expect to Travel to Sacramento in the Upcoming Year Compared to Now

Current Frequency	Expected Frequency of Travel To Sacramento					Total
	3+ Days/ Week	2+ Days/ Week	1+ Day/ Week	No Change	Don't Know	
5 Days/Week	--	--	--	12	8	20
4 Days/Week	--	--	1	6	3	10
3 Days/Week	--	0	7	12	8	27
2 Days/Week	1	4	10	4	8	27
1 Day/Week	1	5	5	7	4	22
Don't Go to Sacramento	0	0	1	4	2	7
Total	2	9	24	45	33	**113**
Percent of Total (Excluding Don't Know)	*3%*	*11%*	*30%*	*56%*		

Source: LSC Transportation Consultants, Inc.

The majority of the survey respondents who know their commuting patterns for the upcoming year said that they would likely take the EDCTA commuter service to and from Sacramento on any additional days they were required to commute (98 percent) Therefore, if it is assumed that passengers would use the EDCTA commuter service for 98 percent of their total commutes in the upcoming year, passengers will ride the EDCTA commuter service an average of 3 days per week. This estimate represents an approximately 23 percent increase in commuting frequency.

OPINIONS ON POTENTIAL CHANGES TO EDCTA COMMUTER SERVICE

EDCTA, in an effort to plan a commuter service that is appropriate for post-COVID demand and that is more streamlined, has considered a few service changes. The survey respondents were asked how their opinions on these potential changes.

Q9. Impact on Survey Respondents of Removing Ponderosa Rd. PNR from Commuter Service Schedule (111 Responses)

EDCTA is considering removing the Ponderosa Rd. PNR from the commuter service schedule due to low boarding and alighting activity. This schedule change would impact 24 percent of the survey respondents' commutes, or 27 people (Table 10). Of those who said their commute would be impacted, 4 people said they would no longer take the bus and instead drive to Sacramento and 3 people said they would not be able to get to work at all. 6 people said they would drive to another PNR to board the commuter service; 5 people said they would drive to the Cambridge PNR and 1 person said they would drive to the Ray Lawyer PNR. 10 percent of the total respondents, or 11 people, stated they would be negatively impacted by this commuter service schedule change but did not say what they would do instead to get to work.

Table 10: Impact of Removing Ponderosa Rd. PNR From Commuter Service Schedule

Impact	# of Participants	% of Participants
No Impact	84	76%
Unspecified Impact	11	10%
Drive to Cambridge PNR	5	5%
Drive Alone to Sacramento	4	4%
Drive to Another PNR (Unspecified)	2	2%
Couldn't Get to Work	3	3%
Drive to Ray Lawyer PNR	1	1%
Commute Less Frequently	1	1%
Total Responses	**111**	**100%**

Q10. Likelihood Passengers would Ride a Bus that Arrives in Sacramento Between 7:45 and 8:15 AM (115 Responses)

Another service change being considered by EDCTA is to add a fifth morning bus that would arrive in Sacramento between 7:45 and 8:15 AM. 32 percent said they would be very likely to utilize this new, fifth morning bus (Table 11).

Table 11: Likelihood Passengers Would Ride Bus that Arrives in Sacramento 7:45-8:15 AM

Likelihood	# of Participants	% of Participants
Very Likely	37	32%
Potentially	9	8%
Not Likely	52	45%
Never	17	15%
Total Responses	**115**	**100%**

Q11. Preferred Schedule for Afternoon Commuter Service Schedule (112 Responses)

The survey asked respondents to indicate their preferred option for an afternoon commuter service schedule with five departures from Sacramento. These options are described in Table 12. The respondents were split on their preferences, with 37 percent choosing Option A and 39 percent choosing Option B. Three people suggested that the last afternoon bus leave Sacramento later in the evening to serve as a "last resort" option for people running late. The remainder preferred neither or "not sure."

Table 12: Preferred Options for Afternoon Bus Schedule

Option	# of Participants	% of Participants
Option A: Departing P St. & 13th St. at 3:20 PM, 3:50 PM, 4:20 PM, 4:50 PM, & 5:20 PM	41	37%
Option B: Departing P St. & 13th St. at 3:35 PM, 4:05 PM, 4:35 PM, 5:05 PM, 5:35 PM	44	39%
Neither Option A or B	18	16%
Not Sure	4	4%
Last Bus Would Need to be Later	3	3%
Miscellaneous Comment	7	6%
Total Responses	**112**	**100%**

RESPONDENTS' OPINIONS ON PNR FACILITIES

How people perceive the PNRs and opinions on which PNR amenities are most important can guide future decision-making regarding potential PNR improvements or upgrades. This section summarizes the respondents' views on the current state of the PNRs and on which PNR amenities they feel to be most valuable.

Q12. Respondents Impressions of EDCTA PNRs (101-115 Responses)

To better understand the respondents' impressions of the western El Dorado County PNR facilities, they were asked to rank different characteristics of the facilities on a scale of 1 (poor) to 5 (excellent) (Figure 8). Parking availability and convenience of the PNR locations were the two highest-ranked features (4.6 and 4.5, respectively). While the respondents had good impressions of their safety at the PNRs (4.3), they had much worse impressions of the potential for vandalism, giving this characteristic a lower or "poorer" ranking (3.3).

Q13. Importance of Various PNR Amenities to Survey Respondents (102-111 Responses)

Similar to the previous question, the survey respondents were asked to rank PNR amenities on a scale of 1 (not important) to 5 (very important) (Figure 9). Overall, the amenity considered to be the most important by the respondents was real-time bus information either at the PNRs or onboard the EDCTA buses (4.1). This was followed by improved lighting (3.9). The amenity considered the least important was e-bike charging (2.2), followed by electric vehicle (EV) charging (2.6), however, these opinions will likely change in upcoming years as California's restrictions regarding sales of gasoline- and diesel-powered vehicles go into effect.

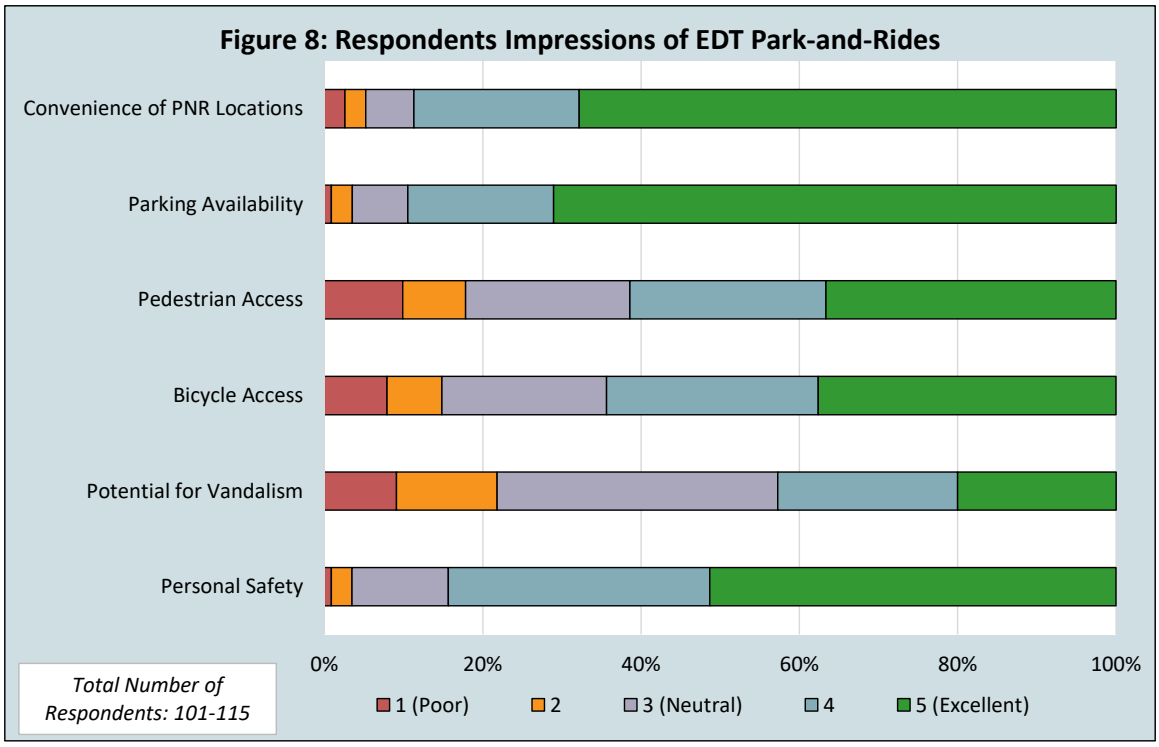
Figure 8: Respondents Impressions of EDT Park-and-Rides
Convenience of PNR Locations
Parking Availability
Pedestrian Access
Bicycle Access
Potential for Vandalism
Personal Safety
0%
20%
40%
60%
80%
100%
Total Number of Respondents: 101-115
1 (Poor)
2
3 (Neutral)
4
5 (Excellent)

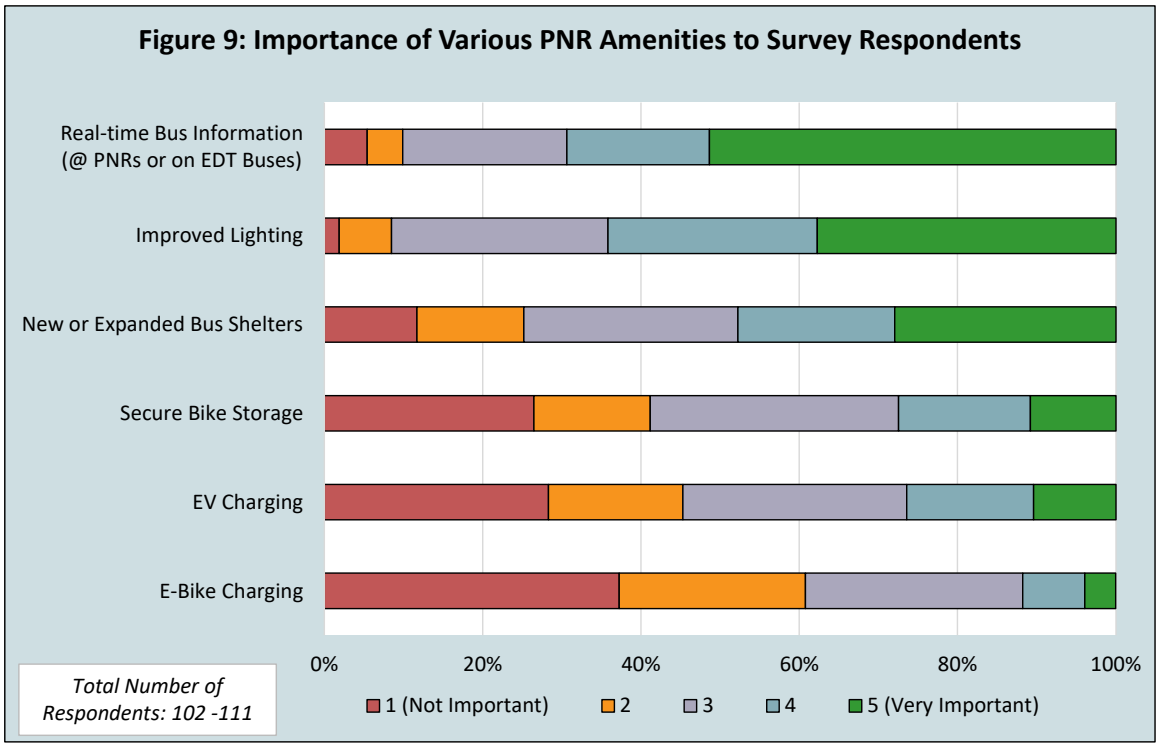
Figure 9: Importance of Various PNR Amenities to Survey Respondents
Real-time Bus Information (@ PNRs or on EDT Buses)
Improved Lighting
New or Expanded Bus Shelters
Secure Bike Storage
EV Charging
E-Bike Charging
0%
20%
40%
60%
80%
100%
Total Number of Respondents: 102 -111
1 (Not Important)
2
3
4
5 (Very Important)

EMPLOYER SUPPORT FOR EDCTA COMMUTER SERVICE

Many Sacramento-area employers provide their employees who use transit to get to work with some sort of support or subsidy. Below is a summary of how the surveyed passengers' employers support their use of the EDCTA commuter service.

Q14 & Q15. Do Employers Support Passengers' Commuter Service Trip (113 Responses), and if so, How? (93 Responses)

The majority of the survey respondents reported that they are offered some level of support for riding the EDCTA commuter service by their employer/educational institution (84 percent). Of this group, most received reimbursements directly from their employer to pay for fares (59 percent), but not everyone is reimbursed fully. 24 percent said their employers buy passes for the employees to use (Table 13). Many of the state employees who participated in the survey said they could procure EDCTA tickets or passes through their Connect Card Account.

Table 13: How Passengers' Employers Support Commuter Service Rides

Method	# of Participants	% of Participants
Reimbursement	46	49%
Purchase of Pass	22	24%
Partial Reimbursement	9	10%
Connect Card Account	7	8%
Payroll Deduction	5	5%
Transportation Coordinator	4	4%
Total Responses	**93**	**100%**

DESIRED IMPROVEMENTS

The survey respondents were able to describe any additional improvements they would like to see implemented at either the PNR lots or on the EDCTA commuter service. Most of these suggestions are included verbatim in Appendix A. This section summarizes some of the themes regarding potential improvements.

Q16. Desired Improvements to PNRs or EDCTA Commuter Services (60 Responses)

The top requested improvements were to install more benches, shelters, and lighting at the PNRs, to add a commuter service bus that would get passengers to Sacramento around 9:00 AM, to improve on-time performance, and to increase security efforts.

Some trends in the comments provided by the respondents include:

- Three people who utilize the Cambridge PNR asked for improved on-time performance. Two asked for the drivers to not leave the lot ahead of the scheduled departure time, and one complained about often arriving late to Sacramento. These were the only comments received regarding on-time performance.
- Improved amenities were top concerns for passengers who utilize the El Dorado Hills PNR. Multiple people asked for additional shelters and benches. Two people also asked for the pavement and line paint to be redone.
- Participants who typically park at Ponderosa Rd. PNR expressed the most concern regarding the safety of their vehicles. These concerns stemmed from the presence of camps for the unhoused.
- Two people who typically park at the Ponderosa Rd. PNR expressed how difficult it will be for them to get to work if the stop is removed from the commuter service schedule. They asked for special consideration for those who live nearby who are disabled or who do not have a personal vehicle.

KEY TAKEAWAYS OF THE PASSENGER SURVEY

The results provide some useful insights into commuting trends and transit perceptions among western El Dorado County residents. Important takeaways supported by the onboard survey results include:

- Most people are no longer commuting to Sacramento every weekday, and this is expected to remain largely unchanged in the near-term future. Similar to the survey results from the SACOG study discussed in Chapter 3 of TM1, most of the survey respondents are only commuting to Sacramento 2 or 3 days a week. However, 44 percent indicate that they will commute at least 1 more day per week in the future. Overall, future commuting will increase by about 23 percent in the upcoming year compared to recent levels.
- Of those traveling to Sacramento on the EDCTA commuter service, they are using the service for the vast majority of their commutes. The El Dorado Hills PNR was the most popular boarding location. The amenities most valued were real-time information and improved lighting.
- Perhaps not surprisingly given the historic ridership on the commuter service, respondents indicate that when and if they increase their commuting activity, the large majority of those who know their plans (98 percent) will do so using the EDCTA commuter service.
- The respondents had negative impressions of the potential for vandalism at the PNRs. These opinions were reinforced with additional comments that expressed concern over the presence of unhoused individuals at some of the facilities, specifically Ponderosa Rd. PNR.
- Most passengers will not be impacted if EDCTA eliminates Ponderosa Rd. PNR from the commuter service schedule, however of those who would be impacted, most would no longer utilize the commuter service to get to work. It would be important for EDCTA to evaluate

alternatives for mobility-limited individuals who currently rely on Ponderosa Rd. PNR before changing the route schedule.

- There is widespread interest among the passengers surveyed for both an additional morning and afternoon bus on the EDCTA commuter service, however, there is no strong consensus about what times these buses should operate. A few people mentioned how the fourth morning bus in the current schedule arrives in Sacramento too late. For the afternoon, some people stated it would be beneficial to have one bus depart Sacramento later at night to pick up any stragglers leaving work late.

Chapter 5

EXISTING PLANS, STUDIES, AND PROJECTS

INTRODUCTION

Several recent planning studies are relevant to the El Dorado PNR Master Plan. The proposed projects and policies included in this study must support the goals and objectives included in previously adopted plans across the region. This chapter reviews the recent studies most pertinent to the PNR Master Plan.

US 50/PONDEROSA ROAD/SOUTH SHINGLE ROAD INTERCHANGE IMPROVEMENTS PROJECT (TO COMMENCE IN 2027)

Caltrans and the El Dorado County Department of Transportation are currently planning to improve the Ponderosa Road/S. Shingle Springs Road interchange, largely to address traffic congestion issues. Under this plan (Alternative 1), the existing park-and-ride served by EDCTA in the northwest corner will remain as is, except that the existing access point onto Wild Chaparral Drive will be relocated slightly to the south. The westbound off-ramp will be relocated to alight with the current North Shingle Springs approach to Ponderosa Road. The section of Wild Chaparral Drive adjacent to the PNR will be converted to a cul-de-sac serving the PNR and adjacent commercial properties, with Wild Chaparral Drive relocated to the north. The existing PNR lot on Durock Road (in the southwest quadrant) will remain, but the existing PNR lot in the northwest quadrant along North Shingle Road will be eliminated. These 28 spaces will be replaced by expanding the southwest PNR on Durock Road. Overall, this project will improve access to the EDCTA-served PNR lot by improving the level of service at the interchange and providing westbound arriving buses with a direct path across Ponderosa Road to the PNR lot. Construction is planned to commence in 2027.

US 50/LATROBE ROAD/EL DORADO HILLS BOULEVARD INTERCHANGE IMPROVEMENTS PHASE 2B (TO COMMENCE IN 2023)

El Dorado County Department of Transportation is commencing a project to improve the key El Dorado Hills/Latrobe Road interchange in El Dorado Hills, including improved eastbound ramps and widening of Latrobe Road. It does not directly impact a PNR facility.

EL DORADO COUNTY TRAFFIC IMPACT FEE PROGRAM (2022)

El Dorado County has a well-established Traffic Impact Fee (TIF) program to address the impact of development on traffic conditions in western El Dorado County. The most recent update was adopted on May 17, 2022. The project list that the fees are based on includes the following PNR improvements:

Capital Project	2022 Total Cost	TIF Program Share
Missouri Flat Transfer Point Expansion	$357,000	$357,000
Cambridge Park-and-Ride Improvements (Short Range)	$230,000	$31,000
Cambridge Park-and Ride Improvements (Long Range)	$3,134,000	$420,000
County Line Transit Center	$9,591,000	$1,286,000
Total		$2,094,000

NEXT GENERATION TRANSIT STRATEGY FINAL REPORT (2021)

In September 2021, SACOG published the *Next Generation Transit Strategy Final Report*, which provides a high-level framework for developing an enhanced public transit network encompassing the Sacramento Region (including El Dorado County). This study does not provide specific plans or recommendations regarding services or facilities in El Dorado County. The study does, however, define the EDCTA commuter service as a "Regional Commute" service, and defines a series of strategies that pertain to PNR facilities in El Dorado County:

- Employ consistent design at major stations.
- Implement effective first/last mile plans and strategies around all transit stations.

ZEB STRATEGY AND FINAL REPORT: EL DORADO COUNTY TRANSPORTATION COMMISSION ZEB ROLLOUT AND IMPLEMENTATION PLAN (2021)

El Dorado County Transportation Commission (EDCTC) completed a plan for zero-emission bus (ZEB) implementation in November 2021 to guide how EDCTA achieves the California Air Resources Board requirements to transition to a fully electric- or hydrogen-fueled fleet by 2040. The plan calls for conversion to a 100-percent Battery Electric Bus (BEB) fleet. The first BEB commuter bus is scheduled for purchase in 2027. Almost all of the charging is planned to be "depot charging" at the EDCTA Operations and Maintenance Facility in Diamond Springs. The sole exception is the Connector Route service between Sacramento and South Lake Tahoe, which will require charging in South Lake Tahoe during a mid-day layover due to the long distance and elevation gain. No charging is planned to occur at any PNRs in western El Dorado County.

SACOG 2020 METROPOLITAN TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY (2019)

SACOG most recently adopted an updated Metropolitan Transportation Plan/Sustainable Communities Strategy on November 18, 2019. It promotes policies to enhance transit facilities (such as PNRs) as mobility hubs and promotes innovative first-mile/last-mile services connecting with nearby communities, such as bikeshare and rideshare programs. No specific recommendations or plans are identified for PNR or transit center facilities in El Dorado County.

EL DORADO COUNTY AND CITY OF PLACERVILLE ACTIVE TRANSPORTATION PLANS (2020)

Both the El Dorado County and City of Placerville Active Transportation Plans (ATPs) outline long-term visions for how to improve walking and biking in each respective jurisdiction. Each ATP provides a list of infrastructure improvement projects as well as recommended programs to encourage increased rates of walking and biking. Related to PNRs, both plans recommend bike parking infrastructure be installed at PNR facilities. Also, a key objective of both ATPs related to the PNRs and transit services is to "*Support multimodal connections between active transportation and transit.*" Objectives from both ATPs relevant to the PNRs include:

- "Strategy 3.1.4: Identify major activity centers and coordinate active transportation, housing, and land use planning to maximize opportunities for increased active transportation and transit use."
- "Strategy 3.4.1: Create Safe Routes to Transit for pedestrians and bicyclists."
- "Strategy 3.4.2: Work with EDCTA to provide bicycle parking at transit stops and bicycle racks on buses."
- "Strategy 3.4.3: Ensure new transit stops are accessible for pedestrians, including convenient crossing of nearby arterials."

WESTERN EL DORADO COUNTY SHORT- AND LONG-RANGE TRANSIT PLAN (2019)

In 2018, the EDCTC initiated updates to both the *Western El Dorado County Short-Range Transit Plan* (SRTP) and *Long-Range Transit Plan* (LRTP). The SRTP is a five-year implementation plan to improve and enhance transit services, and the LRTP is a twenty-year strategy for developing transit services that support other long-term regional goals regarding transportation and land use.

The SRTP service plan elements relevant to the PNRs included the extension of Route 50x to Placerville Station to improve transfer opportunities and adding a commuter service stop at the University and 65th Sacramento Regional Transit Station. Capital plan elements relevant to the PNRs included improvements to the Missouri Flat Transit Center (not served by EDCTA), Placerville Station, Cambridge Road PNR, and Bass Lake Hills PNR. For the Bass Lake Hills PNR, EDCTA is responsible for an additional 100 parking spaces sometime after the developer-conditioned construction is complete.

On the EDCTA commuter service, the LRTP expected EDCTA would need to expand the commuter service by one daily roundtrip in 2029, and then again by one daily roundtrip in 2034, with the eventual result by the mid-2030s being a commuter service that provided thirteen daily roundtrips. For PNR capital projects, the LRTP recommended that the Cambridge Road PNR be expanded, and the Bass Lake Hills PNR be constructed. Given that the SRTP and LRTP were adopted before the COVID-19 pandemic, all of the SRTP and LRTP recommendations regarding the EDCTA commuter service and western El Dorado County PNRs would need to be reassessed.

EL DORADO COUNTY GENERAL PLAN

The *El Dorado County General Plan* was most recently amended on December 10, 2019. The Transportation and Circulation element includes the following regarding park-and-ride lots:

- "El Dorado County has 14 park-and-ride facilities with 12 facilities concentrated along US Highway 50. These parking sites are important in encouraging ridesharing by providing a place to leave a personal vehicle in order to use public transportation or another form of ridesharing." (p 57).
- "Policy TC-2b – The County shall promote transit services where population and employment densities are sufficient to support those transit services, particularly within the western portion of the county and along existing transit corridors in the rural areas." (p 74)
- "Policy TC-2d – The County shall encourage the development of facilities for convenient transfers between different transportation systems (e.g., rail-to-bus, bus-to-bus)" (p 74)
- "Measure TC-L – The County shall develop a funding mechanism that requires new development to pay for additional park-and-ride lots identified by transit providers in the county or the California Department of Transportation. The County shall also work with transit providers in the county and other agencies to determine the need for additional or expanded park-and-ride lots, identify additional sites for such lots, and to acquire necessary rights-of-way for them. [Policies TC-2b and TC-2d]" (p 82)

COUNTY LINE MULTI-MODAL TRANSIT CENTER STUDY (2019)

Before the COVID-19 pandemic, there had been multiple studies published by EDCTA that indicated the need to either upgrade the El Dorado Hills PNR or to identify a site for a new transit center to accommodate the increasing demand for PNR parking. The *County Line Multi-Modal Transit Center Study* analyzed six potential locations for a future transit center that would accommodate transit services and provide regional connectivity to both existing and future Sacramento Regional Transit services. After analysis, two sites were recommended as the location of the future County Line Transit Center. The County Line Transit Center Study also outlined the implementation process for EDCTA and other local agencies to use as a guide for building the new transit center. Much like the *Western El Dorado County SRTP and LRTP* (2019), the *County Line Multi-Modal Transit Center Study* was completed before the COVID-19 pandemic, and therefore the need for a new transit center needs to be reassessed.

EL DORADO PARK-AND-RIDE MASTER PLAN (2017)

The previous *El Dorado PNR Master Plan* was completed in 2017. The plan described the policies, projects, and financing that would be needed to supply adequate parking for EDCTA's commuter service given projected demand and the condition of the existing PNRs. Land development-related projects are those required as a condition for approval of new development and agency-sponsored projects are those funded with transit and transportation funds.

The *2017 PNR Master Plan* included proposed capital improvement projects which were grouped as being either land development-related or agency-sponsored. Land development-related projects are those required as a condition for approval of new development and agency-sponsored projects are those

funded with transit and transportation funds. Development-related projects included in the plan were the construction of the Bass Lake Hills PNR, the potential construction of the Marble Valley PNR, and the construction of a permanent facility at the Missouri Flat Transfer Center. Agency-sponsored projects included the construction/expansion of the Ray Lawyer Drive PNR and the expansion of Placerville Station. Other projects that had not yet been initiated but were recommended included the County Line Multi-Modal Transit Center (described in the previous section), the construction of a PNR at Cameron Park Drive, and the construction of a new facility at the Cambridge Road PNR. Since 2017, the Bass Lake Hills PNR project has advanced and the Ray Lawyer Drive PNR was constructed.

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Chapter 6
FACTORS IMPACTING FUTURE PARK-AND-RIDE NEEDS AND PURPOSE

This chapter presents a review of overarching factors impacting the future need for PNR facilities in El Dorado County. These consist of:

- Forecasts of residential development
- Forecasts of regional work trip patterns
- A review of future changes in commute trip rates

Based on this review, the future parking demand at each existing PNR facility is forecasted. In addition, a discussion of the anticipated need for EV charging at El Dorado County's PNRs is presented.

RESIDENTIAL DEVELOPMENT IN WESTERN EL DORADO COUNTY

Projected residential growth in the various portions of western El Dorado County is an important factor impacting future PNR demand. This analysis on future growth is conducted on a community basis because it has been found that PNR patrons shift relatively easily between individual park-and-ride lots within their specific community. Table 14 and Figure 10 present a summary of projected housing growth in the largest western El Dorado County communities through 2040.

The table is largely based on the projections presented in the *Final Memorandum: El Dorado Countywide Housing and Employment Projections 2018-2040* (prepared by BAE Urban Economics for El Dorado County, dated March 17, 2020). The projections developed by BAE Urban Economics excluded growth within the City of Placerville. Instead, data for the City of Placerville was sourced from projections presented in the *City of Placerville 2021-2029 Housing Element* (most recently dated November 15, 2022). For all of the sub-areas listed in Table 1, existing housing stock figures were factored based on future population growth to estimate the number of units by planning horizon.

As shown in both Table 14 and Figure 10, the number of residential units in western El Dorado County is forecast to grow by 8,887, or 15 percent, between 2020 and 2040, with 3 percent growth expected during the first five years. Growth is forecast to be greatest in the El Dorado Hills community region (30 percent), equal to 53 percent of the total growth across the western slope of El Dorado County. On a numerical basis, other areas expected to see relatively high growth will be Cameron Park (691 units) and Placerville (664 units), though, on a percentage basis, 162 new units in the Shingle Springs community region would represent a relatively high 17 percent growth over the twenty years.

One particular development area that impacts the PNR analysis is the Bass Lake Hills Specific Plan. This guides the development of a 1,414-acre area along both sides of Bass Lake Hills Road from US 50 on the south to Serrano Parkway on the north. This plan allows the development of 1,404 dwelling units (as well as schools and other improvements, including the Bass Lake Hills Park-and-Ride). All dwelling units are expected to be developed within the upcoming twenty years, resulting in a new population center.

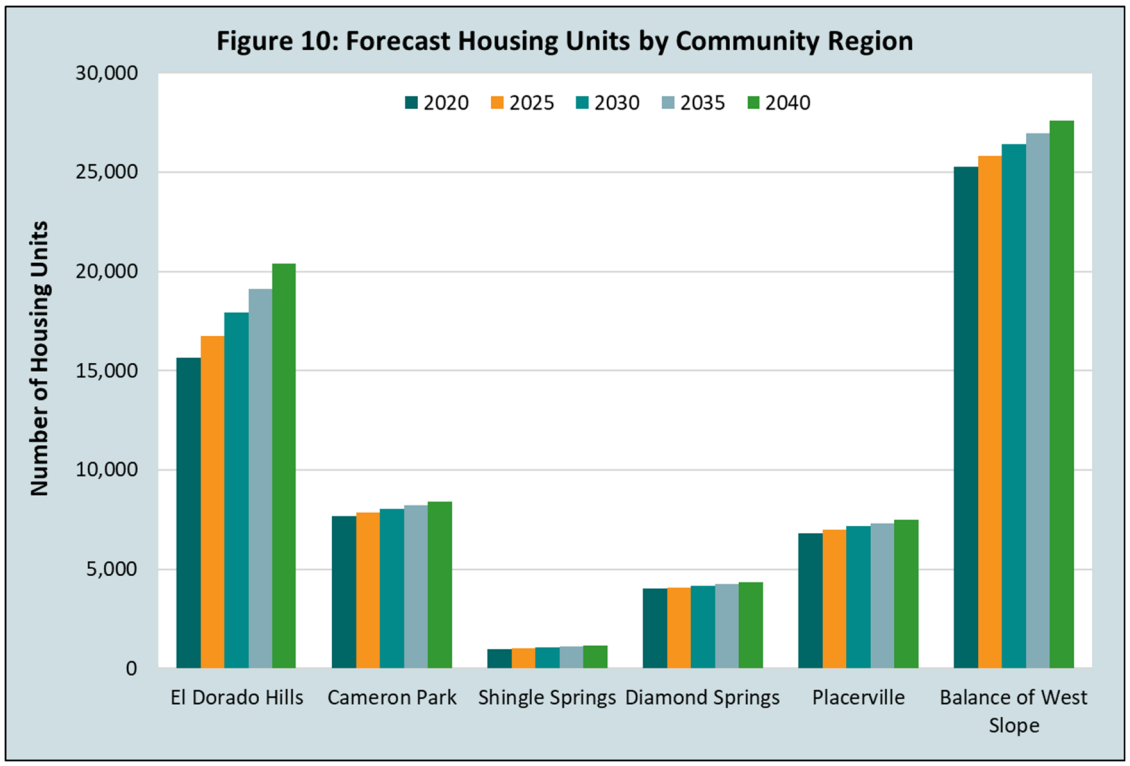
Table 14: Projected Housing Growth by Sub-Area Through 2040

	2020	2025	2030	2035	2040	
Housing Units						
El Dorado Hills CR	15,631	16,753	17,918	19,127	20,382	
Cameron Park CR	7,691	7,854	8,023	8,199	8,382	
Shingle Springs CR	981	1,019	1,059	1,100	1,143	
Diamond Springs CR	4,005	4,082	4,162	4,244	4,330	
Placerville CR[1]	2,108	2,150	2,193	2,238	2,284	
City of Placerville	4,715	4,837	4,959	5,081	5,203	
Total Placerville	6,823	6,987	7,152	7,319	7,487	
Balance of West Slope	25,279	25,821	26,384	26,968	27,573	
TOTAL	**60,410**	**62,516**	**64,698**	**66,957**	**69,297**	
Growth From 2020						**Percent of Area-wide Growth**
El Dorado Hills CR	--	1,122	2,287	3,496	4,751	53%
Cameron Park CR	--	163	332	508	691	8%
Shingle Springs CR	--	38	78	119	162	2%
Diamond Springs CR	--	77	157	239	325	4%
Total Placerville	--	164	329	496	664	7%
Balance of West Slope	--	542	1,105	1,689	2,294	26%
TOTAL	**--**	**2,106**	**4,288**	**6,547**	**8,887**	100%
Percent Growth From 2020						
El Dorado Hills CR	--	7%	15%	22%	30%	
Cameron Park CR	--	2%	4%	7%	9%	
Shingle Springs CR	--	4%	8%	12%	17%	
Diamond Springs CR	--	2%	4%	6%	8%	
Total Placerville	--	2%	5%	7%	10%	
Balance of West Slope	--	2%	4%	7%	9%	
TOTAL	**--**	**3%**	**7%**	**11%**	**15%**	

CR = Community Region

Note 1: Excluding the City of Placerville

Note 2: Source - City of Placerville 2021-2029 Housing Element



FORECASTS OF REGIONAL WORK TRIPS

Forecasts of future changes in work travel are provided by the SACOG SACSIM regional travel model. This model analyzes the entire region, including El Dorado County and key regional workplaces, by dividing the region into a series of 337 Traffic Analysis Zones (TAZs).[2] The model generates Origin/Destination (O/D) tables that provide calibrated estimates of daily person-trips between each pair of TAZs by year. These tables were obtained from SACOG and analyzed to summarize travel between western El Dorado County and various workplace locations in other portions of the Sacramento Region. This analysis was done both for 2016 conditions (representing existing conditions before the pandemic) and 2040 conditions (the forecast year closest to a 20-year planning horizon).

As shown in Figure 11, the TAZs were agglomerated into a series of analysis zones. The zones outside of El Dorado County represent key workplace areas, such as downtown Sacramento, Folsom and the Rancho Cordova-US 50 corridor between downtown Sacramento and Folsom, Roseville, and Elk Grove. Within western El Dorado County, the zones are configured to represent the "travel sheds" of the individual PNR facilities. A "travel shed" refers to the community area in which the residents are the most likely to use an individual PNR facility. The travel sheds consider which is the closest facility based on travel time, as well as the tendency of commuters to travel in the overall direction of the commute trip when accessing a PNR.

[2] While El Dorado County maintains a separate travel demand model for use in evaluating transportation conditions within western El Dorado County, this model does not include work locations outside of El Dorado County such as downtown Sacramento and thus is not useful for this study.

Table 15 presents the average weekday work O/D person-trips from origins within western El Dorado County to destinations in the key employment centers around the Sacramento Region. This data is shown for both 2016 and 2040. Note that the data presented does not reflect the impacts of pandemic-related recent changes in commuting rates. A review of these results indicates the following:

- The total number of El Dorado County residents commuting outside of the county for work is forecast to increase by 2,406 daily person-trips by 2040, or by 22 percent over 2016 levels.

Perhaps most importantly for purposes of this study, daily commuting from El Dorado County to the downtown Sacramento zone is forecast to decrease by 308 daily person-trips, or 19 percent. This is significant because, before the pandemic, commuters traveling from El Dorado County to downtown Sacramento represented the majority of riders on the EDCTA commuter service. This drop in commuting to downtown Sacramento is seen in overall PNR travel shed areas (except for a small numeric increase at the Central PNR). Specifically, the decrease is relatively large in the traveled areas from Ponderosa Road to the east. The El Dorado Hills and Bass Lake Hills zones are expected to see relatively low declines in the number of daily person-trips traveling outbound to downtown Sacramento (15 percent and 6 percent, respectively).

Conversely, there is expected to be a large increase in commuting to employment sites in Folsom (1,686 daily person-trips, or a 34 percent increase). The majority of this growth is generated in the El Dorado Hills PNR travel shed (1,027 trips, or 61 percent of the increase), followed by the Bass Lake Hills travel shed (363 trips, or 22 percent of the increase).

- Commuting to the Rancho Cordova corridor is also expected to increase by 2040 (563 person-trips, or 23 percent over 2016 levels) and to Roseville (354 person-trips, or 23 percent). Of note, by 2040, the number of daily commute trips from western El Dorado County to downtown Sacramento is forecast to be less than those going to Folsom, Rancho Cordova, and Roseville.
- Changes in commuting to other employment centers will be relatively modest. Commuting to the Railyard area north of downtown Sacramento is forecast to increase by only 47 person-trips and commuting to Elk Grove by only 104 person-trips per day. Commuting to East Sacramento is forecast to drop slightly (40 daily person-trips).
- Considering the downtown Sacramento and Railyard areas as a whole, overall commuting from western El Dorado County to the Sacramento core will decrease by 16 percent over the coming years. By El Dorado County origin travel shed, only the Central and Ray Lawyer PNR travel shed areas are forecasted to see an increase in commuting demand to the Sacramento core area.

Overall, the SACSIM model reflects how the forecasted growth in development in other portions of the region, including Folsom and Rancho Cordova, will impact the commuting patterns of El Dorado County residents. Due primarily to this increase in development outside of downtown Sacramento, the model indicates a shift in work location for western El Dorado County residents to closer employment centers (notably Folsom) by 2040. Given that the commuter service ridership generated by non-downtown Sacramento work sites is much lower than that generated by downtown Sacramento employment (due to factors such as the length of the commute, parking availability, and employer transit fare subsidies), these trends overall indicate a decline in demand for EDCTA commuter services.

Figure 11:
PnR Analysis Zones

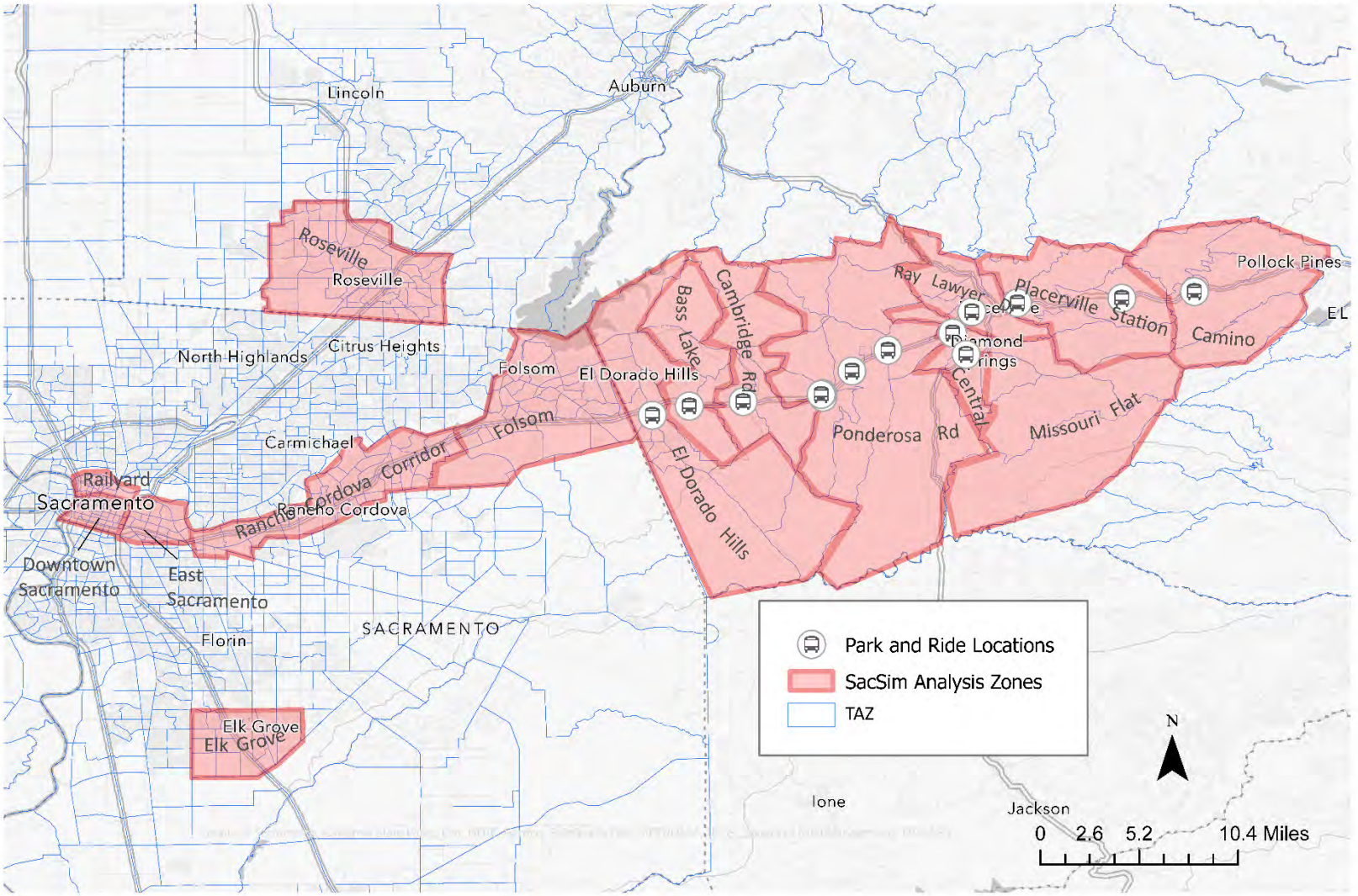


Table 15: El Dorado County Weekday Work Person-Trip Outbound Origin-Destination Table

Origins are in El Dorado County

Origin Analysis Zone	Destination Analysis Zone[1] Railyard	Downtown Sacramento	East Sacramento	Rancho Cordova Corridor	Folsom	Roseville	Elk Grove	Total	Subtotal: Downtown Sac. & Railyard
Year 2016									
El Dorado Hills	23	570	166	948	2,382	583	38	**4,710**	*593*
Bass Lake Hills	8	200	62	309	570	219	13	**1,381**	*208*
Cambridge Road	15	307	96	485	879	300	16	**2,098**	*322*
Ponderosa Road	17	233	61	310	468	213	21	**1,323**	*250*
Central	0	36	5	43	72	33	1	**190**	*36*
Ray Lawyer Dr	3	39	10	71	105	31	4	**263**	*42*
Missouri Flat	4	65	15	91	141	47	7	**370**	*69*
Placerville Station	6	65	19	94	153	54	7	**398**	*71*
Camino	1	76	30	109	167	35	5	**423**	*77*
Total	**77**	**1,591**	**464**	**2,460**	**4,937**	**1,515**	**112**	**11,156**	*1,668*
Year 2040									
El Dorado Hills	64	482	154	1,257	3,409	830	69	**6,265**	*546*
Bass Lake Hills	15	189	49	472	933	253	42	**1,953**	*204*
Cambridge Road	20	233	86	527	995	339	37	**2,237**	*253*
Ponderosa Road	8	145	62	344	562	202	29	**1,352**	*153*
Central	1	47	6	55	87	30	8	**234**	*48*
Ray Lawyer Dr	3	47	13	76	101	36	4	**280**	*50*
Missouri Flat	6	38	22	87	182	55	5	**395**	*44*
Placerville Station	4	50	22	106	184	54	8	**428**	*54*
Camino	3	52	10	99	170	70	14	**418**	*55*
Total	**124**	**1,283**	**424**	**3,023**	**6,623**	**1,869**	**216**	**13,562**	*1,407*
Growth									
El Dorado Hills	41	-88	-12	309	1,027	247	31	**1,555**	*-47*
Bass Lake Hills	7	-11	-13	163	363	34	29	**572**	*-4*
Cambridge Road	5	-74	-10	42	116	39	21	**139**	*-69*
Ponderosa Road	-9	-88	1	34	94	-11	8	**29**	*-97*
Central	1	11	1	12	15	-3	7	**44**	*12*
Ray Lawyer Dr	0	8	3	5	-4	5	0	**17**	*8*
Missouri Flat	2	-27	7	-4	41	8	-2	**25**	*-25*
Placerville Station	-2	-15	3	12	31	0	1	**30**	*-17*
Camino	2	-24	-20	-10	3	35	9	**-5**	*-22*
Total	**47**	**-308**	**-40**	**563**	**1,686**	**354**	**104**	**2,406**	***-261***
Percent Change (For OD Change Exceeding 10 Person-Trips per Day)					**22%**				
El Dorado Hills	178%	-15%	-7%	33%	43%	42%	82%	**33%**	*-8%*
Bass Lake Hills	--	-6%	-21%	53%	64%	16%	223%	**41%**	*--*
Cambridge Road	--	-24%	--	9%	13%	13%	131%	**7%**	*-21%*
Ponderosa Road	--	-38%	--	11%	20%	-5%	--	**2%**	*-39%*
Central	--	31%	--	28%	21%	--	--	**23%**	*33%*
Ray Lawyer Dr	--	--	--	--	--	--	--	**6%**	*19%*
Missouri Flat	--	-42%	--	--	29%	--	--	**7%**	*-36%*
Placerville Station	--	-23%	--	13%	20%	--	--	**8%**	*-24%*
Camino	--	-32%	-67%	--	--	100%	--	**--**	*-29%*
Total	**61%**	**-19%**	**-9%**	**23%**	**34%**	**23%**	**93%**	**22%**	*-16%*

Note 1: The above trips have a destination trip purpose of work.

Source: LSC Transportation Consultants Inc.

While commuting into western El Dorado County by persons living in other portions of the Sacramento Region has historically not generated significant transit ridership, it is still worthwhile to review the SACSIM forecasts in this "inbound" direction. These person-trip figures are shown in Table 16. Overall, inbound commuting is forecast to increase by 2,588 person-trips per day, or by 47 percent. The large majority of this growth (1,700 daily person-trips, or 66 percent of the total) is expected to consist of Folsom residents commuting to employment in El Dorado Hills.

Focusing on the key commuter market likely to use the EDCTA commuter services, Table 17 presents a summary of the daily commute person-trips from each of the El Dorado County PNR zones to downtown Sacramento (including Railyard) for the four available SACSIM analysis years. For purposes of this study, these figures were adjusted to forecast years 2025, 2030, 2035, and 2040, using straight-line approximations between the model forecast years. Table 17 also indicates an overall decline in commuting throughout the analysis period, accelerating in the later years closer to 2040. Only the Central and Ray Lawyer Drive travel sheds show an increase in commuting to downtown Sacramento through 2040. Of note, the El Dorado Hills area shows an increase through 2030 and the Bass Lake Hills area shows an increase through 2035, though both indicate a decline by 2040.

FUTURE CHANGES IN COMMUTING RATES

Since the COVID-19 pandemic, a key consideration when planning for any public transit service with a historically high proportion of commuter ridership is the future of in-person versus remote versus hybrid work (for those jobs that do not physically require in-person attendance). Several years after the dramatic changes seen at the onset of the pandemic in 2020, it is clear that the pandemic triggered a fundamental shift in "white collar" work patterns. This shift in turn impacts the need for commuter transit services and associated facilities. Multiple data sources and forecasts were reviewed to provide a basis for defining a planning forecast for the long-term reduction in the rate that El Dorado County residents with nominal jobs located in Sacramento will commute physically to the office, as discussed below.

Nationwide Data

McKinsey & Company, a global management consulting firm, conducted a survey in April 2022 to assess how many Americans have the ability to work from home, who work in flexible arrangements, and how they feel about it. The survey found that 58 percent of workers have the ability to work from home either full- or part-time. Of those who have the ability to work from home, 87 percent of the survey respondents take advantage of the opportunity, working from home an average of three days per week. If extrapolated to the national workforce, this data suggests that millions of US workers are working remotely for the majority of their work weeks.

Table 16: El Dorado County Weekday Work Person-Trip Inbound Origin-Destination Table

Destinations are in El Dorado County

Origin Analysis Zone	Destination Analysis Zone[1]: El Dorado Hills	Bass Lake Hills	Cambridge Road	Ponderosa Road	Central	Ray Lawyer Dr	Missouri Flat	Placerville Station	Camino	Total
Year 2016										
Railyard	1	1	3	0	0	1	1	1	0	**8**
Downtown Sacramento	55	1	28	23	3	5	12	9	2	**138**
East Sacramento	52	1	17	22	3	9	5	7	1	**117**
Rancho Cordova Corridor	481	7	107	132	17	75	45	61	10	**935**
Folsom	2,134	50	316	360	74	166	124	137	25	**3,386**
Roseville	377	13	95	115	14	48	51	48	2	**763**
Elk Grove	104	1	20	26	7	20	12	17	2	**209**
Total	**3,204**	**74**	**586**	**678**	**118**	**324**	**250**	**280**	**42**	**5,556**
Year 2040										
Railyard	8	0	0	1	1	1	1	2	0	**14**
Downtown Sacramento	55	3	18	18	5	13	6	10	0	**128**
East Sacramento	57	2	17	14	6	7	3	6	1	**113**
Rancho Cordova Corridor	614	29	122	146	34	63	58	51	7	**1,124**
Folsom	3,834	132	493	509	125	247	182	230	38	**5,790**
Roseville	364	21	87	109	24	45	36	48	3	**737**
Elk Grove	130	3	30	29	7	17	13	7	2	**238**
Total	**5,062**	**190**	**767**	**826**	**202**	**393**	**299**	**354**	**51**	**8,144**
Growth										
Railyard	7	-1	-3	1	1	0	0	1	0	**6**
Downtown Sacramento	0	2	-10	-5	2	8	-6	1	-2	**-10**
East Sacramento	5	1	0	-8	3	-2	-2	-1	0	**-4**
Rancho Cordova Corridor	133	22	15	14	17	-12	13	-10	-3	**189**
Folsom	1,700	82	177	149	51	81	58	93	13	**2,404**
Roseville	-13	8	-8	-6	10	-3	-15	0	1	**-26**
Elk Grove	26	2	10	3	0	-3	1	-10	0	**29**
Total	**1,858**	**116**	**181**	**148**	**84**	**69**	**49**	**74**	**9**	**2,588**
Percent Change (For OD Change Exceeding 10 Person-Trips per Day)										
Railyard	--	--	--	--	--	--	--	--	--	**--**
Downtown Sacramento	--	--	--	--	--	--	--	--	--	**--**
East Sacramento	--	--	--	--	--	--	--	--	--	**--**
Rancho Cordova Corridor	28%	314%	14%	11%	100%	-16%	29%	--	--	**20%**
Folsom	80%	164%	56%	41%	69%	49%	47%	68%	52%	**71%**
Roseville	-3%	--	--	--	--	--	-29%	--	--	**-3%**
Elk Grove	25%	--	--	--	--	--	--	--	--	**14%**
Total	**58%**	**157%**	**31%**	**22%**	**71%**	**21%**	**20%**	**26%**	**--**	**47%**

Note 1: The above trips have a destination trip purpose of work.

Source: LSC Transportation Consultants Inc.

Table 17: Forecast Commuting from El Dorado Zones to Downtown Sacramento/Railyard and the US 50 Corridor

Weekday Person-Trips per SacSIM Model

	Analysis Year				Change From 2016			
Origin Analysis Zone	2016	2027	2035	2040	To 2025	To 2030	To 2035	To 2040
Downtown Sacramento/Railyard								
El Dorado Hills	593	625	589	546	4%	3%	-1%	-8%
Bass Lake Hills	208	226	210	204	7%	6%	1%	-2%
Cambridge Road	322	300	280	253	-6%	-9%	-13%	-21%
Ponderosa Road	250	194	142	153	-18%	-30%	-43%	-39%
Central	36	38	44	48	5%	12%	22%	33%
Ray Lawyer Dr	42	56	53	50	27%	31%	26%	19%
Missouri Flat	69	60	49	44	-11%	-19%	-29%	-36%
Placerville Station	71	55	45	54	-18%	-28%	-37%	-24%
Camino	77	74	55	55	-3%	-13%	-29%	-29%
Total	**1,668**	**1,628**	**1,459**	**1,407**	**-2%**	**-6%**	**-13%**	**-16%**
US 50 Corridor - Folsom to East Sacramento								
El Dorado Hills	3,496	4,530	4,804	4,820	24%	33%	37%	38%
Bass Lake Hills	941	1,275	1,274	1,454	29%	35%	35%	55%
Cambridge Road	1,460	1,480	1,565	1,608	1%	4%	7%	10%
Ponderosa Road	839	973	867	968	13%	11%	3%	15%
Central	120	160	146	148	27%	29%	22%	23%
Ray Lawyer Dr	186	186	180	190	0%	-1%	-3%	2%
Missouri Flat	247	242	231	291	-2%	-4%	-6%	18%
Placerville Station	266	250	284	312	-5%	-1%	7%	17%
Camino	306	300	269	279	-2%	-6%	-12%	-9%
Total	**7,861**	**9,396**	**9,620**	**10,070**	16%	21%	22%	28%

Source: SACOG SacSIM Model

State of California Employee Data

The State of California published a new telework policy in October 2021 for all state agencies, departments, boards, commissions, and offices intended to encourage remote work for eligible employees. The goals of encouraging remote work are to improve employee retention, reduce environmental impacts from congestion, and reduce required office space, among others. The Statewide Telework Policy states that each "department shall establish a written policy" regarding telework specific to their department's business and responsibilities. Departments were required to establish telework policies by October 2022.

Departments of the State of California have since reported on the number of employees who are eligible for remote work versus those who are not, and of those eligible for remote work how many are remote-centered, office-centered, or electing to not participate. This data is available through the State Hybrid Workforce Dashboard. A comparison of the most monthly data from March 2023 and March 2022 is shown in Table 5, for the state workforce as a whole as well as several example departments reflective of employment in Sacramento. A review of this data reveals the following:

- Just over half of the total state workforce is eligible for telework (50.3 percent). Of these workers, most telework (46.2 percent of the total workers reported for in March 2023). The proportion of employees teleworking varies between departments. At one extreme, fully 99.1 percent of Department of Tax and Fee Administration employees are teleworking.
- The data by department also reports teleworkers who commute to the office less than half of their workdays versus those commuting more than half of their workdays. From this, it can be estimated that overall, the state employees as a whole commute at 68.4 percent of the full commute rate. On the upper end of the remote working spectrum, Department of Tax and Fee Administration workers (likely most representative of white-collar employment) commute at a rate of 32 percent of full commuting.
- The overall proportion of employees teleworking increased between March 2022 and March 2023 for the state as a whole, as well as for the four departments evaluated.
- The number of days that telework-eligible workers work from home is shown in the bottom of Table 5, for both March 2022 and March 2023. This data shows a substantial 18 percent drop in the number of employees wholly teleworking 5 days a week, and a corresponding 11 percent increase in the number teleworking 3 days a week (commuting 2 days a week). Overall, the average number of days state workers commute per week increased from 1.2 in March 2022 to 1.6 in March 2023.

The monthly trends in number of days per week teleworking are shown in Figure 12. This reflects the significant shift from 5 days per week of teleworking to 3 days per week in early 2022, but a leveling off of telework patterns ever since. Overall, the actual data shown in Table 18 and Figure 12, along with State policies encouraging telework, suggest that telework (and the corresponding reduction in physical commuting) is a long-term condition. The State's data on teleworking among its employees is particularly relevant to the Sacramento region, where there are a large number of State offices and departments.

Table 18: State of California Remote Work Status

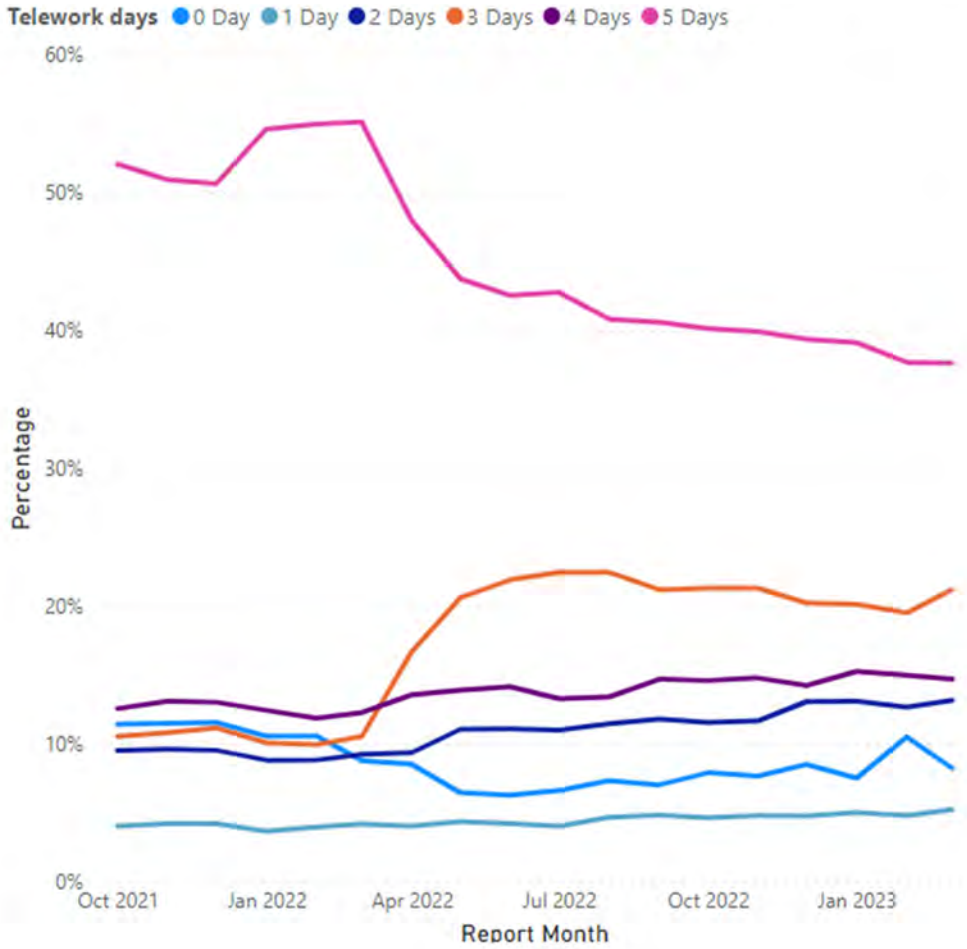
	# Employees Reported	Work Status: Not Eligible for Telework	Telework Eligible - Not Teleworking	Teleworking	Estimated % Full Commuting
March 2023					
Total State Employees	202,824	49.7%	4.1%	46.2%	68.4%
Dept of Transportation	21,820	38.4%	0.0%	61.6%	57.9%
Dept of Tax and Fee Admin	3,672	0.4%	0.5%	99.1%	32.3%
Dept of General Services	3,637	43.7%	9.8%	46.5%	68.2%
Franchise Tax Board	6,209	16.5%	6.9%	76.6%	47.6%
March 2022					
Total State Employees	163,625	52.5%	4.2%	43.3%	67.2%
Dept of Transportation	21,483	41.0%	0.5%	58.5%	55.7%
Dept of Tax and Fee Admin	3,624	0.8%	0.7%	98.5%	25.4%
Dept of General Services	3,322	44.0%	11.3%	44.7%	66.1%
Franchise Tax Board	6,579	22.9%	19.2%	57.9%	56.1%
Change -- 2022 to 2023					
Total State Employees		-2.8%	-0.1%	2.9%	1.2%
Dept of Transportation		-2.6%	-0.5%	3.1%	2.2%
Dept of Tax and Fee Admin		-0.4%	-0.2%	0.6%	6.9%
Dept of General Services		-0.3%	-1.5%	1.8%	2.1%
Franchise Tax Board		-6.4%	-12.3%	18.7%	-8.5%

Telework Days per Week of Eligible Employees

Telework Days per Week	Mar-22	Mar-23	Change
0	9%	8%	-1%
1	4%	5%	1%
2	9%	13%	4%
3	11%	21%	11%
4	12%	15%	2%
5	55%	38%	-18%
Avg Telework Days per Week	3.8	3.4	-0.4
Avg Commuting Days per Week	1.2	1.6	0.4

Source: State Hybrid Workforce Dashboard at telework.dgs.ca.gov

Figure 12: State Employees Trend in Telework Days per Week for Eligible Employees



SACOG Employer Survey Data

The SACOG 2022 Employer Survey provides data for 46 employers in Sacramento. It further suggests that the number of people commuting into Sacramento each weekday will remain below pre-COVID levels. Table 19 shows the pre-COVID, current, and anticipated workplace structures of the 46 surveyed Sacramento companies based on company size. Before the pandemic, 67 percent of the companies worked fully in-person, including 7 companies or agencies with over 500 employees. Now, 67 percent of the companies have a hybrid workplace structure, with a mix of in-person and remote work, and only 27 percent are working fully in-person. Furthermore, these arrangements are unlikely to change, as according to the survey almost the same number of companies are planning to be either fully in-person, hybrid, or fully remote in the next one to two years.

Table 19: In-Person Versus Remote Work Status of Sacramento Employers

Pre-COVID Workplace Structure	# of Employees						Percent By # of Employees						
	1-25	26-50	51-100	101-500	501+	Total	1-25	26-50	51-100	101-500	501+	Total	Weighted Average[1]
Fully In-Person	9	7	4	4	7	31	82%	54%	44%	67%	100%	67%	83%
Mix of In-person and Remote	1	6	5	2	0	14	9%	46%	56%	33%	0%	30%	17%
Fully Remote	1	0	0	0	0	1	9%	0%	0%	0%	0%	2%	0%
Total	11	13	9	6	7	**46**	100%	100%	100%	100%	100%	100%	
Current Workplace Structure													
Fully In-Person	1	3	5	2	1	12	9%	23%	56%	33%	14%	26%	24%
Mix of In-person and Remote	9	10	3	4	5	31	82%	77%	33%	67%	71%	67%	67%
Fully Remote	1	0	1	0	1	3	9%	0%	11%	0%	14%	7%	9%
Total	11	13	9	6	7	**46**	100%	100%	100%	100%	100%	100%	
Workplace Structure in Next 1 - 2 Years													
Fully In-Person	1	3	5	3	0	12	9%	23%	56%	50%	0%	26%	22%
Mix of In-person and Remote	9	9	4	3	7	32	82%	69%	44%	50%	100%	70%	78%
Fully Remote	1	1	0	0	0	2	9%	8%	0%	0%	0%	4%	0%
Total	11	13	9	6	7	**46**	100%	100%	100%	100%	100%	100%	
Change in Workplace Structure Over Next 1 - 2 Years													
Fully In-Person	0	0	0	1	-1	0	0%	0%	0%	17%	-14%	0%	-2%
Mix of In-person and Remote	0	-1	1	-1	2	1	0%	-8%	11%	-17%	29%	2%	11%
Fully Remote	0	1	-1	0	-1	-1	0%	8%	-11%	0%	-14%	-2%	-8%

Source: SACOG 2022 Employer Survey

Note 1: Weighted by the number of employees.

El Dorado Transit Commuter Survey

Finally, the results of the transit commuter survey conducted as part of this study (presented in Technical Memorandum 2) also provide information regarding short-term expected changes in commuting. The majority of respondents (56 percent) indicated they expect no change in the current number of days per week they commute to Sacramento. Of those who did expect to commute more frequently, 30 percent expected to ride 1 more day per week, 11 percent 2 more days per week, and 3 percent three more days per week. Overall, these changes would represent a 23 percent increase in ridership rates during the upcoming year among these existing riders. The average commuting rate, however, would still be significantly below full-time commuting.

Conclusion

It is clear from these various data sources that a hybrid work environment mixing virtual and in-person work has emerged as a permanent condition. While the number of wholly remote workers has dropped, the telework workforce is largely commuting only two to three days per week, and there is no indication that this condition will change. Considering all of the data, it is likely that total commuting in the long term will be roughly 50 percent of the pre-pandemic rate. To provide a measure of safety given the uncertainty of long-term trends, a 60 percent rate of pre-pandemic commuting is assumed in this study for sizing parking needs.

ANALYSIS OF FUTURE PARK-AND-RIDE PARKING DEMAND

Downtown Sacramento Demand

Using the data and forecasts discussed above, Table 20 presents a forecast of future PNR parking demand. This analysis consisted of the following steps:

1. The observed parking count (per Table 3 of Technical Memorandum 1) was factored up to reflect a return to in-person commuting equal to 60 percent of pre-pandemic levels (or an average of 3 days of in-person work over a five-day workweek).
2. The demand for the Bass Lake Hills PNR was estimated by factoring the estimated El Dorado Hills demand by the ratio of the commute person-trips expected to originate in the El Dorado Hills and Bass Lake Hills catchment zones (per Table 15). Based on travel times to the existing and planned PNR locations, 60 percent of the Bass Lake Hills demand is estimated to come from the existing El Dorado Hills travel shed, and the remaining 40 percent from the Cambridge travel shed.
3. Additional growth factors reflecting changes in commuting were drawn from Table 17 (commuting forecast), for each of the analysis years. To be conservative, the negative growth factors were assumed to remain at zero. As shown in Table 18, this analysis indicated that four PNR lots (El Dorado Hills, Bass Lake Hills, Central, and Ray Lawyer Drive) will have future growth in parking demand in at least some of the years considered (in addition to the return-to-work growth).

Table 20: Analysis of Future Park-and-Ride Parking Demand

	Existing Spaces	Existing Demand	Demand at 60% of Pre-Pandemic Commuting[2]	Growth Factor[3]				Downtown Sacramento Commuter Parking Demand				US 50 Corridor Commuter Parking Demand				Total Commuter Parking Demand				Required Additional Spaces over Existing			
				2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040	2025	2030	2035	2040
Lots Served by EDCTA																							
El Dorado Hills	128	47	156	4%	3%	0%	0%	163	161	156	156	11	13	13	13	174	173	169	169	46	45	41	41
Bass Lake Hills[1]	100	--	16	7%	6%	1%	0%	18	17	17	16	3	3	3	4	21	21	20	20	0	0	0	0
Cambridge[4]	68	11	32	0%	0%	0%	0%	32	32	32	32	4	4	4	4	36	36	36	37	0	0	0	0
Ponderosa Road (Wild Chapparal)	94	12	42	0%	0%	0%	0%	42	42	42	42	3	3	2	3	45	45	45	45	0	0	0	0
Central	82	7	25	5%	12%	22%	33%	26	28	30	33	0	0	0	0	26	28	31	33	0	0	0	0
Ray Lawyer Drive	184	25	88	27%	31%	26%	19%	112	115	111	105	1	1	0	1	113	116	112	106	0	0	0	0
Placerville Station[5]	115	12	42	0%	0%	0%	0%	42	42	42	42	1	1	1	1	43	43	43	43	0	0	0	0
Camino	24	4	14	0%	0%	0%	0%	14	14	14	14	1	1	1	1	15	15	15	15	0	0	0	0
Other Major Lots																							
Ponderosa Road (Caltrans Lots)	62	19	67	0%	0%	0%	0%	67	67	67	67	0	0	0	0	67	67	67	67	5	5	5	5
Missouri Flat	71	15	53	0%	0%	0%	0%	53	53	53	53	1	1	1	1	54	54	54	54	0	0	0	0
Bass Lake Hills and Cambridge Lots if Commuter Service Eliminated From Cambridge and Cambridge Converted to a Transit Hub																							
Bass Lake Hills	100	--	39	7%	6%	1%	0%	41	41	39	39	3	3	3	4	45	44	43	43	0	0	0	0
Cambridge	30	5	10	0%	0%	0%	0%	10	10	10	10	4	4	4	4	14	14	14	14	0	0	0	0

Note 1: Under construction.
Note 2: Adjusted for opening of Bass Lake PnR
Note 3: See Table 17. Negative growth factors were set to zero.
Note 4: Assuming continued Commuter Route service.
Note 5: Including the 60 spaces currently under construction.

Park-and-Ride for New Commute Service Corridors

Another source of PNR demand is commuters traveling to other work sites other than downtown Sacramento. To assess this demand, it is useful to review the ridership response to previous EDCTA services to non-downtown areas. Until July 2006, EDCTA operated a commuter bus service from El Dorado County to the majority of employer sites in Rancho Cordova, consisting of two morning and two afternoon runs per day. Ridership in FY 2004-05 totaled only 2,935 one-way passenger-trips, which generated only 2.8 passenger-trips per vehicle-hour of service and a farebox return ratio of only 6 percent. Due to this poor ridership (typically two to four passengers per run), the service was discontinued. The *US 50 Corridor Transit Plan* conducted by LSC in 2006 identified a range of reasons why the ridership on the service was not higher. Some had to do with the quality of the transit service, notably the limited number of departures in the morning (two runs, effectively serving a 6:00 AM and 8:00 AM start time) and the long transit travel times needed to serve dispersed worksites spread out over a large area. However, the larger issue was that the "competing" travel mode – the private automobile – provides a more convenient overall trip, as (1) extensive free parking is available at employment sites in these areas, (2) overall traffic congestion on the US 50 corridor between El Dorado County and Rancho Cordova is not sufficient to discourage auto use, (3) auto drivers are not tied to a fixed transit schedule, and (4) there is no need to make the inconvenient transfer at a PNR lot. Due to these factors, the proportion of commuters from El Dorado County to Rancho Cordova employment sites using transit was found to be only 0.3 percent, while the proportion traveling to work in downtown Sacramento on the EDCTA commuter service was found to be a full 40 percent.

Based on this review, a 0.3 percent transit mode split was applied to the total daily commute person-trips from western El Dorado County to other workplace areas outside of downtown Sacramento, drawn from the SACSIM model. This analysis suggests that the potential commuter demand for new transit services to Roseville or Elk Grove would be very low, and far from warranting any new commuter services. However, there is a potential for additional PNR demand to be generated by commuters traveling to workplaces along the US 50 corridor between Folsom and east Sacramento. These commuters could potentially use the EDCTA 50 Express service to make connections to SacRT light rail or bus services. To identify the parking demand for persons commuting to employment sites along the US 50 corridor by lot and by year, the total commuting to the zones along the US 50 corridor were summed and the expected transit mode split applied, as shown in the central portion of Table 7.

Total Parking Demand

Adding the demand generated by downtown Sacramento commuters with that generated by other commuters yields the total parking demand by year and by lot. These totals can then be compared with the existing parking supply (using the planned 100 spaces for Bass Lake Hills). As shown on the right side of Table 7, all of the lots are forecast to have adequate parking capacity through 2040, with two exceptions:

- At the El Dorado Hills PNR, 46 more spaces are needed in the short term. In the long term, only 41 spaces will be needed by 2040. To be conservative, it is recommended the El Dorado Hills PNR be expanded by the higher value of spaces.

- At the Ponderosa Road Caltrans lots (North Shingle Road and Durock Road, not served by EDCTA), the future parking demand is estimated to exceed the supply by five vehicles. However, the nearby Wild Chapparal lot, served by EDCTA in the northwest quadrant of the interchange, is forecast to have a total peak demand of 45 vehicles and a capacity of 94 spaces, yielding 49 spaces available for these five drivers if they simply shift lots.
- The bottom portion of Table 20 shows the parking balance at the Bass Lake Hills and Cambridge lots if the Commuter Service is dropped from the Cambridge Road facility once initiated at Bass Lake Hills (as discussed further below) and the existing Cambridge parking lot is converted into a 30-space lot plus an improved transit hub. While Sacramento Commuter parking demand would shift from Cambridge Road to Bass Lake Hills facilities, some parking demand would remain at Cambridge Road generated by the 50 Express service (persons traveling to Folsom and the US 50 corridor) as well as the Sacramento/South Lake Tahoe Connector service. As shown parking demand at Cambridge Road is forecast to total 14 vehicles in the future, which is well within the 30-space remaining capacity, while the maximum of 45 vehicles at Bass Lake Hills would better utilize the 100-space parking lot.

In sum, a minimum of 46 additional spaces are recommended at the El Dorado Hills PNR based on future parking demand. No other PNR lots are expected to require parking capacity expansion to meet long-term demand.

NEED FOR ELECTRIC VEHICLE CHARGING AT PARK-AND-RIDE LOTS

Bus Charging

As discussed in Technical Memorandum One for this study, the detailed *ZEB Strategy and Final Report: El Dorado County Transportation Commission ZEB Rollout and Implementation Plan* lays out a detailed strategy for converting all EDCTA buses to ZEBs per the requirements of the California Air Resources Board (CARB) Innovative Clean Transit (ICT) regulation. None of the EDCTA bus or van charging is planned to occur at any of the PNR lots, therefore no such charging infrastructure is included in this plan.

Private Vehicle Charging

A more pertinent need at western El Dorado County PNR lots is charging infrastructure for private vehicles. Zero-emission vehicles (ZEVs) are becoming increasingly popular as the world pushes to reduce greenhouse gas emissions. The two types of ZEVs currently available are battery-electric vehicles and fuel-cell electric vehicles. Battery-electric vehicles are much more commonly utilized at this point, with millions in use versus only 16,000 fuel-cell electric vehicles across the United States.[3] California represents the largest ZEV market in the country, accounting for 40 percent of nationwide ZEV sales in

[3] Hydrogen Fuel Cell Partnership. (2023, May 22). *FCEV sales, FCEB, & hydrogen station data.* HFCP. https://h2fcp.org/by_the_numbers

2022.[4] As of January 2023, over 1.39 million ZEVs have been purchased and over 37,000 public and 50,000 shared private charging stations have been installed in California alone.

The State of California has been a leader in adopting policies that aim to further encourage the widespread implementation of ZEV technology. In addition to the California Air Resources Board's Innovative Clean Transit regulations, which requires all public transit agencies to gradually convert their fleets to zero-emission buses, the state has also passed regulations to accelerate the adoption of ZEVs by private individuals and entities. The Advanced Clean Cars II (ACC II) regulation, adopted in 2022, will require all new passenger cars and trucks sold in California to be ZEVs by 2035. The ACC II regulation on top of the existing ZEV market will result in ZEVs becoming a much more common mode of private transportation in California within just a few years.

The *ZEV Readiness in the Sacramento Region* (*ZEV Readiness*) report estimated there will be between 58,000 to 365,000 ZEVs in the greater Sacramento region, which includes the western slope of El Dorado County, by 2030.[5] This forecasted range would represent a 5 to 70 times increase over 2019 levels. This estimate was developed before the adoption of the ACC II regulation and can therefore be assumed to be conservative. The *ZEV Readiness* report also identified the need for concerted planning efforts to design and install the charging infrastructure necessary to support the burgeoning ZEV market in the Sacramento area. Based on the proportion of the people living in the Sacramento Metropolitan Statistical Area that are El Dorado County residents, the figures from the *ZEV Readiness* study can be used to conservatively assume between 4,600 and 29,200 ZEVs will be registered in El Dorado County by 2030. This would equate to about 2 to 12 percent of total registered vehicles.

Most ZEV charging needs will be met at home; in Europe, it was observed that only 5 percent of EV charging was done at public locations.[6] However, for people traveling long distances or people who live in multi-family housing units with no charging access, public charging stations will be a vital amenity. Research has estimated that travel needs will require a ratio of approximately 1 public charger for every 10 to 12 EVs on the road.[7] The California Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment projects that over 700,000 public and shared private chargers will be needed statewide in 2030 to support 5 million ZEVS or a ratio of 1 public or shared private charger for every 7 ZEVs.[8] As of

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[4] Office of Governor Gavin Newsom. (2023, Jan. 20). *California ZEV sales near 19% of all new car sales in 2022.* CA.gov. https://www.gov.ca.gov/2023/01/20/california-zev-sales-near-19-of-all-new-car-sales-in-2022/#:~:text=California%20ZEV%20Sales%20Near%2019,Sales%20in%202022%20%7C%20California%20Governor

[5] Sacramento Metro Air Quality Management District. (2019). *ZEV Readiness in the Sacramento Region.* https://zevreadiness.frontierenergy.com/sites/default/files/ZEV-Readiness-Sacramento-Region.pdf

[6] Transport & Environment. (2018, Sept.). *Roll-out of public EV charging infrastructure in the EU.* https://www.transportenvironment.org/wp-content/uploads/2021/07/Charging%20Infrastructure%20Report_September%202018_FINAL.pdf

[7] S&P Global Mobility. (2023, Jan. 9). *EV chargers: how many do we need?* S&P Global. https://press.spglobal.com/2023-01-09-EV-Chargers-How-many-do-we-need

[8] California Energy Commission. (2021, May). *Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment – Revised Staff Report.* CA.gov. https://www.energy.ca.gov/filebrowser/download/3515

June 2023, there are 149 EV chargers in western El Dorado County, nearly all of which are public, distributed among 46 separate locations. Considering the projections for ZEV numbers and the need for approximately 10 public or shared private chargers per ZEV, there will need to be 460 to 2,920 chargers available in El Dorado County to support private ZEVs by 2030. At least 300 new public/shared private chargers would therefore need to be installed in the next seven years.

Location is one of the most important factors when planning new ZEV charging stations. Public locations (such as curbsides, parking lots, and highway rest stops) with good connectivity to the electric grid have been identified as sites that would promote equity in the ZEV market.[9] Public sites closer to multifamily developments would also be beneficial for expanding charging access to more socioeconomic groups. Additionally, public sites with access to places of work, commercial areas, or recreational facilities would be more likely to be utilized by ZEV owners, as people would be able to do other tasks while their vehicles charged. PNR lots are public sites that meet many of the criteria identified as being optimal for public EV charging locations. In particular, the *ZEV Readiness in the Sacramento Region* document cites PNR facilities in the El Dorado Hills area as being suitable for ZEV charging infrastructure.

The California Building Standards Commission (CBSC) has mandatory standards for pre-wiring for EV charging stations for new residential, commercial, and public development projects. These standards are shown in Table 21. As discussed in Chapter 2 of Technical Memorandum 1, there is already EV charging infrastructure at the El Dorado Hills PNR and Placerville Station. The predicted market share of ZEVs in El Dorado County by 2030, the CBSC standards, the number of existing charging stations at the PNRs, current PNR utilization rates, and other attributes (e.g., location) were considered to develop recommendations for how many additional public EV chargers should be installed at each PNR. These recommendations are presented in Table 22. As indicated, a total of 30 additional charging stations are recommended, with the largest numbers at El Dorado Hills and Ray Lawyer Drive.

[9] Kampshoff, P., Kumar, A., et al. (2022, Apr.). *Building the electric-vehicle charging infrastructure America needs.* McKinsey & Company. https://www.mckinsey.com/industries/public-sector/our-insights/building-the-electric-vehicle-charging-infrastructure-america-needs

Table 21: California Mandatory Electric Vehicle Charging Station Building Standards

Total Actual Parking Spaces	Required EV Charging Station Spaces
0 - 9	0
10 - 25	1
26 - 50	2
51 - 75	4
76 - 100	5
101 - 151	7
151 - 200	10
201+	6% of total parking spaces

Source: US Department of Energy.

Table 22: EV Charging Stations at the El Dorado County PNRs

Park-and-Ride Lot	Parking Spaces			Existing EV Charging Stations	Recommended Additional EV Charging Stations
	Existing	Future	Total		
El Dorado Hills	128	46	174	2	10
Bass Lake Hills	0	100	100	--	4
Cambridge	68	-38	30	--	2
Ponderosa Road	94	0	94	--	3
Central	82	0	82	--	3
Ray Lawyer Drive	184	0	184	--	6
Placerville Station	115	0	115	6	1
Camino Heights	24	0	24	--	--

Sources: EDCTA, LSC

FIRST-MILE/LAST-MILE STRATEGIES

This evaluation assumes a continued focus by the local jurisdictions on improving bicycle and pedestrian connections to/from the PNR facilities. Where warranted, pedestrian and bicycle facilities connecting to nearby residential areas and trip destinations are identified. At present, there is no active effort to implement a new widespread micromobility (bike share or scooter share) program. Considering the locations of the PNR facilities in relationship with nearby trip destinations, the two areas that are relatively good candidates for a micromobility program in the future are El Dorado Hills and Placerville Station. Both facilities have available space to accommodate bike or scooter parking and charging areas.

REAL-TIME TRAVEL INFORMATION SERVICES

Transit systems have seen strong benefits in providing real-time information displays at bus stops. At a minimum, these displays provide the next arrival time for various routes, and can also provide information on service changes, the areas served by each route, etcetera. A recent trend has been towards "e-paper" displays that can be easily modified and that use minimal power, as shown to the right. These displays can be equipped with internet and solar power capabilities to minimize installation costs. Providing this service at the PNR facilities would need to be part of a larger systemwide real-time information effort for EDCTA.

CHANGES IN TRANSIT SERVICE

For the purpose of this study, the PNR Master Plan Update assumes the following transit services will operate in the future:

- The EDCTA commuter service to Sacramento will continue to be provided. As ridership warrants, additional runs will be added. If sufficient ridership from areas east of Bass Lake Hills Road is generated, at least one run that does not serve El Dorado Hills PNR can be considered to reduce travel time for riders commuting from the eastern portions of the service area.
- With the opening of the Bass Lake Hills PNR, it is recommended that EDCTA commuter service start to provide service to this new facility and stop service to the existing Cambridge Road PNR. Serving both facilities would increase the travel time for transit riders boarding to the east, who commonly already complain about long travel times. These two locations are only 1.8 miles apart. The Bass Lake Hills location is located between the bulk of the residential catchment area and the employment area, making for more direct total commute trips. In addition, as discussed below eliminating commute service provides the opportunity to repurpose the existing Cambridge PNR site to improve bus loading and passenger waiting areas.
- As discussed above, new commuter routes to other employment centers (such as Roseville and Elk Grove) are not forecast to be warranted.
- Local EDCTA routes will continue to serve Cambridge Road, Ponderosa Road West, Missouri Flat, Central, Placerville Station, and Camino Heights. If one or more of the local routes are converted to a microtransit service, this could be accommodated at the PNRs as the local bus bays could instead be used by one or two microtransit vans at a time.
- El Dorado Hills PNR will be served with local transit services, such as microtransit.

In addition, with growth in southeastern Folsom in Sacramento County along White Rock Road there is the potential that a new route (or microtransit service) is implemented that includes a connection to El Dorado Hills. Up to one transit vehicle is assumed to be onsite at the El Dorado Hills PNR at a time.

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Chapter 7

EVALUATION OF INDIVIDUAL PARK-AND-RIDE FACILITIES

This discussion first briefly reviews each of the individual facilities served by EDCTA discussed from west to east. A summary of the overall recommended improvements for each site is then presented.

EL DORADO HILLS

The El Dorado Hills PNR is a key facility in the EDCTA commuter service network. As previously mentioned, expansion of this existing facility is recommended along with other improvements.

A key conclusion of this PNR Master Plan update is that a separate, new County Line transit center is no longer warranted. The 2019 *County Line Multi-Modal Transit Center Study* (Fehr and Peers, September 5, 2019) recommended the purchase of a separate site and the development of a new facility. Two high-potential sites were identified: the lot along the west side of Latrobe Road south of the CVS on the southwest corner of Latrobe/White Rock Road and the parcel on the southeast side of Town Center Road just to the west of El Dorado Estates retirement center. Adjusted to current construction costs, this project is estimated to cost a total of $9.3 Million. As discussed in Chapter 2, the need for transit services (in particular commuter transit services) has been reduced substantially since the completion of this previous study. Due to long-term changes in commuting patterns, there no longer is the need for this entirely new facility, given that a less expensive parking expansion at the current El Dorado Hills PNR site is feasible.

EDCTA previously leased a lot on Mercedes Lane before the pandemic to provide additional parking capacity in El Dorado Hills. This analysis indicates that this will not be needed in the future.

Routes and Services

The El Dorado Hills PNR facility should be planned to accommodate the following existing and potential future services:

- Commuter services – While additional runs are expected to be added as ridership rebounds, no more than 1 vehicle will be onsite at any one time.
- 50 Express – As the westbound and eastbound runs serve this stop at differing times (31 minutes after the hour in the westbound direction and 19 minutes after the hour in the eastbound direction), there is only the need to accommodate 1 vehicle at any one time. For the rare cases when delays cause both buses to be onsite at the same time, the chances that a commuter bus is also onsite are very low.
- Future El Dorado Hills microtransit service – While at present there is no local public transit service in the El Dorado Hills area, the currently ongoing Short-Range Transit Plan will likely identify the long-term viability of a microtransit service. The site plan should therefore accommodate at least one, and preferably two, microtransit vans on-site at one time.

- Potential Future SacRT service – Given the strong growth forecast for travel between El Dorado Hills and Folsom, there may be a future need to accommodate a single SacRT bus related to a new route at the El Dorado Hills PNR. Given the infrequency of commuter service arrival times, this new SacRT bus could be accommodated without the need for changing the site's capacity.

In sum, the El Dorado Hills PNR should be able to accommodate one Commuter bus (45'), one 50 Express bus (35'), and two vans (17') at peak times. Due to the need to accommodate various vehicles at differing times of day and the need to provide flexibility, a straight curb bus bay design is preferable to a sawtooth design that reflects specific vehicle lengths. Including a minimum of 5' of spacing between vehicles, indicates the need for at least 129' of straight curb to accommodate the peak vehicles. At present, there is approximately 105' of available straight curb. The additional length can be accommodated by shortening the bay taper at the south end.

Parking Demand and Supply

As identified in the previous chapter, it is projected that there will be a future need for at least 46 additional private vehicle parking spaces at this facility. There is an existing undeveloped parcel immediately to the east of the El Dorado Hills PNR across Post Street. Parcel Number 121300005 (1061 White Rock Road) is 0.71 acres in size. While it is traversed by a high-tension power line (with a tower in the lot), this is compatible with a parking lot. Figure 13 presents a conceptual layout of this additional lot, along with other recommended modifications to this site as discussed below. As shown, a total of 59 spaces can be provided on this lot.

Facility Improvements

Constructed in 1994, the existing El Dorado Hills PNR facility is showing its age. It does not have adequate passenger waiting facilities, and access to the lot is inhibited by some poor geometrics in the entrance lane. The following improvements are recommended:

- Repave the existing lot. While defining the necessary level of improvement will require detailed pavement assessment, for the purposes of this document a grind and overlay is assumed.
- Reconstruct the transit passenger plaza, including the provision of a new purpose-built shade and wind structure. Public comments received as part of this study indicated the need for new shade and the tripping hazard of existing pavement conditions, as well as the need for additional bus shelter capacity. The new purpose-built shade and wind structure would replace the existing shelters and expand the total capacity to shelter passengers from the weather. Similar to Placerville station, it would include a climate-controlled passenger waiting space. Figure 14 presents two views of another example structure at the Haines Place Park and Ride facility in Port Townshend, Washington. The transit plaza should be expanded to 30 feet in width to fit the new structure.


Figure 13: Conceptual Layout of El Dorado Hills Park-and-Ride Improvements
New Crosswalk
Bike Lockers
Improved Entrance
New Shade and Wind Structure
POST ST
Property Line
Power Pole
Extended Bus Bay
Power Pole
WHITE ROCK RD
N
0'
40'
80'

Figure 14: Purpose-Built Shade/Wind Structure in Port Townshend, Washington

- The small parking bay in the northeastern portion of the existing site should be converted to a plaza and landscaping space. This area currently only provides 3 vehicle spaces and 3 motorcycle parking spaces. As accessing these spaces requires a tight U-turn to enter from the entrance lane, it can result in congestion in the only access point to the existing lot. This loss in parking can be more than addressed by the construction of new parking on the new lot across Post Street, which would provide more spaces than the minimum number identified.
- Renew all striping and signing.
- Improve landscaping.
- 10 EV charging stations.

Recommended Bicycle and Pedestrian Connection Improvements

Across the White Rock Road and Post Street frontages of the new lot, a sidewalk (6' in width) should be provided. A separate bike path is not recommended, as it is not identified in the *El Dorado County Active Transportation Plan*, it does not have any continuity to the east, and it would reduce the parking capacity of the new lot by 17 spaces.

It would also be beneficial as part of the PNR improvement project to provide a sidewalk along the frontage of the adjacent Sherwin-Williams Paint store (1091 White Rock Road). This 300' of sidewalk would fill a gap in the sidewalk, providing access from the El Dorado Hills PNR to the Target Store as well as the Sunset Estates neighborhood and other housing areas to the east. The cost of this additional sidewalk is included in the cost estimate presented below.

An additional crosswalk should be provided (in addition to the existing crosswalk at the White Rock / Post intersection) at the northern end of the facility along Post Street. Providing a Rapid Rectangular Flashing Beacon (RRFB) actuated with a push button would be appropriate.

Planning-Level Cost Estimates

Table 23 presents the cost estimate for the recommended improvements to the El Dorado Hills PNR, indicating a total project cost of $2,534,200 (excluding the EV charging stations). This is based upon unit costs defined for the Bass Lake Hills PNR construction and includes soft costs, development costs, land acquisition costs, and a 15 percent contingency. Land acquisition costs are based on the per-square-foot purchase price of two recent raw land sales in the El Dorado Hills town center area.

Consistency With Land Use and Other Plans, As Well As Land Use Compatibility

The new lot is zoned as a Commercial parcel, which allows use as a parking facility. Adjacent uses consist of a US Post Office, a paint store, a bank, and the existing PNR, all of which are very compatible with a new parking lot.

Table 23a: Cost Estimate -- El Dorado Hills Park-and-Ride Improvements

Description	Quantity	Unit	Unit Price	Total Amount
New Lot				
Clear and Grub	1	ac	$2,000.00	$1,400
Type 2 Curb and Gutter	160	lf	$25.00	$4,000
Type 3 Barrier Curb	1,300	lf	$19.75	$25,700
2.5" A.C. Parking Stalls	10,620	sf	$2.23	$23,700
3" A.C. (Vehicular Drive Aisle/Parking)	9,700	sf	$2.60	$25,200
5" A.B. (Parking Stalls)	10,620	sf	$1.20	$12,700
6.5" A.B. (Vehicular Drive Aisle/Parking)	14,300	sf	$2.20	$31,500
Sidewalk (4" PCC/4"AB)	5,300	sf	$6.50	$34,500
Pedestrian Ramps	7	ea	$1,650.00	$11,600
Striping	1,580	lf	$0.60	$900
Rapid Rectangular Flashing Beacon	1	ea	$22,000.00	$22,000
Pavement Markings	240	sf	$0.60	$100
Stop Signs	2	ea	$990.00	$2,000
Miscellaneous Signs	6	ea	$1,000.00	$6,000
12" Storm Drain	900	lf	$49.00	$44,100
72" Drain Manhole	1	ea	$7,000.00	$7,000
7'x7' Junction Box	1	ea	$5,255.00	$5,300
EDC Grated Inlet	6	ea	$5,255.00	$31,500
Contect StormFilter Unit	1	ea	$30,000.00	$30,000
Electrical (conduit & pull boxes)	1	is	$20,000.00	$20,000
Light Foundation	8	ea	$2,500.00	$20,000
Light Fixture	8	ea	$8,000.00	$64,000
Landscape Conduit	200	lf	$15.00	$3,000
Landscaping	1	ea	$50,000.00	$50,000
			Subtotal Estimated Direct Construction Cost	**$476,200**
Improvements to Existing Lot				
Grind & Overlay	52,000	sf	$3.00	$156,000
Type 2 Curb and Gutter	50	lf	$25.00	$1,300
Type 3 Barrier Curb	350	lf	$19.75	$6,900
Concrete - Bus Turnout	11	cy	$150.00	$1,700
Curb Painting - Red	200	lf	$0.60	$100
Plaza & Sidewalk (4" PCC/4"AB)	6,720	SF	$6.50	$43,700
Pedestrian Ramps	3	ea	$1,650.00	$5,000
EV Charging Stations	10	ea	$5,000.00	$50,000
Striping	2,560	lf	$0.60	$1,500
Miscellaneous Signs	12	ea	$1,000.00	$12,000
12" Storm Drain	100	lf	$49.00	$4,900
EDC Grated Inlet	4	ea	$5,255.00	$21,000
Light Foundation	4	ea	$2,500.00	$10,000
Shade/Wind Structure	1,400	sf	$300.00	$420,000
Landscape Conduit	200	lf	$15.00	$3,000
Landscaping	1	ea	$100,000.00	$100,000
			Subtotal Estimated Direct Construction Cost	**$837,100**
			Total Estimated Direct Construction Cost	**$1,313,300**

Table 23b: Cost Estimate -- El Dorado Hills Park-and-Ride Improvements

Description	Quantity	Unit	Unit Price	Total Amount
Mobilization	5%			$65,700
SWPPP Compliance	3%			$39,400
Erosion Control Measures	5%			$65,700
Total Estimated Direct Construction Cost				**$1,484,100**
Construction Staking	4%			$59,400
Bond Enforcement	2%			$29,700
Contingency	15%			$222,600
Total Soft Costs				**$311,700**
Total Estimated Construction Costs				**$1,795,800**
Design & Engineering	15%			$269,400
Construction Management/Oversight	10%			$179,600
Project Administration	5%			$89,800
Total Development Costs				**$2,334,600**
Land Value	30,928	SF	$5.84	$180,600
Closing Costs	5%			$9,000
Appraisal				$10,000
Total Project Costs				**$2,534,200**

Potential to Enhance Rider Experience and Expand Transit Ridership

The proposed facility improvements will improve the rider experience in a variety of ways:

- The expansion in parking capacity will provide adequate passenger parking to accommodate future forecast demand, unlike the overcrowded conditions of the past.
- Protection from the weather will be improved.
- The improved aesthetics of the facility will improve the public image of EDCTA.
- The facility will provide the capacity to accommodate future, local El Dorado Hills transit services, such as microtransit.
- The poor geometrics in the existing lot entrance area will be fixed, avoiding delays and backing movements.
- EV charging will be expanded.

Benefits Versus Costs

While the improvement costs are substantial, the expanded and improved facility will significantly improve the passenger experience and the overall perception of public transit in El Dorado Hills. Given the growth in the El Dorado Hills area, this is of particular importance to the EDCTA system as a whole. To attract future travelers to transit options, it will be increasingly important to provide a high-quality and convenient PNR facility. The improvements presented in this plan will ensure that El Dorado Hills is

provided with an attractive and safe PNR facility with adequate capacity to expand public transit over the next 20 to 30 years.

BASS LAKE HILLS

The Bass Lake Hills PNR facility will be served by the EDCTA commuter route, and potentially could also be served by future microtransit service. Currently under construction, it will address the forecast parking and bus capacity needs for the area. Commuters who currently park at the Cambridge Rd. Park and Ride will use the new Bass Lake Hills Park and Ride once construction is completed. While parking demand analysis provided in the previous chapter indicates that current demand will not exceed initial capacity, the potential Phase 2 expansion of the facility (100 additional spots) can be added when necessary.

The only recommended improvement over the current construction is the provision of four EV charging stations, at an estimated cost of $20,000.

CAMBRIDGE ROAD

Routes and Services

As discussed in Chapter 2, it is recommended that the EDCTA commuter service be shifted to the Bass Lake Hills PNR upon its opening and discontinued at the Cambridge Road PNR to not increase overall commuter service travel times. This provides the opportunity to redesign the existing PNR lot to provide additional bus bays. Plans for the Cambridge Road PNR should accommodate the following existing and potential future services:

- Sacramento – South Lake Tahoe Connecting Bus – Service is provided to the Cambridge Road PNR at 10:40 AM eastbound and 3:15 PM westbound.
- 50 Express – As the westbound and eastbound runs serve this stop at differing times (20 minutes after the hour in the westbound direction and 29 minutes after the hour in the eastbound direction), there is only the need to accommodate 1 vehicle at any one time.
- Route 40 (Cameron Park/Shingle Springs) – This route serves the Cambridge Road stop at 30 minutes past the hour from 6:30 AM to 6:30 PM on weekdays.

In sum, there are typically two buses serving this stop at the bottom of the hour, and there is the potential for a third bus if the Sacramento – South Lake Tahoe Connecting Bus is operating late. The existing bus bay provides a passenger loading area 60 feet in length, which is not sufficient to accommodate two buses at the same time. As a result, drivers sometimes coordinate and either wait in another location or circle the block to serve all passengers.

Facility Improvements

A conceptual layout for the conversion of the existing PNR lot to provide a fully adequate transit center is shown in Figure 15. A bus loop with two additional bus loading bays would be provided in the northern portion of the site (along with the existing bus bay on Cambridge Road), and 30 parking spaces provided to the south. This would include two EV charging stations. Improved lighting is also recommended at the existing bus shelter.

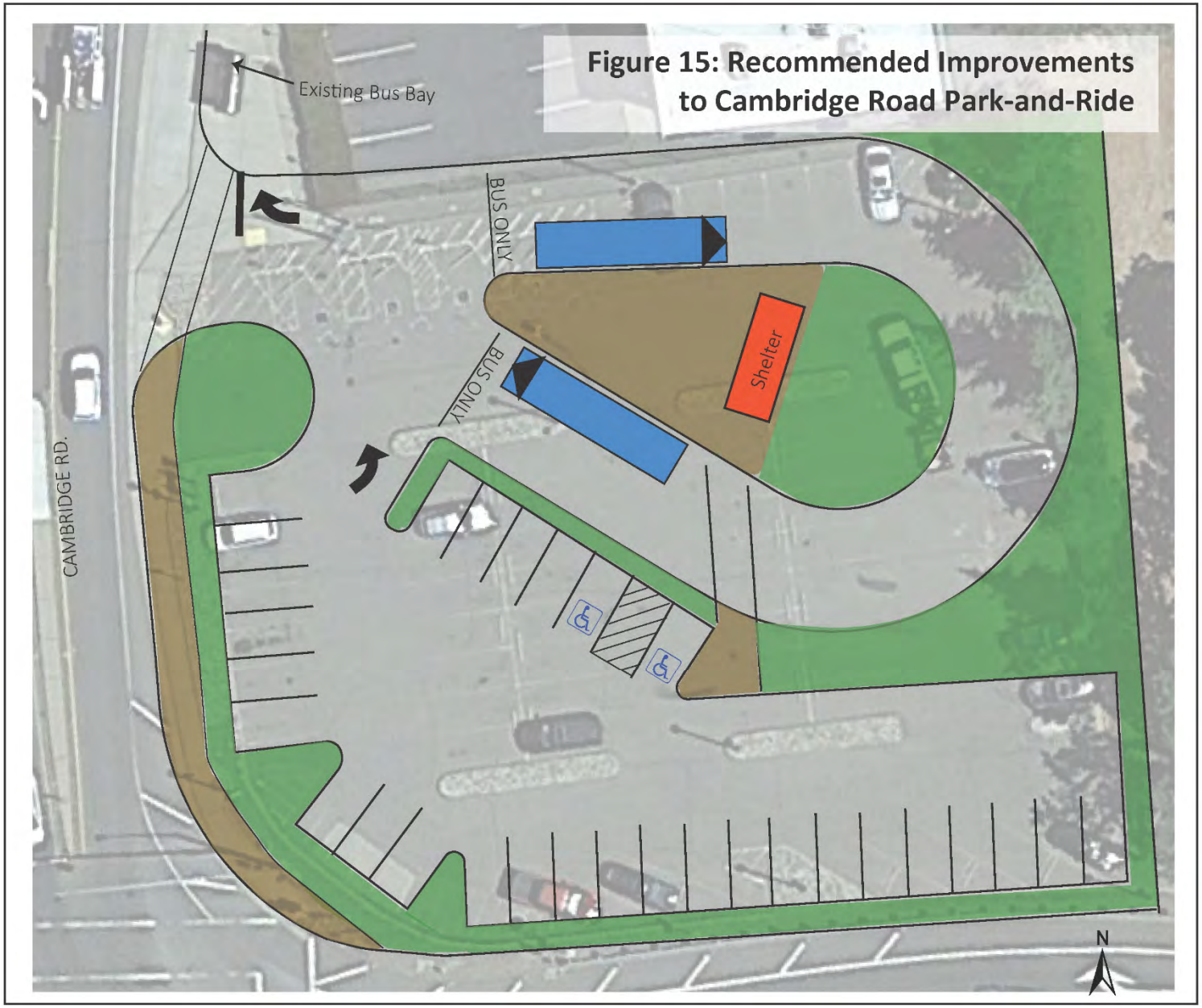
Figure 15: Recommended Improvements to Cambridge Road Park-and-Ride
Existing Bus Bay
BUS ONLY
BUS ONLY
Shelter
CAMBRIDGE RD.
N

Buses would enter from either direction from Cambridge Road and circulate clockwise around the island. All traffic would still be required to make right turn movements only out onto Cambridge Road, with buses continuing to make the Knollwood Drive / Cameo Drive / Merrychase Drive loop to head south.

Parking Demand and Supply

While this site would no longer be served by the commuter service, the PNR spaces would be available for the Sacramento-South Lake Tahoe Connecting Bus and 50 Express riders.

Planning-Level Cost Estimates

As shown in Table 24, proposed improvements to the Cambridge Road PNR are estimated to incur a total project cost of $844,500, including 15 percent contingency as well as oversight and project administration.

Potential to Enhance Rider Experience and Expand Transit Ridership

These improvements will improve the passenger loading process, reduce delays to transit routes due to drivers waiting for the bus bay to be available, reduce the potential for buses to block travel lanes, and improve passenger security during early morning and late evening hours. It will also provide a location for passengers to wait that is not directly along the roadway as well as expand the capacity for EV charging.

Benefits Versus Costs

The key benefit to EDCTA will be the elimination of existing delays to the transit services when buses must wait to use the existing single bus bay. To the passenger, the improvements will provide a more attractive and safer transit waiting experience and increase the visibility of transit in the community. While the costs are substantial, they are a beneficial long-term investment in the facilities needed for the future.

PONDEROSA ROAD (WILD CHAPARRAL)

Routes and Services

This location is served by the EDCTA commuter service and Route 40 (Cameron Park) (on request only). As the potential for more than one bus to be onsite at any one time is extremely low, the existing single bus bay is sufficient.

Parking Demand and Supply

As identified in the previous chapter, the existing parking capacity is forecast to be adequate in the foreseeable future.

Table 24: Cost Estimate -- Cambridge Road Park-and-Ride Improvements

Description	Quantity	Unit	Unit Price	Total Amount
New Lot				
Remove Existing Pavement	25,500	sf	$3.00	$76,500
Type 2 Curb and Gutter	50	lf	$25.00	$1,300
Type 3 Barrier Curb	1,100	lf	$19.75	$21,700
2.5" A.C. Parking Stalls	5,580	sf	$2.23	$12,400
3" A.C. (Vehicular Drive Aisle/Parking)	15,000	sf	$2.60	$39,000
Concrete - Bus Turnout	11	cy	$150.00	$1,700
Plaza & Sidewalk (4" PCC/4"AB)	7,200	sf	$6.50	$46,800
Pedestrian Ramps	4	ea	$1,650.00	$6,600
Striping	658	lf	$0.60	$400
Pavement Markings	100	sf	$0.60	$100
Stop Signs	1	ea	$990.00	$1,000
Miscellaneous Signs	2	ea	$1,000.00	$2,000
Drainage Modifications	1	ea	$120,000.00	$120,000
Electrical (conduit & pull boxes)	1	is	$20,000.00	$20,000
Light Foundation	5	ea	$2,500.00	$12,500
Light Fixture	5	ea	$8,000.00	$40,000
Shelter	1	ea	$20,000.00	$20,000
EV Charging Stations	2	ea	$5,000.00	$10,000
Landscape Conduit	200	lf	$15.00	$3,000
Landscaping	1	ea	$50,000.00	$40,000
			Total Estimated Direct Construction Cost	**$475,000**
Mobilization	5%			$23,800
SWPPP Compliance	3%			$14,300
Erosion Control Measures	5%			$23,800
			Total Estimated Direct Construction Cost	**$536,900**
Construction Staking	4%			$21,500
Bond Enforcement	2%			$10,700
Contingency	15%			$80,500
			Total Soft Costs	**$112,700**
			Total Estimated Construction Costs	**$649,600**
Design & Engineering	15%			$97,400
Construction Management/Oversight	10%			$65,000
Project Administration	5%			$32,500
			Total Development Costs	**$844,500**

Facility Improvements

While the existing bus shelter and lighting are minimal, they do not warrant improvements. The only recommended improvements at this location is the installation of three EV charging stations, at an estimated cost of $15,000, along with bicycle lockers ($24,000) for a total cost of $39,000.

CENTRAL

Routes and Services

The Central PNR facility is served by the EDCTA commuter route, and on request by Route 30 (Diamond Springs/El Dorado). There are currently two passenger loading bays, which are adequate for all transit services that serve the lot and need no improvement.

Parking Demand and Supply

As identified in the previous chapter, the existing parking capacity is forecast to be adequate in the foreseeable future.

Facility Improvements

Three improvements are recommended for the Central PNR:

- Installing a mechanism on the security gate between the PNR lot and the bus bay. This heavy gate is spring-loaded to close if not held open, which makes it difficult for a wheelchair user to enter and exit while holding the door open. A mechanism that would remain open for a short time (such as 1 minute) before slowly closing would improve the ADA accessibility between the lot and the bus bay.
- The red curbs need repainting.
- Installation of three EV charging stations.

Planning-Level Cost Estimates

Costs for the improvements are as follows:

Automatic gate mechanism	$3,000
Red curb painting	$400
3 EV Charging Stations	$15,000
TOTAL	$18,400

Potential to Enhance Rider Experience and Expand Transit Ridership

These improvements will aid both EV motorists and persons with disabilities in using the transit system, increasing passenger satisfaction and potentially resulting in increased ridership.

RAY LAWYER DRIVE

Routes and Services

This recently constructed facility is served by the EDCTA commuter service. The 50 Express route goes by the stop on Forni Road but does not stop at the actual Ray Lawyer Drive PNR. There are currently 115' of passenger loading area at the facility, which is adequate and needs no improvement.

Parking Demand and Supply

As identified in the previous chapter, the existing parking capacity is forecast to be adequate in the foreseeable future.

Facility Improvements

Two improvements are recommended for this site:

- Install a minimum of six bicycle lockers. This will require a new concrete base on which to install them.
- Installation of six EV charging stations.

Planning-Level Cost Estimates

Costs for the improvements are as follows:

Bicycle lockers with concrete pad	$24,000
6 EV Charging Stations	$34,000
TOTAL	$58,400

Potential To Enhance Rider Experience and Expand Transit Ridership

The bicycle lockers will enhance biking access to the EDCTA commuter service, particularly as the Ray Lawyer Drive PNR is served directly by the El Dorado Trail (a 28-mile-long multipurpose paved trail). The EV charging stations will encourage transit use among EV owners.

PLACERVILLE STATION

Routes and Services

Placerville Station serves both as a PNR as well as the key transit transfer location in central El Dorado County. It is served by Route 20 (Placerville), the Route 50 Express, Route 60 (Pollock Pines), and the Sacramento/South Lake Tahoe Route.

At present, there is 90 feet of straight curb space on the east side of the building for passenger loading and unloading. Twelve times per day (at 30 minutes past the hour, from 7:30 AM to 6:30 PM) there are three vehicles at this facility at a time (Route 20, Route 50 Express, and Route 60), resulting in one of the vehicles partially, or wholly, loading/unloading passengers in the parking lot. This generates several issues:

- Wheelchair loading/unloading is made more difficult.
- Auto movements can be blocked.
- Buses stopping with little distance to other buses can be delayed in exiting if the bus in front is delayed (such as for a wheelchair loading).
- There is an increased crash risk due to drivers negotiating tight turns in limited space as well as pedestrians walking in travel lanes to load and unload from buses.

A third bus bay should be provided so that all buses can load and unload directly onto the curb and sidewalk. A site plan showing these improvements is shown in Figure 7. As indicated, the five parking spaces on the west side of the plaza would be eliminated to provide an additional bus loading bay. To provide adequate travel paths for this bus bay, the two spaces on the south end of the plaza and the three spaces on the northwest corner would be eliminated. As some of these spaces are ADA spaces, existing spaces to the north of the plaza would be restricted to ADA only and served by the existing ADA ramp at the northeast corner of the plaza.

In total, 10 existing spaces would be eliminated. However, as shown in Table 20, commuter parking demand is not expected to exceed 43 spaces while the existing number of spaces is 55. In addition, the City of Placerville is currently constructing an additional 60 parking spaces (along with other improvements) on the lot to the south. Adequate parking conditions therefore can be provided with this loss of parking.

Parking Demand and Supply

With a future total of 115 spaces, the parking demand is expected to be well within the available parking supply. Note that this lot is also used at times for juror parking, so sometimes spaces may be taken by people attending court.

Bicycle and Pedestrian Connections

Placerville Station is already well served by sidewalks and the Class I El Dorado Trail; therefore, no additional improvements are recommended. Note that as part of the planned parking lot expansion, the El Dorado Trail crossing on Mosquito Road will be improved.

Planning-Level Cost Estimates

As shown in Table 25, total project costs are estimated to equal $230,400. This includes soft costs, design and engineering, construction management, and project administration.

Potential to Enhance Rider Experience and Expand Transit Ridership

The key benefits of the recommended improvements will be to enhance the safety and convenience of the bus loading/unloading process and to provide a facility that can efficiently accommodate all the bus activity.

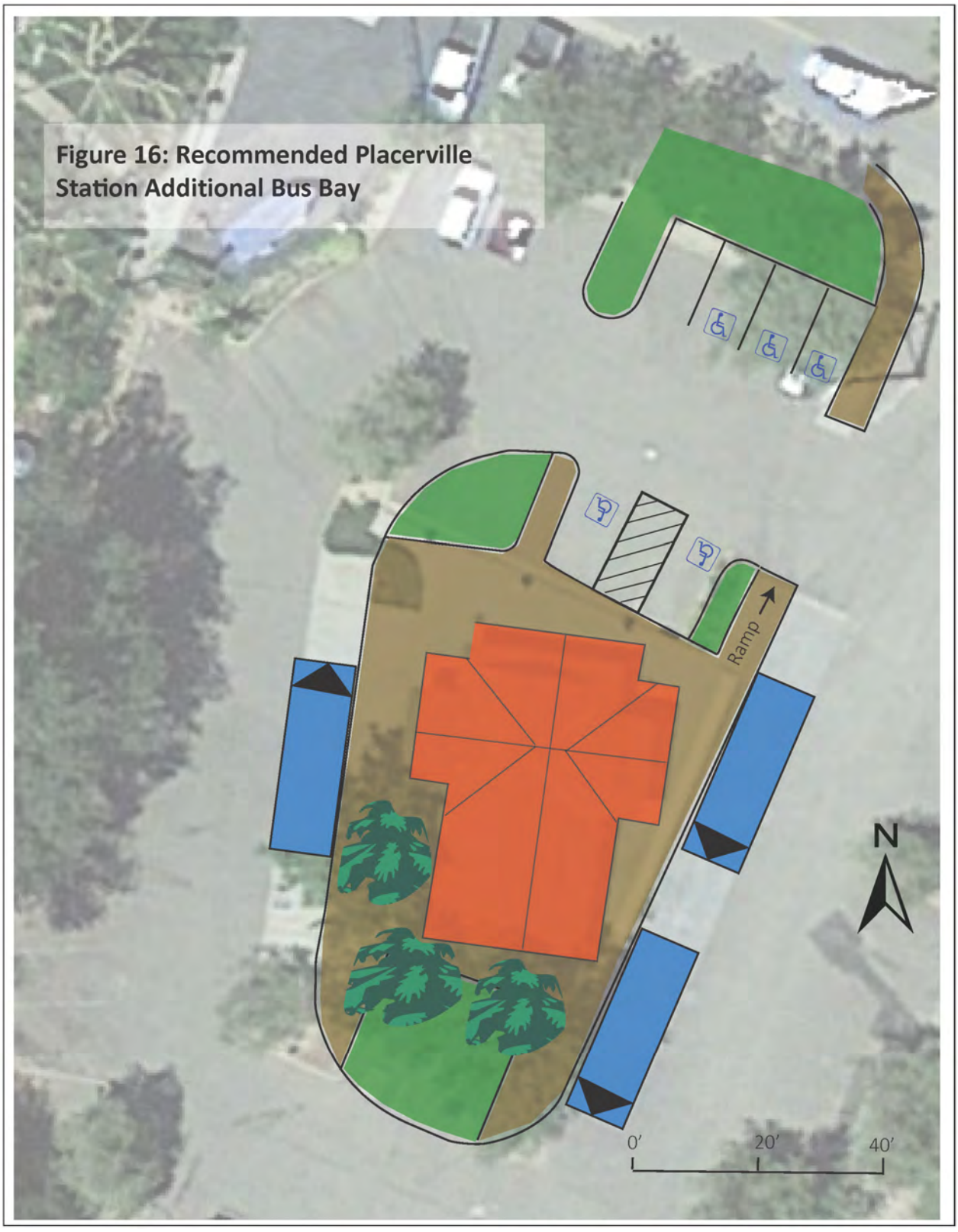
Figure 16: Recommended Placerville Station Additional Bus Bay
Ramp
N
0'
20'
40'

Table 25: Cost Estimate -- Placerville Station Improvements

Description	Quantity	Unit	Unit Price	Total Amount
Removal of Existing Curb & Gutter	1	ea	$20,000.00	$20,000
Type 2 Curb and Gutter	350	lf	$25.00	$8,800
4" A.C. (Heavy Vehicular Drive Aisle	3,750	SF	$3.00	$11,300
9" A.B. (Heavy Vehicular Drive Aisle	3,750	sf	$2.45	$9,200
Pedestrian Ramps	2	ea	$1,650.00	$3,300
Striping	112	lf	$0.60	$100
Pavement Markings	500	sf	$0.60	$300
Light Foundation	2	ea	$2,500.00	$5,000
Light Fixture	2	ea	$8,000.00	$16,000
Landscape Conduit	200	lf	$15.00	$3,000
Landscaping	1	ea	$25,000.00	$25,000
Curb Painting - Red	350	lf	$0.60	$200
Plaza & Sidewalk (4" PCC/4"AB)	4,200	SF	$6.50	$27,300
			Estimated Direct Construction Cost	**$129,500**
Mobilization	5%			$6,500
SWPPP Compliance	3%			$3,900
Erosion Control Measures	5%			$6,500
			Total Estimated Direct Construction Cost	**$146,400**
Construction Staking	4%			$5,900
Bond Enforcement	2%			$2,900
Contingency	15%			$22,000
			Total Soft Costs	**$30,800**
			Total Estimated Construction Costs	**$177,200**
Design & Engineering	15%			$26,600
Construction Management/Oversight	10%			$17,700
Project Administration	5%			$8,900
			Total Project Costs	**$230,400**

Potential to Enhance Rider Experience and Expand Transit Ridership

The key benefits of the recommended improvements will be to enhance the safety and convenience of the bus loading/unloading process and to provide a facility that can efficiently accommodate all the bus activity.

Benefits Versus Costs

Benefits in terms of improved safety and ease of operations will be significant and substantially warrant the costs.

CAMINO HEIGHTS

Routes and Services

The Camino Heights PNR is served only by Route 60 (Pollock Pines). Forecast parking demand is within the existing parking capacity.

Facility Improvements

No improvements are recommended at this facility.

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Chapter 8
EL DORADO TRANSIT PARK-AND-RIDE MASTER PLAN

Reflecting the evaluation of future demand, public input, and detailed analyses presented in previous chapters, the following Master Plan was defined. The plan is defined to meet the changing needs of commuter transit services cost-effectively. The reader is encouraged to refer to previous chapters for additional details.

FACILITY IMPROVEMENTS

Facility improvements are discussed in order from west to east. A summary of improvements is shown in Figure 17.

El Dorado Hills

The existing El Dorado Hills PNR facility should be enhanced as follows:

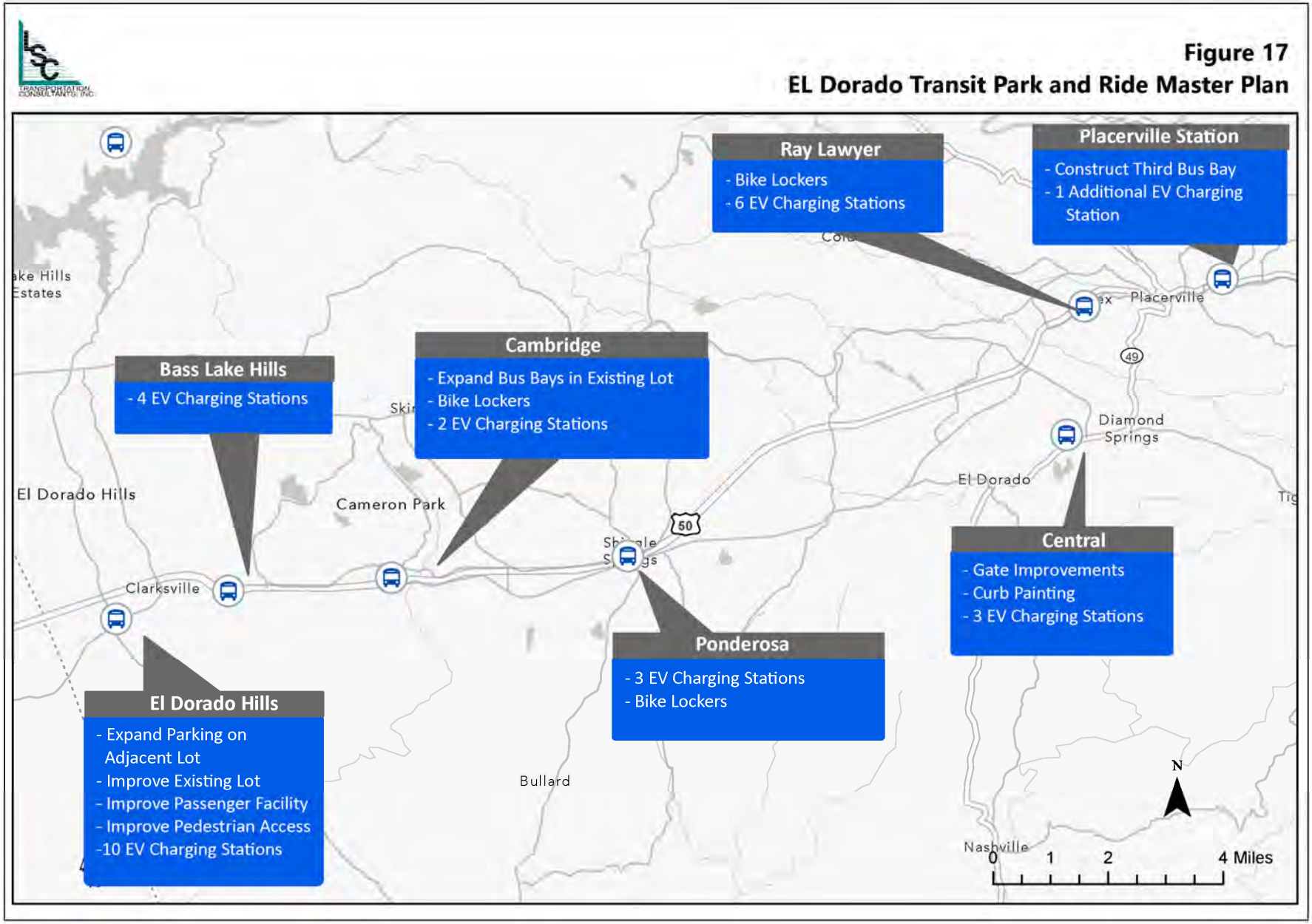
- Purchase the property across Post Street and use it to provide approximately 59 additional parking spaces.
- Reconfigure the northeastern portion of the existing parking lot to transform the existing small parking bay into a plaza/landscaping area to improve vehicle travel paths and reduce congestion at the single access point into this lot.
- Repave the existing lot, and improve striping, signing, and landscaping.
- Rebuild the passenger waiting plaza, including a new architect-designed shade/wind structure, reconstructed plaza paving, and relocated bicycle parking.
- Improve pedestrian access, including enhanced crossing of Post Street and extension of the sidewalk on the north side of White Rock Road eastward to the Target store and adjacent high-density housing.
- Provide 10 EV charging stations.

This study identified that these improvements would be sufficient to meet the needs of the community for the next twenty years. As a result, there is no longer a defined need for a separate new facility (the County Line Transit Center) as identified in previous studies before the pandemic's impact on commuting patterns.

Bass Lake Hills

Beyond the facility constructed in 2023, the only plan recommendation is to install 4 EV charging stations. Analysis of future parking demand indicates that the potential Phase 2 additional spaces will not be needed in the foreseeable future, even with the shift in park-and-ride parking associated with the shift in Commuter Service away from the Cameron Park stop and to the Bass Lake Hills facility.

Figure 17
EL Dorado Transit Park and Ride Master Plan



Cambridge Park

With the opening of a new Sacramento Commuter stop at Bass Lake Hills, commuter service to Cameron Park should be eliminated. This facility will still be an important hub in the EDCTA network, however, served by Route 50 Express, Route 40 Cameron Park, and the Sacramento / South Lake Tahoe Connector Route. Shifting the commuter parking demand to Bass Lake Hills allows this facility to be reconfigured to expand bus capacity (a long-standing operational issue) while still providing adequate parking capacity. A bus loop with a central passenger waiting area should be constructed in the northern portion of the existing lot, leaving 30 auto spaces for remaining park-and-ride needs. In addition, two EV charging stations should be constructed.

Ponderosa Road

At the lot served by EDCTA (Wild Chaparral), no improvements are warranted beyond the provision of three EV charging stations, as well as the provision of bike lockers. The analysis of future parking demand indicates the potential for the other lots not served by EDCTA (North Shingle Springs Road and Durock Road) to be slightly (five vehicles) over capacity. However, there is forecast to be more than enough empty spaces at the Wild Chaparral lot to accommodate any overflow.

Central (Diamond Springs)

The existing park-and-ride facility adjacent to the EDCTA operations facility in Diamond Springs will provide adequate capacity. Recommended improvements at this facility consist of installing a mechanism on the security gate to aid use by wheelchair users, renewing the red paint on the curbs, and installing three EV charging stations.

Ray Lawyer Drive

While the recently constructed Ray Lawyer Drive facility will have more than adequate parking capacity, recommended improvements consist of the provision of at least six bicycle lockers adjacent to the existing bus shelter as well as six EV charging stations.

Placerville

The area around the existing Placerville Station building will be reconstructed to provide space for a third bus on the west side of the facility. This will resolve a long-standing deficiency that results in passengers loading/unloading in the drive aisle, with associated auto/bus congestion and safety concerns. One additional EV charging station should also be installed to meet state guidelines.

Camino Height

No improvements are recommended for the Camino Heights PNR.

Summary of Improvements

Table 26 presents a summary of the recommended improvements for all the PNR facilities served by EDCTA. The overall development cost is expected to total $3,809,900. Of this, the largest proportion of

costs (68 percent) is for the El Dorado Hills PNR, followed by Cambridge PNR and Placerville Station. The improvements will ensure that PNR facilities in western El Dorado County are well-prepared to serve transit passengers in the future. Key overall benefits of the improvement program outlined in this study are to provide adequate long-term PNR capacity for each community, provide bus loading areas at the PNRs that are adequate in size and can be efficiently served, solve circulation issues, expand bicycle and pedestrian access to the PNRs, and expand EV charging capacity.

Table 26: Summary of Total Costs and Improvements

		Type of Improvement					
	Development Cost	Parking	Circulation	Bus Loading Zone	Passenger Facility	EV Charging	Ped/Bike
El Dorado Hills	$2,584,200	☑	☑	☑	☑	☑	☑
Bass Lake Hills	$20,000	☐	☐	☐	☐	☑	☐
Cambridge	$854,500	☑	☐	☑	☑	☑	☑
Ponderosa	$39,000	☐	☐	☐	☐	☑	☑
Central	$18,400	☐	☐	☐	☐	☑	☐
Ray Lawyer Drive	$58,400	☐	☐	☐	☐	☑	☑
Placerville Station	$235,400	☐	☑	☑	☐	☑	☐
Camino Heights	$0	☐	☐	☐	☐	☐	☐
TOTAL	**$3,809,900**						

CHANGES IN SERVICES

With the opening of the Bass Lake Hills Park-and-Ride, the Sacramento Commuter service should start serving the new facility and stop serving the Cambridge Road Park-and-Ride. While some of the few Commuter Service riders currently parking at Cambridge Road will need to drive up to 2.1 miles further, this will avoid adding to the travel time for passengers boarding east of Cambridge Road (such as Placerville), which already is an issue with passengers.

No other changes in services were identified as part of this study. However, the facility plans do allow the potential for future microtransit services as well as capacity for future transit connections to eastern Sacramento County.

POTENTIAL FUNDING STRATEGIES

The following presents a summary of potential funding sources to implement the Master Plan.

El Dorado County Traffic Impact Fee Program

A key historic and future funding source for park-and-ride facilities in western El Dorado County is the El Dorado County Traffic Impact Fee (TIF) program. This long-standing program collects fees on new development throughout western El Dorado County to offset the impacts of development on the transportation network. It addresses funding (based on the proportion of project needs generated by new development) for bridge improvements, roadway improvements, and transit capital projects

(including park-and-ride facilities, transit vehicle purchases, and operations/maintenance facility improvements. Important for this study, the current 2023 TIF program includes the park-and-ride program share funding levels shown in Table 27. As indicated, the County Line Transit Center and Cambridge Park-and-Ride Improvements currently included in the program total $1,790,000 as the new development share of a total cost of $13,349,000. This 2023 Park-and-Ride study has identified that needs at El Dorado Hills can be more efficiently met by expansion and improvements at the existing facility rather than a more costly new County Line facility. In addition, the Cambridge Road facility improvements are substantially less than previous plans. Including the improvement costs for Placerville Station and assuming the 13.41 percent of total costs attributable to new development remains unchanged, the capital costs for these three facilities total $3,609,11, of which $484,000 can be attributed to new development (and thus included in the TIF). This results in a net reduction in TIF program requirements of $1,306,000. The $484,000 in potential TIF fees can be an important local match for other state and federal grants.

Table 27: Potential TIF Funding for Park-and-Ride Facilities

	2023 Total Cost	New Development Share	2023 New Development Total Cost
Existing 2023 TIF Program			
County Line Transit Center	$10,061,000	13.41%	$1,349,000
Cambridge Road Improvements	$3,288,000	13.41%	$441,000
Total	$13,349,000		$1,790,000
TIF Program Elements Under 2023 Park-and-Ride Plan			
El Dorado Hills Expansion	$2,534,200	13.41%	$340,000
Cambridge Road Improvements	$844,500	13.41%	$113,000
Placerville Station Improvements	$230,400	13.41%	$31,000
Total	$3,609,100		$484,000
Net Change	-$9,739,900		-$1,306,000

Source: https://www.edcgov.us/Government/dot/Pages/traffic_impact_mitigation_(tim)_fees.aspx

Transit and Intercity Rail Capital Program

The Transit and Intercity Rail Capital Program (TIRCP) is an element of the Transit, Affordable Housing, and Sustainable Communities Program established by California Senate Bill 862. The TIRCP program is supported by funds from the Cap-and-Trade Program, which was recently extended through 2030. The TIRCP intends to "*fund transformative capital improvements that will modernize California's intercity, commuter, and urban rail systems, and bus and ferry transit systems, to significantly reduce emissions of greenhouse gases, vehicle miles traveled, and congestion.*"[10]

California Senate Bill (SB) 125 signed by the Governor on July 10, 2023, changes the TIRCP program into a formula grant program and changes eligible uses for TIRCP funds so recipients could use funding for both

[10] *California State Transportation Agency. (2023). Transit and Intercity Rail Program. CA.gov.* https://calsta.ca.gov/subject-areas/transit-intercity-rail-capital-prog

operations and capital. To be eligible to receive TIRCP funds in FY 2023-24, the EDCTC (as the regional transportation planning agency) will need to prepare and submit a short-term financial plan and transit operations data before December 30, 2023. This plan must demonstrate a need for funding to be approved. Once the plan and data are submitted and approved, funding will then be distributed to EDCTA similar to the LTF. This process will need to be repeated in future years. A long-term plan will need to be submitted by June 30, 2026, to maintain eligibility for the revised TIRCP and Zero-Emission Transit Capital Programs. Once again, the long-term plan will need to demonstrate a clear need for funding to remain eligible.

Bipartisan Infrastructure Law

The Federal Bipartisan Infrastructure Law (BIL) was enacted in 2021 and authorizes up to $108 billion in funding for public transportation. Funding priorities include improving safety for workers, modernizing rail and bus fleets, supporting access to and deployment of sustainable vehicles, and improving access to transit. This funding is distributed to states and transit agencies through existing FTA programs, such as FTA Section 5310, 5311, and 5307 grants, among others. Funding is also rewarded through new FTA programs developed as a result of BIL, such as the State of Good Repair and Rail Vehicle Replacement Program. Funding will be distributed per the requirements of each program. Note that both El Dorado Hills and Cameron Park are within the Sacramento Urbanized Area, and thus the projects in these areas are eligible for 5307 funding.

Local Transportation Funds

The California Transportation Development Act (TDA) continues to be a critical source of funding for transit agencies across the state. Most TDA funds are administered through the Local Transportation Fund (LTF). The LTF is supported by a one-fourth cent statewide sales tax. After the State uses a small proportion for administration, LTF funds are then distributed to each county based on the amount of sales tax collected. Per TDA statutes, LTF can be spent on the following:

- The regional transportation planning agency (in this case, EDCTC) can allocate funds for administrative purposes and planning studies.
- Up to two percent regionwide may be spent on bicycle facilities.
- The remaining funds must be spent for transit and paratransit purposes (operations or capital), unless a finding is made by the regional transportation planning agency that no unmet transit needs exist that can be reasonably met. (Article 4 or 8)
- If a finding of no unmet needs reasonable to meet is made, remaining funds can be spent on roadway construction and maintenance purposes. (Article 8)

LTF funding is distributed to the jurisdictions based on population, though in western El Dorado County all funds not allocated to EDCTC or for bicycle facilities are directed to EDC. While all these funds are already fully used to support transit programs, they do have the flexibility to fund elements of the PNR Master Plan.

State Transit Assistance Funds

The other source of TDA funding is through the State Transit Assistance (STA) program. STA funds are derived from the statewide sales of diesel fuel, which is deposited in the Public Transportation Account in the State Transportation Fund. The state legislature approves the amount of these funds allocated to the State Transit Assistance program as part of the annual state budget process. These funds are allocated by formula to regional transportation planning agencies by the State Controller. The formula allocates 50% of the funds based on the proportion of the state population residing in that region, and the remaining 50% is allocated according to the prior-year proportion of regional transit operator revenues compared with statewide transit operator revenues. While STA funds have historically been hard to predict, in recent years the STA has been a reliable source of funding to support capital, operations, and planning needs. Like LTF, these funds are typically fully used for existing ETC operations and capital improvements.

DISCUSSION OF IMPLEMENTATION PHASING

Implementation of the Master Plan should be based on the following considerations:

- The highest priority should be given to securing the additional parcel just east of the El Dorado Hills Park-and-Ride for future expansion. This is a good opportunity to address future needs cost-effectively, particularly as the presence of the power line on the property limits the parcel's use by more intensive land uses. This will probably require securing a grant (such as a TIRCP grant, as discussed above).
- The improvements at Placerville Station and Cameron Park should also be given a relatively high priority as they solve existing operational problems due to the lack of sufficient bus loading space and can immediately provide passenger safety and transit operation benefits.
- Consideration should be given to bundling multiple individual projects (if not all the Master Plan projects) into a single grant request. The total cost of the Master Plan improvements is in line with typical grant award amounts. EDCTC and/or EDCTA should discuss the potential advantages of a comprehensive application with grant program administrators. Local matches could be provided through the TIF program.
- If not implemented as part of a larger project, it would make economic sense to install the EV charging stations at the various locations as part of a single contract to minimize mobilization and administrative costs.

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Appendix A

INVENTORY OF WESTERN EL DORADO COUNTY PARK-AND-RIDES

Appendix A

INVENTORY OF WESTERN EL DORADO COUNTY PARK-AND-RIDES

EXISTING PARK-AND-RIDES

Park-and-Rides (PNRs) are facilities where people can park their cars to then finish their trips on higher-occupancy vehicles, normally a bus or a carpool ride. In western El Dorado County there is an extensive network of PNRs which primarily serve workers and students commuting into Sacramento. This Appendix contains tables which expand on the information provided in the main report of this study, providing further details on both the PNRs served by EDT as well as those not served by transit.

Some of the characteristics and amenities described in the following tables include:

- Number of spaces at the PNRs
- Number of electric vehicle (EV) charging stations
- Amenities – the number of shelters, benches, and bike lockers at the site
- Who owns the facility
- Who is responsible for maintaining the facility
- Access conditions – vehicle, pedestrian, and bicycle access conditions
- Security assessment – what amenities are present to enhance security and what is the state of these features

Access and security conditions were assessed on a 1 to 5 scale, with 1 representing poor conditions and 5 representing excellent conditions.

Table A-1: Details on Existing Park and Ride Lots Served by EDCTA

Name	Purchase Value	Replacement Value	Owner	Maintenance	Pavement Condition Assessment[1]	Access Assessment					Security Assessment				Notes
						Signage	Auto Access	Bus Capacity	Ped. Access	Bike Access	Lighting	Cameras	Visibility	Activity	
El Dorado Hills Park and Ride	$1,000,000	$1,500,000	El Dorado County	EDCTA	3	3	5	5	4	3	5	5	5	3	Sidewalk gap to east. Need for improved shelters.
Cambridge Park and Ride	$649,146	$1,000,000	EDCTA	EDCTA	4	3	3	2	2	3	5	5	5	2	No legal left turn out. Inadequate bus capacity if runs off schedule. Sidewalks to adjacent uses, but not along Cambridge Road to the north or south, Knollwood Drive to the NW or Merrychase Drive to the west.
Ponderosa Rd. Park and Ride	$1,000,000	$1,500,000	Caltrans	Caltrans	3	3	4	5	1	3	4	5	2	1	No sidewalks or trails. Good shoulders for cyclists.
Central Park and Ride	$961,512	$1,500,000	EDCTA	EDCTA	4	3	4	5	1	3	5	5	5	2	Could benefit from offsite signage, like at Commerce/49. No sidewalks, trails or paved shoulders.
Ray Lawyer Park and Ride[2]	$2,000,000	$2,500,000	EDCTA	EDCTA	5	4	3	5	4	5	4	1	4	1	Poor ingress route from the east. No sidewalk to County Jail. Needs bike facilities.
Placerville Station	$1,000,000	$1,500,000	City of Placerville	City of Placerville	3	4	5	2	5	5	4	5	3	3	Inadequate bus capacity results in blocked driveways and poor disabled access.
Camino Heights Park and Ride	--	--	Caltrans	Caltrans	4	4	5	4	1	2	2	1	2	2	No sidewalks or trails. Limited lighting with trees casting shadows.

Source: EDCTA, LSC Transportation Consultants, Inc., Google Maps

Note 1: Condition assessment conducted by EDCTA staff. Scores range from 1 to 5, with 5 being the highest score possible.

Note 2: There are plans to install security cameras at the Ray Lawyer Dr. Park and Ride, however as of March 2023 cameras have not been installed.

Table A-2: Inventory of Park-and-Rides in Western El Dorado County Not Served by EDCTA

Name	City	Number of: Parking Spaces	Number of: EV Charging Stations	Number of: Bike Lockers	Amenities	Lighting	Owner	Maintenance
Durock Road	Shingle Springs	44	--	--	None	Yes	Caltrans	Caltrans
Ponderosa Road East	Shingle Springs	18	--	--	None	Yes	Caltrans	Caltrans
Francisco Drive	El Dorado Hills	20	--	--	None	No	El Dorado County	El Dorado County
SR 49/193	Cool	14	--	--	None	Yes	Caltrans	Caltrans
Greenstone Road	Placerville	20	--	--	None	No	Caltrans	Caltrans
Missouri Flat Road	Placerville	71	--	--	None	Yes	Caltrans	Caltrans
Shingle Springs Drive	Shingle Springs	19	--	--	None	No	Caltrans	Caltrans

Source: Caltrans PNR Inventory August 2021

Table A-3: Inventory of Park-and-Rides in Western El Dorado County Not Served by EDCTA (cont.)

	Access Assessment				Security Assessment				
Name	Signage	Auto Access	Ped. Access	Bike Access	Lighting	Cameras	Visibility	Activity	**Notes**
Durock Road	4	4	1	2	3	1	5	2	Poor condition
Ponderosa Road East	1	3	1	2	3	1	5	1	Not signed. Congestion on Shingle Road liimits access. Decrepit shelter needs removal.
Francisco Drive	2	4	5	2	4	1	4	4	Not well signed. No bicycle facilities. No left turn out, but U turns available. Location next to fire station aids security.
SR 49/193	2	5	2	2	2	1	4	2	Not well signed. Corner spaces in commercial lot
Greenstone Road	1	5	1	3	1	1	4	1	No signage. Remote location.
Missouri Flat Road	3	5	4	2	4	1	5	3	Relatively good condition.
Shingle Springs Drive	3	4	1	2	3	1	4	1	Poor pavement condition. Remote location with 1 streetlight.

Source: Caltrans PNR Inventory August 2021

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Appendix B

EDT COMMUTER SERVICE PASSENGER SURVEY INSTRUMENT

El Dorado Transit Commuter and Park-and-Ride Survey

The El Dorado County Transit Authority is updating the Park-and-Ride Master Plan and wants your input. Please take a moment to tell us about your use of and opinions about commuter service and Park-and-Rides so that we can plan for future improvements. Return this form to the bus driver or put it in the hanging folder as you leave the bus. You can also use the QR Code to complete the survey online. **Thank you!**

1. *How many days per week do you currently typically travel to work or school in-person in Sacramento?*
   - ☐ 1 day per week
   - ☐ 2 days per week
   - ☐ 3 days per week
   - ☐ 4 days per week
   - ☐ 5 days per week
   - ☐ Don't go to work/school in Sac.

2. *Over the last six months, how often have you typically used El Dorado Transit commuter services?*
   - ☐ Every weekday
   - ☐ 1 day per week
   - ☐ 4 days per week
   - ☐ 1-3 times per month
   - ☐ 3 days per week
   - ☐ Less than once per month
   - ☐ 2 days per week
   - ☐ Have not used these services

3. *If and when you use El Dorado Transit to commute to work or school in Sacramento, where do you typically board the commuter bus in the morning?*
   - ☐ Central Park & Ride (Diamond Springs)
   - ☐ Ray Lawyer Dr. Park & Ride (Placerville)
   - ☐ Ponderosa Rd. Park & Ride (Shingle Springs)
   - ☐ Cambridge Rd. Park & Ride (Cameron Park)
   - ☐ El Dorado Hills Park & Ride (El Dorado Hills)

4. *How do you typically travel to your morning boarding location?*
   ☐ Walk ☐ Bike ☐ Drive alone ☐ Carpool
   ☐ Get dropped off ☐ Other *(explain)* _____

5. *If you travel to attend work/school in-person in Sacramento, what time of day do you typically report to work/school?*
   _____ ☐ AM ☐ PM

6. *What time do you typically leave work/school in Sacramento?*
   _____ ☐ AM ☐ PM

7. *Do you anticipate that you will travel to Sac more often over the coming year?*
   - ☐ Yes, I will be traveling 1 more day a week
   - ☐ Yes, I will be traveling 2 more days a week
   - ☐ Yes, I will be traveling 3 more days a week
   - ☐ Yes, I will be traveling 4 more days a week
   - ☐ No
   - ☐ Don't Know
   - ☐ Other _____

8. *If you will be traveling to Sacramento more in the future, will you be using El Dorado Transit on these additional days?*
   ☐ Yes ☐ No ☐ Don't Know

9. *Ridership from the Ponderosa Rd Park & Ride has been very low, and we are considering removing it from the schedule to shorten commute times. Would removing the stop from the schedule impact your commute choice?*
   ☐ Yes ☐ No
   If yes, how would your commute choice change?
   _____

10. *If we were to add a 5th morning bus that would arrive in Sacramento between 7:45 AM and 8:15 AM, how likely would you use this service?*
    ☐ Very Likely ☐ Not Likely ☐ Never
    ☐ Other or additional comments:
    _____

11. *If we were to add a 5th afternoon bus and align the schedules to depart at 30-minute intervals, which of the following options would you prefer for the bus route start times?*

    ☐ Option A: Departing P St. & 13th St. at 3:20 PM, 3:50 PM, 4:20 PM, 4:50 PM, and 5:20 PM

    ☐ Option B: Departing P St. & 13th St. at 3:35 PM, 4:05 PM, 4:35 PM, 5:05 PM, and 5:35 PM

    ☐ Neither Options A nor B

    ☐ Other or additional comments:
    _____

12. *Please rate your impression of the following aspects of the El Dorado Transit Park and Rides (PnRs) using a scale of 1 to 5, with 1 being very poor and 5 being excellent (circle your answer):*

		Poor				Excellent
a.	Personal safety at PnR	1	2	3	4	5
b.	Potential for vandalism at PnR	1	2	3	4	5
c.	Bicycle access to PnR	1	2	3	4	5
d.	Pedestrian access to PnR	1	2	3	4	5
e.	Parking availability	1	2	3	4	5
f.	Convenience of PnR locations	1	2	3	4	5

13. *Please rate the importance of the following Park and Ride amenities on a scale of 1 to 5, with 1 being not important and 5 being very important (circle your answer):*

		Poor				Excellent
a.	New or Expanded Bus shelters	1	2	3	4	5
b.	Electric Vehicle Charging	1	2	3	4	5
c.	E-Bike Charging	1	2	3	4	5
d.	Secure Bike storage	1	2	3	4	5
e.	Improved Lighting	1	2	3	4	5
f.	Real-time bus information at PnR Lots or on EDT	1	2	3	4	5
g.	Other (list) _____					

14. *Does your employer support your trip?* ☐ Yes ☐ No
    If yes, how so? ☐ Reimbursement ☐ Trans. Coordinator
    ☐ Payroll deduction ☐ Purchase of Scrip/Pass
    ☐ Other (please list)_____

15. *What other improvements would you like to see at PnR Lots or on EDT Commuter Services?*
    _____
    _____

Encuesta de servicios de viajeros diarios y los Park-and-Rides de El Dorado

La Autoridad de Tránsito del Condado de El Dorado está actualizando el Plan Maestro de Park-and-Ride y quiere su opinión. Tómese un momento para contarnos sobre su uso y opiniones sobre los servicios de viajeros diarios al trabajo y Park-and-Rides para que podamos planificar futuras mejoras. Devuelva este formulario al conductor del autobús o colóquelo en la carpeta colgante al salir del autobús. También puede usar el código QR para completar la encuesta en línea. ¡Gracias!

1. *¿Cuántos días a la semana viaja actualmente al trabajo o a la escuela en persona en Sacramento?*
   - ☐ 1 día por semana
   - ☐ 2 días por semana
   - ☐ 3 días por semana
   - ☐ 4 días por semana
   - ☐ 5 días por semana
   - ☐ No voy al trabajo/escula en Sac.

2. *Durante los últimos seis meses, ¿con qué frecuencia ha utilizado normalmente los servicios de viajeros diarios de El Dorado Transit?*
   - ☐ Cada día
   - ☐ 1 día por semana
   - ☐ 4 días por semana
   - ☐ 1-3 veces por mes
   - ☐ 3 días por semana
   - ☐ Menos de una vez al mes
   - ☐ 2 días por semana
   - ☐ No he usado estos servicios

3. *Si usa El Dorado Transit para ir al trabajo oa la escuela en Sacramento, ¿dónde suele abordar el autobús de cercanías por la mañana?*
   - ☐ Central Park & Ride (Diamond Springs)
   - ☐ Ray Lawyer Dr. Park & Ride (Placerville)
   - ☐ Ponderosa Rd. Park & Ride (Shingle Springs)
   - ☐ Cambridge Rd. Park & Ride (Cameron Park)
   - ☐ El Dorado Hills Park & Ride (El Dorado Hills)

4. *¿Cómo suele viajar a su lugar de embarque matutino?*
   - ☐ Camino ☐ Ando en bicicleta ☐ Conduzco solo
   - ☐ Comparto el coche ☐ Consigo un paseo
   - ☐ Otro *(explique)* _____

5. *Si viaja para asistir al trabajo/escuela en persona en Sacramento, ¿a qué hora del día suele presentarse al trabajo/escuela?*
   _____ ☐ AM ☐ PM

6. *¿A qué hora suele salir del trabajo/escuela en Sacramento?*
   _____ ☐ AM ☐ PM

7. *¿Anticipa que viajará a Sac con más frecuencia durante el próximo año?*
   - ☐ Sí, viajaré 1 día más a la semana.
   - ☐ Sí, viajaré 2 días más a la semana.
   - ☐ Sí, viajaré 3 días más a la semana.
   - ☐ Sí, viajaré 4 días más a la semana.
   - ☐ No ☐ No sé
   - ☐ Otro _____

8. *Si viajará más a Sacramento en el futuro, ¿usará El Dorado Transit en estos días adicionales?* ☐ Sí ☐ No ☐ No sé

9. *El número de pasajeros de Ponderosa Rd Park & Ride ha sido muy bajo y estamos considerando eliminarlo del horario para acortar los tiempos de viaje. ¿Eliminar la parada del horario afectaría su elección de viaje?*

   ☐ Sí ☐ No

   En caso afirmativo, ¿cómo cambiaría su elección de viajero?
   _____

10. *Si tuviéramos que agregar un quinto autobús por la mañana que llegaría a Sacramento entre las 7:45 a. m. y las 8:15 a. m., ¿con qué probabilidad usaría este servicio?*
    ☐ Muy probable ☐ No es probable ☐ Nunca
    ☐ Otro o comentarios adicionales
    _____

11. *Si tuviéramos que agregar un quinto autobús por la tarde y alinear los horarios para salir a intervalos de 30 minutos, ¿cuál de las siguientes opciones preferiría para los horarios de inicio de la ruta del autobús?*
    ☐ Opción A: Saliendo de P St. y 13th St. a las 3:20 p.m., 3:50 p.m., 4:20 p.m., 4:50 p.m. y 5:20 p.m.
    ☐ Opción B: Saliendo de P St. & 13th St. a las 3:35 p.m., 4:05 p.m., 4:35 p.m., 5:05 p.m., and 5:35 p.m.
    ☐ Ni la opción A ni B
    ☐ Otro o comentarios adicionales
    _____

12. *Por favor califique su impresión de los siguientes aspectos de El Dorado Transit Park and Rides (PnRs) usando una escala de 1 a 5, siendo 1 muy pobre y 5 excelente (encierre en un círculo su respuesta):*

		Pobre				Excelente
a.	Seguridad personal en PnR	1	2	3	4	5
b.	Potencial de vandalismo en PnR	1	2	3	4	5
c.	Acceso en bicicleta a PnR	1	2	3	4	5
d.	Acceso peatonal a PnR	1	2	3	4	5
e.	Disponibilidad de estacionamiento	1	2	3	4	5
f.	Comodidad de las ubicaciones de PnR	1	2	3	4	5

13. *Por favor califique la importancia de los siguientes servicios de Park and Ride en una escala del 1 al 5, siendo 1 nada importante y 5 muy importante (encierre en un círculo su respuesta):*

		Pobre				Excelente
a.	Paradas de autobús nuevas o ampliadas	1	2	3	4	5
b.	Carga de vehículos eléctricos	1	2	3	4	5
c.	Carga de bicicletas eléctricas	1	2	3	4	5
d.	Almacenaiento seguro de bicicletas	1	2	3	4	5
e.	Iluminación mejorada	1	2	3	4	5
f.	Información de autobuses en tiempo real en PnR Lots o en EDT	1	2	3	4	5
g.	Otro (por favor lista) _____					

14. *¿Su empleador apoya su viaje?* ☐ Sí ☐ No
    Si es así, ¿cómo? ☐ Reembolso ☐ Coordinador de transporte
    ☐ Deducción de paga ☐ Compra de pase
    ☐ Otro (por favor lista)_____

15. *¿Qué otras mejoras le gustaría ver en PnR Lots o en los servicios de EDT para los viajeros diarios al trabajo?*
    _____
    _____