Short Range Transit Plan (SRTP) FY2021-2025

FINAL REPORT

August 2019

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EXECUTIVE SUMMARY

The Short Range Transit Plan (SRTP) is an action plan developed to guide the implementation of transit service improvements over the next 5+ years. A SRTP of the City's transit routes is important to improve the efficiency of service within the City, address future land use development and transportation investments, and enhance connectivity to regional bus services. Overall, the analysis has culminated in recommendations for transit route revisions that would address future population growth and transit demand, transit-dependent needs, connectivity, and anticipated financial revenue and transit investment opportunities.

The service plan maximizes the performance of existing services while responding to additional community mobility needs. The focus of the recommendations is to concentrate service on strong routes to provide a foundation for increasing ridership and generating more fare revenue, while also preserving in areas with lower ridership potential.

Most importantly, the plan responds to key issues identified by Tracy TRACER customers and others to create a system that will be more attractive to new riders in the years to come. The study process has included a great deal of outreach and facilitation with the public and key regional stakeholders. The service plan reflects input received from a variety of activities, including public workshops, multiple interviews with several agencies, and on-board and community surveys.

The SRTP final report is presented in eleven chapters. Chapters 1 and 2 describe the SRTP context and process; and provide a market analysis based on key community demographic and land use characteristics. Chapter 3 documents the survey research process conducted for the study. Public workshop/outreach presentation material is presented in Appendix B.

Chapter 4 presents a primer on transit performance measurement. Performance metrics for TRACER fixed-route and Paratransit services are presented.

Evaluation of Existing Fixed-Route Transit Services: Chapter 5 provides a comprehensive evaluation of existing TRACER fixed-route transit services including operational performance and opportunities for enhancements.

TRACER ridership and service productivity are near the low end of the range among peer transit systems.[1] Annual ridership, which has reflected a flat to slightly declining trend during the last five years, is estimated at 158,000 customer boardings in FY 2018. As indicated in Exhibit ES.1, system service productivity is 6.5 boardings per revenue service hour. Individual route productivities range from a high of 8.7 boardings per hour (Route F) to a low of 3.9 boardings per hour (Route D). Notably, the productivity of local Route C operating hourly schedules is higher than Routes A and B operating 30-minute weekday schedules.

[1] Among California municipal systems, average service productivity ranges from 12 – 20 boardings per revenue service hour.

Exhibit ES.1: TRACER Ridership and Productivity by Route, FY 2018

Route	FY 2018 Estimated Ridership	FY 2018 Estimated Revenue Hours	Service Productivity (Passengers per Hour)
A - Blue	48,000	6,900	7.0
B - Green	46,500	6,900	6.7
C - Red	31,000	3,825	8.1
D - Purple	19,400	5,025	3.9
E - Pink	6,600	925	7.1
F - Orange	6,500	750	8.7
Total	158,000	24,325	6.5

The comprehensive analysis presented in Chapter 5 raises significant concerns as to the operating effectiveness of TRACER fixed route service in its present form. Ridership and productivity are well below that of its peers. Ridership per capita is declining due to flat transit demand since 2014 against the backdrop of a growing residential population and commercial base. Key issues include:

- The route network is overly complicated with duplicative segments and variable patterns that require customers to make informed selections as to which route to use. For example:
    - Three routes (B, D, E) cover Lowell Avenue and Eaton Avenue between Corral Hollow Road and the Civic Center area.
    - Two routes (A, B) cover the destination-laden commercial district in northwest Tracy; however, they follow different alignments and are scheduled within five minutes of one another at West Valley Mall.
- Use of one-way loop alignments increase bus travel times and make TRACER less attractive to driving alone or using a transportation network company (TNC) or smart taxicab. For example:
    - Route D, which is structured as a 65-70-minute one-way loop, is significantly less productive than the system average (3.9 vs. 6.5 boardings per service hour).
- Mid-route deviations to accommodate a few riders at the inconvenience for frustrated customers with out-of-direction travel.
    - The Tracy Corners deviation on Route A generates 15-20 boardings per weekday north of Cordoza Road on Tracy Boulevard, Kavanaugh Avenue, Buthmann Drive, and Clover Road. This compares to 60 or more customers per day riding Route A buses through the intersection of Grant Line Road and Tracy Boulevard.

  - Route D ridership is discouraged mid-route due to circuitous travel required to get to the Transit Station.

- Concentrating transfer connections at the Tracy Transit Station causes excessive travel times and out-of-direction for many residents. For example:
  - Southwest Tracy residents generally west of Corral Hollow Road and south of 11th Street cannot travel directly to West Valley Mall; a 10-minute trip via personal auto, smart taxi or TNC. In contrast, riding TRACER from Mabel Josephine Drive (boarding at 9:28 am) to the mall via Route D transferring to Route A or B at the Transit Station requires nearly 90 minutes, including a 26-minute wait at the Transit Station.
  - Bus travel between Hidden Lake and West Valley Mall takes about 60 minutes via Route C transferring to Route A or B at the Transit Station. Alternatively, travel via personal auto, smart taxi or TNC takes 15-20 minutes.
- Service frequencies are low by today's design metrics. Routes A and B operate every 30 minutes on weekdays only. Routes C and D operate hourly on weekdays, and all routes operate hourly on Saturday. The irregular 65-70-minute frequency of Route D disrupts the pulse transfer at the Tracy Transit Station.
- Commuter routes (D-reverse, E, F) are not productive and are relatively expense to operate.
  - Six of ten scheduled weekday one-way trips generate minimal ridership (*i.e.,* 6 or fewer boardings).
  - Three of ten trips carry passenger loads requiring a 30-foot or larger heavy-duty transit bus.
  - Most customers are students rather than commuters. For example, the ACE train station generates three boardings and four alightings per day collectively on two routes (D, F).

Systemic restructuring of TRACER fixed route system is suggested considering the concerns raised in this analysis. Conceptual alternatives to be considered going forward include:

1. Retain and restructuring the fixed route network to resolve network design flaws and implement industry best practices for transit service design.
2. Reduce the coverage area of the fixed route network and introduce supplementary services provided by smart taxis, TNCs, and microtransit service providers.
3. Discontinue fixed route operations entirely and implement personal mobility on-demand (PMoD) and flexible microtransit services using a combination of sedans, SUVs, transit vans and small buses to provide mobility.

The Recommended Service Plan is presented in Chapter 6. This chapter presents the five-year plan for TRACER system improvements with a planned transition from a predominantly fixed route service model to a diversified "Mobility as a Service (MaaS)" service design.

The service plan takes a strategic approach to generate local transit ridership growth with new service modes responding to key travel markets observed in earlier demographic and existing services analyses prepared earlier in the short-range planning process. Key transit travel markets include:

- General purpose local travel within Tracy
- Regional commuters
- Middle and high school students
- ADA-eligible persons and others with mobility limitations

At full maturity, the 10% growth strategy represents a modest expansion of the overall transit program measured in terms of the net operating cost of service. The 10% growth strategy option funds most but not all the preferred service plan assuming a first-year net operating cost target of up to $3.23 million.[2] LOS characteristics including span, frequency, buses deployed, and total revenue service hours required, are summarized in Exhibit ES.2.

At full maturity, the ridership for all modes is estimated at approximately 361,300 boardings, as shown in Exhibit ES.3.

At full maturity net operating expenses are estimated at approximately $3.46 million, as shown in Exhibit ES.4. The calculated average subsidy per passenger is $8.82.

[2] Calculated on base FY 2017 reported system net operating cost of $3.14 million plus 2.5% inflation ($3.23 million).

Exhibit ES.2: LOS (10% Growth) System Service Characteristics

WEEKDAY	Service Span		Frequency (minutes)			Buses in Service			Revenue Service Hours	
Route	Begin	End	Peak	Base	Night	Peak	Base	Night	Day	Annual
Red Line (Tracy Blvd)	6:30 AM	5:30 PM	30	30	--	4	4	--	44.0	11,132
Green Line (Corral Hollow)	6:30 AM	5:30 PM	30	30	--	1.5	1.5	--	16.5	4,175
Yellow Line (Grant Line)	6:30 AM	5:30 PM	30	30	--	1.5	1.5	--	16.5	4,175
PMoD Feeder	6:00 AM	6:00 PM					Private fleet		na	na
PMoD Direct Mon.-Thurs.	5:00 AM	10:00 PM					Private fleet		na	na
Friday & Saturday	5:00 AM	12:00 AM								
ADA Complementary Paratransit	6:30 AM	5:30 PM	30-minute response time on demand			2	2	--	22.0	5,566
ADA PMoD	5:00 AM	10:00 PM					Private fleet		na	na
Commuter Shared-Ride PMoD	3 - 8 AM	4 - 10 PM					Private fleet		na	na
School Microtransit	AM bell	PM bell					Private fleet		25.0	4,500
Subtotal, Weekday						9	9	0	124.0	29,547

SATURDAY	Service Span		Frequency (minutes)			Buses in Service			Revenue Service Hours	
Route	Begin	End	Peak	Base	Night	Peak	Base	Night	Day	Annual
Red Line (Tracy Blvd)	8:00 AM	5:30 PM	30	30	--	4	4	--	38.0	1,976
Green Line (Corral Hollow)	8:00 AM	5:30 PM	30	30	--	1.5	1.5	--	14.3	741
Yellow Line (Grant Line)	8:00 AM	5:30 PM	30	30	--	1.5	1.5	--	14.3	741
PMoD Feeder	7:30 AM	6:00 PM					Private fleet		na	na
PMoD Direct	5-9:00AM / 6:00PM-12:00AM		30-minute response time on demand				Private fleet			
ADA Complementary Paratransit	8:00 AM	5:30 PM				1	1	0	9.5	494
ADA PMoD	5:00 AM	10:00 PM					Private fleet		na	na
Subtotal, Saturday						8	8	0	76.0	3,952

SUNDAY	Service Span		Frequency (minutes)			Buses in Service			Revenue Service Hours	
Route	Begin	End	Peak	Base	Night	Peak	Base	Night	Day	Annual
General Public PMoD - Direct	5:00 AM	10:00 PM	30-minute response time on demand				Private fleet		na	na
ADA PMoD	5:00 AM	10:00 PM					Private fleet		na	na
Subtotal, Sunday						0	0	0		

Total Annual Service Hours	33,499
Red Line (Tracy Blvd)	13,108
Green Line (Corral Hollow)	4,916
Yellow Line (Grant Line)	4,916
ADA Complementary Paratransit	6,060
School Microtransit	4,500

Exhibit ES.3: Annual Ridership Targets (10% Growth)

Service Mode	Annual Passenger Boardings	Criteria	Assumptions
Red Line (Tracy Blvd)	117,972	Boardings per service hour	Average 9 per hour
Green Line (Corral Hollow)	29,493	Boardings per service hour	Average 6 per hour
Yellow Line (Grant Line)	34,409	Boardings per service hour	Average 7 per hour
PMoD Feeder	58,400	1-way trips (max. budget)	Weekday: 200; Saturday: 150; Sunday: 0
PMoD Direct	25,280	1-way trips (max. budget)	Weekday : 60; Saturday: 50; Sunday: 125
ADA Complementary Paratransit	12,120	Boardings per service hour	Average 2.0 per hour
ADA PMOD Option	11,915	1-way trips (max. budget)	Weekday: 35; Saturday: 30; Sunday: 25
Commuter Shared-Ride PMOD	17,710	1-way trips (max. budget)	Weekday: 70
School Microtransit	54,000	Boardings per service hour	Average 12 per hour
Total	**361,299**		

Exhibit ES.4: Annual Operating Expenses and Revenue (10% Growth)

Service Mode	Service Hours	Cost per Hour[1]	Annual Boardings	Boardings per Hour	Total Operating Cost	Fare Revenue[2]	Net Operating Cost	Subsidy per Passenger
Red Line (Tracy Blvd)	13,108	$92.69	117,972	9.00	$1,215,000	$71,963	$1,143,037	$9.69
Green Line (Corral Hollow)	4,916	$92.69	29,493	6.00	$455,625	$17,991	$437,634	$14.84
Yellow Line (Grant Line)	4,916	$92.69	34,409	7.00	$455,625	$20,989	$434,636	$12.63
PMoD Feeder	--	--	58,400	--	$292,000	$0	$292,000	$5.00
PMoD Direct	--	--	25,280	NA	$126,400	$0	$126,400	$5.00
ADA Complementary Paratransit	6,060	$92.69	12,120	2.00	$561,710	$16,241	$545,470	$45.01
ADA PMoD	--	--	11,915	--	$119,150	$0	$119,150	$10.00
Commuter Shared-Ride PMOD	--	--	17,710	--	$88,550	$0	$88,550	$5.00
School Microtransit	4,500	$73.18	54,000	12.00	$329,299	$54,000	$275,299	$5.10
Total			**361,299**		**$3,643,360**		**$3,462,176**	**$9.58**

10% Growth Target: $3,545,000

NOTES:
1 - Contract FR/ADA CP service cost = 95% of SJCOG FY 2019 target ($97.57); contract Microtransit cost = 75% of target.
2 - Assumes $0.61 per FR boarding; $1.34 per complementaray paratransit boarding (FY 2017 actual); $1 per School microtransit boarding.

Chapter 7 presents an Implementation Plan. Given the extent of the recommended changes to TRACER system design and customer interface, a three-phase transition is suggested to implement the preferred service plan over a four-year period beginning in July 2021 and completing in July 2025.

In order to mitigate any concerns of the community, advancing from the initial PMoD pilot to each and every subsequent phase, services will be evaluated annually prior to advancing deployment of the next phase. The annual evaluation will include but not be restricted to the review of operating and financial performance and soliciting input from the community. Community input, in addition to the community-at-large, will include specific market segments including older adults and people with disabilities, students and commuters.

The annual evaluation will include approval by City Council prior to advancing the implementation of a subsequent phase of the transition plan.

PMoD Pilot: As a precursor to the transition plan is the deployment of a PMoD pilot in FY 2021 (July 2020). The pilot will provide PMoD service:

- Area-wide Sunday service (5:00am – 10:00pm);
- Earlier morning and later evening service, area-wide Saturday service (5:00am-9:00am and 6:00pm-12:00am); and
- Earlier morning and later evening service, area-wide, Monday through Friday - 5:00am – 8:00am and 7:00pm – 10:00pm (to 12:00am Fridays).

A PMoD pilot provides for the introduction of the subsidized PMoD service concept to TRACER customers and the public; and offers a predictable, growing market for TNC/Smart Taxi service providers to respond to by ramping up service supply and demonstrating mobile app reservations and payment technologies. FY 2021 ridership is estimated at 13,300 boardings, assuming an average 100 boardings and 58 service days per year (52 Sundays and six national holidays) plus Monday through Friday earlier morning and later evening ridership assuming an average of 30 boardings and 250 service days. For the one-year pilot period, estimated annual cost is $66,500, assuming a subsidy averaging $5.00 per one-way trip.

Key requisite requirements for the design and deployment of a one-year PMoD pilot include: the preparation of a procurement instrument for a service provider and the development of an evaluation framework (to evaluate the effectiveness of the pilot). The evaluation framework should include typical performance metrics (cost/trip, etc.), less tangible measures (access to work, education, medical, etc.) and ancillary measures to determine ‘success’.

TRACER Transition Plan: The system restructure transition plan is outlined by service mode as follows.

- ***Fixed Route Network*** – The current network is replaced with a simplified three-line network in three steps; initially discontinuing the Route D in FY 2022 (July 2021) and replacing it with and school-based microtransit services and all-day PMoD service in the West/South-West sector; followed by discontinuation of the Route F and truncation of Route C east of Tracy Boulevard in FY 2023 (July 2022), and replacing them with new

PMoD and additional school-based microtransit services; and concluding in FY 2024 (July 2023) with discontinuation of the remaining routes and installation of the preferred network. The preferred service plan marginally reduces fixed route service span to 6:30 am – 5:30 pm on weekdays and 8:00 am – 5:30 pm to reverse the decline in service productivity in recent years.

- ***Subsidized PMoD Connection and Limited Direct Service*** – As referenced previously with the deployment of a PMoD pilot, the preferred service plan expands transit system operating span to seven days and 17 hours per day (5:00 am - 10:00 pm). New subsidized PMoD services play an important role in achieving this objective with TNC/Smart Taxi fare subsidies introduced beginning with the pilot in FY 2021 (July 2020) with Sunday/holiday area-wide direct service in lieu of fixed route service. PMoD services will be expanded in FY 2022 (July 2021) by weekday and Saturday PMoD transit connection and limited direct service in southeast Tracy; and in FY 2023 (July 2022) by area-wide PMoD connection and limited direct service. Limited direct PMoD trips will be subsidized only when the fixed route network is not operating; i.e., between 5:00 am - 6:30 am and between 5:30 pm – 10:00 pm [to 12:00 am Friday and Saturday]). It is suggested that PMoD fares be the same as transit fares and that there would be no cost for transfers to and from fixed route services.
- ***Microtransit*** – Area-wide school-focused microtransit service is introduced in three increments; initially in FY 2022 (August 2021) with up to four routes focused on Kimball High School, Kelly Middle School, and Williams Middle School; followed in FY 2023 (August 2022) by up to four additional routes focused on Tracy High School, Poet-Christian Magnet School, and Williams Middle School; and in FY 2024 (August 2023) by up to four more vehicles focused on West High School, Monte Vista Middle School, North School, and Millennium Charter School.
- ***ADA Pre-Scheduled and PMoD Services*** - Subsidized accessible PMoD is introduced in FY 2022 (July 2021) to offer ADA-eligible TRACER customers the choice of more spontaneous travel than currently is possible on TRACER pre-scheduled complementary paratransit service. The operating plan is based on customer migration targets (*i.e.*, from pre-scheduled to PMoD) of 20% by the end of FY 2022 (June 2022); 35% by FY 2023; and 50% by the end of in FY 2024 and FY 2025. Similarly, pre-scheduled complementary paratransit will accommodate about 50% of total after FY 2024.

The implementation phases including year-by-year performance expectations and implementation issues are discussed in Chapter 7.

Exhibit ES.5 presents a summary of the key service enhancements as presented in the implementation phases (for FY 2021 through FY 2024).

Exhibit ES.6 (Five-Year Operating Financial Plan) provides a summary table showing estimated ridership, operating cost and service productivity by service mode and fiscal year.

Exhibit ES.5: Summary of Key Service Enhancements (FY 2021 - FY 2024).

Service	July 2020		July 2021		July 2022		July 2023
Fixed Route Network	Status Quo		• Discontinue Route D	Evaluation & City Council approval	• Discontinue peak-only Route F • Truncation of Route C (east of Tracy Blvd at Valpico)	Evaluation & City Council approval	• All remaining legacy network routes replaced with simplified 3-line network

Personal Mobility on Demand (PMoD) (*Direct* & *Connect*)	**Pilot (PMoD Direct):**
	• Area-wide Sunday service (5:00am – 10:00pm)
	• Area-wide Mon.- Sat.:
	  • 5am – 8am (9am – Sat.)
	  • 6pm – 10pm (12am – Fri. & Sat.)
			• Continuation of area-wide (Direct) Sunday & Mon.-Sat. morning/evening service
			• PMoD West/Southwest sector – *Transit Connect* 6:00am-6:00pm
					• Southeast area PMoD – *Transit Connect* - 6:00am-6:00pm
					• Area-wide Sunday and Mon.-Sat. morning/evening Direct service
					• Commuter PMoD Direct (Mon. – Fri.: 3:00am-8:00am & 4:00pm-10:00pm)
							• Area-wide (Direct and Connect) weekday & Saturday service

Microtransit School Transport			• Pilot: Kimball High School, Kelly Middle School & Williams Middle School		• Expands to include Tracy High School & Poet-Christian Magnet School		• Expands to include West High School, Millennium Charter High School, Monte Vista Middle School, & North School
Accessible PMoD			• ADA eligible - additional service option		• Further migration of ADA eligible		• Further migration of ADA eligible
TRACER Paratransit	Status Quo		• Up to 20% reduction in LOS		• Up to 35% reduction in LOS		• Up to 50% reduction in LOS
Total Boardings	189,330		195,430		258,617		373,153
Vehicle Service Hours	31,525		28,300		28,000		32,840
Net Cost Per Boarding	$15.15		$13.34		$10.41		$11.38

Exhibit ES.6: Five-Year Operating Financial Plan Summary, FY 2021-2026

Service Plan Components	Total Customer Boardings	Vehicle Service Hours	Total Operating Cost	Farebox Revenue	Net Operating Cost	Net Cost per Boarding	Boardings per Service Hour	Assumptions
PMoD Pilot: July 1, 2020 - June 30, 2021								
Legacy Fixed Route Network (all routes)	158,000	24,325	$2,254,684	$96,380	$2,158,304	$13.66	6.5	FY 18 ridership, $0.61 average fare
Pilot: City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)	13,300	NA	$66,500	$0	$66,500	$5.00	NA	Sun.: 100 boardings/day x 58 days/year. Mon.-Fri.: 30 boardings/day x 250 days/year
Complementary Paratransit (100%)	18,030	7,200	$667,368	$24,160	$643,208	$35.67	2.0	$1.34 average fare
Total	189,330	31,525	$2,988,552	$120,540	$2,868,012	$15.15	5.6	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 1: July 1, 2021 - June 30, 2022 (Plan Year 1)								
Legacy Fixed Route Network (all routes)	158,000	24,325	$2,254,684	$96,380	$2,158,304	$13.66	6.5	FY 18 ridership, $0.61 average fare
Discontinue Route D	-19,400	-5,025	-$465,767	-$11,834	-$453,933	$23.40	-3.9	FY 18 ridership, $0.61 average fare
PMoD service in the West/South-West sector	7,500	NA	$37,500	$0	$37,500	$5.00	NA	Mon.-Fri. 30 boardings/day x 250 days/year
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)	13,300	NA	$66,500	$0	$66,500	$5.00	NA	Sun.: 100 boardings/day x 58 days/year. Mon.-Fri.: 30 boardings/day x 250 days/year
Microtransit pilot – Kimball HS, Kelly MS, Williams MS	18,000	1,800	$131,724	$18,000	$113,724	$6.32	10.0	100 boardings per day, 180 days per year, $1.00 average fare
Accessible PMoD pilot (20%)	3,630	NA	$36,300	$0	$36,300	$10.00	NA	10 boardings per day, 363 days per year
Complementary Paratransit (80%)	14,400	7,200	$667,368	$19,296	$648,072	$45.01	2.0	$1.34 average fare
Total	195,430	28,300	$2,728,309	$121,842	$2,606,467	$13.34	6.0	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 2: July 1, 2022 - June 30, 2023 (Plan Year 2)								
Legacy Fixed Route Network (excludes Route D)	141,372	19,300	$1,833,640	$86,237	$1,747,403	$12.36	7.3	Ridership +2%, $0.61 average fare
Discontinue Route F, truncate Route C	-6,500	-750	-$617,547	-$3,965	-$613,582	$94.40	-8.7	FY 18 ridership, $0.61 average fare
PMoD service in the West/South-West sector	7,500	NA	$37,500	$0	$37,500	$5.00	NA	Mon.-Fri. 30 boardings/day x 250 days/year
Southeast Weekday/Saturday PMoD Connection/Direct	29,200	NA	$149,650	$0	$149,650	$5.13	NA	100 boardings per weekday, 75 per Saturday
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)	14,630	NA	$74,979	$0	$74,979	$5.13	NA	(+10%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD	17,710	NA	$90,764	$0	$90,764	$5.13	NA	70 boardings per day, 253 weekdays
Microtransit expansion – Tracy HS & Poet-Christian Magnet	36,000	3,600	$270,034	$36,000	$234,034	$6.50	10.0	200 boardings per day, 180 days per year, $1.00 average fare
Accessible PMoD pilot (35%)	6,420	NA	$65,805	$0	$65,805	$10.25	NA	20 boardings per weekday, 15 per Saturday, 10 per Sunday
Complementary Paratransit (65%)	12,285	5,850	$555,792	$16,462	$539,331	$43.90	2.1	Productivity +5%, $1.34 average fare
Total	258,617	28,000	$2,460,617	$134,734	$2,325,883	$10.41	6.5	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 3: July 1, 2023 - June 30, 2024 (Plan Year 3)								
Red Line (Tracy Blvd)	117,972	13,108	$1,276,489	$71,963	$1,204,526	$10.21	9.0	9 boardings per hour, $0.61 average fare
Green Line (Corral Hollow)	34,412	4,916	$478,447	$20,991	$457,456	$13.29	7.0	7 boardings per hour, $0.61 average fare
Yellow Line (Grant Line)	39,328	4,916	$478,447	$23,990	$454,457	$11.56	8.0	8 boardings per hour, $0.61 average fare
Discontinue Route A, Route B, Route C, Route E	0	0	$0	$0	$0	--	--	Replaced by Red, Green & Yellow Lines
City-wide Weekday/Saturday PMoD Connection/Direct	73,650	NA	$386,893	$0	$386,893	$5.25	NA	250 boardings per weekday, 200 per Saturday
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)	15,360	NA	$80,688	$0	$80,688	$5.25	NA	(+5%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD	19,481	NA	$102,336	$0	$102,336	$5.25	NA	77 boardings per day (+10%), 253 weekdays
City-wide Microtransit	54,000	5,400	$414,931	$54,000	$360,931	$6.68	10.0	300 boardings per day, 180 days per year, $1.00 average fare
Accessible PMoD (50%)	9,500	NA	$99,809	$0	$99,809	$10.51	NA	30 boardings per weekday, 20 per Saturday, 15 per Sunday
Complementary Paratransit (50%)	9,450	4,500	$437,960	$12,663	$425,297	$45.01	2.1	$1.34 average fare
Total	373,153	32,840	$3,756,000	$183,607	$3,572,393	$11.38	7.8	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 3, Year 2: July 1, 2024 - June 30, 2025 (Plan Year 4)								
Red Line (Tracy Blvd)	121,511	13,108	$1,308,401	$74,122	$1,234,279	$10.16	9.3	Ridership +3%, $0.61 average fare
Green Line (Corral Hollow)	35,444	4,916	$478,399	$21,621	$456,778	$12.89	7.2	Ridership +3%, $0.61 average fare
Yellow Line (Grant Line)	40,508	4,916	$478,399	$24,710	$453,689	$11.20	8.2	Ridership +3%, $0.61 average fare
City-wide Weekday/Saturday PMoD Connection/Direct	81,015	NA	$436,221	$0	$436,221	$5.38	NA	275 boardings per weekday, 220 per Saturday (+10%)
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)	16,130	NA	$86,851	$0	$86,851	$5.38	NA	(+5%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD	20,240	NA	$108,981	$0	$108,981	$5.38	NA	80 boardings per day (+5%), 253 weekdays
City-wide Microtransit	55,620	5,400	$414,931	$55,620	$359,311	$6.46	10.3	310 boardings per day (+3%), 180 days per year, $1.00 average fare
Accessible PMoD (50%)	10,226	NA	$110,123	$0	$110,123	$10.77	NA	32 boardings per weekday, 22 per Saturday, 17 per Sunday
Complementary Paratransit (50%)	9,900	4,500	$437,960	$13,266	$424,694	$42.90	2.2	Productivity +5%, $1.34 average fare
Total	390,594	32,839	$3,860,266	$189,339	$3,670,927	$11.14	8.0	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 3, Year 3: July 1, 2025 - June 30, 2026 (Plan Year 5)								
Red Line (Tracy Blvd)	125,156	13,108	$1,341,111	$76,345	$1,264,766	$10.11	9.5	Ridership +3%, $0.61 average fare
Green Line (Corral Hollow)	36,508	4,916	$502,917	$22,270	$480,647	$13.17	7.4	Ridership +3%, $0.61 average fare
Yellow Line (Grant Line)	41,723	4,916	$502,917	$25,451	$477,466	$11.44	8.5	Ridership +3%, $0.61 average fare
City-wide Weekday/Saturday PMoD Connection/Direct	85,330	NA	$470,942	$0	$470,942	$5.52	NA	290 boardings per weekday, 230 per Saturday (+5%)
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)	16,940	NA	$93,493	$0	$93,493	$5.52	NA	(+5%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD	21,505	NA	$118,687	$0	$118,687	$5.52	NA	85 boardings per day (+5%), 253 weekdays
City-wide Microtransit	57,289	5,400	$414,931	$57,289	$357,642	$6.24	10.6	320 boardings per day (+3%), 180 days per year, $1.00 average fare
Accessible PMoD (50%)	11,315	NA	$124,896	$0	$124,896	$11.04	NA	35 boardings per weekday, 25 per Saturday, 20 per Sunday
Complementary Paratransit (50%)	9,900	4,500	$437,960	$13,266	$424,694	$42.90	2.2	$1.34 average fare
Total	405,666	32,839	$4,007,854	$194,621	$3,813,233	$11.11	8.2	Net cost per boarding & boardings per hour exclude PMoD subsidies

Inflation rate	1.025	
	Op Cost	Micro Op Cost
Year 1	$92.69	$73.18
Year 2	$95.01	$75.01
Year 3	$97.38	$76.88
Year 4	$99.82	$78.81
Year 5	$102.31	$80.78

The recommended five-year capital improvement plan supports implementation of the preferred service and five-year operating plan. Exhibit ES.7 provides a summary table showing year-by-year planned expenditures of nearly $2.68 million in four areas of investment:

- Revenue Vehicles
- Priority *Connection* Bus Stop Improvements
- Transit Corridor Operational Improvements
- Facilities, Equipment and Technologies

Exhibit ES.7: Five-Year Capital Improvement Plan, FY 2020-2024

Expense	Units	2020	2021	2022	2023	2024	Total
Revenue Vehicles							
Minivan (MV)	3	$150,000					$150,000
Small light duty Cutaway (CU)	5	$625,000					$625,000
Medium heavy duty Bus (BU)	0						$0
Subtotal	8	$775,000	$0	$0	$0	$0	$775,000
Priority Feeder Stop Improvements							
Design Study	1		$150,000				$150,000
Site Improvements	9			$300,000			$300,000
Lighting and Security	9			$100,000			$100,000
Shelters	9			$200,000			$200,000
Subtotal		$0	$150,000	$600,000	$0	$0	$750,000
Transit Corridor Operational Improvements							
Needs / Design Study	1				$250,000		$250,000
Implementation - first phase	TBD					$500,000	$500,000
Subtotal		$0	$0	$0	$250,000	$500,000	$750,000
Facilities, Equipment & Technologies							
Maintenance Facility Feasibility Study	1		$150,000				$150,000
Real-time Schedule Information	1		$200,000				$200,000
Custom Mobile App	1		$50,000				$50,000
Subtotal		$0	$400,000	$0	$0	$0	$400,000
Total		**$775,000**	**$550,000**	**$600,000**	**$250,000**	**$500,000**	**$2,675,000**

Chapter 9 provides a 'next steps' action plan for City staff to advance the five-year operating and capital plan. The diversification of service providers with multiple service agreements anticipated for fixed route, complementary paratransit, PMoD and microtransit services represents a significant change from the present single-contractor relationship between the City and Ride Right LLC. Use of two contract approaches are proposed.

- *Dedicated Service Contracts* – The City may consider awarding one, two or three separate contracts for fixed route, complementary paratransit, and microtransit services, depending

on what is deemed most advantageous to the City. Vendor compensation is based on a defined number of vehicle service hours, prescribed rate per vehicle service hour, and assumes exclusive use of service capacity for the City's purposes.

- *Subsidy Contracts* – Participation agreements between the City and multiple providers of on-demand services such as TNCs and Smart Taxis. Participating service providers agree to accept and redeem subsidies within a program framework established by the City.

Fixed Route Service Transition

1. Refine service plan precision to include operating schedules and accurate estimates of annual vehicle hours and miles required to operate the service
2. Undertake procurement FY 2020 to rebid current service agreement for Fall 2021 startup. Assumes a three-year base contract with two one-year options. Service change phasing should be defined in the scope of work.
3. Identify bus stop changes required to support the phased implementation plan. With Route D service to be discontinued in July 2021, existing bus stops on Sycamore Parkway, Whispering Wind Drive, and in subdivisions west of Corral Hollow Road must be removed to avoid customer confusion.
4. Assess fare policy options consistent with the new service design.

Microtransit Service Development

1. Engage the Tracy School District to present the concept of the pilot service and suggest further separation of morning arrival times and afternoon dismissal times at Kimball High School, Kelly Middle School and Williams Middle School to maximize service capacity and cost efficiency.
2. Develop detailed service plan / contractor scope of work to be used in formal competitive procurement of service provider.
3. Issue a simplified Request for Statements of Interest (SOI) to survey the market of potential service providers.
4. Meet with potential service providers, including but not limited to Ford Mobility, Liftango, Lyft, Transloc, Uber, and Via. Potential local providers include Ride Right and Tracy Yellow Cab.
5. Undertake procurement early in 2021 to implement first phase service focused on Kimball High School, Kelly Middle School and Williams Middle School.
6. Develop marketing/outreach to students, parents and school employees.

Subsidized PMoD Services

1. Issue a simplified Request for Statements of Interest (SOI) to survey the market of potential service providers.

2. Meet with potential service providers and to discuss planned multi-year phasing of subsidized PMoD services for input into program design.
3. Develop terms of participation by vendors and customers.
4. Initiate vendor certification of multiple providers to roll out:
    a. PMoD Pilot in July 2020
    b. Commuter and Southeast Area PMoD subsidies in July 2022
    c. Area-wide PMoD service in July 2023

1.0 INTRODUCTION

1.1 Context

Federal transportation statutes require that the San Joaquin Council of Governments (SJCOG), in partnership with state and local agencies, develop and periodically update a long-range Regional Transportation Plan (RTP), and a Transportation Improvement Program (TIP) which implements the RTP by programming federal funds to transportation projects contained in the RTP. In order to effectively execute these planning and programming responsibilities, SJCOG requires that each transit operator in its region which receives federal funding through the TIP, prepare, adopt, and submit to SJCOG a Short Range Transit Plan (SRTP).

The Short Range Transit Plan (SRTP) is an action plan developed to guide the implementation of transit service improvements over the next 5+ years. A SRTP of the City's transit routes is important to improve the efficiency of service within the City and address future land use development and transportation investments. Overall, the analysis has culminated in recommendations for transit route revisions that would address future population growth and transit demand, transit-dependent needs, connectivity, and anticipated financial revenue and transit investment opportunities.

Key elements of the SRTP study approach included:

- Problem identification – an evaluation of the performance of existing Tracy TRACER transit services;
- Identification of the City's unmet mobility needs;
- Identification of key local and regional origins and destinations;
- Identification of the critical markets in the study area;
- Address the type and level of transit service justified for the study area as well as future service requirements; and
- Consideration of all community input and addressed as appropriate.

The SRTP study process has included a great deal of outreach and facilitation with the public and key stakeholders. The alternative service scenarios described herein, reflect input received from a variety of activities, including public workshops, stakeholder consultation, an on-board survey and a community survey.

SRTP outcomes provide the foundation (recommended service restructuring) for an Action Plan (Plan) to guide the implementation of transit service improvements over the next 5+ year period. The Plan will enhance the efficiency and effectiveness of Tracy's TRACER transit's existing transit services while responding to the changing demands for transit throughout the service area. As the population grows and demographics shift, it is important to reshape transit service to respond to new and changing transit demands. It is also important for transit service improvements to be implemented in a fiscally responsible (and financially sustainable) manner. The Plan maximizes the performance of existing services while responding to additional community mobility needs.

The focus of the recommendations is to enhance service on strong routes to increase system ridership and generate more fare revenue, in addition to maintaining appropriate transit service in lower potential ridership areas. More importantly, the recommendations respond to key issues identified by passengers and the community to create a system that is more attractive to riders.

1.2 Background

Project timeliness is clear as the previous SRTP was completed in 2009, pre-dating the plans of the six other transit systems operating in San Joaquin County. The past decade has ushered in dramatic innovations in local transit service design and service delivery methods. Following decades of disinvestment in public transportation, renewed interest is resonating across America with public and private sector participation in creating new and better options for transit travel and personal mobility. This SRTP is a pivot point toward the future for Tracy's local transit system.

The 2009 SRTP was conceived against the backdrop of the 2008 nationwide economic downturn that seriously impacted City finances along with a large majority of California transit providers. Sensibly, the plan recommended stability at a time when cuts to a variety of municipal programs were being considered and the budget outlook appeared bleak.

Service design focused on the fixed route system, which was created in 2001 and improved incrementally over the years, subject to affordability. Complementary paratransit and subsidized taxi services sufficient to meet demand and comply with the Americans with Disabilities Act (ADA) were included as well. The SRTP financial plan optimized the use of available federal and state transit funds to avoid adding to the City's general government budget woes.

More recently, the Regional Transit Systems Plan developed by the San Joaquin Council of Governments (SJCOG) in 2016 reaffirmed the 2009 transit development scenario:

> *"Over the next 10 years, Tracy intends to continue its bus replacement program, add wi-fi on buses, improve bus stop facilities, continue its base operations, and finish a short-range transit plan." (Executive Summary)*

With the City still growing rapidly and its economy rebounding, new thinking about local transit seems warranted in context of current and forward thinking-looking service innovations that are rapidly taking root across the U.S. transit industry.

The SRTP is an opportunity for a fresh look at TRACER in context of delivery innovations made possible by advancing communications and vehicle location technologies.

Changing Demographics – Relative to San Joaquin County, Tracy residents tend to be younger, more affluent, and more likely to have personal vehicles for local and regional trips. These

demographics characteristically do not support high transit ridership, which has been the experience in Tracy in the past. This condition is expected to change as the City matures, however. In any event, it would be a mistake to continue to think of TRACER as a static municipal program designed mainly to serve people without cars. The population of Tracy nearly quadrupled since 1985 -- from 25,000 then to nearly 100,000 today. Future projections indicate continued growth to 130,000 residents by 2040.

The City is changing in other ways as well. Younger people think differently about personal mobility than did their parents and grandparents. Beyond education and marketing, the transit system must adapt to deliver services that better suit the needs and expectations of Tracy residents. A brief perspective on TRACER's current system design is illustrative. The route network emphasizes spatial coverage over schedule frequency, reflecting the classic *"walk time vs. wait time"* trade-off that confronts transit customers and planners alike. TRACER route alignments are circuitous at times, with one-way segments and time-consuming deviations into residential neighborhoods. Schedule frequencies are low by today's metrics, with two local routes (A, B) running every 30 minutes, and two others (C, D) running hourly. For many customers, this service design means longer onboard travel times, longer wait times at bus stops, and a route structure that seems unnecessarily complicated. In fact, fixed route network design is one reason why TRACER ridership may be lagging.

Consumer preferences and expectations for personal mobility are changing. Transit customers want:

- ***Schedule information in real time.***
- ***Direct point-to-point travel.***
- ***Convenient "first mile-last mile" options integrated into transit trips.***
- ***Ability to hail a ride and make same-day reservations.***

Positive Analytical Framework – Charting the best course for the future requires a thorough understanding of the transit system at an appropriate level of detail. The SRTP work plan incorporated a solid planning framework based on a refreshed set of goals, objectives, and other performance metrics consistent with Federal Transit Administration, Caltrans, and SJCOG emphases on enhanced performance evaluation methods and tools. The approach focused on quality rather than quantity, recognizing that development activity in the City continues to outpace available resources, and new sources of local funding for transit are limited.

Innovative Service Planning –Advancing technologies and new business models are expanding institutional and service delivery choices for local transit providers. This is an exciting time in terms of personal mobility options. Increasingly, the modes are converging into flexible "hybrid" services made even more convenient with the latest communications technologies for ride-hailing and reservations. New service options include "microtransit" or ride-hail services such as Uber, Lyft, and traditional taxi companies that are enhancing their services to remain competitive; as well as publicly operated flexible services operated by Tracy's peers, and community-based services.

The new SRTP should focus on making TRACER a better transit system, rather than just bigger or more expensive.

A close-to-home example is supplied by SJRTD, which is piloting a new "*RTD GO!*" program in collaboration with Uber. The program began in July 2017 with a $50,000 budget and will continue until funds are expended. It offers a 50% discount (up to $5) on Uber rides taken within San Joaquin County by persons traveling to and from places outside the RTD coverage area. Reservations and fare transactions are made using Uber's mobile app. Customers also can hail a ride to or from eight Transit Centers where RTD buses stop, including Tracy Transit Station.

Looking ahead, while autonomous vehicles may not yet have a direct role to play in TRACER service delivery by 2027, California transit systems are leading the nation in rolling out driverless service demonstrations in the coming decade. It is important to keep an eye on the long-term future as we plan for the short term.

Paratransit Program Optimization – TRACER paratransit is available to Americans with Disabilities Act (ADA-certified persons with disabilities and older adults who cannot independently access and use an accessible fixed route transit bus. The review discussed herein suggests several opportunities for improving the customer experience. Some examples:

- Eligible customers currently can make reservations up to one week in advance only.
- All reservations must be made via telephone on weekdays 8:00 AM – 6:00 PM and Saturdays 10:00 AM – 4:00 PM only.
- TRACER Paratransit has limited capacity to accommodate same-day reservations. Moreover, same day reservations and changes to reservations are subject to a $0.75 surcharge.
- The $1.50 fare must be paid with exact cash or pre-paid ticket only. Tickets must be purchased in books of 10 tickets for $15. Ticket books may be purchased at City Hall, Tracy Transit Station, and from individual drivers.

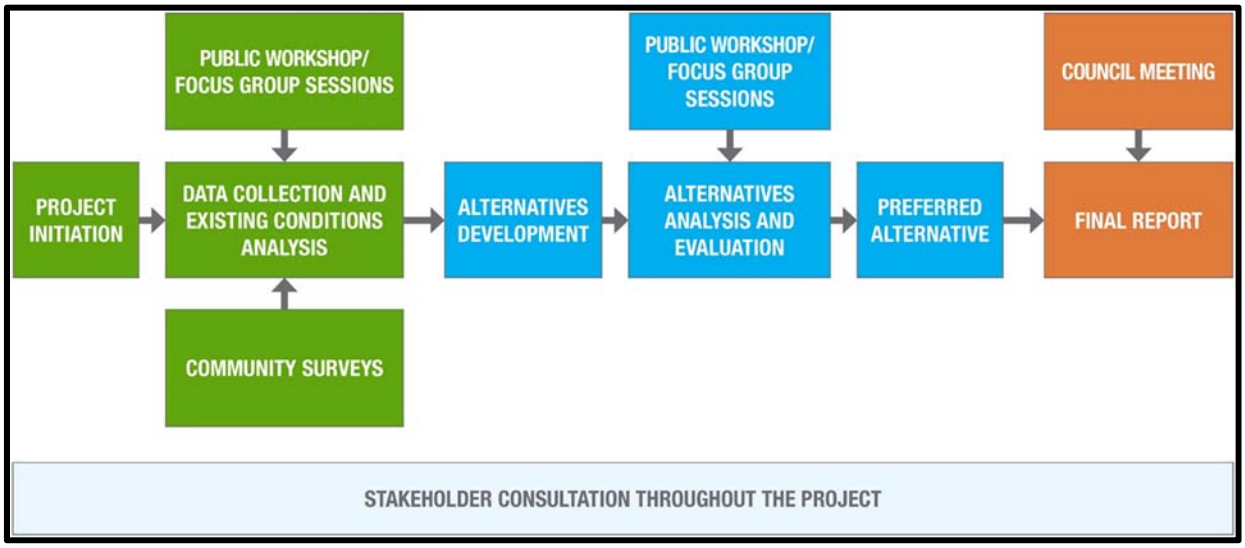
Continuing to manage the cost of ADA compliance is an important financial challenge for the City. This requires active attention both to eligibility certification and the availability of convenient services that experience lower costs per trip than existing TRACER paratransit service operated by RideRight under contract to the City. Elimination of barriers to fixed route access, travel training and a smart fare policy need to be part of the mix as well.

Subsidized Taxi Program Performance Appraisal - The City's user-side subsidy program is an example of a diversified approach to service delivery. Taxi fares for ADA-certified customers are subsidized by 50% during hours when TRACER Paratransit service is not operating; these times including weekdays before 7:00 AM and after 8:00 PM; Saturday before 9:00 AM and after 7:00 PM; and all-day Sunday. Fare subsidies are distributed using prepaid taxi coupons ($20 face value sold for $10) available at the Finance Department in City Hall.

1.3 Study Process

The SRTP study began in April 2018, with a comprehensive data collection effort including historical operating and financial data, ancillary reports and a robust stakeholder and community outreach, and survey research effort. Key elements of the work plan are illustrated in Exhibit 1-1. The findings from the data collection and public outreach efforts provided the key inputs for an analysis of market and performance trends. This analysis was the basis of the *Existing Service Evaluation* (June 2018) report which identified key findings and strategies to improve the TRACER transit network. These findings and strategies were used to develop the service recommendations in the draft *Service Plan Working Paper* (November 2018).

Exhibit 1-1: SRTP Work Plan



1.4 Plan Organization

The SRTP is presented in eleven chapters, which are described below. Captured are the salient elements of *Exhibit B – Required Format of SRTP* from the City's December 2017 Request for Proposals (RFP). It is important to note however, that this SRTP document includes several elements that were not addressed in the Exhibit B reference including Market Analysis (Chapter

2), Survey research (Chapter 3), Federal transit Administration (FTA) Compliance (Chapter 10), and Transit Operations and Maintenance facility – Need and Feasibility (Chapter 11).

CHAPTER 2 – MARKET ANALYSIS: provides an overview of the City of Tracy study area including key community and demographic characteristics.

CHAPTER 3 – SURVEY RESEARCH: provides a summary of survey research efforts.

CHAPTER 4 – GOALS, OBJECTIVES and STANDARDS: presents City and Departmental mission statements and goals. Further, provides a primer on transit performance measurement and fixed route and paratransit performance metrics.

CHAPTER 5 – OVER VIEW TRANSIT SYSTEM: provides a comprehensive evaluation of existing fixed-route and paratransit services including operational performance and opportunities for enhancements.

CHAPTER 6 – OPERATIONS PLAN AND BUDGET: provides an evaluation of existing TRACER Paratransit services including operational performance and existing policies and procedures.

CHAPTER 7 – PLANNED IMPROVEMENTS – SERVICE PLAN: presents a recommended system concept, service design guidelines, performance metrics, recommended network, and system resource requirements including budget – five-year operating financial plan and capital improvement program.

CHAPTER 8 – FUNDING AND REVENUE PLAN: presents an overview of funding sources derived from fare revenues generated by the various service modes as well as local, state and federal grant subsidy programs.

CHAPTER 9 – *A WAY FORWARD* – NEXT STEPS ACTION PLAN: provides a 'next steps' action plan for City staff to advance the five-year operating and capital plan.

CHAPTER 10 – FEDERAL TRANSIT ADMINISTRATION (FTA) COMPLIANCE: presents compliance checklists that pertains to the FTA Section 5307 formula funding program.

CHAPTER 11 – TRANSIT OPERATIONS AND MAINTENANCE FACILITY – NEED AND FEASIBILITY: initiates discussion of conditions relating to the need and feasibility of constructing a Transit Operations and Maintenance (O&M) Facility to house the City's transit system in the future.

APPENDICES:

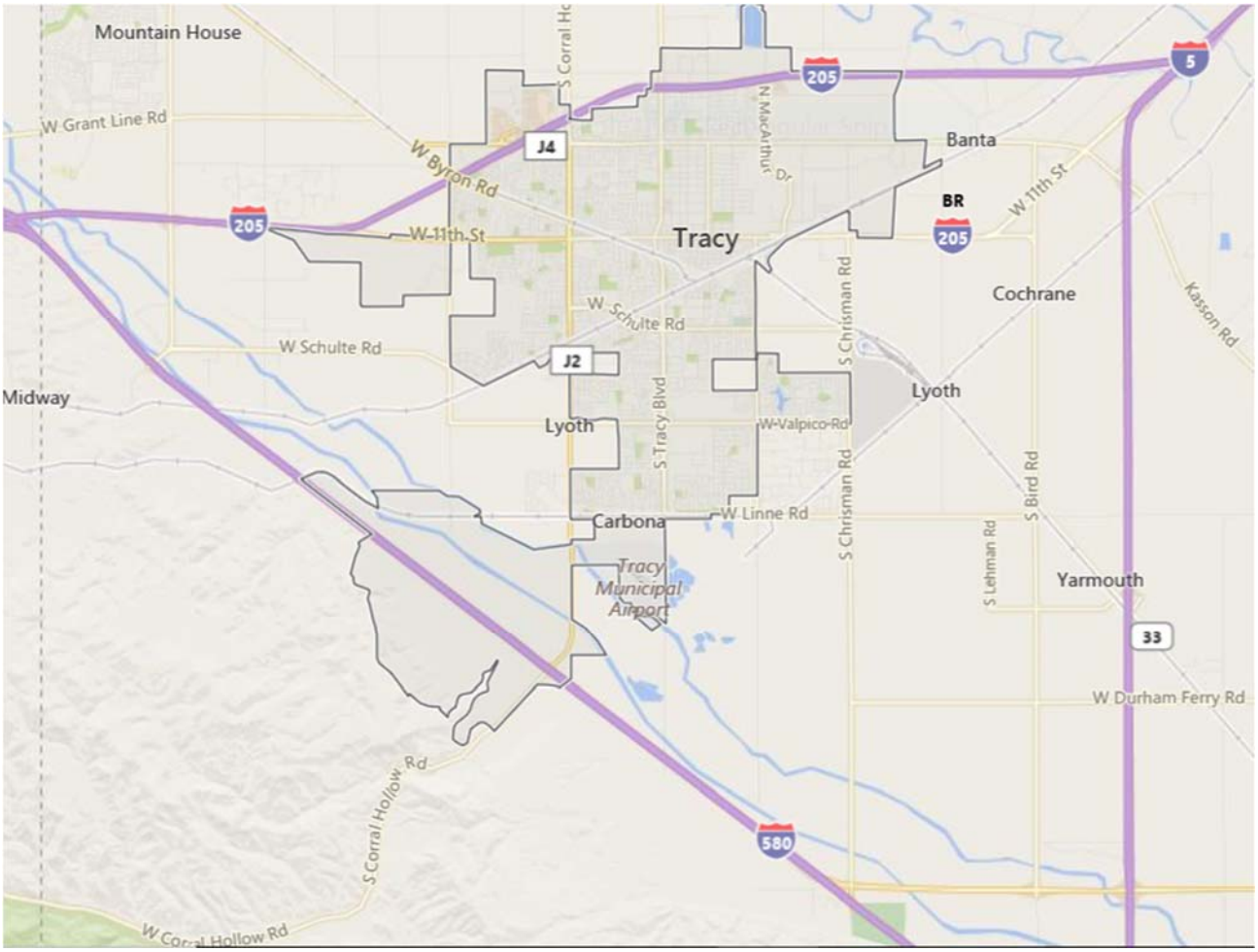
A. On-Board and Community Survey Instruments
B. Public Meeting Presentation Material
C. Detailed TRACER Route Analysis

2.0 MARKET ANALYSIS

Tracy is the second most populated city in San Joaquin County. Tracy is located inside a geographic triangle formed by Interstate 205 on the north side of the city, Interstate 5 to the east, and Interstate 580 to the southwest; this has given rise to Tracy's motto, now recorded on the city's website: Think Inside the Triangle™.

Exhibit 2-1 shows the primary study area, the City of Tracy within the shaded boundary.

Exhibit 2-1: Tracy Study Area

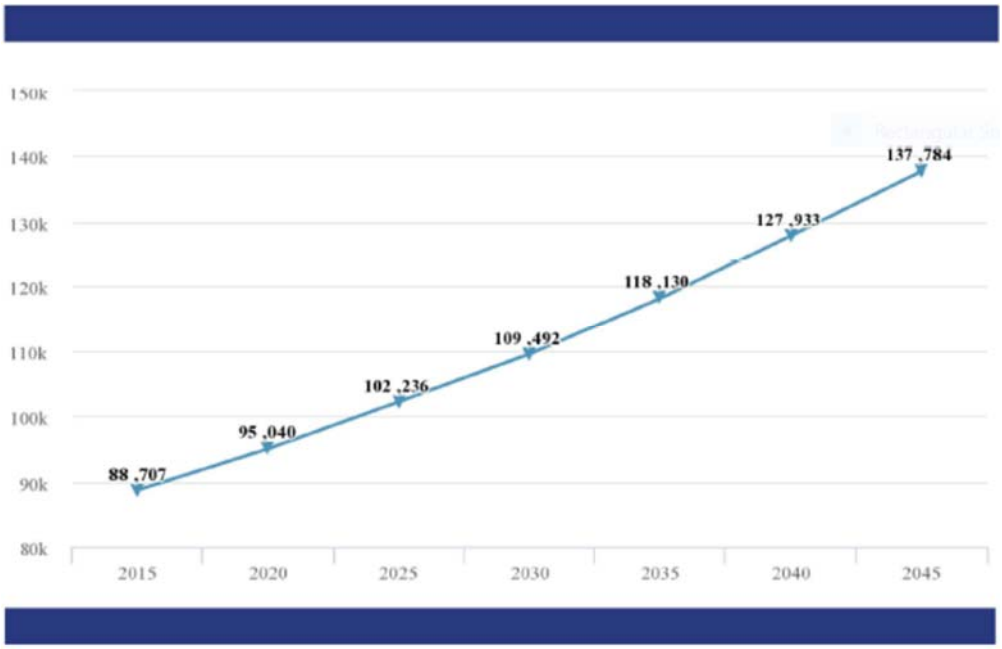


An understanding demographic and socioeconomic characteristics is important to inform on the level of transit dependency for a population and is beneficial in developing successful transit services that are tailored to the specialized mobility needs of the population. Readily available demographic data from the U.S. Census, the Environmental Protection Agency's (EPA) Smart Location Database, SJCOG population projections, and the City's website was collected to better understand the demographic make-up of the population and to help determine the population's propensity to use transit. These factors are discussed in the following sections.

2.1 Demographic and Socioeconomic Profile

Based upon population estimates available from the U.S. Census Bureau, the City of Tracy had a 2017 population of 90,889. Based on population projections provided from the SJCOG, Tracy is projected to have an average growth rate of close to 2% per year, to year 2045. Exhibit 2-2 presents population projections, 2015 to 2045.

Exhibit 2-2: Population Projections – 2015 - 2045



In an effort to better understand the needs of the community, an analysis of demographic data was performed for the City of Tracy. The analysis was intended to provide an initial understanding of the city's population and their propensity for transit use. Key demographic metrics that were reviewed included median age, income, vehicles per household, and journey to work data. Readily available demographic data from the U.S. Census was collected and analyzed to identify trends in socioeconomic dynamics that may impact existing and future demand and the potential market for transit services.

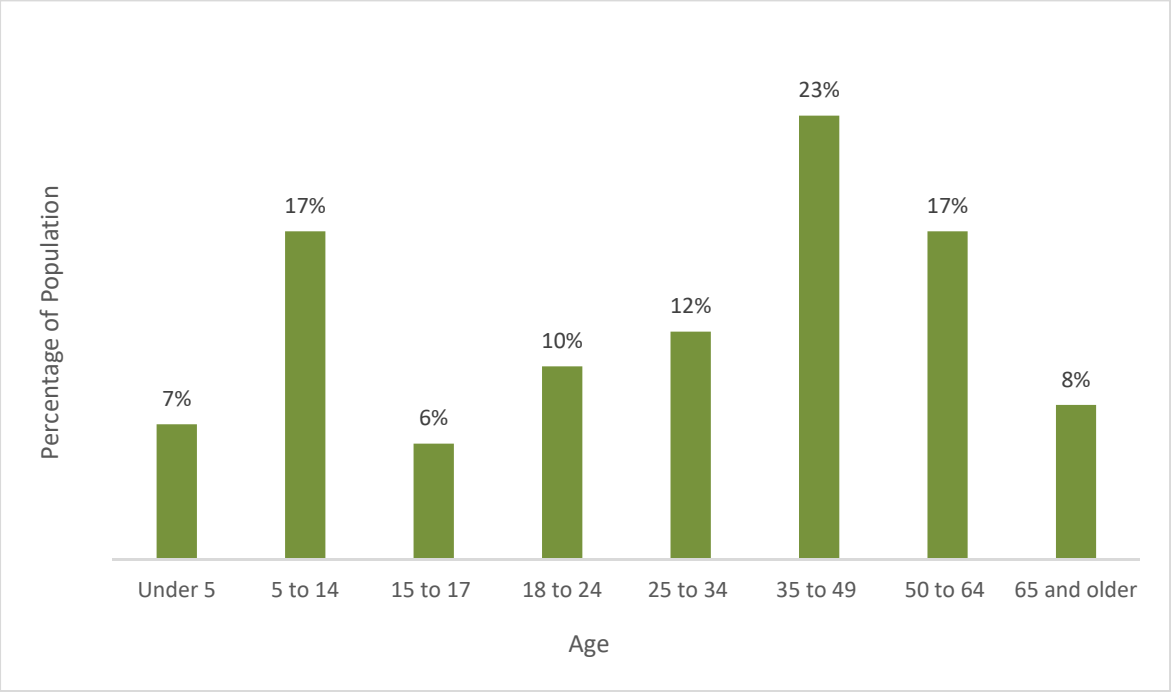
MEDIAN AGE

Median age is a critical factor in determining transit dependency, which refers to the population of people for whom mobility may be limited, either by access to private automobiles or the ability to drive independently. Typically, transit dependent age groups include the elderly (those who are 65 years of age or older) and youths (those who are under the age of 18). Understanding median age within an area also helps to determine the appropriate mobility solution to serve the population.

Data from the U.S. Census revealed that in 2015, approximately 30% of Tracy's population was under the age of 18 and approximately 8% was 65 years of age or older. Median age for Tracy

was approximately 33.9 years of age, which is similar to the County's median age of 33.7. Analysis of median age revealed that approximately 38% of Tracy's population fell into transit dependent age groups. Exhibit 2.3 illustrates Tracy's population broken out by age groups.

Exhibit 2.3: 2016 Median Age



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

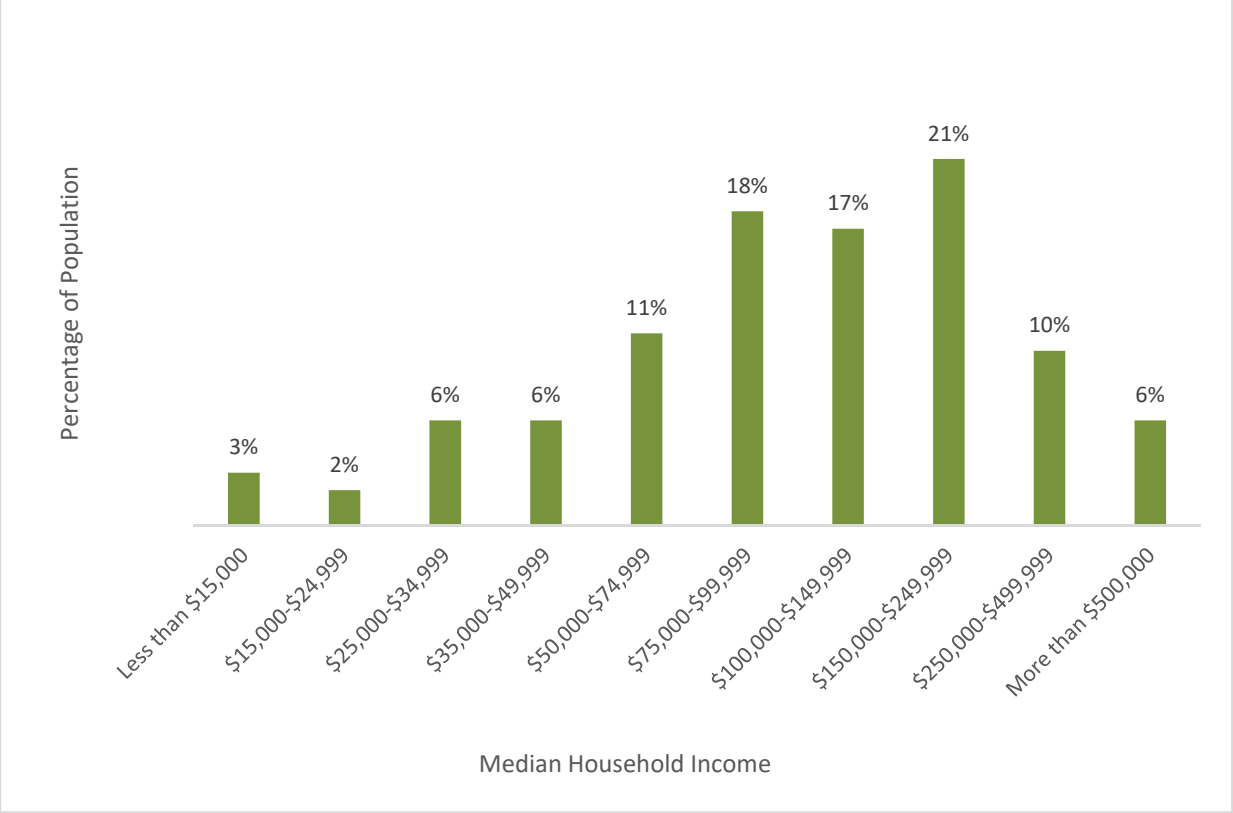
MEDIAN HOUSEHOLD INCOME

Median household income is another demographic factor useful in determining the level of transit dependency for a population. The ability to afford private transportation and vehicles impacts an individual's propensity to utilize public transportation. Typically, individuals who lack access to private transportation are more dependent on alternative modes of transportation such as transit. To measure median household income, data was collected from the U.S. Census.

Results from the analysis of median household income revealed that only a small percentage of Tracy's population would be unable to afford a vehicle. According to the U.S. Census, an estimated 8.1% of the population in Tracy lives in poverty. Additionally, data from the U.S. Census report of Tracy revealed that approximately 37% of households earned less than $50,000 annually.

According to the U.S. Census, in 2016, the median household income in Tracy was approximately $88,022, which was considerably higher than the County's median household income of $55,045. Additionally, approximately 54% of households earned $75,000 or more annually. Exhibit 2.4 illustrates the percentage breakout of households by income as reported by the U.S. Census.

Exhibit 2.4: 2016 Percent of Households by Median Household Income



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

VEHICLES PER HOUSEHOLD

Transit dependency is often correlated with the accessibility to private transportation and automobiles. Individuals with limited or no access to private transportation are typically more dependent on public transportation as their primary mode of travel. To measure accessibility to private transportation, U.S. Census data on the number of vehicles available per household was analyzed.

Analysis of the number of vehicles available per household in Tracy revealed that a majority of the population is not transit dependent, and only a small percentage of households have limited or no access to a car. According to the U.S. Census, the majority of households in Tracy have sufficient access to vehicles and private transportation. In 2016, approximately 97% of 1-person households have access to at least one car and 73% of 2-person households have access to at least two cars. Exhibit 2.5 summarizes the number of vehicles available by households in 2016 for the City of Tracy.

Exhibit 2.5: 2016 Number of Vehicles Available by Households

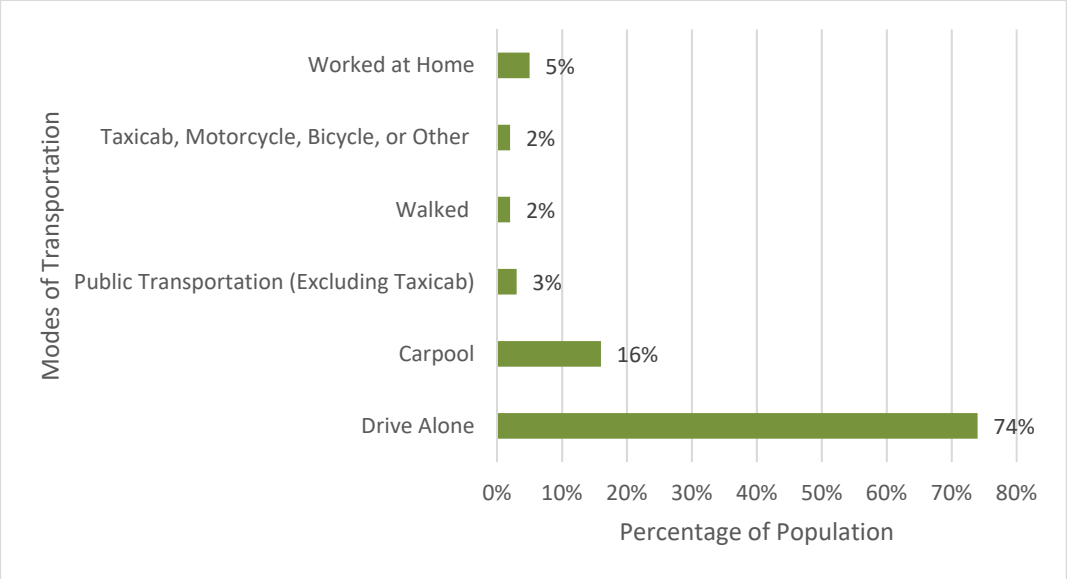
VEHICLES AVAILABLE	2015 VEHICLES AVAILABLE BY PERCENT OF HOUSEHOLDS			
	1-PERSON HH	2-PERSON HH	3-PERSON HH	4-PERSON HH
0 Cars	2%	1%	2%	0%
1 Car	8%	6%	2%	4%
2 Cars	2%	13%	8%	16%
3 Cars	1%	4%	6%	12%
4+ Cars	0%	1%	2%	10%

Note: HH denotes households.
Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

JOURNEY TO WORK

Journey to work data was collected from the U.S. Census to understand mode choices for residents as they commute to work. Results from the analysis showed that in 2016, approximately 74% of residents drove alone to work, while 3% used public transit. These results are also reflective of the number of vehicles available per household in Tracy, as a majority of households have sufficient access to a vehicle and are less inclined to use public transit. Exhibit 2.6 illustrates the percentage of means of transportation to work by residents of Tracy.

Exhibit 2.6: Means of Transportation to Work



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates.

POPULATION DENSITY

A population density map was created using the Environmental Protection Agency's Smart Locations Database to graphically display the number of potential transit riders an area may contain. Much of the population is concentrated centrally, with dense population areas located in the north central parts of the city. Certain areas found on the edge of the city borders show minimal population density in agricultural and industrial locations. Exhibit 2.7 shows the gross population density on unprotected land per census block group.

EMPLOYMENT DENSITY

Employment density was mapped using the Environmental Protection Agency's Smart Location Database to find key locations that see increased trips to and from those areas. Increased job growth was used to inform on potential future transit needs. Most of the employment is centered in central Tracy, with the highest concentration located in the downtown area between 11th Street and 6th Street and the International Park of Commerce. This area contains restaurants, banks, auto care shops, and a post office. Another area with a high concentration of jobs is located along Tracy Boulevard, where numerous medical businesses are found. Notable institutions in this area are Sutter Tracy Community Hospital, Tracy Nursing and Rehabilitation Center, and Pacific Sleep Disorders Center. Exhibit 2.8 shows the gross employment density on unprotected land per census group.

Exhibit 2.7: Population Density Map

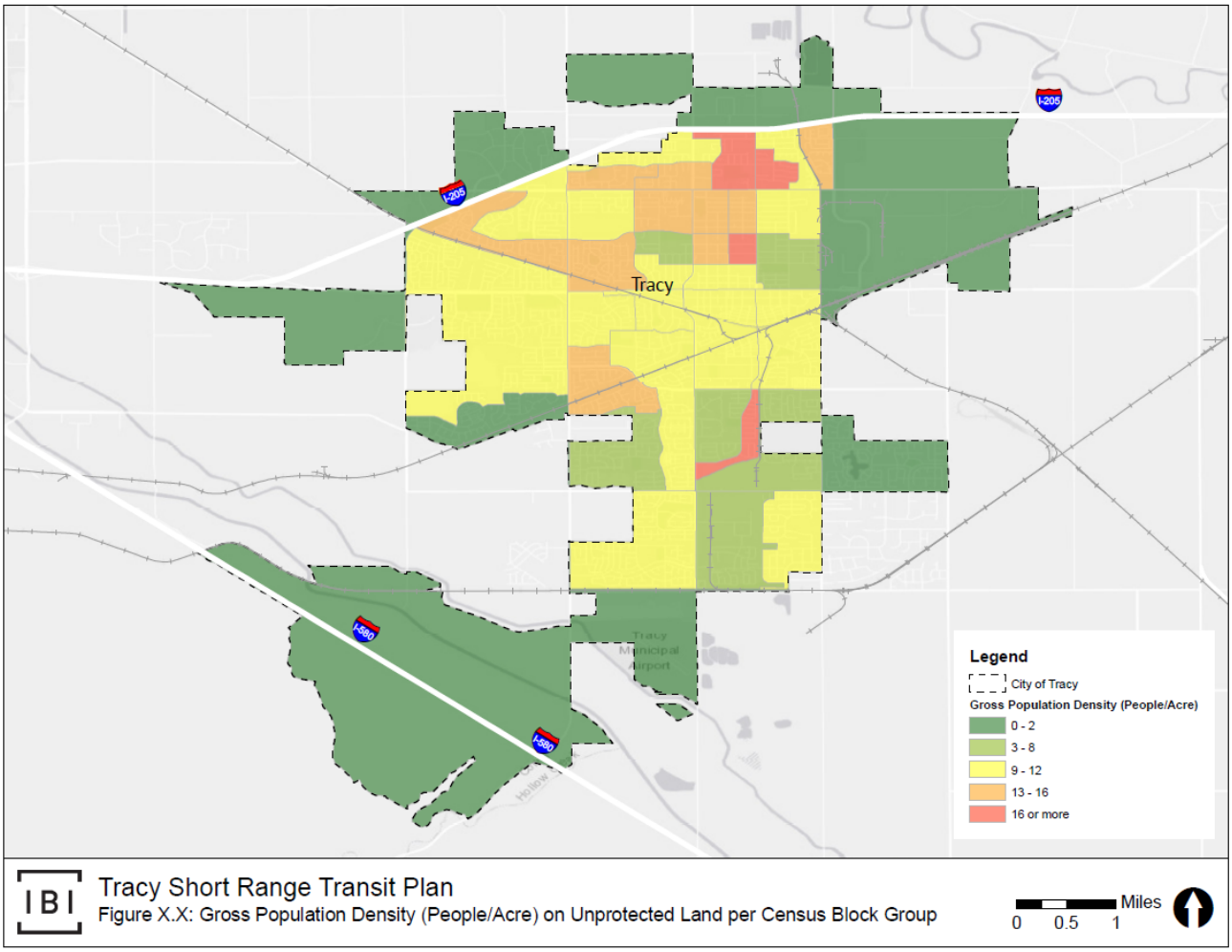
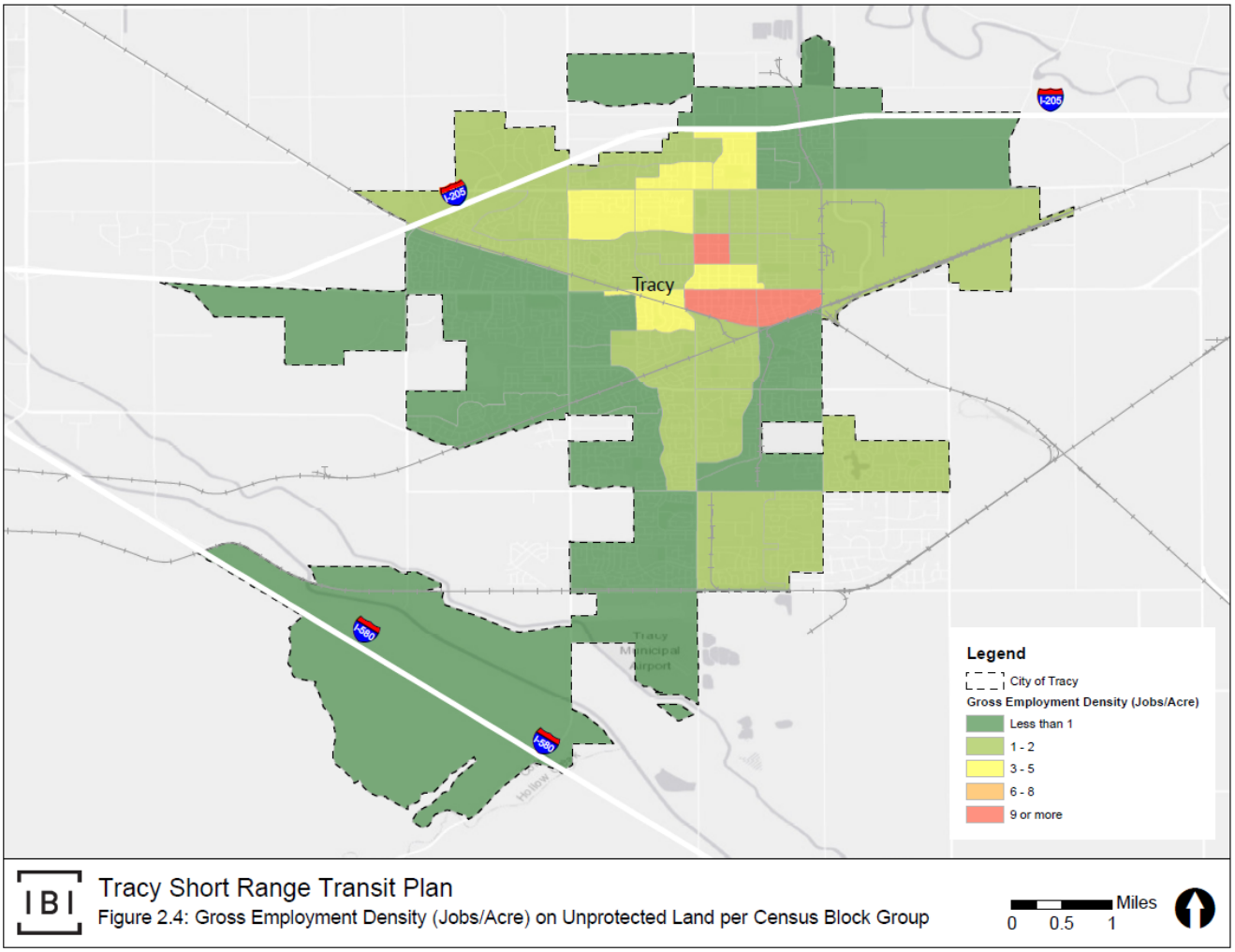


Exhibit 2.8: Employment Density Map



2.2 Existing Non-Motorized Network

Non-motorized modes of transportation, such as walking and bicycling, are complementary modes to transit and often serve as first-last mile solutions for transit riders. The first and last mile journey to and from a transit stop often impacts an individual's decision to utilize public transit. The easier it is to access a transit stop, the more willing people will be to use it. An existing conditions analysis was conducted for Tracy's non-motorized network, which includes pedestrian and bicycle infrastructure.

An initial assessment of Tracy's pedestrian infrastructure revealed the following:

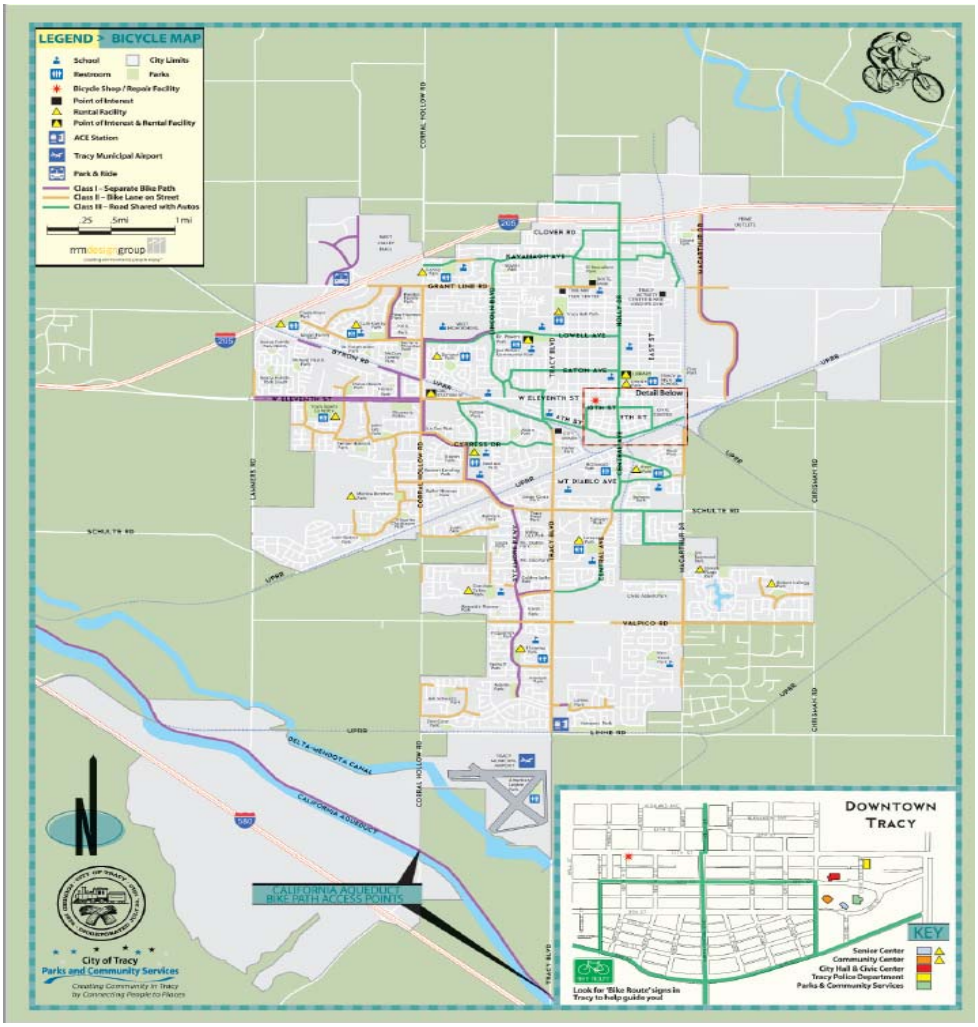
- Sidewalks and crosswalks were present along all major roadways connecting to key destinations throughout the city.
    - Initial high level assessments of the pedestrian network revealed that adequate infrastructure is in place to support pedestrian activity throughout the city.

In addition to the pedestrian network, an analysis of the existing bicycle network was also conducted. A map of Tracy's existing bicycle network can be seen in Exhibit 2.9. An initial assessment of Tracy's bicycle network revealed the following:

- Currently, the City of Tracy has over 44 miles of existing bikeways.
- Most of the existing bikeways consist of either Class II or Class III bikeways, and minimal Class I bikeways.
- The majority of the downtown area is served only by Class III bikeways.
- Class I and Class II bikeways exist mostly in the western and southern edges of the city.

There are gaps in the existing Class I and Class II network that need to be closed.

Exhibit 2.9: Tracy Bikeways Map



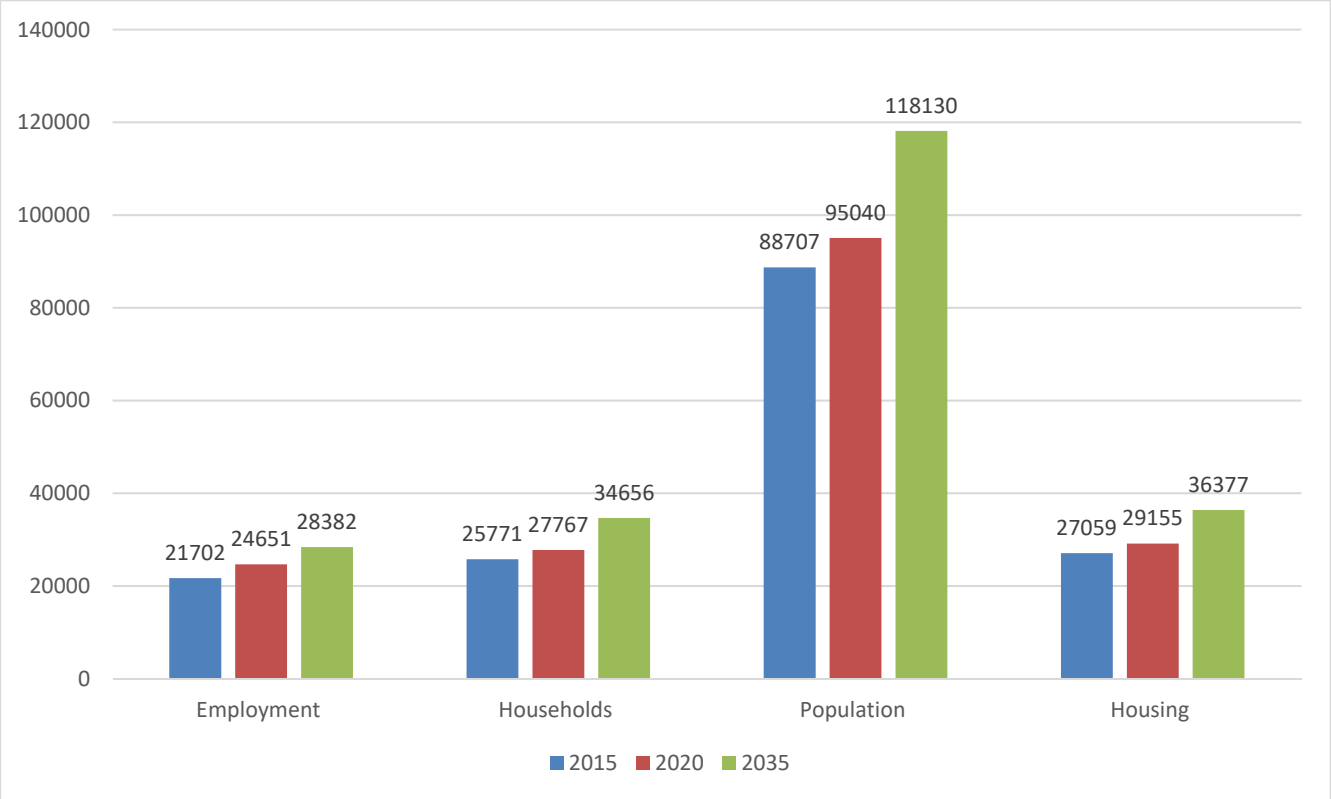
2.3 Land Use / Future Growth

In an effort to understand the existing travel behavior on Tracy's roadway network, a land use map was generated using data obtained from the City and can be seen in Exhibit 2.10. An initial assessment of existing land use in Tracy revealed the following:

- Tracy is largely residential, with a large proportion of single family residential homes
- A small central business district is located along I-205 and south towards 6th street.
- Industrial areas are primarily located in the north eastern section of the city and growth in the west along the I-205 corridor.

According to the San Joaquin Council of Governments, Tracy is expected to grow steadily over the next two decades. One factor leading to this growth can be attributed to the development of industrial areas. In particular, the Prologis International Park of Commerce is a 1700 acre facility completed in 2015, which provides warehouse space for large companies. Some of the current tenants include Amazon, Medline, and FedEx Industries. These warehouses have created hundreds of jobs and are expected to add more in the future. As population and employment rise, the need for various transit options within Tracy are expected to increase. Growth projections for employment, households, population and housing can be seen in Exhibit 2.10.

Exhibit 2.10: Tracy Growth Projections



Source: San Joaquin Council of Governments, Jurisdiction Fact Sheets – Tracy Projections

2.4 Summary

The preliminary analysis of Tracy's demographic profile revealed that a small portion of the City's population would traditionally be classified as transit dependent. The following key demographic characteristics were noted:

- Approximately 38% of Tracy's population fell into transit dependent age groups, with 30% of the population under the age of 18 and 8% of the population at 65 years of age or older.
- Median age for Tracy was approximately 33.9 years of age, which is similar to the County's median age of 33.7.
- Median household income in Tracy was approximately $88,022, which was considerably higher than the County's median household income of $55,045.
- According to the U.S. Census, an estimated 8.1% of the population in Tracy lives in poverty.
- According to the U.S. Census, approximately 54% of households earned more than $75,000 annually.
- Analysis of the number of vehicles available per household in Tracy revealed that the majority of households in Tracy have sufficient access to vehicles and private transportation.
- According to the U.S. Census, it was revealed that 74% of residents drive alone to work, while 3% use public transit.
- Much of the population is concentrated centrally, with dense population areas located in the north central parts of the city.
- Most of the employment is centered in central Tracy, with the highest concentration located in the downtown area between 11th Street and 6th Street. Another area with a high concentration of jobs is located along Tracy Boulevard, where numerous medical businesses are found.
- Initial high level assessments of the pedestrian network revealed that adequate infrastructure is in place to support pedestrian activity throughout the city.
- Most of the existing bikeways consist of either Class II or Class III bikeways, and minimal Class I bikeways. The majority of the downtown area is served only by Class III bikeways. There are gaps in the existing bikeway network.
- Growth in jobs and population with propel increased need for transit options.

The results of this analysis indicate that although there is a potential market for transit services within Tracy, a larger percentage of the population is more inclined to fall under the choice rider category rather than the transit dependent category. In order to tap into the choice rider market, consideration should be given to mobility solutions that go beyond the conventional city bus services and that appeal to Tracy's demographic.

3.0 SURVEY RESEARCH

The SRTP study process has included outreach and facilitation with the public and key stakeholders. The alternative service scenarios and recommended service plan (presented in Chapter 6), reflect input received from a variety of activities, including public workshops and meetings at the Senior Center, an on-board survey of passengers and a community survey that received 369 responses.

A copy of the on-board and community survey instruments is provided in Appendix A. Public workshop/outreach presentation material is presented in Appendix B.

3.1 Community Survey

As a part of the initial planning process, a community survey was conducted to better understand the transit needs of the community. The survey provided information on travel behavior, quality of service, and user demographics. The survey also provided an opportunity for the community to express their concerns and make recommendation to improve transit services.

The survey was administered on-line via Survey Monkey and accessed through a link from the City's home page. The survey was administered for a three-week period Spring 2018.

The community survey consisted of questions targeted to solicit feedback from community members on their preferred transportation mode, typical trip destinations by mode, opinions on the quality of transit service, recommendations on potential improvements to transit service, and individual demographic data.

Results from the surveys were reviewed as a part of the comprehensive analysis and served as important input for the development of the recommended service enhancements.

METHODOLOGY

The community survey was developed in collaboration with City Staff and contained a variety of questions related to travel behavior, transportation mode choice, propensity to use transit, interest in potential shuttle services, demographic information, and more. The survey was made available online via Survey Monkey. In order to reach a wide and representative demographic sample, the survey was announced through various channels including the City's website and social media outlets. The online survey was made available in the Spring 2018. A copy of the survey instrument can be found in Appendix A of this report.

SUMMARY OF KEY FINDINGS AND CONCLUSIONS

A total of 369 people participated in the community survey. The following key findings were noted from the survey as listed below and as illustrated in Exhibits 3.1 to 3.6. Comprehensive survey results are available under separate cover.

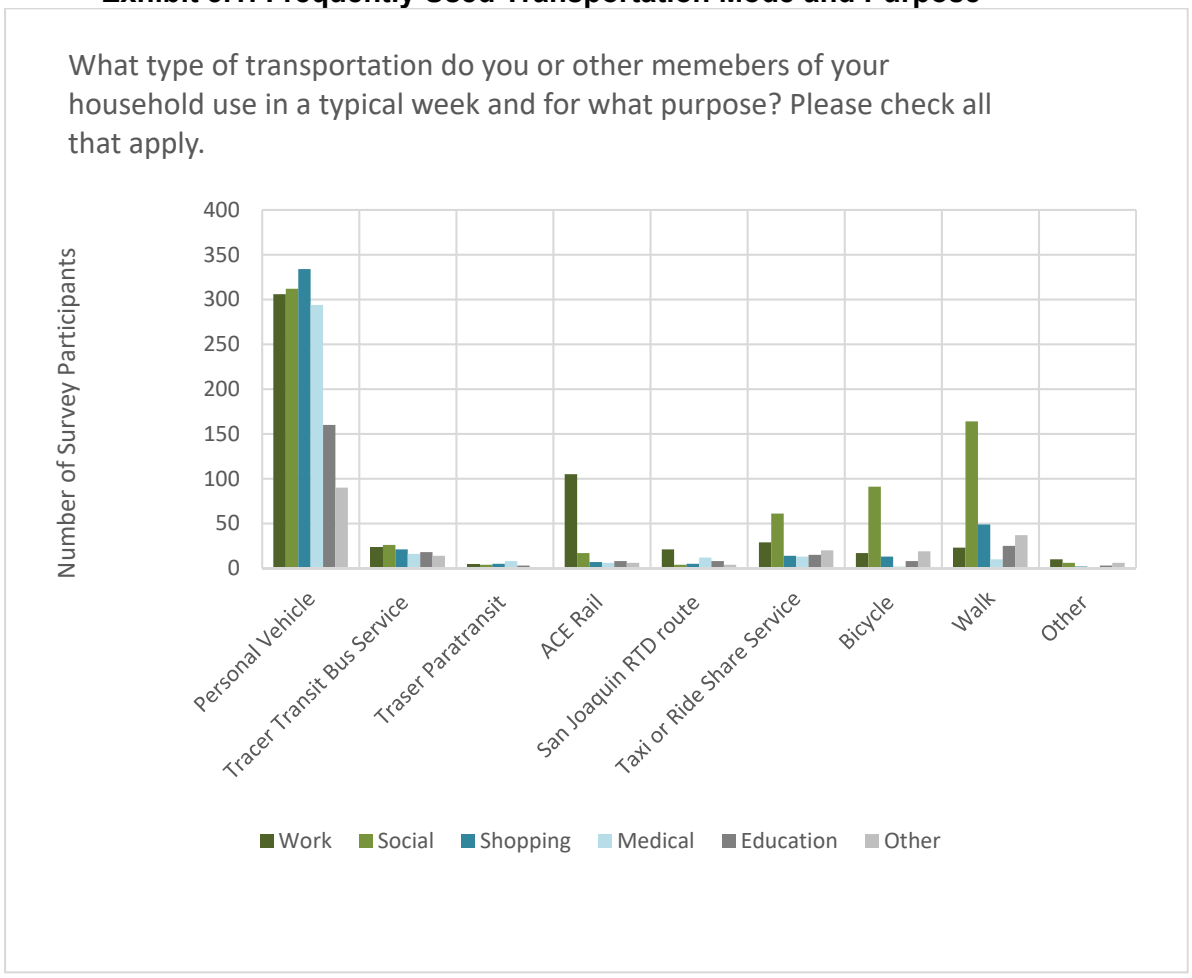
FREQUENTLY USED TRANSPORTATION MODE AND PURPOSE

The top three modes of transportation utilized in Tracy were

- Private vehicles
- Walking
- ACE Rail

Transit services such as Tracer Transit, Tracer Paratransit, and the San Joaquin Regional Transit District (RTD) route are used minimally in Tracy.

Exhibit 3.1: Frequently Used Transportation Mode and Purpose



USER SATISFACTION

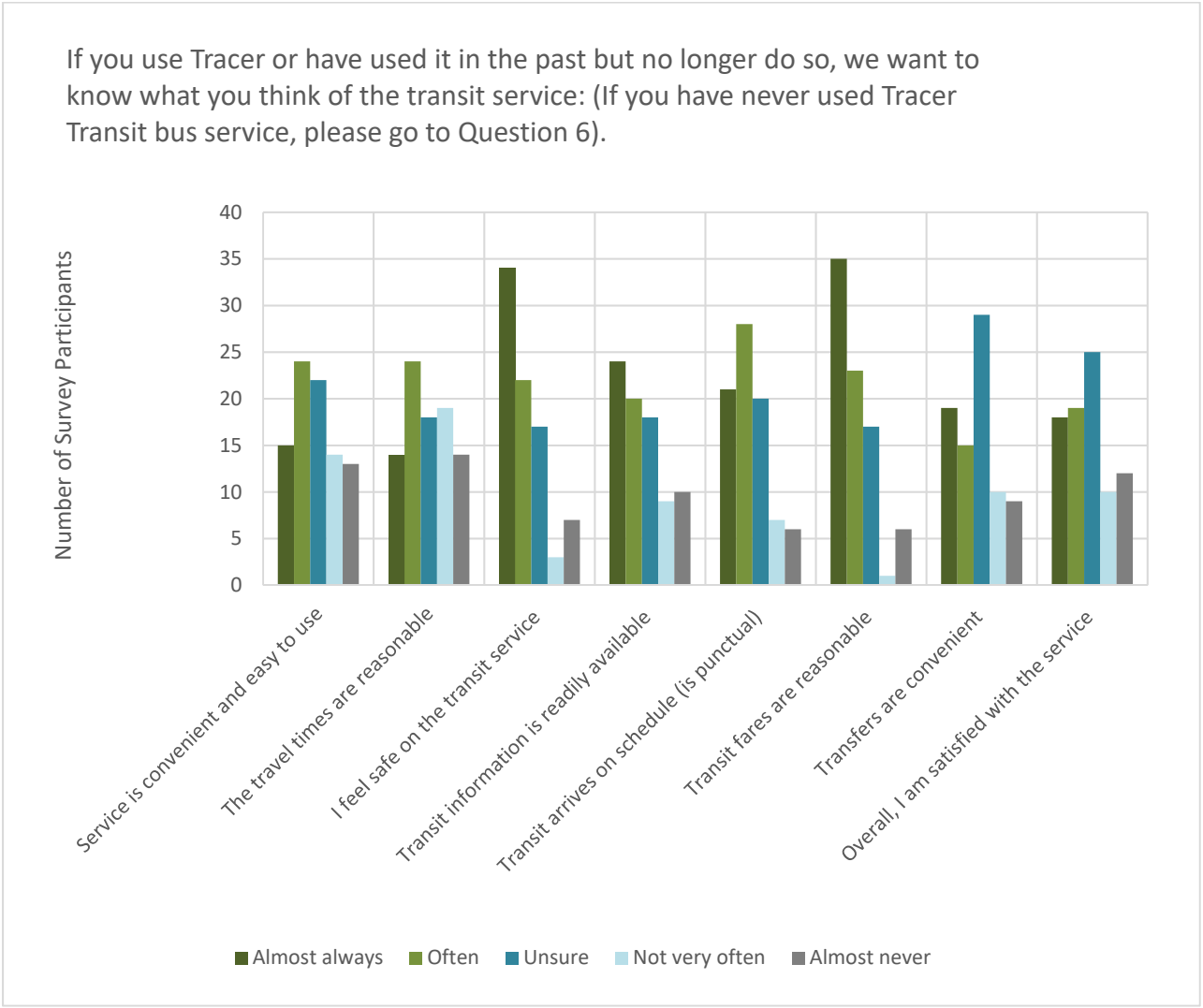
The top three areas users were most satisfied with were:

- Transit Fares
- Safety
- Punctuality

The top three areas users were least satisfied with were:

- Travel times
- Convenience and ease of use
- Convenience of transfers

Exhibit 3.2: User Satisfaction of Tracer Transit Services

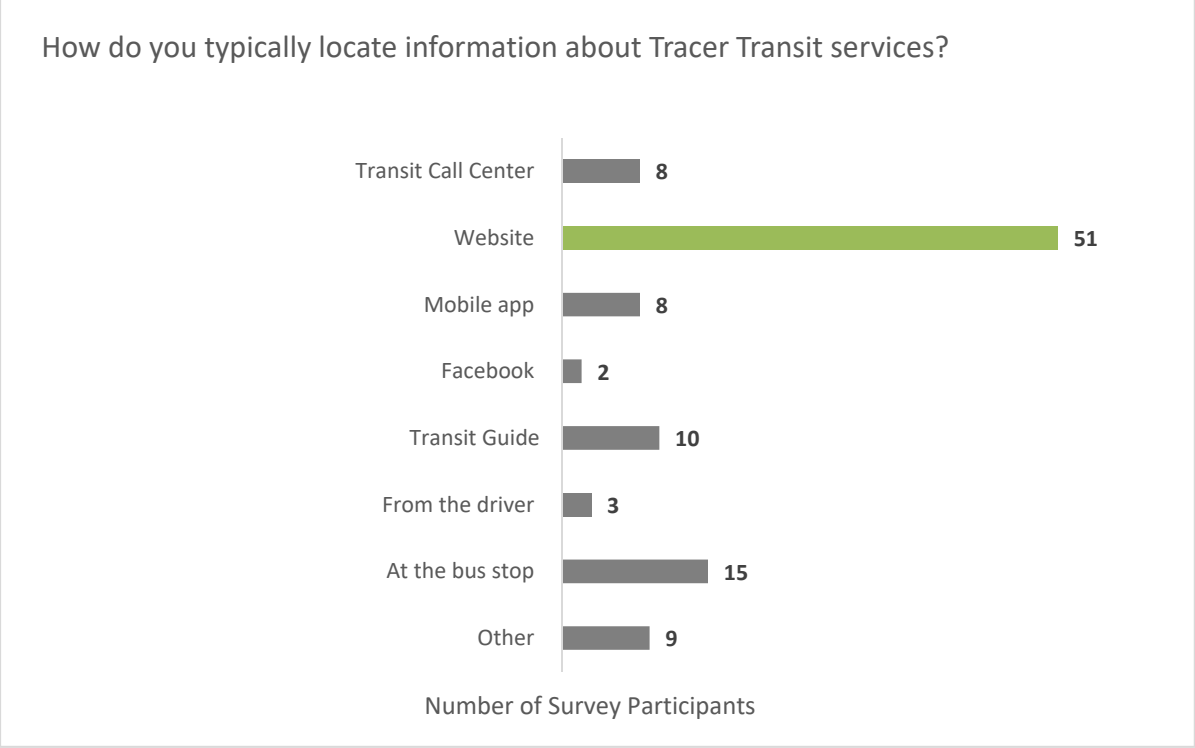


HOW TRACER TRANSIT SERVICES INFORMATION IS OBTAINED

The top three ways people find information about Tracer Transit Services are:

- Website
- At the bus stop
- Transit guide

Exhibit 3.3: Ways People Obtain Information About Tracer Transit Services

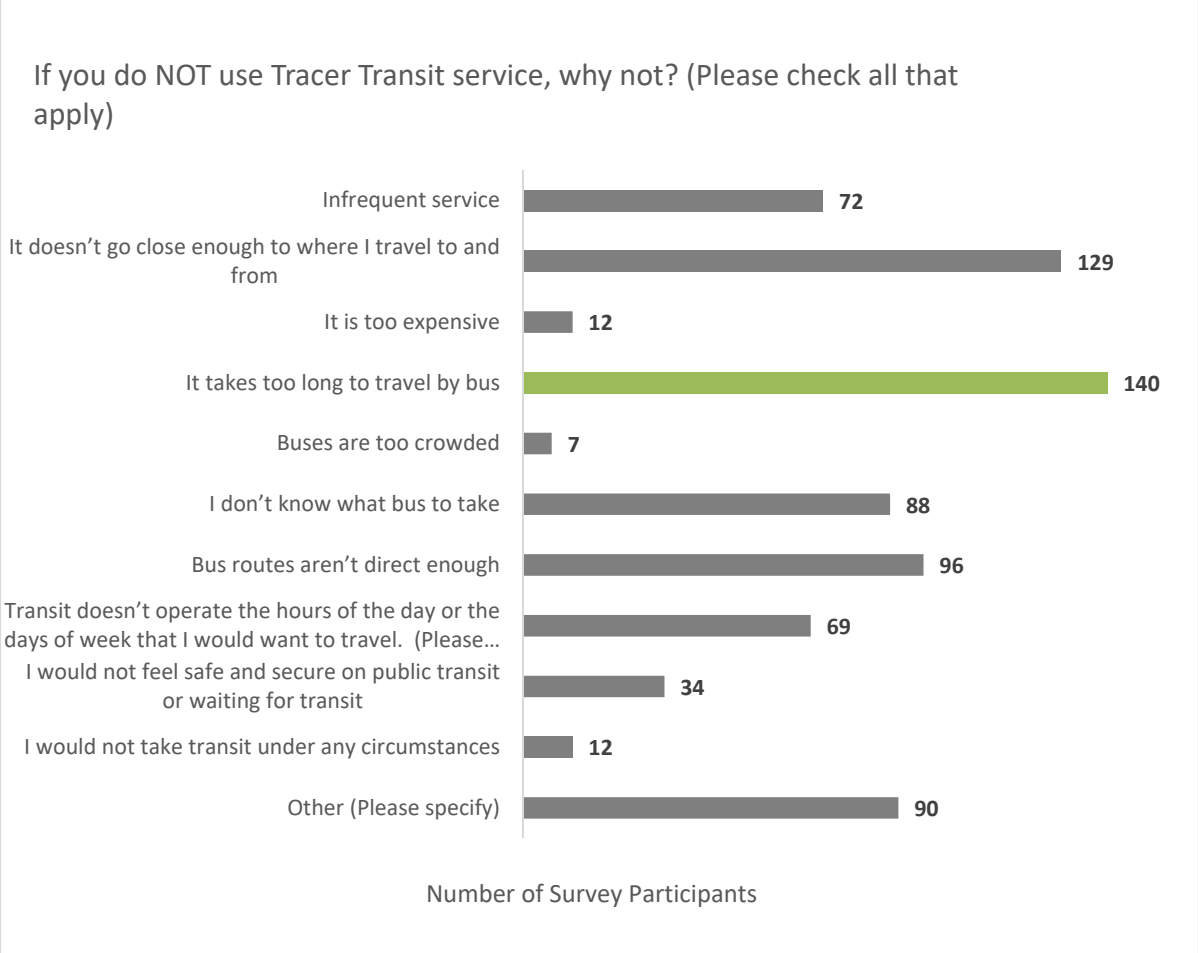


MOST COMMON REASONS FOR NOT USING TRACY TRANSIT SERVICES

The top three most common reasons for not using Tracer Transit Services were:

- It takes too long to travel by bus
- It doesn't go close enough to where I travel to and from
- Bus routes aren't direct enough

Exhibit 3.4: Most Commonly Reasons for Not Using Tracy Transit Services

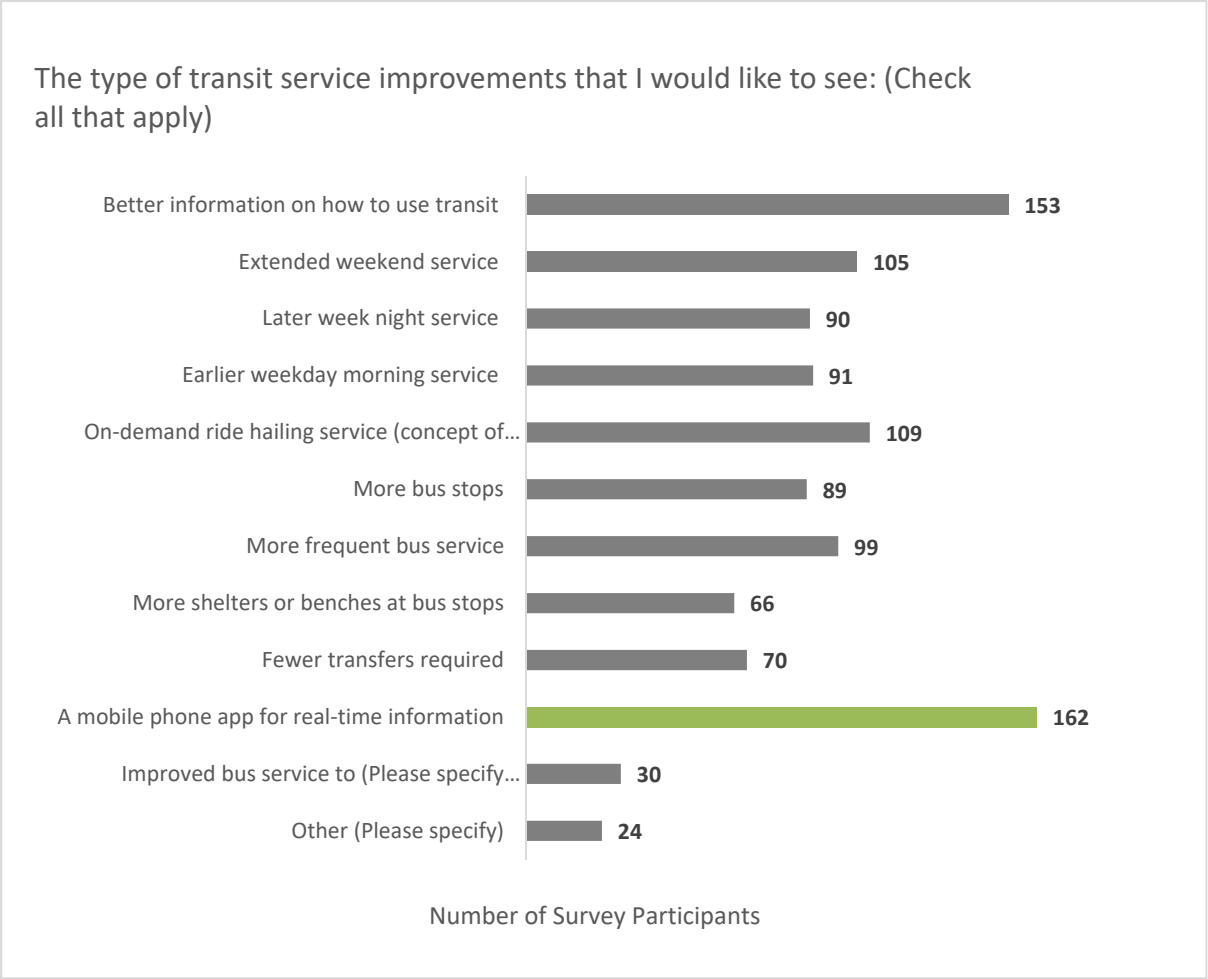


MOST COMMONLY REQUESTED TRACY TRANSIT SERVICE IMPROVEMENTS

The top three most requested transit improvements were:

- A mobile phone app for real-time information
- Better information on how to use transit
- On-demand ride hailing service (concept of subsidized, shared-ride sedan or van service requested through a smart phone or tablet app)

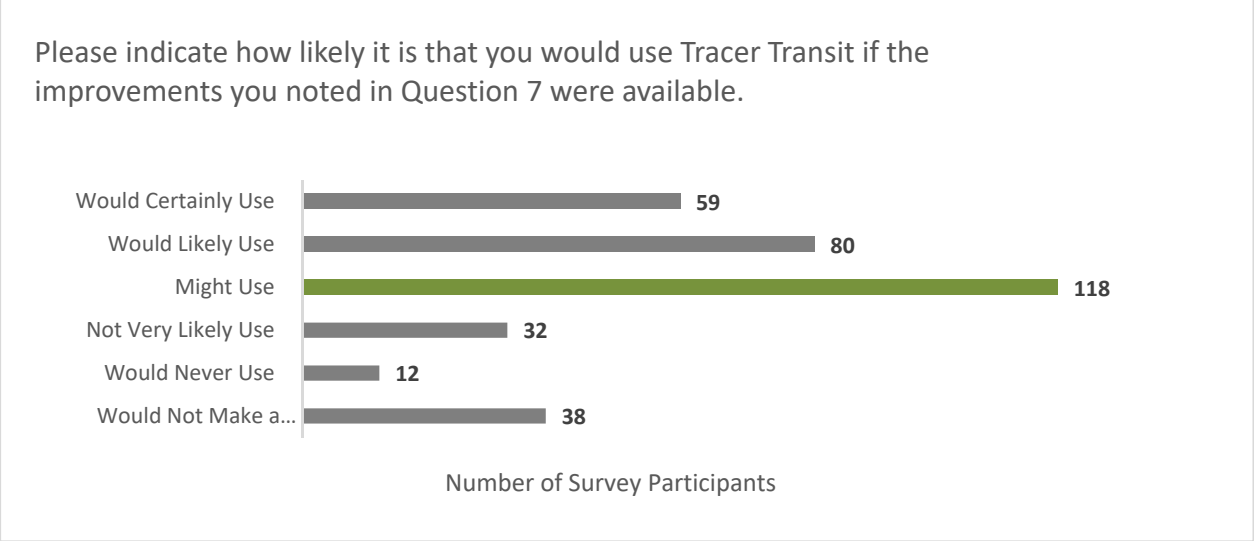
Exhibit 3.5: Most Commonly Requested Transit Service Improvements



LIKELINESS OF USE FOLLOWING IMPROVEMENTS

A majority of survey participants expressed a positive likelihood of using Tracy Transit if their improvements were available, with 35%, or 118 people, stating they might use; 24%, or 80 people, stating they would likely use; and 17% of people, or 59 people, stating they would certainly use it.

Exhibit 3.6: Likeliness of Use Following Improvements



CONCLUSIONS

Results from the survey indicated that although there is interest in improving transit services in Tracy, the private automobile, walking, and ACE rail are the most predominant mode of transportation used within the city. Survey results also indicated user satisfaction of TRACER Transit bus services in areas of transit fares, safety, and punctuality; however, users indicated the least satisfaction in travel times, convenience of use, and convenience of transfers. These same factors were also found to be some of the primary reasons why existing TRACER Transit bus services were not being used. Survey participants expressed existing TRACER Transit bus services takes too long, doesn't go close enough to where they travel to and from, and that the bus routes were not direct enough.

These results suggest that for a transit or mobility service to be effective in Tracy, it needs to be efficient and direct in transporting people where they need to go. The results also suggest that most users are technologically savvy and would appreciate technological improvements in TRACER Transit bus services. Survey results indicated that the top three improvements users would like to see are: a mobile app for real-time information, better information on how to use transit, and an on-demand ride hailing service. Most survey participants responded favorably to the likelihood of using TRACER Transit bus services if the improvements they specified were available.

These results, coupled with previous demographic analysis results, suggest that although there is a potential market for improved TRACER Transit services, the service would need to be designed to attract choice riders. Services should focus on transit times, convenience/ease of use, and direct bus routes.

3.2 On-Board Survey

The on-board survey was administered for a one-week period in mid-May 2018. A total of 497 surveys were completed.

Key findings from survey respondents include:

- 63% ride daily (86% ride at least once per week) [Exhibit 3.7]
- 91% make a round trip
- 56% ride to work or school [Exhibit 3.8]
- 72% walk to get to/from the bus stop [Exhibit 3.9]
- 56% did not have a personal vehicle available [Exhibit 3.10]

Exhibit 3.7: Frequency of Ridership

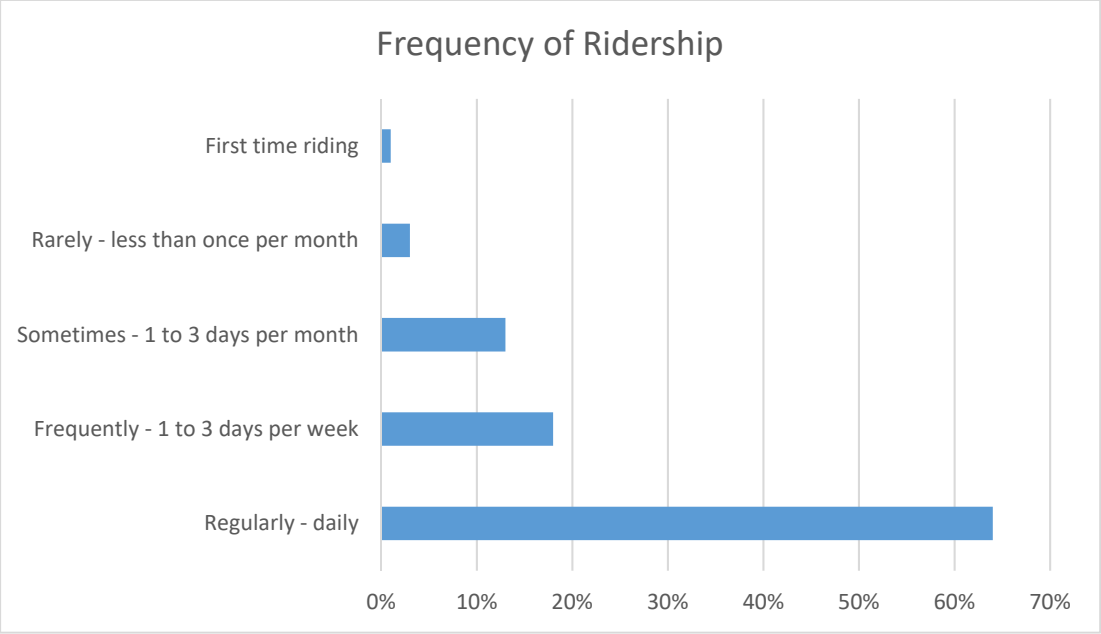


Exhibit 3.8: Trip Purpose

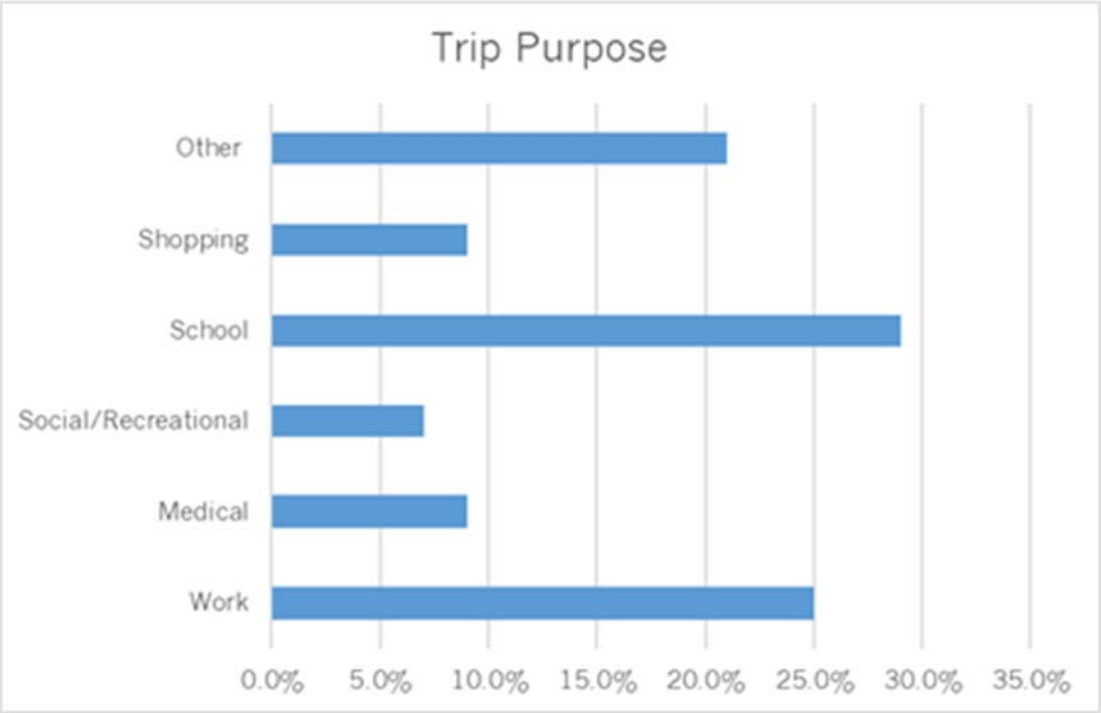


Exhibit 3.9: Access to Bus Stop

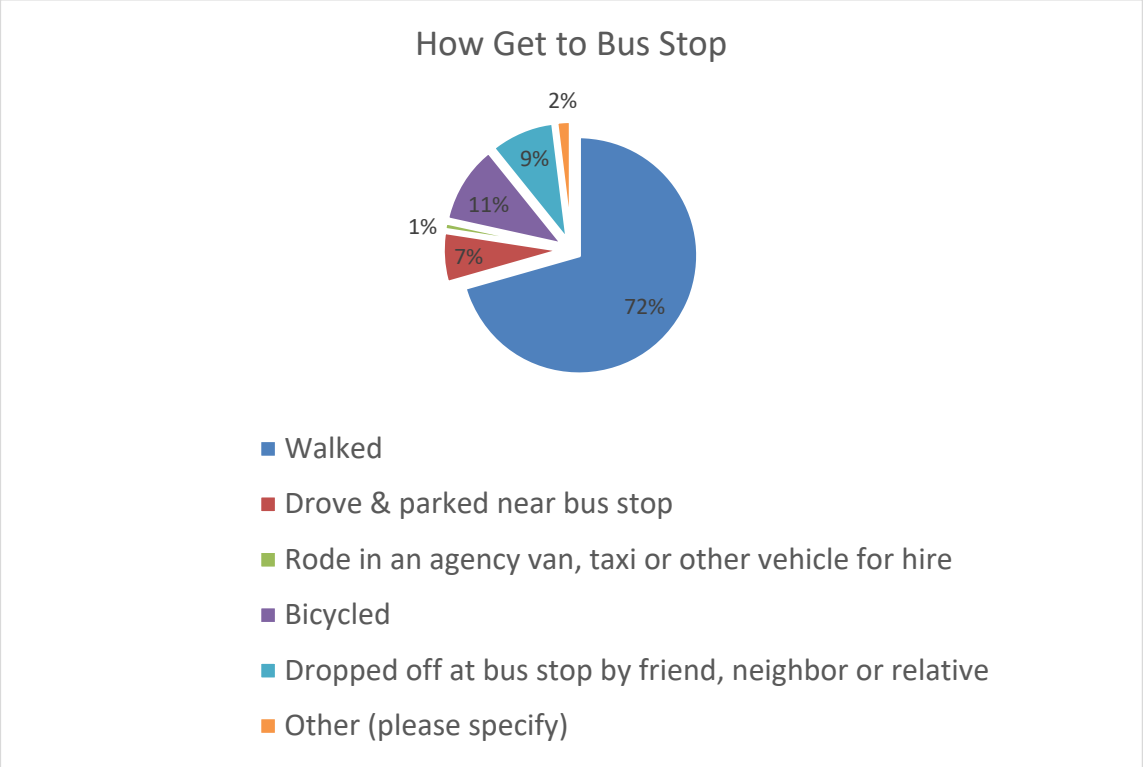
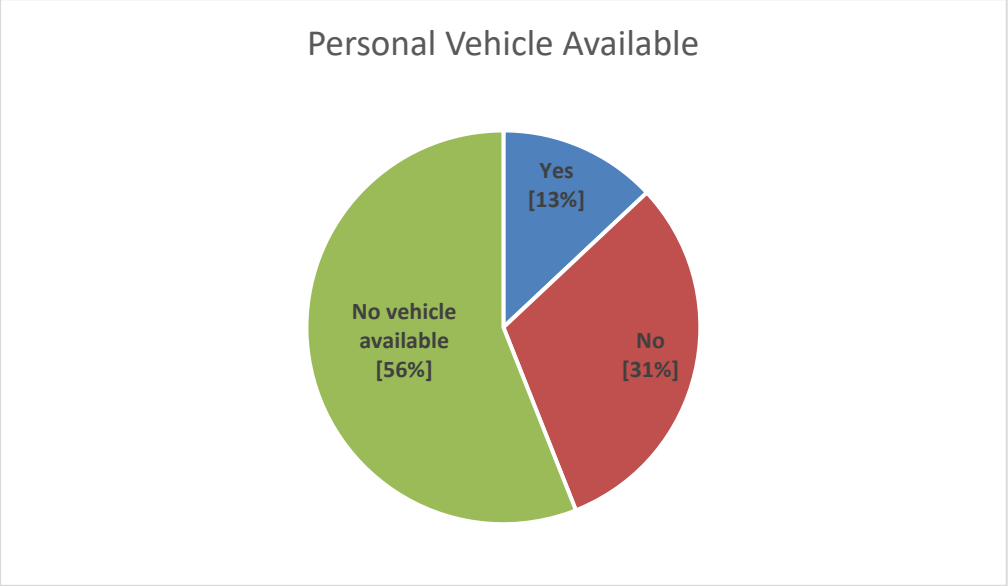


Exhibit 3.10: Personal Vehicle Available



Quality of Service: Understanding the qualitative aspects of Tracy TRACER service delivery is important in the evaluation of current transit performance. As a part of the process, the survey asked participants to provide feedback on various qualitative factors including:

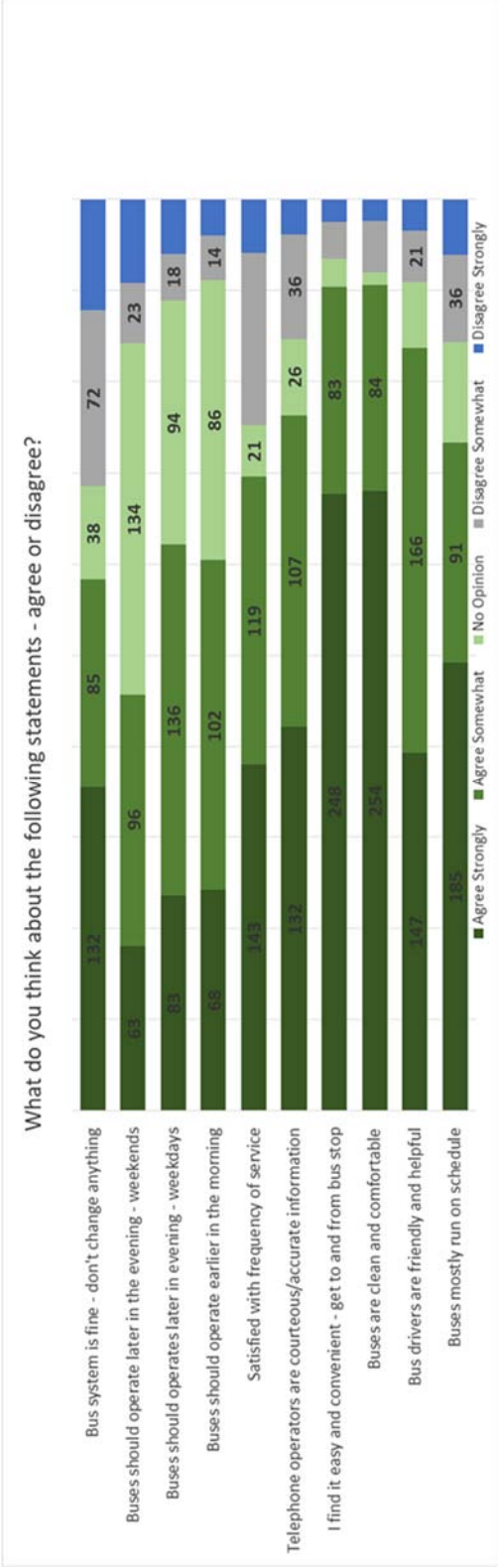
- Convenience of service
- Transit travel time
- Perceived safety on transit and waiting for transit
- Available transit information
- On-time performance
- Transit fares
- Overall satisfaction of transit service

The results of the survey revealed that TRACER customers were generally satisfied with the overall quality of services. More specifically, the survey results revealed that customers were the most satisfied with safety and transit fares. The area of least satisfaction is that of the frequency of service. Of note was the response to "*The loop routes and downtown transfer point make my trip longer than need be*", while 37% of respondents had "no opinion", close to 40% *Agreed* or *Strongly Agreed*.

Exhibit 3.11 illustrates the results of the survey regarding the quality of TRACER transit services.

The majority of respondents indicated that the drivers were friendly & helpful. The areas of greatest concern were that it takes too long to travel by bus and that the buses were not always on schedule.

Exhibit 3.11: Quality of Service Considerations



4.0 GOALS, OBJECTIVES AND STANDARDS

4.1 City of Tracy General Plan (2011) – A Vision, Goals and Objectives

Supplemental to the demographic and socioeconomic profile, reference to the 2011 General Plan informs on a vision for the future in general and *Circulation Element* goals and objectives specifically. The 2011 General Plan provides a vision for the future and establishes a framework for how Tracy should grow and change over the next two decades. While embracing change, this General Plan establishes goals, objectives, policies and actions that empower the City and community to guide this change in a desired direction.

Vision Statement: *Through the year 2025, the City of Tracy will continue to enhance its place as a great community in which to live, work and play. Drawing on its small town character, the City will grow in a manner that provides a high quality of life for all current and future residents and employees.*

Included is reference to: *Meet the transportation challenges of the future, so that people can travel safely and conveniently on foot or by car, air, bicycle, and transit.*

Circulation Element

The Circulation Element includes policies supporting street connectivity, extensive bicycle and pedestrian facilities, and a high degree of connectivity between all modes of transportation in Tracy.

Goal CIR-4 A balanced transportation system that encourages the use of public transit and high occupancy vehicles.

Objective CIR-4.1 Promote public transit as an alternative to the automobile.

Policies

P1. The City shall promote efficient and affordable public transportation that serves all users.

P2. The City shall continue to partner with SJCOG, SJRTD and Caltrans in efforts to locate park-and-ride lots and other transit-related facilities in the City of Tracy.

P3. The City shall continue to operate the Tracer fixed-route and paratransit transit service and expand service to new residential and non-residential areas if funding for additional service is available and is warranted by ridership demand.

P4. The City shall seek funding from regional and State and federal agencies to fund additional transit service expansions and improvements.

P5. The City shall require development to provide for transit and transit-related increased modal opportunities, such as adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots and multi-modal Transit Centers through the development and environmental review processes, if appropriate.

P6. The City shall encourage efforts for additional regional transit service, including expansion of the existing ACE service, expansion of the existing commuter bus service, and new commuter rail service from Tracy to other areas in the region.

4.2 Transit Performance Measurement

Transit industry performance measurement best practices are reflected in *TCRP Report 88: A Guidebook for Developing a Transit Performance-Measurement System*, and the *Report on California Transit Performance Measures* prepared for Caltrans by the Mineta Institute. TCRP Report 88 identifies over 400 transit performance measures divided into seven categories:

1. Service Availability measures the quantity of transit access based on when (*i.e.*, span), where (*i.e.*, coverage and stop location), and how often (i.e., frequency) transit services are available. These are primarily design criteria that do not fluctuate except when consciously reset by budgetary or policy changes. Therefore, they do not need to be monitored, measured and reported on a routine basis.
2. Service Delivery measures the quality of customers' day-to-day transit travel experience in terms of service reliability, comfort and convenience. Key service quality indicators include network coverage, service span and frequency, available capacity (loading condition), and utilization (ridership and productivity). This group includes both measures of dynamic conditions that require continual monitoring and frequent reporting on a monthly or quarterly basis; as well as relatively static design criteria.
3. Safety/Security measures the likelihood that an accident will occur involving customers, or that a customer or employee will become a crime victim while using transit. Examples of performance measures in this category include accident rates per 100,000-mile, injury accidents per passenger miles, and quantity of safety devices and personnel. These are dynamic measures of preferred outcomes that warrant continual monitoring and quarterly reporting.
4. Community Impact measures quality-of-life impacts on service area communities in terms of access to employment, economic growth and productivity, personal mobility and finances, pollution reduction, and equitable distribution of transit service. These are primarily preferred outcomes that are attainable over a multi-year timeframe. As such, they require regular monitoring and periodic reporting.
5. Maintenance measures the safety, reliability and condition of revenue vehicles in terms of average fleet age and mileage, road calls per 100,000 miles, conformance to scheduled maintenance inspections, among others. These are dynamic measures of preferred outcomes that warrant continual monitoring and quarterly reporting.
6. Financial Performance measures how efficiently resources are deployed to meet travel demand within budgetary constraints. Key performance measures include net cost per revenue hour and per customer boarding applied to individual routes, and farebox recovery generally applied to the system. Net cost per revenue mile, which usually applies to commuter routes only, is not needed by TRACER transit as a performance measure distinct from net cost per hour.

7. Agency Administration measures organizational efficiency in terms of employee productivity (*e.g.*, vehicle miles per employee), employee relations, and the percentage of the total operating budget consumed by general and administrative (G&A) expenses. These are dynamic measures of preferred outcomes that warrant ongoing monitoring and annual reporting.

A broad framework for monitoring, measuring and reporting system performance is cast by the City of Tracy's organizational mission statement:

> ***Mission:*** *" We provide the community of Tracy with basic and extended services that offer opportunities for individuals, families and businesses to prosper as they live, work and play in Tracy."*
>
> ***Purpose & Vision:*** "*Our purpose is to preserve and improve the quality of life for Tracy so that we become the most prosperous community in California."*

The City's Parks & Recreation Department oversees transportation services including transit and has the following mission statement: *"To ensure access to outstanding programs, services and community amenities that contribute to the quality of life in Tracy."*

These mission statements may be the foundation for a vision reflecting: *Tracy TRACER as a leader in applying new technology and innovative solutions toward future progress in improving the value, efficiency, and effectiveness of its services and the economic vitality of the community. TRACER's services keep pace with growth in populations and incorporate new areas, while maintaining efficiency and effectiveness throughout the system.*

Goals and objectives provide directions for action. The following four goals, while general in nature, are recommended for adoption to guide transit/mobility service delivery.

Goal 1: Operate a high-quality public transportation system (safe, reliable, effective, efficient, and accessible).

Goal 2: Meet the growing demand for new services and implement innovative and cost-effective solutions to meet the increasing public transportation needs of the community.

Goal 3: Provide leadership in public transportation for the City, and the industry.

Goal 4: Educate the public about transit services in the area and the benefits of public transportation to the community and individuals.

Each goal is supported by specified objectives, key performance indicators and measures, standards and targets. The SRTP compiled these in a table containing key performance indicators (*i.e.*, those that influence level of service) as well as passive or static design standards, preferred outcomes, management and marketing initiatives as a single body of information. This presents a complex view of performance measurement that may be difficult for stakeholders to absorb. Accordingly, the following discussion separates active measurement criteria from design criteria and preferred outcomes to focus attention on the key metrics underlying the evaluation of existing services presented in the next chapter.

4.2.1 TRACER Performance Metrics

The City's TRACER fixed route transit must meet a *Three-year Transit Systems Performance Objective* (in lieu of meeting farebox recovery) as established by the SJCOG Board to receive more TDA funds than the last year of compliance. Performance objectives are established every three years. TRACER is required to meet two out of three performance targets, as presented below.

Performance Objectives	FY 2019-20	FY 2020-21	FY 2021-22
	Target	Target	Target
Cost per Revenue Hour	< $128.80	< $143.16	< $147.32
Passengers per Revenue Hour	>4.6	> 4.7	> 4.8
Subsidy per Passenger	< $18.07	< $20.77	< $21.23

Key performance indicators for Tracy TRACER transit fixed route services are summarized in Exhibit 4.1. These metrics provide the basis for service evaluation and most directly influence proposed changes to the level of service operated on individual routes at various times of the service day. Transit monitors key performance indicators on an ongoing basis through monthly reports.

Exhibit 4.1: TRACER Transit Fixed Route Key Performance Indicators

Key Performance Indicator	Measure	Standard
Cost Efficiency	Cost per revenue hour	Base year + CPI
Service Effectiveness	Passengers per revenue hour	15 per hour New service (< 2 yrs.) – 10 per hour

Preferred outcome metrics are summarized in Exhibit 4.2. These are active indicators of dynamic performance of system functions such as transportation operations, maintenance, and administration. A new measure – annual transit rides per capita – replaces Percentage annual increase in total boardings as an indicator of ridership growth,

Exhibit 4.2. TRACER Transit Fixed Route Preferred Outcomes

Preferred Outcome	Measure	Target
Ridership Growth	Annual Rides per Capita	
Reliability	Schedule adherence (percent on-time)	95% >
	Missed trips	< 1%
	Miles between road calls	14,000
Safety	Preventable accidents per 100K miles	< 1.5
	Passenger injuries per 100K miles	< 1.0
Customer Service	Bi-annual survey results	Rating of 3.0 or better
	Complaints per 100K customer boardings	< 100

The SRTP also identified various management and marketing initiatives as part of the performance measurement system. These actions are inherent to transit system management and do not necessarily demand dynamic quantitative measurement. Examples cited in the SRTP include:

- Employ technology cost effectively
- Annual marketing program
- Public information program
- Community association memberships and attendance
- Participation in community events
- Participation in industry conferences

4.2.2 TRACER Paratransit Performance Metrics

Key performance indicators for TRACER Paratransit services are summarized in Exhibit 4.3.

Exhibit 4.3: Paratransit Key Performance Indicators

Key Performance Indicator	Measure	Standard
Cost Efficiency	Cost per revenue hour Cost per revenue mile	Base year + CPI
Service Effectiveness	Passengers per revenue hour	2.5 >
Cost Effectiveness	Net cost per passenger Farebox recovery (% of total operating cost)	$x.xx per passenger 10%

Paratransit service design guidelines are summarized in Exhibit 4.4. These are static measures used to shape service design and optimize the distribution of system resources. The targets indicate desired FY 2023 attainment thresholds.

Exhibit 4.4: Paratransit Service Design Criteria

Design Criteria	Measure	Target
Service Coverage	Percent residents served within ¾-mile of a fixed route bus route	100%
Service Span	Operating days of service	Same as fixed route system
Average Wait Time		
Loading Condition	Maximum customers onboard	1.2x seated capacity
Transit Travel Time	Time relative to comparable travel via personal vehicle	< 1.5x personal vehicle travel time

Preferred outcome metrics are summarized in Exhibit 4.5. These are active indicators of dynamic performance of system functions such as transportation operations, maintenance, and administration.

Exhibit 4.5: Paratransit Service Preferred Outcomes

Preferred Outcome	Measure	Target
Ridership Growth	Percentage annual increase in total boardings	Population growth
Reliability	Schedule adherence (percent on-time)	90% >
	Missed trips	< 2%
	Miles between road calls	10,000
Safety	Preventable accidents per 100K miles	< 1.5
	Passenger injuries per 100K miles	< 1.0
Customer Service	Percentage of calls handled w/i 5 seconds	
	Bi-annual survey results	Rating of 3.0 or better
	Complaints per 100K customer boardings	< 100

5.0 OVERVIEW OF TRANSIT SYSTEM

5.1 History

The City initiated a fixed-route service in December 2001 and a demand response service was introduced in January 2002 with reduced service hours. The former Tracy Transit services were discontinued. A phased implementation plan for the Tracer Paratransit taxi program started in September 2002 with a certification process, and in July 2003 the user portion of the taxi fare increased from 25 percent to 50 percent. Commuter routes were added in 2004. Since the 1998 report, the population of Tracy has grown substantially, and the city limits have expanded. The 2000 U.S. Census found that the City of Tracy and environs surpassed the 50,000 mark in population to become an urbanized area. As a result, Tracy became eligible for annual Federal Transit Administration (FTA) Section 5307 grant funding for transit in FY 2003. The transit service is administered by the City's Parks and Recreation Department and is operated by a private contractor.

Located in southwestern San Joaquin County near the border with Alameda County, Tracy is the second largest city in the county.

5.2 Organization

The City of Tracy is a general law city with a City Manager form of government. The City Manager is the chief administrative officer for the City and is accountable to the City Council. The City Manager appoints the Assistant City Manager and the department heads of the City's eight departments. Under the City Manager, the Parks and Recreation Department is responsible for the airport, alternative modes (bicycling, walking), and the day-to-day administration of the transit system.

The City Council is the policy-making body responsible for adopting TRACER policies, determining service and funding levels for the system, and ensuring performance consistent with community expectations, and regulatory compliance. Established by City Council Resolution 2007-120, a Transportation Advisory Commission provides advisory input on a variety of transportation issues.

TRACER transit services are administered by a Management Analyst II with the assistance of a Transportation Coordinator and two Maintenance positions (each of the Maintenance positions are dedicated 50% to transit and 50% to airport).

The Management Analyst II is responsible for administrative duties including: service contract monitoring administration, capital program planning, system performance monitoring, system planning and marketing, and grant compliance.

The City contracts with RideRight, LLC for all transit operations, as well as maintenance and repair services for the transit fleet.

5.4 Service Area

The TRACER fixed route system covers 22 square miles of the City containing nearly 100,000 residents. Local service was implemented in December 2001, and commuter routes were added in 2004. The existing route network is comprised of four local routes and two commuter routes. Peak weekday service requires nine buses; midday and Saturday service requires six buses.

TRACER is supplemented by regional bus services provided by the San Joaquin Regional Transit District (SJRTD), including intercity Route 97 and Hopper Route 90, which connect Tracy to Stockton. Other transit services include ACE commuter rail and Greyhound intercity bus.

5.5 TRACER Fixed Route System Description

5.5.1 Network Coverage

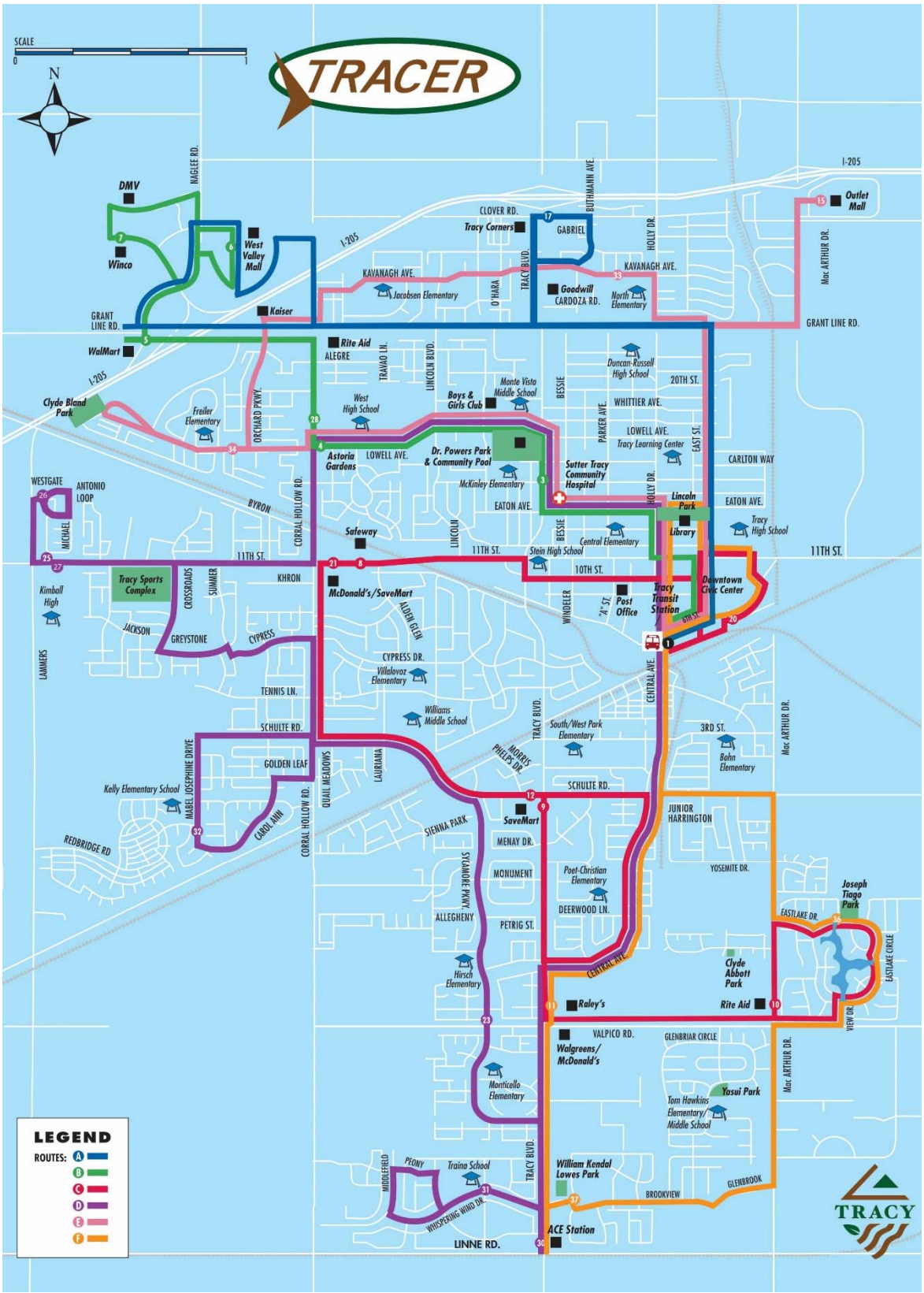
Shown in Exhibit 5.1, the fixed route network consists of four all-day routes (A, B, C, D) operating on weekdays and Saturdays, and two (E, F) weekday peak-only commuter routes. All routes begin and end at the Tracy Transit Station, located on 6th Street on the southern fringe of Downtown Tracy. Key destinations accessed by the network include:

- Medical Facilities
  - Kaiser Permanente – Grant Line Road at Orchard Parkway
  - Sutter Hospital on N Tracy Boulevard at Eaton Avenue
- Shopping / Retail Employment
  - Downtown shops and restaurants
  - Goodwill store – Grant Line Road at Tracy Boulevard
  - Northgate Village Outlet Mall – MacArthur Drive at Pescadero Drive
  - Raley's – Tracy Boulevard at Valpico Road
  - Safeway – 11th Street at Corral Hollow Road
  - SaveMart – Tracy Boulevard at Schulte Road
  - Tracy Corners – Tracy Boulevard at Clover Road
  - Walmart - Grant Line Road at Naglee Road
  - West Valley Mall on Naglee Road in the northwest corner of the City
  - Winco Foods – Pavillion Parkway
- Schools
  - Kimball HS – Lammers Road at 11th Street
  - Stein HS – 11th Street at Tracy Boulevard
  - Tracy HS – East Street at 12th Street
  - West HS – Lowell Avenue at Corral Hollow Road

- Institutions
    - Civic Center – City Hall and Senior Center
    - DMV office – Auto Plaza Drive
    - Dr Powers Park / Community Pool – Lowell Avenue
    - Public Library – Holly Drive in Lincoln Park
    - Sports Complex – Crossroads at 11th Street
    - ACE train station - Linne Road at Tracy Boulevard

Several issues may be observed in the current network that contrast with industry best practices for bus route design. The existing network emphasizes spatial coverage over schedule frequency, reflecting the classic *"walk time vs. wait time"* trade-off that confronts transit customers and planners alike. TRACER route alignments are circuitous at times, with one-way segments and time-consuming deviations into residential neighborhoods. For many customers, this service design means longer onboard travel times, longer wait times at bus stops, and a route structure that seems unnecessarily complicated. Network issues are discussed further at the conclusion of this chapter.

Exhibit 5.1: TRACER Fixed Route Network, FY 2018



5.5.2 Service Span and Frequency

Current level-of-service characteristics of the fixed route system are summarized in Exhibit 5.2. TRACER operates six days per week (Monday – Saturday), with no service on Sundays and the following observed holidays: New Year's Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day. The system operates 255 weekdays and 52 Saturdays, or 307 days annually in a typical calendar year.

Schedule frequencies are low by today's metrics, with two local routes (A, B) running every 30 minutes, and two others (C, D) running hourly. Weekday schedules extend from 5:00 am until nearly 8:00 pm, although early morning service before 7:00 am is limited to the commuter routes. Local routes A and B operate a 30-minute frequency across the service day beginning at 7:00 am; and local route C operates hourly also beginning at 7:00 am. Route D regular service operates from 6:20 am until 7:27 pm on variable headways ranging between 35 and 70 minutes.

Saturday service operates from 9:00 am until nearly 7:00 pm with hourly service on Routes A, B and C; and 65-70 minutes on Route D.

Exhibit 5.2: TRACER Level of Service Characteristics, FY 2018

WEEKDAY	**Service Span**		**Frequency**			**Schedule Cycle**	**Buses in Service**		
Route	**Begin**	**End**	**Peak**	**Midday**	**Eve**		**Peak**	**Base**	**Eve**
			minutes	minutes	minutes	minutes			
A	7:00 AM	7:58 PM	30	30	30	60	2	2	2
B	7:00 AM	7:58 PM	30	30	30	60	2	2	2
C	7:00 AM	7:58 PM	60	60	60	60	1	1	1
D	5:00 AM	7:27 PM	50	65	65	35 - 70	2	1	1
E	6:40 AM	4:50 PM	1 trip AM / 2 PM	--	--	55	1	0	0
F	6:00 AM	9:55 PM	2 trips AM & PM	--	--	55	1	0	0
Subtotal, Weekday							9	6	6
SATURDAY	**Service Span**		**Frequency**			**Schedule Cycle**	**Buses in Service**		
Route	**Begin**	**End**	**Early**	**Day**	**Eve**		**Peak**	**Base**	**Eve**
			minutes	minutes	minutes	minutes			*Hours per period*
A	9:00 AM	6:58 PM	60	60	--	60	1	1	0
B	9:00 AM	6:58 PM	60	60	--	60	1	1	0
C	9:00 AM	6:58 PM	60	60	--	60	1	1	0
D	9:00 AM	6:27 PM	65	65	--	65	1	1	0
Subtotal, Saturday							4	4	0
Maximum Vehicles Required							9	6	6

5.5.3 Ridership and Productivity

TRACER ridership and service productivity are near the low end of the range among peer transit systems.[3] Annual ridership, which has reflected a flat to slightly declining trend during the last five years, is estimated at 158,000 customer boardings in FY 2018. As indicated in Exhibit 5.3, system service productivity is 6.5 boardings per revenue service hour. Individual route productivities range from a high of 8.7 boardings per hour (Route F) to a low of 3.9 boardings per hour (Route D). Notably, the productivity of local Route C operating hourly schedules is higher than Routes A and B operating 30-minute weekday schedules.

Exhibit 5.3: TRACER Ridership and Productivity by Route, FY 2018

Route	FY 2018 Estimated Ridership	FY 2018 Estimated Revenue Hours	Service Productivity (Passengers per Hour)
A - Blue	48,000	6,900	7.0
B - Green	46,500	6,900	6.7
C - Red	31,000	3,825	8.1
D - Purple	19,400	5,025	3.9
E - Pink	6,600	925	7.1
F - Orange	6,500	750	8.7
Total	158,000	24,325	6.5

5.6 TRACER Route Analysis

This section presents a detailed assessment of each route based on fresh ridership and running time data collected on board TRACER buses specifically for this study.[4] These boarding and alighting counts were compared with FY 2018 system-level operating data reported by the City to ensure accuracy of the data. Ridership counts were tabulated in spreadsheets (see Appendix C) and graphed for presentation in this section.

5.6.1 Route A

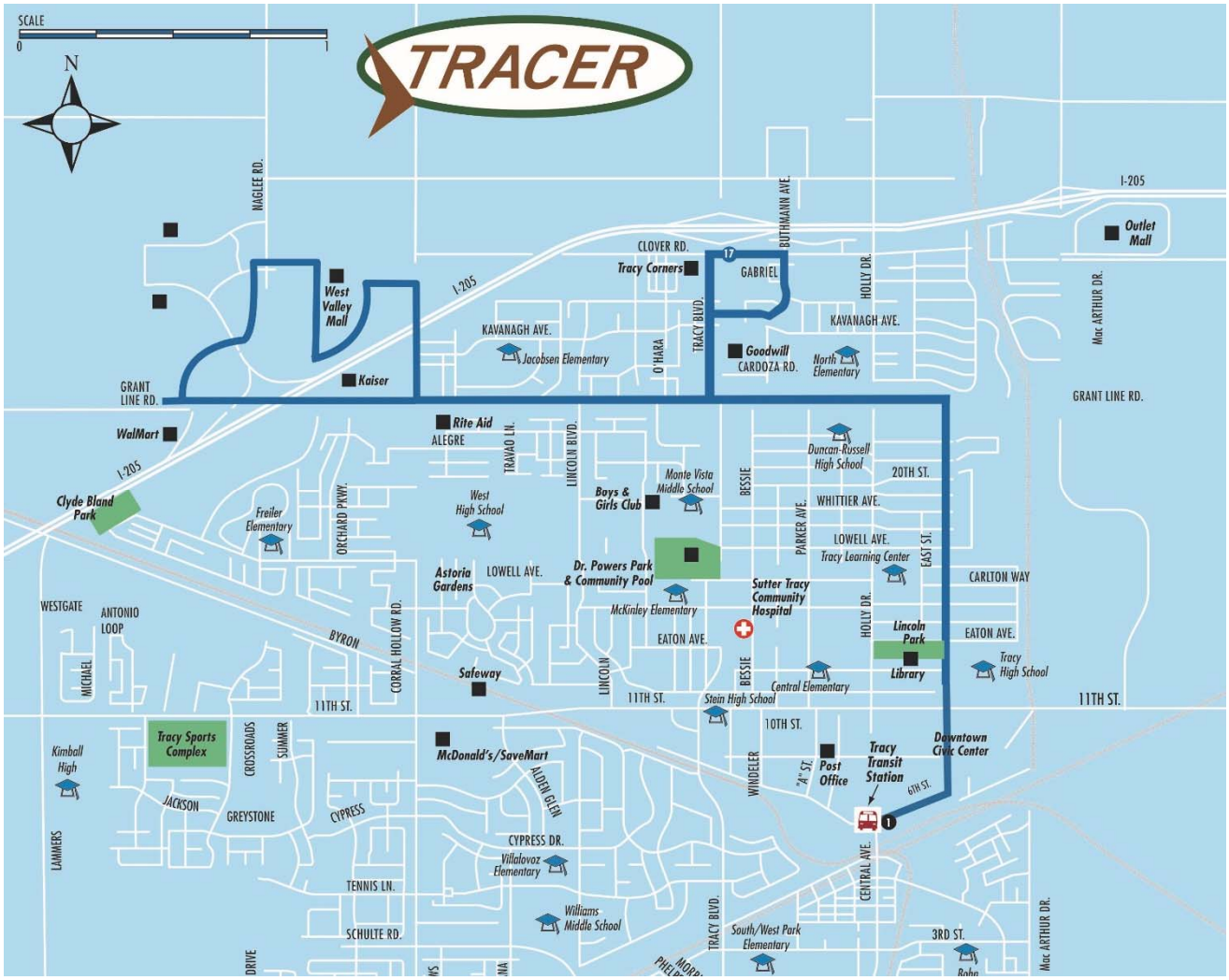
Shown in Exhibit 5.4, Route A follows a mostly linear alignment across the north side of the City with bi-directional service on East Street and Grant Line Road between Downtown Tracy and northwest retail district centering on West Valley Mall. A mid-route deviation at Tracy Boulevard

[3] Among California municipal systems, average service productivity ranges from 12 – 20 boardings per revenue service hour.
[4] Onboard data collection conducted May 15 – 21, 2018.

extends north of Grant Line Road to Clover Road, primarily for access to the Tracy Corners Shopping Center. The western end of the route is a counter-clockwise loop with major stops at West Valley Mall, Target, and Walmart. Route A is divided into four key segments for analysis:

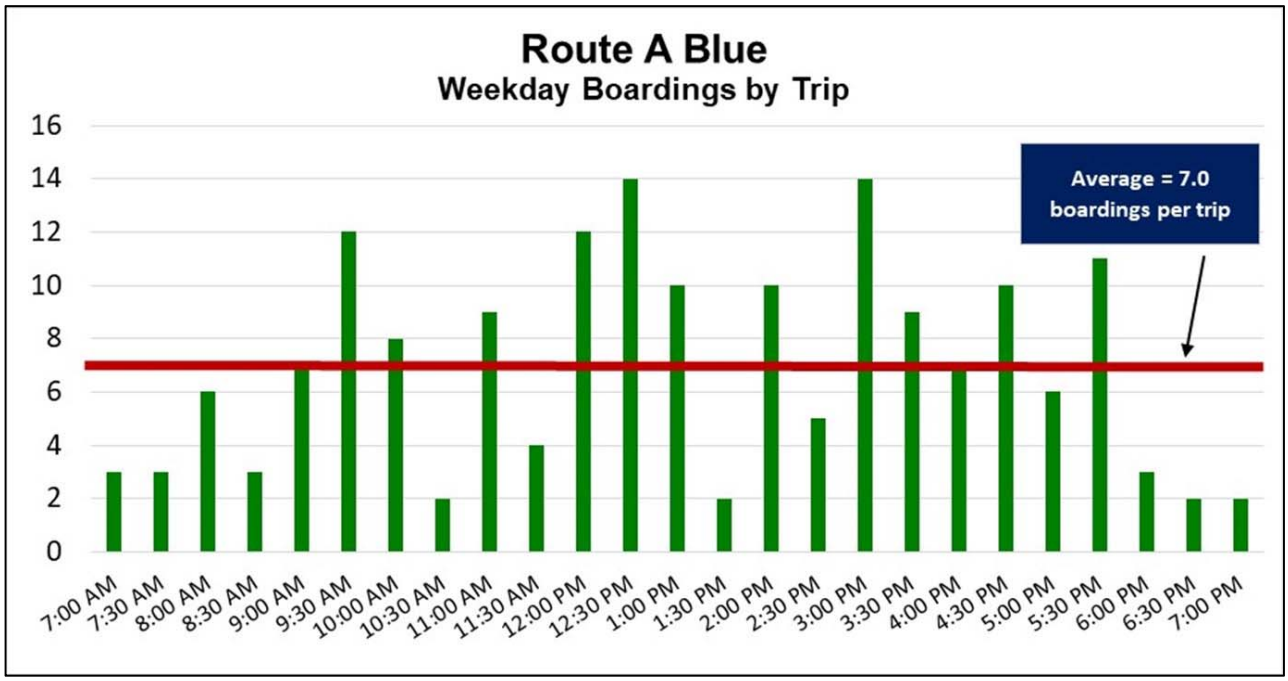
- East Street running north-south between Grant Line Road and Downtown Tracy; and continuing via 6th Street to the Transit Station.
- Grant Line Road running east-west between East Street and Naglee Road.
- A mid-route deviation looping north of Grant Line Road via Tracy Boulevard to Clover Road; and providing access to Tracy Corners Shopping Center.
- Retail district located in north of I-205 and west of Corral Hollow Road in northwest Tracy; including West Valley Mall, Target, and Walmart. This segment partly overlaps Route B.

Exhibit 5.4: TRACER Route A



Route A weekday service generates an average of 175 customer boardings on two buses operating a total of 25 daily revenue service hours; an average of just under seven boardings per hour. A summary distribution of total boardings by weekday trip across the service day is provided in Exhibit 5.5. All trips depart from and terminate at the Transit Station. The data indicates higher ridership during the middle of the service day; the busiest trips occur at 9:30 am, noon, 12:30 pm, and 3:00 pm. Eight trips in the 25-trip weekday schedule generate 10 or more boardings. Ridership is minimal during the first and last hours of the service day. Student ridership appears limited to the afternoon.

Exhibit 5.5: Route A Weekday Boardings by Trip

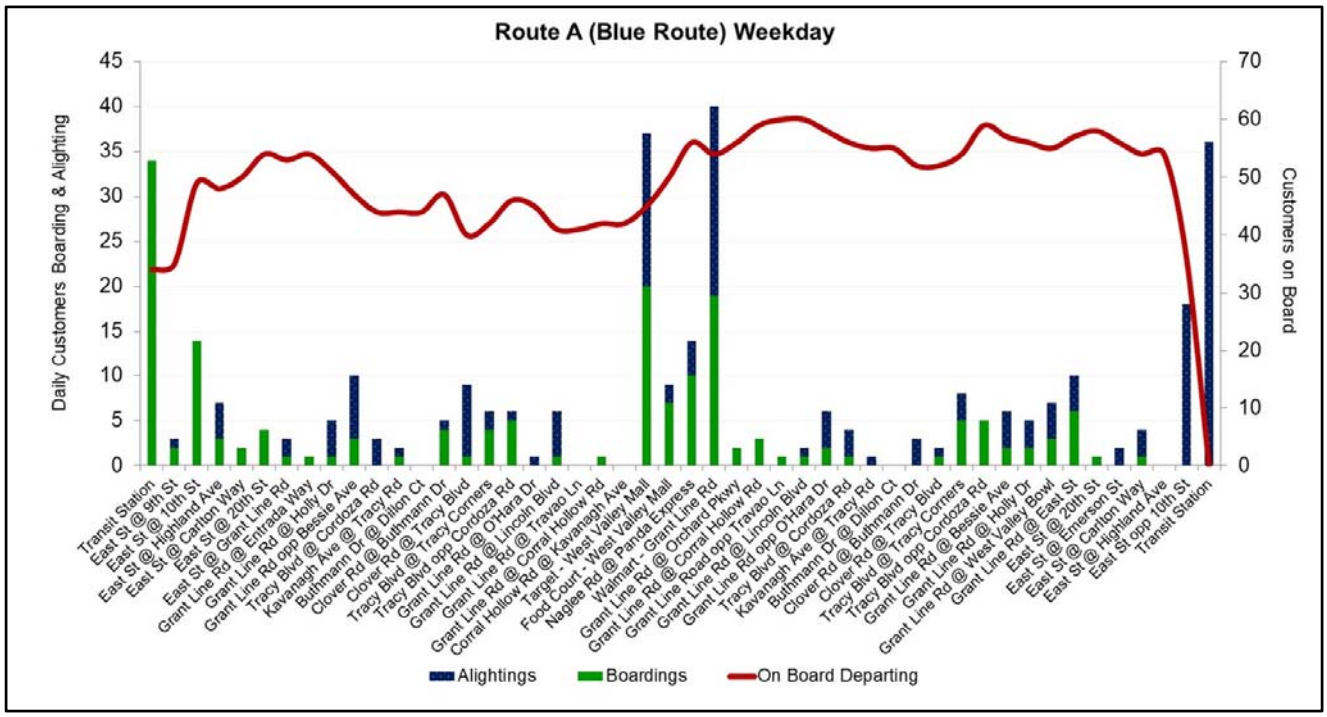


A distribution of weekday customer boardings, alightings, and onboard volumes by sequential bus stop along Route A are displayed in Exhibit 5.6.[5] The Transit Station and West Valley Mall area, including Target and Walmart, account for half of total weekday ridership activity. Other significant trip generators include the Civic Center (City Hall, Senior Center), Tracy High School, and businesses along Grant Line Road.

The Tracy Corners deviation on Route A generates 15-20 boardings per weekday north of Cordoza Road on Tracy Boulevard, Kavanaugh Avenue, Buthmann Drive, and Clover Road. This compares to 60 or more customers per day riding Route A buses through the intersection of Grant Line Road and Tracy Boulevard. The deviation is covered in both directions, resulting in 50 scheduled bus trips per weekday to Tracy Corners.

[5] The green and blue bars represent total daily customer boardings and alightings (per left scale) at each stop. The red line indicates the total number of customers on board all trips when departing each stop (per right scale).

Exhibit 5.6: Route A Boardings and Alightings by Bus Stop, Weekdays



The five most active stops along Route A are listed in Exhibit 5.7.

Exhibit 5.7: Route A Most Active Bus Stops, Weekdays

Bus Stop	Weekday Boardings	Weekday Alightings	Transit Trip Activity	Percent of Daily Activity
Transit Station	34	36	70	20.1
W Valley Mall (2 stops)	27	19	46	13.2
Walmart – Grant Line Rd	19	21	40	11.5
East St / 10th (City Hall)	14	18	32	9.2
Naglee Rd / Grant Line Rd	10	4	14	4.0

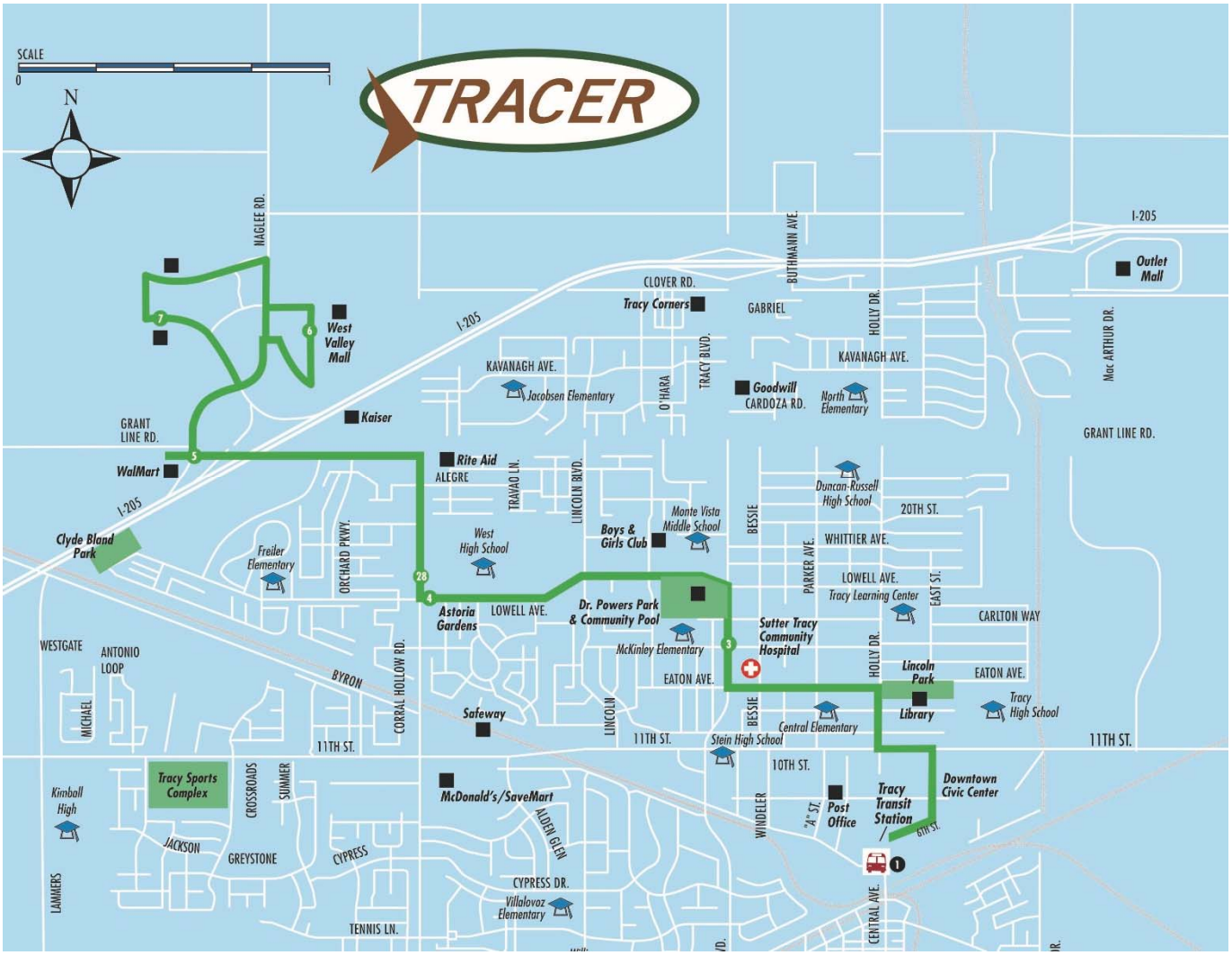
5.6.2 Route B

Shown in Exhibit 5.8, Route B follows a linear alignment across central Tracy with bi-directional coverage on East Street, Holly Drive, Eaton Avenue, Tracy Boulevard, Lowell Avenue, Corral Hollow Road, Grant Line Road and Naglee Road; between Downtown Tracy and the northwest retail district centering on West Valley Mall. The western end of the route is a counter-clockwise

loop with major stops at Target, West Valley Mall, the Department of Motor Vehicles office, Winco Foods, and Walmart. Route B is divided into three key segments for analysis:

- Holly Drive and East Street (via 11th Street) running north-south between Eaton Avenue and Downtown Tracy; and continuing via 6th Street to the Transit Station.
- Eaton Avenue and Lowell Avenue (via Tracy Boulevard) running east-west between Holly Drive and Corral Hollow Road. This segment overlaps Routes D and E.
- Retail district located in north of I-205 and west of Corral Hollow Road in northwest Tracy; including West Valley Mall, Target, Walmart, Winco Foods, DMV office, auto dealerships, and medium density residential housing. This segment partly overlaps Route A.

Exhibit 5.8: TRACER Route B

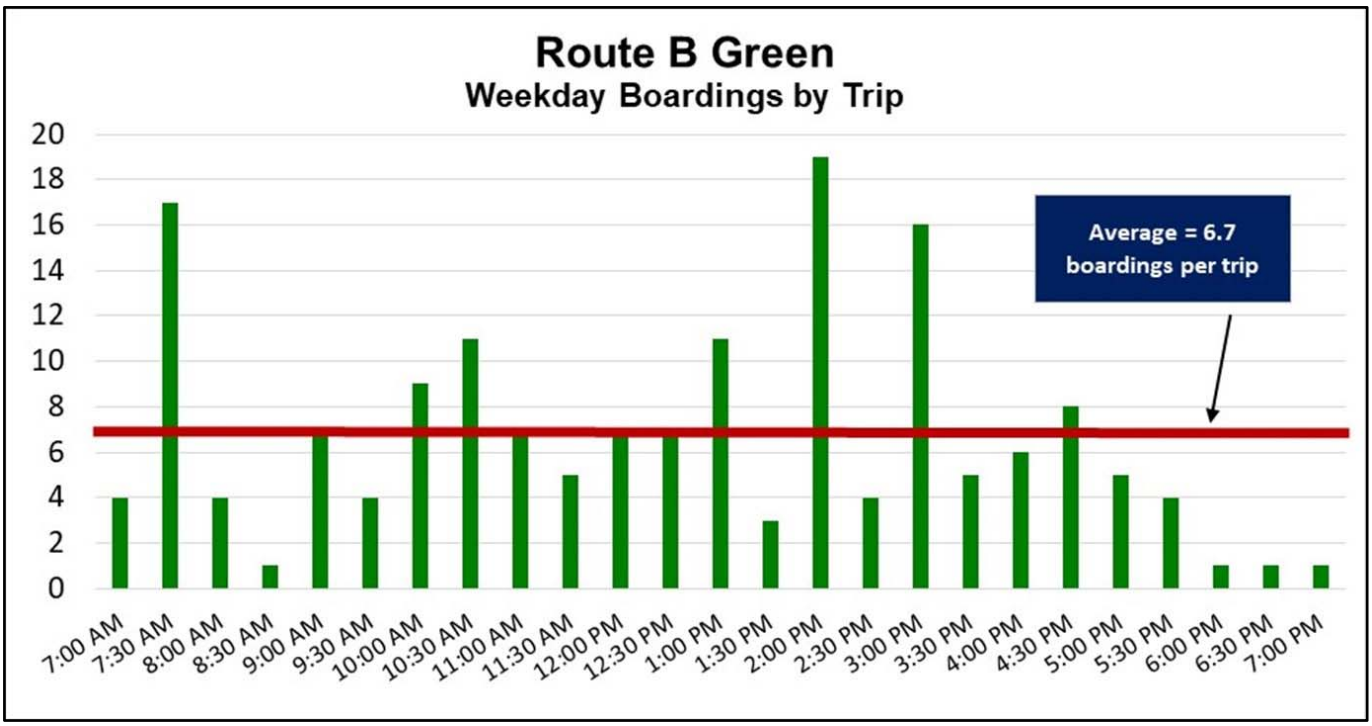


Route B weekday service generates 167 customer boardings on two buses operating 25 revenue service hours; an average of 6.7 boardings per hour. The weekday schedule contains 25 trips

and the Saturday schedule contains 10 trips. All trips depart from and terminate at the Transit Station on an hourly cycle.

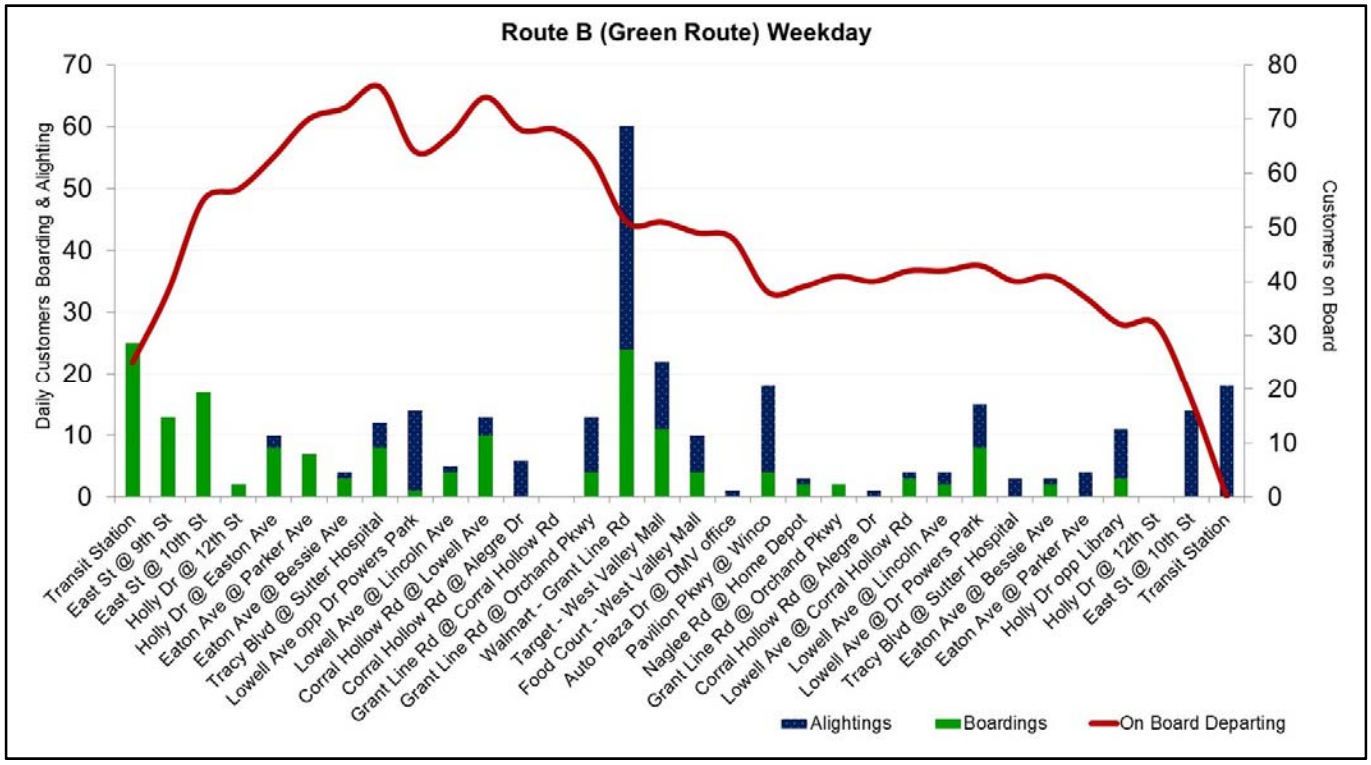
A summary distribution of total boardings by weekday trip is provided in Exhibit 5.9. The data indicates low ridership across the day; with selected trips spiking upward around school bell times (*i.e.*, 7:30 am, 2:00 pm and 3:00 pm trips). These data indicate significant student ridership on school days. Five trips in the 25-trip daily schedule carry 10 or more passengers. Ridership is negligible after 6:00 pm.

Exhibit 5.9: Route B Weekday Boardings by Trip



A distribution of weekday customer boardings, alightings, and onboard volumes shown sequentially by bus stop appears in Exhibit 5.10. The northwest business district, including West Valley Mall, Walmart, Winco Foods, and the DMV office account for more than one-third of total weekday ridership activity. Other significant trip generators include the Civic Center area (City Hall, Senior Center); and the Dr. Powers Park stops near Monte Vista Middle School, Bella Christian Academy, and the Boys & Girls Club. Ridership along Eaton Avenue and Lowell Avenue is low particularly in the inbound (*i.e.,* toward Downtown) direction.

Exhibit 5.10: Route B Boardings and Alightings by Bus Stop, Weekdays



The five most active stops along Route B are listed in Exhibit 5.11.

Exhibit 5.11: Route B Most Active Bus Stops, Weekdays

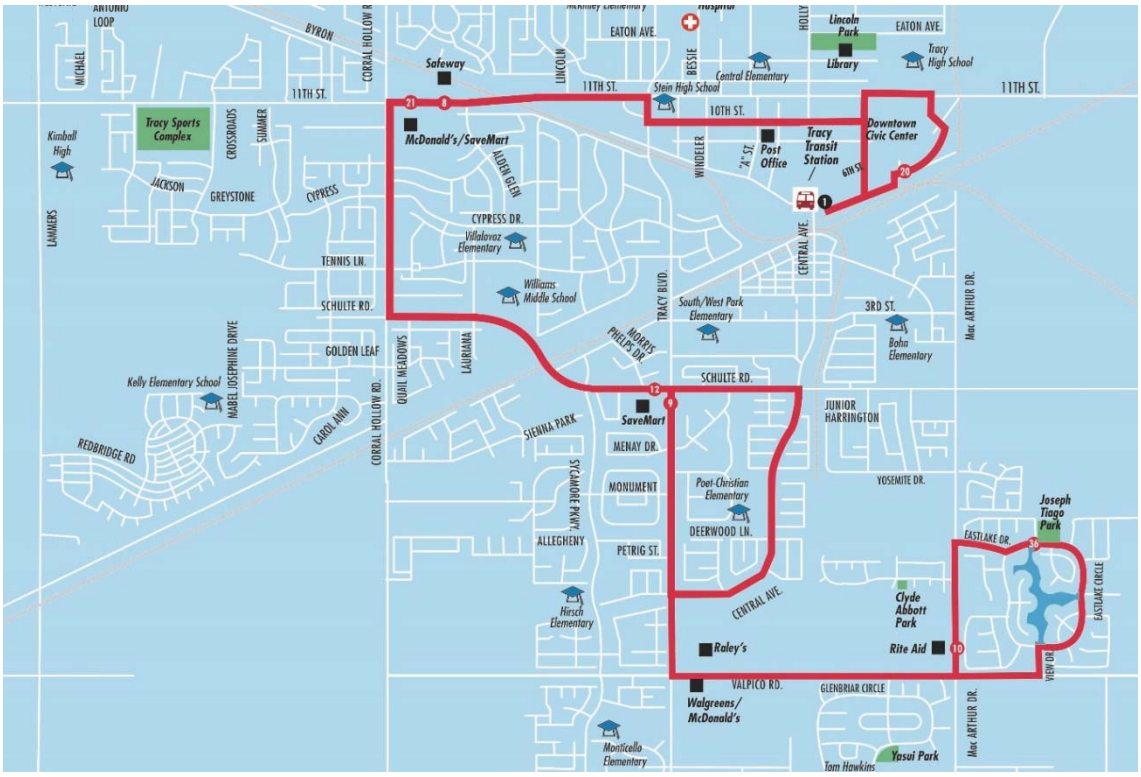
Bus Stop	Weekday Boardings	Weekday Alightings	Transit Trip Activity	Percent of Daily Activity
Walmart – Grant Line Rd	24	36	60	18.0
East St / 9th & 10th (City Hall, Senior Center)	30	14	44	13.2
Transit Station	25	18	43	12.9
W Valley Mall (2 stops)	15	17	32	9.6
Lowell Ave / Dr Powers	9	20	29	8.7

5.6.3 Route C

Shown in Exhibit 5.12, Route C follows a serpentine alignment covering much of southside Tracy with bi-directional service on 10th / 11th Street, Corral Hollow Road, Schulte Road, and Valpico Road between Downtown Tracy and the Hidden Lake community in the southeast corner of the City. The alignment splits briefly mid-route using Central Avenue NB and Tracy Boulevard SB between Schulte Road and Valpico Road. The eastern terminus is a clockwise loop through Hidden Lake, east of MacArthur Drive. Route C is divided into five key segments for analysis:

- 11th Street running east-west between Downtown Tracy and Street and Corral Hollow Road.
- Corral Hollow Road running north-south between 11th Street and Schulte Road.
- Schulte Road running east-west between Central Avenue and Corral Hollow Road. This segment partly overlaps Route D.
- Central Avenue (NB) and Tracy Road (SB) running north-south between Schulte Road and Valpico Road. The Central Avenue segment overlaps Routes D and F.
- Valpico Road east of Tracy Boulevard to the Hidden Lake Community east of MacArthur Drive. This area also is covered by Route F using a similar alignment.

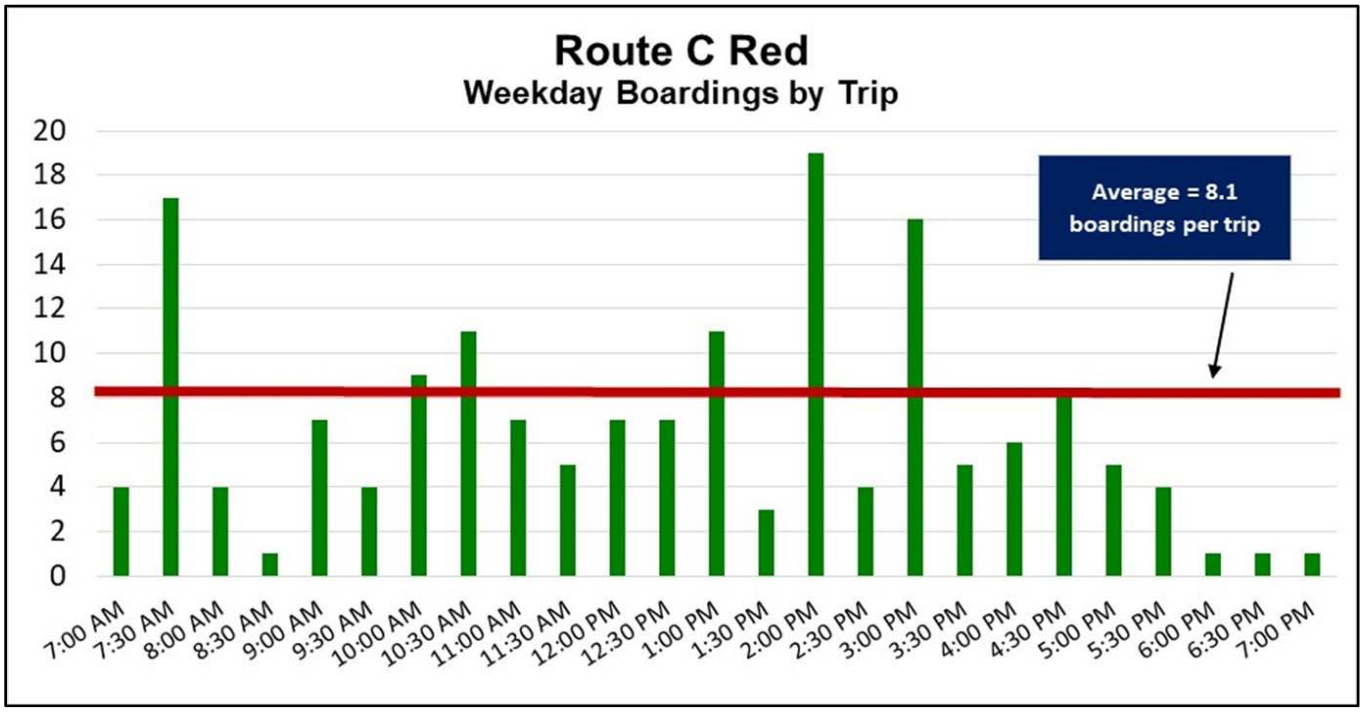
Exhibit 5.12: TRACER Route C



Route C weekday service generates about 105 daily customer boardings on one bus operating 13 revenue service hours; an average of 8.1 boardings per hour. The weekday schedule contains 13 trips and the Saturday schedule contains 10 trips. All trips depart from and terminate at the Transit Station on an hourly cycle.

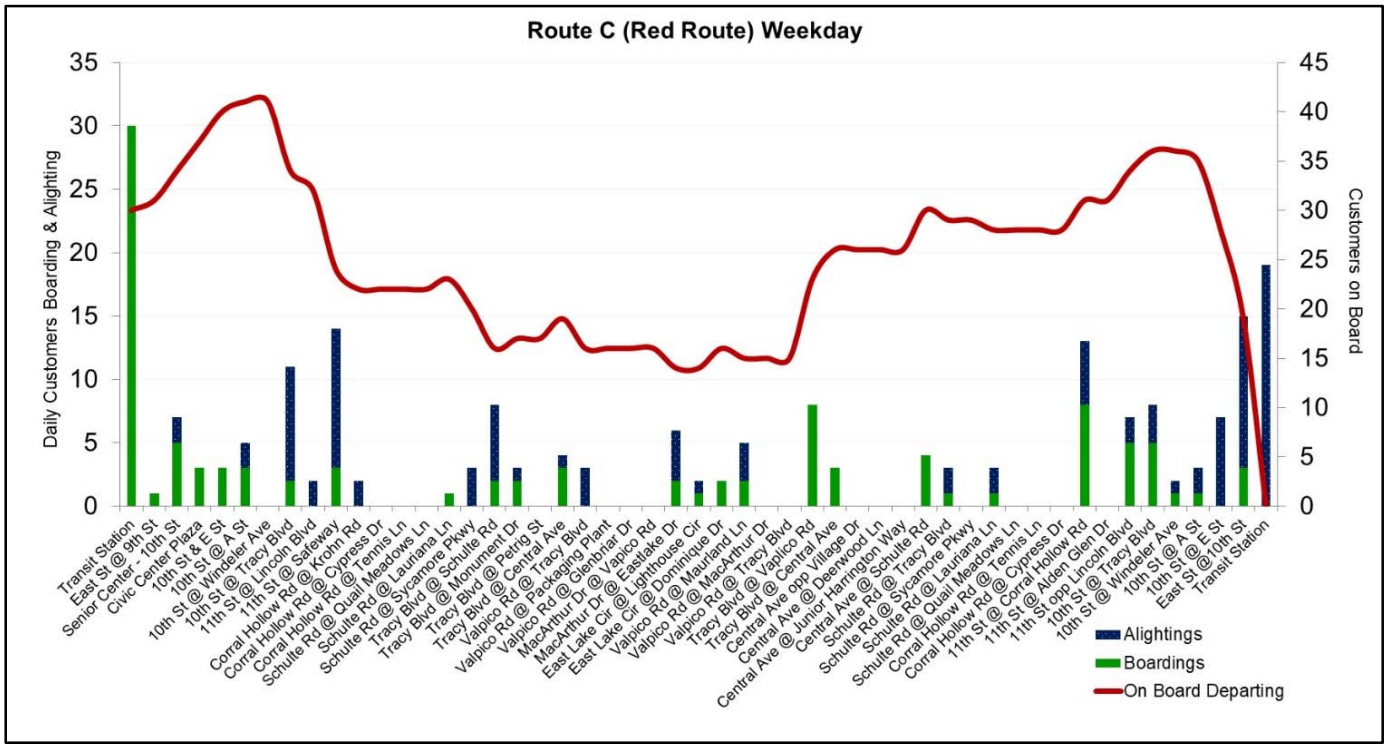
A summary distribution of total boardings by weekday trip is provided in Exhibit 5.13. The data reflects generally low to moderate ridership across the service day; with selected trips spiking upward around school bell times (*i.e.*, 7:30 am, 2:00 pm and 3:00 pm trips). Five of 13 scheduled weekday trips carry 10 or more passengers. Ridership is negligible after 6:00 pm.

Exhibit 5.13: Route C Weekday Boardings by Trip



A distribution of weekday customer boardings, alightings, and onboard volumes by sequential bus stop along Route C are displayed in Exhibit 5.14. The data suggests a weak southern terminus at Hidden Lake, which has a dampening effect on all-day travel demand in both directions. Just seven boardings and eight alightings occur on 13 weekday trips at the nine bus stops situated east of the intersection of Valpico Road and Tracy Boulevard. Note low mid-route onboard passenger volumes (red line on graph) south of Schulte Road, indicating diminished ridership activity at these stops. The split alignment on Central Avenue and Tracy Boulevard adds to the concern; with just four boardings and no alightings at four northbound stops on Central Avenue, and two boardings and one alighting at three southbound stops on Tracy Boulevard.

Exhibit 5.14: Route C Boardings and Alightings by Bus Stop, Weekdays



The six most active stops along Route C are listed in Exhibit 5.15.

Exhibit 5.15: Route C Most Active Bus Stops, Weekdays

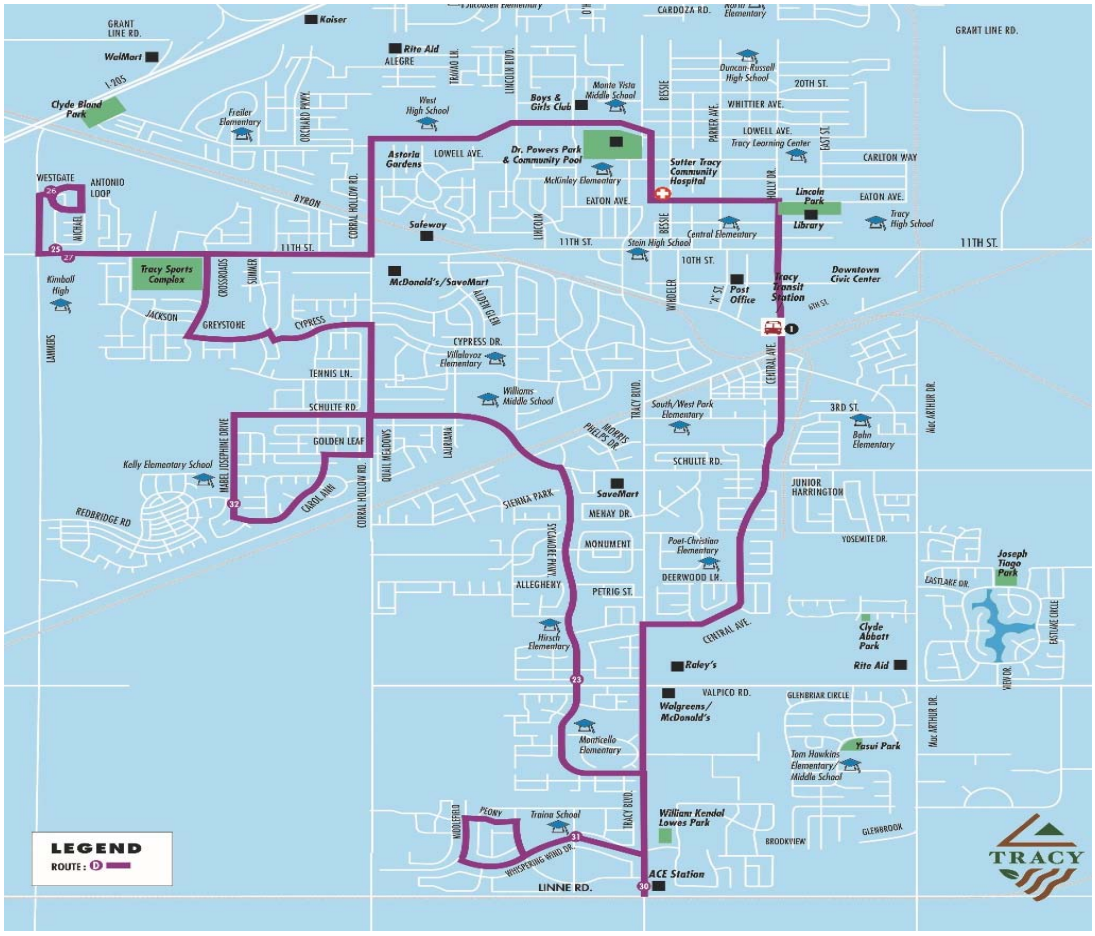
Bus Stop	Weekday Boardings	Weekday Alightings	Transit Trip Activity	Percent of Daily Trip Activity
Transit Station	30	19	49	23.3
Tracy Blvd / Corral Hollow Rd	11	16	27	12.9
Civic Center area (3 stops)	11	14	25	11.9
10th Street / Tracy Blvd	7	12	19	9.0
Tracy Blvd / Valpico Rd	8	3	11	5.2
Tracy Blvd / Schulte Rd	3	8	11	5.2

5.6.4 Route D

Shown in Exhibit 5.16, Route D provides both all-day service in one direction, and peak-only reverse direction service on a loop alignment covering a wide area of south and central-west Tracy. Route D is divided into five key segments for analysis:

- Central Avenue (SB) between the Transit Station and Tracy Boulevard. This segment overlaps Routes C and F;
- Area south of Valpico Road including stops on Tracy Boulevard, Whispering Winds Drive, Middlefield Drive, and at the ACE train station. This segment overlaps Route F;
- Sycamore Parkway and Schulte Road between Tracy Boulevard and Corral Hollow Road. This segment partly overlaps Route C;
- Residential subdivisions west of Corral Hollow Road and south of Lowell Avenue;
- Lowell Avenue, Tracy Boulevard, Eaton Avenue and Holly Drive between Corral Hollow Road and Downtown Tracy. This segment overlaps Routes B and E.

Exhibit 5.16: TRACER Route D (includes D Reverse)

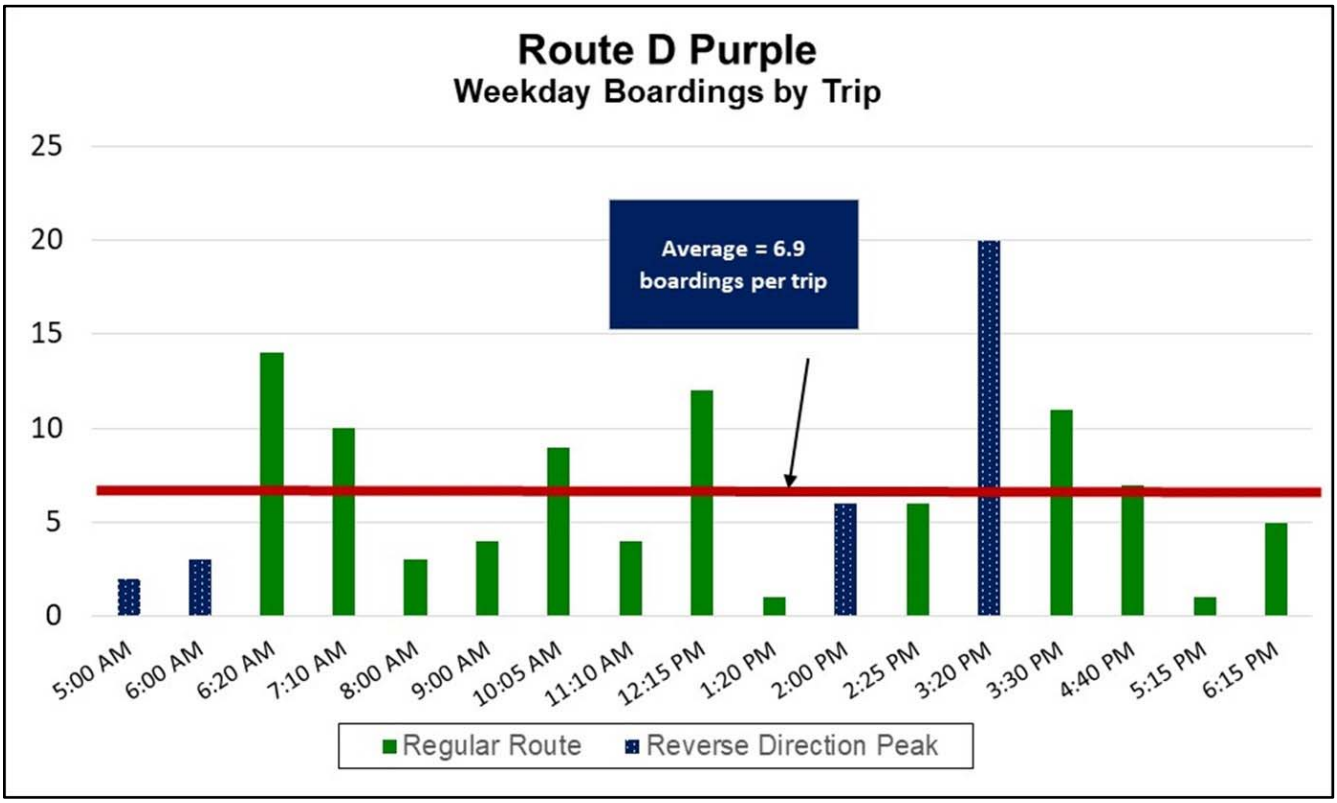


All-Day Service

Route D regular service operates as a clockwise loop with departures from the Transit Station every 35 - 70- minutes from 6:20 am until 7:27 pm on weekdays; and from 9:00 am until 6:27 pm on Saturdays. Weekday service generates 87 customer boardings on one bus operating 13 revenue service hours and 13 trips. The Saturday schedule contains nine trips. All trips depart from and terminate at the Transit Station.

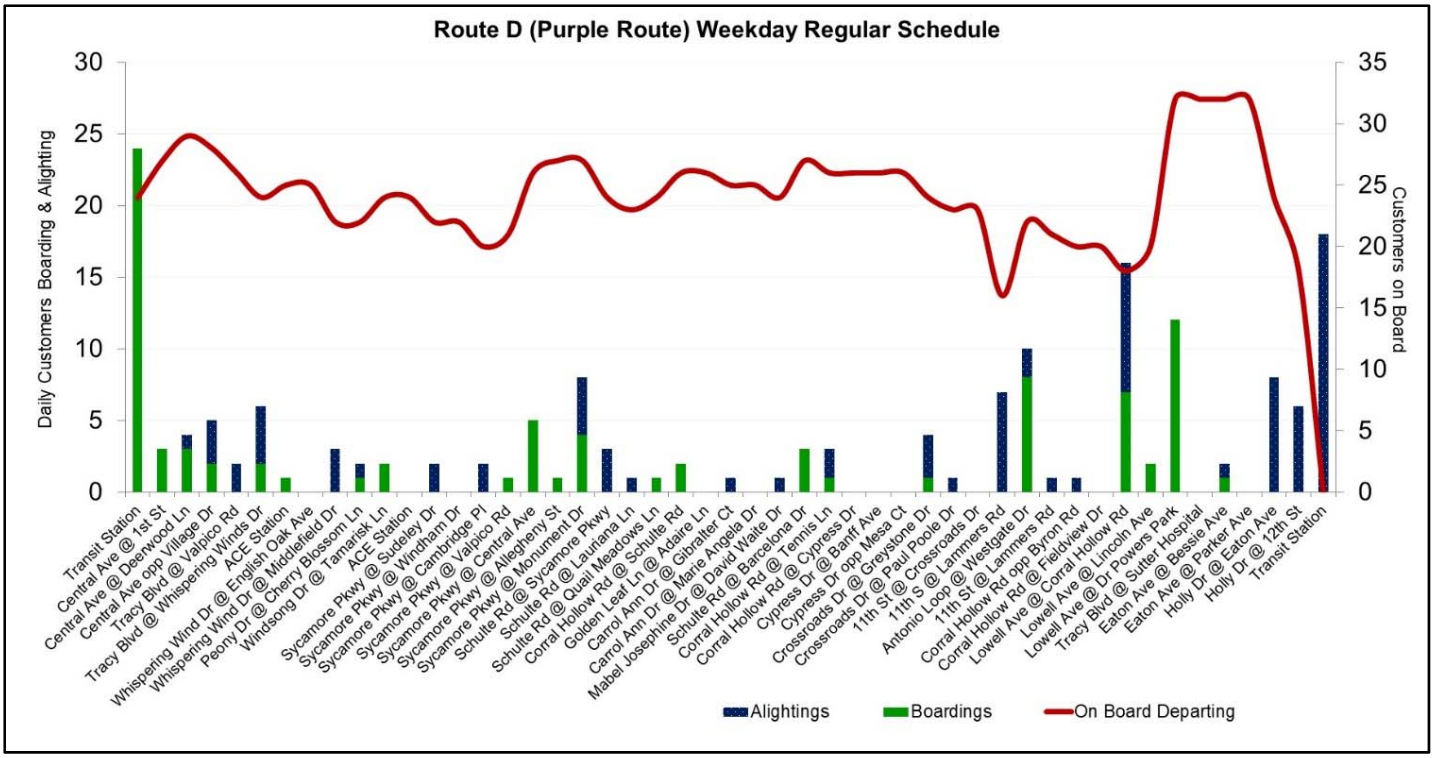
A summary distribution of total boardings by weekday trip is provided in Exhibit 5.17. The data reflects generally low demand across the service day; with higher ridership on selected trips serving morning and afternoon school bell times. Five of 13 scheduled weekday trips carry 10 or more passengers. The 3:20 pm (Tuesday – Friday, school days) reverse direction trip is the highest ridership trip in the TRACER system.

Exhibit 5.17: Route D Weekday Boardings by Trip



A distribution of weekday customer boardings, alightings, and onboard volumes by sequential bus stop along Route D (regular route only) are displayed in Exhibit 5.18. The data shows higher ridership activity on the segments closest to Downtown Tracy, including inbound stops along Lowell Avenue, Tracy Boulevard and Eaton Avenue; and outbound stops along Central Avenue heading southbound. Activity is minimal on segments winding through mostly residential subdivisions west of Corral Hollow Road.

Exhibit 5.18: Route D Regular Route Boardings and Alightings by Bus Stop, Weekdays



The six most active stops along Route D are listed in Exhibit 5.19.

Exhibit 5.19: Route D Most Active Bus Stops, Weekdays

Bus Stop	Weekday Boardings	Weekday Alightings	Transit Trip Activity	Percent of Daily Trip Activity
Transit Station	24	18	42	24.1
Lowell Ave / Corral Hollow (Astoria Gardens)	7	9	16	9.2
Lowell Ave / Dr Powers Park	12	0	12	6.9
Antonio Loop / Westgate Dr	8	2	10	5.7
Sycamore Pkwy / Monument Dr	4	4	8	4.6
Holly Dr / Eaton Ave (opp Library)	0	8	8	4.6

Peak-only Reverse Commute Service

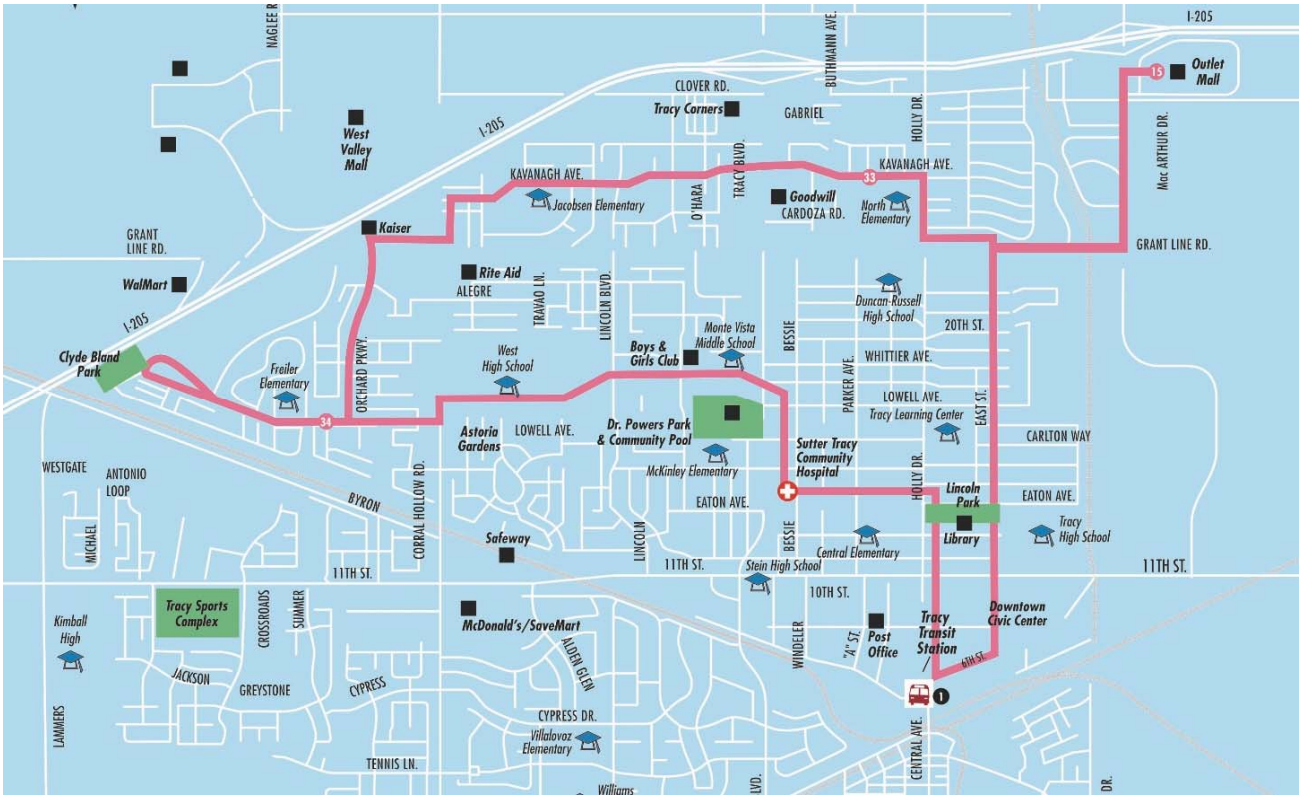
Route D peak-only reverse commute trips operate counter-clockwise on the loop with three weekday departures from the Transit Station 5:00 am, 6:00 am, 2:00 pm (Monday only), and 3:20 pm (Tuesday – Friday). These trips operate in the opposite direction of regular Route D service, resulting in bi-directional service on the loop during peak periods.

Weekday service generates 20-25 customer boardings on three trips. Monday ridership is lower due to low patronage on the 2:00 pm (early dismissal) trip. The 3:20 pm trip generates 20 boardings. Morning ridership is minimal with two to three boardings per trip.

5.6.5 Route E

Shown in Exhibit 5.20, Route E provides peak-only commute service on a loop alignment covering a wide area of north Tracy. Two morning trips departing from the Transit Station at 6:40 am and 7:35 am operate counter-clockwise via East Street, MacArthur Drive, Grant Line Road, Holly Drive, Kavanaugh Avenue, Corral Hollow Road, Orchard Parkway, Lowell Avenue, Tracy Boulevard, Eaton Avenue, Holly Drive, and Central Avenue. Two afternoon trips departing at 1:25 pm (Mondays only), 2:55 pm (Tuesday – Friday), and 3:55 pm operate in the opposite (clockwise) direction.

Exhibit 5.20: TRACER Route E



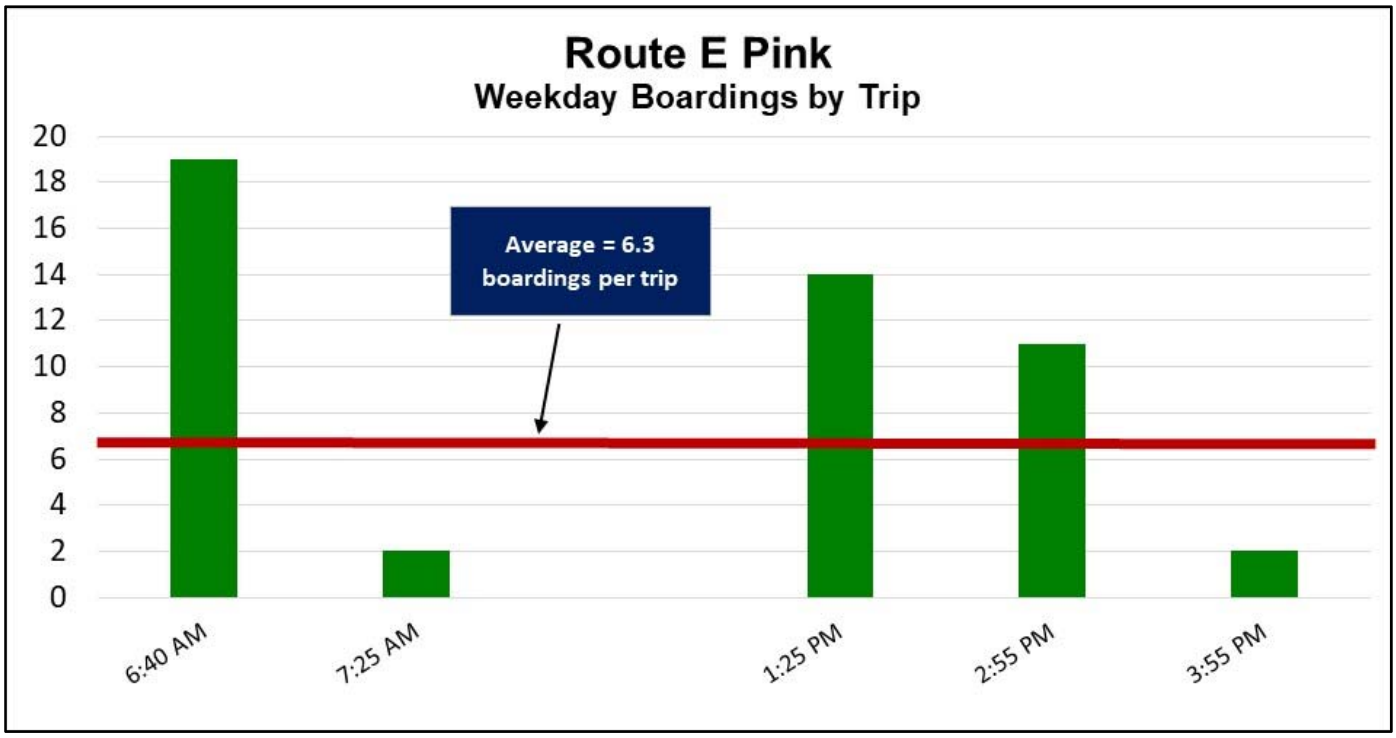
Route E significantly overlaps other TRACER and SJRTD routes; notably:

- Route A on East Street between Downtown and Grant Line Road;
- Routes B and D on Lowell Avenue, Tracy Boulevard, and Holly Drive between Corral Hollow Road and Downtown;
- SJRTD Routes 90 and 97 on MacArthur Drive.

Weekday service generates about 25 customer boardings on two morning trips and two afternoon trips (3.6 revenue hours). As indicated in Exhibit 5.21, the 6:40 am and 1:25 pm (Monday) and 2:55 pm (Tuesday – Friday) trips carry most of the ridership. Morning customers board primarily along Kavanaugh Avenue westbound and Lowell Avenue between the Chesapeake roundabout and Corral Hollow Road. Key destination stops include Lowell Avenue at Lincoln Boulevard for Bella Vista Academy students, and at Dr Powers Park for Monte Vista Middle School students. Non-school destinations include Sutter Hospital and the Transit Station. These patterns reverse on the afternoon trip. Unsustainably low ridership is noted on the second morning and afternoon trips. Several segments generate negligible ridership activity; notably:

- East Street between Downtown and Grant Line Road;
- MacArthur Drive to the Outlet Mall;
- Orchard Parkway between Grant Line Road and Lowell Avenue.

Exhibit 5.21: Route E Weekday Boardings by Trip



5.6.6 Route F

Shown in Exhibit 5.22, Route F provides peak-only commute service on a mostly loop alignment covering southeast Tracy connected to the Transit Station with bi-directional service on Central Avenue north of Schulte Road. One morning trip departing from the Transit Station at 6:40 am operates clockwise on the loop via Schulte Road, MacArthur Drive, Eastlake Drive, Eastlake Circle, Lakeview Drive, Valpico Road, MacArthur Drive, Glenbrook Drive, Brookview Drive, Tracy Boulevard to the ACE station and returning north on Tracy Boulevard and Central Avenue. Two afternoon trips departing at 1:40 pm (Mondays only), 3:15 pm (Tuesday – Friday), and 4:15 pm operate in the opposite (counter-clockwise) direction.

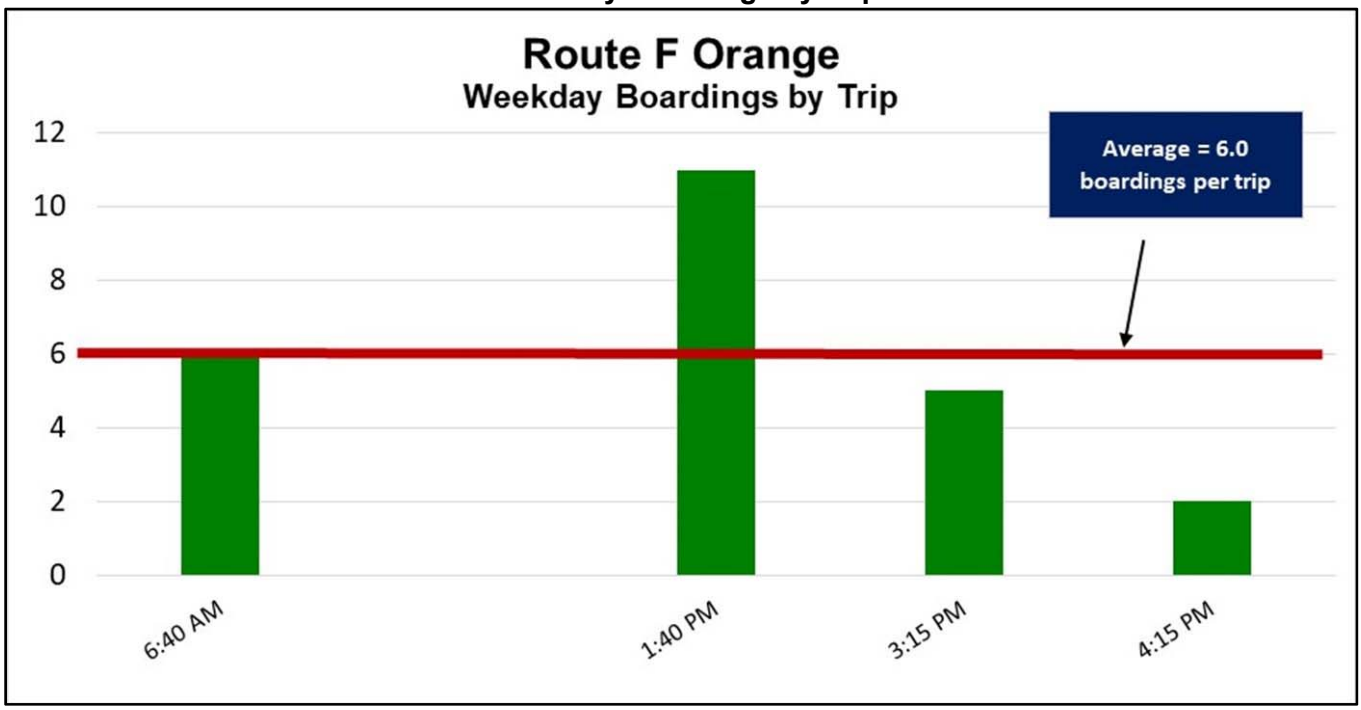
Exhibit 5.22: TRACER Route F

Route F significantly overlaps two other TRACER routes; notably:

- Route C in the Hidden Lake community; and,
- Routes C and D along Central Avenue and Tracy Boulevard between the Transit Station and Valpico Road.

Weekday service generates approximately 25 customer boardings on one morning trip and two afternoon trips (2.9 revenue hours). As indicated in Exhibit 5.23, the 1:40 pm trip generates 11 boardings and the 6:40 am trip generates six boardings. Morning riders are presumably Tracy High School students, all alighting at Holly Drive and Eaton Avenue. The 1:40 pm trip boards seven customers at the Senior Center; and the remainder at Holly Drive and 12th Street. The second afternoon trip generates two customer boardings.

Exhibit 5.23: Route F Weekday Boardings by Trip



5.7 TRACER Run Time Analysis

Given the City's concern about the reliability of TRACER operating schedules, a detailed run time analysis was included in the project work scope. Buses were observed and actual times at published timepoints were recorded for every trip in the system. These data were used to identify route segments that chronically operate behind schedule.

The results indicate that Route A and B operating schedules begin to deteriorate in the late morning hours, becoming untenable as the afternoon approaches 3:00 pm. Buses fall further behind as the service day progresses, ultimately resulting in lateness greater than the 30-minute schedule frequency of these lines. When this occurs, one or more scheduled trips are lost from the schedule. Routes C and D schedule integrity also deteriorates in the afternoon, but may not break down entirely in the manner of Routes A and B.

Generally, transit schedule adherence is a function of two variables:

1. How many minutes it takes to complete each trip, relative to the number of minutes scheduled.
2. When scheduled departures from the Transit Station actually occur, relative to scheduled departure times.

Exhibits 5.24 through 5.28 highlight actual travel times required by the four local (all-day) routes to complete weekday trips across the service day, relative to scheduled travel times.

Exhibit 5.24 highlights Route A actual weekday travel times by trip across the service day, relative to the scheduled 58-minute run time allowed for all trips. The data shows that 11 of the 23 trips operated on the sample day required more than 58 minutes to complete. Seven trips required longer than the 60-minute schedule cycle, resulting in lateness compounding on consecutive trips during the late morning and early afternoon hours. The 3:00 pm required 74 minutes, or 16 minutes longer than the scheduled 58 minutes. The last two trips in the schedule were lost (*i.e.*, not operated) due to excessive lateness of Route A buses late in the service day.

Exhibit 5.24: Route A Actual Trip Run Times, Weekday

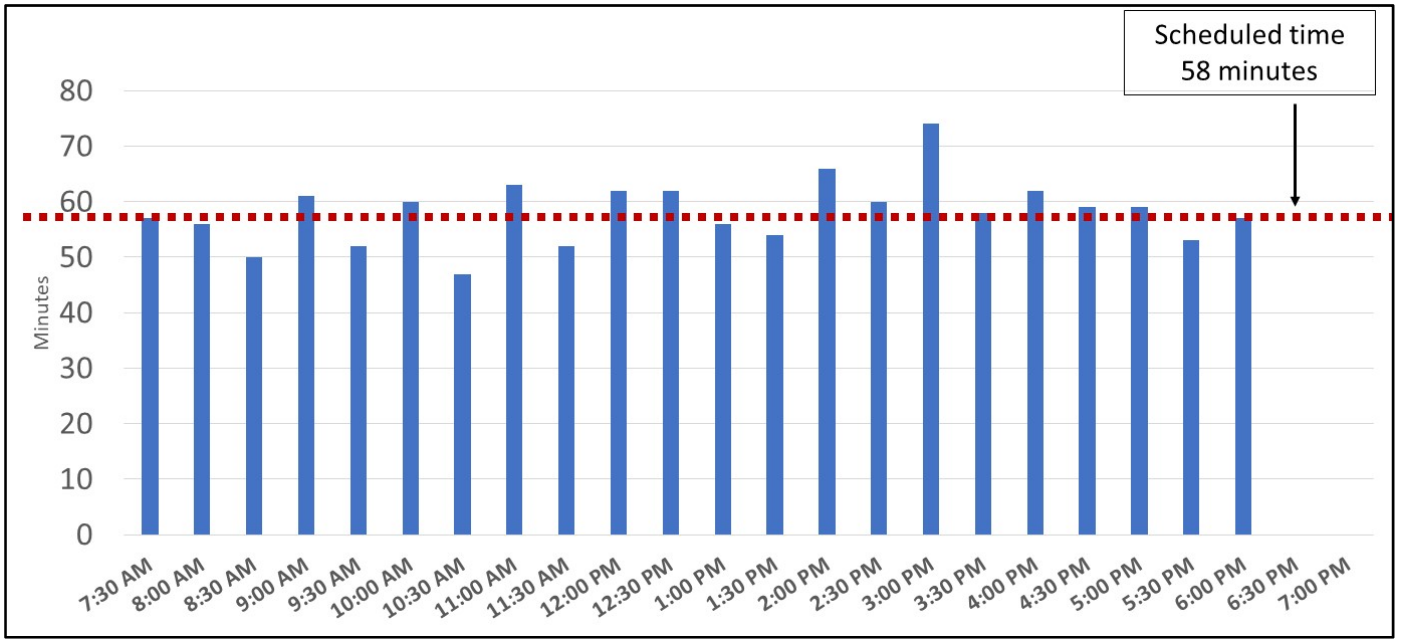


Exhibit 5.25 highlights Route B Green actual weekday travel times by trip across the service day, relative to the scheduled 58-minute run time allowed for all trips. The data shows that nine of the 23 trips operated on the sample day required more than 58 minutes to complete. Five trips required longer than the 60-minute schedule cycle, resulting in lateness compounding on consecutive trips during the late morning and early afternoon hours. The 2:00 pm and 3:00 pm trips required 69 and 70 minutes, respectively. The two scheduled departures at 4:30 pm and 5:00 pm were lost (*i.e.*, not operated) due to excessive lateness of Route B buses in the afternoon.

Exhibit 5.25: Route B Green Actual Trip Run Times, Weekday

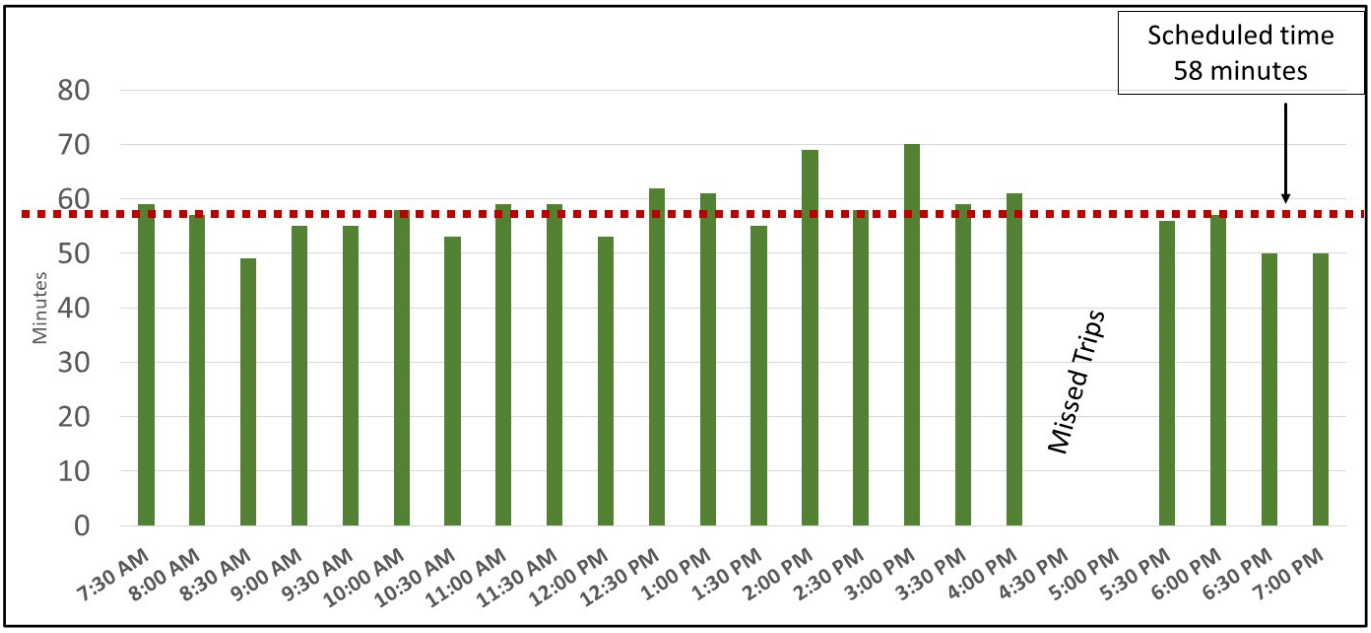


Exhibit 5.26 highlights Route C actual weekday travel times by trip across the service day, relative to the scheduled 58-minute run time allowed for all trips. The data shows that one of the 13 trips operated on the sample day required more than 58 minutes to complete. The 11:00 am departure required 72 minutes to complete.

Exhibit 5.26: Route C Actual Trip Run Times, Weekday

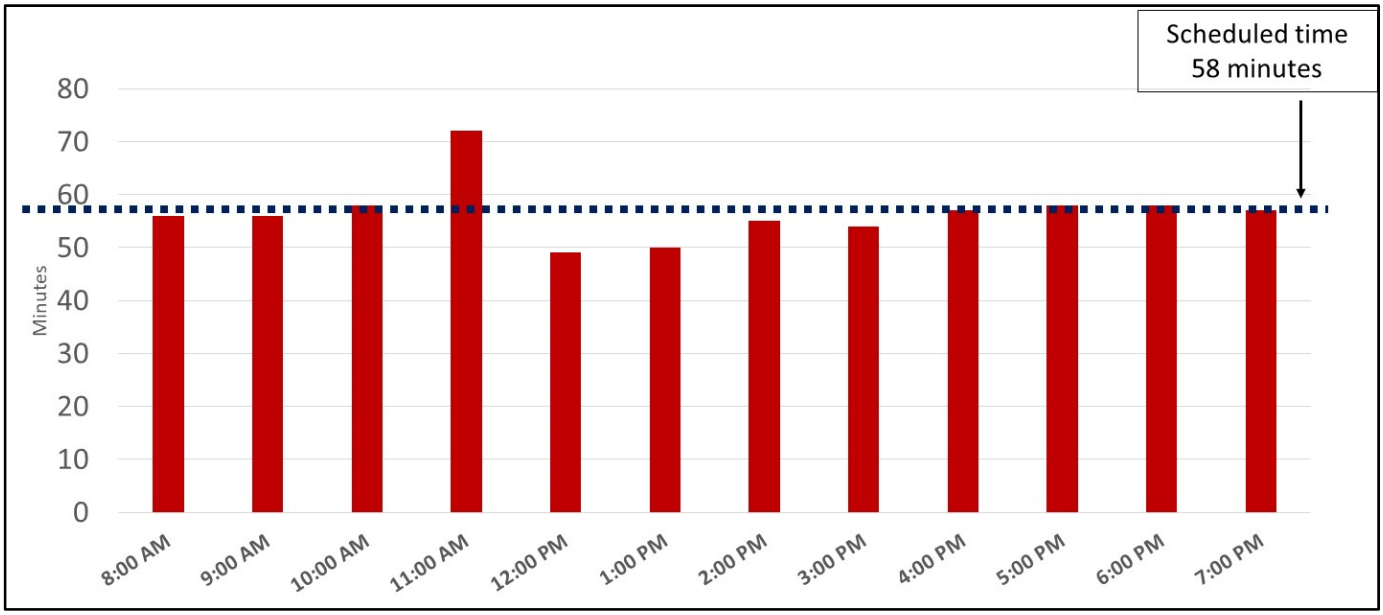
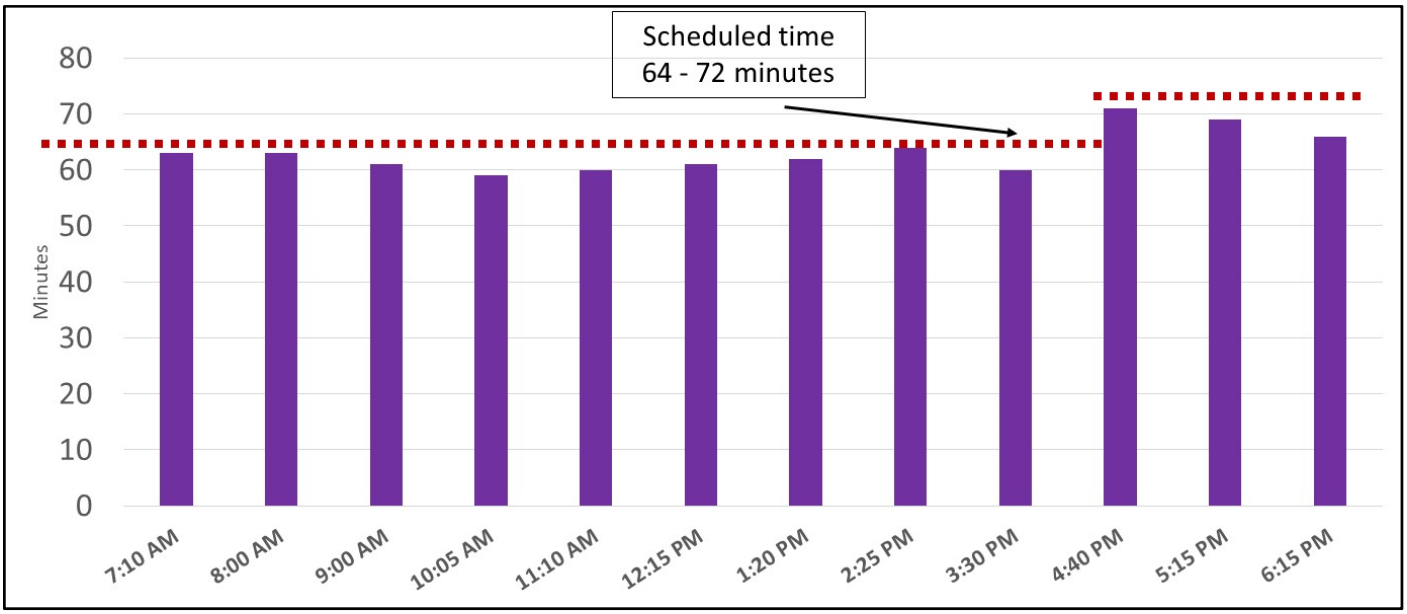


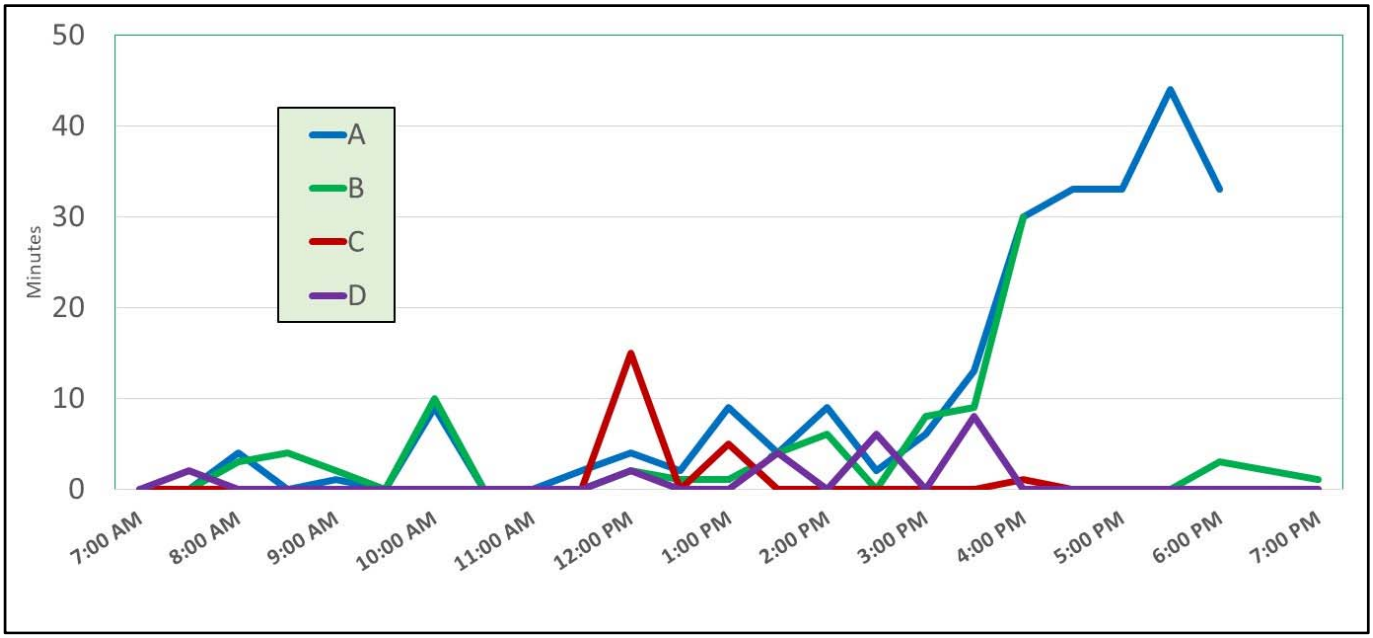
Exhibit 5.27 highlights Route D actual weekday travel times by trip across the service day, relative to the scheduled 64 to 72-minute run time allowed for all trips. The data shows that no trips operated on the sample day required more than 58 minutes to complete.

Exhibit 5.27: Route D (Regular) Actual Trip Run Times, Weekday



A common concern for all local route schedules is that virtually no recovery time (*i.e.*, time between the end of a trip and the beginning of the next trip) is incorporated into all-day schedules. The lack of recovery time causes the lateness of earlier trips to be carried forward to successive trips, resulting in increasingly late departure times from the Transit Station as the service day progresses into the late afternoon and early evening. This problem is illustrated in Exhibit 5.28. The data shows that accumulated lateness on Routes A and B leads to departures 30-40 minutes behind schedule after 4:00 pm; resulting in cancellation of scheduled trips to get back on schedule late in the service day.

Exhibit 5.28: Minutes Late Departing at Trip Start by Route and Time of Day



5.8 Observations and Conclusions – TRACER Fixed Route

The foregoing analysis raises significant concerns as to the operating effectiveness of TRACER fixed route service in its present form. Ridership and productivity are well below that of its peers. Ridership per capita is declining due to flat transit demand since 2014 against the backdrop of a growing residential population and commercial base. Key issues include:

- The route network is overly complicated with duplicative segments and variable patterns that require customers to make informed selections as to which route to use. For example:
    - Three routes (B, D, E) cover Lowell Avenue and Eaton Avenue between Corral Hollow Road and the Civic Center area.
    - Two routes (A, B) cover the destination-laden commercial district in northwest Tracy; however, they follow different alignments and are scheduled within five minutes of one another at West Valley Mall.
- Use of one-way loop alignments increase bus travel times and make TRACER less attractive to driving alone or using a TNC or smart taxicab. For example:
    - Route D, which is structured as a 65-70-minute one-way loop, is significantly less productive than the system average (3.9 vs. 6.5 boardings per service hour).
- Mid-route deviations to accommodate a few riders at the inconvenience for frustrated customers with out-of-direction travel.

  - The Tracy Corners deviation on Route A generates 15-20 boardings per weekday north of Cordoza Road on Tracy Boulevard, Kavanaugh Avenue, Buthmann Drive, and Clover Road. This compares to 60 or more customers per day riding Route A buses through the intersection of Grant Line Road and Tracy Boulevard.
  - Route D ridership is discouraged mid-route due to circuitous travel required to get to the Transit Station.

- Concentrating transfer connections at the Tracy Transit Station causes excessive travel times and out-of-direction for many residents. For example:
  - Southwest Tracy residents generally west of Corral Hollow Road and south of 11th Street cannot travel directly to West Valley Mall; a 10-minute trip via personal auto, smart taxi or TNC. In contrast, riding TRACER from Mabel Josephine Drive (boarding at 9:28 am) to the mall via Route D transferring to Route A or B at the Transit Station requires nearly 90 minutes, including a 26-minute wait at the Transit Station.
  - Bus travel between Hidden Lake and West Valley Mall takes about 60 minutes via Route C transferring to Route A or B at the Transit Station. Alternatively, travel via personal auto, smart taxi or TNC takes 15-20 minutes.
- Service frequencies are low by today's design metrics. Routes A and B operate every 30 minutes on weekdays only. Routes C and D operate hourly on weekdays, and all routes operate hourly on Saturday. The irregular 65-70-minute frequency of Route D disrupts the pulse transfer at the Tracy Transit Station.
- Commuter routes (D-reverse, E, F) are not productive and are relatively expense to operate.
  - Six of ten scheduled weekday one-way trips generate minimal ridership (*i.e.,* 6 or fewer boardings).
  - Three of ten trips carry passenger loads requiring a 30-foot or larger heavy-duty transit bus.
  - Most customers are students rather than commuters. For example, the ACE train station generates three boardings and four alightings per day collectively on two routes (D, F).

Systemic restructuring of TRACER fixed route system is suggested considering the concerns raised in this analysis. Conceptual alternatives to be considered going forward include:

1. Retain and restructuring the fixed route network to resolve network design flaws and implement industry best practices for transit service design.
2. Reduce the coverage area of the fixed route network and introduce supplementary services provided by smart taxis, TNCs, and microtransit service providers.

3. Discontinue fixed route operations entirely and implement personal mobility on-demand (PMoD) and flexible microtransit services using a combination of sedans, SUVs, transit vans and small buses to provide mobility.

5.9 TRACER Paratransit Program Overview

The city offers the TRACER Paratransit service for Disabled/ADA, Medicare recipients, and Seniors (65+). The service provided is door-to-door and operates the same hours as the TRACER Fixed-Route. Drivers assist passengers with packages as needed/requested. The Paratransit service is scheduled and dispatched out of the Tracy Transit Station. The service is available during the normal operating hours of the Fixed Route service. When the TRACER Paratransit is not operating, a Subsidized Taxi service is available.

Effective, October 1st, 2018, TRACER ADA Paratransit Certification process has been conducted by Access San Joaquin. Access San Joaquin is a Consolidated Transportation Services Agency (CTSA) formed by multiple transit operators in San Joaquin County, its primary goal is to improve the quality of transportation services to low mobility groups such as seniors and people with disabilities.

ADA-eligible customers may make reservations for same-day service and up to seven days in advance of desired travel, or on a subscription (recurring) basis to the extent that capacity allows. Reservations are accepted by telephone between 8:00 am and 6:00 pm on weekdays, and between 10:00 am and 4:00 pm on Saturdays. At all other times, customers may leave a message requesting next-day service.

The City's contractor, RideRight, LLC is responsible for all operational and service delivery functions including call-taking/reservations, scheduling, and dispatch/trip management. RideRight utilized Route Match scheduling software for trip bookings, scheduling and data management. Route Match is targeted to be replaced by Reveal software. With the transitioning to a new software product, RideRight anticipates incorporating additional functionalities including the ability to broadcast pick-up times.

The Paratransit service area and fare structure is illustrated below.

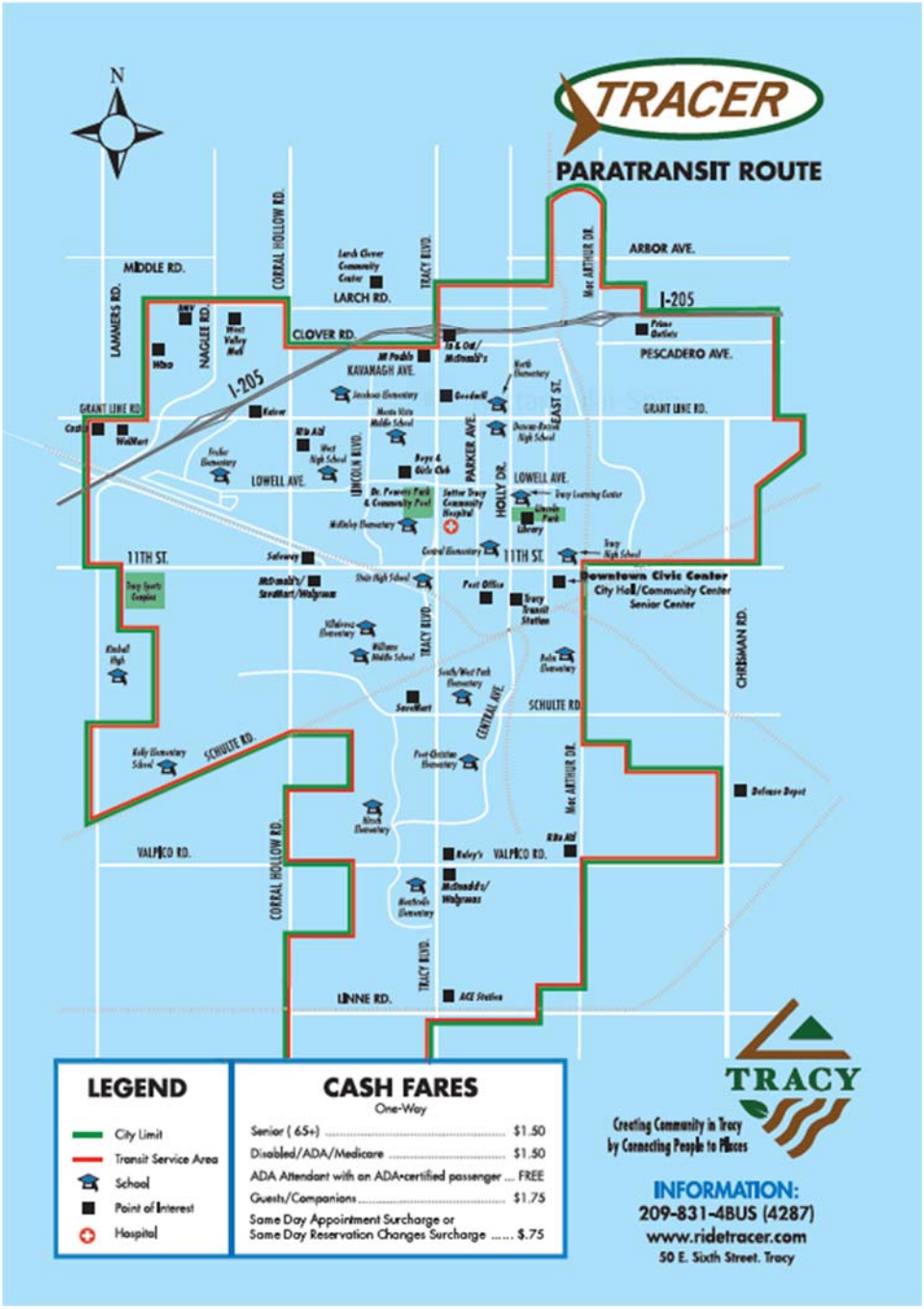


Exhibit 5.29 presents Paratransit service operating statistics and key performance indicators for FY 2014 to 2018. The significant increase in total operating cost from FY 2014 to 2017 has outpaced the marginal increase in annual boardings. Similarly, there has been an 18% decline in the number of boardings per revenue hour.

Paratransit ridership by fare type and eligibility determination for the period from April 2017 to March 2018 is presented in Exhibit 5.30.

Exhibit 5.29: Paratransit Ridership and Productivity, FY 2014-2017

Tracy Paratransit Service
Operating Statistics & Key Performance Indicators
FY 2014 - 2017

Annual Operating Statistics

FY	Total Operating Cost	Fare Revenue	Net Operating Cost	Annual Boardings	Revenue Vehicle Hours	Revenue Vehicle Miles	Peak Vehicles
2014	$103,914	$34,680	$69,234	14,937	6,783	61,381	4
2015	$260,963	$27,507	$233,456	17,171	6,935	65,711	4
2016	$494,166	$31,220	$462,946	14,784	8,271	70,094	4
2017	$550,588	$22,990	$527,598	17,126	9,543	69,675	4

Key Performance Indicators

FY	Total Cost per Boarding	Average Fare	Farebox Recovery	Net Cost per Boarding	Net Cost per Revenue Hour	Boardings per Revenue Hour	Annual Boardings per Peak Vehicle
2014	$6.96	$2.32	33.4%	$4.64	$10.21	2.2	3,734
2015	$15.20	$1.60	10.5%	$13.60	$33.66	2.5	4,293
2016	$33.43	$2.11	6.3%	$31.31	$55.97	1.8	3,696
2017	$32.15	$1.34	4.2%	$30.81	$55.29	1.8	4,282

Sources: City of Tracy National Transit Database FY 16-18; TDA Audit FY 14-15.

Exhibit 5.30: Ridership by Paratransit Fare Type and Eligibility Determination

Paratransit Fare Type	17-Apr	17-May	17-Jun	17-Jul	17-Aug	17-Sep	17-Oct	17-Nov	17-Dec	18-Jan	18-Feb	18-Mar	Total	Percent
Free	67	88	137	74	102	120	111	100	114	104	103	91	1,211	6.4%
Revenue	1,315	1,509	1,344	1,169	1,519	1,512	1,570	1,489	1,405	1,544	1,517	1,700	17,593	93.3%
Companions	0	3	9	5	10	5	1	1	3	1	2	4	44	0.2%
Total	1,382	1,600	1,490	1,248	1,631	1,637	1,682	1,590	1,522	1,649	1,622	1,795	18,848	100.0%
Eligibility Distribution														
ADA	1,043	1,163	1,121	911	1,223	1,179	1,219	1,134	1,097	1,210	1,212	1,340	13,852	73.5%
PCA	67	88	137	74	102	120	111	100	114	104	103	91	1,211	6.4%
Companions	0	3	9	5	10	5	1	1	3	1	2	4	44	0.2%
Senior	263	335	208	229	277	315	320	330	273	298	282	320	3,450	18.3%
Medicare	9	11	15	29	19	18	31	25	35	36	23	40	291	1.5%
Total	1,382	1,600	1,490	1,248	1,631	1,637	1,682	1,590	1,522	1,649	1,622	1,795	18,848	100.0%

Subsidized Taxi Service: The subsidized taxi is a service available to registered senior and ADA/disabled residents who are unable to ride the established fixed route bus system due to certain limitations. Upon approval of their application a TRACER paratransit identification card is issued to the resident, at no charge, after which time they can purchase taxi tickets from the Finance Department at City Hall. Taxi tickets are sold to residents at a rate of $10 for a ticket valued at $20 in regular fares.

Subsidized taxi service is available during the non-operating hours for the TRACER paratransit service, Monday – Friday prior to 7:00 a.m. and after 7:00 p.m., Saturday prior to 9:00 a.m. and after 5:00 p.m., and all day on Sunday's and certain holidays. Currently, Yellow Cab of Tracy, is the only taxi company authorized to use the subsidized tickets.

A review of 2017 monthly invoices suggest approximately 146 taxi trips were provided at a cost of $2,300 or an average of $15.70 per trip.

5.9.1 Mobility Vision – A Way Forward

TRACER Paratransit: shared ride public transit for those unable to use accessible public transit

Through multiple initiatives addressing quality of life considerations, the City ensures a healthy, connected, supportive environment for its residents. It is within this spirit that the following *guiding principles* will provide the foundation for recommended TRACER Paratransit service plan strategies:

Universal access including an accessible infrastructure;

Flexible mobility options with a cost-effective mix of accessible shared-ride, public transportation services; and

Maximize the utility and investment in accessible conventional transit (mobility management strategies) to encourage a shift from ADA paratransit to conventional public transit.

As a transit provider, TRACER has facilitated a more integrated approach between accessible conventional transit services and Paratransit services. Transit has created a user friendly, accessible conventional transit service that may provide additional mobility options for many Paratransit service registrants. TRACER's accessible public transit system provides a higher degree of trip making flexibility and facilitates greater travel spontaneity and independence. A truly accessible transit system can become the preferred choice for many people with a disability.

The longer-term vision is to move towards the concept of *universal access* to conventional public transit/mobility services. While preserving the integrity of Paratransit services for those with no alternatives, universal access to conventional transit services requires the need to address ancillary considerations including an accessible infrastructure, streetscape, audible signals, etc.

6.0 OPERATIONS PLAN AND BUDGET

Recommended Service Plan

This chapter presents the five-year plan for TRACER system improvements with a planned transition from a predominantly fixed route service model to a diversified *"Mobility as a Service (MaaS)"* service design. The MaaS Alliance describes the concept briefly as:

> *"… the integration of various forms of transport services into a single mobility service accessible on demand. To meet a customer's request, a MaaS operator facilitates a diverse menu of transport options, be they public transport, ride-, car- or bike-sharing, taxi or car rental/lease, or a combination thereof. For the user, MaaS can offer added value through use of a single application to provide access to mobility, with a single payment channel instead of multiple ticketing and payment operations. For its users, MaaS should be the best value proposition, by helping them meet their mobility needs and solve the inconvenient parts of individual journeys as well as the entire system of mobility services."*[6]

The service plan takes a strategic approach to generate local transit ridership growth with new service modes responding to key travel markets observed in earlier demographic and existing services analyses prepared earlier in the short-range planning process. Key transit travel markets include:

- General purpose local travel within Tracy
- Regional commuters
- Middle and high school students
- ADA-eligible persons and others with mobility limitations

6.1 General Purpose Local Travel Within Tracy

Current TRACER customers use the transit system to access a variety of destinations around the City; most notably the northwest commercial district that contains West Valley Mall, Walmart, Winco Foods, the Department of Motor Vehicles (DMV) office and other businesses; as well as medium density housing. The Civic Center area, including City Hall, Senior Center and Public Library, also is a key transit trip generator. Other significant destinations include Sutter Community Hospital, Dr. Powers Park, Raley's, shopping plazas centering on the intersections of S Tracy Boulevard and Valpico Road, Corral Hollow Road at Lowell Avenue and 11th Street.

The preferred service plan recognizes the need to maintain and enhance TRACER's role as a local mobility provider for varied trip purposes ranging from employment, medical, and shopping to recreation and personal business trips. Planned service improvements are described in context of three defining service design characteristics of public transportation service: Coverage; frequency; and span.

[6] See https://maas-alliance.eu/homepage/what-is-maas/

- *Service Coverage* – refers to the effective geographic reach of the transit system to residential neighborhoods, businesses, and other destinations in the service area. Prevailing land use characteristics and street networks in many areas of Tracy create a challenging operating environment for purely fixed route service by impeding access to bus stops for thousands of City residents. The proposed plan extends the effective reach of the fixed route network beyond the traditional ¼-mile walking distance with new Personal Mobility on Demand (PMoD) service offering *"point-to-bus stop"* connections to a simplified route network at enhanced bus stops located throughout the City. **The service plan objective is to extend transit system coverage to 100% of service area residents.**

- *Service Frequency* – refers to the waiting time that transit customers experience to obtain a ride. For fixed route service, the frequency is defined as the interval between consecutive buses at a given bus stop. For PMoD and other paratransit services, the frequency is the vehicle response time following a request for immediate (*i.e.*, next vehicle available) service. **The service plan objective is to establish a 30-minute maximum frequency target for all TRACER services.**

- *Service Span* – refers to the days and hours during which transit service is available for customer use. The plan expands service availability to seven days per week between the hours of 5:00 am and 10:00 pm with the introduction of subsidized PMoD service operating *"point-to-point"* direct service at times when TRACER fixed routes are not operating; including Sundays. **The service plan objective is to make TRACER service available to the public seven days per week until 10:00 pm.**

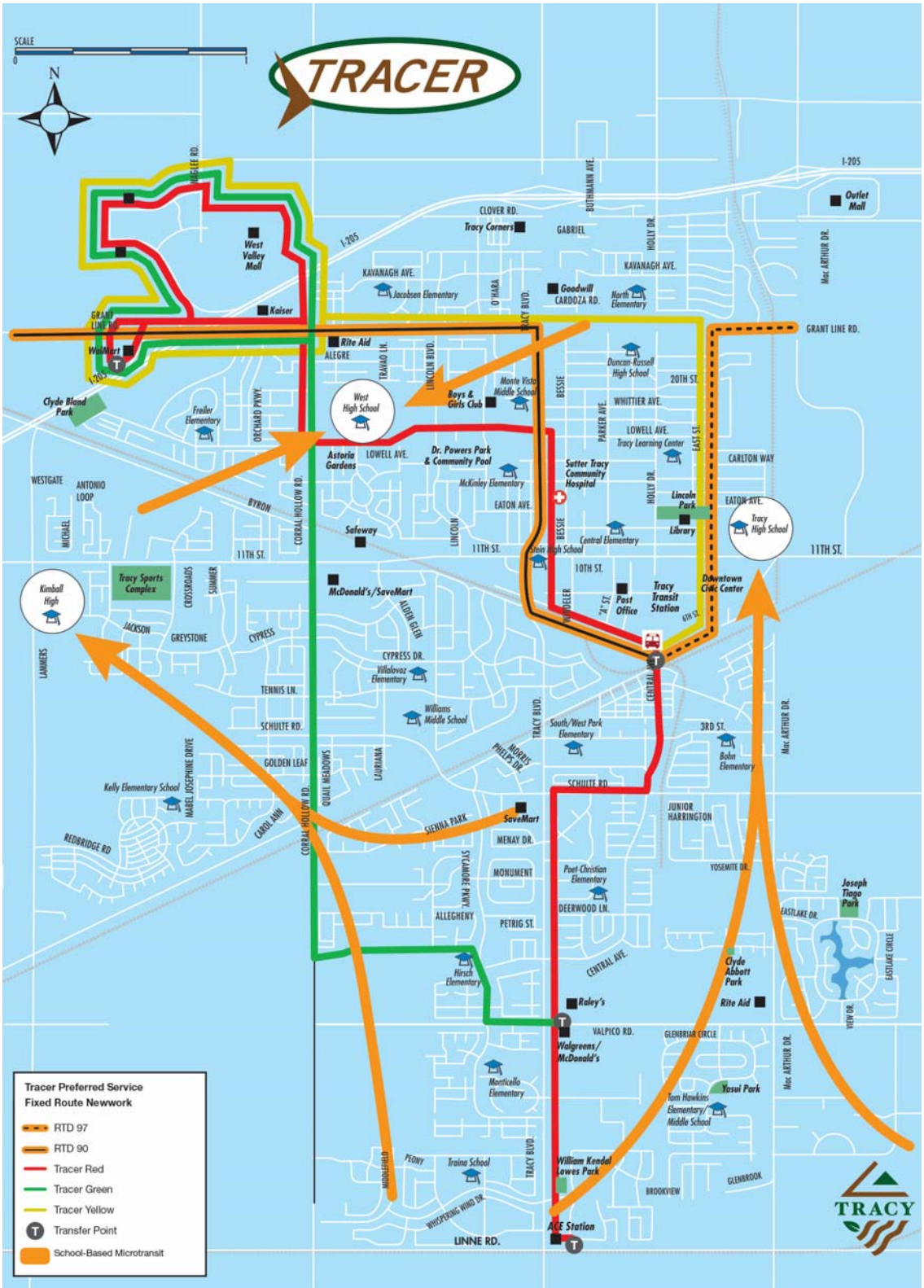
The proposed service design combines a simplified fixed route network and PMoD connection service to expand the reach of the transit system into the numerous neighborhood subdivisions that lay beyond reasonable walking distance from the nearest bus stop. The two modes will be linked together via a branded mobile phone app enabling customers to hail a ride, pay their fare, and track vehicle arrival and transfer times in real time. Traditional communication and fare collection methods also will be maintained to ensure that all potential customers have access to next-generation transit service.

6.2 Simplified Fixed Route Network

A streamlined fixed route network is designed to run faster and straighter on selected arterial and collector streets, with improved bus stops for a better waiting and transfer experience for customers. Three proposed TRACER routes and two SJRTD routes, complemented by area-wide PMoD and microtransit school transport are shown in Exhibit 6.1.

Daily TRACER operations require nine vehicles (plus two spares) to provide a 30-minute schedule frequency on the three routes on weekdays from 6:30 am to 5:30 pm; and on Saturdays from 8:00 am to 5:30 pm.

Exhibit 6.1: Proposed Fixed Route Network



- **Red Line** (Tracy Blvd) is designed to mostly overlay SJRTD's Hopper 99 Mountain House route alignment operating between the Walmart store on Grant Line Road and the ACE station at South Tracy Boulevard near Linne Road. The objective is to present the Red Line and Hopper 99 as a single service offering continuous weekday service in Tracy from approximately 4:00 am until 9:00 pm. The Red Line will operate on Saturdays as well.

  Routing differences in central and northwest Tracy reflect a preference for travel speed among peak period commuters traveling to and from the ACE station on one hand; and a preference to maximize service coverage for midday customers traveling between dispersed locations on the other. Accordingly, the Red Line operates on Schulte Road and Central Avenue between S Tracy Boulevard and the downtown Transit Station; and operates on W Lowell Avenue and Corral Hollow Road between N Tracy Boulevard and Grant Line Road. Moreover, the Red Line operates one-way loop (counterclockwise) service to West Valley Mall, the DMV office, Winco Foods and adjacent destinations north of Grant Line Road.

  The Red Line as proposed is 17 miles round trip, requiring between 85 and 102 minutes of scheduled running time, depending on time of day.[7] Operating schedules are planned around a 120-minute cycle time; providing for up to 104 minutes of round-trip running time and 16 minutes of dwell/recovery time per cycle.[8] Daily operation requires four medium, heavy duty (30') buses to maintain a 30-minute headway, plus one spare. It may be possible to operate three buses during periods of low congestion, which could facilitate the scheduling of operator breaks without headway disruption.

- **Green Line** (Corral Hollow Road) provides new north-south service across the west side of the City between the West Valley Mall-Walmart area and the intersection of S Tracy Boulevard and Valpico Road via Corral Hollow Road, Starflower Drive, Dove Drive, Sycamore Parkway and S Tracy Boulevard. The proposed alignment is 13 miles round trip, requiring between 60 and 71 minutes of scheduled running time, depending on time of the day.[9] Operating schedules are planned around interlining the Green and Yellow lines through the West Valley loop[10] with a combined 150-minute cycle time, allowing for up to 131 minutes of round-trip running time and 19 minutes of dwell/recovery time. Daily operation of the two routes as an interlined pair require five medium-duty (29') buses to maintain a 30-minute headway, plus two spares. It may be possible to operate four buses during periods of low congestion, which could facilitate the scheduling of operator breaks without headway disruption.

[7] Assumes scheduled operating speeds ranging from 10 mph to 12 mph.
[8] Minimum recovery time optimally is equivalent to 15% of round trip running time.
[9] Assumes scheduled operating speeds ranging from 11 mph to 13 mph.
[10] i.e., NB Green trips continue as SB Yellow SB to Transit Station; NB Yellow trips continue as SB Green to Valpico Road.

- **Yellow Line** (Grant Line Road) replaces existing TRACER Route A and RTD Hopper 90 services on East Street and Grant Line Road. The proposed alignment is 11 miles round trip, requiring between 51 and 60 minutes of scheduled running time, depending on time of the day.[11] Daily operation of the two routes as an interlined pair require five medium-duty (29') buses to maintain a 30-minute headway, plus two spares. It may be possible to operate four buses during periods of low congestion, which could facilitate the scheduling of operator breaks without headway disruption.

6.3 Subsidized PMoD Connection Service

New PMoD service addresses the need for "point-to-bus stop" trips to effectively expand the reach of the streamlined fixed route network into residential subdivisions that are beyond walking distance from arterial or major collector streets; for example, west of Corral Hollow Road; east of MacArthur; and south of Valpico Road.

The plan assumes the service is operated by multiple TNC, Smart Taxi, or other private sector transportation providers selected by the City to participate in fare subsidy arrangements. Selected providers must use a branded mobile app to facilitate ride-hailing, fare payment, and real-time vehicle tracking; and maintain telephone and cash fare payment systems to ensure universal customer access. Providers supply the vehicles required for service delivery, either through direct ownership or driver compensation arrangements. Customers individually choose which provider they prefer to use. The City's role is confined primarily to subsidizing travel to and from TRACER bus stops; and program marketing.

To be effective, PMoD connection service must connect customers to the fixed route system seamlessly in terms of schedule coordination, collection, vehicle tracking in real time and other customer information. Service must be available on demand (*i.e.*, within 30 minutes of e-hail) at all times when fixed route service is operating (weekdays 6:30 am - 5:30 pm; Saturday 8:00 am - 5:30 pm).

6.3.1 Subsidized PMoD Direct Service

The service plan includes limited subsidization of PMoD travel between any two points in the service area at times between the hours of 5:00 am and 10:00 pm (to 12:00 am – Friday and Saturday) when the simplified fixed route network is not operating. These times include weekday mornings from 5:00 am to 6:00 pm, Saturday mornings from 5:00 am to 9:00 am, and all-day Sunday from 5:00 am to 10:00 pm.

6.4 Regional Commuters

More than half of all employed Tracy residents work outside San Joaquin County; mainly in San Francisco, the East Bay cities, and Silicon Valley. However, existing TRACER service design is minimally suited to linking residents to the two transit gateways exiting the City; notably the ACE station at S Tracy Boulevard near Linne Road; and the Tracy Transit Station in downtown Tracy. Most regional rail and bus serving Tracy either depart before or arrive after current TRACER operating hours; leaving little opportunity for regional transit commuters to use TRACER at both ends of their daily commute.

[11] See note 4.

The preferred service plan responds to the need for better transit access to the ACE train station and downtown Tracy Transit Station to connect with regional bus lines connecting to the Pleasanton BART station and destinations in Silicon Valley. A separately branded[12] shared-ride PMoD service for regional commuters is proposed; with on-demand and subscription service available on weekdays from approximately 3:30 am until 8:00am, and from approximately 4:15pm until 9:45pm.

Separate branding is primarily for marketing purposes. The plan assumes that actual service is operated by the same array of multiple TNC, Smart Taxi, or other private sector transportation providers selected by the City to participate in other PMoD fare subsidy arrangements. It is envisioned that up to six (6) SUVs and/or minivans operating on dynamic schedules will be needed to meet 12 morning train and commuter bus departures and 13 evening arrivals, as follows:

- Morning Departures
  - ACE: 4:51am, 6:06am, 7:11am, 7:36am
  - BART Route 150: WB @ 5:00am, 6:00am, 8:00am; EB @ 7:11am, 8:11am
  - SJ Commuter 172: WB @ 4:00am; EB @ 4:15am
  - SJ Commuter 173: WB @ 3:48am
- Evening Arrivals
  - ACE: 5:11pm, 6:11pm, 7:11pm, 8:14pm
  - BART Route 150: EB @ 5:17p, 6:17p, 7:17p. 9:32p; WB @ 4:28p, 5:28p, 7:43p
  - SJ Commuter 172: 4:15pm
  - SJ Commuter 173: 4:54pm (M-Th) / 3:54 (F)

6.5 Middle and High School Students

While the present TRACER route network focuses on several public middle and high school locations around the City, purely fixed route service is an expensive and inefficient solution to address student travel demand in a suburban operating environment.

The preferred service plan recognizes the significant travel market comprised of students attending the six middle schools and three high schools in Tracy. It mostly replaces fixed route coverage with dynamically-routed microtransit service to offer shorter onboard travel times for customers, and more efficient utilization of available capacity. A separately branded[13] microtransit service is proposed; with on-demand and subscription reservations available on school weekdays from approximately 7:00 am until 8:30 am; and from approximately 1:30 pm – 3:00 pm (Monday), or from 2:30 pm until 4:00 pm (Tuesday – Friday).

[12] E.g., *Commuter Car*, *Commuter Connection.*
[13] E.g., *School Pool.*

It is envisioned that up to 10 transit vans would operate on dynamic routes and schedules coordinated with the following school bell times:

- Morning Bells
    - West High – 7:44 am
    - Tracy High – 7:53 am
    - Monte Vista Middle - 8:10 am
    - Freiler Elementary - 8:10 am
    - Millennium High – 8:13 am
    - North Elementary - 8:15 am
    - Williams Middle - 8:15 am
    - Kimball High – 8:15 am
    - Kelly Elementary - 8:20 am
    - Poet Christian Elementary – 8:25 am
- Afternoon Bells
    - Williams Middle - 1:30 pm / 2:35 pm
    - Monte Vista Middle - 1:30 pm / 2:45 pm
    - Freiler Elementary - 1:30 pm / 2:45 pm
    - North Elementary - 1:30 pm / 2:42 pm
    - Kelly Elementary - 1:30 pm / 2:50 pm
    - West High – 1:30 pm / 2:55 pm
    - Tracy High – 1:30 pm / 3:02 pm
    - Poet Christian Elementary – 1:30 pm / 3:05 pm
    - Kimball High – 1:48 pm / 3:15 pm
    - Millennium High – 4:13 pm

Additional vehicles may be needed to accommodate a common 1:30 pm early dismissal on Mondays (except Millennium High).

It is assumed that service would be operated by a private sector transportation provider under contract to the City; with compensation based on the actual number of service hours operated. Potential contractors range from the City's existing service provider (Ride Right LLC) to local Smart Taxi provider such as Yellow Cab of Tracy; to national firms such as Ford Mobility (Chariot), Transloc, Via; as well as TNC operations such as Uber and Lyft. The provider(s) would accommodate trip requests and fare payment via a customized mobile app, as well as via telephone and cash payment. Revenue vehicles required for the service could either be owned by the City and supplied to the contractor; or leased from the service provider as part of the operating contract. A formal solicitation could allow for either option as a means of determining least cost for equivalent service.

6.6 ADA-Eligible Persons and Others with Mobility Limitations

The preferred service plan acknowledges the need to maintain traditional pre-scheduled complementary paratransit for ADA-eligible customers, while also seeking to enhance mobility options allowing more spontaneous travel and longer service hours. A new accessible PMoD service option is recommended, giving customers the choice between existing TRACER pre-scheduled complementary paratransit service and subsidized accessible PMoD rides from

services such as Uber, Lyft, and local Smart Taxi operations. The plan assumes that actual service is operated by the same array of multiple TNC, Smart Taxi, or other private sector transportation providers selected by the City to participate in other PMoD fare subsidy arrangements.

6.6.1 Subsidized Accessible PMoD

The PMoD option provides greater opportunity for spontaneous on-demand travel than is available on conventional pre-scheduled dial-a-ride; however, the fare could be higher and be variable based on trip length.

For initial budget purposes, it is anticipated that half of all complementary paratransit trips currently taken on weekdays and Saturdays would migrate to accessible PMoD service within the first full year of operation. New Sunday service would be available.

6.6.2 Pre-Scheduled Complementary Paratransit

Existing complementary paratransit service is maintained at a reduced level of service commensurate with the expected migration of up to one-half of all ADA-eligible customer trips to Accessible PMoD.

6.7 Level of Service (LOS) Summary

A 10% growth strategy represents a modest expansion of the overall transit program measured in terms of the net operating cost of service. The 10% growth strategy option funds most but not all the preferred service plan assuming a first-year net operating cost target of up to $3.55 million.[14] LOS characteristics including span, frequency, buses deployed, and total revenue service hours required, are summarized in Exhibit 6.2.

Unlike the present TRACER system, which consists entirely of dedicated contract services purchased by the City on a per service hour basis, the preferred service plan includes a combination of dedicated contract services and subsidized travel using market-based (*i.e.*, private, for-profit operators) PMoD services. The PMoD services are subsidized on a per one-way trip basis.

Accordingly, LOS calculations are calibrated using net operating cost as the key measure of financial affordability. In upcoming years, once the City of Tracy reaches 100,000 in population, all available Local Transportation Fund (LTF) allocations will be required to be spent on public transportation. This will result in additional funding toward the improvements outlined in this plan.

[14] Calculated on base FY 2017 reported system net operating cost of $3.14 million plus 2.5% inflation ($3.23 million).

Exhibit 6.2: LOS (10% Growth) System Service Characteristics

WEEKDAY	Service Span		Frequency (minutes)			Buses in Service			Revenue Service Hours	
Route	Begin	End	Peak	Base	Night	Peak	Base	Night	Day	Annual
Red Line (Tracy Blvd)	6:30 AM	5:30 PM	30	30	--	4	4	--	44.0	11,132
Green Line (Corral Hollow)	6:30 AM	5:30 PM	30	30	--	1.5	1.5	--	16.5	4,175
Yellow Line (Grant Line)	6:30 AM	5:30 PM	30	30	--	1.5	1.5	--	16.5	4,175
PMoD Feeder	6:00 AM	6:00 PM					Private fleet		na	na
PMoD Direct Mon.-Thurs.	5:00 AM	10:00 PM					Private fleet		na	na
Friday & Saturday	5:00 AM	12:00 AM								
ADA Complementary Paratransit	6:30 AM	5:30 PM	30-minute response time on demand			2	2	--	22.0	5,566
ADA PMoD	5:00 AM	10:00 PM					Private fleet		na	na
Commuter Shared-Ride PMoD	3 - 8 AM	4 - 10 PM					Private fleet		na	na
School Microtransit	AM bell	PM bell					Private fleet		25.0	4,500
Subtotal, Weekday						9	9	0	124.0	29,547

SATURDAY	Service Span		Frequency (minutes)			Buses in Service			Revenue Service Hours	
Route	Begin	End	Peak	Base	Night	Peak	Base	Night	Day	Annual
Red Line (Tracy Blvd)	8:00 AM	5:30 PM	30	30	--	4	4	--	38.0	1,976
Green Line (Corral Hollow)	8:00 AM	5:30 PM	30	30	--	1.5	1.5	--	14.3	741
Yellow Line (Grant Line)	8:00 AM	5:30 PM	30	30	--	1.5	1.5	--	14.3	741
PMoD Feeder	7:30 AM	6:00 PM					Private fleet		na	na
PMoD Direct	5-9:00AM / 6:00PM-12:00AM		30-minute response time on demand				Private fleet			
ADA Complementary Paratransit	8:00 AM	5:30 PM				1	1	0	9.5	494
ADA PMoD	5:00 AM	10:00 PM					Private fleet		na	na
Subtotal, Saturday						8	8	0	76.0	3,952

SUNDAY	Service Span		Frequency (minutes)			Buses in Service			Revenue Service Hours	
Route	Begin	End	Peak	Base	Night	Peak	Base	Night	Day	Annual
General Public PMoD - Direct	5:00 AM	10:00 PM	30-minute response time on demand				Private fleet		na	na
ADA PMoD	5:00 AM	10:00 PM					Private fleet		na	na
Subtotal, Sunday						0	0	0		

Total Annual Service Hours	33,499
Red Line (Tracy Blvd)	13,108
Green Line (Corral Hollow)	4,916
Yellow Line (Grant Line)	4,916
ADA Complementary Paratransit	6,060
School Microtransit	4,500

6.8 Estimated System Ridership

Transit ridership estimation is an inexact science with many physical, behavioral and service quality factors influencing personal propensity to use public transportation. Accurate predictions are complicated further by the significant changes proposed in this five-year plan. Transit ridership often endures short-term impacts in the weeks and months following system

restructuring, and typically it may take six to 18 months for transit customers to adapt to the changes and restore year-over-year ridership gains.

Nevertheless, ridership estimates are needed to drive the budget process with farebox revenue projections and calculation of net operating cost. This section provides ridership estimates for simplified fixed route and complementary paratransit services; as well as ridership targets for new PMoD services as proposed. Because PMoD services are subsidized on a per-trip basis, the ridership "estimates" reflect the maximum amounts allocated for subsidy payments.

At full maturity, ridership for all modes is estimated at approximately 361,300 boardings, as shown in Exhibit 6.3.

Exhibit 6.3: Annual Ridership Targets (10% Growth)

Service Mode	Annual Passenger Boardings	Criteria	Assumptions
Red Line (Tracy Blvd)	117,972	Boardings per service hour	Average 9 per hour
Green Line (Corral Hollow)	29,493	Boardings per service hour	Average 6 per hour
Yellow Line (Grant Line)	34,409	Boardings per service hour	Average 7 per hour
PMoD Feeder	58,400	1-way trips (max. budget)	Weekday: 200; Saturday: 150; Sunday: 0
PMoD Direct	25,280	1-way trips (max. budget)	Weekday : 60; Saturday: 50; Sunday: 125
ADA Complementary Paratransit	12,120	Boardings per service hour	Average 2.0 per hour
ADA PMOD Option	11,915	1-way trips (max. budget)	Weekday: 35; Saturday: 30; Sunday: 25
Commuter Shared-Ride PMOD	17,710	1-way trips (max. budget)	Weekday: 70
School Microtransit	54,000	Boardings per service hour	Average 12 per hour
Total	**361,299**		

Fixed Route ridership of 182,000 one-way trips is projected, representing slightly over half of total system ridership. This number assumes average ridership productivity of 9.0 boardings per service hour on the Red Line, 7.0 on the Yellow Line, and 6.0 on the Green Line. This number is 15.2% greater than projected FY 2018 ridership (158,000 boardings) on the existing TRACER network. The increase initially will consist mostly of customers transferring from PMoD service; and gradually generate new customers attracted to enhanced fixed route service quality characteristics such as better schedule adherence, faster running times, consistent 30-minute service frequencies, and amenities at selected bus stops around the City. These productivities should rise quickly to 10 - 15 boardings per hour in two years if service quality standards (*e.g.*, schedule adherence, PMoD response times; transfer convenience) are assured. LOS 10% growth strategy assumes a 30-minute service frequency at all times on the Red Line, and 30-minute frequencies on the (interlined) Green and Yellow Lines.

Subsidized PMoD transit connection and direct trips are calculated separately at 58,400 and 25,300 boardings, respectively. The combined number (83,700) represents 23.2% of total system ridership. Hourly ridership estimates by PMoD service mode are summarized in Exhibit 6.4.

These numbers indicate the capacity of the service, and not necessarily first year ridership. As a new service mode to TRACER customers and other residents of the City, it is anticipated that ridership will grow toward capacity within two years commensurate with increased public awareness and customer acceptance over time.

ADA-eligible combined travel estimates using complementary paratransit and accessible PMoD ridership is 24,000 one-way trips, representing 6.6% of total system boardings. This number is 37% greater than projected FY 2018 ridership of 17,500 one-way trips. Subsidized accessible PMoD service is estimated at 11,915 annual trips; assuming that half of all current complementary paratransit trips migrate voluntarily to subsidized PMoD service; and an expanded span to include new Sunday service and extended hours on weekdays and Saturdays. Complementary paratransit ridership is estimated around 12,100 boardings, reflecting incremental service productivity improvement to 2.0 boardings per service hour (currently 1.8).

Commuter PMoD ridership is estimated at up to 70 one-way trips per weekday, or 17,710 one-way trips per year;[15] representing 4.9% of total system boardings. This number far exceeds current use of existing TRACER service, which generates fewer than 10 one-way trips to the ACE station and regional bus connections at the Transit Station.

School Microtransit - System capacity is estimated at 300 one-way trips per school weekday, or 54,000 one-way trips per year;[16] representing 15% of total system boardings. This assumes shared-ride service and use of designated neighborhood pickup points where students can aggregate within short distances from their homes. Assuming the present $1.00 student fare for TRACER fixed route service, and adequate marketing, it is anticipated that school-based microtransit service will operate at or near capacity within the first full year of operation.

[15] Assumes an average of four passengers per train trip, and two passengers per bus trip.
[16] Assumes 10 vans in service for 2.5 hours per day; average 12 boardings per service hour; 180 school days per year.

Exhibit 6.4: Subsidized PMoD Ridership Estimates by Time of Day (Budget max)

Weekday

Hour begins	PMoD Feeder	PMoD Direct	ADA PMoD	Commuter PMoD	Total
3:00 AM	--	--	--	5	5
4:00 AM	--	--	--	5	5
5:00 AM	--	10	1	10	21
6:00 AM	5	10	1	10	26
7:00 AM	20	--	2	10	32
8:00 AM	15	--	3	--	18
9:00 AM	15	--	3	--	18
10:00 AM	15	--	2	--	17
11:00 AM	10	--	1	--	11
12:00 PM	15	--	2	--	17
1:00 PM	20	--	3	--	23
2:00 PM	20	--	4	--	24
3:00 PM	25	--	4	--	29
4:00 PM	20	--	3	5	28
5:00 PM	20	--	2	5	27
6:00 PM	--	12	2	10	24
7:00 PM	--	8	1	10	19
8:00 PM	--	8	1	5	14
9:00 PM	--	5	0	5	10
Friday					
10:00 PM		3			
11:00 PM		2			
12:00 AM		2			
Total	**200**	**60**	**35**	**70**	**368**

Saturday

Hour begins	PMoD Feeder	PMoD Direct	ADA PMoD	Total
3:00 AM	--	--	--	0
4:00 AM	--	--	--	0
5:00 AM	--	3	1	4
6:00 AM	--	3	1	4
7:00 AM	5	7	1	13
8:00 AM	10	3	2	15
9:00 AM	15	--	3	18
10:00 AM	15	--	2	17
11:00 AM	15	--	1	16
12:00 PM	10	--	2	12
1:00 PM	15	--	3	18
2:00 PM	15	--	3	18
3:00 PM	20	--	3	23
4:00 PM	15	--	2	17
5:00 PM	15	--	2	17
6:00 PM	--	8	2	10
7:00 PM	--	6	1	7
8:00 PM	--	5	1	6
9:00 PM	--	5	0	5
10:00 PM		5		
11:00PM		3		
12:00AM		2		
Total	**150**	**50**	**30**	**220**

Sunday

Hour begins	PMoD Direct	ADA PMoD	Total
3:00 AM	--	--	0
4:00 AM	--	--	0
5:00 AM	2	0	2
6:00 AM	3	1	4
7:00 AM	5	2	7
8:00 AM	7	2	9
9:00 AM	10	2	12
10:00 AM	10	2	12
11:00 AM	10	2	12
12:00 PM	5	2	7
1:00 PM	10	2	12
2:00 PM	10	2	12
3:00 PM	10	2	12
4:00 PM	10	2	12
5:00 PM	10	1	11
6:00 PM	10	1	11
7:00 PM	5	1	6
8:00 PM	5	1	6
9:00 PM	3	0	3
Total	**125**	**25**	**150**

Mode	Boardings	Subsidy per Boarding	Annual Subsidy
PMoD Feeder	58,400	$5.00	$292,000
PMoD Direct	25,280	$5.00	$126,400
ADA PMoD	11,915	$10.00	$119,150
Commuter	17,710	$5.00	$88,550
Total	113,305		$626,100

Calendar Distribution	
Weekdays (M-Th)	201
Fridays	52
Saturdays	52
Sundays	60
Total	365

6.9 Estimated System Operating Cost and Revenue

At maturity, net operating expenses are estimated at approximately $3.23 million, as shown in Exhibit 6.5. The calculated average subsidy per passenger is $8.82.

Exhibit 6.5: Annual Operating Expenses and Revenue (10% Growth)

Service Mode	Service Hours	Cost per Hour[1]	Annual Boardings	Boardings per Hour	Total Operating Cost	Fare Revenue[2]	Net Operating Cost	Subsidy per Passenger
Red Line (Tracy Blvd)	13,108	$92.69	117,972	9.00	$1,215,000	$71,963	$1,143,037	$9.69
Green Line (Corral Hollow)	4,916	$92.69	29,493	6.00	$455,625	$17,991	$437,634	$14.84
Yellow Line (Grant Line)	4,916	$92.69	34,409	7.00	$455,625	$20,989	$434,636	$12.63
PMoD Feeder	--	--	58,400	--	$292,000	$0	$292,000	$5.00
PMoD Direct	--	--	25,280	NA	$126,400	$0	$126,400	$5.00
ADA Complementary Paratransit	6,060	$92.69	12,120	2.00	$561,710	$16,241	$545,470	$45.01
ADA PMoD	--	--	11,915	--	$119,150	$0	$119,150	$10.00
Commuter Shared-Ride PMOD	--	--	17,710	--	$88,550	$0	$88,550	$5.00
School Microtransit	4,500	$73.18	54,000	12.00	$329,299	$54,000	$275,299	$5.10
Total			**361,299**		**$3,643,360**		**$3,462,176**	**$9.58**

10% Growth Target: $3,545,000

NOTES:
1 - Contract FR/ADA CP service cost = 95% of SJCOG FY 2019 target ($97.57); contract Microtransit cost = 75% of target.
2 - Assumes $0.61 per FR boarding; $1.34 per complementaray paratransit boarding (FY 2017 actual); $1 per School microtransit boarding.

Fixed Route system net operating cost is $2.02 million; based on total operating cost of $2.13 million calculated at $92.69 per service hour provided.[17] Fixed route net operating expenses represent 58.3% of the system total. Farebox revenues approaching $111,000 are 5.2% of total operating costs, based on the current $0.61 average fare per one-way trip.[18] The calculated average subsidy per passenger is $9.69 for the Red Line, $12.63 for the Yellow Line, and $14.84 for the Green Line.

Subsidized PMoD connection and direct service net operating cost is $433,650, based on 86,680 one-way trips and a flat $5.00 subsidy per trip. Subsidized PMoD net operating costs represent 12.5% of the system total.

Complementary Paratransit net operating cost is $545,500; based on total operating cost of $561,700 calculated at $92.69 per service hour provided.[19] Farebox revenue of $16,200 is 2.9% of total operating costs, based on the current $1.34 average fare per one-way trip.[20] The calculated average subsidy per passenger is $45.01.

[17]Equivalent to 95% of SJCOG FY 2019 Operating Cost per Hour Performance Target for Tracy ($< $128.80).
[18] Actual FY 2017 average fare.
[19]Equivalent to 95% of SJCOG FY 2019 Operating Cost per Hour Performance Target for Tracy ($< $128.80).
[20] Actual FY 2017 average fare.

Accessible PMoD net operating cost is $119,150; based on 11,915 one-way trips and a flat $10.00 subsidy per trip. Accessible PMoD net operating costs represent 3.4% of the system total.

Commuter PMoD net operating cost is $88,550, based on 17,710 one-way trips and a flat $5.00 subsidy per trip. Commuter PMoD net operating costs represent 2.6% of the system total. Exhibits 6.6 and 6.7 indicate the range of fare discounts for travel from various neighborhoods of the City to the ACE station and the Transit Station; based on a $5.00 subsidy applied to current UberX market rates.

School Microtransit net operating cost is approximately $275,300; based on total operating cost of $329,300 calculated at $73.18 per service hour provided[21] and a $1.00 average fare per one-way trip. School microtransit net operating expenses represent 7.9% of the system total. At 100% utilization of planned capacity, the average subsidy per passenger is $5.10; at 75% utilization, the average is $6.80.

Exhibit 6.6: Shared-Ride PMoD Fares from Selected Locations to ACE Station

Trip Origin	Market Fare*	Subsidized Fare**	Percent Subsidy
Antonio Loop	$11.18	$6.18	45%
Clover Road & Buthmann Avenue	$10.62	$5.62	47%
Holly Drive & Grant Line Road	$10.23	$5.23	49%
Corral Hollow Road & 11th Street	$9.01	$4.01	55%
Hidden Lake Clubhouse	$7.74	$2.74	65%
Whispering Winds Dr & English Oaks	$5.70	$0.70	88%

Note * - Fares calculated for UberX service via Uber Fare Estimator, October 2018
** - Assumes a flat $5.00 subsidy per one-way trip

[21]Equivalent to 75% of SJCOG FY 2019 Operating Cost per Hour Performance Target for Tracy ($< $128.80).

Exhibit 6.7: Shared-Ride PMoD Fares from Selected Locations to Tracy Transit Station

Trip Origin	Market Fare*	Subsidized Fare**	Percent Subsidy
Antonio Loop	$9.29	$5.29	54%
Whispering Winds Dr & English Oaks	$7.94	$2.94	63%
Clover Road & Buthmann Avenue	$7.46	$2.46	67%
Corral Hollow Road & 11th Street	$6.69	$1.69	75%
Hidden Lake Clubhouse	$6.68	$1.68	75%
Holly Drive & Grant Line Road	$6.47	$1.47	77%

Note * - Fares calculated for UberX service via Uber Fare Estimator, October 2018
** - Assumes a flat $5.00 subsidy per one-way trip

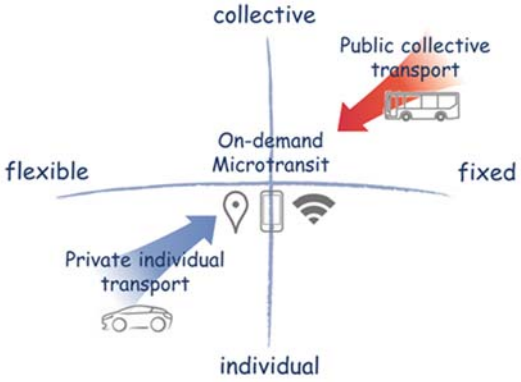
7.0 IMPLEMENTATION PLAN

This chapter presents a year-by-year operating and capital plans needed to implement the recommendations of the FY 2021-2025 SRTP. The operating plan is based on Level of Service (LOS) as presented earlier in the study process, which assumes a 10% growth scenario setting the first-year budget of approximately $3.23 million for net operating expenses. The capital plan is developed to support the operating plan in terms of revenue vehicles, bus stop improvements, technology investments, facilities and equipment required to implement the preferred service plan.

7.1 Operating Plan

Given the extent of the recommended changes to TRACER system design and customer interface, a three-phase transition is suggested to implement the preferred service plan over a four-year period beginning in July 2021 and completing in July 2025.

Exhibit 7.4 presents a summary of the key service enhancements as presented in the implementation phases (for FY 2021 through FY 2024).



In order to mitigate any concerns of the community, advancing from the initial PMoD pilot to each and every subsequent phase, services will be evaluated annually prior to advancing deployment of the next phase. The annual evaluation will include but not be restricted to the review of operating and financial performance and soliciting input from the community. Community input, in addition to the community-at-large, will include specific market segments including older adults and people with disabilities, students and commuters.

The annual evaluation will include approval by City Council prior to advancing the implementation of a subsequent phase of the transition plan.

PMoD Pilot: As a precursor to the transition plan is the deployment of a PMoD pilot in FY 20121 (July 2020). The pilot will provide PMoD service:

- Area-wide Sunday service (5:00am – 10:00pm);
- Earlier morning and later evening service, area-wide Saturday service (5:00am-9:00am and 6:00pm-12:00am); and
- Earlier morning and later evening service, area-wide, Monday through Friday - 5:00am – 8:00am and 7:00pm – 10:00pm (to 12:00am Fridays).

A PMoD pilot provides a small-scale introduction of the subsidized PMoD service concept to TRACER customers and the public; and offers a predictable, growing market for TNC/Smart Taxi service providers to respond to by ramping up service supply and demonstrating mobile app reservations and payment technologies. FY 2021 ridership is estimated at 13,300 boardings, assuming an average 100 boardings and 58 service days per year (52 Sundays and six national holidays) plus Monday through Friday earlier morning and later evening ridership assuming an average of 30 boardings and 250 service days. For the one-year pilot period, estimated annual cost is $66,500, assuming a subsidy averaging $5.00 per one-way trip.

Key requisite requirements for the design and deployment of a one-year PMoD pilot include: the preparation of a procurement instrument for a service provider and the development of an evaluation framework (to evaluate the effectiveness of the pilot). The evaluation framework should include typical performance metrics (cost/trip, etc.), less tangible measures (access to work, education, medical, etc.) and ancillary measures to determine 'success'.

TRACER Transition Plan: The system restructure transition plan is outlined by service mode as follows.

- ***Fixed Route Network*** – The current network is replaced with a simplified three-line network in three steps; initially discontinuing the Route D in FY 2022 (July 2021) and replacing it with and school-based microtransit services and all-day PMoD service in the West/South-West sector; followed by discontinuation of the Route F and truncation of Route C east of Tracy Boulevard in FY 2023 (July 2022), and replacing them with new PMoD and additional school-based microtransit services; and concluding in FY 2024 (July 2023) with discontinuation of the remaining routes and installation of the preferred network. The preferred service plan marginally reduces fixed route service span to 6:30 am – 5:30 pm on weekdays and 8:00 am – 5:30 pm to reverse the decline in service productivity in recent years.
- ***Subsidized PMoD Connection and Limited Direct Service*** – As referenced previously with the deployment of a PMoD pilot, the preferred service plan expands transit system operating span to seven days and 17 to 19 hours per day (5:00 am - 10:00 pm and to 12:00am Friday and Saturday). New subsidized PMoD services play an important role in achieving this objective with TNC/Smart Taxi fare subsidies introduced beginning with the pilot in FY 2021 (July 2020) with Sunday/holiday area-wide direct service in lieu of fixed route service. PMoD services will be expanded in FY 2022 (July 2021) by weekday transit connection and limited direct service in southeast Tracy; and in FY 2023 (July 2022) by area-wide PMoD connection and limited direct service. Limited direct PMoD trips will be subsidized only when the fixed route network is not operating; i.e., between 5:00 am - 6:30 am and between 5:30 pm – 10:00 pm [to 12:00am Friday and Saturday]). It is suggested that PMoD fares be the same as transit fares and that there would be no cost for transfers to and from fixed route services.
- ***Microtransit*** – Area-wide school-focused microtransit service is introduced in three increments; initially in FY 2022 (August 2021) with up to four routes focused on Kimball

High School, Kelly Middle School, and Williams Middle School; followed in FY 2023 (August 2022) by up to four additional routes focused on Tracy High School, Poet-Christian Magnet School, and Williams Middle School; and in FY 2024 (August 2023) by up to four more vehicles focused on West High School, Monte Vista Middle School, North School, and Millennium Charter School.

- ***ADA Pre-Scheduled and PMoD Services*** - Subsidized accessible PMoD is introduced in FY 2022 (July 2021) to offer ADA-eligible TRACER customers the choice of more spontaneous travel than currently is possible on TRACER pre-scheduled complementary paratransit service. The operating plan is based on customer migration targets (*i.e.*, from pre-scheduled to PMoD) of 20% by the end of FY 2022 (June 2022); 35% by FY 2023; and 50% by the end of in FY 2024 and FY 2025. Similarly, pre-scheduled complementary paratransit will accommodate about 50% of total after FY 2024.

Following a one-year PMoD pilot period (July 2020 – June 2021), a three implementation phased approach cover the second year (Phase 1), third year (Phase 2) and fourth and fifth years (Phase 3) of the five-year SRTP. Year-by-year performance expectations and implementation issues are discussed in the following pages.

Phase 1 – July 2021 – June 2022

First-year operations in FY 2022 generate approximately 183,300 customer boardings, a 16% year-over-year increase over FY 2021. Estimated net operating cost is $2.55 million, or $14.42 per boarding. Phase 1 objectives by service mode are highlighted below and illustrated in Exhibit 7.1.

Legacy Fixed Route System – Most of the FY 2021 fixed route network is maintained in FY 2021, except for the Route D, which is discontinued. School-day access to Kimball High School is maintained by microtransit flex-routes running on schedules coordinated with Kimball High School, Kelly Middle School, and Williams Middle School bell times. Other Route D riders are alternatively served by the introduction of a PMoD service in the West/South-West sector as well as other TRACER routes; notably those along Eaton Avenue and Lowell Avenue (Route B, Route E), S Central Avenue (Route F), and Schulte Road (Route C). The nearest alternative service for customers along Sycamore Parkway is approximately 0.3 mile to the east along S Tracy Boulevard. FY 2022 ridership is estimated at approximately 139,000 boardings, assuming 19,300 vehicle service hours and service productivity averaging 6.5 boardings per hour. Net operating cost is estimated at $1.7 million, or $12.30 per customer boarding.

West/Southwest Area PMoD Connection – Phase 1 introduces subsidized on-demand TRACER connection service on weekdays in a limited portion of the service area located east of S Tracy Boulevard to Lammers south of Byron to Linne Road. PMoD connection service mostly will connect residential trip origins to Route C route bus stops. FY 2022 ridership estimate is 7,500 boardings assuming average 30 boardings per weekday. Estimated annual cost is $37,500.

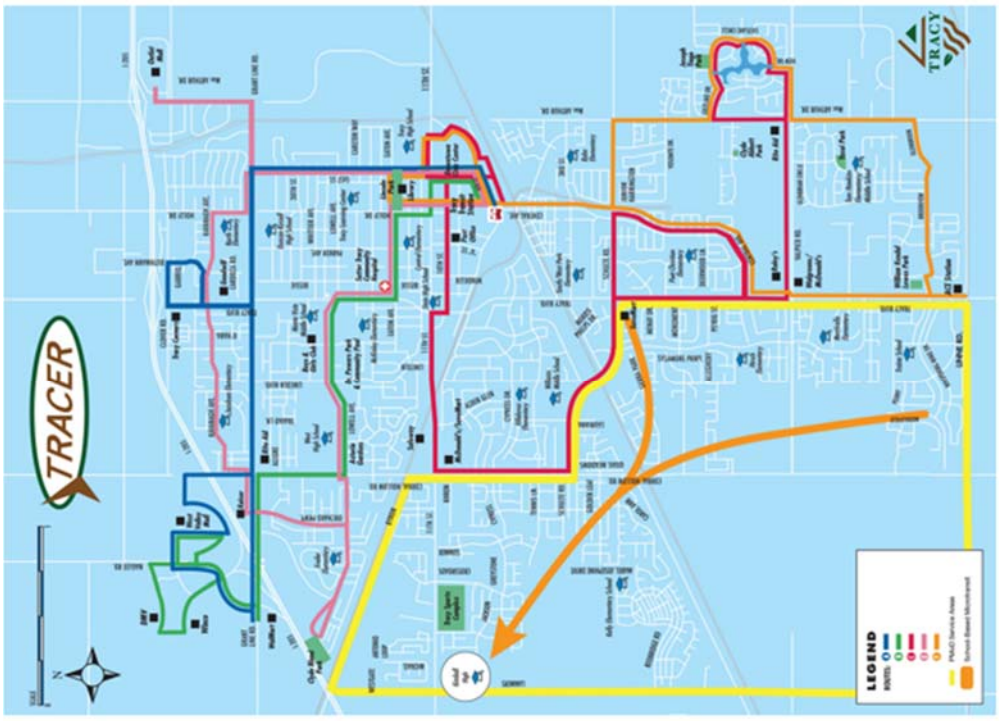
Area-wide Sunday PMoD Direct and Monday to Saturday Morning and Evening – Phase 1 continues the 5:00 am to 10:00 pm area-wide Sunday pilot service and earlier morning (5am-8am [9am Sat.])/later evening (7pm-10pm [to 12am Fri. and Sat.]) Monday through Saturday (subsidized on-demand TNC / Smart Taxi service) for shared-ride travel between any two points in the service area. Ridership and cost estimates as presented for the pilot period are assumed to apply to the FY 2022 period.

Microtransit School Pilot – Phase 1 introduces flexible microtransit service focusing on bell times at Kimball High School, Kelly Middle School, and Williams Middle School. First-year ridership capacity is 100 one-way-trips per school day (180 service days annually) with up four transit vans operating on flexible routes shaped by customer demand. Currently, morning bell times are 8:15 am at Kimball and Williams, and 8:20 am at Kelly. Afternoon dismissal bell times are 2:35 pm at Williams, 2:50 pm at Kelly, and 3:15 pm at Kimball.

Accessible PMoD option – Phase 1 provides ADA-eligible customers a choice of traveling on-demand using subsidized market-available accessible transportation services or continuing to use TRACER pre-scheduled complementary paratransit service. FY 2022 ridership is estimated at 3,600 rides, assuming up to 20% of approximately 18,000 trips on TRACER complementary paratransit vehicles migrate voluntarily to accessible PMoD. Estimated annual cost is $36,300, assuming subsidy averaging $10.00 per one-way trip.

TRACER Complementary Paratransit – Service level is reduced by up to 20% during FY 2022 commensurate with actual migration of ADA-eligible customer trips to accessible PMoD service, as noted above. Estimated ridership is 14,400 boardings, assuming incremental improvement of service productivity to 2.0 boardings per hour. FY 2022 estimated net cost is $648,000, or $45.01 per customer boarding.

Exhibit 7.1: Phase 1 – July 2021 – June 2022



Service	July 2021
Fixed Route Network	• Discontinue Route D
Personal Mobility on Demand (PMoD)	• Continuation of area-wide Sunday & Mon.-Fri. morning/evening service (Direct) • PMoD West/ Southwest sector – *Transit Connect*
Microtransit School Transport	• Pilot: Kimball High School, Kelly Middle School & Williams Middle School
Accessible PMoD	• ADA eligible - additional service option
TRACER Paratransit	• Up to 20% reduction in LOS

PLUS city-wide PMoD:
Mon. – Sat. 5:00am – 8:00am (9am Sat.) & 7:00pm – 10:00pm (to 12:00am – Friday & Saturday)
Sunday 5:00am – 10:00pm

Phase 2 – July 2022 – June 2023

Second-year operations in FY 2023 will generate approximately 246,000 customer boardings, a 34% year-over-year increase over FY 2021. Estimated net operating cost is $2.8 million, or $13.40 per boarding. Phase 2 objectives by service mode are highlighted below and illustrated in Exhibit 7.2.

Legacy Fixed Route System – The existing system is further reduced with discontinuation of the peak-only Route F, and truncation of the Route C east of S Tracy Boulevard at Valpico Road. Tracy High School students and others are alternatively served by school-day only microtransit flexible routes and schedules coordinated with Tracy High School, Poet-Christian Magnet School, and Williams Middle School bell times. Southeast Tracy residents are alternatively served by new PMoD connection service described below. FY 2023 fixed route ridership is estimated at 135,000 boardings, assuming 18,500 vehicle service hours and service productivity averaging 7.3 boardings per hour. Net operating cost is estimated at $1.68 million, or $ 12.45 per customer boarding.

West/Southwest Area PMoD Connection – Phase 2 continues the subsidized on-demand TRACER connection service on weekdays in a limited portion of the service area located east of S Tracy Boulevard to Lammers south of Byron to Linne Road. PMoD connection service mostly will connect residential trip origins to Route C route bus stops. FY 2023 ridership estimate is 7,500 boardings assuming average 30 boardings per weekday. Estimated annual cost is $37,500.

Southeast Area PMoD Connection – Phase 2 introduces subsidized on-demand TRACER connection service on weekdays and Saturdays in a limited portion of the service area located east of S Tracy Boulevard and south of Schulte Road. PMoD connection service mostly will connect residential trip origins to Route C route bus stops served by incrementally improved frequency (possibly 45 minutes). Additionally, subsidized direct PMoD travel between any two points within the service area is available when the fixed route system is not operating in the early morning (5:00 am - 6:30 am), and late evening 6:00 pm - 10:00 pm). FY 2023 ridership estimate is 29,200 boardings assuming average 100 boardings per weekday and 75 boardings per Saturday. Estimated annual cost is nearly $150,000, assuming inflation-adjusted subsidy averaging $5.13 per one-way trip.

Area-wide Sunday PMoD Direct and Monday to Saturday Morning and Evening – Phase 1 continues the 5:00 am to 10:00 pm area-wide Sunday pilot service and earlier morning (5am-8am [9am Saturday])/later evening (7pm-10pm [to 12am Friday and Saturday]) Monday through Saturday (subsidized on-demand TNC / Smart Taxi service) for shared-ride travel between any two points in the service area. FY 2023 ridership is estimated at approximately 14,630 boardings. This number reflects a 10% year-over-year customer demand for subsidized PMoD. Estimated annual cost is $74,980, assuming inflation-adjusted subsidy averaging $5.13 per one-way trip.

Commuter PMoD – Phase 2 introduces subsidized on-demand commuter service on weekdays city-wide with origin or destination limited to the ACE train station and Tracy

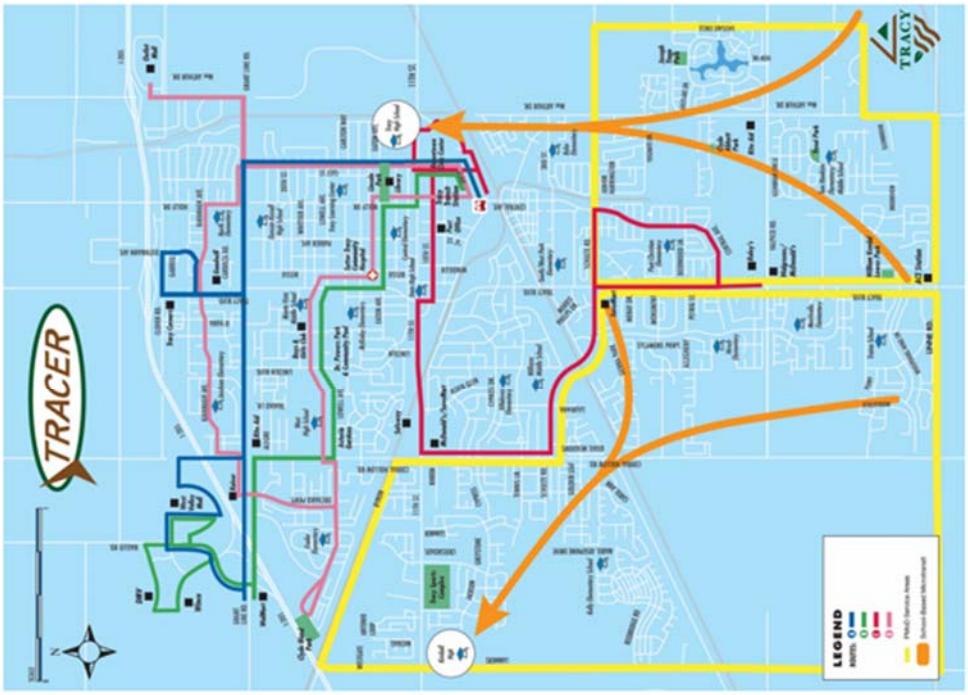
Transit Station for regional bus connections to Bay Area cities and Silicon Valley. FY 2023 estimated ridership is 17,700 boardings, assuming an average of 70 one-way trips per weekday (253 days per year). Estimated annual cost is nearly $91,000, assuming inflation-adjusted subsidy averaging $5.13 per one-way trip.

Microtransit Expansion – Phase 2 expands flexible microtransit service focusing on bell times at Tracy High School, Poet-Christian Magnet School, and Williams Middle School. Continuation of Phase 1 service to Kimball High School, Kelly Middle School, and Williams Middle School is assumed. FY 2023 estimated ridership is 36,000 one-way-trips, or 200 per school day (180 days per year). Currently, morning bell times are 7:53 am at Tracy, 8:20 am at Kelly, and 8:25 am at Poet-Christian. Afternoon dismissal bell times are 2:35 pm at Williams, 3:02 pm at Tracy, and 3:05 pm at Poet-Christian. It is anticipated that up to eight transit vans will operate on flexible routes and demand-driven schedules.

Accessible PMoD expansion – Phase 2 assumes further migration of ADA-eligible customers from pre-scheduled complementary paratransit to accessible PMoD. FY 2023 ridership is estimated at 6,400, assuming that up to 35% of approximately 18,700 annual trips taken on TRACER complementary paratransit vehicles are diverted to accessible PMoD by customer choice. Estimated annual cost is nearly $66,000, assuming inflation-adjusted subsidy averaging $10.25 per one-way trip.

TRACER Complementary Paratransit – Level of service will be reduced by up to 35% during FY 2023 commensurate with the voluntary migration of ADA-eligible customer trips to accessible PMoD service, as described above. Estimated ridership is 12,300 boardings, assuming incremental improvement of service productivity to 2.1 boardings per hour. FY 2022 estimated net cost is $539,300, or $43.90 per customer boarding.

Exhibit 7.2: Phase 2 – July 2022 – June 2023



Service	July 2022
Fixed Route Network	• Discontinue peak-only Route F • Truncation of Route C (east of Tracy Blvd at Valpico)
Personal Mobility on Demand (PMoD)	• Southeast area PMoD – *Transit Connect* • Area-wide Sunday and Mon.-Fri. morning/evening service (Direct) • Commuter PMoD (Direct) (Mon. – Fri.: 3:00am – 8:00am & 4:00pm – 10:00pm)
Microtransit School Transport	• Expands to include Tracy High School & Poet-Christian Magnet School
Accessible PMoD	• Further migration of ADA eligible
TRACER Paratransit	• Up to 35% reduction in LOS

PLUS city-wide PMoD:
Mon. – Sat. 5:00am – 8:00am (9am Sat.) & 7:00pm – 10:00pm (to 12:00am – Friday & Saturday)
Sunday 5:00am – 10:00pm

Phase 3 – July 2023 – June 2024

Third-year operations in FY 2024 will generate approximately 368,000 customer boardings, a 50% year-over-year increase over FY 2023. Estimated net operating cost is $3.55 million, or $11.38 per boarding. Phase 3 objectives by service mode are highlighted below and illustrated in Exhibit 7.3.

Simplified Fixed Route Network – All remaining legacy network routes are replaced with the simplified three-line (preferred service plan) network in July 2023. First year ridership is estimated at approximately 191,700 boardings, assuming nearly 23,000 vehicle service hours and service productivities ranging from 7.0 boardings per hour on the Green Line to 9.0 per hour on the Red Line. Net operating cost is estimated at $2.12 million, or $ 11.04 per customer boarding.

Area-wide Weekday Connection PMoD – Pending evaluation of first-year Southeast Area PMoD transit connection service, Phase 3 expands subsidized on-demand TRACER connection service availability to full service area coverage on weekdays. Additionally, subsidized direct PMoD travel between any two points within the service area is available when the fixed route system is not operating in the early morning (5:00 am - 6:30 am [to 9:00am Saturday]), and late evening 6:00 pm - 10:00 pm [to 12:00am on Friday and Saturday]). FY 2024 ridership is estimated at 73,650 boardings, assuming 250 boardings per weekday. Estimated annual cost is nearly $387,000, assuming inflation-adjusted subsidy averaging $5.25 per one-way trip.

Area-wide Sunday PMoD Direct and Monday to Saturday Morning and Evening – FY 2024 ridership is estimated at approximately 15,360 boardings. This number reflects a 10% year-over-year customer demand for subsidized PMoD. Estimated annual cost is $80,690, assuming inflation-adjusted subsidy averaging $5.13 per one-way trip.

Commuter PMoD – FY 2024 estimated ridership is 19,500 boardings, assuming an average of 77 one-way trips per weekday (253 days per year). This number reflects a 10% year-over-year customer demand for subsidized Commuter PMoD. Estimated annual cost is approximately nearly $102,300, assuming inflation-adjusted subsidy averaging $5.25 per one-way trip.

School Microtransit Expansion – Phase 3 further expands flexible microtransit service focusing on bell times at West High School, Millennium Charter High School, Monte Vista Middle School, and North School. Currently, morning bell times are 7:44 am at West, 8:10 am at Monte Vista, 8:13 am at Millennium, and 8:15 am at North. Afternoon dismissal bell times are 2:42 pm at North, 2:45 pm at Monte Vista, 2:55 pm at West, and 4:13 pm at Millennium. Continuation of prior phase services to Kimball High School, Kelly Middle School, Tracy High School, Poet-Christian Magnet School and Williams Middle School is assumed. FY 2024 estimated ridership is 54,000 one-way-trips, or 300 per school day (180 days per year). It is anticipated that up to 12 transit vans will operate on flexible routes and demand-driven schedules.

Accessible PMoD expansion – Phase 3 assumes further migration of ADA-eligible customers from pre-scheduled complementary paratransit to accessible PMoD. FY 2024 ridership is estimated at 9,500 assuming that up to 50% of approximately 19,000 annual trips taken on TRACER complementary paratransit vehicles are diverted to accessible PMoD by customer choice. Estimated annual cost is nearly $100,000, assuming inflation-adjusted subsidy averaging $10.51 per one-way trip.

TRACER Complementary Paratransit – Level of service will be reduced by up to 50% during FY 2024 commensurate with the voluntary migration of ADA-eligible customer trips to accessible PMoD service, as described above. Estimated ridership is 9,450 boardings, assuming service productivity averaging 2.1 boardings per hour. FY 2024 estimated net cost is $438,200, or $44.03 per customer boarding.

Exhibit 7.3: Phase 3 – July 2023 – June 2024

Service	July 2023
Fixed Route Network	• All remaining legacy network routes replaced with simplified 3-line network
Personal Mobility on Demand (PMoD)	• Area-wide Sunday and weekday & Saturday connection service
Microtransit School Transport	• Expands to include West High School, Millennium Charter High School, Monte Vista Middle School, & North School
Accessible PMoD	• Further migration of ADA eligible
TRACER Paratransit	• Up to 50% reduction in LOS

PLUS city-wide PMoD:
Mon. – Sat. 5:00am – 8:00am (9am Sat.) & 7:00pm – 10:00pm (to 12:00am – Friday & Saturday)
Sunday 5:00am – 10:00pm

Phase 3, Year 2 – July 2024 – June 2025

Fourth-year operations in FY 2025 will generate approximately 385,000 customer boardings, a 4.6% year-over-year increase over FY 2024. Estimated net operating cost is $3.69 million, or $11.31 per boarding. Phase 3 second-year objectives by service mode are highlighted below.

Fixed Route Network – FY 2025 ridership is estimated at approximately 197,500 boardings, assuming nearly 23,000 vehicle service hours and service productivities ranging from 7.2 boardings per hour on the Green Line to 9.3 per hour on the Red Line. This number reflects a 3% year-over-year ridership growth. Net operating cost is estimated at $2.17 million, or $ 10.98 per customer boarding.

Area-wide Weekday / Saturday PMoD Connection – FY 2025 ridership is estimated at 81,000 boardings, assuming 275 boardings per weekday and 220 boardings per Saturday. This number reflects a 10% year-over-year customer demand for subsidized PMoD during the second full year of availability. Estimated annual cost is over $436,000, assuming inflation-adjusted subsidy averaging $5.38 per one-way trip.

Area-wide Sunday PMoD Direct and Monday to Saturday Morning and Evening – FY 2025 ridership is estimated at approximately 16,130 boardings. This number reflects a 5% year-over-year customer demand for subsidized PMoD. Estimated annual cost is $86,850, assuming inflation-adjusted subsidy averaging $5.13 per one-way trip.

Commuter PMoD – FY 2025 estimated ridership is over 20,000 boardings, assuming an average of 80 one-way trips per weekday (253 days per year). This number reflects a 5% year-over-year customer demand for subsidized Commuter PMoD in its third full year of availability. Estimated annual cost is approximately nearly $109,000, assuming inflation-adjusted subsidy averaging $5.38 per one-way trip.

Area-wide School Microtransit – Continuation of prior phase services focusing on the City's middle and high schools is assumed. FY 2025 estimated ridership is 55,600 one-way-trips, or 310 per school day (180 days per year). This number reflects a 3% productivity improvement and near-capacity utilization of up to 12 transit vans operating on flexible routes and demand-driven schedules.

Accessible PMoD – FY 2025 ridership is estimated at 10,200 boardings, assuming a leveling of demand at 50% of total ADA-eligible customer demand. Estimated annual cost is over $110,000, assuming inflation-adjusted subsidy averaging $10.77 per one-way trip.

TRACER Complementary Paratransit – Level of service is maintained at 50% of FY 2018 vehicle service hours. Estimated ridership is 9,900 boardings, assuming incremental improvement of service productivity to 2.2 boardings per hour. FY 2025 estimated net cost is $436,000, or $44.03 per customer boarding.

Phase 3, Year 3 – July 2025 – June 2026

Fifth-year operations in FY 2026 will generate approximately 400,000 customer boardings, a 3.9% year-over-year increase over FY 2025. Estimated net operating cost is $3.83 million, or $11.27 per boarding. Phase 3 third-year objectives by service mode are highlighted below.

Fixed Route Network – FY 2026 ridership is estimated at approximately 203,400 boardings, assuming nearly 23,000 vehicle service hours and service productivities ranging from 7.4 boardings per hour on the Green Line to 9.5 per hour on the Red Line. This number reflects a 3% year-over-year ridership growth. Net operating cost is estimated at $2.22 million, or $ 10.93 per customer boarding.

Area-wide Weekday / Saturday PMoD Connection – FY 2026 ridership is estimated at over 85,300 boardings, assuming 290 boardings per weekday and 230 boardings per Saturday. This number reflects a 5% year-over-year customer demand for subsidized PMoD during the second full year of availability. Estimated annual cost is nearly $471,000, assuming inflation-adjusted subsidy averaging $5.52 per one-way trip.

Area-wide Sunday PMoD Direct and Monday to Saturday Morning and Evening – FY 2026 ridership is estimated at approximately 16,940 boardings. This number reflects a 5% year-over-year customer demand for subsidized PMoD. Estimated annual cost is $93,490, assuming inflation-adjusted subsidy averaging $5.13 per one-way trip.

Commuter PMoD – FY 2026 estimated ridership is approximately 21,500 boardings, assuming an average of 85 one-way trips per weekday (253 days per year). This number reflects a 5% year-over-year customer demand for subsidized Commuter PMoD in its third full year of availability. Estimated annual cost is approximately nearly $118,700, assuming inflation-adjusted subsidy averaging $5.52 per one-way trip.

Area-wide School Microtransit – Continuation of prior phase services focusing on the City's middle and high schools is assumed. FY 2026 estimated ridership is 57,300 one-way-trips, or 320 per school day (180 days per year). This number reflects a 3% productivity improvement and near-capacity utilization of up to 12 transit vans operating on flexible routes and demand-driven schedules.

Accessible PMoD – FY 2026 ridership is estimated at 11,300 boardings, assuming a leveling of demand at 50% of total ADA-eligible customer demand. Estimated annual cost is nearly $125,000, assuming inflation-adjusted subsidy averaging $11.04 per one-way trip.

TRACER Complementary Paratransit – Level of service is maintained at 50% of FY 2018 vehicle service hours. Estimated ridership is 9,900 boardings, assuming service productivity averaging 2.2 boardings per hour. FY 2026 estimated net cost is $447,100, or $45.17 per customer boarding.

Exhibit 7.4 Summary of Key Service Enhancements (FY 2021 - FY 2024).

Service	July 2020		July 2021		July 2022		July 2023
Fixed Route Network	Status Quo		• Discontinue Route D	Evaluation & City Council approval	• Discontinue peak-only Route F • Truncation of Route C (east of Tracy Blvd at Valpico)	Evaluation & City Council approval	• All remaining legacy network routes replaced with simplified 3-line network

Personal Mobility on Demand (PMoD) (*Direct* & *Connect*)	**Pilot (PMoD Direct):**
	• Area-wide Sunday service (5:00am – 10:00pm)
	• Area-wide Mon.- Sat.:
	  • 5am – 8am (9am – Sat.)
	  • 6pm – 10pm (12am – Fri. & Sat.)
			• Continuation of area-wide (Direct) Sunday & Mon.-Sat. morning/evening service
			• PMoD West/Southwest sector – *Transit Connect* 6:00am-6:00pm
					• Southeast area PMoD – *Transit Connect* - 6:00am-6:00pm
					• Area-wide Sunday and Mon.-Sat. morning/evening Direct service
					• Commuter PMoD Direct (Mon. – Fri.: 3:00am-8:00am & 4:00pm-10:00pm)
							• Area-wide (Direct and Connect) weekday & Saturday service

Microtransit School Transport			• Pilot: Kimball High School, Kelly Middle School & Williams Middle School		• Expands to include Tracy High School & Poet-Christian Magnet School		• Expands to include West High School, Millennium Charter High School, Monte Vista Middle School, & North School
Accessible PMoD			• ADA eligible - additional service option		• Further migration of ADA eligible		• Further migration of ADA eligible
TRACER Paratransit	Status Quo		• Up to 20% reduction in LOS		• Up to 35% reduction in LOS		• Up to 50% reduction in LOS
Total Boardings	189,330		195,430		258,617		373,153
Vehicle Service Hours	31,525		28,300		28,000		32,840
Net Cost Per Boarding	$15.15		$13.34		$10.41		$11.38

7.2 Five-Year Operating Financial Plan

Exhibit 7.5 provides a summary table showing estimated ridership, operating cost and service productivity by service mode and fiscal year.

Exhibit 7.5: Five-Year Operating Financial Plan Summary, FY 2021-2026

Service Plan Components		Total Customer Boardings	Vehicle Service Hours	Total Operating Cost	Farebox Revenue	Net Operating Cost	Net Cost per Boarding	Boardings per Service Hour	Assumptions
PMoD Pilot: July 1, 2020 - June 30, 2021									
Legacy Fixed Route Network (all routes)		158,000	24,325	$2,254,684	$96,380	$2,158,304	$13.66	6.5	FY 18 ridership, $0.61 average fare
Pilot: City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)		13,300	NA	$66,500	$0	$66,500	$5.00	NA	Sun.: 100 boardings/day x 58 days/year. Mon.-Fri.: 30 boardings/day x 250 days/year
Complementary Paratransit (100%)		18,030	7,200	$667,368	$24,160	$643,208	$35.67	2.0	$1.34 average fare
	Total	189,330	31,525	$2,988,552	$120,540	$2,868,012	$15.15	5.6	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 1: July 1, 2021 - June 30, 2022 (Plan Year 1)									
Legacy Fixed Route Network (all routes)		158,000	24,325	$2,254,684	$96,380	$2,158,304	$13.66	6.5	FY 18 ridership, $0.61 average fare
Discontinue Route D		-19,400	-5,025	-$465,767	-$11,834	-$453,933	$23.40	-3.9	FY 18 ridership, $0.61 average fare
PMoD service in the West/South-West sector		7,500	NA	$37,500	$0	$37,500	$5.00	NA	Mon.-Fri. 30 boardings/day x 250 days/year
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)		13,300	NA	$66,500	$0	$66,500	$5.00	NA	Sun.: 100 boardings/day x 58 days/year. Mon.-Fri.: 30 boardings/day x 250 days/year
Microtransit pilot – Kimball HS, Kelly MS, Williams MS		18,000	1,800	$131,724	$18,000	$113,724	$6.32	10.0	100 boardings per day, 180 days per year, $1.00 average fare
Accessible PMoD pilot (20%)		3,630	NA	$36,300	$0	$36,300	$10.00	NA	10 boardings per day, 363 days per year
Complementary Paratransit (80%)		14,400	7,200	$667,368	$19,296	$648,072	$45.01	2.0	$1.34 average fare
	Total	195,430	28,300	$2,728,309	$121,842	$2,606,467	$13.34	6.0	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 2: July 1, 2022 - June 30, 2023 (Plan Year 2)									
Legacy Fixed Route Network (excludes Route D)		141,372	19,300	$1,833,640	$86,237	$1,747,403	$12.36	7.3	Ridership +2%, $0.61 average fare
Discontinue Route F, truncate Route C		-6,500	-750	-$617,547	-$3,965	-$613,582	$94.40	-8.7	FY 18 ridership, $0.61 average fare
PMoD service in the West/South-West sector		7,500	NA	$37,500	$0	$37,500	$5.00	NA	Mon.-Fri. 30 boardings/day x 250 days/year
Southeast Weekday/Saturday PMoD Connection/Direct		29,200	NA	$149,650	$0	$149,650	$5.13	NA	100 boardings per weekday, 75 per Saturday
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)		14,630	NA	$74,979	$0	$74,979	$5.13	NA	(+10%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD		17,710	NA	$90,764	$0	$90,764	$5.13	NA	70 boardings per day, 253 weekdays
Microtransit expansion – Tracy HS & Poet-Christian Magnet		36,000	3,600	$270,034	$36,000	$234,034	$6.50	10.0	200 boardings per day, 180 days per year, $1.00 average fare
Accessible PMoD pilot (35%)		6,420	NA	$65,805	$0	$65,805	$10.25	NA	20 boardings per weekday, 15 per Saturday, 10 per Sunday
Complementary Paratransit (65%)		12,285	5,850	$555,792	$16,462	$539,331	$43.90	2.1	Productivity +5%, $1.34 average fare
	Total	258,617	28,000	$2,460,617	$134,734	$2,325,883	$10.41	6.5	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 3: July 1, 2023 - June 30, 2024 (Plan Year 3)									
Red Line (Tracy Blvd)		117,972	13,108	$1,276,489	$71,963	$1,204,526	$10.21	9.0	9 boardings per hour, $0.61 average fare
Green Line (Corral Hollow)		34,412	4,916	$478,447	$20,991	$457,456	$13.29	7.0	7 boardings per hour, $0.61 average fare
Yellow Line (Grant Line)		39,328	4,916	$478,447	$23,990	$454,457	$11.56	8.0	8 boardings per hour, $0.61 average fare
Discontinue Route A, Route B, Route C, Route E		0	0	$0	$0	$0	-	--	Replaced by Red, Green & Yellow Lines
City-wide Weekday/Saturday PMoD Connection/Direct		73,650	NA	$386,893	$0	$386,893	$5.25	NA	250 boardings per weekday, 200 per Saturday
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)		15,360	NA	$80,688	$0	$80,688	$5.25	NA	(+5%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD		19,481	NA	$102,336	$0	$102,336	$5.25	NA	77 boardings per day (+10%), 253 weekdays
City-wide Microtransit		54,000	5,400	$414,931	$54,000	$360,931	$6.68	10.0	300 boardings per day, 180 days per year, $1.00 average fare
Accessible PMoD (50%)		9,500	NA	$99,809	$0	$99,809	$10.51	NA	30 boardings per weekday, 20 per Saturday, 15 per Sunday
Complementary Paratransit (50%)		9,450	4,500	$437,960	$12,663	$425,297	$45.01	2.1	$1.34 average fare
	Total	373,153	32,840	$3,756,000	$183,607	$3,572,393	$11.38	7.8	Net cost per boarding & boardings per hour exclude PMoD subsidies

Exhibit 7.5: Five-Year Operating Financial Plan Summary, FY 2021-2026 (Continued)

Service Plan Components		Total Customer Boardings	Vehicle Service Hours	Total Operating Cost	Farebox Revenue	Net Operating Cost	Net Cost per Boarding	Boardings per Service Hour	Assumptions
Phase 3, Year 2: July 1, 2024 - June 30, 2025 (Plan Year 4)									
Red Line (Tracy Blvd)		121,511	13,108	$1,308,401	$74,122	$1,234,279	$10.16	9.3	Ridership +3%, $0.61 average fare
Green Line (Corral Hollow)		35,444	4,916	$478,399	$21,621	$456,778	$12.89	7.2	Ridership +3%, $0.61 average fare
Yellow Line (Grant Line)		40,508	4,916	$478,399	$24,710	$453,689	$11.20	8.2	Ridership +3%, $0.61 average fare
City-wide Weekday/Saturday PMoD Connection/Direct		81,015	NA	$436,221	$0	$436,221	$5.38	NA	275 boardings per weekday, 220 per Saturday (+10%)
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)		16,130	NA	$86,851	$0	$86,851	$5.38	NA	(+5%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD		20,240	NA	$108,981	$0	$108,981	$5.38	NA	80 boardings per day (+5%), 253 weekdays
City-wide Microtransit		55,620	5,400	$414,931	$55,620	$359,311	$6.46	10.3	310 boardings per day (+3%), 180 days per year, $1.00 average fare
Accessible PMoD (50%)		10,226	NA	$110,123	$0	$110,123	$10.77	NA	32 boardings per weekday, 22 per Saturday, 17 per Sunday
Complementary Paratransit (50%)		9,900	4,500	$437,960	$13,266	$424,694	$42.90	2.2	Productivity +5%, $1.34 average fare
	Total	390,594	32,839	$3,860,266	$189,339	$3,670,927	$11.14	8.0	Net cost per boarding & boardings per hour exclude PMoD subsidies
Phase 3, Year 3: July 1, 2025 - June 30, 2026 (Plan Year 5)									
Red Line (Tracy Blvd)		125,156	13,108	$1,341,111	$76,345	$1,264,766	$10.11	9.5	Ridership +3%, $0.61 average fare
Green Line (Corral Hollow)		36,508	4,916	$502,917	$22,270	$480,647	$13.17	7.4	Ridership +3%, $0.61 average fare
Yellow Line (Grant Line)		41,723	4,916	$502,917	$25,451	$477,466	$11.44	8.5	Ridership +3%, $0.61 average fare
City-wide Weekday/Saturday PMoD Connection/Direct		85,330	NA	$470,942	$0	$470,942	$5.52	NA	290 boardings per weekday, 230 per Saturday (+5%)
City-wide Sunday (5AM-10PM) PMoD Direct & Mon.-Fri. (5AM-8AM & 7PM-10PM)		16,940	NA	$93,493	$0	$93,493	$5.52	NA	(+5%) Sun.: 110 boardings/day x 58 days/year. Mon.-Fri.: 33 boardings/day x 250 days/year
Commuter PMoD		21,505	NA	$118,687	$0	$118,687	$5.52	NA	85 boardings per day (+5%), 253 weekdays
City-wide Microtransit		57,289	5,400	$414,931	$57,289	$357,642	$6.24	10.6	320 boardings per day (+3%), 180 days per year, $1.00 average fare
Accessible PMoD (50%)		11,315	NA	$124,896	$0	$124,896	$11.04	NA	35 boardings per weekday, 25 per Saturday, 20 per Sunday
Complementary Paratransit (50%)		9,900	4,500	$437,960	$13,266	$424,694	$42.90	2.2	$1.34 average fare
	Total	405,666	32,839	$4,007,854	$194,621	$3,813,233	$11.11	8.2	Net cost per boarding & boardings per hour exclude PMoD subsidies

Inflation rate	1.025	
	Op Cost	Micro Op Cost
Year 1	$92.69	$73.18
Year 2	$95.01	$75.01
Year 3	$97.38	$76.88
Year 4	$99.82	$78.81
Year 5	$102.31	$80.78

7.3 Capital Improvement Program

The recommended five-year capital improvement plan supports implementation of the preferred service and five-year operating plan. Exhibit 7.3 provides a summary table showing year-by-year planned expenditures of nearly $2.68 million in four areas of investment:

- Revenue Vehicles
- Priority Connection Bus Stop Improvements
- Transit Corridor Operational Improvements
- Facilities, Equipment and Technologies

Exhibit 7.3: Five-Year Capital Improvement Plan, FY 2020-2024

Expense	Units	2020	2021	2022	2023	2024	Total
Revenue Vehicles							
Minivan (MV)	3	$150,000					$150,000
Small light duty Cutaway (CU)	5	$625,000					$625,000
Medium heavy duty Bus (BU)	0						$0
Subtotal	8	$775,000	$0	$0	$0	$0	$775,000
Priority Feeder Stop Improvements							
Design Study	1		$150,000				$150,000
Site Improvements	9			$300,000			$300,000
Lighting and Security	9			$100,000			$100,000
Shelters	9			$200,000			$200,000
Subtotal		$0	$150,000	$600,000	$0	$0	$750,000
Transit Corridor Operational Improvements							
Needs / Design Study	1				$250,000		$250,000
Implementation - first phase	TBD					$500,000	$500,000
Subtotal		$0	$0	$0	$250,000	$500,000	$750,000
Facilities, Equipment & Technologies							
Maintenance Facility Feasibility Study	1		$150,000				$150,000
Real-time Schedule Information	1		$200,000				$200,000
Custom Mobile App	1		$50,000				$50,000
Subtotal		$0	$400,000	$0	$0	$0	$400,000
Total		**$775,000**	**$550,000**	**$600,000**	**$250,000**	**$500,000**	**$2,675,000**

Revenue Vehicles – The FY 2020-2024 SRTP recommends a proliferation of vehicle types beyond the current fleet mix to include smaller transit vans, minivans and sport utility vehicles (SUV) common to microtransit and PMoD services. However, it is not intended that the City will own these smaller vehicles, which usually are supplied by for-profit service contractors operating with a TNC/Smart Taxi business model. The SRTP recommends that the City will continue to

own and maintain (indirectly by contract) all revenue vehicles required to operate local fixed route and complementary paratransit services. All vehicles required for subsidized PMoD and sponsored microtransit services will be supplied and maintained by the service providers entering into contracts with City.

Exhibit 7.4 provides a five-year fleet replacement plan based on City ownership of a 12-vehicle fleet by FY 2021 through FY 2024 and beyond. The FY 2021 revenue vehicle fleet consists of:

- Five (5) existing medium heavy-duty 35' buses dedicated to Red Line operations requiring four buses in peak service, plus one spare. These are existing buses put into service in 2017 with a 14-year Useful Life Benchmark (ULB)[22] and expected to remain in service through FY 2030.
- Five (5) medium-duty 29' buses dedicated to Green Line and Yellow Line operations requiring three buses in peak service; as well as one bus for complementary paratransit service; plus one spare. Three existing vehicles owned by the City and two vehicles currently owned by the City's service contractor (Ride Right LLC) are replaced in FY 2021, with procurement to occur in FY 2020.
- Three (3) purpose-built vans dedicated to complementary paratransit service. Two existing vehicles owned by the City are replaced and one additional vehicle is acquired in FY 2020, with procurement to occur in FY 2019.

Exhibit 7.4: Revenue Vehicle Replacement Plan, FY 2020-2024

TRACER Fleet ID	Vehicle Type	Year in Service	Useful Life Benchmark (ULB)	Procurement Year	Replacement Year
van1	Accessible Minivan	2011	8	2019	2019
van2	Accessible Minivan	2011	8	2019	2019
--	Accessible Minivan	NA	8	2019	2020
47	Light duty bus (25')	2011	10	2020	2021
48	Light duty bus (25')	2011	10	2020	2021
49	Light duty bus (25')	2011	10	2020	2021
--	Medium heavy duty bus (29')	NA	14	2020	2021
--	Medium heavy duty bus (29')	NA	14	2020	2021
1701	Medium heavy duty bus (35')	2017	14	2030	2031
1702	Medium heavy duty bus (35')	2017	14	2030	2031
1703	Medium heavy duty bus (35')	2017	14	2030	2031
1704	Medium heavy duty bus (35')	2017	14	2030	2031
1705	Medium heavy duty bus (35')	2017	14	2030	2031

[22] per FTA Asset Management Plan guidance, see:
https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA%20TAM%20ULB%20Cheat%20Sheet%202016-10-26.pdf

Priority Connection Stop Improvements – The preferred service plan assumes that most transfers between PMoD connection vehicles and TRACER fixed route buses will occur at major bus stops where physical improvements and customer amenities should be concentrated to elevate customers' transfer experience. A package of prototypical improvements is suggested; potentially including a bus turnout lane, expanded setback from the curb, shelter and seating minimizing sidewalks conflicts with pedestrians, lighting and security, real-time schedule information, and wi-fi hotspot. An initial list of nine priority locations for connection stop improvements at key points along the simplified fixed route network includes:

- Corral Hollow Road at W Lowell Road
- Corral Hollow Road at W 11th Street
- Corral Hollow Road at W Schulte Road
- N Tracy Boulevard at W Grant Line Road
- S Tracy Boulevard at W Schulte Road
- S Tracy Boulevard at Valpico Road
- S Tracy Boulevard at Whispering Wind Drive
- S Central Avenue at W Schulte Road
- East Street at E Grant Line Road

The five-year capital plan contains initially $750,000 for project implementation activities, including $150,000 for a planning and design study in FY2021, and $600,000 for site improvements, lighting and security, passenger shelters and seating.

Transit Corridor Operational Improvements - The five-year capital plan contains initially $750,000 for project implementation activities, including $250,000 for a planning and design study in FY2023, and $500,000 for potential "BRT-like" improvements ranging from intersection design to signal pre-emption, to semi-dedicated bus travel lanes, to off-board fare collection systems and high-platform boarding.

Facilities, Equipment and Technologies – The five-year capital plan contains initially $400,000 for implementation activities; including $250,000 for a real-time schedule information software and hardware at 12 major bus stops (*e.g.*, nine priority connection bus stops, Tracy Transit Station, West Valley Mall, Civic Center) and a TRACER mobile app in FY 2021; and $150,000 for a Maintenance Facility Feasibility Study in FY 2020.

8.0 FUNDING AND REVENUE PLAN

The Service Implementation Plan for the City of Tracy Short-Range Transit Plan incorporates phased transit system improvements over a 5-year horizon from FY 2019-20 through FY 2023-24. The Plan maintains the TRACER's core fixed route and paratransit service provision while introducing more flexible, next generation service modes such as microtransit and Personal Mobility on Demand (PMoD). Using FY 2017-18 as a base year, this revenue plan identifies the sources of revenue from local, state, and federal levels that will support the Plan. Exhibit 8.1 provides a summary and total of revenues received and projected.

8.1 Local Transit Funding Sources

8.1.1 Farebox Revenues

Fare revenue generation is derived from a variety of service modes that will be phased in over the course of the Preferred Service Implementation Plan. The largest direct local transit revenue source will continue to be from the transit system's farebox to help support operations and meet state-required performance measures. Estimated farebox revenue figures are presented for the legacy TRACER system for FY 2017-18 and FY 2018-19.

During Phase 1 of the Preferred Service Implementation Plan in FY 2020-21, farebox revenue is derived from the legacy fixed route network, the microtransit pilot implementation and complementary paratransit. Revenue from the discontinued Route D is subtracted. The implementation of PMoD pilot services on Sunday and to local school campuses exclude any farebox revenue projections. Phase 2 of the Implementation Plan reflects further changes to the legacy fixed route system with the discontinuation of the Route F and the addition of commuter, weekday and commuter PMoD services. Phases 3 through 5 reflect the new TRACER fixed route alignment of three routes (Red, Green and Yellow), complementary paratransit, city-wide microtransit and the PMoD connection and direct services.

Farebox revenues are projected to increase 60 percent from $121,842 in FY 2020-21 to $194,621 in FY 2024-25. This is based on an average fare of $0.61 per passenger trip on the fixed route, $1.00 per passenger trip on microtransit and $1.34 per passenger trip on complementary paratransit. PMoD fares will be subsidized by the City. Net cost per passenger and passengers per hour indicators exclude PMoD subsidies.

Senate Bill (SB) 508 (Beall) was passed in October 2015 and amends key provisions of the TDA. SB 508 allows for other locally generated revenues in the farebox ratio. Examples of possible other local support revenues include gains on the sale of capital assets, lease revenues generated by transit-owned property, and advertising revenues.

8.1.2 Transportation Development Act - Local Transportation Fund (LTF)

TDA funds are the largest sole source of operating revenue for most public transportation systems in the state. The spirit of the TDA statute guiding the use of LTF intends for the revenue to be prioritized for transit. This means that the funds are intended to be spent on transit projects to the extent that such projects are needed to fill "unmet transit needs that are reasonable to meet" before any LTF is spent on local streets and roads. The unmet transit needs process, by law, is

conducted by the San Joaquin Council of Governments (SJCOG). TDA funds can be used for capital or operations expenditures or a combination thereof and can provide an important source of local match for federal funding.

The LTF revenues are derived from a one-quarter cent sales tax, which is collected by the Board of Equalization but administered locally through SJCOG, which then allocates the revenue to local jurisdictions based on population. Pursuant to TDA, the City receives LTF proceeds under Article 8, Section 99400(c). The SJCOG Board adopted the Transit Systems Performance Objectives in September 2009, which replaced the 1983 SJCOG Board-approved Operating Cost per Passenger Objective for transit agencies that contract out their transit services.

The Revenue Plan shows a potential transition by the City to using 100 percent of available LTF allocations to support transit operations within a five-year period. The FY 2017-18 base year reflects the combined FY 2016-17 and FY 2017-18 TDA claim submitted to SJCOG. In addition, the claim included unexpended carryover. The Revenue Plan going forward does not assume any carryover of LTF revenues.

Since the passage of TDA, there have been numerous changes. Among the many changes the Act was also amended such that cities reaching a population of 100,000 can no longer claim LTF for road and street purposes, and only for the purposes of public transit. (See PUC 99232.1 and 99232.2.) The Preferred Service Implementation Plan projects a 50 percent increase of Tracy's net transit operating expenses, and soon after is likely to reach 100,000 in population around FY 2021-22 and FY 2022-23. Once that population threshold is reached, Tracy will be ineligible to claim and spend LTF on roads and streets.

The City's combined FY 2016-17 and FY 2017-18 TDA claim has 58 percent of its LTF going towards public transit and the remaining 42 percent going towards streets and roads. The Revenue Plan shows the City's LTF public transit allocation reaching 100 percent by FY 2022-23 when the City's population is projected to surpass 100,000 residents. Population growth estimates are based on the 2018 California Department of Finance figures and a 1.8 percent annual growth rate. The Revenue Plan projects 3 percent annual growth in the City's LTF apportionment based on the California Consumer Price Index.

8.1.3 Transit Station Rental Income

The City of Tracy generates income from the rental of space at the Tracy Transit Station. Based on the performance objectives in the City of Tracy FY 2016-17 and FY 2017-18 Financial Plan, the City's goal is to generate at least $50,000 in revenue annually from rentals at the Transit Station. The City offers a variety of rental options ranging from $20.00 per hour to $334.00 per hour, plus the $35.00 application fee and deposit.

Based on those projections, the Revenue Plan projects further growth in transit station revenues of 13 percent during the Preferred Service Implementation Plan period from $53,000 in FY 2020-21 to nearly $60,000 in FY 2024-25.

8.2 State Transit Funding Sources

8.2.1 State Transit Assistance Fund

The State Transit Assistance (STA) program is a second funding component of TDA. Revenues are derived primarily through the state sales tax on diesel fuel and are allocated by the state legislature. Fifty percent of statewide revenue is allocated by the state based on county population within the jurisdiction of the regional transportation planning agencies, and the remaining 50 percent is allocated based on qualifying revenue such as passenger fares and other local sources by the transit systems.

Historically, the STA has provided a relatively stable source of revenue for public transit service. However, in times of economic downfalls and state fiscal issues, the legislature has leveraged STA funds during state budget negotiations, resulting in uncertain funding levels. Part of the budget negotiations included the “gas tax swap” involving use of the revenues.

The Revenue Plan projects STA revenues will remain fairly stable if not robust. The FY 2017-18 base year reflects the combined FY 2016-17 and FY 2017-18 TDA claim submitted to SJCOG. Subsequent years show a 3 percent annual increase in STA funding from $10,494 in FY 2017-18 to $12,013 in FY 2023-24.

8.2.2 Senate Bill 1 – State of Good Repair

The most recent development at the state level concerns the passage and signing into law of SB 1 (Beall) in April 2017. SB 1, The Road Repair and Accountability Act of 2017**,** provides the first significant, stable, and ongoing increase in state transportation funding in more than two decades. SB 1 is composed of a series of measures and revenue enhancements such as increases in the diesel and gasoline excise and sales taxes and vehicle registration fees. SB 1 encompasses the State of Good Repair (SGR) Program, which is projected to provide approximately $105 million annually to transit operators in California for eligible transit maintenance, rehabilitation and capital projects.

The SGR Program is funded from a portion of a new Transportation Improvement Fee on vehicle registrations due on or after January 1, 2018. In addition, the SGR Program is one of two programs that allocate SB 1 funds to transit agencies through the STA formula. The second program augments the base of the STA program by an estimated $175 million in 2017-18 and $274 million in 2018-19 with a portion of the new sales tax on diesel fuel.

SGR program funds allocated to Tracy have been negligible. The City’s allocation in FY 2017-18 was $1,966 and $1,579 in FY 2018-19. During the Preferred Service Implementation Plan, SGR revenues are projected to increase 3 percent annually.

8.2.3 Proposition 1B (PTMISEA)

On November 7, 2006, California voters approved Proposition 1B, the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006. This act authorized the issuance of $19.925 billion in general obligation bonds to invest in high-priority improvements to the state's surface transportation system and to finance strategies to improve air quality. Among the

programs contained in Proposition 1B is the $3.6 billion Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA). PTMISEA funds are to be used to fund various mass transportation projects, including rehabilitation, safety, or modernization improvements, capital enhancements or expansion, rail transit improvement, bus rapid transit improvements, the acquisition of rolling stock, and other similar investments. PTMISEA funds are to be dispersed according to the same formula used to distribute STA funds. Management and administration costs are not allowable for Proposition 1B funds.

The final appropriation of PTMISEA funds was made in the FY 2014-15 state budget. The Budget Act of 2016 re-appropriated the remaining balances of the FY 2008-09 through FY 2014-15 PTMISEA appropriations, extending the deadline for allocations until June 30, 2018. One final cycle of allocations occurred in FY 2017-18 with a deadline of November 15, 2017, for claimants to submit allocation requests for funding in the spring of 2018.

The remaining projects in the San Joaquin County PTMISEA Expenditure Plan totaled $2,409,440 including for $1,179,440 three Tracy projects. The planned allocation of PTMISEA was $433,133 in matching funds for expansion vehicles; $296,307 in matching funds for replacement vehicles; and $450,000 for upgraded fareboxes on the TRACER.

In San Joaquin County, SJCOG determined that the remaining balance of $1,750,216 in PTMISEA program funds must be assigned to transit operators based on those projects identified in a short-range transit plan that were able to meet schedule constraints. There was consensus that vehicle purchases would be the type of project best able to meet the schedule constraints. During a meeting of the Interagency Transit Committee in August 2017, four projects were identified to make use of the balance of funds, which included $640,000 in bus replacements for the City of Tracy.

The Revenue Plan reflects a $640,000 expenditure of PTMISEA funds in FY 2017-18 sourced from SJCOG's PTMISEA Program Expenditure Plan Worksheet (Amendment #4, 8/18/2017) and the Interagency Transit Committee staff report dated August 2017.

8.2.4 Low Carbon Transit Operations Program (LCTOP)

The California Air Resources Board (CARB) issues competitive grant solicitations for the Air Quality Improvement Program (AQIP) and Low Carbon Transportation Greenhouse Gas Reduction Fund Investments pursuant to Assembly Bill 118. Each fiscal year, CARB must submit a proposed funding plan to its Board for approval. The funding plan serves as the blueprint for expending the AQIP funds appropriated to CARB in the state budget.

The governor's proposed state budget for FY 2018-19 includes $409 million for low carbon transportation investments funded with Cap-and-Trade auction proceeds and $28.64 million for the AQIP. For heavy-duty vehicle and off-road equipment projects, the governor's budget proposes $134 million. Annual funding allocations could aid in future procurements of low or zero-emission transit and support vehicles.

A component of the Cap-and-Trade Program is the Low Carbon Transit Operations Program (LCTOP), which was created to provide operating and capital assistance for transit agencies to

reduce greenhouse gas emissions and improve mobility, with an emphasis on serving disadvantaged communities. Approved projects in LCTOP support new or expanded bus or rail services, expand intermodal transit facilities, and may include equipment acquisition, fueling, maintenance and other costs to operate those services or facilities, with each project intended to reduce greenhouse gas emissions. SB 862 continuously appropriates 5 percent of the annual auction proceeds in the Greenhouse Gas Reduction Fund for LCTOP, beginning in FY 2015–16.

The Revenue Plan shows a limited amount of LCTOP funding available. The City's allocation in FY 2017-18 was $1,816 and $1,542 in FY 2018-19 (estimate). During the Preferred Service Implementation Plan, LCTOP revenues are projected to increase 3 percent annually. Given the onerous reporting requirements, the City needs to determine the feasibility of pursuing these limited funds given the administrative burden required to pursue.

8.3 Federal Revenue Sources

The Federal Transit Administration (FTA) provides financial and technical assistance to local public transit systems. Since 1964, FTA has partnered with state and local governments to create and enhance public transportation systems, investing more than $11 billion annually to support and expand public transit services. FTA provides annual formula grants to transit agencies nationwide as well as discretionary funding in competitive processes.

8.3.1 FTA Section 5307 Urbanized Area Formula Funding Program

The Urbanized Area Formula Funding Program makes federal resources available to urbanized areas for transit capital and operating assistance, and for transportation planning and related planning in urbanized areas. An urbanized area is a Census-designated area with a population of 50,000 or more as designated by the US Department of Commerce, Bureau of the Census. Because the City of Tracy is a small urbanized area between 50,000 and 200,000 people, the City of Tracy has used these funds for both operating and capital expenditures.

Data for FY 2017-18 are derived from the City of Tracy Financial Plan FY 2017-18 & 2018-19. For subsequent years, the FTA projections are derived from SJCOG's 2019 Federal Transportation Improvement Program (FTIP).

As an urbanized area (UZA) operator, Tracy receives its largest source of FTA funding through the Section 5307 program. Eligible activities include planning, engineering design, and evaluation of transit projects; capital investments in bus and bus-related activities; crime prevention and security equipment; construction of maintenance and passenger facilities; and capital investments in existing fixed guideway systems. All preventive maintenance and some ADA complementary paratransit service costs are considered capital costs. The federal funding share is not to exceed 80 percent of the net capital project cost. The federal share may not exceed 50 percent of the net project cost of operating assistance.

8.3.2 Congestion Management and Air Quality (CMAQ) Improvement Program

The CMAQ program funds transportation projects or programs that reduce carbon monoxide, ozone, and particulate matter emissions. The Fixing America's Surface Transportation Act (FAST

Act) provides just over $12 billion in CMAQ funding over the five years of the authorization. Eligible projects for CMAQ include but are not limited to:

- Transit vehicle engine retrofits and vehicle replacements
- Street sweeper and school bus engine retrofits and vehicle replacements
- Transit service improvements
- Traffic flow improvements
- Bicycle and pedestrian improvements
- Travel demand management

Operating assistance is limited to new transit, commuter and intercity passenger rail services, intermodal facilities, and travel demand management strategies, including traffic operation centers, inspection and maintenance programs, and the incremental cost of expanding these services.

SJCOG programmed $2,326,822 in transit-related CMAQ funding in the 2019 FTIP for the purchase of buses for fleet expansion in Tracy. The funding is programmed for FY 2018-19, which was carried over from the 2014 and 2016 FTIPs. The Revenue Plan does not project any further CMAQ funding during the Implementation Plan period.

Exhibit 8.1: Service Implementation Plan
Revenue Plan Summary – FY 2018–19 through FY 2024–25

Transit Revenue Funding Source	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Farebox Revenues							
TRACER Legacy Fixed Route	$85,000	$92,000	$96,380	$86,237	$0	$0	$0
Discontinue Purple D Route	$0	$0	-$11,834	$0	$0	$0	$0
Discontinue Orange F Route	$0	$0	$0	-$3,965	$0	$0	$0
Red Line (Tracy Blvd)	$0	$0	$0	$0	$71,963	$74,122	$76,345
Green Line (Corral Hollow)	$0	$0	$0	$0	$20,991	$21,621	$22,270
Yellow Line (Grant Line)	$0	$0	$0	$0	$23,990	$24,710	$25,451
Microtransit	$0	$0	$18,000	$36,000	$54,000	$55,620	$57,289
City-wide Weekday/Saturday PMoD	$0	$0	$0	$0	$0	$0	$0
City-wide Sunday PMoD Direct	$0	$0	$0	$0	$0	$0	$0
Commuter PMoD	$0	$0	$0	$0	$0	$0	$0
Accessible PMoD	$0	$0	$0	$0	$0	$0	$0
Complementatry Paratransit	$14,500	$17,500	$19,296	$16,462	$12,663	$13,266	$13,266
Total Farebox Revenues	**$99,500**	**$109,500**	**$121,842**	**$134,734**	**$183,607**	**$189,339**	**$194,621**
Local Transportation Fund (LTF) Operating	$4,017,318	$1,950,000	$2,145,000	$2,359,500	$2,642,640	$3,004,682	$3,094,822
Transit Station Rental Income	$50,000	$51,500	$53,045	$54,636	$56,275	$57,964	$59,703
Total Local Operating Funding	**$4,067,318**	**$2,001,500**	**$2,198,045**	**$2,414,136**	**$2,698,915**	**$3,062,645**	**$3,154,525**
LTF Capital Allocation	$448,233	$214,500	$235,950	$259,545	$290,690	$330,515	$340,430
Total Local Capital Funding	**$448,233**	**$214,500**	**$235,950**	**$259,545**	**$290,690**	**$330,515**	**$340,430**
Total Local Funding	**$4,615,051**	**$2,325,500**	**$2,555,837**	**$2,808,415**	**$3,173,213**	**$3,582,499**	**$3,689,576**

Exhibit 8.1: Service Implementation Plan
Revenue Plan Summary – FY 2018–19 through FY 2024–25
(Continued)

Transit Revenue Funding Source	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Formula Funding							
State Transit Assistance Funds	$8,528	$8,784	$9,047	$9,319	$9,598	$9,886	$10,183
SB1 - State of Good Repair (SGR)	$1,966	$1,579	$1,626	$1,675	$1,725	$1,777	$1,830
Total STA Formula Funding	**$10,494**	**$10,363**	**$10,673**	**$10,994**	**$11,323**	**$11,663**	**$12,013**
Discretionary Funding							
Proposition 1B - PTMISEA	$640,000	$0	$0	$0	$0	$0	$0
Low Carbon Transit Operations Program (LCTOP)	$1,816	$1,542	$1,588	$1,636	$1,685	$1,736	$1,788
Total Discretionary Funding	**$641,816**	**$1,542**	**$1,588**	**$1,636**	**$1,685**	**$1,736**	**$1,788**
Total State Funding Received	**$652,310**	**$11,905**	**$12,262**	**$12,630**	**$13,008**	**$13,399**	**$13,801**
Operating							
FTA Section 5307 - Urbanized Area Formula	$2,298,455	$3,038,274	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
Total Operating Contributions	**$2,298,455**	**$3,038,274**	**$2,000,000**	**$2,000,000**	**$2,000,000**	**$2,000,000**	**$2,000,000**
Capital							
FTA Section 5307 - Urbanized Area Formula	$0	$0	$500,000	$500,000	$500,000	$500,000	$500,000
Congestion Management & Air Quality (CMAQ) Program	$0	$2,326,822	$0	$0	$0	$0	$0
Total Capital Contributions	**$0**	**$2,326,822**	**$500,000**	**$500,000**	**$500,000**	**$500,000**	**$500,000**
Total Federal Funding Received	**$2,298,455**	**$5,365,096**	**$2,500,000**	**$2,500,000**	**$2,500,000**	**$2,500,000**	**$2,500,000**
TOTAL FUNDING FROM ALL SOURCES	**$7,565,816**	**$7,702,501**	**$5,068,099**	**$5,321,045**	**$5,686,221**	**$6,095,898**	**$6,203,377**

Sources: State Controller Reports; National Transit Database; City of Tracy Financial Plan Fiscal Year 2017-18 & 2018-19; City of Tracy Transit Fund Budget; 2019 SJCOG FTIP

9.0 *A WAY FORWARD* – NEXT STEPS ACTION PLAN

This chapter provides a 'next steps' action plan for City staff to advance the five-year operating and capital plan. The diversification of service providers with multiple service agreements anticipated for fixed route, complementary paratransit, PMoD and microtransit services represents a significant change from the present single-contractor relationship between the City and Ride Right LLC. Use of two contract approaches are proposed.

- *Dedicated Service Contracts* – The City may consider awarding one, two or three separate contracts for fixed route, complementary paratransit, and microtransit services, depending on what is deemed most advantageous to the City. Vendor compensation is based on a defined number of vehicle service hours, prescribed rate per vehicle service hour, and assumes exclusive use of service capacity for the City's purposes.
- *Subsidy Contracts* – Participation agreements between the City and multiple providers of on-demand services such as TNCs and Smart Taxis. Participating service providers agree to accept and redeem subsidies within a program framework established by the City.

Fixed Route Service Transition

1. Refine service plan precision to include operating schedules and accurate estimates of annual vehicle hours and miles required to operate the service
2. Undertake procurement FY 2020 to rebid current service agreement for Fall 2021 startup. Assumes a three-year base contract with two one-year options. Service change phasing should be defined in the scope of work.
3. Identify bus stop changes required to support the phased implementation plan. With Route D service to be discontinued in July 2021, existing bus stops on Sycamore Parkway, Whispering Wind Drive, and in subdivisions west of Corral Hollow Road must be removed to avoid customer confusion.
4. Assess fare policy options consistent with the new service design.

Microtransit Service Development

5. Engage the Tracy School District to present the concept of the pilot service and suggest further separation of morning arrival times and afternoon dismissal times at Kimball High School, Kelly Middle School and Williams Middle School to maximize service capacity and cost efficiency.
6. Develop detailed service plan / contractor scope of work to be used in formal competitive procurement of service provider.
7. Issue a simplified Request for Statements of Interest (SOI) to survey the market of potential service providers.

8. Meet with potential service providers, including but not limited to Ford Mobility, Liftango, Lyft, Transloc, Uber, and Via. Potential local providers include Ride Right and Tracy Yellow Cab.
9. Undertake procurement early in 2020 to implement first phase service focused on Kimball High School, Kelly Middle School and Williams Middle School.
10. Develop marketing/outreach to students, parents and school employees.

Subsidized PMoD Services

11. Issue a simplified Request for Statements of Interest (SOI) to survey the market of potential service providers.
12. Meet with potential service providers and to discuss planned multi-year phasing of subsidized PMoD services for input into program design.
13. Develop terms of participation by vendors and customers.
14. Initiate vendor certification of multiple providers to roll out:
    a. PMoD Pilot in July 2020
    b. Commuter and Southeast Area Connection PMoD subsidies in July 2022
    c. Area-wide PMoD Connection service in July 2023

10.0 FEDERAL TRANSIT ADMINISTRATION (FTA) COMPLIANCE

The Federal Transit Administration (FTA) has prepared compliance checklists that pertain to the FTA Section 5307 formula funding program. More recent checklists cover the asset management reporting requirements. The more recent checklists are in conformance with the new Transit Award Management System (TrAMS) grant reporting system that was implemented in 2016. TrAMS is FTA's platform to award and manage federal grants. TrAMS was created to provide greater efficiency and improved transparency and accountability.

Before the FTA awards federal assistance for public transportation in the form of a federal grant, certain pre-award *Certifications and Assurances* are required, (except as FTA determines otherwise in writing). These *Certifications and Assurances* have been prepared considering the *Fixing America's Surface Transportation* (FAST) Act, (Public Law No. 114-94, December 4, 2015), and other authorizing legislation.

Beyond the standard (administrative) Assurances (i.e., nondiscrimination, lobbying, suspension and debarment, etc.), salient elements of TrAMS and Tracy TRACER's compliance status is presented in Exhibit 10.1.

10.1 Title VI Compliance

The City of Tracy's *TRACER Title VI Plan & Limited English Proficiency Plan*, submitted December 28, 2017 covers the July 1, 2017 to June 30, 2020 period. No deficiencies were identified in the Plan. The next Title VI plan is due in June 2020.

Exhibit 10.1: Tracy TRACER – FTA Compliance Status

Category of Certifications and Assurances	Provision (and Pertinent Sections)	TRACER Transit Compliance Status
Category 03. Private Sector Protections	Section 03.B: Charter Service Agreement: Shall not engage in charter service operations.	✓ Compliant
Category 04. Rolling Stock Reviews and Bus Testing	Sections 04.A. Rolling Stock Reviews & 04.B. Bus Testing: As defined by pertinent regulations, will: (1) conduct the required pre-award and post-delivery reviews for new vehicle acquisition; and (2) ensure compliance with FTA's Bus Testing regulations.	✓ Compliant
Category 05. Demand Responsive Service	As required by U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)". Offers public transportation services equivalent in level and quality of service. Equivalent to the service it offers individuals without disabilities with respect to: (1) Response time, (2) Fares, (3) Geographic service area, (4) Hours and days of service, (5) Restrictions on priorities based on trip purpose, (6) Availability of information and reservation capability, and (7) Constraints on capacity or service availability.	✓ Compliant
Category 06. Intelligent Transportation Systems	Assure conformity to the appropriate regional ITS architecture, applicable standards, and protocols.	✓ Compliant
Category 08. Transit Asset Management Plan, Public Transportation Agency Safety Plan, and State Safety Oversight Requirement	Section 08.A. Transit Asset Management Plan: 1. Comply with FTA regulations, "Transit Asset Management," 49 CFR part 625, and 2. Follow federal guidance to implement the regulations. Section 08.B. Public Transportation Safety Program: Comply with applicable regulations, and follow federal guidance, and directives that implement the Public Transportation Safety Program provisions of 49 U.S.C. § 5329(b)-(d).	✓ Compliant ✓ Compliant

Category of Certifications and Assurances	Provision (and Pertinent Sections)	TRACER Transit Compliance Status
Category 09. Alcohol and Controlled Substances Testing	As required by 49 U.S.C. § 5331, and FTA regulations, "Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations": Have established and implemented: (1) An alcohol misuse testing program; and (2) A controlled substance testing program.	✓ Compliant
Category 11. State of Good Repair Program	Among the various provisions of this category, to certify that TRACER Transit has the financial and technical capacity, it has continuing control over the use of its equipment and facilities, and it will maintain its equipment and facilities	✓ Compliant

In discussions with city and RideRight officials, they report that programs are in place that address requirements and include: vehicle fleet maintenance - goals and objectives; preventive maintenance (PM) inspections and services (including Pre/Post Trip Inspections, and forms including: Daily Inspection Checklist; Reporting Defects; PM Service Schedule; Maintenance Logs; etc.).

11.0 TRANSIT MAINTENANCE FACILITY – NEED AND FEASIBILITY

This chapter initiates discussion of conditions relating to the need and feasibility of constructing a Transit Maintenance Facility to house the City's transit system in the future. City staff are considering the concept of a shared-use facility to accommodate all or most municipal transportation functions, notably TRACER and Public Works, among others. This document addresses the requirements of the transit system irrespective of whether a facility would be developed as a stand-alone or shared-use facility.

A second purpose of this document is to provide a "next-steps" action plan for the City to advance the project as a federally-assisted procurement using Federal Transit Administration (FTA) Section 5339 Bus and Bus Facilities Formula Grant funding to design and construct the facility. Project eligibility is evident in FTA Circular 5100.1, which provides detailed guidance to Section 5339 program grantees, and cites "Bus maintenance and administrative facilities" as an eligible capital expense.[23]

11.1 Needs Assessment

The draft FY 2021-2025 Short-Range Transit Plan (SRTP) proposes to change TRACER service design from a traditional "fixed route plus complementary paratransit" service model to a "Mobility as a Service (MaaS)" model. This redirection will lead to a larger service fleet and proliferation of vehicle types including transit vans, minivans and sport utility vehicles (SUV) that are better suited to microtransit and personal mobility on demand (PMoD) services. The City will not necessarily own and maintain the entire fleet, however.

The draft SRTP assumes that the City will own heavy-duty buses required to operate planned fixed route services; as well as small light-duty buses and accessible minivans required to operate complementary paratransit service. Other vehicles, including small transit vans used to provide microtransit service, accessible minivans to provide accessible PMoD service, and SUVs to provide subsidized PMoD service citywide, will be supplied by private sector transportation providers through direct service contracts or though user-side subsidy agreements. Exhibit 11.1 indicates a nominally smaller fleet of City-owned and maintained revenue vehicles in FY 2024.

[23] FTA Circular 5100.1 (May 18, 2015); chapter III, paragraph 5(b); p. III-2-3.

Exhibit 11.1: Tracy Transit Revenue Vehicle Fleet by Type, Current and Future

Vehicle Type	Current 2018	Planned 2024	Projected 2060
Articulated bus (60 ft)	0	0	0
Custom heavy-duty bus (40-45 ft)	0	0	6
Standard heavy-duty bus (40 ft)	0	0	6
Medium heavy-duty bus (30-35 ft)	5	9	6
Medium medium-duty bus (30 ft)	3	0	0
Small light duty bus (25 ft)	7	3	4
Accessible Transit Van	0	0	4
Accessible Minivan	2	3	4
SUV	0	0	5
Total	17	15	35

Beyond the current five-year plan, it is necessary to look ahead in context of a 40- to 50-year planned life cycle of a federally funded O&M facility. The 2016 San Joaquin County Forecast Summary authored by the Eberhardt School of Business Center for Business and Policy Research at University of the Pacific, projects Tracy's population to be 168,521 residents in 2060;[24] reflecting an 85% increase over the current 91,000 residents. This is comparable to the current population of Santa Rosa, Garden Grove, or Oceanside California.

Population density in Tracy likely will increase at a faster rate than population, assuming that prevailing trends toward medium-density housing, retail concentration, and more walkable communities continue in the coming decades. These conditions suggest a local transit system characterized by an expanded fixed route network; potentially with bus rapid transit (BRT) enhancements on main lines and longer heavy-duty buses deployed in daily service. As a benchmark example, the Santa Rosa CityBus system presently operates 33 buses on 18 routes. Both Garden Grove and Oceanside are part of a regional transit network with multiple routes into and through these cities.

Demand for complementary paratransit service will continue to outpace population growth if past and present trends extend into future decades to the extent that the average age of the general population continues to increase, and more people with disabilities are able to participate fully in society.

Similarly, demand for PMoD services such as Uber and Lyft, is growing rapidly as these TNC and Smart Taxi services become more commonplace. While these vehicles likely would be supplied by the private sector during the current five-year planning period, it is uncertain as to how the barely 10-year old microtransit and PMoD industry will evolve in the coming decades.

For initial planning purposes, it is estimated that the TRACER revenue vehicle fleet in 2060 could include 35 vehicles ranging from heavy-duty transit buses to SUVS (Exhibit 11.1). However, this number could be substantially greater depending on future innovations in service delivery mode

[24] https://www.sjcog.org/DocumentCenter/View/1354/San-Joaquin-2016-Forecast-Summary_Final; p. 7.

choices, vehicle types, and institutional relationships between public and private sector service over a 40- to 50-year period. It is noted that the City is committed to an all-electric revenue vehicle fleet by 2040 or earlier if possible.

11.1 Project Overview

The City of Tracy proposes design and construction of a Transit O&M Facility to house the transportation, maintenance, and administrative functions associated with public transportation service delivery. The facility is envisioned in the City's FY 2021-2025 Short-Range Transit Plan (SRTP) and consistent with its long-range vision for mobility in Tracy. The proposed project is intended to accommodate up to 35 revenue vehicles, with further expansion capacity to 50 revenue vehicles. Key facility components include:

- Transit Operations Center containing 3,300 square feet of floor space[25] to accommodate dispatch; communications; supervision; training area; employee ready room; office space and conference rooms for administrative functions, employee and visitor parking.
- Level III Tertiary Maintenance Facility[26] containing 7,200 square feet of floor space[27] to accommodate most vehicle maintenance and repair activities, including but not limited to:
    - Preventive maintenance inspection, oil /fluid changes, tune-ups
    - Running repairs, component replacement, and minor body work
    - Tire changing
    - Component overhaul / rebuilding
    - Major body repairs and painting
    - Parts inventory and storage
    - Maintenance administration with employee and visitor parking
- Canopy-covered outdoor service lane for routine vehicle fueling, cleaning and washing, revenue handling. Future flexibility to accommodate foreseeable vehicle propulsion advances. It is noted that the City is committed to an all-electric revenue vehicle fleet by 2040[28]. Other key considerations include fuel storage requirements; type of wash preferred.
- Canopy-covered outdoor parking for 35 revenue vehicles of various types; with expansion capacity for 50 vehicles. Power supply for electric vehicles. Common bus parking layouts include:

[25] 110 square feet per bus (30 buses).

[26] Per American Public Transit Association description; see APTA-BTS-BMF-RP-001-10 - Architectural and Engineering Design for a Transit Operating and Maintenance Facility (2011); p. 48.

[27] 240 square feet per bus (30 buses).

[28] The California Air Resources Board (CARB) has set a statewide goal for public transit agencies to gradually transition to 100 percent zero-emission bus fleets by 2040.

- *Angled* – buses parked in 45-degree angled spaces, typically in long rows. Allows independent exiting (single pull-through).
- *Herringbone* – buses parked tail-to-tail at 90-degree angles preventing backward bus movements; minimum of two rows.
- *In-line* – buses parked head-to-tail in groups of three or more, with or without an aisle *between rows.*
- *Tandem* – buses parked tail-to-tail at 180-degree angles preventing backward bus movements, minimum of two rows.

- Tarmac and grounds allowing for external circulation, garage access/egress movements, non-revenue vehicle parking, easements, water retention, other site-specific property characteristics, and future expansion capacity as applicable.

11.2 Design Features

Key design considerations are outlined in the following paragraphs.

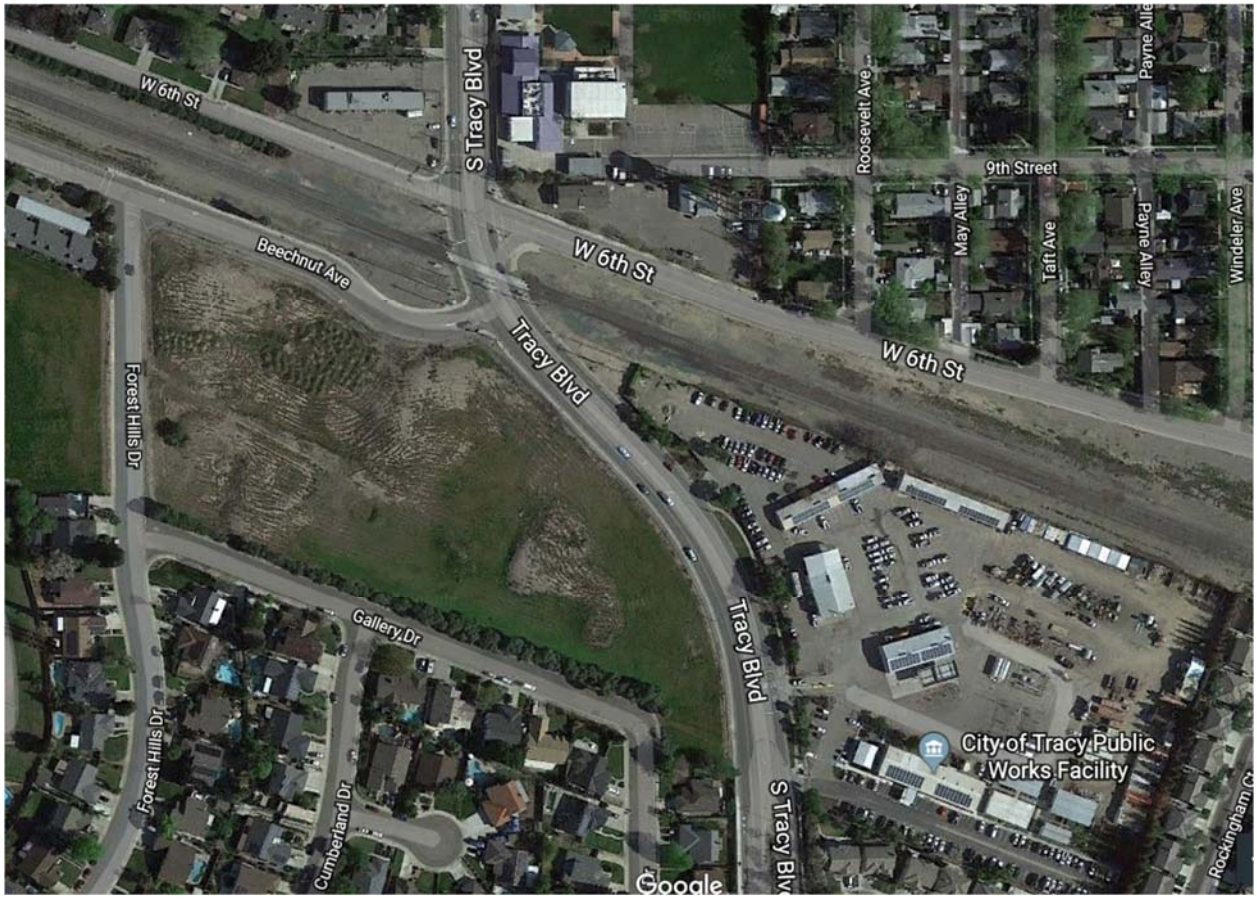
1. *Site and utilities* – Site acreage and dimensions; environmental conditions, soils analysis; grading; pavement design, utility connections, drainage, provisions for underground tanks; access points, driveways, sidewalks; fencing, gates and other security features.
2. *Structures* – Architectural treatment to meet functional and aesthetic needs; and conformance with federal, state and local codes and regulations, including the Americans with Disabilities Act (ADA). Roof type (e.g., flat roof with open-web steel joists in combination with supporting I-beams; or gabled roof); ceiling height; rubber roll-up doors.
3. *HVAC* - Energy conservation to minimize annual HVAC costs by use of insulation, programmed thermostats, makeup air system, use of local unit heaters, spot heating by means of radiant panels or a combination of these methods. Fuel flexible ventilation system to remove engine exhaust and other garage gases; ducted vehicle exhaust fans.
4. *Plumbing* – Domestic hot/cold water delivery and drainage systems for shops and toilet/locker areas; Wash bay water recycling; oil/water separators for drainage in vehicle servicing and maintenance areas; sand interceptors on the wash bay drainage system; compressed air system.
5. *Fire Suppression* – Automatic or manual deluge systems with associated fire detection systems shall be designed in high hazard areas. Carbon dioxide or valve fire suppression systems shall be designed in areas critical to the bus operating systems.
6. *Electrical* – Energy-efficient, high-intensity discharge light sources wherever practical; analyze site power distribution systems and voltage levels; flexible interior power supply and plug-in bus ducts in shop areas; coordination of alarm panels with emergency power and radio communications systems.

7. *Shop Facilities and Equipment* – Lift bays, pit bays, portable lifts. Assuming a fleet of 35 vehicles, the maintenance shop should be equipped with three service bays providing a mix of various lifts and no in-ground pits.

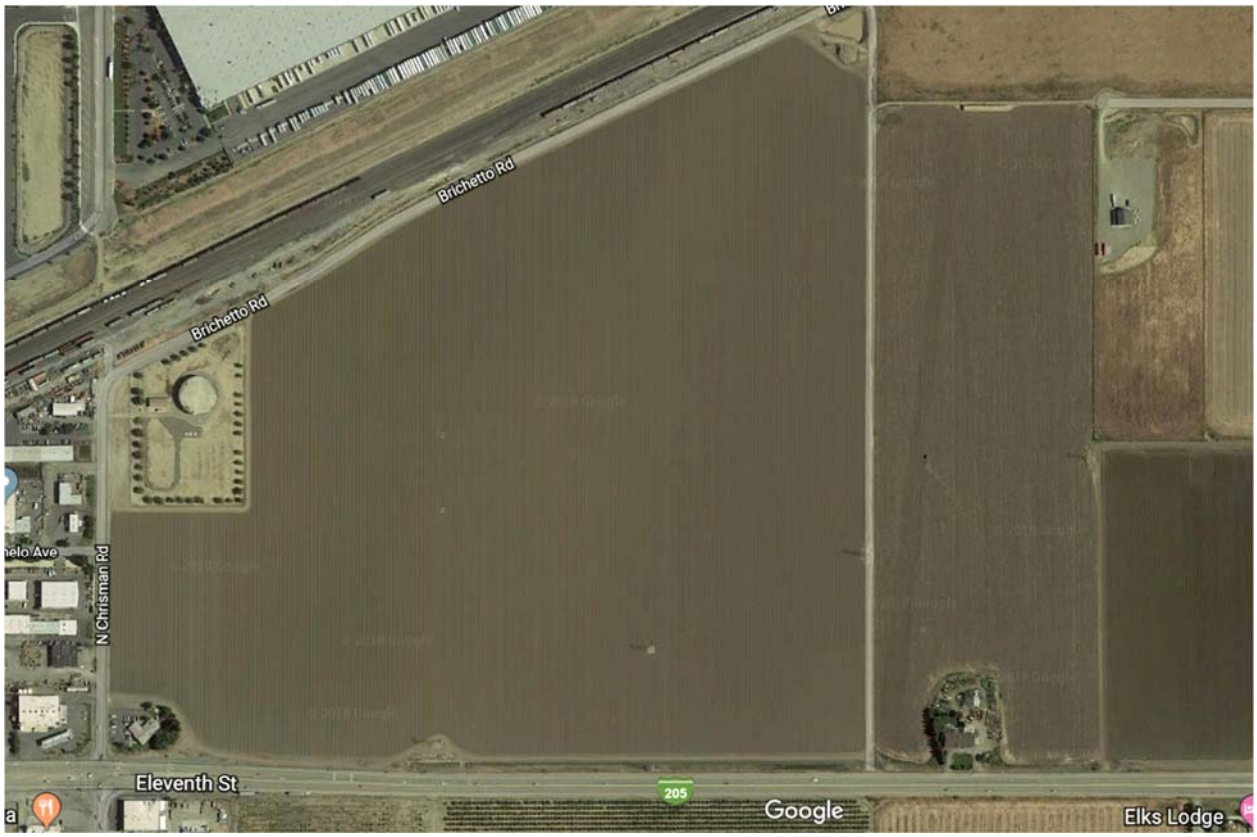
11.3 Project Location Alternatives

City staff have identified two potential sites for a proposed transit maintenance facility:

Site A – Tracy Boulevard – consists of approximately eight (8) acres of undeveloped property situated on the south side of the Union Pacific right-of-way, west of S Tracy Boulevard, approximately 0.8 mile west of the Tracy Transit Station. The parcel is bounded by W 6th Street on the north; S Tracy Boulevard on the east; Gallery Drive on the south; and Forest Hills Drive on the west. Adjacent land uses include an active rail line to the north; the City's Public Works facility to the east; and a residential subdivision to the south and west. The property currently is owned by Chevron and is available for sale, subject to ongoing environmental analysis.



Site B – Chrisman Road – consists of approximately 110 acres of City-owned property located northeast of the intersection of 11th Street and N Chrisman Road, approximately 1.8 miles northeast of the Tracy Transit Station. The parcel is bounded by Brichetto Road on the north; Tracy municipal boundary on the east; E 11th Street on the south; and N Chrisman Road on the west. The property currently is in agricultural use by area farmers through flexible lease agreements with the City. Adjacent land uses include light industrial and agriculture.



The process of selecting a preferred site for the project must address various considerations including spatial relationship to the TRACER service area, land availability and cost, property and adjacent land uses, and environmental considerations. FTA Circular 5620.1 provides guidance for complying with National Environmental Policy Act Regulations (23 CFR 771.119) and other requirements. FTA requires that an environmental assessment (EA) be completed prior to grant award.

- Land acquisitions and displacements
- Land use and zoning
- Air quality
- Noise
- Water quality

- Wetlands
- Flooding
- Navigable waterways and coastal zones
- Ecologically sensitive areas
- Endangered species
- Traffic and parking
- Energy requirements and potential for conservation
- Historic properties and parklands
- Construction
- Aesthetics
- Community disruption
- Safety and security
- Secondary development
- Consistency with local plans
- Environmental justice

Alternatively, the City may apply for a Categorical Exclusion (CE) if conditions are met by the project location; notably:

> *"…actions which meet the definition contained in 40 CFR 1508.4, and, based on past experience with similar actions, do not involve significant environmental impacts. They are actions which: do not induce significant impacts to planned growth or land use for the area, do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic or other resource; do not involve significant air, noise, or water quality impacts; do not have significant impacts on travel patterns; or do not otherwise, either individually or cumulatively, have any significant environmental impacts."*[29]

11.4 Next Steps

1. *Project Management Plan* – The City should develop an overall project management structure and establish key milestones necessary to carry out the proposed project. The plan should assign an internal project manager and develop a project framework consisting of initial budget, funding distribution, completion schedule, list of candidate sites, and a process for selecting a preferred site.
2. *TIP / STIP Inclusion* - Eligibility for FTA Section 5339 requires that SJCOG include the project with an initial cost estimate in the approved Transportation Improvement Plan (TIP), and that Caltrans include it in the Statewide TIP (STIP). As the designated recipient, the City of Tracy is responsible for developing a Program of Projects (PoP) for submission to SJCOG,

[29] See: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/categorical-exclusion

3. *Maintenance Facility Feasibility Assessment* – The City should conduct an internal study to determine the feasibility and parameters of a maintenance facility. The study process should engage key personnel from various City departments to compile a list of spatial and functional requirements.
4. *Site Selection* - to be finalized following determination of shared-use feasibility and the number of participants. A stand-alone Transit Maintenance Facility likely would at least three (3) acres of property.
5. *Environmental Assessment* - Environmental due diligence should be completed to provide the City with reasonable assurance that either a CE will be granted, or that an EA will result in a finding of no significant impacts to the environment.
6. *Submit Grant Application* – The City should apply for Section 5339 after a preferred site has been selected and adequate environmental due diligence has been completed on the property. If necessary, land acquisition could be federally assisted.
7. *Phase 1: Preliminary Design and Engineering* – Following project approval, the City should retain a consultant to conduct a preliminary design and engineering study resulting in detailed project description, key design features, line-item cost estimate, and timeline for project completion.
8. *Phase 2: Facility Construction* – The City would use formal competitive selection to procure final design and construction services leading to project completion.