BAY AREA EXPRESS LANES

MTC Express Lanes Quarterly Report
4th Quarter, October - December, 2020

Submitted: April 2021

BAIFA
BAY AREA INFRASTRUCTURE FINANCING AUTHORITY

METROPOLITAN TRANSPORTATION COMMISSION

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I. PROGRAM HIGHLIGHTS

The purpose of this report is to summarize the progress of delivering Metropolitan Transportation Commission (MTC) Express Lanes. The report covers the fourth quarter of 2020, October 1 to December 31.

The California Transportation Commission (CTC) approved MTC's application to implement and operate its 270-mile express lane network on October 27, 2011. Soon thereafter, work began to environmentally clear the first phase of express lane conversion projects and produce a Concept of Operations describing how the Express Lanes will operate. The first of MTC's express lanes opened in October 2017 on I-680 in Contra Costa County and the second opened in October 2020 on I-880 in Alameda County. Several additional projects are at varying stages of development.

Project Development & Construction	4th Quarter 2020 Highlights	Current Activities
I-880 Alameda (ALA-880) San Leandro to Milpitas *Hegenberger Road/Lewelling Boulevard to Dixon Landing Road*	• See Appendix D for performance highlights.	• Project complete; see Appendix B for archived summary.
I-680 Contra Costa Southern Segment (CC-680 South) Walnut Creek to San Ramon *Livorna Road/Rudgear Road to Alcosta Boulevard*	• See Appendix C for performance highlights.	• Project complete; see Appendix B for archived summary.
I-680 Contra Costa Northern Segment Southbound (CC-680 North SB) Martinez to Walnut Creek *Marina Vista Boulevard to Rudgear Road/SR 242*	• Civil construction was substantially complete for all stages of contract work as of December 2020.	• The toll system integrator installed pricing signs north of Highway 24. Fabrication of missing parts for signs south of Highway 24 is proceeding and delivery is expected mid-February 2021. • The toll system integrator will start Site Commission Testing on I-680 North Southbound in February 2021. • BAIFA's contractor fixed a backhaul fiber break that had caused schedule delays to the toll system integrator. Unfortunately, the toll system integrator then damaged the backhaul fiber when preparing for fiber splicing. The integrator is addressing the problem which must be resolved before testing can begin.
I-80 Solano (SOL-80) Fairfield to Vacaville *Red Top Road to I-505*	• The California Transportation Commission awarded $123 million of Senate Bill 1 competitive funds to the project in November 2020. The project funding plan is now complete, subject to the availability of $85 million of Regional Measure 3 Express Lane Program funds pending litigation.	• Staff is working with the Solano Transportation Authority to prepare for construction.

Project Development & Construction	4th Quarter 2020 Highlights	Current Activities
Program Management	• Staff drafted customer education materials and strategies for the start of tolling on I-680 North Southbound.	• Staff will finalize the customer education strategy for I-680 North Southbound in the first quarter of 2021. • Staff will get feedback from BAIFA in March 2021 on plans to engage low-income earners and other stakeholders in design of the FasTrak START Pilot, which will offer a means-based toll discount for low-income drivers on BAIFA's I-880 Express Lanes.
Toll System	• The toll system integrator fine-tuned the toll system in preparation for I-880 operational acceptance.	• The toll system integrator continues to fine-tune the toll system in preparation for I-880 operational acceptance.

II. PROGRAM OVERVIEW

A. Program Description

MTC and partner agencies are implementing a regional network of express lanes called Bay Area Express Lanes. Upon completion, Bay Area Express Lanes will comprise 600 miles of express lanes operated by MTC, the Valley Transportation Authority (VTA), the Alameda County Transportation Commission (Alameda CTC), the Sunol Smart Corridors Joint Powers Authority (Sunol JPA), and the San Mateo County Express Lanes Joint Powers Authority (San Mateo JPA).

Primary objectives for Bay Area Express Lanes include:

- Create a seamless network of HOV lanes to encourage carpools, vanpools and express buses;
- Make the best use of HOV lane capacity;
- Provide reliable travel times for solo drivers; and
- Better manage all lanes to keep traffic moving.

MTC's portion of the Bay Area Express Lanes, referred to as MTC Express Lanes, will include 270 miles of express lanes – 150 miles of converted high occupancy vehicle (HOV) lanes and 120 miles of new lanes – on I-80 in Alameda, Contra Costa and Solano Counties; I-880 in Alameda County; I-680 in Contra Costa and Solano counties; and the westbound approaches to the Bay Bridge, San Mateo Bridge and Dumbarton Bridge. In addition, MTC will operate 45 miles of new and converted lanes on US-101 in San Mateo County for the San Mateo JPA, and perform certain operations activities on the I-580 and I-680 express lanes in Alameda County for the Alameda County Transportation Commission.

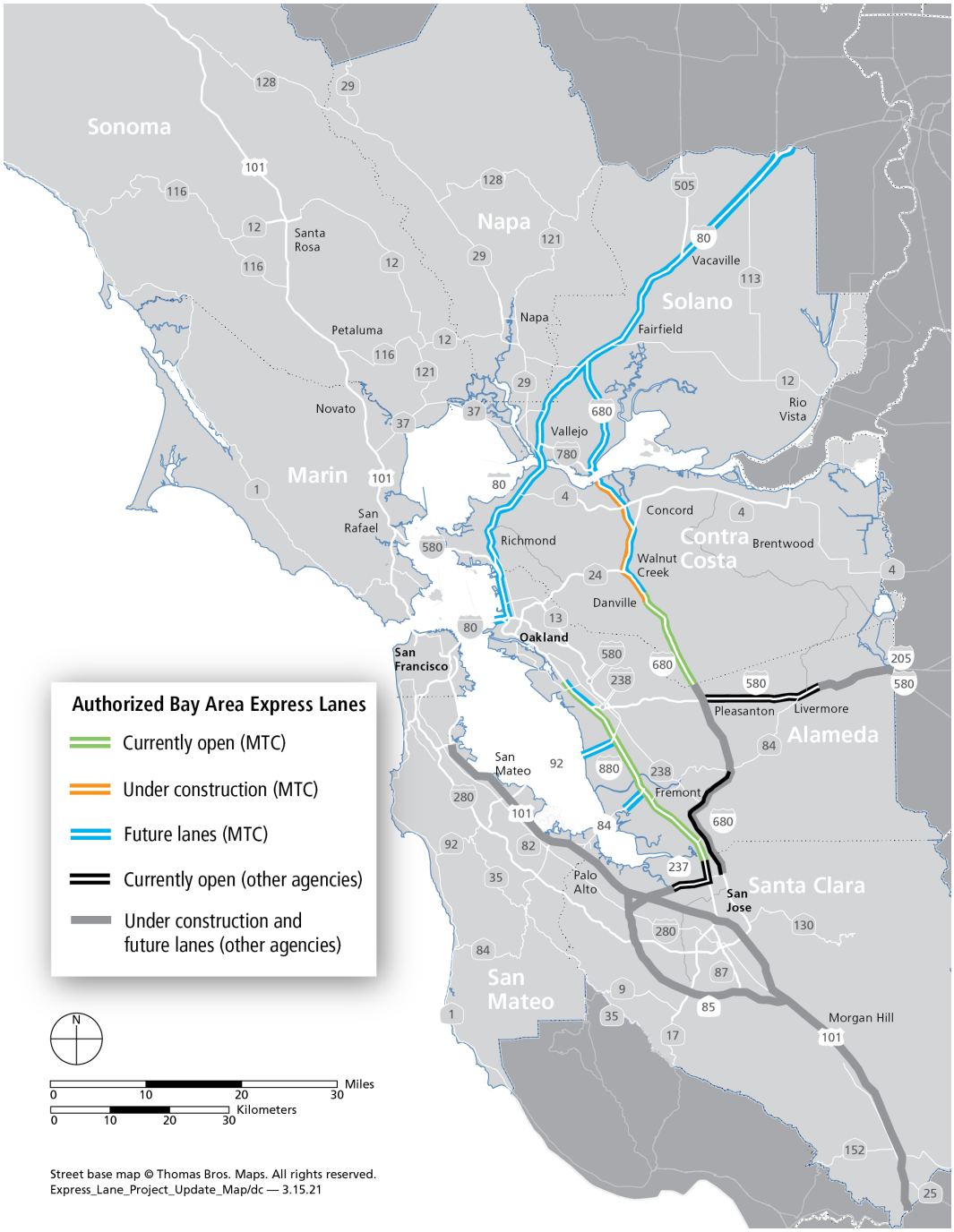
Appendix A includes an overview of how express lanes operate.

Map of Authorized Bay Area Express Lanes Network

B. Operating Authority

MTC and the Bay Area Toll Authority (BATA) have formed a joint powers authority to develop and operate MTC Express Lanes. The joint powers authority, known as the Bay Area Infrastructure Financing Authority (BAIFA), is composed primarily of representatives of the three counties where the express lanes are located: Alameda, Contra Costa and Solano. BAIFA is responsible for policy and operational decisions such as toll rates, project phasing and use of revenue. BAIFA will also operate the toll system on US-101 in San Mateo County under contract to San Mateo County transportation agencies, which are responsible for project delivery, operational policy and use of revenue.

The map below highlights MTC's portion of state-authorized Bay Area Express Lanes and shows where lanes will be converted from HOV lanes and where new lanes will be added.



C. MTC Express Lane Project Funding

MTC is using existing funding to convert existing HOV lanes to express lanes and to conduct environmental studies and design on some gap closure projects, so they are "shelf-ready" should construction funding become available. This will allow MTC to open as much of its 270-mile network as quickly as possible.

The table below lists the projects that comprise MTC Express Lanes according to current funding status.

County	Route	Project	Geographical Limits	Miles	Environmental	Design	Construction
NEAR-TERM CONVERSIONS AND GAP CLOSURE OPPORTUNITY PROJECTS							
ALA	880	I-880 Alameda	Between San Leandro and Milpitas *Hegenberger Rd./Lewelling Blvd. to Dixon Landing Rd.*	51	●	●	●
					Project completed 2020		
CC	680	I-680 Contra Costa Southern Segment	Between Walnut Creek and San Ramon *Livorna Rd./Rudgear Rd. to Alcosta Blvd.*	23	●	●	●
					Project completed 2017		
CC	680	I-680 Contra Costa Northern Segment Southbound	Martinez to Walnut Creek *Marina Vista Blvd. to Rudgear Rd.*	11	●	●	●
SOL	80	I-80 Solano	Fairfield to Vacaville *Red Top Rd. to I-505*	36	●	●	●
MID-TERM CONVERSIONS AND GAP CLOSURE OPPORTUNITY PROJECTS							
ALA/ CC	80	I-80 and Westbound Approaches to the Bay Bridge	Between Crockett and Bay Bridge *Cummings Skyway to Bay Bridge; I-80, I-580, I-880 and West Grand approaches to Bay Bridge*	44	◖	○	○
ALA/ SM	84	Dumbarton Bridge Western Approach	Fremont/Newark *I-880 to Dumbarton Bridge*	3	●	○	○
ALA/ SM	92	San Mateo Bridge Westbound Approach	Hayward *I-880 to San Mateo Bridge*	3	●	○	○
CC	680	I-680 Contra Costa Northbound Express Lane Completion	Walnut Creek to Benicia *North Main St. to Marina Vista Blvd.*	9	●	○	○

KEY

● Funded ◖ Partially Funded ○ Unfunded ALA = Alameda, CC = Contra Costa, SM = San Mateo, SOL = Solano

III. CAPITAL DELIVERY

A. Schedule

The schedule summary below reflects the "open to traffic" dates of the original "baseline" schedule, and the current completion forecast for the projects that are fully funded.

Project	Baseline Opening	Forecast Opening	Confidence Level	Detail Page
I-880 Alameda (ALA-880) San Leandro and Milpitas *Hegenberger Rd./Lewelling Blvd. to Dixon Landing Rd.*	Spring 2019	Fall 2020 Actual	●	A-7
I-680 Contra Costa Southern Segment (CC-680 South) Walnut Creek and San Ramon *Livorna Rd./Rudgear Rd. to Alcosta Blvd.*	Fall 2016	Fall 2017 Actual	●	A-5
I-680 Contra Costa Northern Segment Southbound (CC-680 North SB) Martinez to Walnut Creek *Marina Vista Blvd. to Rudgear Rd.*	Fall 2018	Mid-2021	●	13

KEY

- ● Within schedule shown.
- ● Identified potential risks that may significantly impact schedule if not mitigated. See *Section III.D Risk Management Plan* for further discussion of schedule risk.
- ● Known impact to schedule, changes forthcoming.

B. Capital Costs

The cost summary below shows: 1) the costs of each express lane [corridor or segment] including planning, design and construction of the civil infrastructure, and installation and integration of the backhaul communications and toll system, and 2) program-wide costs including planning and design, and implementation of centralized elements of the backhaul network and toll system. The total cost estimate includes the full estimated cost to complete MTC Express Lanes. The approved Expenditure Plan fully funds the first three projects listed below, the environmental and design phases for the I-80 projects in Solano County, and the environmental phase for the westbound approaches to the San Mateo and Dumbarton Bridges. MTC's Finance Section reports financial information to BAIFA about one quarter in arrears, which does not fit with the production timeline for this Quarterly Report. As a result, the expended-as-of amounts shown below represent the unaudited amount of BATA Express Lane funds expended through the previously reported quarter; percent complete amounts are reported through the previously reported quarter for consistency. The confidence level assessment reflects potential risks to each project budget; for more information, see Section III.D Risk Management Plan.

Project[1]	Total Cost Estimate[2]	Cost Estimate, Funded Phases[3]	Regional Measure 2 Funds (allocated)	Other Funding (allocated)	BAIFA Express Lane Funds[4]			Percent Complete as of 9/30/20[5]	Confidence Level[6]
					July 2018 Amendment	Sept. 2018 Amendment	Expended as of 9/30/20		
NEAR-TERM CONVERSIONS AND GAP CLOSURE OPPORTUNITY PROJECTS									*Costs shown in millions of escalated dollars*
I-880 Alameda	139.1	139.1			135.5	139.1	119.0	99%	●
I-680 Contra Costa Southern Segment	54.0	54.0			55.6	54.0	52.5	99%	●
I-680 Contra Costa Northern Segment Southbound [7]	127.4	127.4	19.4	54.3	51.3	53.6	33.8	80%	●
I-80 Solano	274.9	32.5	14.4		19.0	18.1	11.7	20%	●
Centralized Toll System	32.4	32.4			33.6	32.4	23.6	95%	●
Program Planning, Coordination & Management	28.4	28.4			28.4	28.4	23.1	85%	●
Program Contingency	6.1	6.1			5.1	2.9			●
Capitalized Start-up O&M	16.0	16.0			16.0	16.0	4.9		●
MID-TERM CONVERSIONS AND GAP CLOSURE OPPORTUNITY PROJECTS									
I-80 Alameda/Contra Costa and Westbound approaches to the Bay Bridge (I-80, I-580, I-880, West Grand)	193.0	5.0	5.0						
Dumbarton Bridge Westbound Approach (SR-84)	9.0	0.3			0.3	0.3	0.3	5%	
San Mateo Bridge Westbound Approach (SR-92)	10.0	0.4			0.4	0.4	0.4	5%	
I-680 Contra Costa Northbound Express Lane Completion [8]	390.0	21.5	1.5	20.0				5%	
Centralized & Program Costs & Start-Up O&M - Gap Closures & Future Conversions	TBD								
TOTALS	**1,280.3**	**463.1**	**40.3**	**74.3**	**345.2**	**345.2**	**269.4**	**85%**	

(1) Other Gap Closure and Extension projects not shown: ALA-880 extension northbound from Lewelling to Hegenberger; SOL-80 gap closure from Carquinez Bridge to Red Top Road; SOL-80 extension east of I-505; SOL-680 gap closure from Benicia to Cordelia

(2) Total Cost Estimate represents current estimated cost to complete each project.

(3) Cost Estimate, Funded Phases represents current estimated cost to complete phases that are funded for each project.

(4) BAIFA Express Lane Funds represent the funds that have been allocated from the BATA budget and transferred to the BAIFA budget.

(5) Percent completes shown are based on the achievement of major milestones, whether those milestones were completed using BAIFA funds or other funds. Projects that have completed milestones using other funds include I-680 Contra Costa Northern Segment Southbound and I-80 Solano.

(6) ● = Within budget, ● = identified potential risks that may significantly exceed budget if not mitigated, ● = Known impacts to budget - changes forthcoming.

(7) Cost represents the total for HOV Completion and Conversion to Express Lanes. Other funds committed to the HOV Completion portion include Measure J ($38.7m) and STIP ($15.6m).

(8) Represents completion of HOV lane through Walnut Creek to SR-242 and conversion of existing HOV lane north of SR-242, which were previously listed separately.

C. Change Management

The change management process captures the changes in the program that have an impact on the approved scope, schedule and budget baselines. There were no changes recorded in the fourth quarter of 2020.

D. Risk Management Plan

MTC manages risk at both the program and contract level by identifying risks that could negatively impact the program's cost and schedule, and assigning responsibility to the person best positioned to manage each risk. Risks managed at the contract level are associated with contingency funding authorized by BAIFA for specific contracts. Risks managed at the program level would draw upon the program contingency line item in the Express Lanes Expenditure Plan. Staff regularly review the risk exposure and mitigation plans at both the contract and program level.

Chart #1 shows the median risk exposure for the program-level risks using Monte Carlo analysis. As of December 31, 2020, the risk exposure stands at $3.0 million, the same as reported last quarter. Overall, cost and schedule risks associated with the I-880 corridor continue to be very limited, as they were in the third quarter immediately before tolling began. With operations running smoothly, remaining risks for this corridor are largely related to claims and minor work that were postponed to after opening. Furthermore, civil construction on I-680 North was completed ahead of schedule last quarter, with the next phase of toll system testing scheduled to begin in 2021. It should be noted, however, that the team continues to track scheduling impacts regarding toll system installation and testing, backhaul communications issues, and the potential for adverse impacts related to COVID-19.

Chart #2 tracks the program's cost forecast and risk exposure as compared to the authorized program budget. Consistent with the amendment to the Expenditure Plan that was adopted on September 26, 2018, the amount of BATA Express Lanes Funds allocated to specific express lanes projects is $342.3 million, plus program contingency, for a total authorized budget of $345.2 million.

The current program contingency of $2.9 million is in line with the risk exposure of $3.0 million. While there are few individual risks with major cost impacts, there are many risks with minor cost impacts, resulting in an overall significant risk exposure. Staff remains diligent in managing cost and risk while seeking new funding opportunities.

The top contributors to the program-level risk exposure and the associated mitigation strategies are as follows:

I-880 Alameda

- Risks regarding a delay in AT&T communication network connections are still being tracked. Work is on-going, with AT&T pursuing the necessary permits required for the completion of the fiber installation. MTC used wireless communications to maintain the opening date despite delays in AT&T's work to install the permanent fiber communications line.
- In the third quarter of 2020, MTC was involved in a claim

Chart #1: Median Risk Exposure ($M)

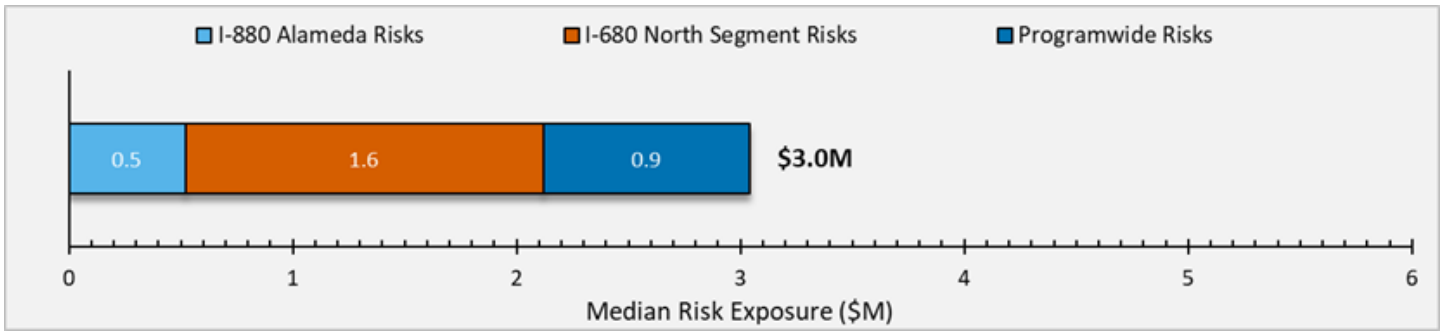


Chart #1 shows the contribution of each project's risks toward the total program risk exposure. Risk exposure is calculated using Monte Carlo simulation.

from the contractor in regard to concrete work that did not follow required specifications. Based on the Dispute Resolution Board's findings, MTC will likely accept the claim and allocate the cost to the I-880 Project, under the civil contract contingency.

I-680 Contra Costa Northern Segment Southbound

- In the first quarter of 2020, BAIFA found project construction to be an essential government function based on Governor Newsom's identification of critical infrastructure sectors, allowing construction to continue in compliance with Contra Costa County public health directives. The team is tracking potential impacts of the public health crisis on the completion of the I-680 corridor. At this time, the project is ahead of schedule and work has progressed without significant impacts. Given future unknowns, the risk will be monitored closely over the coming months.
- A significant schedule risk at this time concerns complications with the toll system integrator's installation and testing sequences. The project's toll zone configuration overlaps with the toll zones in the existing I-680 South express lanes. To fully test trip building, the toll system needs to be reconfigured before the new project is ready to open. The potential impact is two-fold: existing I-680 customers could be confused by the change in toll zone boundaries, and there could be a temporary reduction in revenue. Staff is working with the toll system integrator and Caltrans to minimize the testing period.
- Another schedule risk is the condition of the existing Backhaul trunkline from SR-24 to the Benicia Toll Plaza. MTC has set up a meeting with the toll system integrator to discuss staff resources. The opening date was revised since splicing into the Backhaul and VTMS installation are parallel, critical path activities that could affect testing sequences. Further efforts for the toll system integrator to start site commissioning testing have ramped up this quarter. While this risk has not been fully realized, it is still being tracked by MTC. Regarding the Backhaul, the replaced fiber work was completed and went through testing. Two new locations were identified in November requiring new paths to the trunkline but have since been fixed. Most recently, a segment of the trunkline fiber just south of the Benicia Plaza was damaged and will require the fiber to be spliced into a new trunkline segment to the toll plaza.
- A risk regarding the delivery and installation of LED panels for pricing signs is still being tracked. This quarter, it was determined that there was an issue regarding the overhead structures missing required members for the panels to be installed. MTC staff is working on ordering the new structural members, and until these panels are installed, the potential for schedule impacts remains. A temporary panel may be required for opening.
- The slight decrease in risk exposure this quarter is due to the retirement of a risk regarding a homeless encampment near one of the construction sites that could have impacted the project schedule, along with the decreased likelihood of civil unrest or wildfire impacts in the corridor.

Programwide Risks

- The risk of underground toll system communications and power conflicts with other corridor construction projects is still considered a programwide risk. The mitigation measures remain the same: ensure as-built and GIS files are properly documented in the project closeout phases so that future projects can properly identify and locate BAIFA's existing underground assets.

Chart #2: Program Cost Forecast and Risk Exposure vs. Authorized Budget ($M)

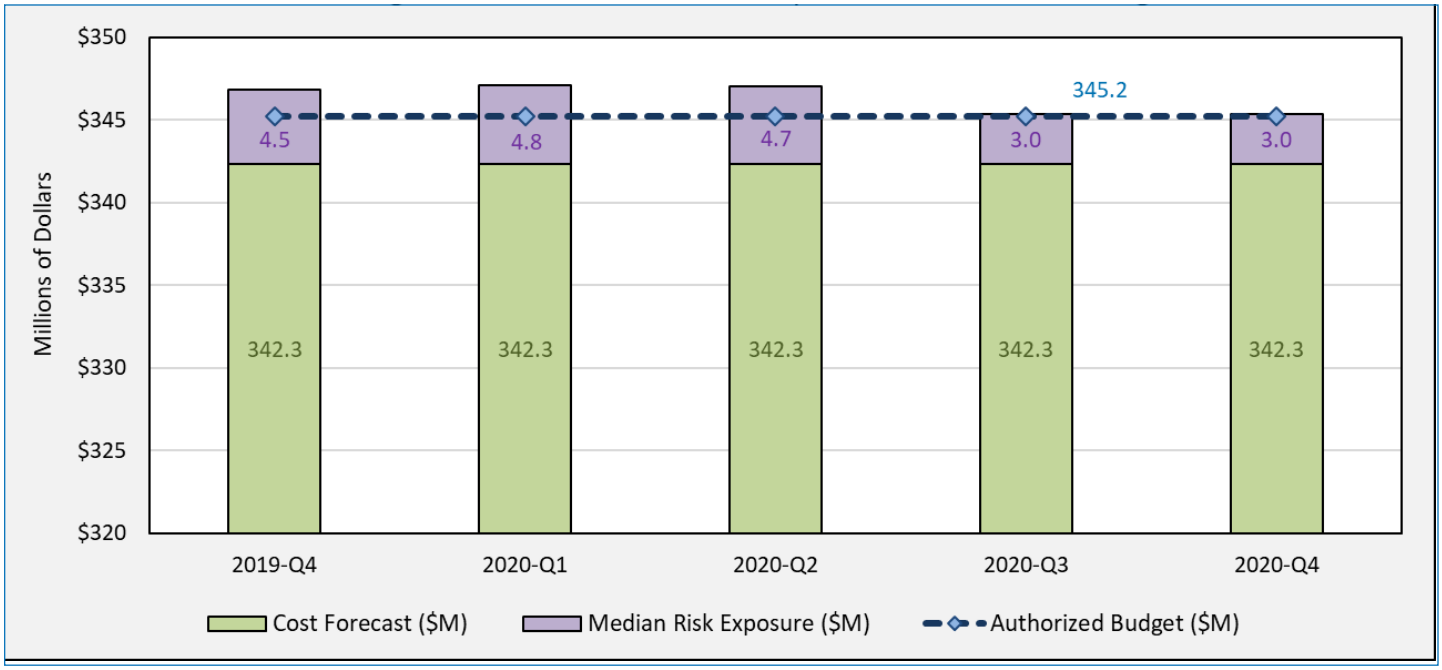


Chart #2 shows the program cost forecast and risk exposure as compared to the authorized program budget.

E. Active Capital Project Summaries

Centralized Functions

Toll System and Program Management, Planning and Regional Coordination

Total Estimated Cost

$32.4 million for the Centralized Toll System
$28.4 million for Program Planning, Coordination and Management

Schedule

Centralized Toll System was ready for the opening of the I-680 Contra Costa Southern Segment on October 9, 2017.

Program Planning, Coordination and Management is ongoing through the opening of the funded projects.

Project Description

The Centralized Toll System includes the elements of the toll system that are needed to toll all the express lanes, as well as the backhaul communications network components, such as fiber optic cable and leased line services, that transport toll data from MTC lanes to host and toll operations data centers. Centralized toll system work includes designing and implementing the hardware and software for dynamic toll setting and trip building, integration with the FasTrak® Customer Service Center, and acquiring spare parts.

Program management, planning and regional coordination tasks include managing the expenditure plan, cost, schedule and risk; developing the express lane business rules and toll ordinance; conducting customer education and outreach; building out the Regional Operations Center and developing operating procedures; planning for future express lanes; and coordinating with partner agencies to offer a seamless experience for drivers.

Program Management Highlights and Progress

- Staff coordinated with Caltrans, CHP and the Valley Transportation Authority, which operates the SR-237 Express Lanes, on public information strategies for opening the I-880 Express Lanes.
- Staff drafted customer education materials and strategies for the start of tolling on I-680 North Southbound.

Current Program Management Activities

- Staff will finalize the customer education strategy for I-680 North Southbound in the first quarter of 2021.
- Staff will get feedback from BAIFA in March 2021 on plans to engage low-income earners and other stakeholders in design of the FasTrak START Pilot, which will offer a means-based toll discount for low-income drivers on BAIFA's I-880 Express Lanes.

Toll System Highlights and Progress

- The toll system integrator contract was awarded in June 2014.
- Buildout of the Regional Operations Center was finished in March 2017.
- The toll system went live to the public on October 9, 2017.
- In December 2018, the toll system integrator contract was extended to June 2023 to include the I-680 Northern Segment. The change removed the I-80 Solano express lanes from the contract. It will be added back when construction funding is secured.
- The I-680 Southern Segment Operations Test concluded in April 2019. Operations testing is a system acceptance test. The Operations & Maintenance (O&M) phase, which includes a one-year warranty period, began in May 2019.
- The toll system integrator went live with lane-side equipment software to finalize the 6C enhancements. The system began tolling 6C tags on October 8, 2019.
- In March 2020, the express lane Host system began sharing toll rate information with MTC's 511 Traveler Information System.
- In June 2020, the toll system integrator began manual image review for low-confidence license plate images to improve trip building.
- In July 2020, the toll system integrator launched the trip building software upgrade to improve system efficiencies and the lane-transaction filter to allow for I-880 testing in the live Host system.

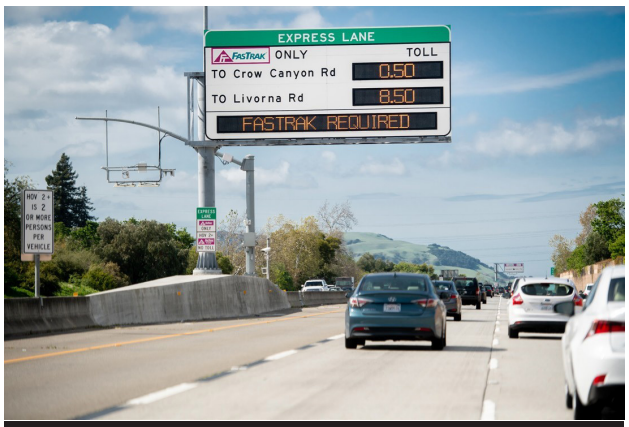
Current Toll System Activities

- The toll system integrator continues to fine-tune the toll system in preparation for I-880 operational acceptance.

Close-up of toll system equipment under sign (enforcement beacons, reader antennae and laser trigger)

Photos courtesy of Noah Berger

Overhead hours of operation sign and toll system equipment on the I-680 Express Lanes



Overhead pricing sign on the I-680 Express Lanes

I-680 Northern Segment Southbound (CC-680 North SB)

Martinez to Walnut Creek

Benicia Bridge to Rudgear Road

Total Cost Estimate

$127.4 million ($53.6 million to be funded by BAIFA)

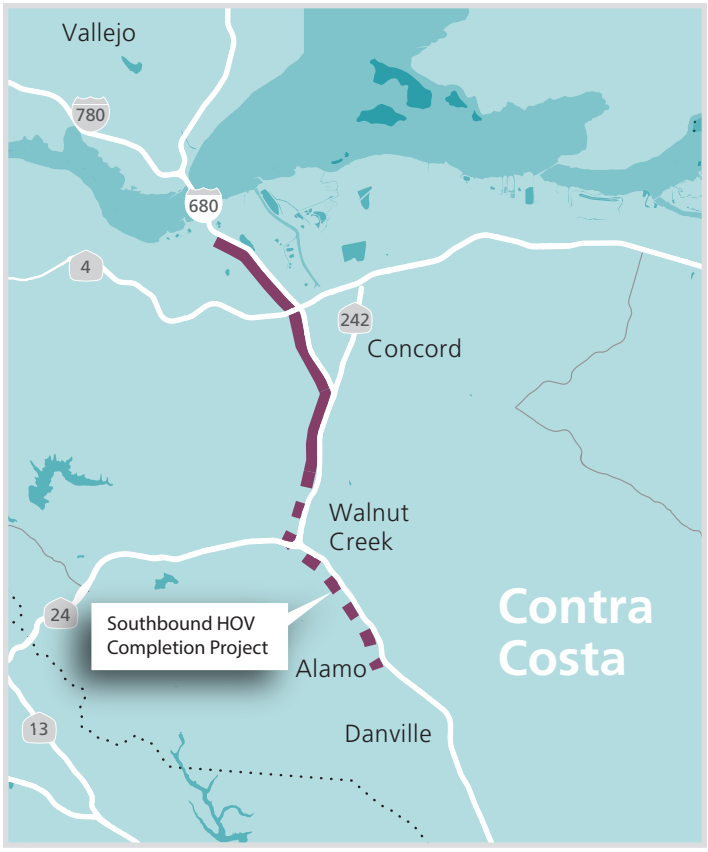
Scheduled Open Date

Mid-2021

Project Description

The project will convert 11 miles of the existing HOV lane on southbound I-680 from just south of Marina Vista Avenue in Martinez to North Main Street in Walnut Creek into an express lane. It also includes express lane elements for the I-680 Southbound HOV Completion Project. Once complete, I-680 will have a continuous southbound express lane from Martinez to the Alameda County line.

Civil construction will be delivered by the Contra Costa Transportation Authority (CCTA). MTC will install toll and communications equipment and will operate the express lanes.



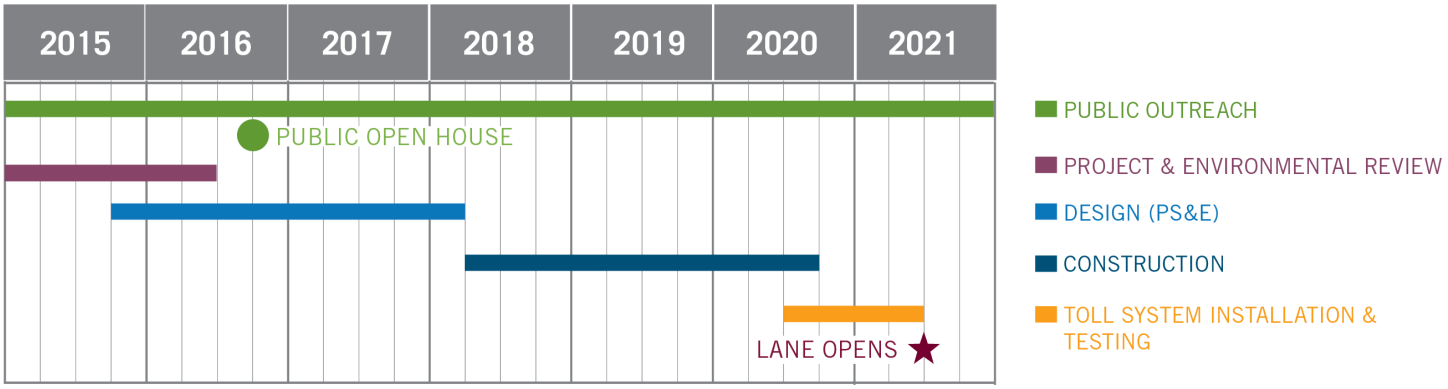
Project Highlights and Progress

- Caltrans signed the environmental document in December 2016 and approved the Project Report in August 2017. Caltrans completed a revalidation in September 2017.
- A contract to remove trees along southbound I-680 in Walnut Creek between South Main Street and Livorna Road was awarded in October 2017, and work was completed in December 2017.
- All utility relocations were completed as of August 2018.
- Construction started October 1, 2018, and a ground-breaking event was held October 3, 2018.
- In December 2018, the toll system integrator contract was extended to June 2023 to include I-680 North SB.
- In May 2019, the backhaul contractor successfully rerouted the backhaul fiber between SR-24 and Livorna Road in Walnut Creek to allow for lane widening, and the toll system integrator participated in switching the live toll equipment from the old to the new fiber.
- In June 2019, CCTA and Caltrans executed an amendment to incorporate Caltrans oversight of landscape work and the first year of plant establishment into their cooperative agreement.
- In September 2019, BAIFA and Caltrans executed a cooperative agreement for Caltrans to review and approve the toll system design package, issue an encroachment permit and review site installation (as needed).
- Caltrans concurred with the replacement planting design in February 2020.
- Caltrans issued the encroachment permit for toll system installation in April 2020.
- In the second quarter of 2020, the project team developed a strategy to open the new lane capacity between North Main Street and Rudgear Road as an HOV 2+ lane prior to tolling.
- The civil contractor completed highway widening activities in August and the new southbound lane capacity opened to HOV 2+ traffic on August 24, 2020.
- Civil construction was substantially complete for all stages of contract work as of December 2020.

Current Project Activities

- Civil contractor is addressing minor punchlist items at a limited number of locations.
- The toll system integrator installed pricing signs north of Highway 24. Fabrication of missing parts for signs south of Highway 24 is proceeding and delivery is expected mid-February 2021.
- The toll system integrator will start Site Commission Testing on I-680 North Southbound in February 2021.
- BAIFA's contractor fixed a backhaul fiber break that had caused schedule delays to the toll system integrator. Unfortunately, the toll system integrator then damaged the backhaul fiber when preparing for fiber splicing. The integrator is addressing the problem, which must be resolved before testing can begin.

Project Schedule by Phase



Project Cost

Total Cost Estimate[1]	Cost Estimate, Funded Phases[2]	Regional Measure 2 Funds (allocated)	Other Funding (allocated)	BAIFA Express Lane Funds[3]			Percent Complete[4] as of 9/30/20
				July 2018 Amendment	Sept. 2018 Amendment	Expended as of 9/30/20	
127.4	127.4	19.4	54.3	51.3	53.6	33.8	80%

Costs shown in millions of escalated dollars.

The cost estimate for this project includes planning, design, construction, utilities, backhaul communications and toll system integration.

(1) Total Cost Estimate represents current estimated cost to complete each project.

(2) Cost Estimate, Funded Phases represents current estimated cost to complete phases that are funded for each project.

(3) BAIFA Express Lane Funds represent the funds that have been allocated from the BAIFA budget.

(4) Percent complete shown is based on the achievement of major milestones whether those milestones were completed using BAIFA funds or other funds.

I-80 Solano (SOL-80)

Fairfield to Vacaville

Red Top Road to I-505

Total Cost Estimate

$274.9 million

Scheduled Open Date

2024, subject to funding

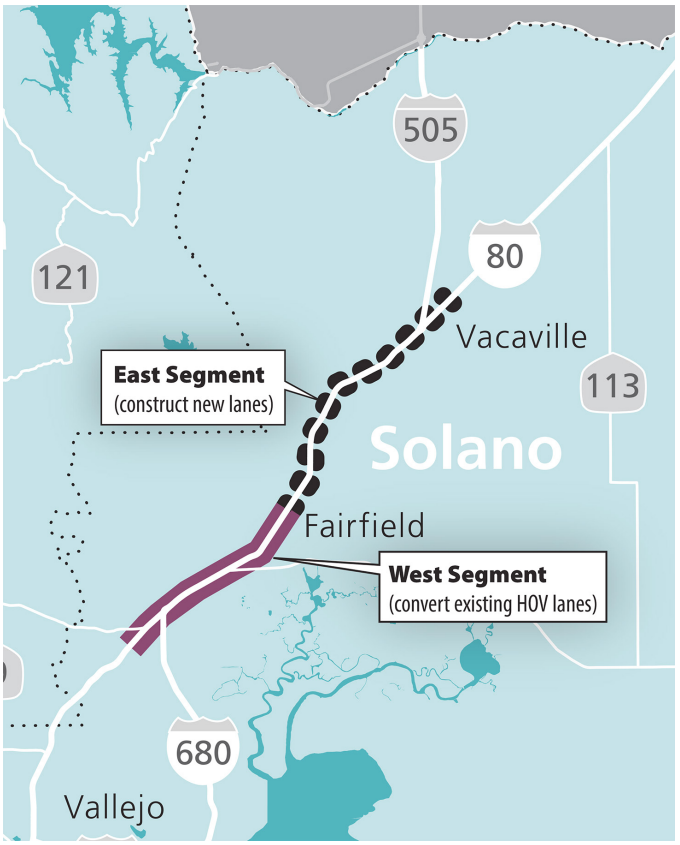
Project Description

This project will convert the existing eastbound and westbound HOV lanes to express lanes between Red Top Road and Air Base Parkway in Fairfield. Conversion work includes striping lanes and installing sign gantries, signs, FasTrak® toll tag readers and traffic-monitoring video cameras.

The project will also construct new eastbound and westbound lanes between Air Base Parkway and I-505 in Vacaville. In this section, the highway will be widened along with the installation of express lane striping, signage and equipment. The project will result in 36 miles of express lanes on I-80 in Solano County.

The Solano Transportation Authority (STA) is the lead agency for environmental clearance and civil design.

Caltrans will advertise and award the construction contract, and a blended Caltrans/STA team will administer construction. MTC will install toll and communications equipment and will operate the express lanes.



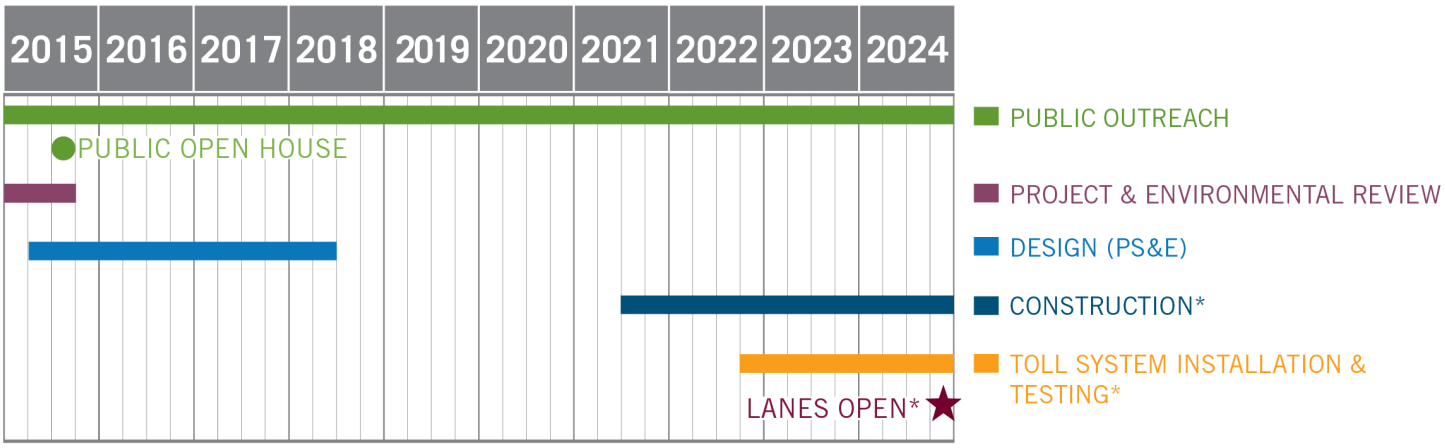
Project Highlights and Progress

- A public open house was held in August 2015.
- The preliminary engineering report and environmental document were completed in December 2015.
- The final design document was approved by Caltrans in March 2018.
- The project reached the Ready-to-List milestone in April 2018.
- Caltrans submitted this project for a Federal INFRA grant in March 2019, but it was not selected by the US Department of Transportation.
- The California Transportation Commission awarded $123 million of Senate Bill 1 competitive funds to the project in November 2020. The project funding plan is now complete, subject to the availability of $85 million of Regional Measure 3 Express Lane Program funds pending litigation

Current Project Activities

- Staff is working with the Solano Transportation Authority to prepare for construction.

Project Schedule by Phase



* Funding for these activities is not yet secured.

Project Cost

Total Cost Estimate[1]	Cost Estimate, Funded Phases[2]	Regional Measure 2 Funds (allocated)	Other Funding (allocated)	BAIFA Express Lane Funds[3]			Percent Complete as of 9/30/20[4]
				July 2018 Amendment	Sept. 2018 Amendment	Expended as of 9/30/20	
274.9	32.5	14.4		19.0	18.1	11.7	20%

Costs shown in millions of escalated dollars.

The cost estimate for this project includes planning, design, construction, utilities, backhaul communications and toll system integration.

(1) Total Cost Estimate represents current estimated cost to complete each project.

(2) Cost Estimate, Funded Phases represents current estimated cost to complete phases that are funded for each project.

(3) BAIFA Express Lane Funds represent the funds that have been allocated from the BAIFA budget.

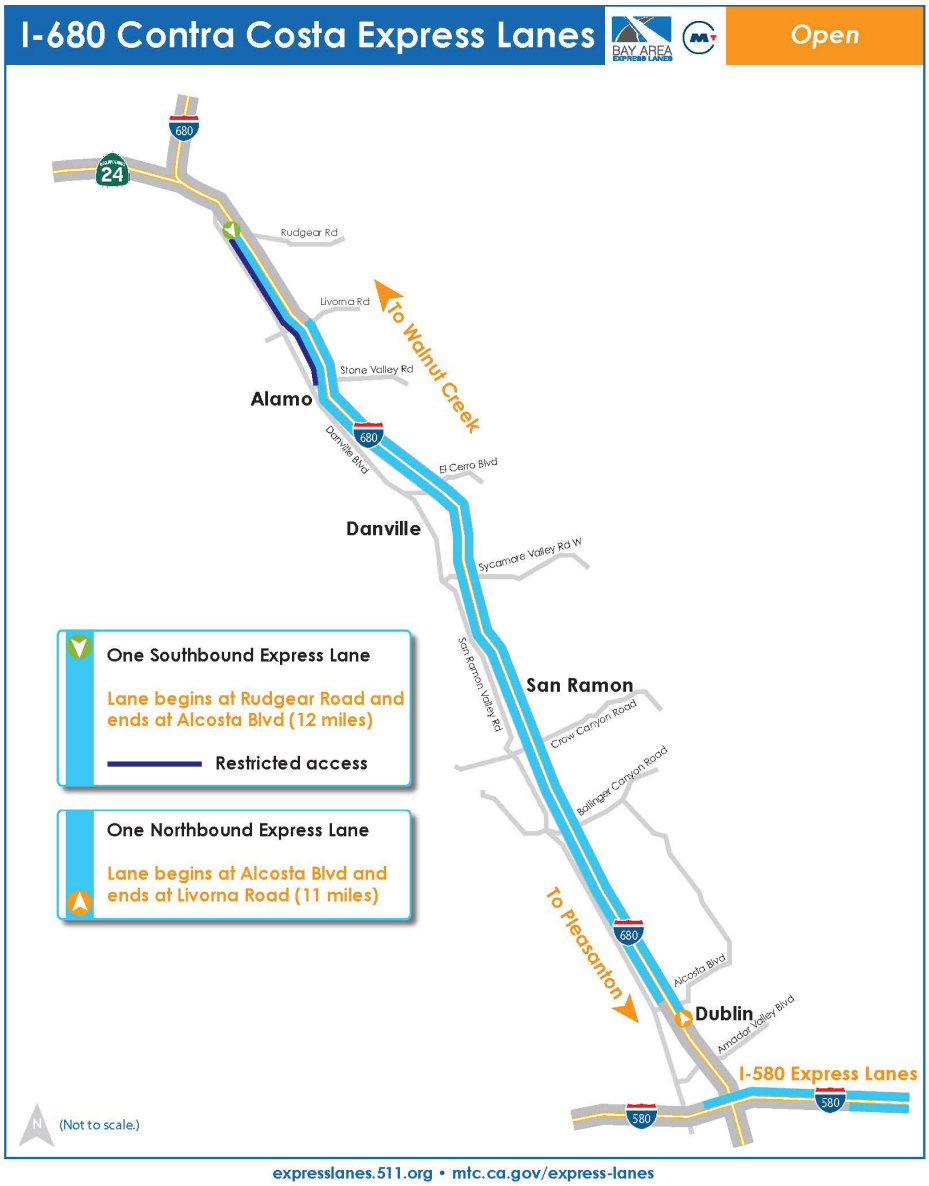
(4) Percent complete shown is based on the achievement of major milestones whether those milestones were completed using BAIFA funds or other funds.

IV. OPERATIONS

I-680 Contra Costa Express Lanes

The I-680 Contra Costa Express Lanes opened October 9, 2017. The lanes run 11 miles northbound from Alcosta Boulevard to Livorna Road and 12 miles southbound from Rudgear Road to Alcosta Boulevard. Regional Operations Center staff monitor equipment and lane performance, make toll rate adjustments, and coordinate with the California Highway Patrol (CHP) and Caltrans on incident management. The FasTrak® Customer Service Center issues toll tags, handles toll invoicing and collections, and provides customer service. Toll tag and vehicle occupancy requirements are enforced automatically by the toll system and manually by the CHP under contract to BAIFA. A 'backhaul' fiber network and supplemental leased-line services offer fast and secure transfer of tolling data. Roadway maintenance is also funded by the express lanes. Program and contractor staff perform public outreach and education, track and report on program performance and analyze traffic, and support operations in other ways as needed. Operating revenue and expenses are reported quarterly to BAIFA.

See **Appendix C** for a summary of this quarter's express lanes performance.



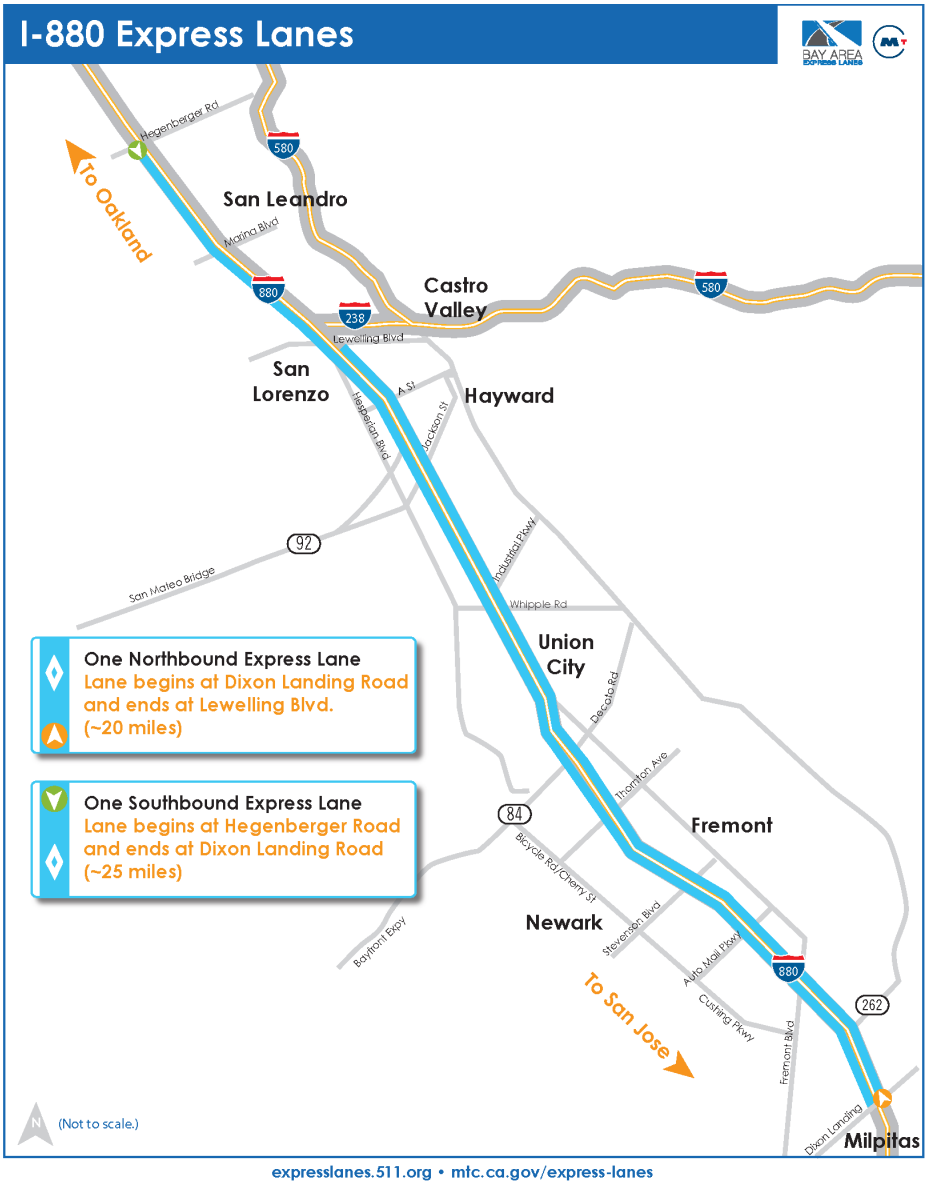
Rules of the Road

- Hours are Monday through Friday, 5 a.m. – 8 p.m.
- Tolls change based on traffic congestion; there is no maximum toll
- All vehicles in the express lane must use a FasTrak® or FasTrak Flex® toll tag
- Carpools of 2 or more people, eligible clean air vehicles, motorcycles and transit buses travel toll-free with a properly set FasTrak Flex® toll tag
- Learn more at expresslanes.511.org

I-880 Alameda Express Lanes

The I-880 Alameda Express Lanes opened October 2, 2020. The lanes run 20 miles northbound from Dixon Landing Road to Lewelling Boulevard and 25 miles southbound from Hegenberger Road to Dixon Landing Road. Regional Operations Center staff monitor equipment and lane performance, make toll rate adjustments, and coordinate with the California Highway Patrol (CHP) and Caltrans on incident management. The FasTrak® Customer Service Center issues toll tags, handles toll invoicing and collections, and provides customer service. Toll tag and vehicle occupancy requirements are enforced automatically by the toll system and manually by the CHP under contract to BAIFA. A 'backhaul' fiber network and supplemental leased-line services offer fast and secure transfer of tolling data. Roadway maintenance is also funded by the express lanes. Program and contractor staff perform public outreach and education, track and report on program performance and analyze traffic, and support operations in other ways as needed. Operating revenue and expenses are reported quarterly to BAIFA.

See **Appendix D** for a summary of this quarter's express lanes performance.



Rules of the Road

- Hours are Monday through Friday, 5 a.m. – 8 p.m.
- Tolls change based on traffic congestion; there is no maximum toll
- All vehicles in the express lane must use a FasTrak® or FasTrak Flex® toll tag
- Carpools of 3 or more people, motorcycles and transit buses travel toll-free with a properly set FasTrak Flex toll tag
- 2-person carpools and eligible clean air vehicles (CAVs) pay a half-price toll with a properly set FasTrak Flex or FasTrak CAV toll tag, respectively
- Learn more at expresslanes.511.org

APPENDICES

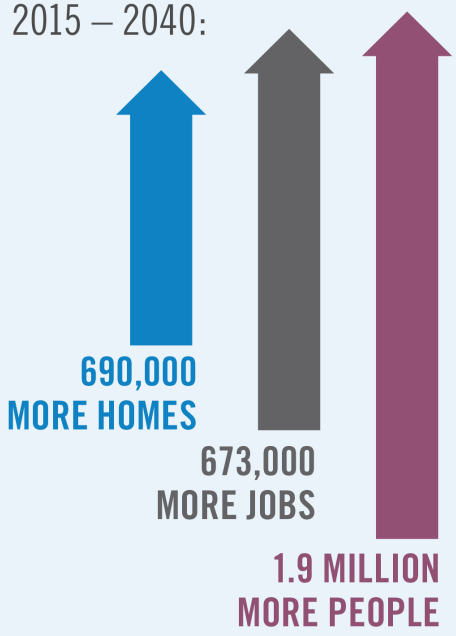
APPENDIX A

Express Lanes Overview

1. Why Express Lanes?

The Bay Area lacks the necessary transportation funding and land to build enough transportation capacity to keep up with regional growth. Bay Area Express Lanes maximize use of our highways by A) filling any empty space in existing HOV lanes, B) improving operations in existing HOV lanes through better carpool enforcement and strategies to prevent lane slowdowns, and C) filling gaps in the HOV lane system to encourage more carpooling.

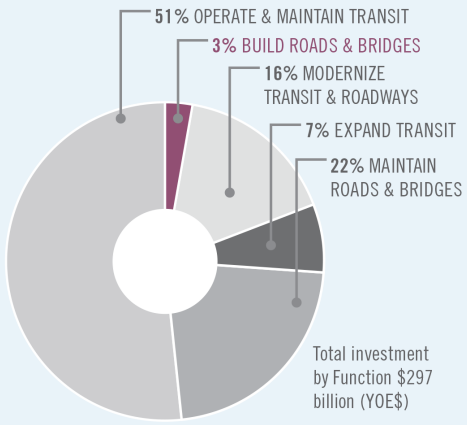
REGIONAL GROWTH 2015 – 2040:



Data Source: Plan Bay Area 2040 (2017).

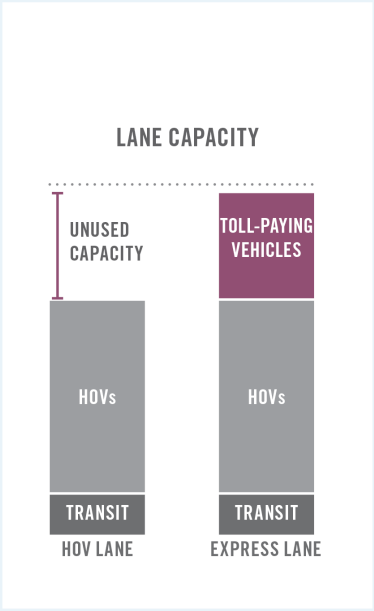
REGIONAL INVESTMENT BY 2040:

ONLY 3% OF THE REGION'S TRANSPORTATION DOLLARS WILL BE USED TO BUILD NEW ROADS.



Data Source: Plan Bay Area 2040 (2017).

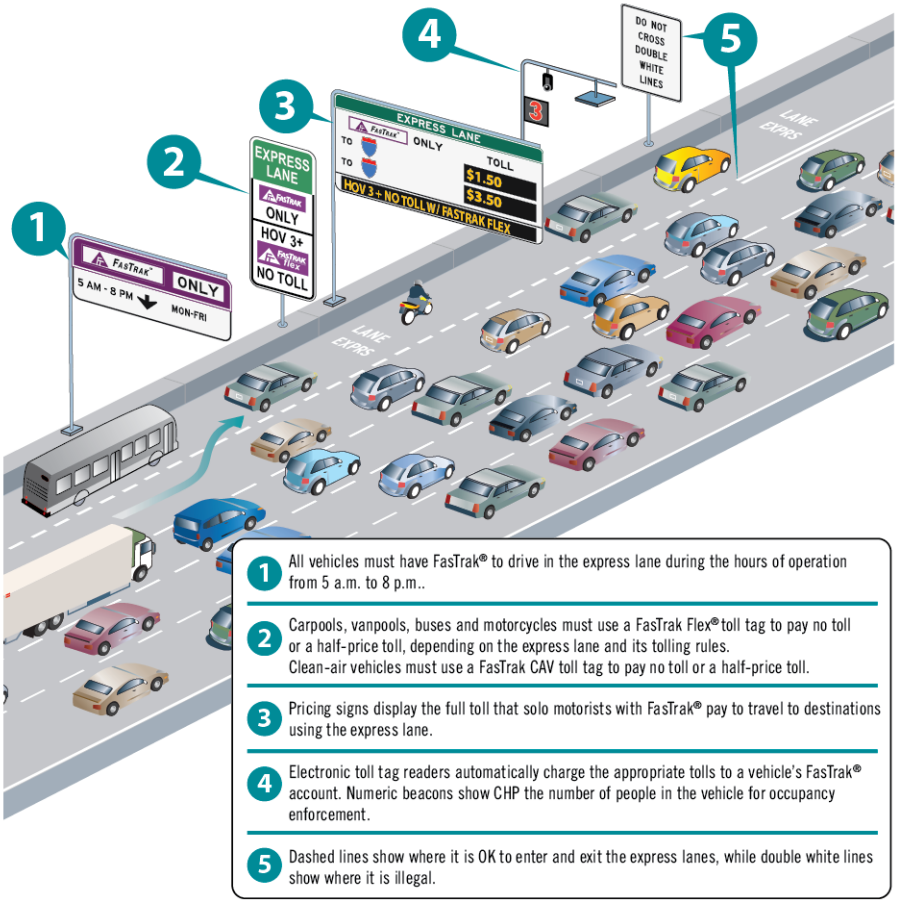
HOW EXPRESS LANES HELP:



2. How Express Lanes Work

MTC Express Lanes give everyone with FasTrak® the option for a more reliable and faster trip than regular highway lanes. Overhead electronic pricing signs display toll rates, which may change every few minutes with traffic. Tolls are collected electronically, the same as on Bay Area toll bridges.

Solo motorists pay tolls with either a standard FasTrak® toll tag or a FasTrak Flex® toll tag set to "1" person. Carpools, vanpools and buses must use a FasTrak Flex® toll tag set to "2" or "3+" people to pay no toll or a half-price toll, depending on the express lane and its tolling rules. Motorcycles must use a FasTrak Flex toll tag set to "3+" people to pay no toll. Qualifying clean air vehicles (CAVs) must use a FasTrak CAV toll tag set to the number of people in the vehicle to pay no toll or a half-price toll. Drivers should always set the switch before driving.



The figure to the left explains how to use Bay Area Express Lanes. MTC Express Lanes will be "open" access to the extent possible, meaning drivers will enter and exit the express lanes similar to how they enter and exit HOV lanes today. Areas prone to weaving or other safety concerns may have access restrictions to control entry and exit at these locations. Signage and lane striping will identify these entry and exit locations. Limiting access is a way to improve travel speeds in express lanes.

3. System Technology and Elements

MTC Express Lanes are implemented by overlaying communications equipment on new and existing freeway infrastructure. Express lanes implementation requires four discrete elements that are integrated through design, construction and operations, including:

Civil Infrastructure (Highway Modifications)

For lane conversions, the civil infrastructure consists of sign structures, sign panels, lane striping, and conduit work for power and communications. For gap closure and extension projects, the civil infrastructure includes highway widening to add lanes as well as the signage and communications equipment required for conversions.

The civil contractor will put in place the foundations and structures upon which the toll systems contractor will install the toll equipment. In addition, the civil contractor will construct the infrastructure necessary to provide power and communications to the toll system.

Toll System

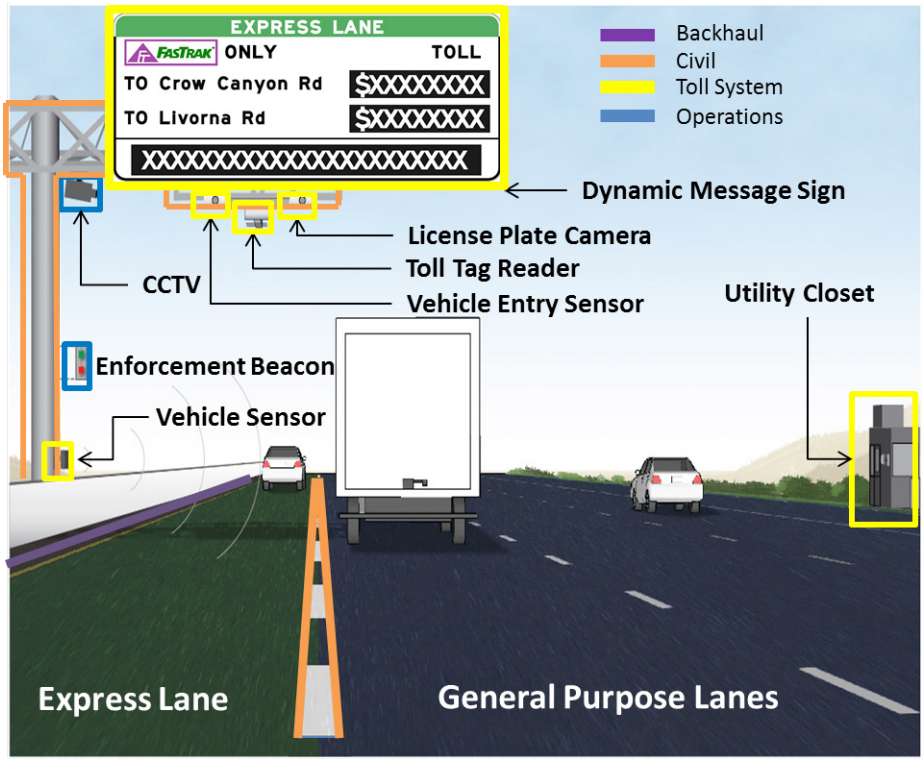
The toll system consists of two components, the in-lane system and the back-end "host" system. The lane system consists of all the equipment on the highway needed to operate the toll system including toll tag readers, cameras and vehicle detection. The host system serves as the brain of the toll system, which collects and processes all the data from the highway and sends it to the regional customer service center for billing.

Backhaul Communications Network

The backhaul network is the communication line along which data collected in the lanes is sent to the toll host system, operations center and regional customer service center. The backhaul contractor will install new conduit and communications fiber as well as utilize existing Caltrans, BART and other infrastructure to build the network. The backhaul network is being designed with the expectation that it will become part of a broader regional communications network.

Operations

The operations element consists of everything that is needed to successfully operate the express lanes including: an operations center, the regional customer service center, enforcement, public outreach, performance monitoring and ongoing maintenance. An express lanes Regional Operations Center has been established in the Bay Area Metrocenter building in San Francisco where operators actively monitor the condition of the lanes and coordinate with Caltrans and the California Highway Patrol to ensure that the lanes operate efficiently.



For illustrative purposes only

APPENDIX B

Completed Capital Project Summaries

I-680 Contra Costa Southern Segment (CC-680 South)

Walnut Creek to San Ramon

Livorna Road/Rudgear Road to Alcosta Boulevard

Total Program Estimate

$55.6 million

Open Date

Fall 2017

Project Description

The project converts existing HOV lanes to express lanes on I-680 from Rudgear Road to Alcosta Boulevard in the southbound direction and from Alcosta Boulevard to Livorna Road in the northbound direction. It will result in 23 express lane miles through San Ramon, Danville, Alamo and southern Walnut Creek. No widening or additional lanes will be added to the freeway.

This conversion project includes striping lanes and installing sign gantries, signs, FasTrak® toll tag readers, and traffic monitoring video cameras. In addition, the project installs equipment and observation areas to help the California Highway Patrol enforce proper use of the lanes.

Project Highlights and Progress

- Public open house was held in March 2014.
- Preliminary engineering report and environmental document were completed in August 2014.
- Final design for both the backhaul communication network and the toll system were completed in December 2015.
- Final roadway design was completed in April 2015. Civil construction was completed in May 2017.
- Backhaul contractor completed installation of 26 miles of fiber optic cable in June 2017.
- Corridor Testing was completed in August 2017.
- Toll system equipment and software was finalized and tested in September 2017.

- Backhaul operations and maintenance started in October 2017.
- The toll system went live to the public on October 9, 2017.

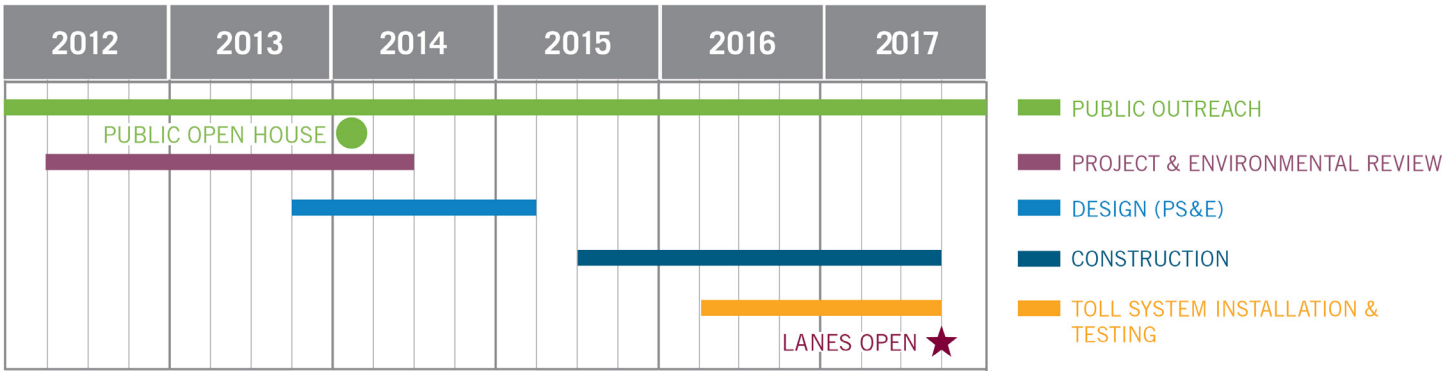
Current Project Activities

- The integrator is fine tuning field equipment and addressing punch list items in preparation for Operations Testing in summer of 2018. This test verifies the toll system meets all specifications and leads to the maintenance phase of operations.
- The Backhaul contractor completed project 'as-built' documentation and is performing ongoing operations of the communications network.
- Beginning in this Quarterly Report, since civil construction is complete and the express lanes are open, this capital project will be archived in Appendix B and no further updates will be made to the project summary.

I-680 Contra Costa Express Lanes regulatory sign.

Photos courtesy of Noah Berger.

Project Schedule by Phase



Project Cost

Program Estimate[1]	Cost Forecast[2]	Regional Measure 2 Funds (allocated)	BAIFA Express Lane Funds[3]			Physical % Complete[4]
			Dec. 2015 Amendment	June 2017 Amendment	Expended through 3/31/18	
55.6	55.6		55.6	55.6	49.7	98%

Costs shown in millions of escalated dollars.

The program estimate for this project includes planning, design, construction, utilities, backhaul communications and toll system integration.

(1) Program estimate represents current estimated cost to complete each project.

(2) Cost forecast represents current estimated cost to complete phases that are funded for each project.

(3) BAIFA Express Lane Funds represent the funds that have been allocated from the BAIFA budget.

(4) Physical percent complete shown is based on the achievement of major milestones whether those milestones were completed using BAIFA funds or other funds.

I-880 Alameda (ALA-880)

Oakland to Milpitas

Hegenberger Road/Lewelling Boulevard to Dixon Landing Road

Total Cost Estimate

$139.1 million

Scheduled Open Date

Fall 2020

Project Description

The project converts the existing I-880 HOV lanes that run from Hegenberger Road to Dixon Landing Road in the southbound direction and from Dixon Landing Road to Lewelling Boulevard in the northbound direction to express lanes.

The conversion involves lane striping and installing sign structures, signs, FasTrak® toll tag readers, traffic monitoring video cameras, lighting, a data communications network and California Highway Patrol observation areas. The highway is also being widened in three locations to accommodate merge lanes into and out of the express lanes. It will result in 51 express lane miles between Oakland and Milpitas.

The express lanes conversion project was coordinated with a median barrier reconstruction project and a pavement resurfacing project, both led by Caltrans. The median barrier reconstruction project installed foundations and other infrastructure required for the express lanes for a large portion of the corridor.

Project Highlights and Progress

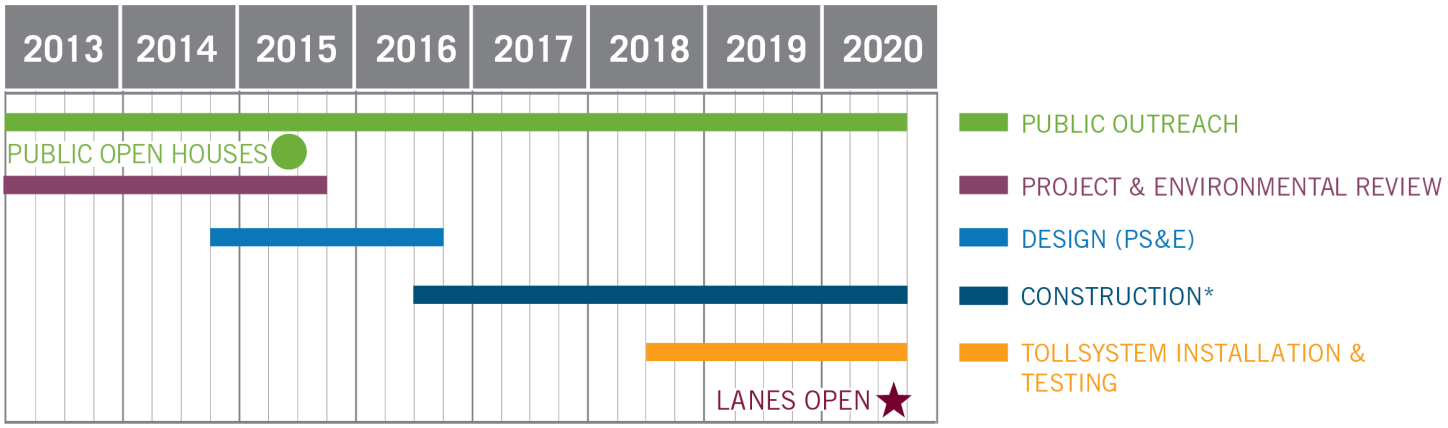
- Public open houses were held in March 2015.
- Preliminary engineering report and environmental document were completed in October 2016.
- The express lanes civil contractor began construction in September 2017.
- Caltrans approved the toll system design and issued the encroachment permit for the toll system integrator in March 2018.
- MTC's express lanes scope of work delivered through Caltrans' median barrier contract was completed in the second quarter of 2018, including barrier demolition, express lane sign structure foundations and light foundations.
- Caltrans completed its technical review to determine I-880 hours of operation (5am to 8pm, Monday through Friday) and high occupancy vehicle threshold (3 or more persons) in fall 2018.
- Caltrans finalized the design of fiber laterals to connect its freeway management equipment to the communications backhaul in December 2018. Construction work commenced on the Caltrans fiber laterals in October 2019.
- In March 2019, the civil contractor successfully removed two existing overhead sign bridge structures at the SR-92 interchange and installed two new ones.
- The backhaul contractor connected the backhaul corridor hubs to the toll system host and operations datacenters in Martinez, Oakland and San Francisco in October 2019. The toll system integrator approved the I-880 backhaul fiber in November 2019.

- All PG&E service connections are complete.
- In June 2020, the civil contractor completed new restricted access striping on the corridor and installed some signage. A public information campaign explained the changes.
- Final signing and pavement marking civil work to transition the HOV lanes to express lanes was completed in August and September. Until tolling begins, the lanes will function as HOV 2+ only lanes.
- The toll system integrator finished equipment installation in August 2020 and toll system testing in September 2020.
- At strategic points in the project timeline, staff performed outreach and education about I-880 design, construction and proposed operations including with members of low-income communities (2012); corridor city staff (2015 & 2019); and corridor elected officials (2017, 2019 & 2020).

Current Project Activities

- On October 2, 2020, BAIFA began tolling on the I-880 Express Lanes.
- Beginning the fourth quarter of 2020, since civil construction is complete and the express lanes are open, this capital project will be archived in Appendix B and no further updates will be made to the project summary.

Project Schedule by Phase



*Includes I-880 median barrier improvements.

Project Cost

Total Cost Estimate[1]	Cost Estimate, Funded Phases[2]	Regional Measure 2 Funds (allocated)	Other Funding (allocated)	BAIFA Express Lane Funds[3]			Percent Complete as of 9/30/20[4]
				July 2018 Amendment	Sept. 2018 Amendment	Expended as of 9/30/20	
139.1	139.1			135.5	139.1	119.0	99%

The cost estimate for this project includes planning, design, construction, utilities, backhaul communications and toll system integration.

Costs shown in millions of escalated dollars.

(1) Total Cost Estimate represents current estimated cost to complete each project.

(2) Cost Estimate, Funded Phases represents current estimated cost to complete phases that are funded for each project.

(3) BAIFA Express Lane Funds represent the funds that have been allocated from the BAIFA budget.

(4) Percent complete shown is based on the achievement of major milestones whether those milestones were completed using BAIFA funds or other funds.

APPENDIX C

I-680 Contra Costa Express Lanes Operations Report

I-680 Contra Costa Express Lanes Performance
4th Quarter 2020: October - December

Bay Area Infrastructure Financing Authority

Submitted April 2021

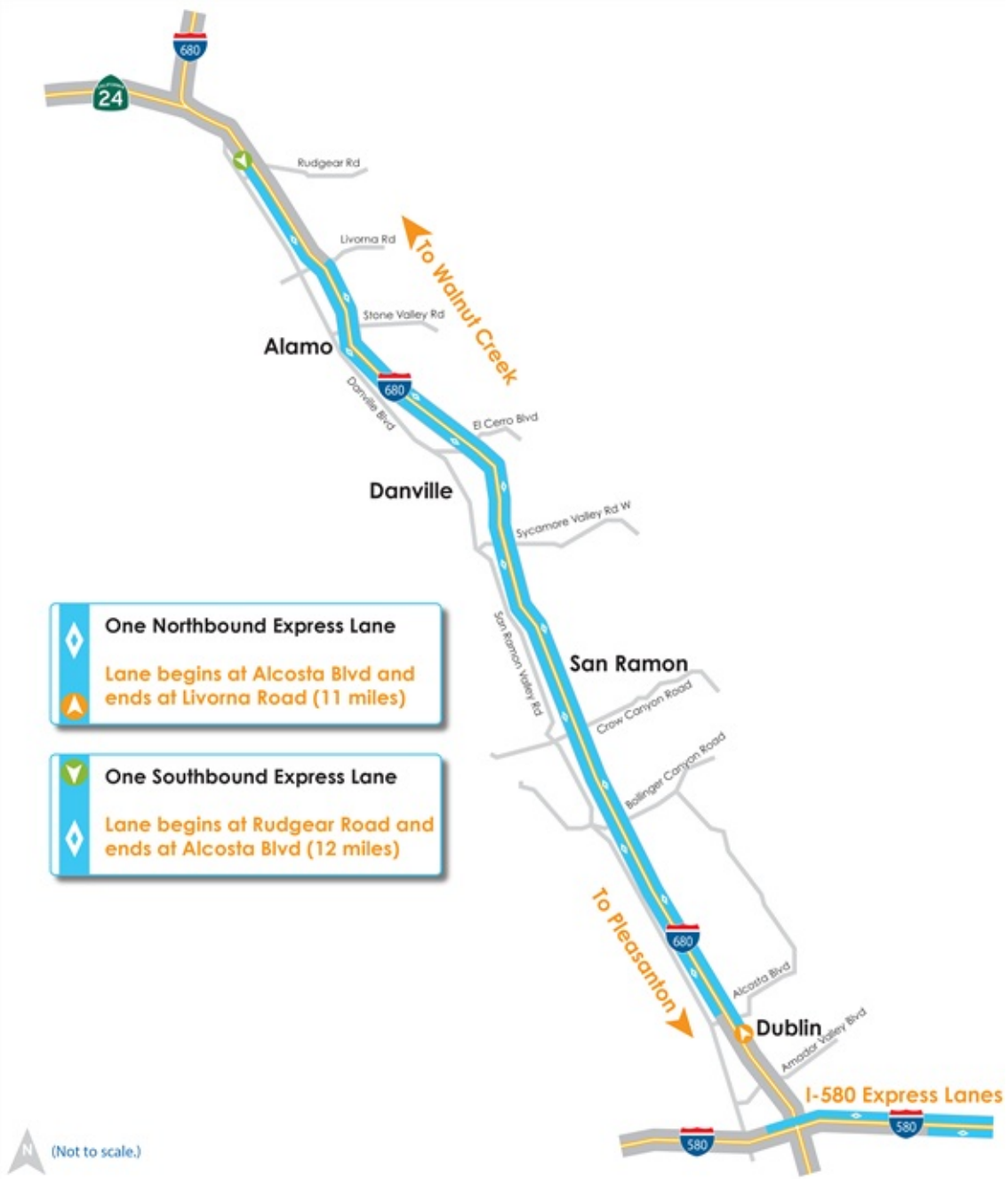
BAY AREA EXPRESS LANES

METROPOLITAN TRANSPORTATION COMMISSION

Rules of the Road

- Hours: 5 a.m. to 8 p.m. Monday - Friday
- FasTrak® required
- Carpools (2+) and motorcycles travel toll-free with FasTrak Flex® toll tags.
- Solo-drivers in eligible clean-air vehicles pay half-price tolls with FasTrak CAV toll tags.*

* Prior to October 1, 2020 all eligible clean air vehicle drivers traveled toll-free.



Summary of Performance Highlights

Trips & Revenue

- In Q4 2020, about 1.3 million express lane trips were recorded, up 36% from Q3 2020 but down 37% from Q4 2019, due to the pandemic.

- The share of toll-free trips (carpools and non-revenue tags) was 36%, which is lower than the typical pre-COVID share, likely due to the pandemic. The share of toll violators was 13%, which is the highest ever recorded, likely due to reduced traffic and reduced CHP presence resulting from COVID-19.

- Q4 2020 toll revenue* fell 78% from Q4 2019 due to a 36% decline in paid trips and a 68% decline in average toll paid. Revenues grew 63% from Q3 2020 due to a 32% increase in paid trips and a 23% increase in the average toll paid. *Revenue date reflects when it is recorded in MTC's financial system, which can lag from when the paid trip was made.

Speeds

- Due to COVID-19 reduced travel, Q4 2020 peak-hour average corridor speeds were up 6 to 20 mph in the general purpose lanes and up 4 to 17 mph in the express lanes compared to Q4 2019.

- At the most congested locations in the corridor, express lanes speeds were 45 mph or better on 88% and 98% of the days in the quarter NB and SB, respectively. This is an improvement over the 35% and 36% of days in Q4 2019 due to COVID-19-induced lighter traffic.

Tolls

- Monthly average tolls paid peaked at $3.70 in the northbound p.m. peak. Due to reduced work travel during COVID-19, tolls did not exhibit an a.m. peak in either direction of travel. Q4 2020 peak hour average tolls were $3.90 to $5.60 lower than Q4 2019.

- Despite low traffic, tolls to travel the whole corridor occasionally reached $10 northbound primarily due to traffic incidents. About 2% of tolled trips paid $10, while 90% paid $2 or less. In Q4 2019, 12% of tolled trips paid $10 tolls, while 54% paid $2 or less.

Enforcement

- CHP made 770 enforcement contacts in Q4 2020, 13% of which resulted HOV occupancy citations. BAIFA requested 50% fewer enforcement hours in Q4 2020 than in Q4 2019 due to COVID-19-related traffic decreases, and CHP filled 100% of the hours.

Lane Users

- In Q4 2020, an estimated 326,000 unique vehicles made trips in the 680 Contra Costa express lanes. Of these about 40% (134,000) made their trips with a FasTrak toll tag, while 60% (192,000) did not use toll tags and their license plates were used to record their trips. License plate users represented a greater share of lane users in Q4 2020 compared to Q4 2019 (60% vs. 43%).

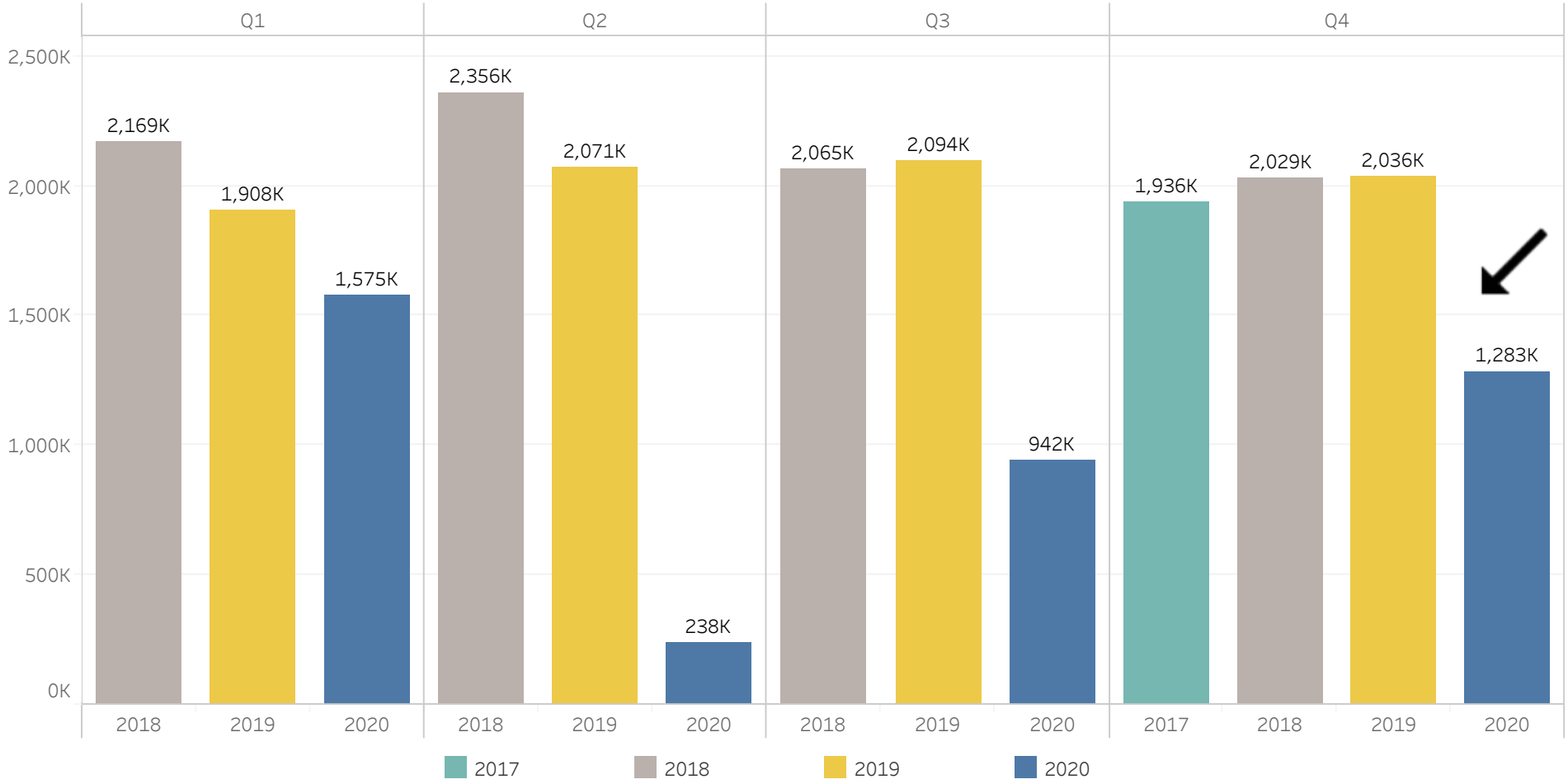
- 91% of FasTrak lane users made 10 or fewer express lanes trips in the quarter and 97% of those making trips without a FasTrak toll tag in the vehicle made 10 or fewer express lane trips in the quarter.

Express Lane Trips

In Q4 2020, about 1.3 million* express lane were recorded, up 36% from Q3 2020** as traffic recovered from the early COVID-19 shut down. Q4 2020 trips, however, were down 37% from Q4 2019, due to the pandemic.

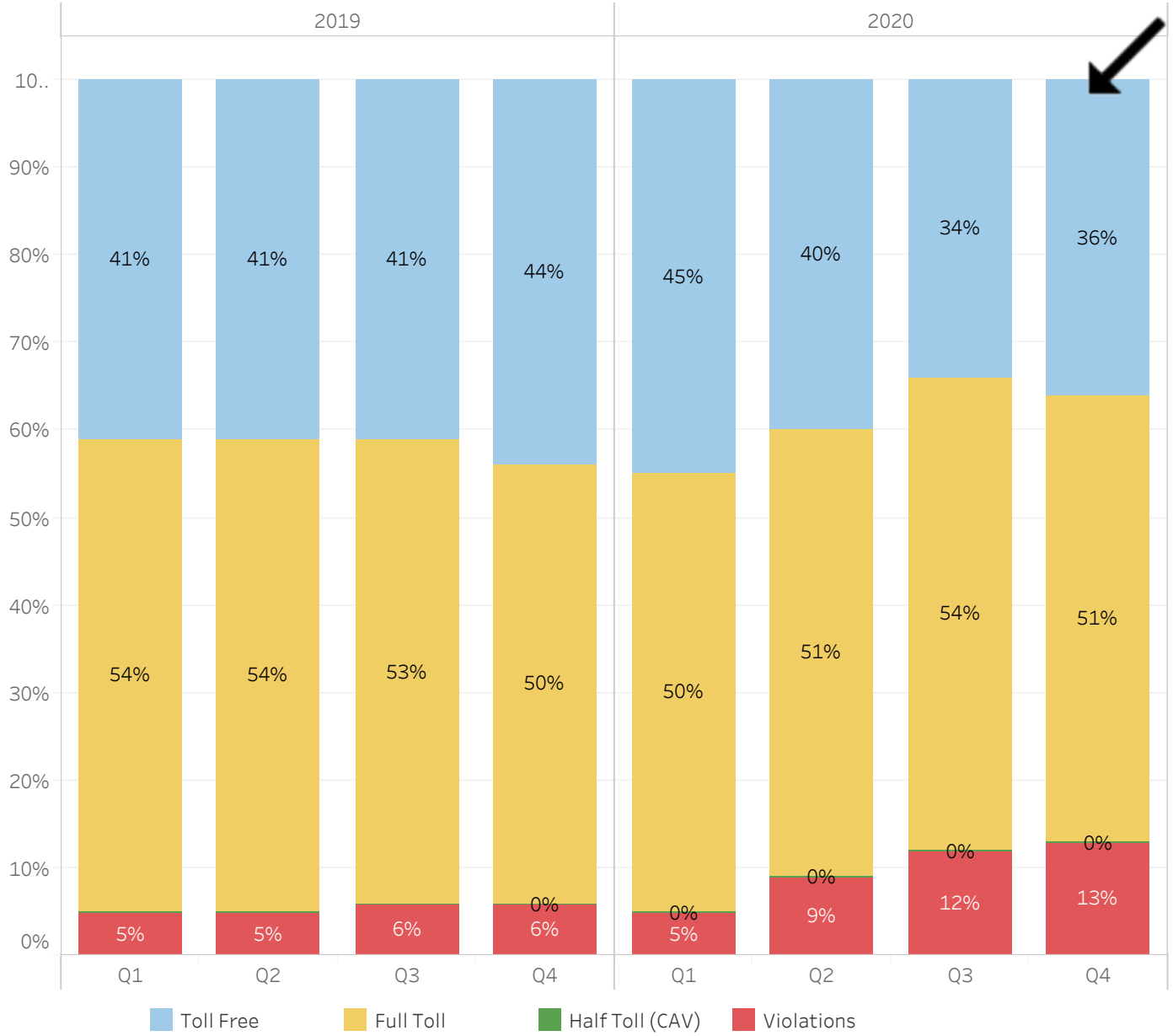
Average daily trips were 20,000, down 38% from their pre-COVID average of 32,000 (October 2017 through March 2020).

* Data includes trips made with non-revenue toll tags. These trips were not included in past quarterly reports. Non-revenue toll tags are used by buses, police, fire, etc. They represent a small number of trips (e.g., 1,600 trips in Q4 2020). ** Due to COVID-19, toll operations were suspended on Bay Area Express Lanes from March 20, 2020 to May 31, 2020.



BAY AREA EXPRESS LANES

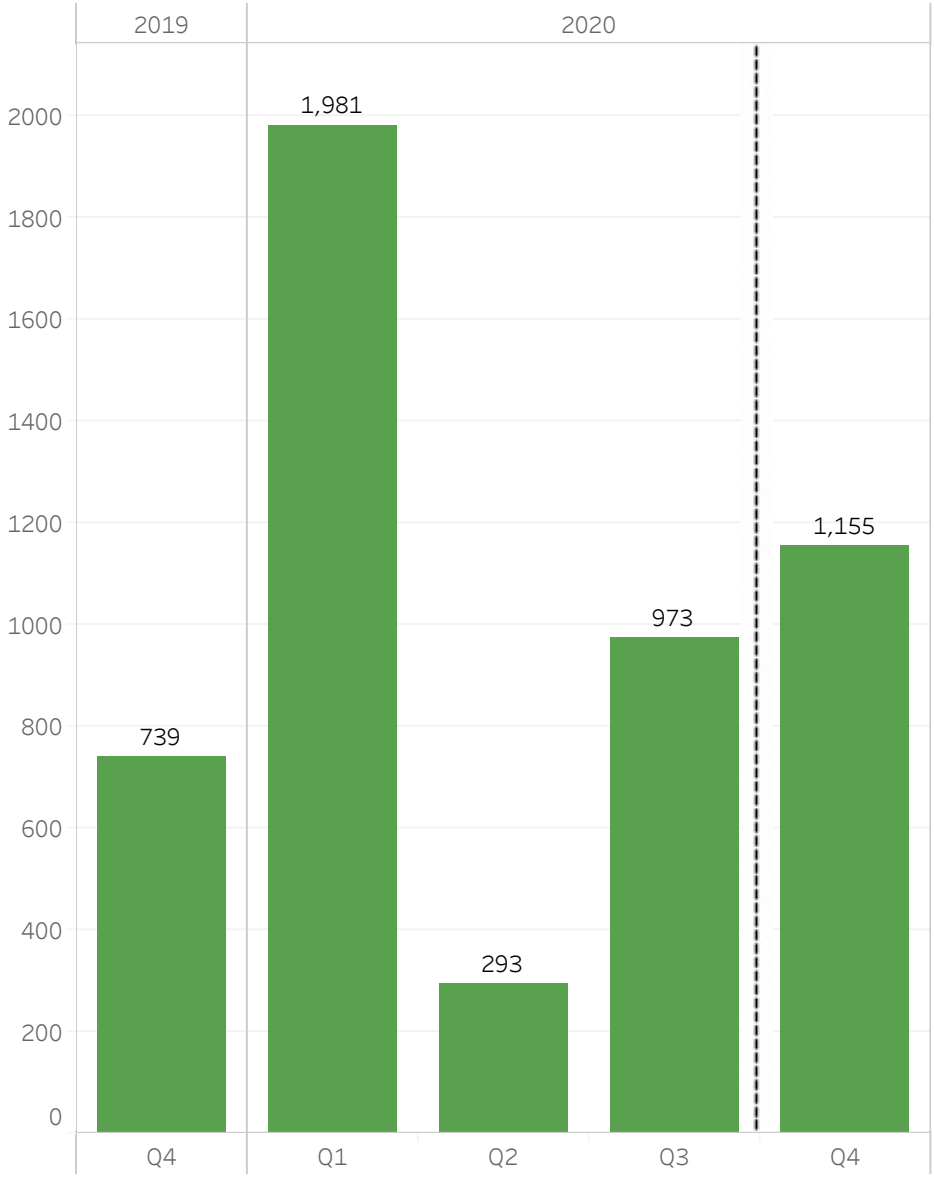
Express Lane Trip Types



- The share of toll-free trips (carpools and non-revenue tags) was 36% in Q4 2020. 36% is lower than the typical pre-COVID share, likely due to reduced carpooling during the pandemic.
- The share of vehicles without a FasTrak® toll tag or account (toll violators) was 13%, the highest ever recorded. The high rate of violations could be due to decreased traffic and reduced CHP presence in the corridor during COVID, both of which could make drivers less concerned about highway rules.
- Starting October 2020, drivers of eligible Clean Air Vehicles were required to use FasTrak CAV tags. Set in the "1" position, solo CAV drivers pay half-price tolls. The CAV tag penetration is too small to see on this graph and is shown in more detail on the following page. In Q4 2020, the share of trips mades with a CAV tag was less than 1%.

Percentages of SOVs and HOVs are based on toll tag settings read by the toll system.

Clean Air Vehicle Toll Tag Trips

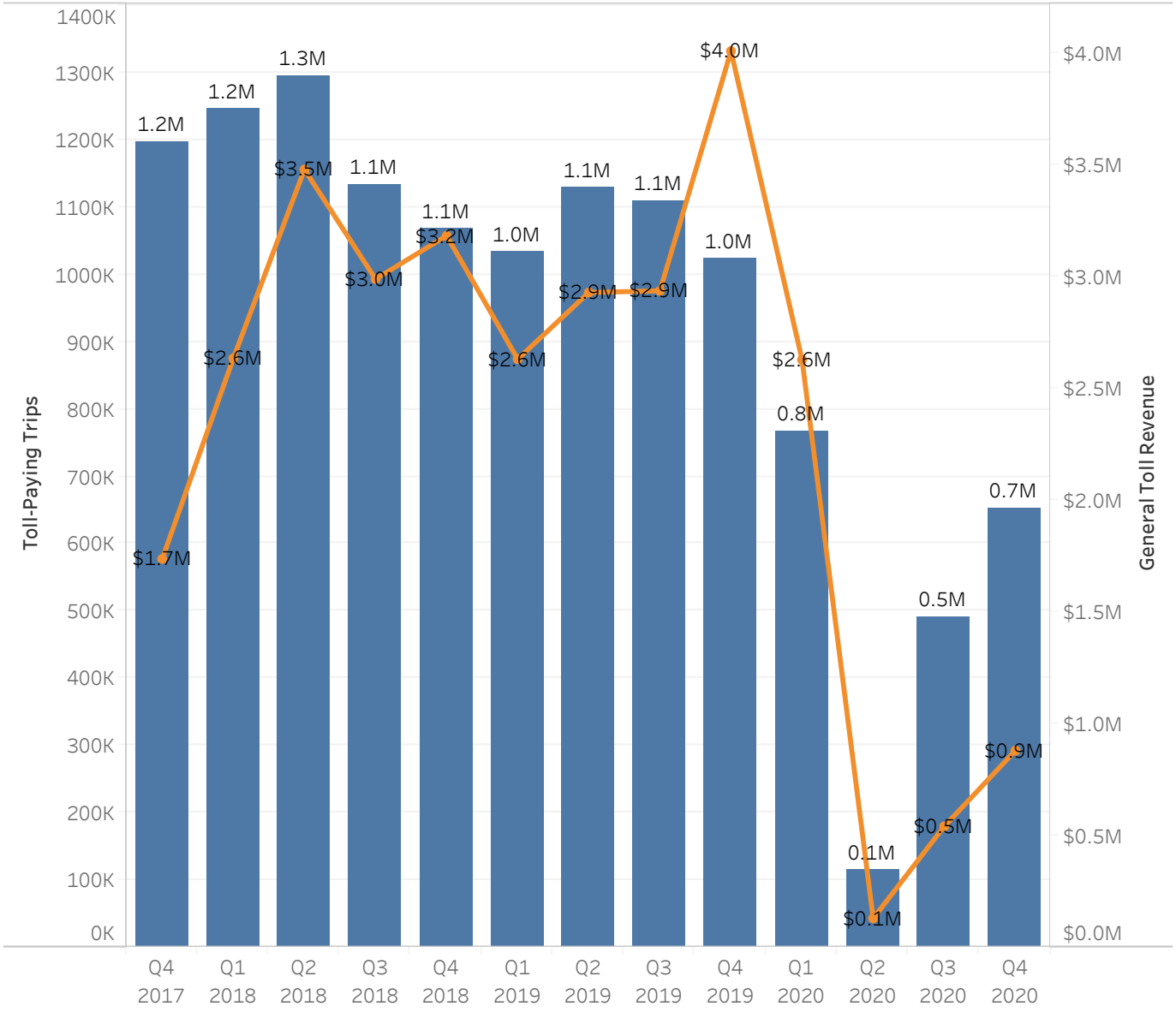


FasTrak Clean Air Vehicle (CAV) toll tags were introduced in the Bay Area in Fall 2019. Starting October 1, 2020, CAV drivers were required to use these tags for travel in the I-680 Contra Costa Express Lanes.

Previously, CAVs were allowed to use FasTrak Flex toll tags set in the 2 or 3+ position to travel toll-free in the lanes. It is not possible to know how many CAVs were using the lanes prior to October 1, 2020 based on toll tag data.

In Q4 2020, over 1,000 FasTrak CAV tag trips were recorded (set in 1, 2 or 3+ position).

Toll Revenue & Paid Trips



- Q4 2020 toll revenue fell 78% from Q4 2019 due to a 36% decline in paid trips and a 68% decline in average toll paid.
- Q4 2020 toll revenue was up 63% from Q3 2020 as traffic recovered from dramatic declines in the earlier months of the COVID-19 pandemic. Paid trips increased 32% and the average toll paid increased 23%.

Notes

Toll revenue represents tolls collected and does not include violation fees.

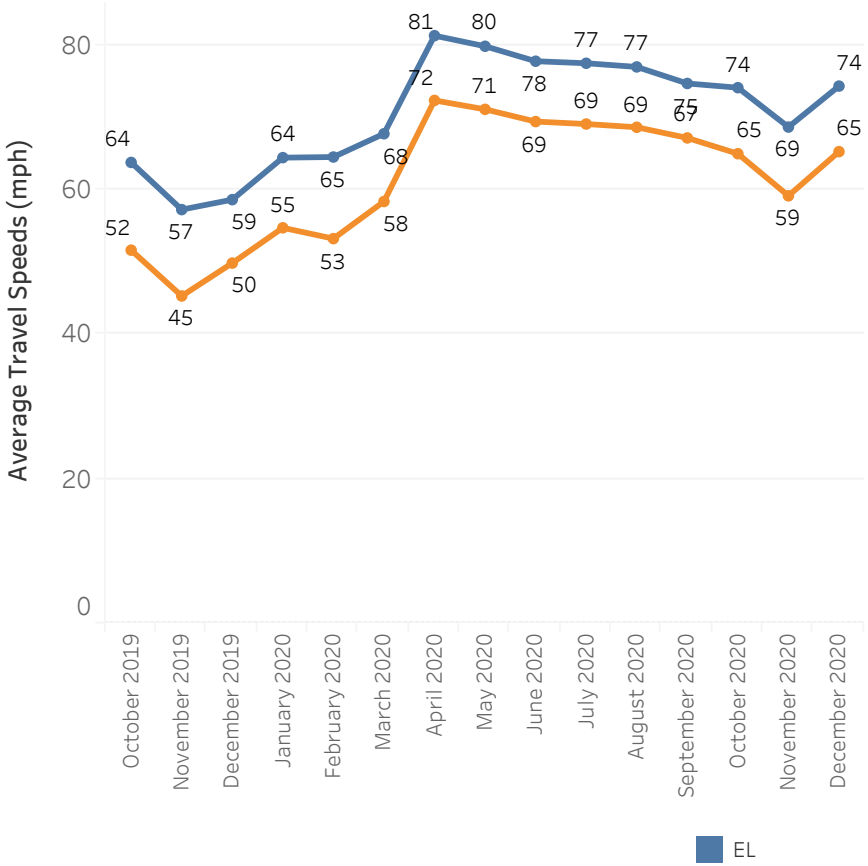
Quarterly revenue reflects the date revenue was recorded in MTC's financial system, which can lag from the time the trip was made.

Peak Hour Average Corridor Speeds

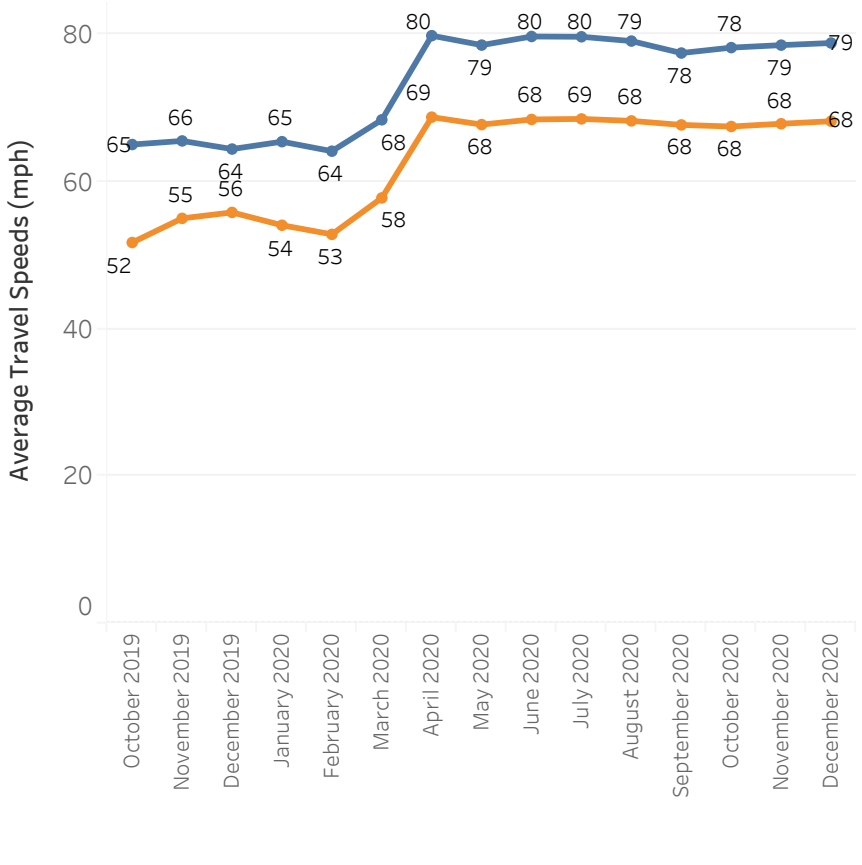
Peak-hour monthly average speeds for the length of the corridor spiked in April 2020 at the beginning of the COVID-19 pandemic. Northbound, speeds have been generally declining since, but Q4's monthly average speeds remained 6 to 20 mph higher in the GP lanes and 4 to 17 mph higher in the express lane than prior to the pandemic. Southbound, speeds have remained relatively consistent since April at 68 to 69 mph in the GP lanes and 78 to 80 mph in the express lane.

The average historical peak hour speed differential between the express lanes and the general purpose lanes is 10 mph northbound and 11 mph southbound. In Q4 2020, the average differentials were the same.

Northbound P.M. Peak Hour (5 - 6pm) - Corridor



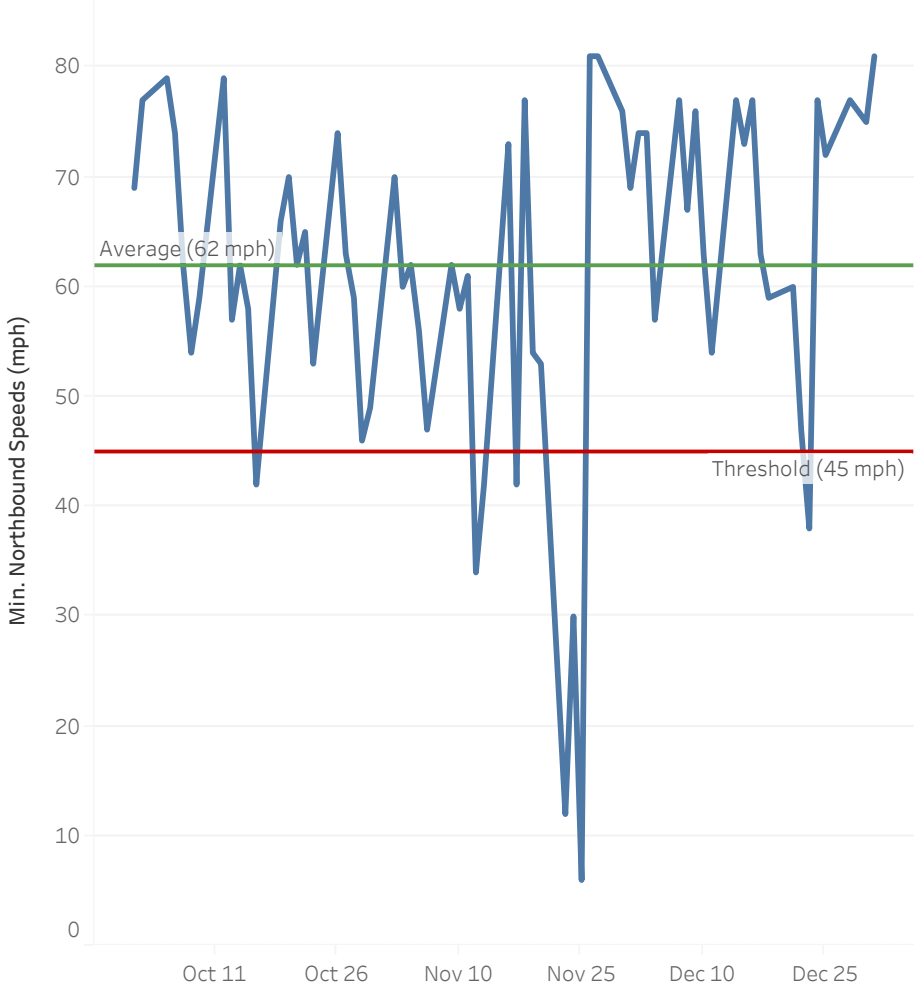
Southbound A.M. Peak Hour (8 - 9am) - Corridor

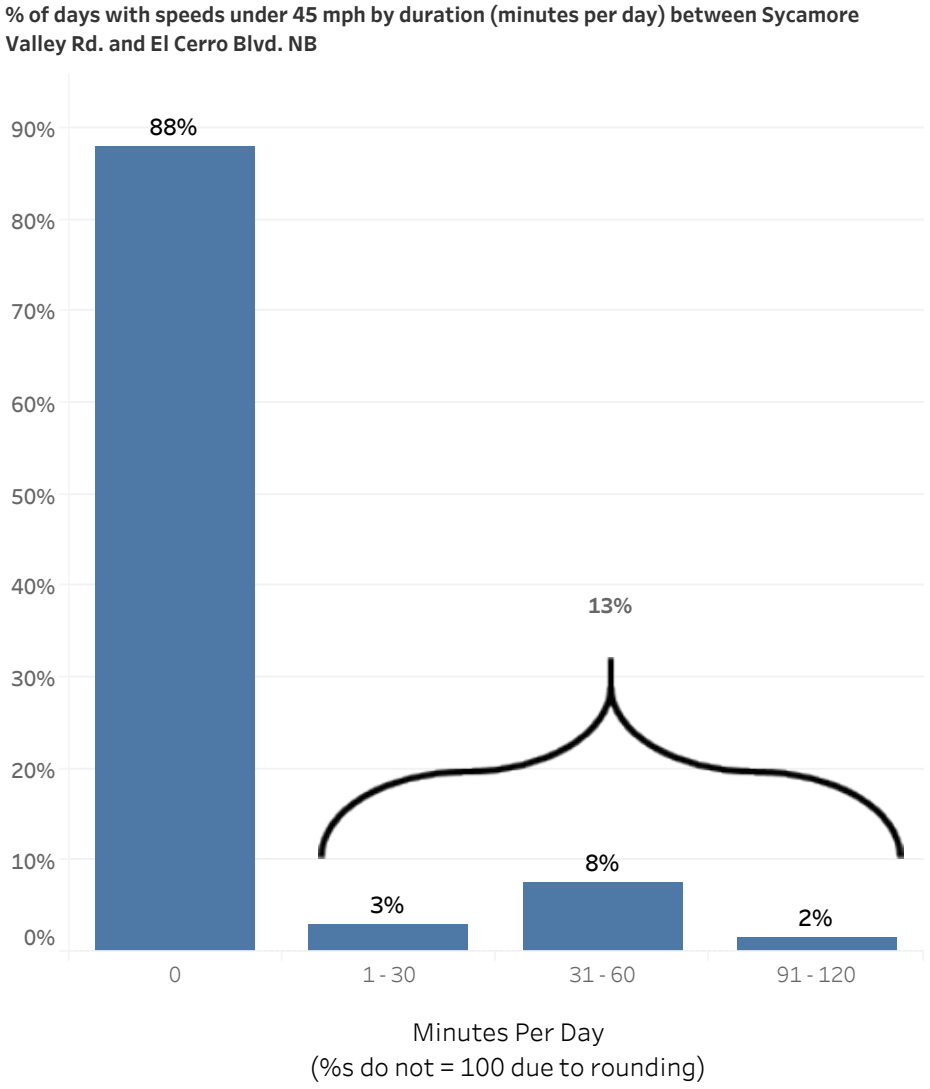


Speeds are averaged over the distance of the express lane. Peak hours are defined as the hours with lowest average corridor speeds across all lanes.

Lowest NB Exp Lane Speed - near El Cerro

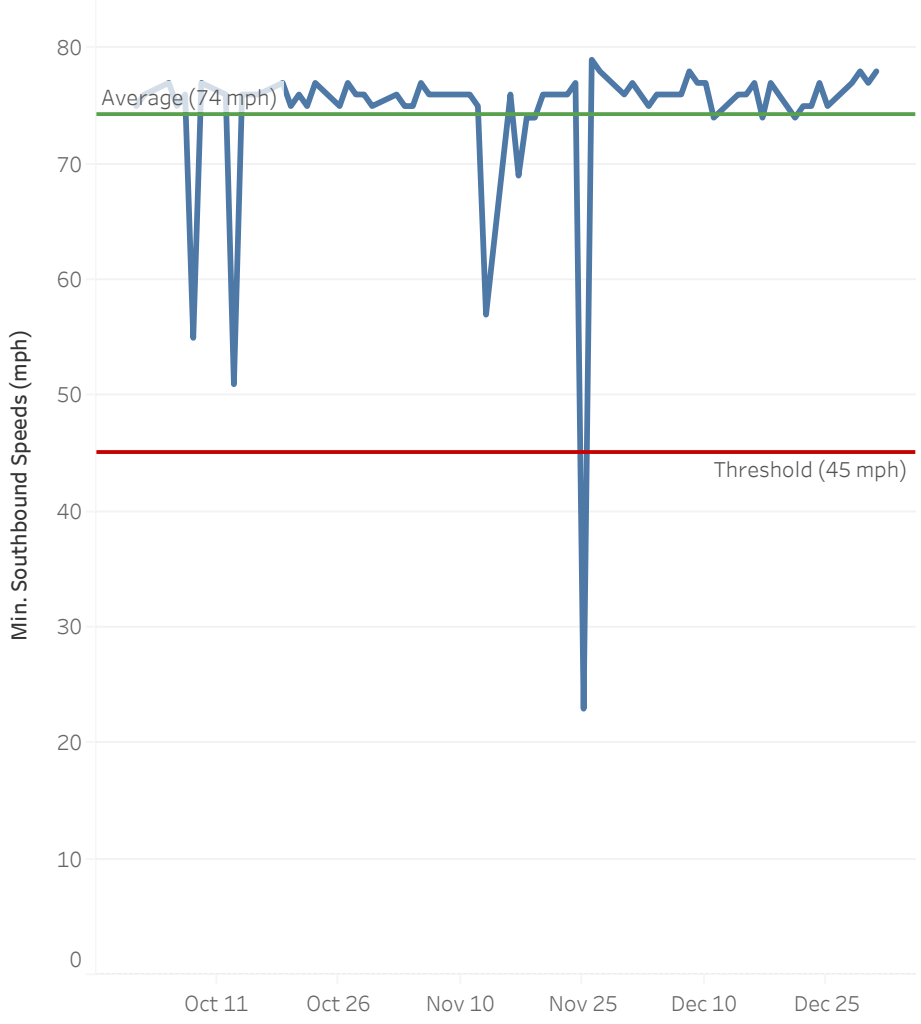
Northbound express lane traffic speeds are typically slowest between Sycamore Valley Rd. and El Cerro Blvd. With lighter traffic due to COVID-19, the lowest daily express lane speed at this location averaged 62 mph (compared to 40 mph in Q4 2019) and fell below 45 mph on 13% of days in the quarter (compared to 65% of days in Q4 2019). Q4 2020 slow speeds were due to traffic incidents and mostly lasted 1 to 60 minutes, except for one occasion which lasted over 90 minutes.

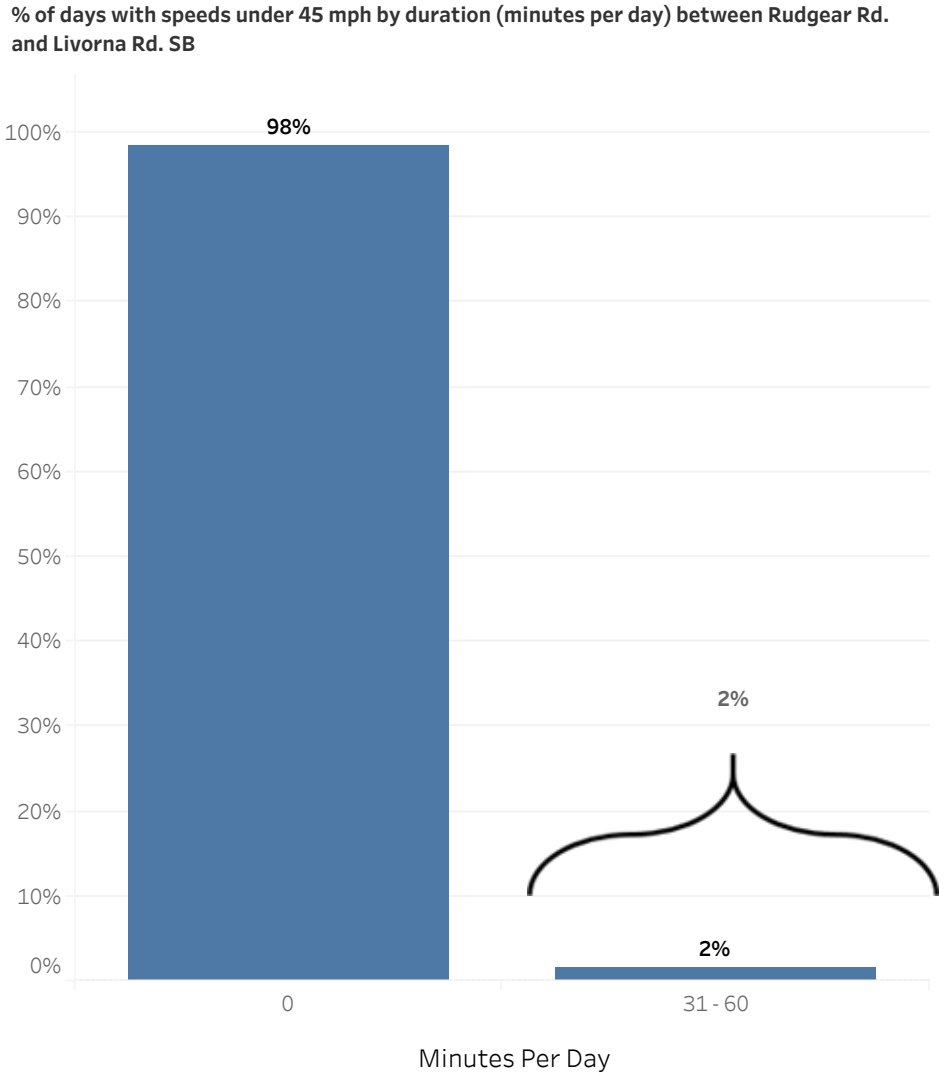




Lowest SB Exp Lane Speed - near Livorna

Southbound express lane traffic speeds are typically slowest between Rudgear Rd. and Livorna Rd. With lighter traffic due to COVID-19, the lowest daily speed at this location averaged 74 mph (compared to 44 mph in Q4 2019) and fell below 45 mph on just 2% of days in the quarter (compared to 64% of day in Q4 2019). Q4 2020 slow speeds were due to traffic incidents and lasted 31 to 60 minutes.





BAY AREA EXPRESS LANES

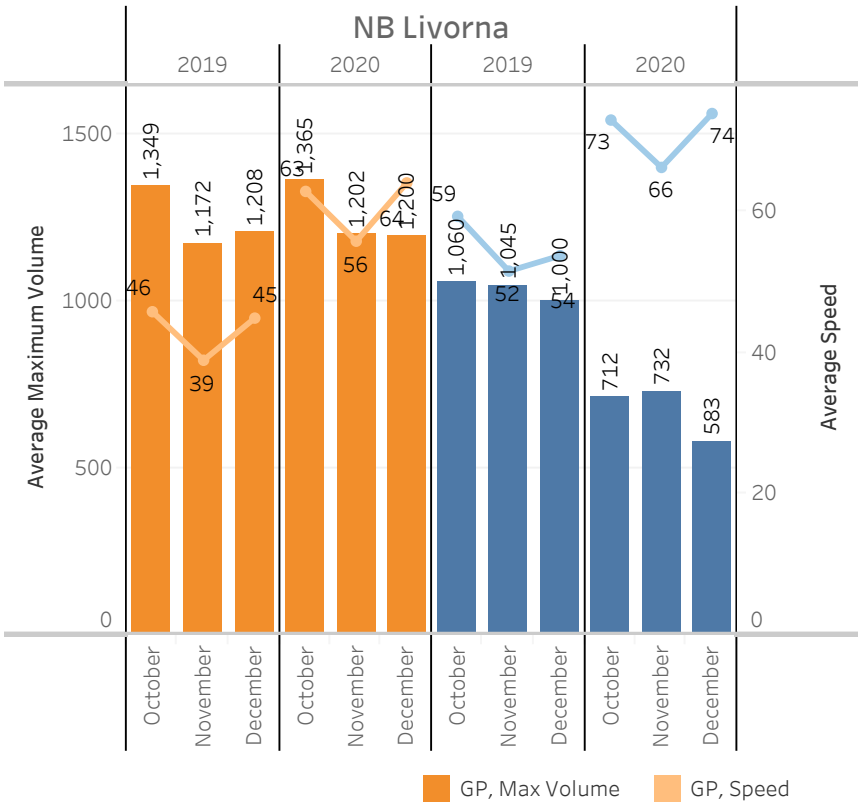
COVID-19 Traffic Impacts - p.m. peak hour

The higher speeds and lower tolls during the COVD-19 pandemic are due to lighter traffic. The graphs below explain how traffic changed from Q4 2019 to Q4 2020 in the PM peak hour (5 - 6 p.m) in the two busiest zones. The bars show the average maximum vehicle volumes and the lines show average speeds.

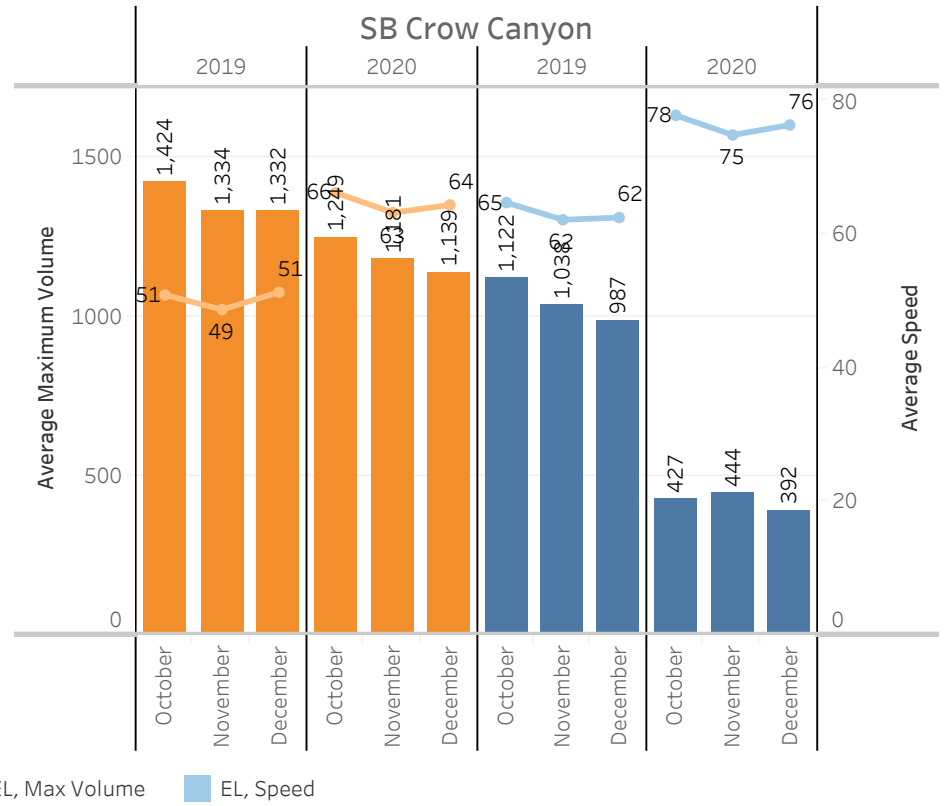
The volume of cars in the general purpose lanes in the NB Livorna Zone (orange bars on left) increased 1% while speeds increased 42%. Volumes and speeds both rose because traffic was so dense before the pandemic that it limited the volume of vehicles that could pass through the zone in a given time period. General purpose lane traffic was "stuck" in 2019, but in 2020 the slightly higher volume of cars is moving well, and speeds increased 42%. As such, demand to use the express lanes fell 30% (blue bars on left) and express lane speeds increased 20%.

In the SB Crow Canyon Zone, general purpose lane volumes fell 13% (orange bars on right), and speeds rose 30%. Express lane volumes fell 60% (blue bars on right) and speeds rose 21%. Express lane demand is down because the general purpose lanes are moving much better in the pandemic.

PM Peak (5 p.m. - 6 p.m.)



PM Peak (5 p.m. - 6 p.m.)



BAY AREA EXPRESS LANES

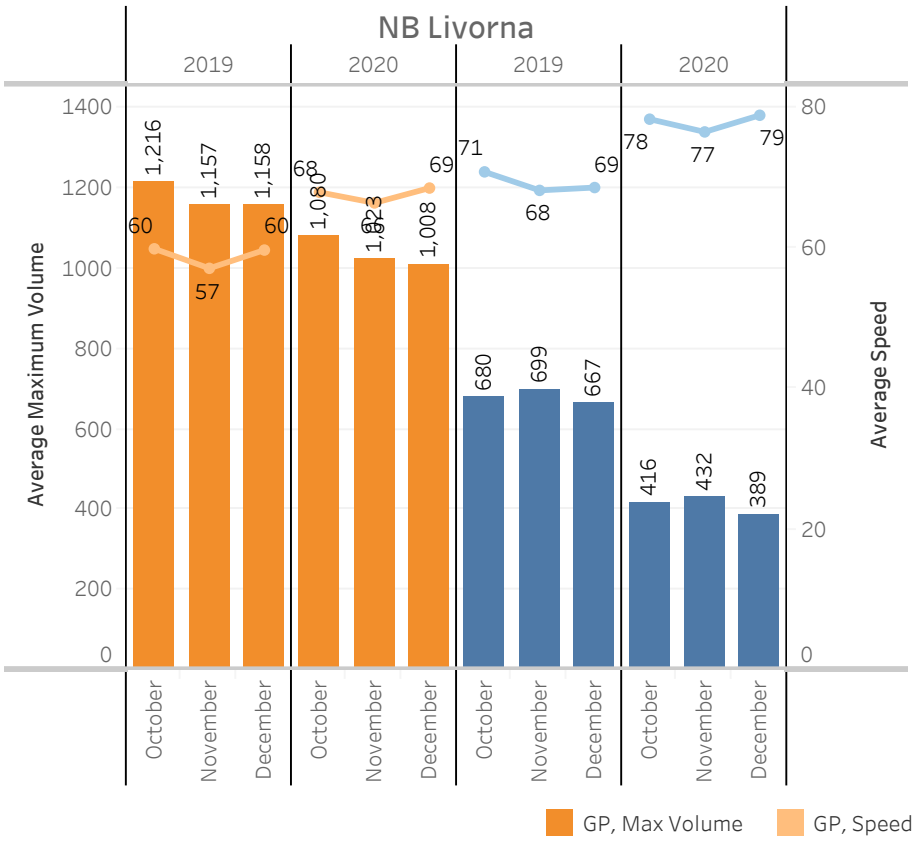
COVID-19 Traffic Impacts - a.m. peak hour

The higher speeds and lower tolls during the COVD-19 pandemic are due to lighter traffic. The graphs below explain how traffic changed from Q4 2019 to Q4 2020 in the AM peak hour (8 - 9 a.m) in the two busiest zones. The bars show average maximim vehicle volumes and the lines show average speeds.

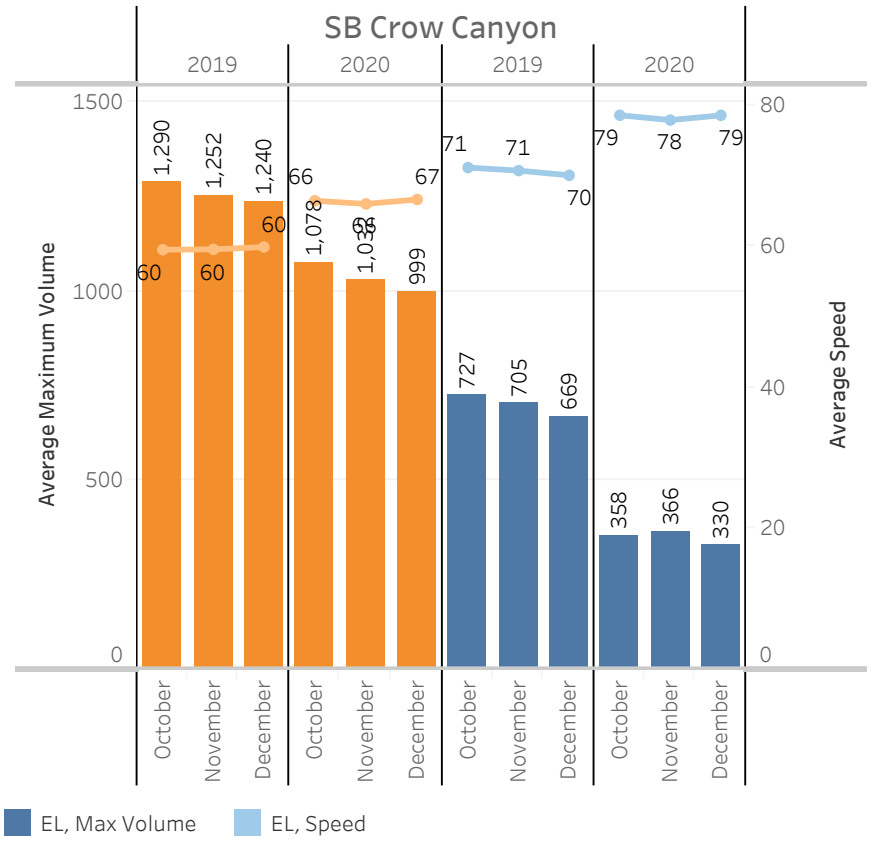
The general purpose lane volumes in the NB Livorna Zone (orange bars on left) fell 12% and speeds increased 15%. The improved flow in the general purpose lanes caused express lane volume to fall 40% (blue bars on left) and speeds to increase 13%.

In the SB Crow Canyon Zone, general purpose lane volumes fell 18% (orange bars on right), and speeds rose 10%. Express lane volumes fell 50% (blue bars on right) and speeds rose 9%. Express lane demand is down because the general purpose lanes are moving much better in the pandemic.

AM Peak Hour (8 a.m. - 9 a.m.)



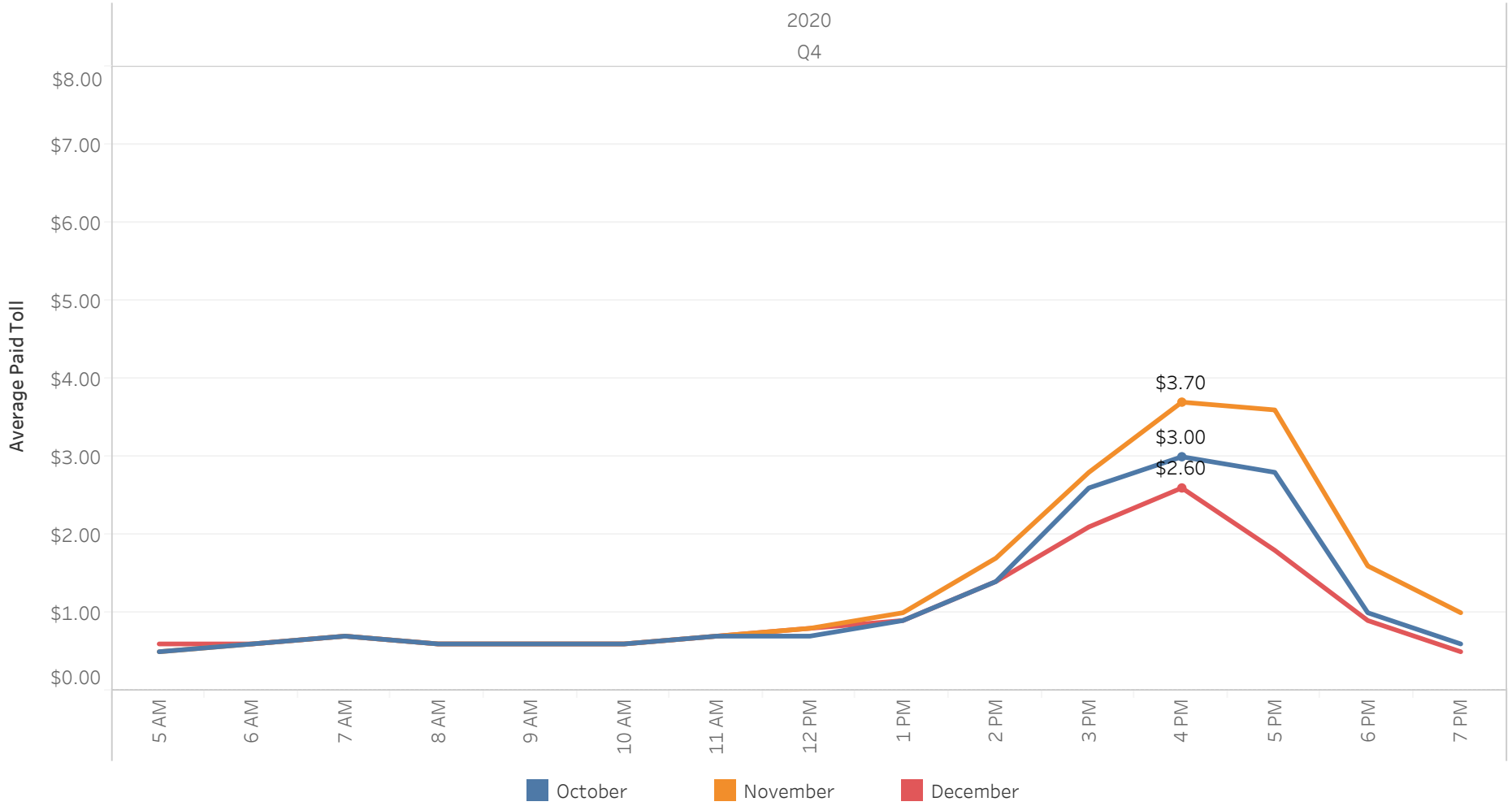
AM Peak Hour (8 a.m. - 9 a.m.)



Northbound Tolls

The tolls drivers pay depend on traffic conditions and the distances traveled. Northbound average tolls paid peaked at $3.70 in the 4 to 5 p.m. hour in Q4, which is higher than in Q3 2020 ($2.10), but still lower than typical pre-COVID conditions.

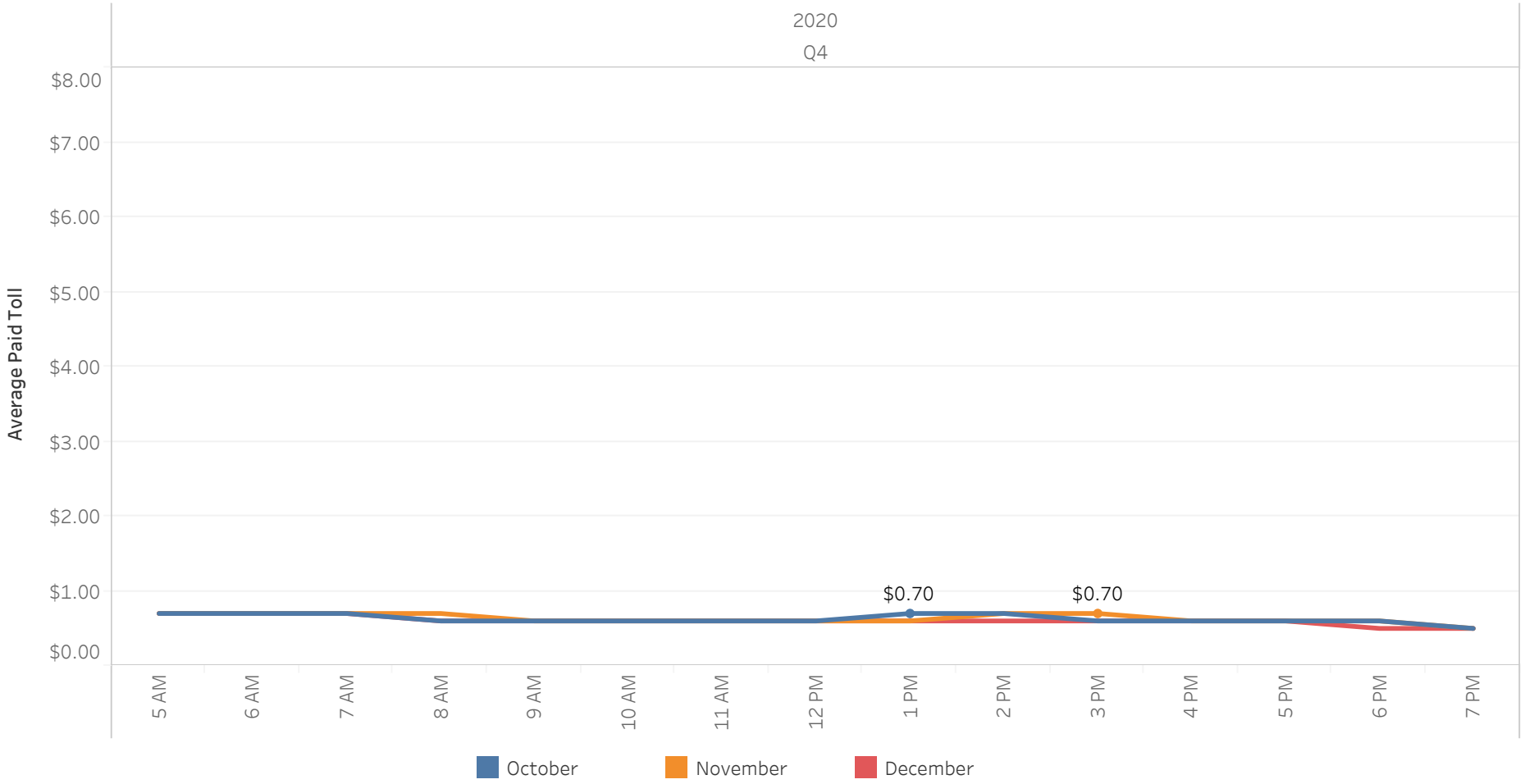
Despite better flowing traffic compared to pre-COVID norms, tolls paid to travel the entire corridor northbound reached a high of $10 on 24 days in the quarter due primarily to traffic incidents. On some occasions, however, the high tolls were due to traffic back up from the Highway 24 interchange, as was typical pre-COVID. Nearly all instances of $10 tolls occurred between 3 and 6 p.m.



Southbound Tolls

The tolls drivers pay depend on traffic conditions and the distances traveled. Southbound average tolls paid were slightly lower in Q4 2020 than in the previous quarter, peaking at just $0.70, compared to $1.10 in Q3.

Easily flowing traffic due to COVID-19 kept southbound tolls consistently below $1.50 throughout the quarter, however tolls paid reached $6.50 leading up to Thanksgiving.



Quarterly Average Tolls Paid - Year Over Year

Q4 2020 average tolls paid northbound peaked at $3.10 in the 4 to 5 p.m. hour, much lower than their $7.20 peak in Q4 2019.

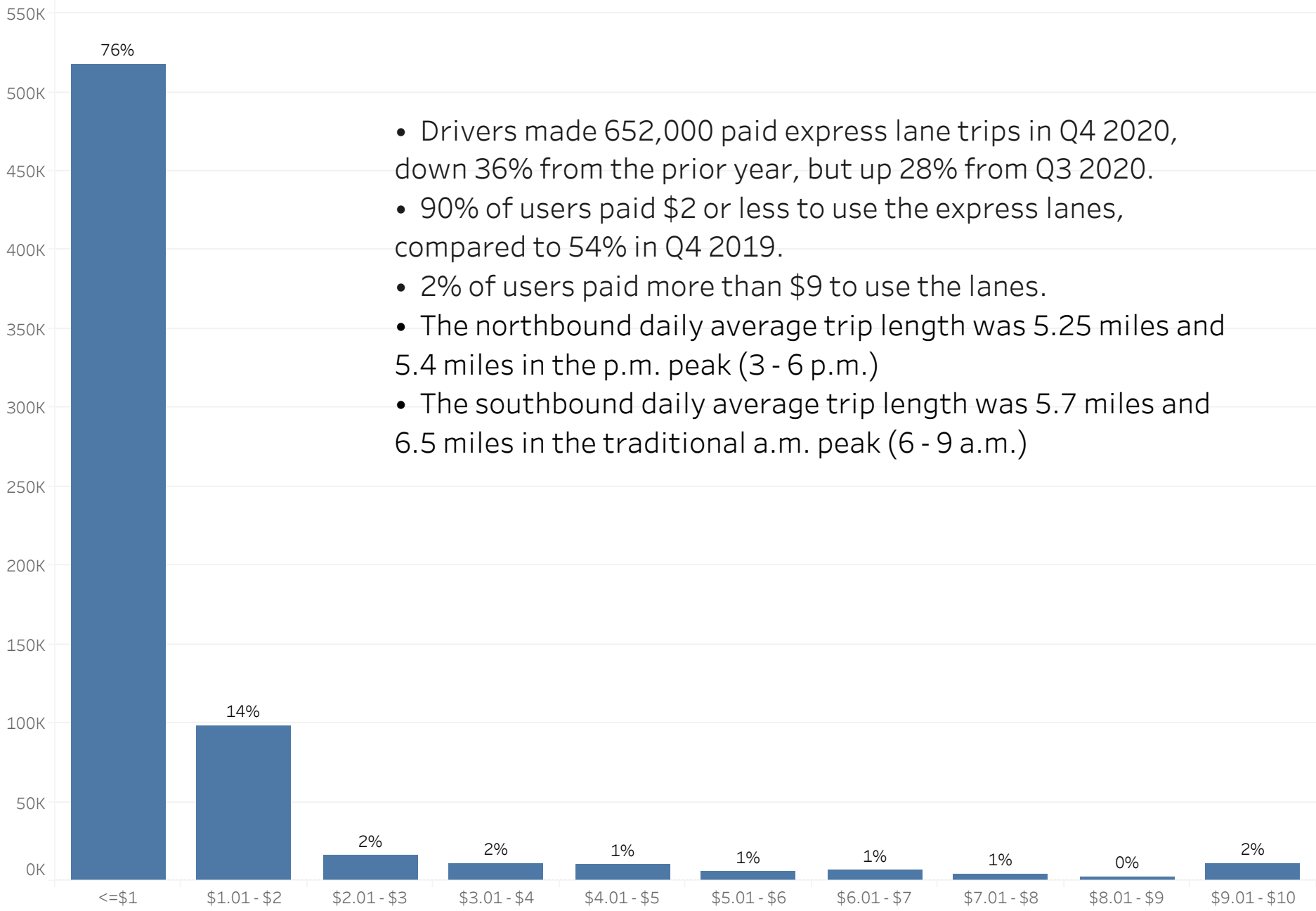
Typically, the southbound peak period occurs in the a.m. This was not observed in Q4 2020 due to reduced commuting during COVID-19. The Q4 2020 southbound a.m. peak toll was $0.70 compared to $5.80 in Q4 2019.

Northbound

Southbound

2019 2020

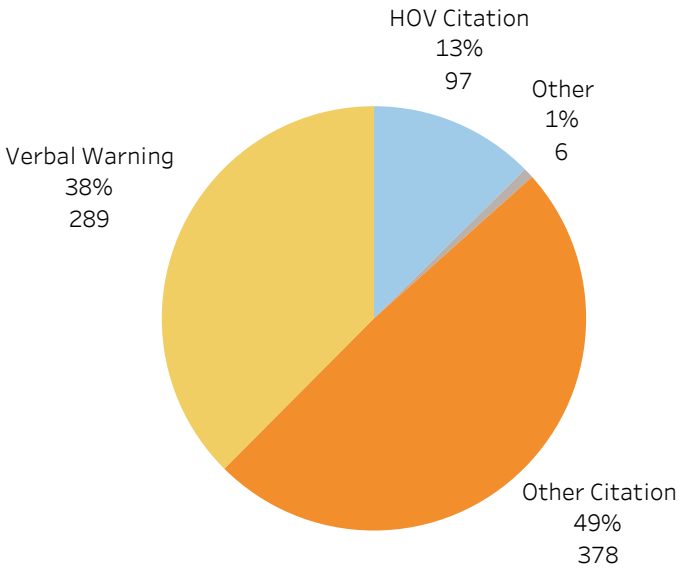
Toll Distribution

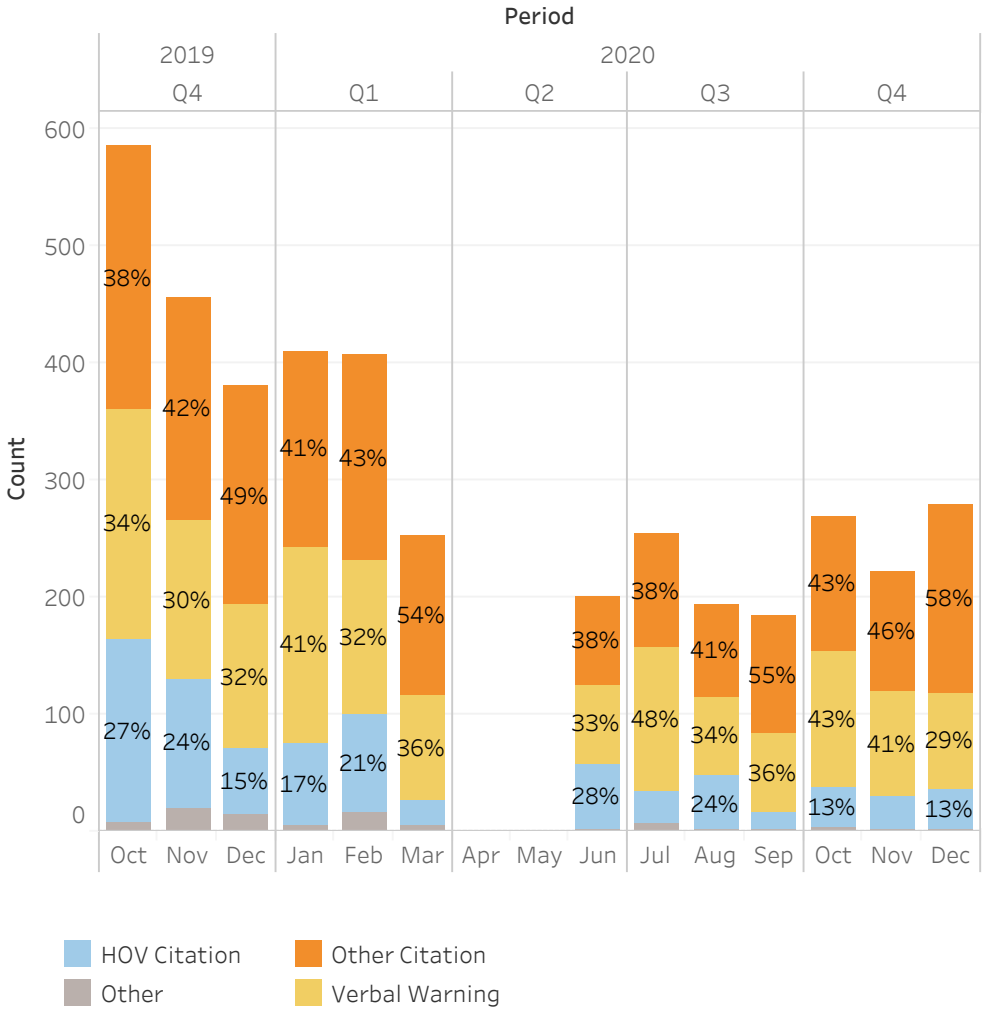


- Drivers made 652,000 paid express lane trips in Q4 2020, down 36% from the prior year, but up 28% from Q3 2020.
- 90% of users paid $2 or less to use the express lanes, compared to 54% in Q4 2019.
- 2% of users paid more than $9 to use the lanes.
- The northbound daily average trip length was 5.25 miles and 5.4 miles in the p.m. peak (3 - 6 p.m.)
- The southbound daily average trip length was 5.7 miles and 6.5 miles in the traditional a.m. peak (6 - 9 a.m.)

CHP Enforcement

CHP made 770 enforcement contacts in Q4 2020, 13% of which resulted HOV occupancy citations. BAIFA requested 50% fewer enforcement hours in Q4 2020 than in Q4 2019 due to COVID-19-related traffic decreases, and CHP filled 100% of the hours. Enforcement hours worked, total enforcement contacts, and HOV occupancy citations fell 47%, 70% and 47%, respectively from Q4 2019, while the average cost per enforcement contact increased 5%.





How Drivers Use the Lanes

In Q4 2020, over 325,000 unique vehicles made about 1.3 million express lane trips. 40% (134,000) of these vehicles carried toll tags and made 65% (829,000) of express lane trips, while 60% (192,000) of the unique vehicles did not carry toll tags and made 35% (453,000) of express lane trips captured by license plate reads.

The vehicles with FasTrak tags made an average of 6.2 trips per vehicle (tag), while license-plate-capture vehicles made an average of 2.4 trips per license plate.

Vehicles relying on license plate reads grew 10% from Q4 2019 to Q4 2020 and represented 60% lane users compared to 43% in Q4 2019. Of the trips captured by license plate reads, 66% were matched to FasTrak accounts (resulting in full tolls), while 34% were violations. A year prior, 22% were violations. These trends are likely due to the unique COVID environment where lighter traffic and less CHP enforcement could be lessening rule compliance.

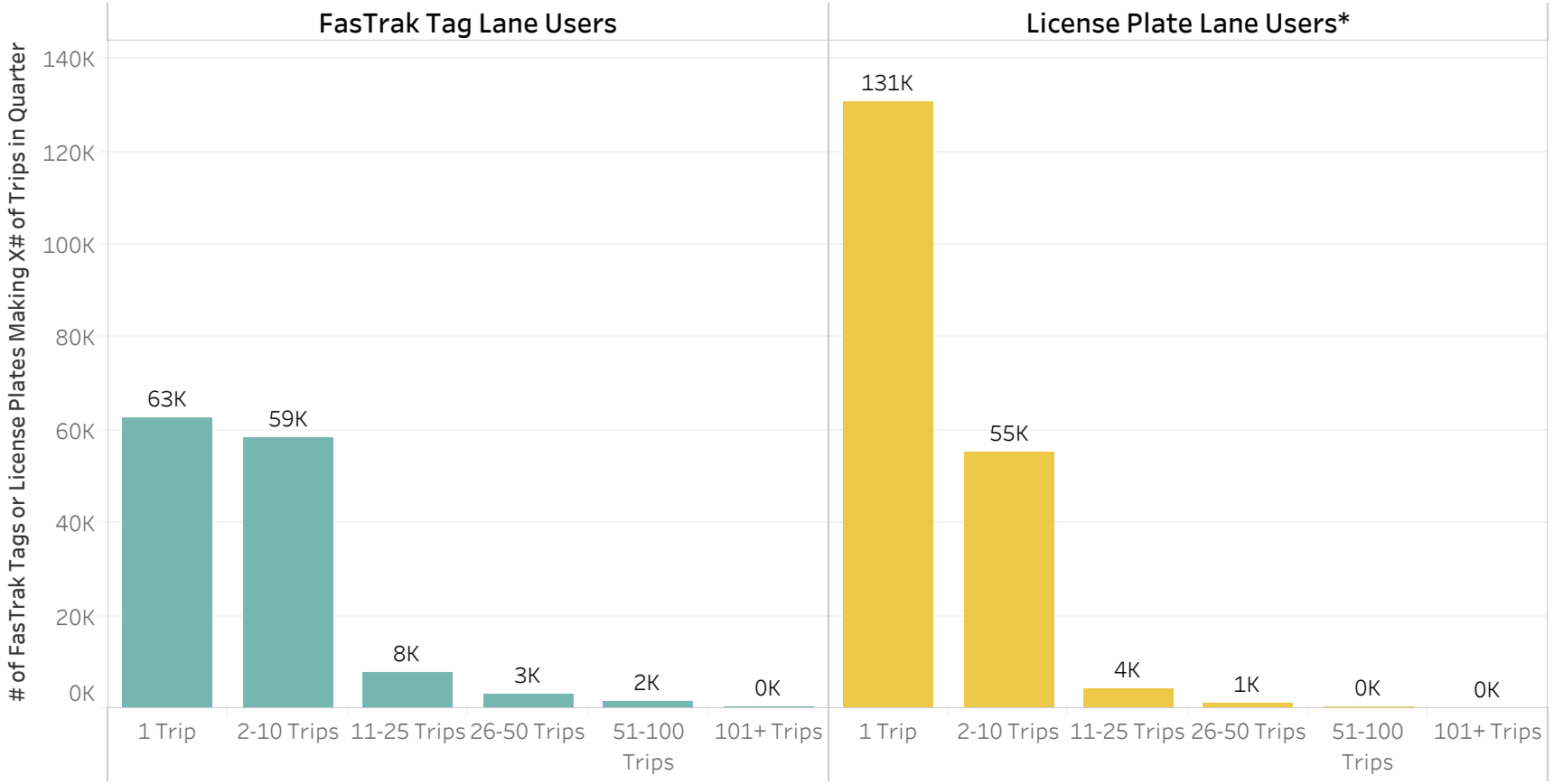
Lane Use Frequency

The graphs below show how frequently users made express lane trips.

Of the 134,000 FasTrak tags observed in Q4 2020, nearly half (63,000; 47%) made just one trip in the quarter. Of the 192,000 license plates (without toll tags)* observed in Q4 2020, 131,000 (68%) made just one trip. This shows that most lane users are infrequent users.

Just under 200 vehicles with toll tags made over 100 trips, and 36 license plate-only lane users made over 100 trips.

*Includes violators and license plates matched to toll accounts.



BAY AREA EXPRESS LANES

For more information, go to: mtc.ca.gov/express-lanes

APPENDIX D

I-880 Alameda Express Lanes Operations Report

I-880 Express Lanes Performance
4th Quarter 2020: October - December

BAY AREA EXPRESS LANES

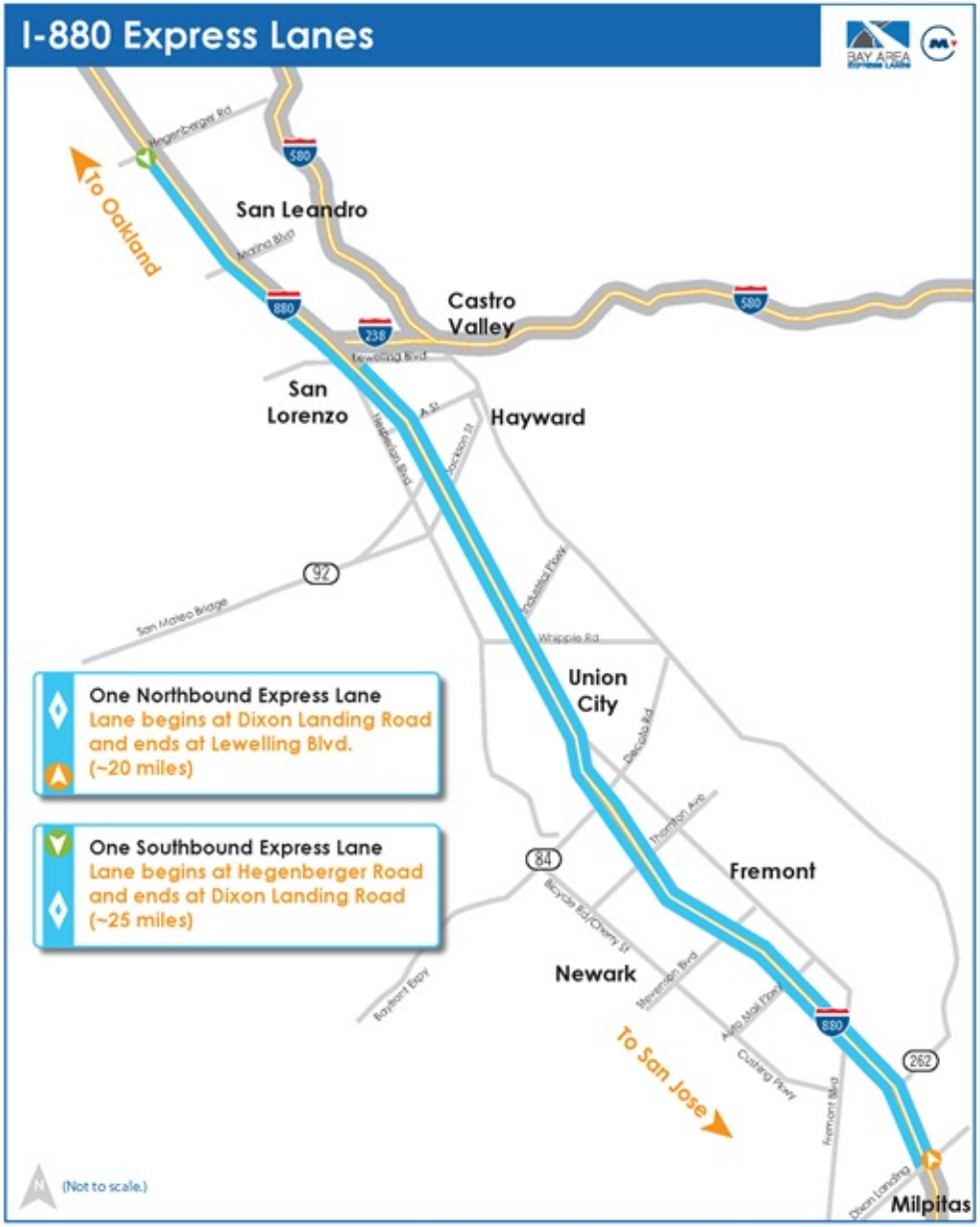
METROPOLITAN TRANSPORTATION COMMISSION

Bay Area Infrastructure Financing Authority

Submitted April 2021

Rules of the Road

- Hours: 5 a.m. to 8 p.m. Monday - Friday
- FasTrak® required
- Carpools (3+) and motorcycles travel toll-free with FasTrak Flex® toll tags.
- Carpools (2) pay half-price tolls with FasTrak Flex toll tags.
- Solo-drivers in eligible clean-air vehicles pay half-price tolls with FasTrak CAV toll tags.



Summary of Performance Highlights

This is the first performance report for the I-880 Express Lanes, which began tolling October 2, 2020.

Trips & Revenue

- In Q4 2020, about 2.76 million express lane trips were recorded in the I-880 Express Lanes. Of these, 1.6 million were tolled trips that generated $4.2 million in toll revenue.

- 19% of trips were toll-free, 9% were half-toll, 50% were full toll and 22% were violators. The high violation rate is likely due to drivers getting used to the new tolling rules.

Speeds

- Northbound, in the peak hour, express lane corridor-long average speeds were 23 to 28 mph faster than the general purpose lane speeds. Southbound, they were 16 to 18 mph faster.

- At the most congested locations in the corridor, express lanes speeds were maintained at 45 mph or better 83% and 86% of the days in the quarter northbound and southbound, respectively.

Tolls

- Average monthly tolls paid peaked northbound from 3 - 5 p.m. between $3.30 and $3.90. Southbound, the highest monthly average tolls paid ranged from $2.00 to $2.50 in both the morning and afternoon.

- Tolls to travel the whole corridor exceeded $15 in both the north and southbound direction, but fewer than 1% of drivers paid this price. 52% of tolled trips were $2 or less.

Enforcement

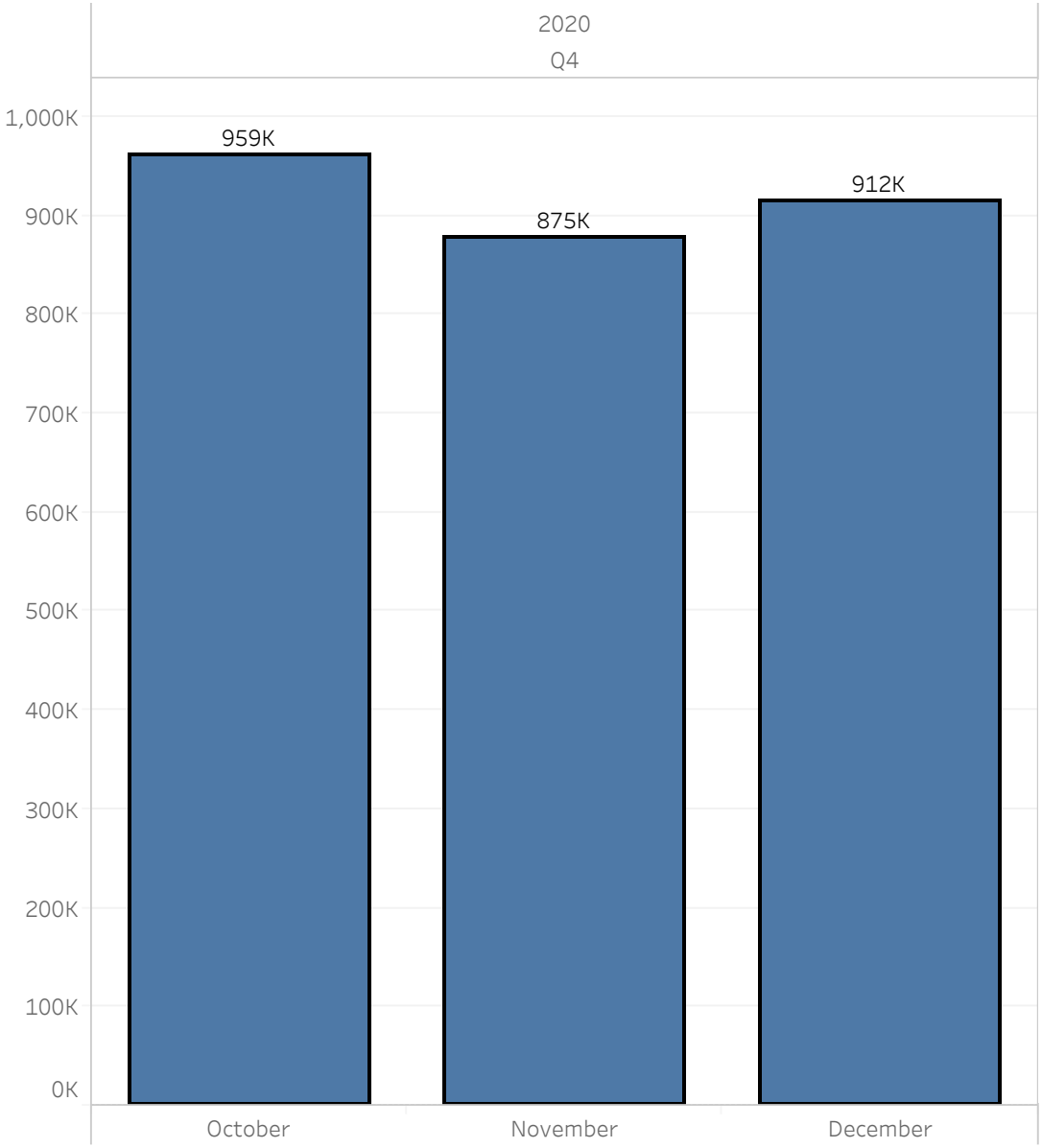
- CHP made 2,174 enforcement contacts in Q4 2020, 13% of which resulted HOV occupancy citations and 25% in double-white line citations. CHP filled 63% of the hours requested by BAIFA.

Lane Users

- An estimated 622,000 unique vehicles made trips in the 880 express lanes; 43% (266,000) with a toll tag in the vehicle and 57% (356,000) without.License plates were used to record trips of the latter.

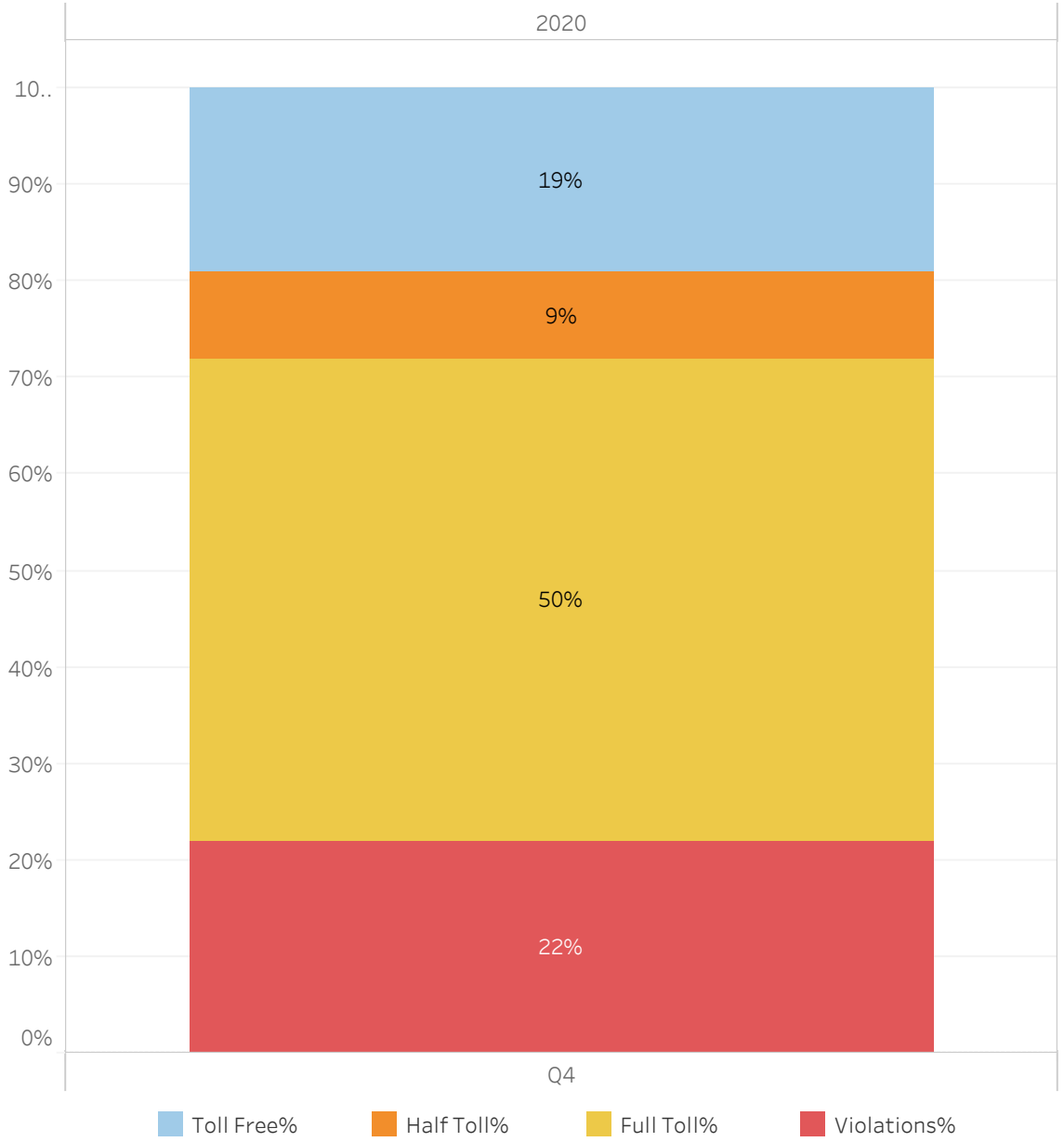
- 86% of those with toll tags and 95% of those without toll tags (license plate capture) made fewer than 11 express lanes trips in the quarter, demonstrating that most people use the lanes infreqently.

Express Lane Trips



Q4 2020 was the first quarter of data for the I-880 express lanes. 2,746,000 express lane trips were recorded. Average daily trips were 44,000.

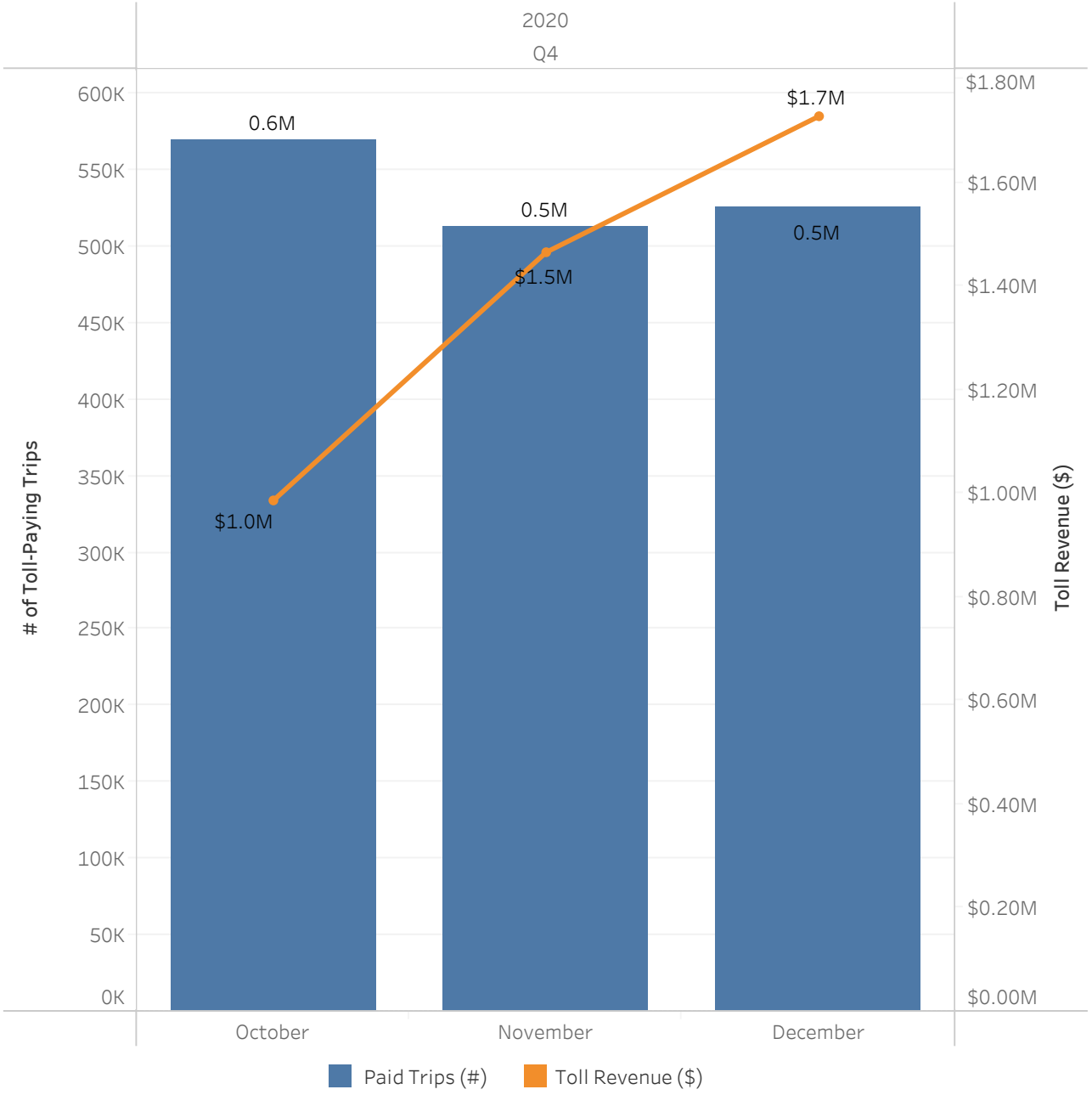
Express Lane Trip Types



- Toll-free trips were 19% of trips. Toll-free trips are made by 3+ carpools, motorcycles, and vehicles with non-revenue toll tags (e.g., police vehicles).
- Half-price trips were 9% of trips. Half-toll trips are made by single-occupant clean air vehicles and 2-person carpools.
- Full-toll trips were 50% of the express lane trips made this quarter. Full-toll trips are made by single-occupant vehicles.
- The share of vehicles without a FasTrak® toll tag or a FasTrak account represents express lane violators and was 22%. High violation rates are typical when express lanes are new and drivers are learning the rules.

Percentages of SOVs and HOVs are based on toll tag settings read by the toll system.

Express Lane Toll Revenue & Paid Trips



- In Q4 2020, the 1.6 million paid express lane trips generated $4.2 million in toll revenue.

Notes

Toll revenue represents tolls collected and does not include violation fees.

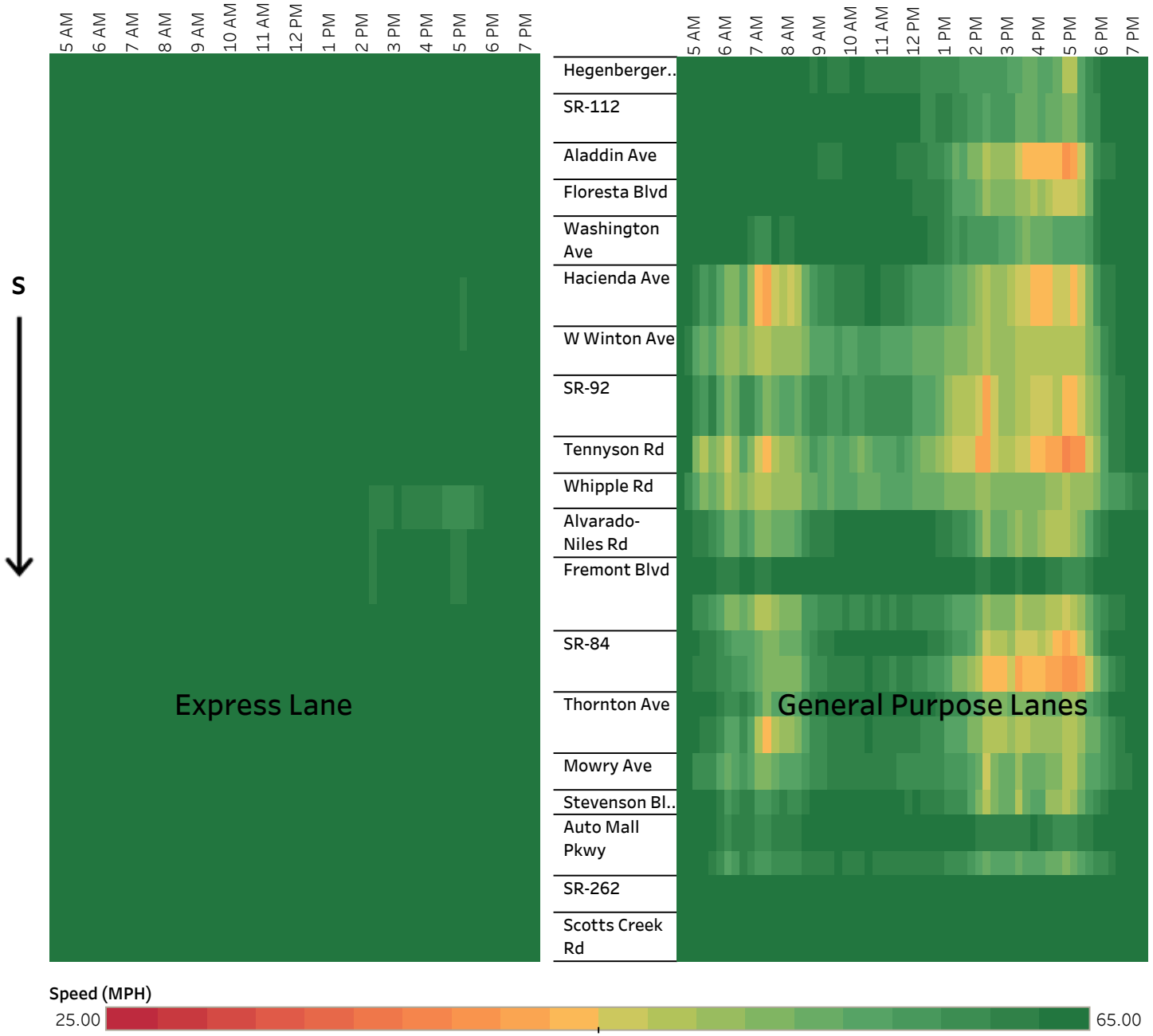
Quaterly revenue reflects the date revenue was recorded in MTC's financial system, which can lag from the time the trip was made.

Northbound Speeds by Location & Time

Northbound Q4 2020 average express lane speeds were 50 mph or better.

Northbound Q4 average general purpose lane speeds were lowest at the northern end of the corridor in the p.m. hours, often falling into the high 20's mph range.

Southbound Speeds by Location & Time



Southbound Q4 2020 average express lane speeds rarely dipped below 65 mph.

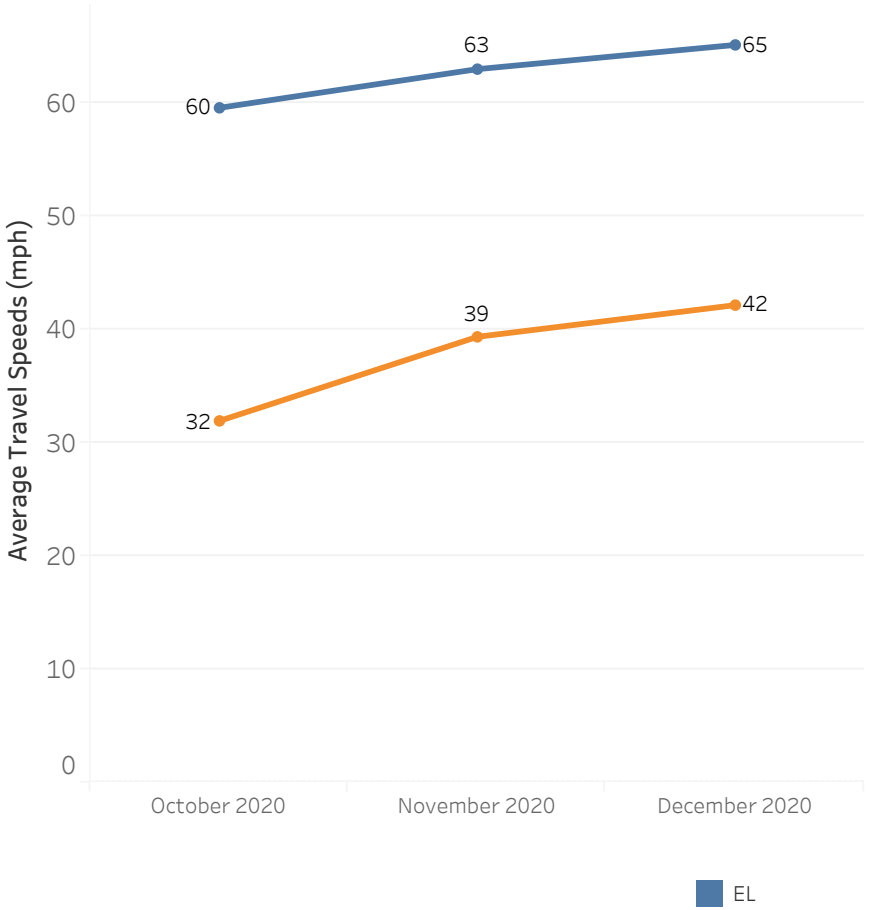
Southbound Q4 2020 average general purpose lane speeds fell into the 40 mph range for brief periods of time in select locations in both the a.m. and p.m. There was no pronounced southbound peak.

Peak Hour Average Corridor Speeds

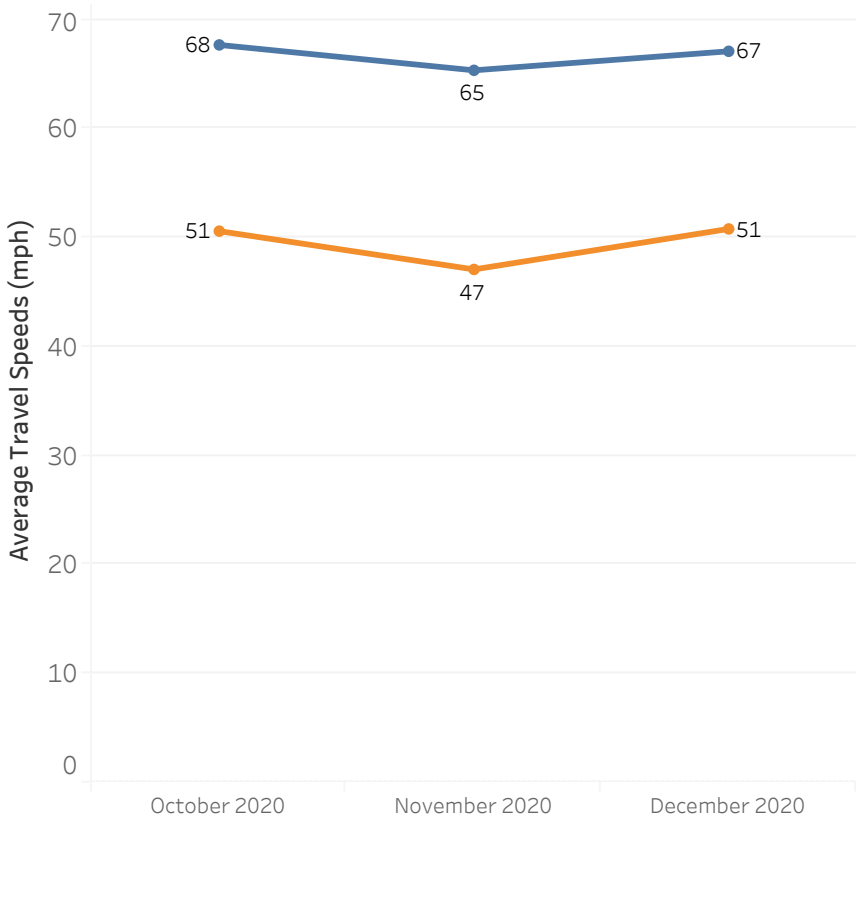
The lowest corridor-long average speed across all lanes occurred between 3 and 4 p.m. northbound and between 5 and 6 p.m. southbound.

Northbound, the peak hour average express lane corridor speeds were 23 to 28 mph faster than the average general purpose lane corridor speeds. Southbound, they were 16 to 18 mph faster.

Northbound P.M. Peak Hour (3 - 4pm) - Corridor



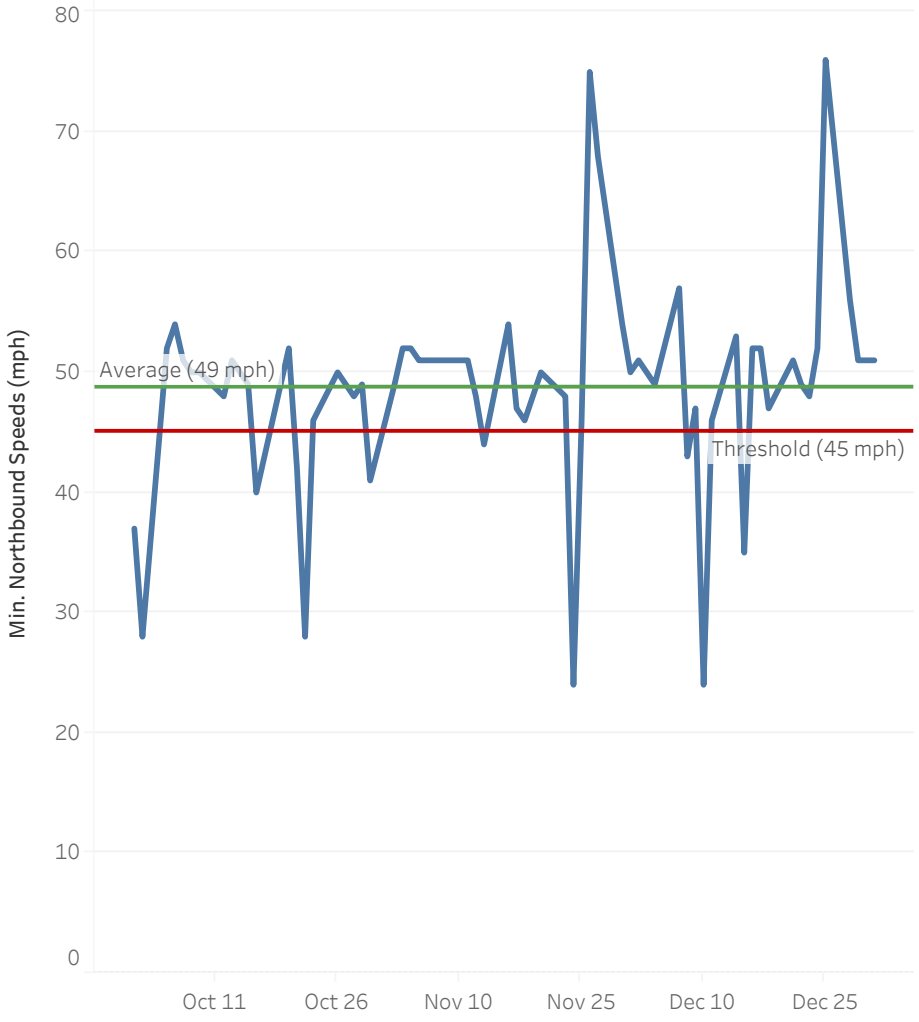
Southbound A.M. Peak Hour (5 - 6pm) - Corridor

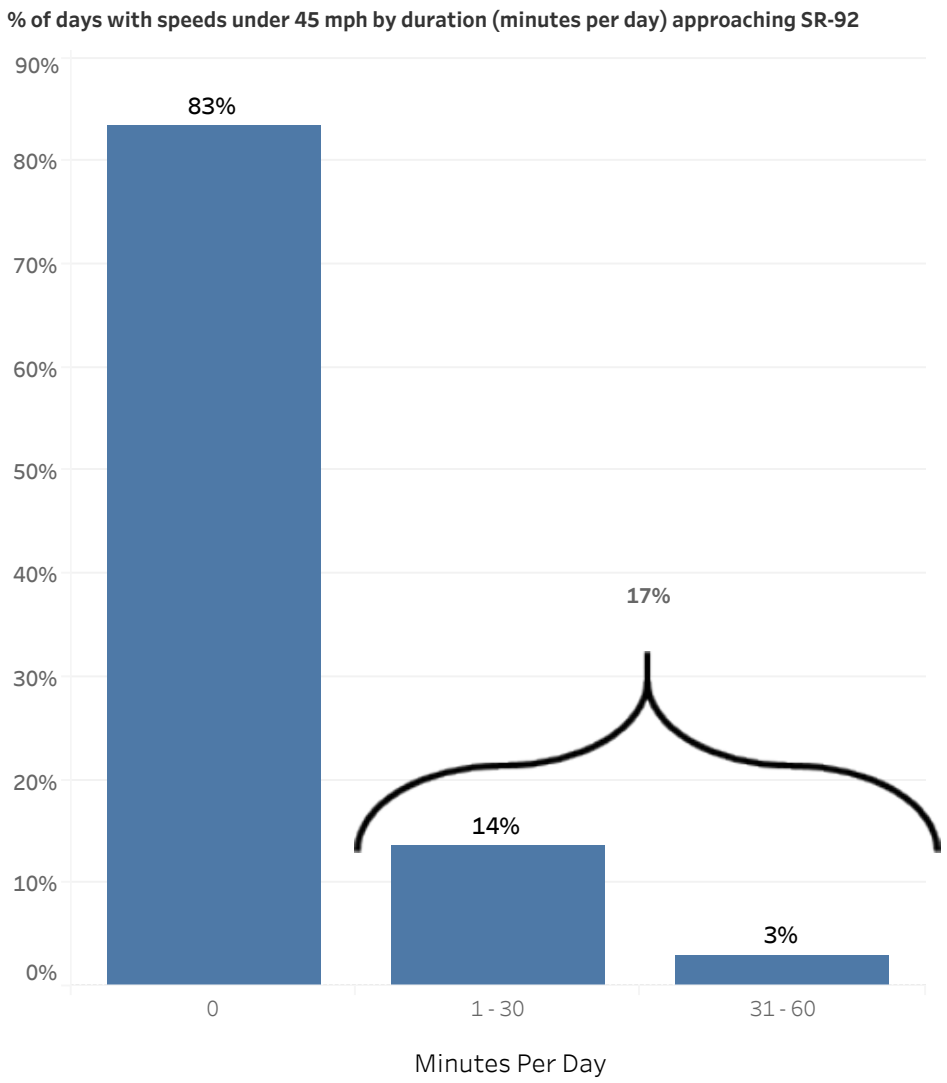


Speeds are averaged over the distance of the express lane. Peak hours are defined as the hours with lowest average corridor speeds across all lanes.

Lowest NB Exp Lane Speed - Near SR-92

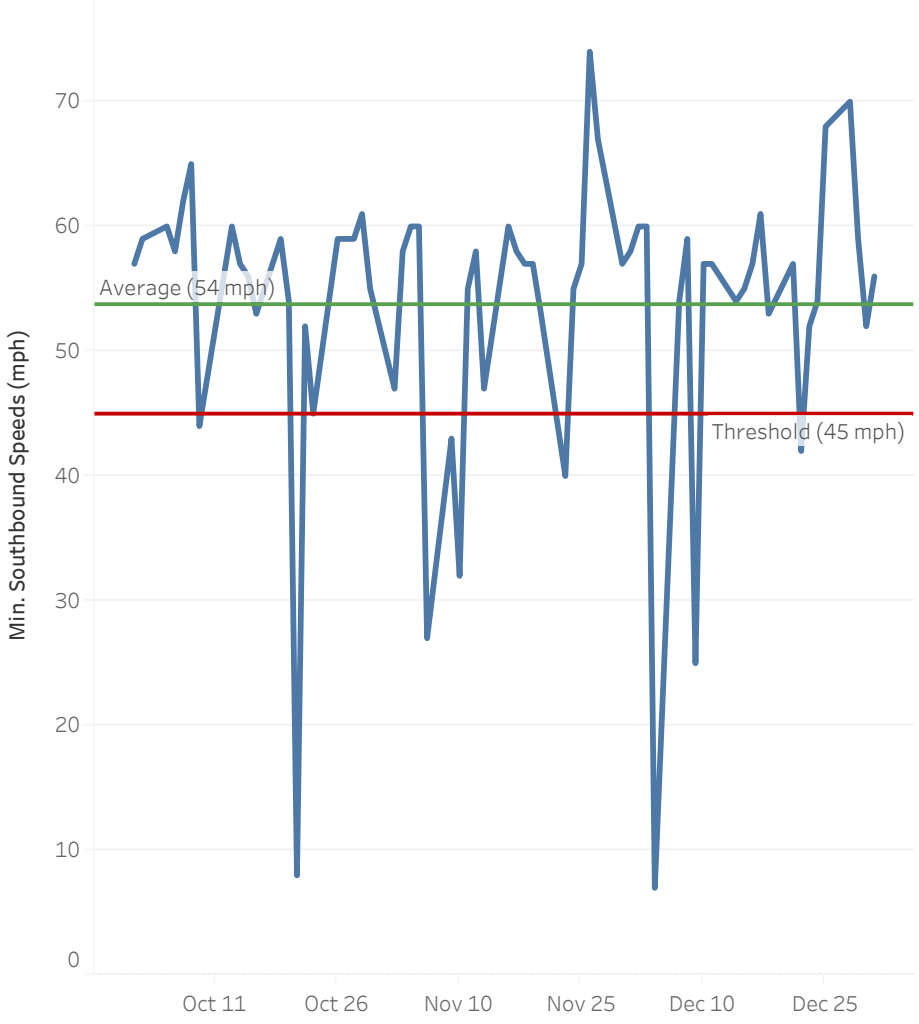
Northbound express lane traffic speeds were slowest approaching SR-92 (Hayward-San Mateo Bridge). The lowest daily express lane speed at this location averaged 49 mph and fell below 45 mph on 17% of days in the quarter. The slow speeds lasted 1 to 30 minutes on 14% of days and 31 to 60 minutes on 3% of days.

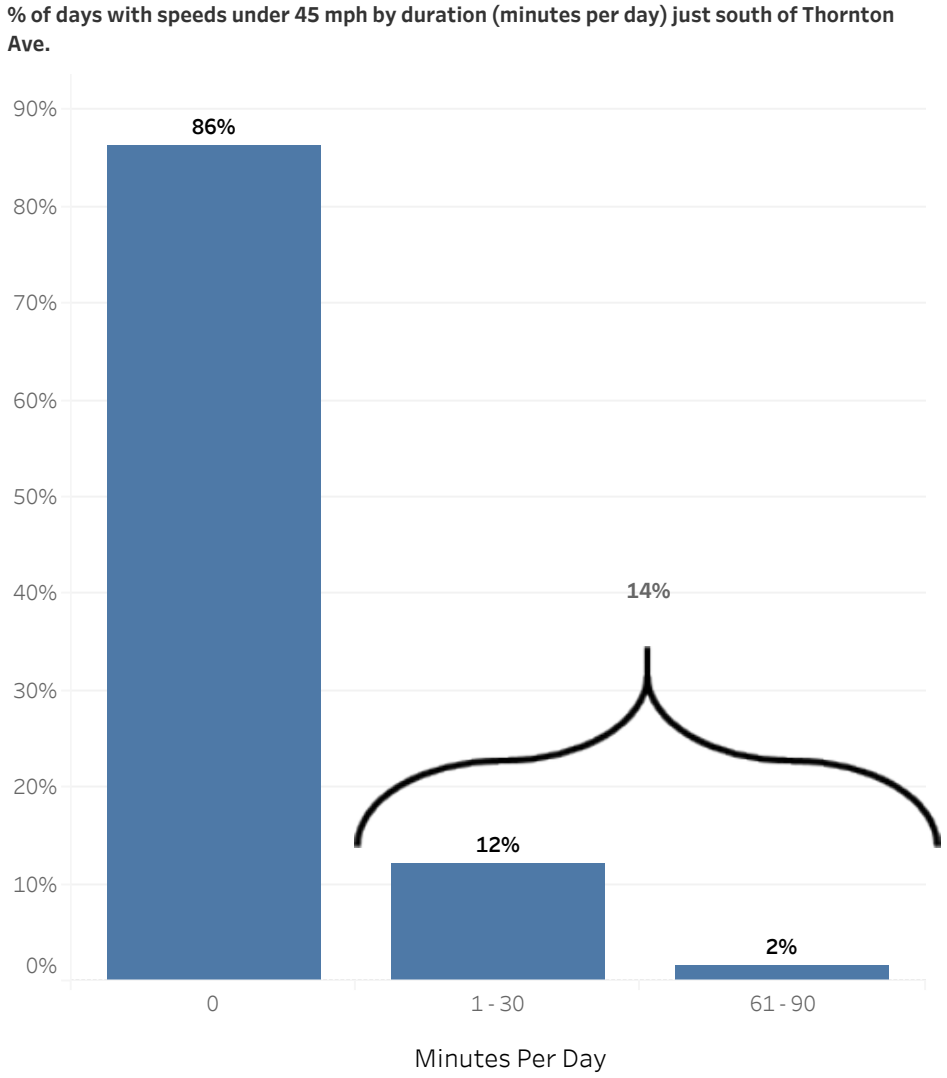




Lowest SB Exp Lane Speed - Thornton Ave.

Southbound express lane traffic speeds were slowest just south of Thornton Ave. The lowest daily express lane speed at this location averaged 54 mph and fell below 45 mph on 14% of days in the quarter.The speed decline lasted 1 to 30 minutes on 12% of days and between 61 to 90 minutes on 2% of days.





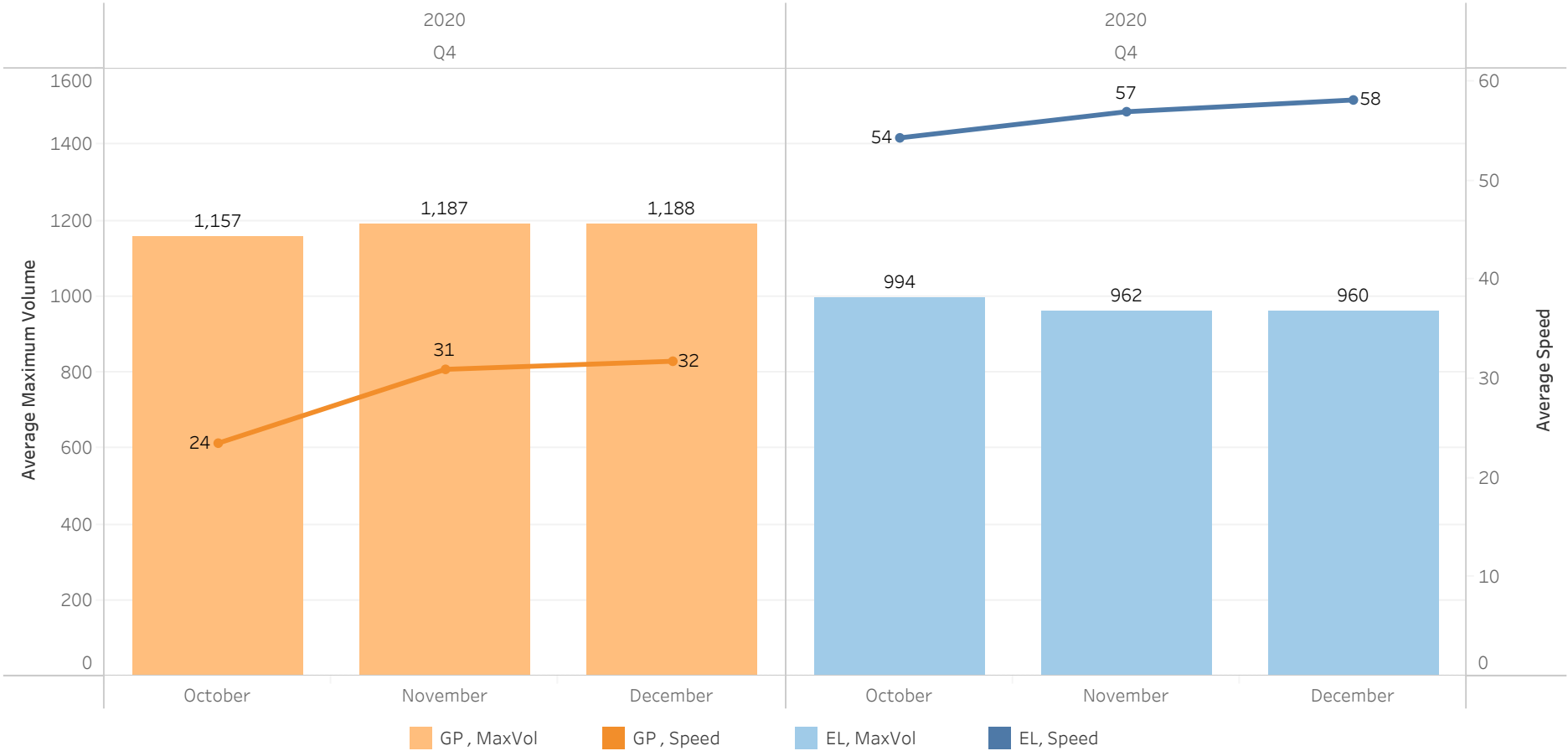
BAY AREA EXPRESS LANES

NB Peak Volumes & Corresponding Speeds

The graphs below show traffic conditions in the general purpose lanes and the express lanes in the most congested northbound toll zone and time of day (Whipple Rd. to Hesperian Blvd.; 3 - 4 p.m.).

The general purpose lanes (orange graphs) exhibit low speeds coupled with low lane volumes, indicating that traffic was very heavy at this hour and location. The express lanes, however, flowed well with lane volumes about 17% lower and speeds 93% higher than the general purpose lanes.

Northbound Peak Hour (3 p.m. - 4 p.m. in Hesperian/238 Toll Zone)



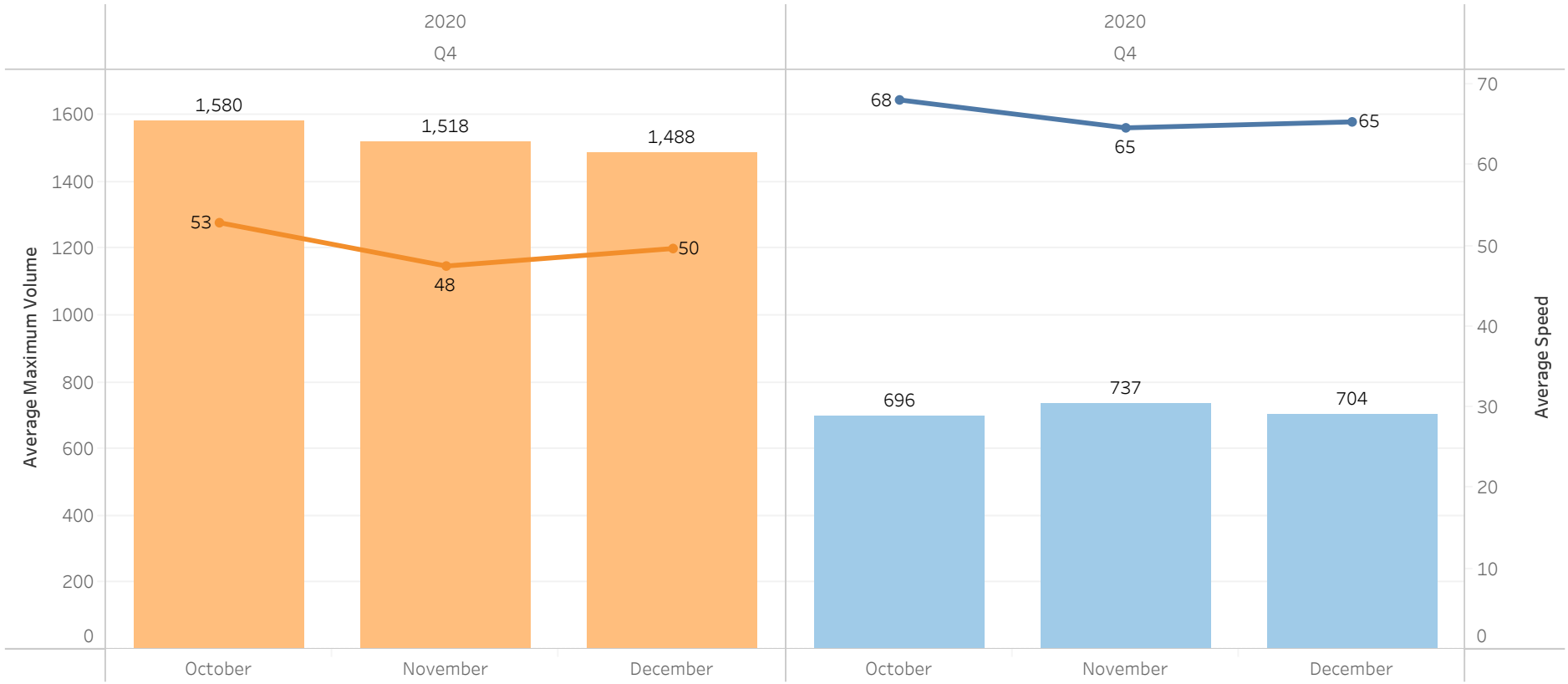
BAY AREA EXPRESS LANES

SB Peak Volumes & Corresponding Speeds

The graphs below show traffic conditions in the general purpose lanes and the express lanes at the most congested southbound toll zone and time of day (Thornton Ave. to Auto Mall Parkway; 5 - 6 p.m.).

Southbound, general purpose lane peak traffic (orange graphs) was not as heavy compared to northbound peak conditions. More vehicles got through at higher speeds. The express lanes (blue graphs) carried 53% fewer vehicles and moved 30% faster than the general purpose lanes.

Southbound Peak Hour (5 p.m. - 6 p.m. in Auto Mall SB Toll Zone)

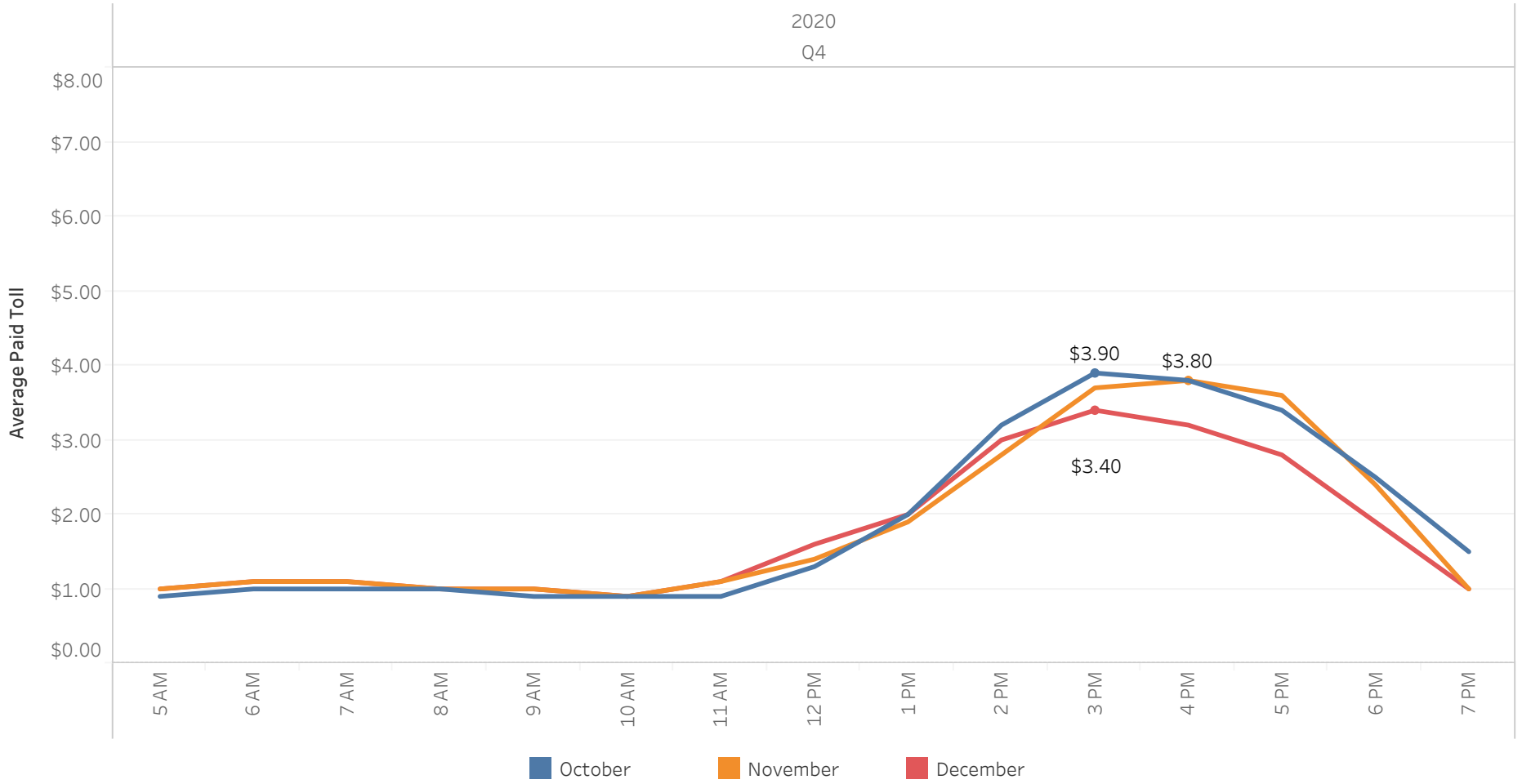


BAY AREA EXPRESS LANES

Northbound Tolls

The tolls drivers pay depend on traffic conditions and the distances traveled. Northbound, average tolls paid peaked between $3.30 (December) and $3.90 (October) between 3 and 5 p.m.

Traveling the entire corridor northbound, the highest paid tolls exceeded $15, but only on 4 occasions. The highest paid tolls occurred between 3 and 5 p.m.

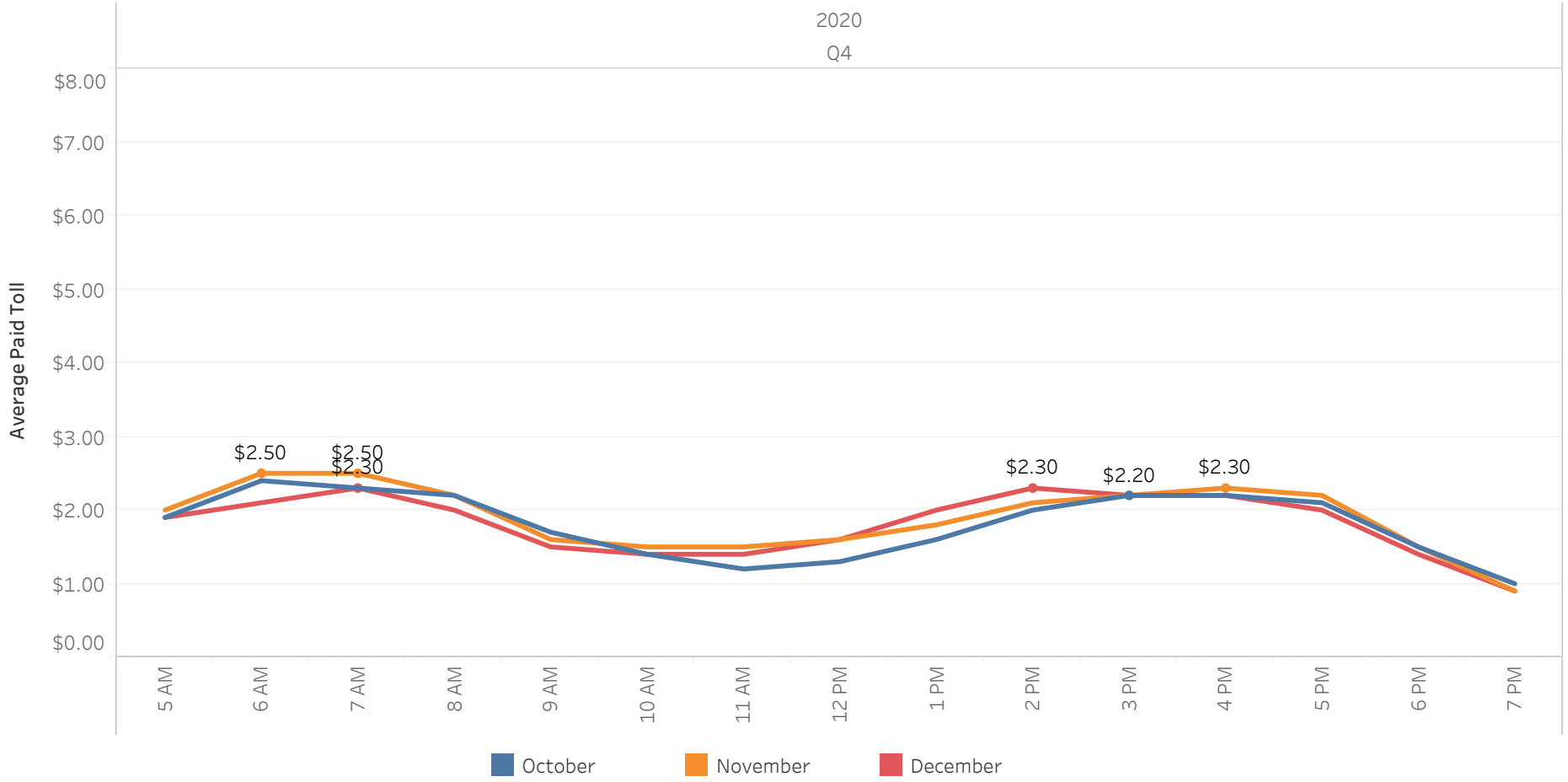


Southbound Tolls

The tolls drivers pay depend on traffic conditions and the distances traveled. Southbound tolls do not exhibit an a.m. or p.m. peak. This could be due to COVID-19 reduced commuting.

Between 6 and 8 a.m., as well as between 2 and 5 p.m., average tolls paid reached highs between $2.00 and $2.50.

Traveling the entire corridor southbound, drivers paid tolls greater than $15 on 2 occasions. The highest tolls occurred between 3 and 4 p.m.



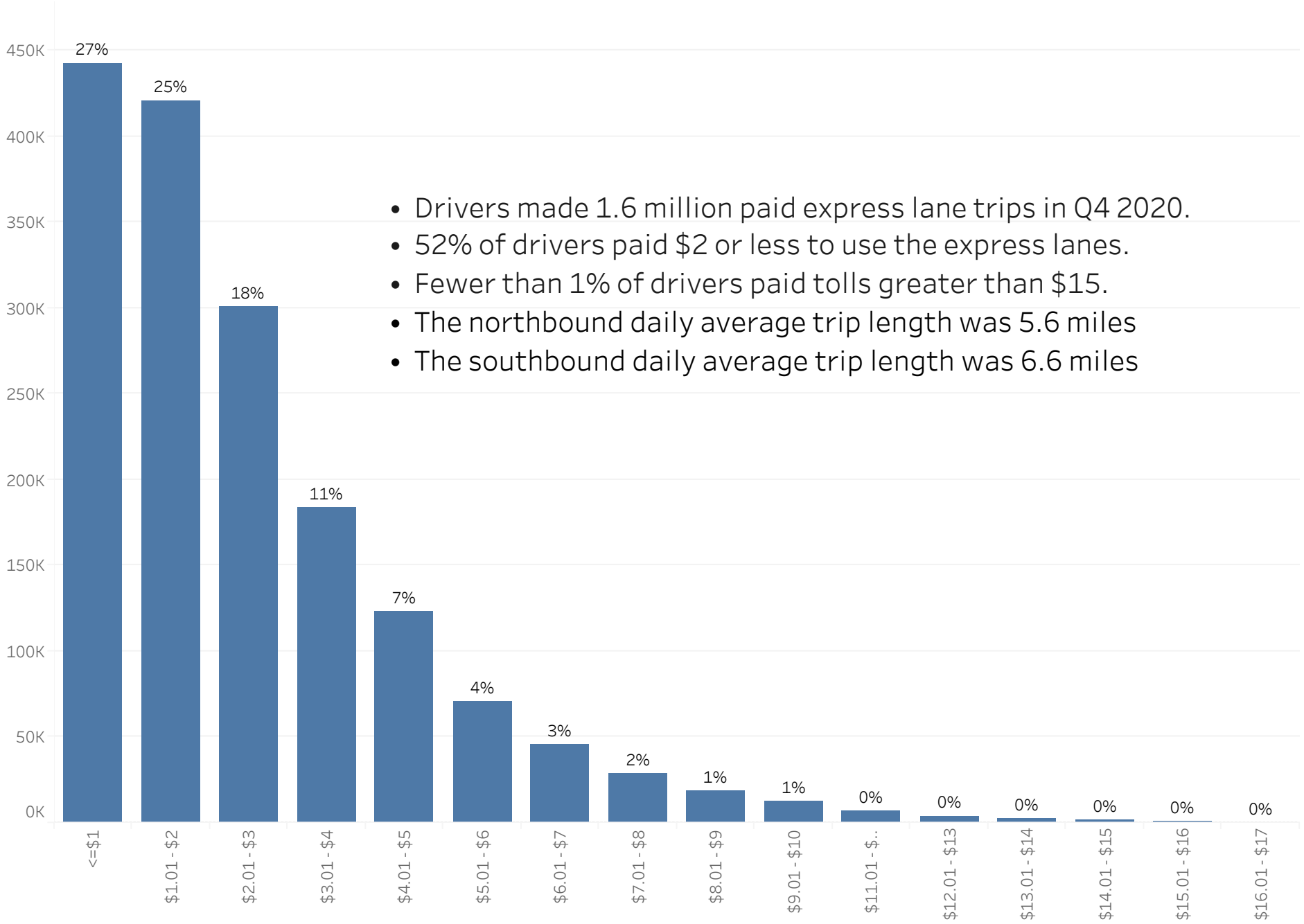
Quarterly Average Tolls Paid

Q4 2020 average tolls paid northbound peaked at $3.60 in the 3 to 4 p.m. hour. The southbound a.m. highest average tolls paid were $2.30, similar to the afternoon high of $2.20 paid between 3 and 4 p.m.

Northbound

Southbound

Toll Distribution



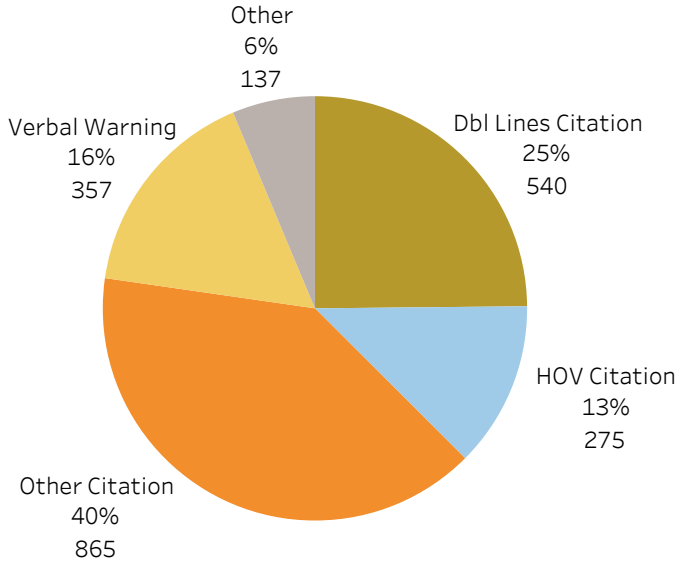
- Drivers made 1.6 million paid express lane trips in Q4 2020.
- 52% of drivers paid $2 or less to use the express lanes.
- Fewer than 1% of drivers paid tolls greater than $15.
- The northbound daily average trip length was 5.6 miles
- The southbound daily average trip length was 6.6 miles

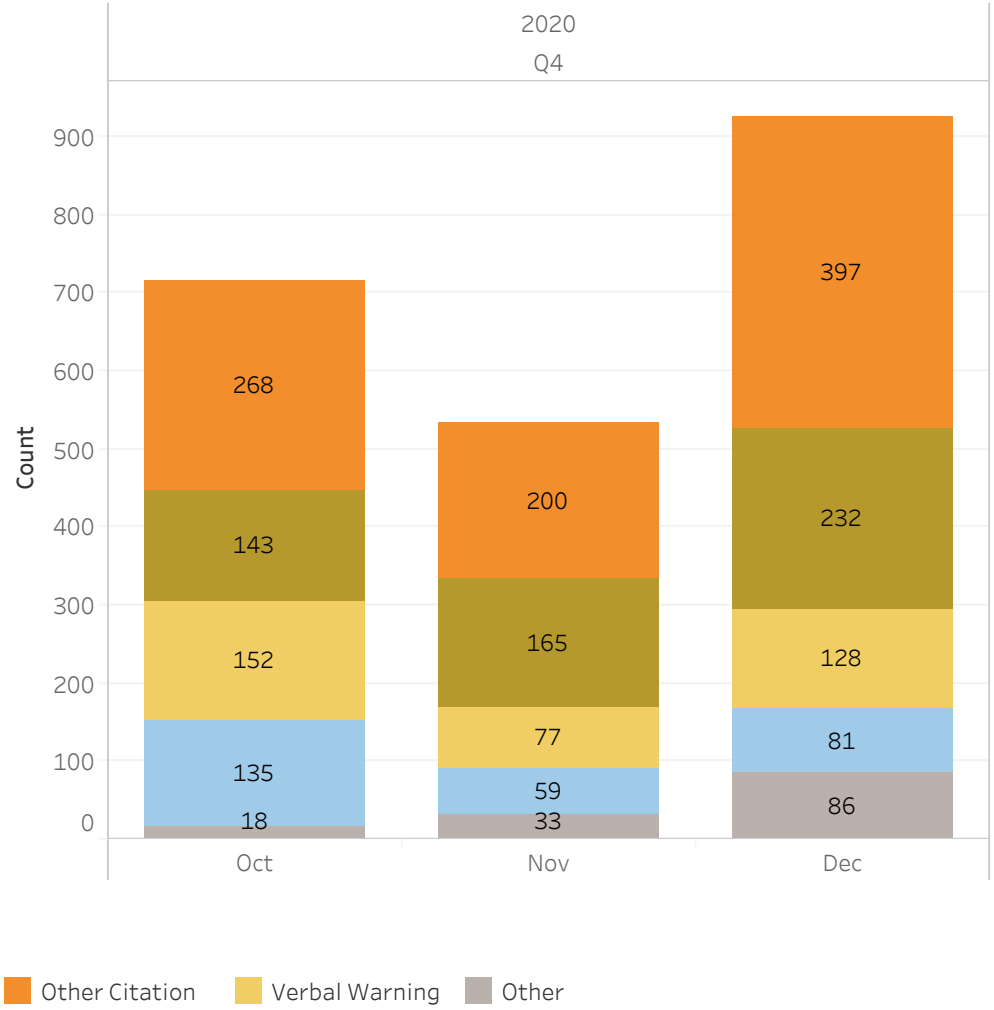
CHP Enforcement

CHP made 2,174 enforcement contacts in Q4 2020, 13% of which resulted HOV occupancy citations. The increase in total enforcement contacts seen in December corresponds to an increase in hours of work performed by CHP.

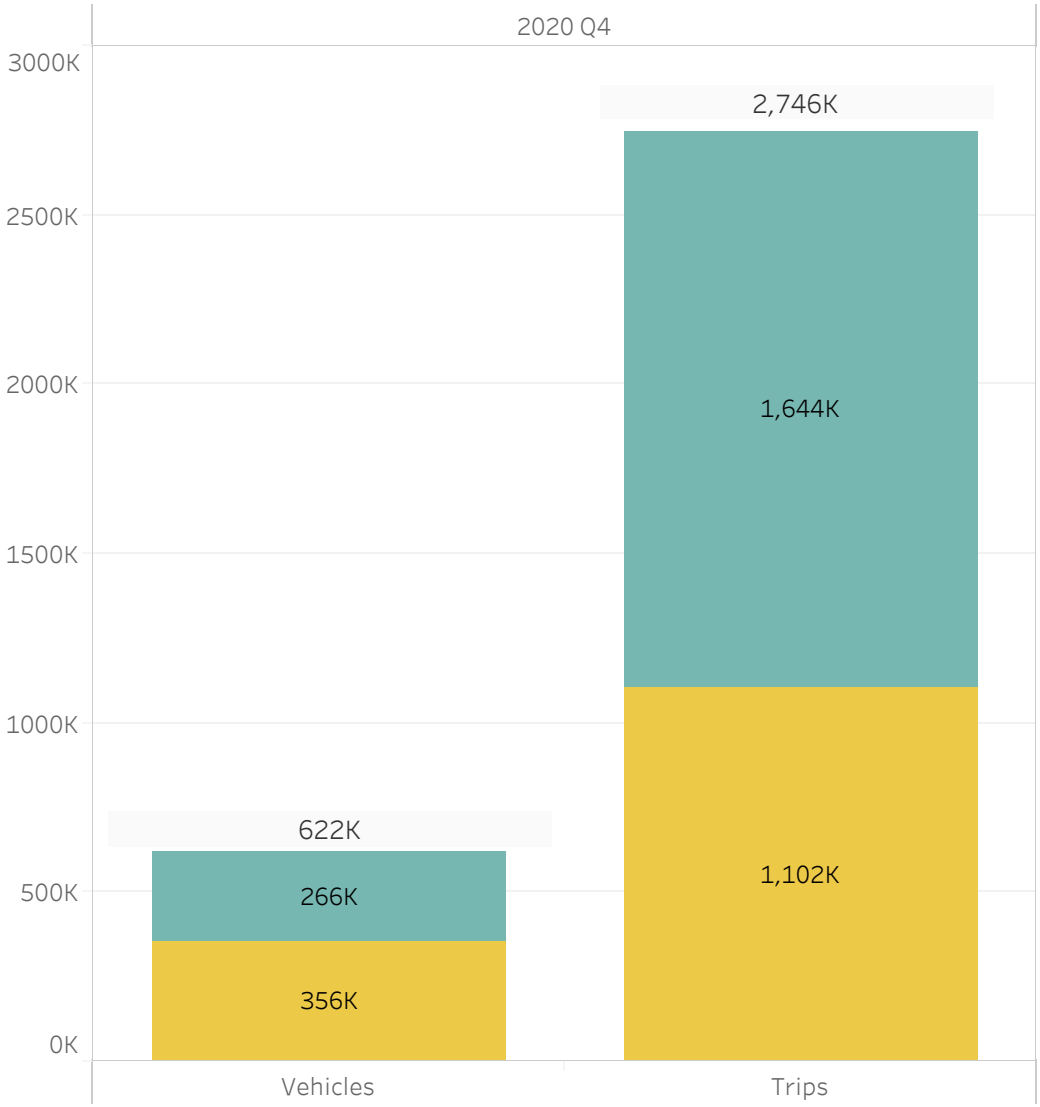
A quarter of enforcement contacts cited drivers for crossing the double-white lines. The double-white lines were implemented in summer 2020 to restrict access into or out of the express lane in heavily congested parts of the corridor.

CHP filled 63% of the hours requested by BAIFA. The average cost per enforcement contact was $91.





How Drivers Use the Lanes



In Q4 2020, over 620,000 unique vehicles made about 2.7 million express lane trips. 43% (266,000) of these vehicles carried toll tags and made 59% (1.6 million) of express lane trips, while 57% (356,000) of the unique vehicles did not carry toll tags and made 43% (1.1 million) of express lane trips captured by license plate reads.

The vehicles with FasTrak tags made an average of 6.2 trips per vehicle (tag), while license-plate-capture vehicles made an average of 3.1 trips per license plate.

Of the trips captured by license plate reads, 49% were matched to FasTrak accounts (resulting in full tolls), while 51% were violations.

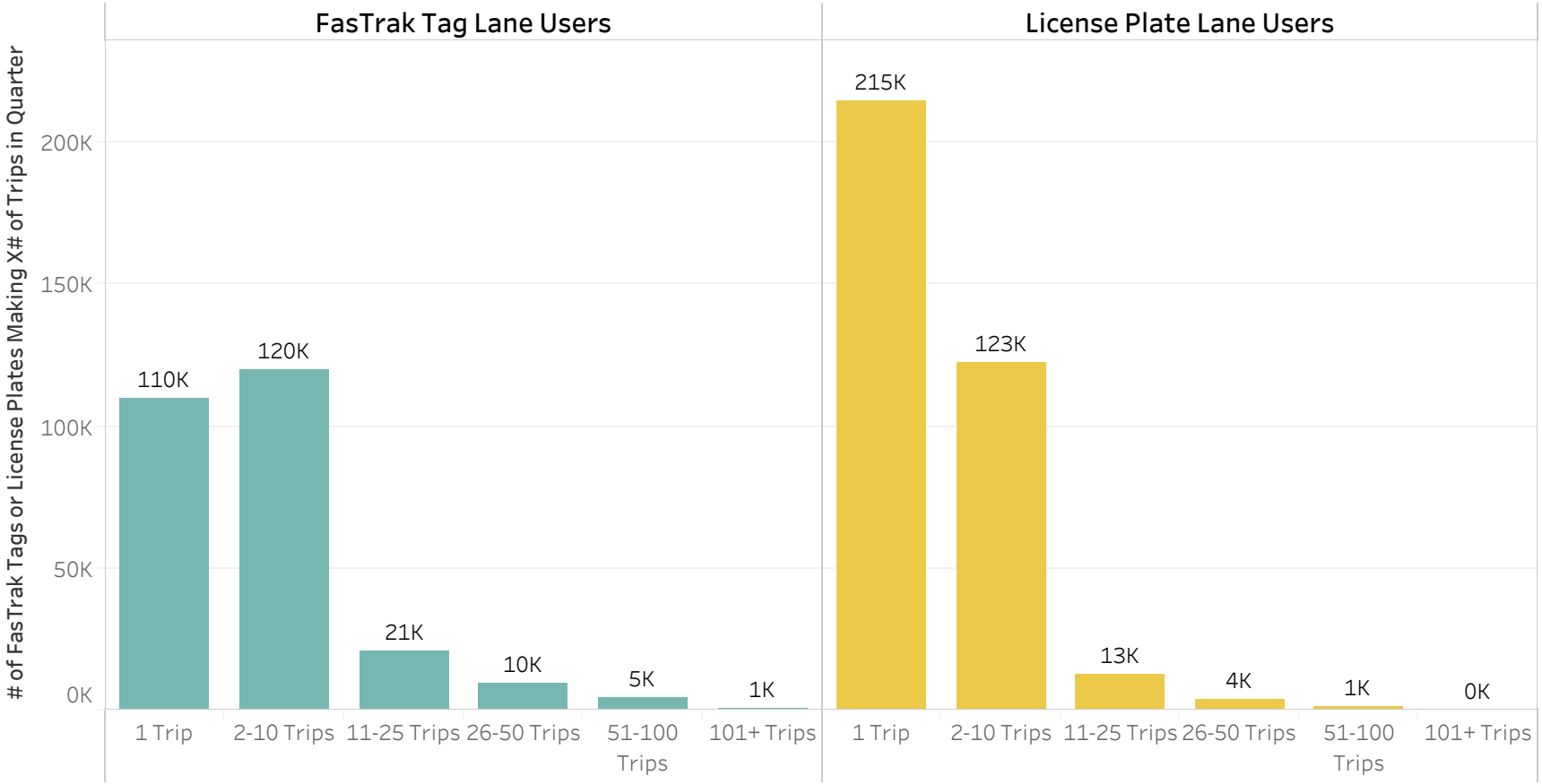
Lane Use Frequency

The graphs below show how frequently users made express lane trips.

Of the 266,000 FasTrak tags observed in Q4 2020, 110,000 (41%) made just one trip, while another 120,000 (45%) made 2 to 10 trips in the quarter. Of the 356,000 license plates (without toll tags)* observed in Q4 2020, 215,000 (60%) made just one trip, while another 123,000 (35%) made 2 to 10 trips in the quarter.

Over 700 vehicles with toll tags made over 100 trips, and 145 license plate-only lane users made over 100 trips.

*Includes violators and license plates matched to toll accounts.



BAY AREA EXPRESS LANES

For more information, go to: mtc.ca.gov/express-lanes