



BAY AREA EXPRESS LANES



MTC Express Lanes Quarterly Report 3rd Quarter, July - September, 2021

Submitted: February 2022

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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 third quarter of 2021, July 1 to September 30.

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. Tolling commenced on August 20, 2021 on the I-680 southbound extension between Martinez and Walnut Creek. Several additional projects are at varying stages of development.

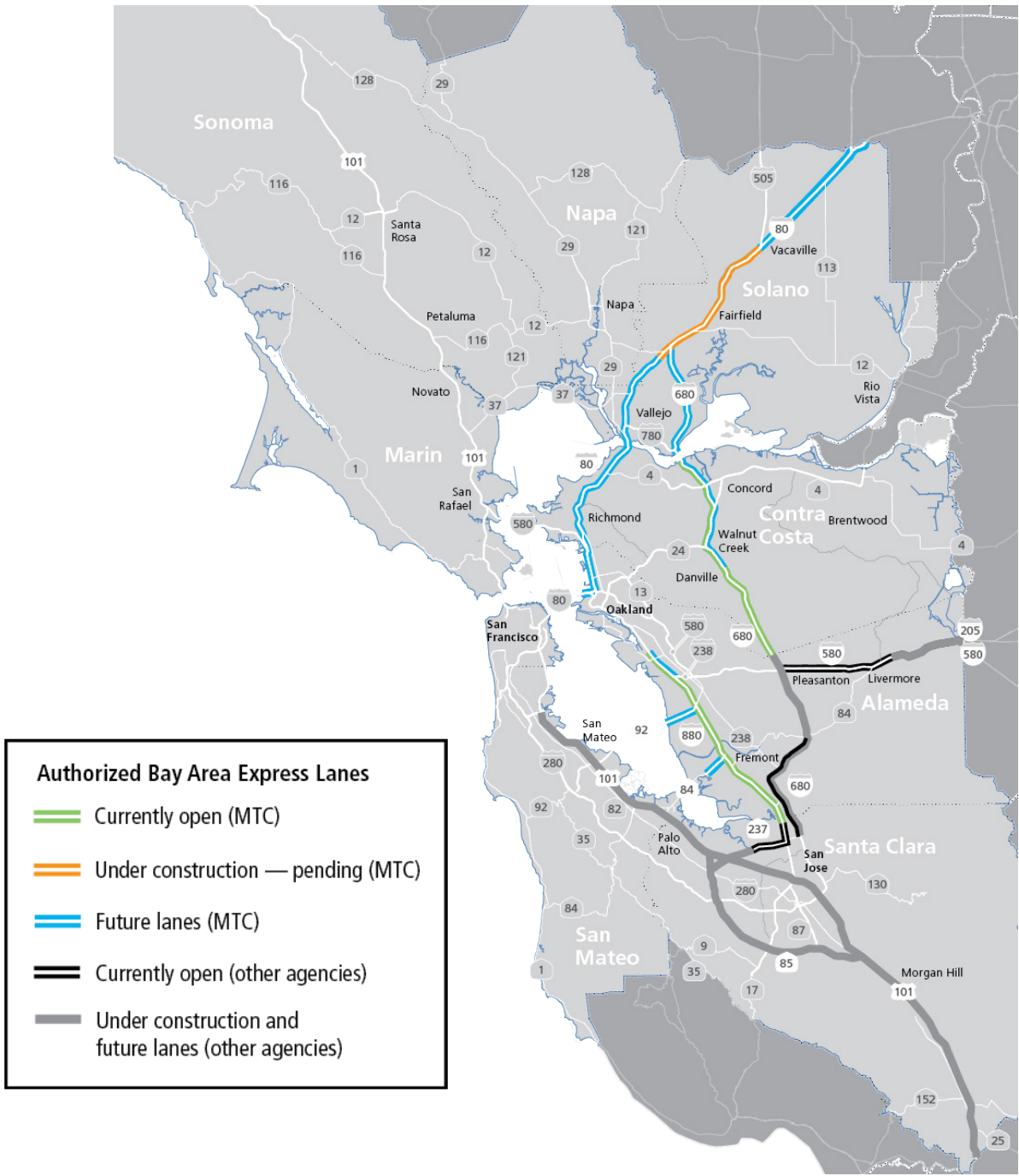
Project Development & Construction	3 rd Quarter CY2021 Highlights	Current Activities
I-880 Alameda (ALA-880) San Leandro to Milpitas <i>Hegenberger Road/Lewelling Boulevard to Dixon Landing Road</i>	<ul style="list-style-type: none"> See Appendix D for performance highlights. 	<ul style="list-style-type: none"> Project complete; see Appendix B for archived summary.
I-680 Contra Costa Southern Segment (CC-680 South) Walnut Creek to San Ramon <i>Livorna Road/Rudgear Road to Alcosta Boulevard</i>	<ul style="list-style-type: none"> See Appendix C for performance highlights. 	<ul style="list-style-type: none"> Project complete; see Appendix B for archived summary.
I-680 Contra Costa Northern Segment Southbound (CC-680 North SB) Martinez to Walnut Creek <i>Marina Vista Boulevard to Rudgear Road/SR 242</i>	<ul style="list-style-type: none"> The toll system integrator completed Corridor Testing in July 2021. 	<ul style="list-style-type: none"> On August 20, 2021, BAIFA began tolling on I-680 North SB. Beginning next quarter, this capital project will be archived in Appendix B and no further updates will be made to the project summary.
I-80 Solano (SOL-80) Fairfield to Vacaville <i>Red Top Road to I-505</i>	<ul style="list-style-type: none"> BAIFA approved a contract change order with the toll system integrator for design, implementation, operations and maintenance of the toll system in July 2021. 	<ul style="list-style-type: none"> Caltrans advertised the civil construction contract in September 2021. Bid opening is expected in December 2021. Construction is expected to start by February 2022. The toll system integrator has begun design work for the project. Field surveys for wireless communications equipment were completed. BAIFA is coordinating with STA on construction management oversight for the installation of toll system infrastructure. Staff continues review with AT&T of the original design for fiber and network equipment at the Backhaul hubs in Fairfield and Vacaville. Staff is working with PG&E and the civil design team to coordinate service designs and energization of the service meters. The team is developing a request for cooperative agreement with Caltrans for design and construction of the toll collection system.

Project Development & Construction	3 rd Quarter CY2021 Highlights	Current Activities
<p>Program Management</p>	<ul style="list-style-type: none"> In August 2021, staff conducted focus groups and a telephone town hall with potential pilot customers to solicit feedback on a draft concept for the Toll Discount Pilot on BAIFA's I-880 Express Lanes. Staff implemented the customer education strategy for the start of tolling on the I-680 North Southbound. Staff messaged the need for toll tags on express lanes through social media and earned media. 	<ul style="list-style-type: none"> Staff is working with other Bay Area Express Lanes operators to develop a Memorandum of Understanding (MOU) to formalize the Express Lanes Executive Steering Committee as the forum to develop consistent tolling policies for recommendation to policy boards. Staff will present the MOU to BAIFA in November 2021. Staff is drafting an amendment to BAIFA's Toll Ordinance to enable pilots, reduce violation penalties and describe its authority to change tolling policy administratively during an emergency. Staff will conduct a public process to solicit input on proposed changes, including a public hearing, prior to an adoption vote by BAIFA.
<p>Toll System</p>	<ul style="list-style-type: none"> The toll system integrator continued to fine-tune the toll system in preparation for I-680 North Southbound operational acceptance testing. 	<ul style="list-style-type: none"> I-680 North Southbound operational acceptance testing will begin in October 2021.

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 <i>Hegenberger Rd./Lewelling Blvd. to Dixon Landing Rd.</i>	51	●	●	●
					<i>Project completed 2020</i>		
CC	680	I-680 Contra Costa Southern Segment	Between Walnut Creek and San Ramon <i>Livorna Rd./Rudgear Rd. to Alcosta Blvd.</i>	23	●	●	●
					<i>Project completed 2017</i>		
CC	680	I-680 Contra Costa Northern Segment Southbound	Martinez to Walnut Creek <i>Marina Vista Blvd. to Rudgear Rd.</i>	11	●	●	●
					<i>Project completed 2021</i>		
SOL	80	I-80 Solano	Fairfield to Vacaville <i>Red Top Rd. to I-505</i>	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 <i>Cummings Skyway to Bay Bridge; I-80, I-580, I-880 and West Grand approaches to Bay Bridge</i>	44	◐	○	○
ALA/ SM	84	Dumbarton Bridge Western Approach	Fremont/Newark <i>I-880 to Dumbarton Bridge</i>	3	●	○	○
ALA/ SM	92	San Mateo Bridge Westbound Approach	Hayward <i>I-880 to San Mateo Bridge</i>	3	●	○	○
CC	680	I-680 Contra Costa Northbound Express Lane Completion	Walnut Creek to Benicia <i>North Main St. to Marina Vista Blvd.</i>	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 <i>Hegenberger Rd./Lewelling Blvd. to Dixon Landing Rd.</i>	Spring 2019	Fall 2020 Actual	●	A-7
I-680 Contra Costa Southern Segment (CC-680 South) Walnut Creek and San Ramon <i>Livorna Rd./Rudgear Rd. to Alcosta Blvd.</i>	Fall 2016	Fall 2017 Actual	●	A-5
I-680 Contra Costa Northern Segment Southbound (CC-680 North SB) Martinez to Walnut Creek <i>Marina Vista Blvd. to Rudgear Rd.</i>	Fall 2018	Summer 2021 Actual	●	12
I-80 Solano (Sol-80) Fairfield to Vacaville <i>Red Top Rd. to I-505</i>	End of 2021	End of 2024	●	14

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. 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 6/30/21 ⁽⁵⁾	Confidence Level ⁽⁶⁾
					July 2018 Amendment	Sept. 2018 Amendment	Expended as of 6/30/21		
NEAR-TERM CONVERSIONS AND GAP CLOSURE OPPORTUNITY PROJECTS									
<i>Costs shown in millions of escalated dollars</i>									
I-880 Alameda	139.1	139.1			135.5	139.1	128.2	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	43.1	99%	●
I-80 Solano	282.6	282.6	14.5	250.0	19.0	18.1	14.2	20%	●
Centralized Toll System	32.4	32.4			33.6	32.4	24.4	95%	●
Program Planning, Coordination & Management	28.4	28.4			28.4	28.4	25.0	95%	●
Program Contingency	6.1	2.9			5.1	2.9			●
Capitalized Start-up O&M	16.0	16.0			16.0	16.0	5.3		●
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	710.0	40.4	324.3	345.2	345.2	293.4	88%	

⁽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 third quarter of CY2021.

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. To date, risk management has focused on MTC’s express lanes in the I-680 and I-880 corridors. The project team is currently developing a risk register for the I-80 corridor in Solano County; detailed risks shall be tracked and reported once construction begins in early 2022.

Chart #1 shows the median risk exposure for the program-level risks using Monte Carlo analysis. As of September 30, 2021, the risk exposure stands at \$0.1 million, slightly less than last quarter. Only one risk remains: Caltrans cost of oversight and reimbursed work for the civil contract in the I-680 North corridor.

Chart #2 tracks the program’s cost forecast and risk exposure as compared to the authorized program budget. 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 exceeds the current risk exposure of \$0.1 million. Given there are no longer any individual risks with major cost impacts, staff anticipates that at least \$2.8 million of program contingency funds will be able to be repurposed for other MTC express lanes capital costs.

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

I-880 Alameda

- The last major risk, a delay in AT&T communication network connections, was retired in August 2021 when AT&T completed bringing service to Dixon Landing, which now provides backhaul network communications redundancy for the I-880 Express Lanes.

I-680 Contra Costa Northern Segment Southbound

- The only remaining risk relates to Caltrans’ cost of oversight of the civil contract exceeding its allotted budget. Throughout the quarter, Caltrans’ invoices have continued to decrease and are not expected to have any significant budget impacts. The BAIFA team will continue to monitor and track this risk, as invoices may continue to be submitted by Caltrans until the Cooperative agreement is closed out.

Chart #1: Median Risk Exposure (\$M)

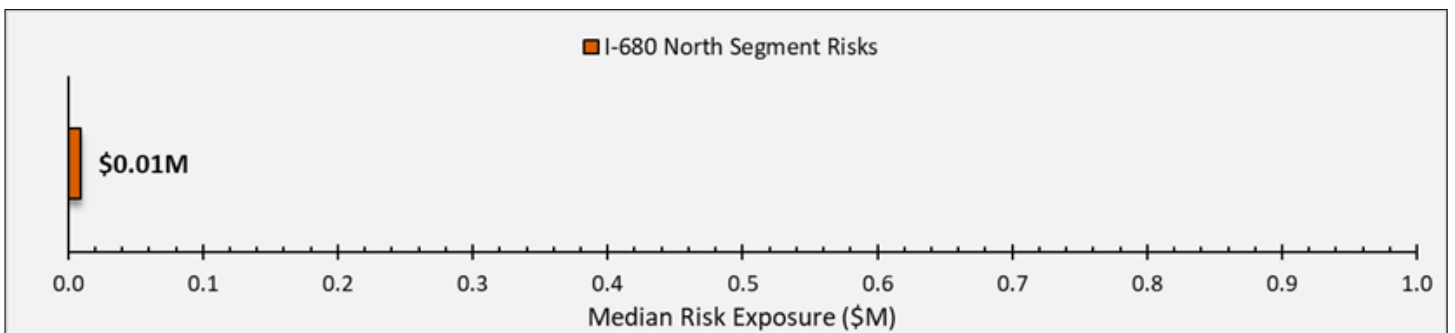


Chart #1 shows the contribution of each project’s risks toward the total program risk exposure. Risk exposure is calculated using Monte Carlo simulation.

Programwide Risks

- This quarter, a new risk has been added regarding the potential for Manual Image Review (MIR) staffing levels of the Toll System Integrator’s impacting the image review rate. This has the potential to delay the I-680 North toll system implementation process due to increased trip building time, as the image review queue backs up. In May,

there were two issues causing concern: high turnover on the MIR team, and a fault in the system that prevented images going to the queue. Most recently, the fault has been addressed and the MIR queue is seeing significant improvements along with hiring efforts. Cost and schedule impacts remain low for this risk, although may need to be readjusted as the start of tolling on I-680 North nears.

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

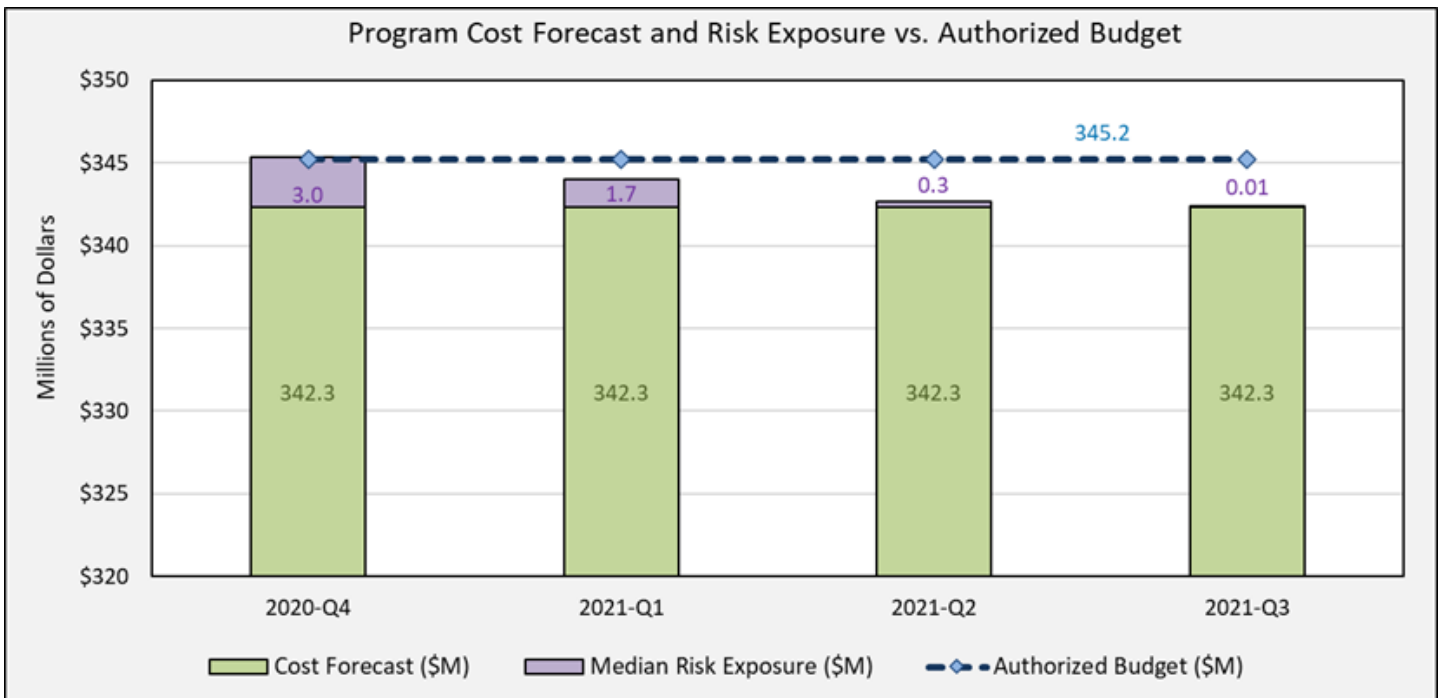


Chart #2 shows the program cost forecast and risk exposure as compared to the authorized program budget.

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; updating express lane business rules and the toll ordinance; conducting customer education and outreach; maintaining 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

- In August 2021, staff conducted focus groups and a telephone town hall with potential pilot customers to solicit feedback on a draft concept for the Toll Discount Pilot on BAIFA's I-880 Express Lanes.
- Staff implemented the customer education strategy for the start of tolling on the I-680 North Southbound.
- Staff messaged the need for toll tags on express lanes through social media and earned media.

Current Program Management Activities

- Staff is working with other Bay Area Express Lanes operators to develop a Memorandum of Understanding (MOU) to formalize the Express Lanes Executive Steering Committee as the forum to develop consistent tolling policies for recommendation to express lanes policy boards. Despite the MOU, individual boards will retain their policy-making authority for their respect express lanes. Staff will present the MOU to BAIFA in November 2021.
- Staff is drafting an amendment to BAIFA's Toll Ordinance to enable pilots, reduce violation penalties and describe its authority to change tolling policy administratively during an emergency. Staff will conduct a public process to solicit input on proposed changes, including a public hearing, prior to an adoption vote by BAIFA.

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.
- The toll system integrator completed I-880 operational acceptance in May 2021.

Current Toll System Activities

- The toll system integrator continues to fine-tune the toll system in preparation for I-680 North Southbound operational acceptance which will begin in October 2021.



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

Summer 2021

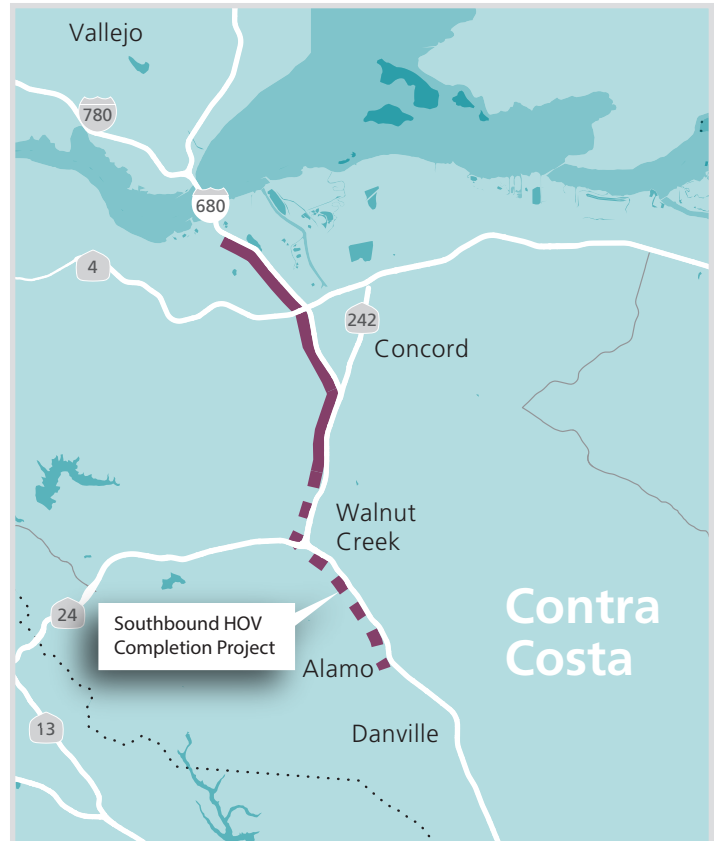
Project Description

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 CY2020, 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.



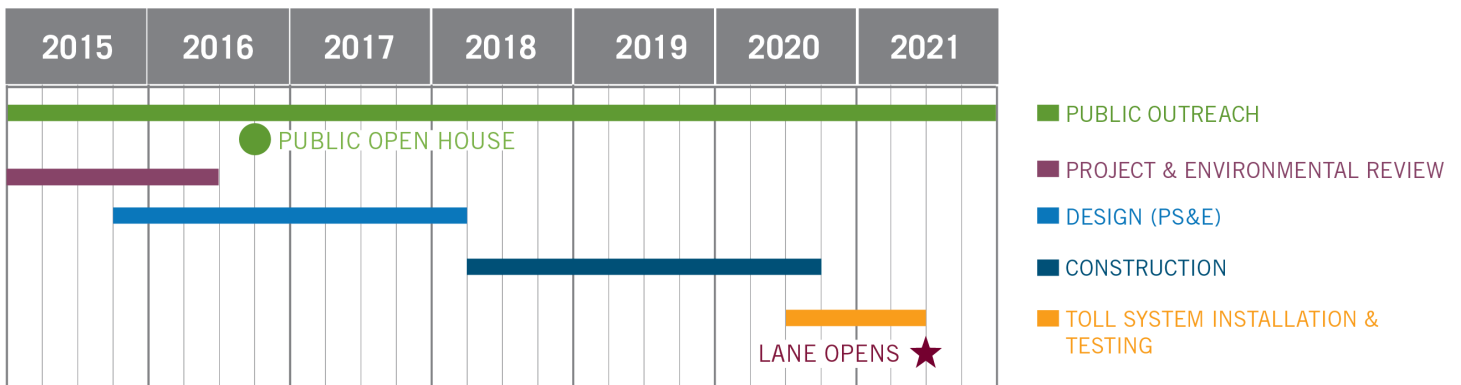
- The civil contractor completed highway widening activities in August and the new southbound lane capacity opened to HOV 2+ traffic on August 24, 2020.
- Civil construction was substantially complete for all stages of contract work as of December 2020.
- The project received the following two awards in 2021: International Partnering Institute Partnered Project of the Year and Construction Management Association of America Northern California Chapter’s Transportation Project of the Year.

- The toll system integrator completed Site Commission Testing on I-680 North SB in April 2021 and completed Corridor Testing in July 2021.

Current Project Activities

- On August 20, 2021, BAIFA began tolling on I-680 North SB.
- Beginning next quarter, since civil construction is complete and the express lane is 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



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 6/30/21 ⁽⁴⁾
				July 2018 Amendment	Sept. 2018 Amendment	Expended as of 6/30/21	
127.4	127.4	19.4	54.3	51.3	53.6	43.1	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.

I-80 Solano (SOL-80)

Fairfield to Vacaville

Red Top Road to I-505

Total Cost Estimate

\$282.6 million

Scheduled Open Date

End of 2024

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.

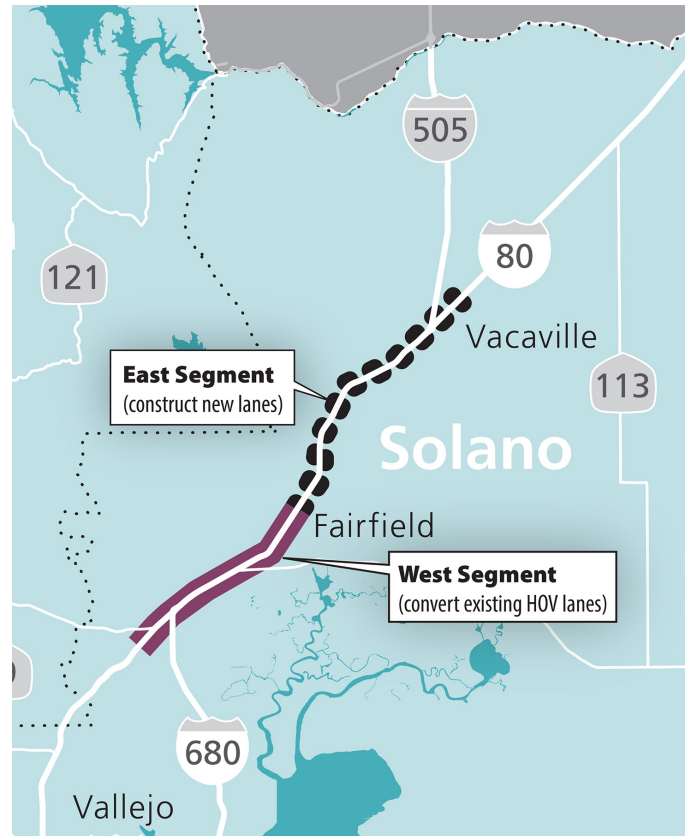
The project will also construct new eastbound and westbound lanes between Air Base Parkway and I-505 in Vacaville. In this section, the highway will be widened along with the installation of express lane striping, signage and equipment. The project will result in 36 miles of express lanes on I-80 in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

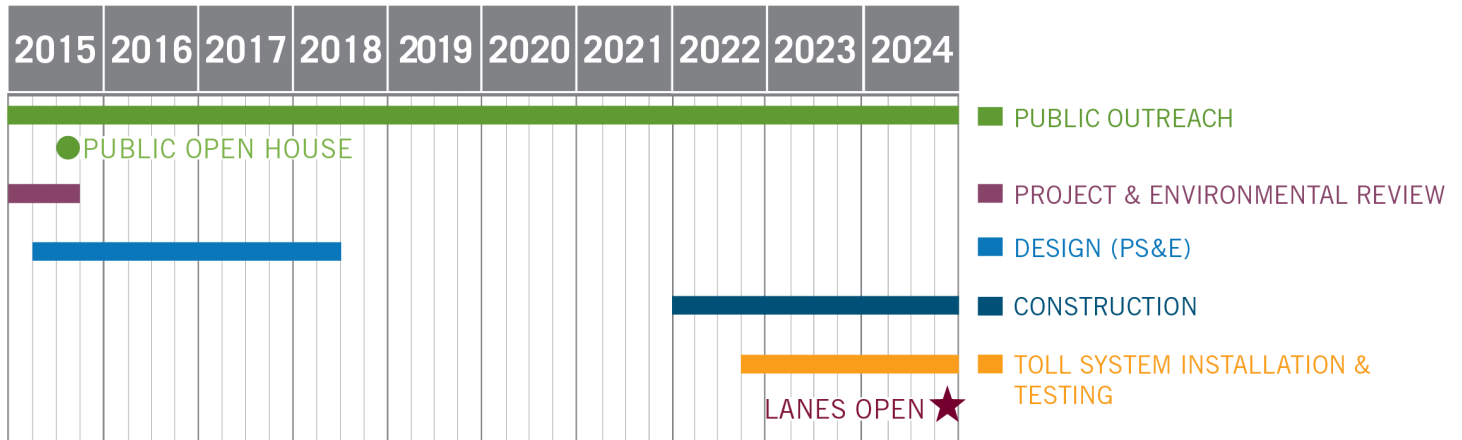
- A public open house was held in August 2015.
- The preliminary engineering report and environmental document were completed in December 2015.
- The final design document was approved by Caltrans in March 2018.
- The project reached the Ready-to-List milestone in April 2018.
- The California Transportation 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.



- MTC programmed federal discretionary funds as a backstop to RM3 funds in April. MTC also approved a Letter of No Prejudice allowing STA to proceed with the project using other funds.
- The STA completed revalidation of the environmental clearance approval in June 2021 to support the anticipated construction advertisement.
- STA updated design documents in June 2021 to reflect current standards for design elements and specifications for the toll collection system to support the anticipated construction advertisement.
- BAIFA approved a contract change order with the toll system integrator for design, implementation, operations and maintenance of the toll system in July 2021.

Current Project Activities

- Caltrans advertised the civil construction contract on September 20, 2021. Bid opening is expected on December 7, 2021. Construction is expected to start by February 2022.
- The toll system integrator has begun design work for the project. Field surveys for wireless communications equipment were completed. Based on the findings, some locations may need additional treatments, which is being coordinated with the civil design team.
- BAIFA is coordinating with STA on construction management oversight during the installation of toll system infrastructure.
- Staff continues review with AT&T of the original design for fiber and network equipment at the Backhaul hubs in Fairfield and Vacaville.
- Staff is working with PG&E and the civil design team to coordinate service designs and energization of the service meters.
- The team is developing a request for cooperative agreement with Caltrans for design and construction of the toll collection system.



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 6/30/21 ⁽⁴⁾
				July 2018 Amendment	Sept. 2018 Amendment	Expended as of 6/30/21	
282.6	282.6	14.5	250.0	19.0	18.1	14.2	20%

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.

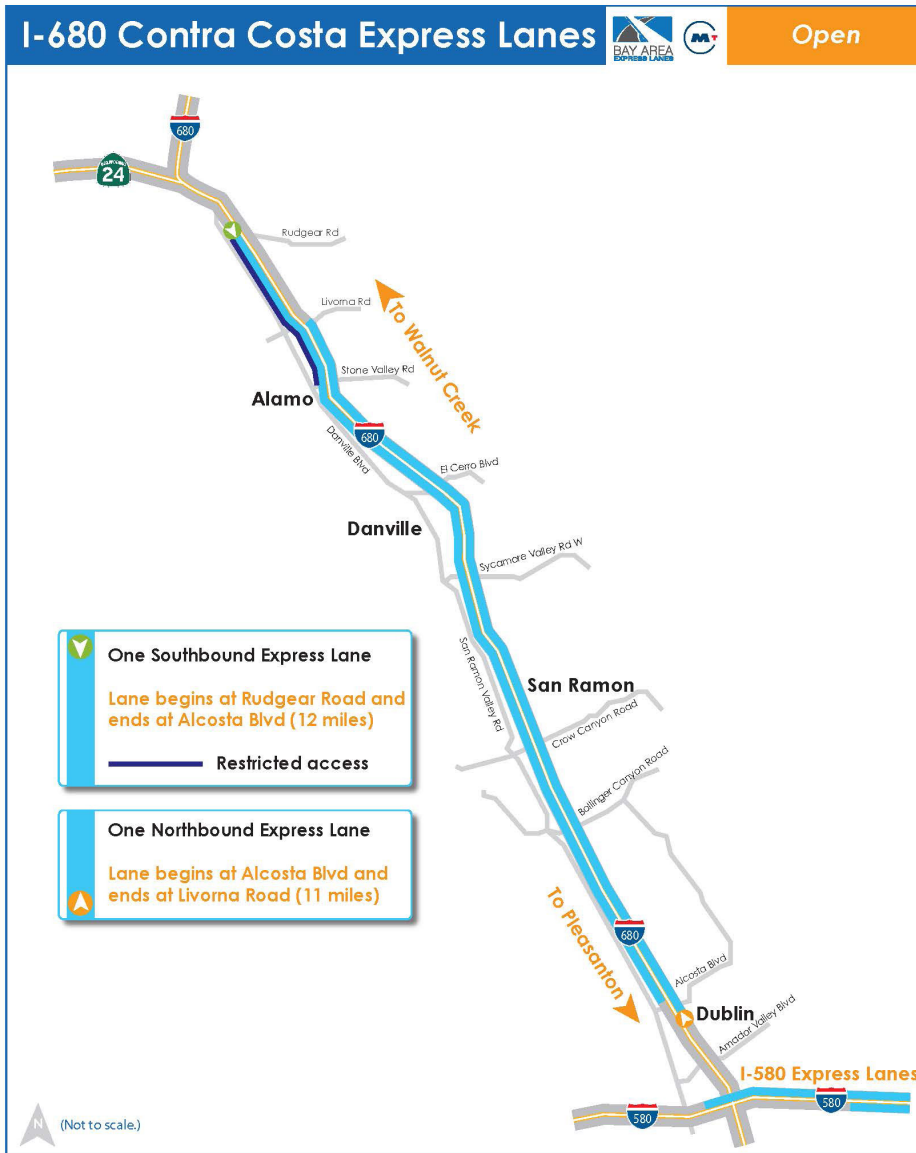
IV. OPERATIONS

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.



expresslanes.511.org • mfc.ca.gov/express-lanes

Rules of the Road

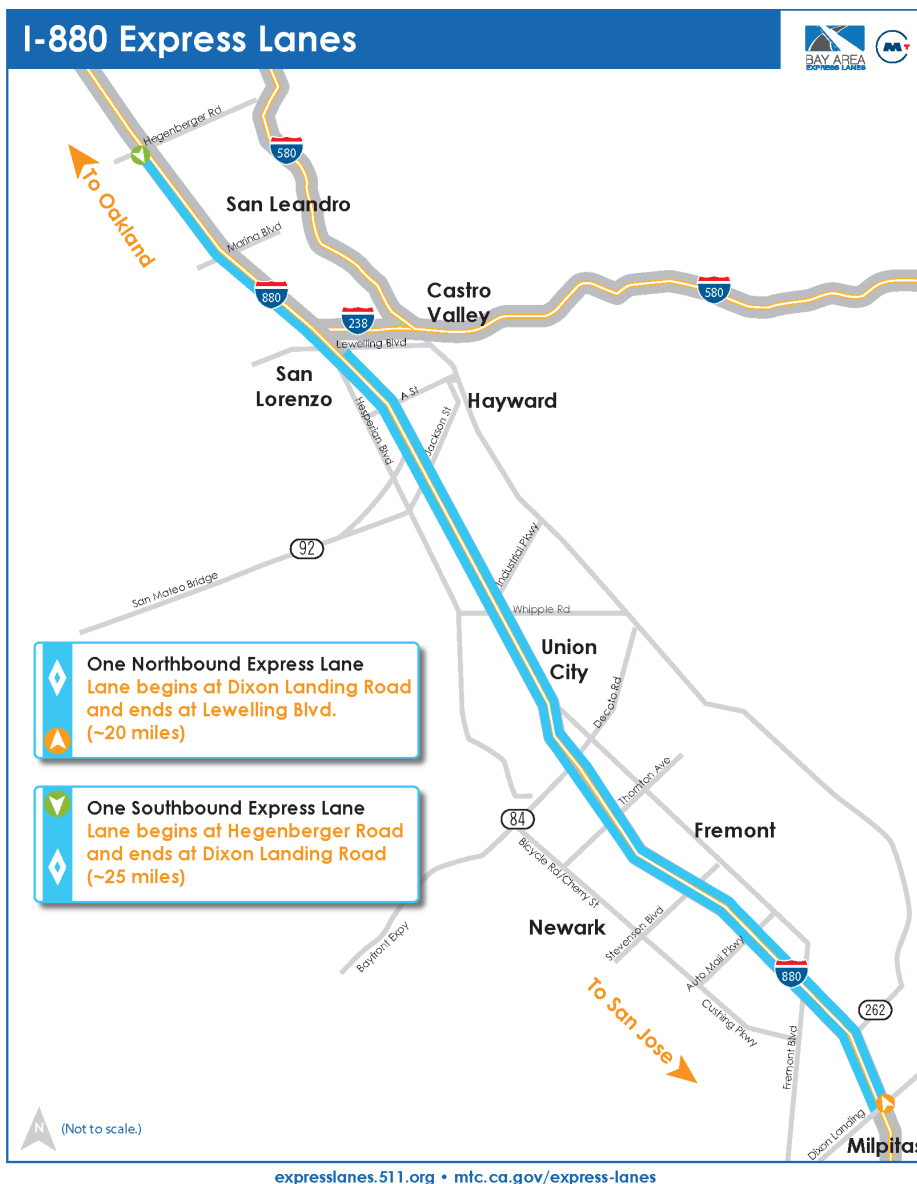
- Hours are Monday through Friday, 5 a.m. – 8 p.m.
- Tolls change based on traffic congestion; there is no maximum toll
- All vehicles in the express lane must use a FasTrak® or FasTrak Flex® toll tag
- Carpools of 2 or more people, eligible clean air vehicles, motorcycles and transit buses travel toll-free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

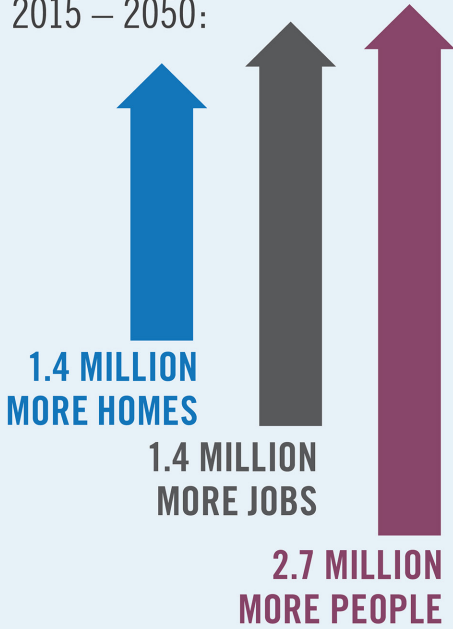
Express Lanes Overview

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 aim to 1) manage congestion and bring reliability to the traveling public, 2) increase person throughput by creating a seamless express lanes network that incentivizes the use of public transit, vanpools and carpools, and 3) minimize greenhouse

gas emissions. To meet these goals, 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 public transit and carpooling.

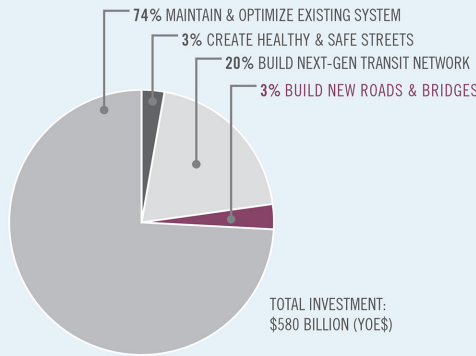
REGIONAL GROWTH 2015 – 2050:



Data Source: Plan Bay Area 2050 (2021).

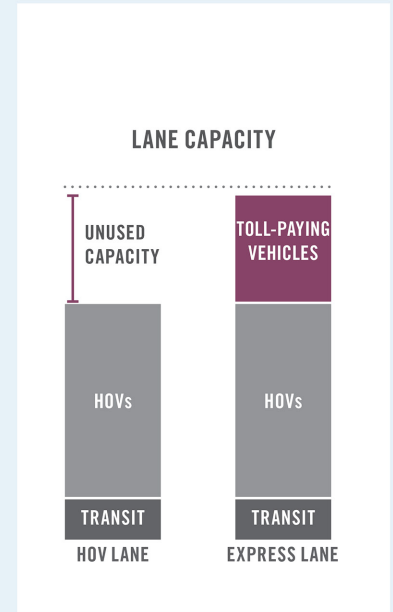
REGIONAL INVESTMENT BY 2050:

ONLY 3% OF THE REGION'S TRANSPORTATION DOLLARS WILL BE USED TO BUILD NEW ROADS AND BRIDGES, INCLUDING EXPRESS LANES.



Data Source: Plan Bay Area 2050 (2021).

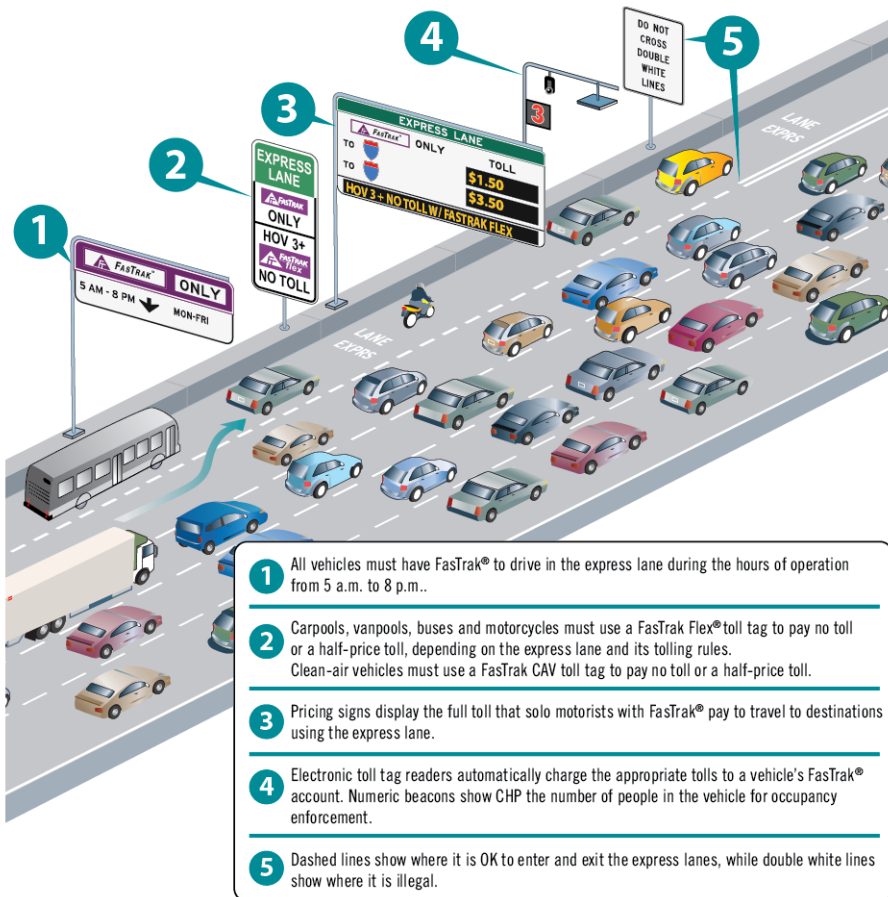
HOW EXPRESS LANES HELP:



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

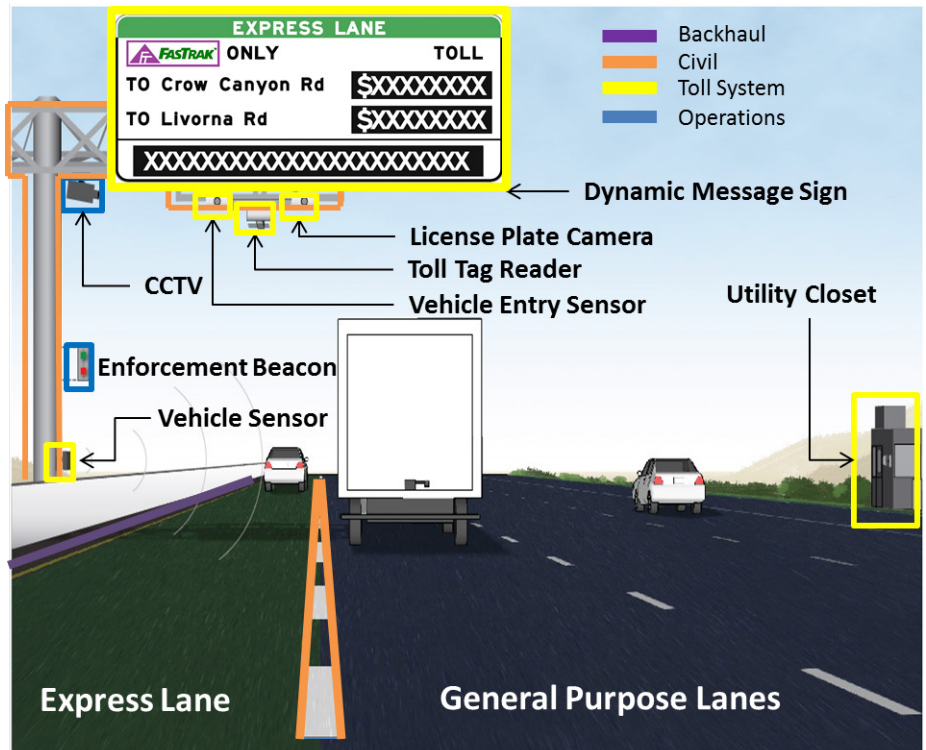
The toll system consists of two components, the in-lane system and the back-end "host" system. The lane system consists of all the equipment on the highway needed to operate the toll system including toll tag readers, cameras and vehicle detection. The host system serves as the brain of the toll system, 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

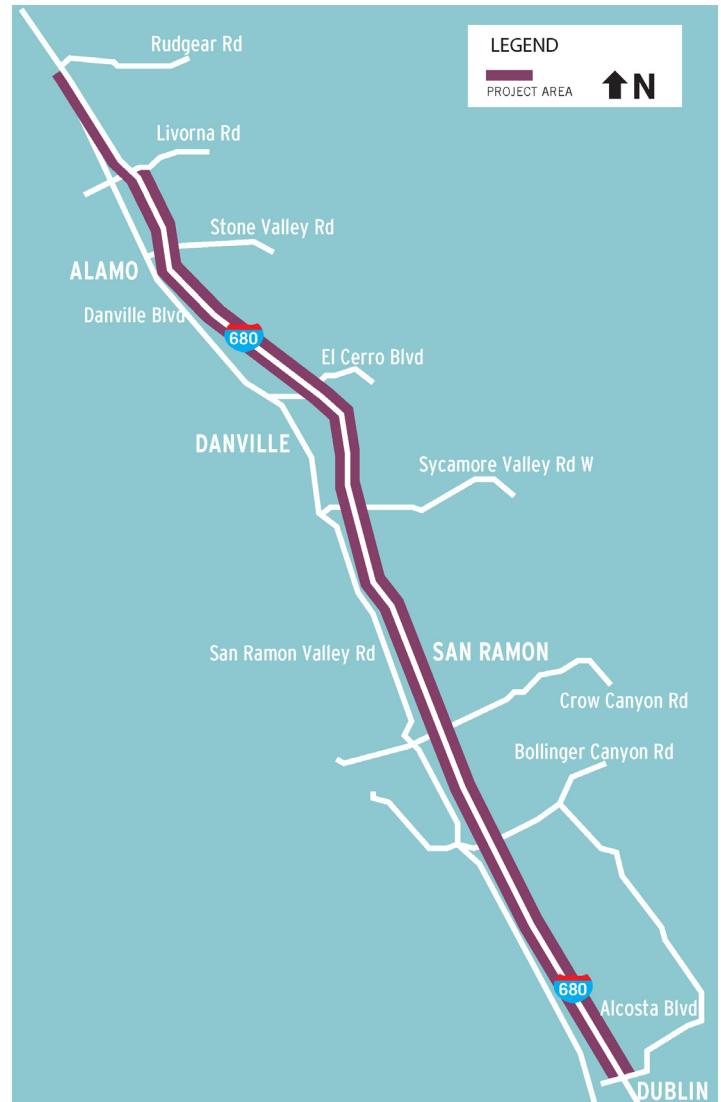
Project Description

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

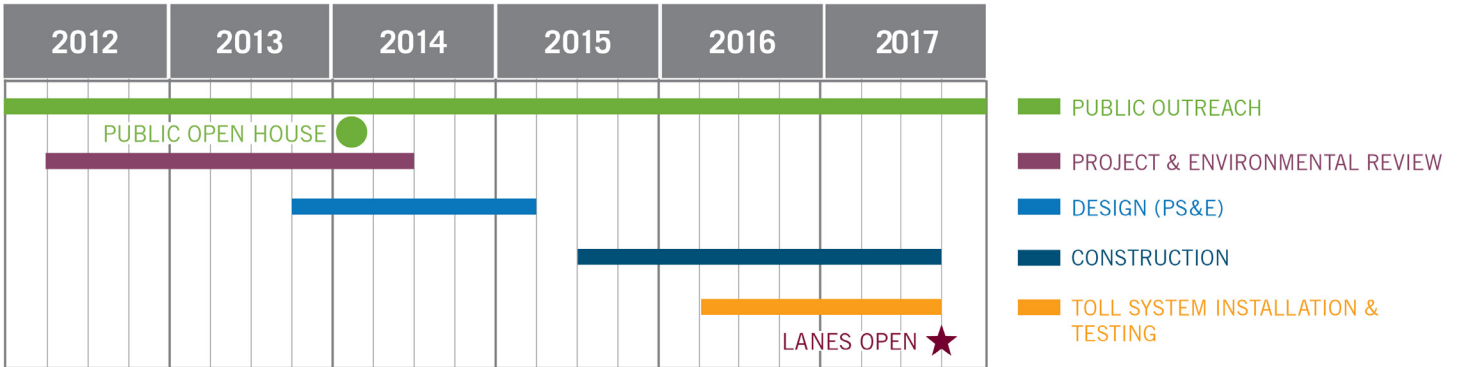
- The integrator is fine tuning field equipment and addressing punch list items in preparation for Operations Testing in summer of 2018. This test verifies the toll system meets all specifications and leads to the maintenance phase of operations.
- The Backhaul contractor completed project 'as-built' 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%

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

Costs shown in millions of escalated dollars.

(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.

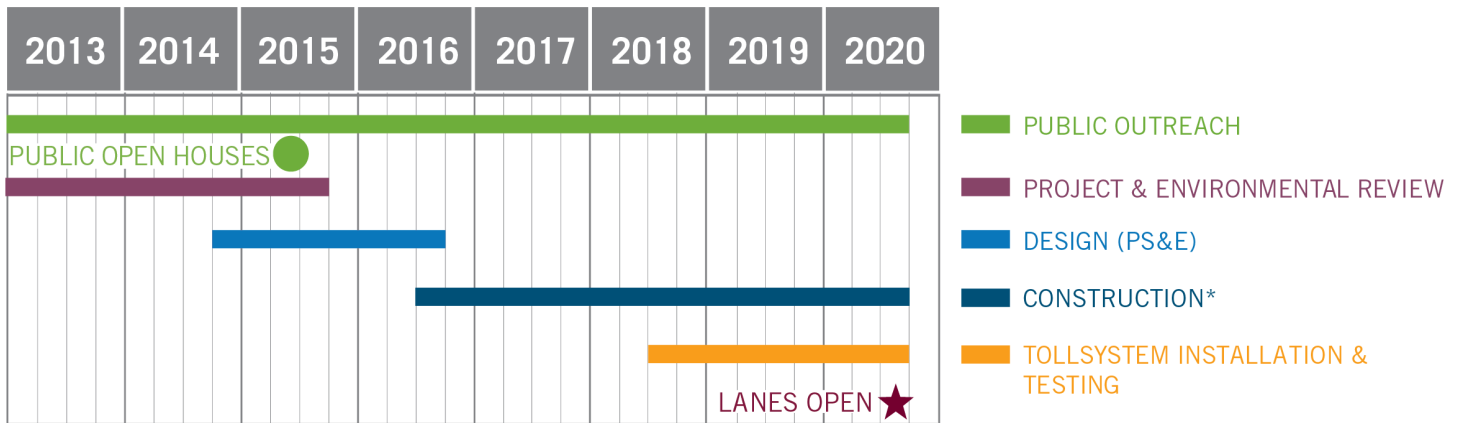


- All PG&E service connections are complete.
- In June 2020, the civil contractor completed new restricted access striping on the corridor and installed some signage. A public information campaign explained the changes.
- Final signing and pavement marking civil work to transition the HOV lanes to express 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%

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.

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

APPENDIX C

I-680 Contra Costa Express Lanes Operations Report

I-680 Contra Costa Express Lanes Performance Report

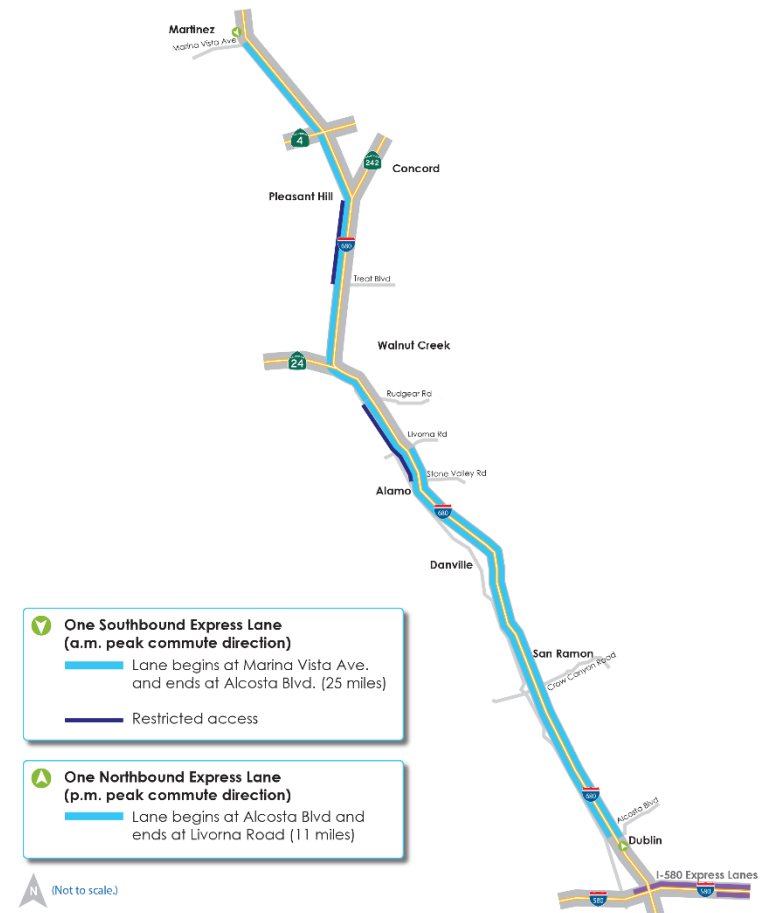
3rd Quarter 2021: July - September



Bay Area Infrastructure Financing Authority
Submitted February 2022

I-680 Contra Costa Express Lanes Policies

- Tolling Hours are 5 a.m. to 8 p.m. Monday – Friday.
- All drivers must have a FasTrak® account to avoid fines.
 - Solo drivers can carry a standard FasTrak tag* or a FasTrak Flex tag set to 1 or pay tolls via license plate.
 - Carpools (2+) travel toll-free with FasTrak Flex toll tags set to 2 or 3+.
 - Motorcycles travel toll-free with FasTrak Flex toll tags set to 3+.
 - Solo-drivers in eligible clean-air vehicles (CAV) pay half-price tolls with FasTrak CAV toll tags set to 1.
 - Solo-drivers in eligible clean-air vehicles (CAV) pay half-price tolls with FasTrak CAV toll tags set to 1.



*Standard FasTrak tags do not have a switch and were issued prior to January 2020.

Carpools	All Drivers	
Must Have FasTrak Flex®	Must Have FasTrak®	
<p>FREE</p>	<p>HALF TOLL</p>	<p>FULL TOLL</p>
<p>Motorcycles are FREE with FasTrak Flex toll tag set to 3+.</p>	<p>Clean Air Vehicles pay half-price tolls with FasTrak CAV toll tag.</p>	

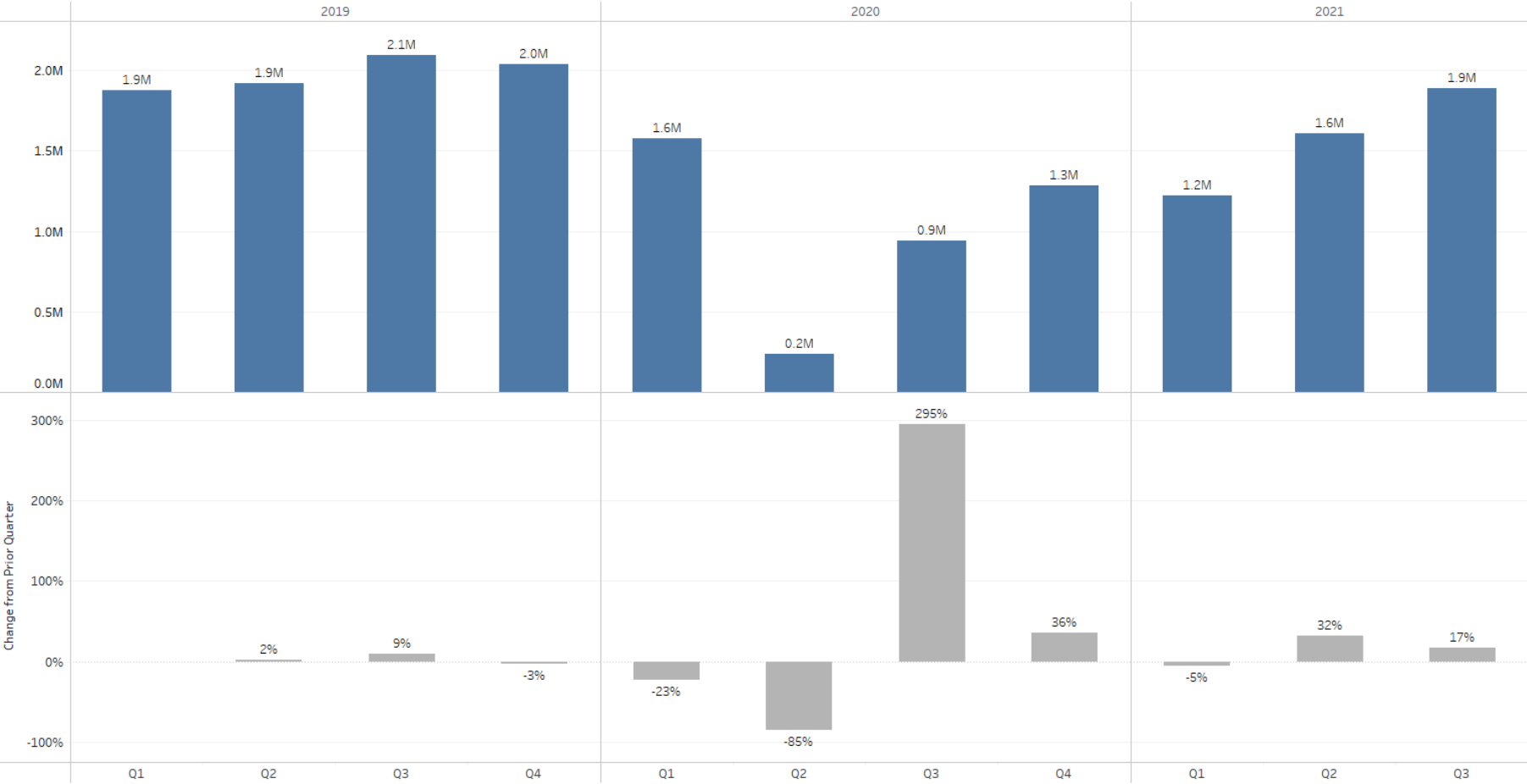
I-680 Contra Costa Express Lanes - Q3 2021 Performance Highlights

- A 12-mile extension of the southbound express lane began tolling operations on August 20, 2021. The southbound lane grew to 25 miles and from two toll zones to five.
- Express lane trips were up 17% from the prior quarter as the COVID-19 pandemic lessened and as the southbound extension added tolled miles. Express lane trips were up 101% from a year ago (Q3 2020) and down 10% from Q3 2019*, the last Q3 not affected by COVID-19.
- The share of toll-free HOV trips was 37%. Before the COVID-19 pandemic, the share of toll-free HOV trips averaged 40%. The average share fell to 34% at the pandemic's start and rose to 37% in June 2021 where it stayed in Q3 2021.
- 12% of express lane trips were violations - express lane trips made with neither a FasTrak account nor a toll tag. The rate is higher than the pre-COVID average of 5%.
- Toll revenue was up 15% over the prior quarter, up 318% over a year ago (Q3 2020; the height of the pandemic), and down 23% from two years ago (Q3 2019; prior to the pandemic). Paid trips were up 89% from a year ago, but down 14% from Q3 2019. These changes are attributable to both the pandemic and the express lane extension.
- Corridor-length northbound travel was slowest between 4 and 5 p.m. when express lane speed averaged 9 mph faster than the general purpose lanes and the average assessed toll was \$5.50. Corridor-length southbound travel was slowest between 8 and 9 a.m. when express lane speed averaged 10 mph faster than the general purpose lanes and the average assessed toll was \$2.90.
- Northbound, spot traffic peaked at El Cerro Blvd. between 4 and 5 p.m. when the express lane traveled 18 mph faster with 20% fewer vehicles than the average general purpose lane volume. Southbound, spot traffic peaked at N. Main St. between 8 and 9 a.m. when the express lane traveled 14 mph faster with 24% fewer vehicles than the average general purpose lane volume.
- More than half of express lane drivers (53%) carried toll tags and made an average of 1.5 trips per month. Drivers without toll tags in the vehicle made an average of less than one trip per month, but accounted for 645,000 trips. Of these, about 32% were not matched to FasTrak accounts, resulting in a 12% violation rate.
- CHP made 942 enforcement contacts, of which 23% resulted in citations related to carpool occupancy.

The goal of express lanes is to maximize available lane capacity while keeping traffic moving, thus encouraging carpooling and transit ridership.

**Year-over-year comparisons identify trends without the influence of seasonality. Q3 2020 was heavily impacted by COVID-19, so this report includes comparisons to Q3 2019. Q3 2021 data is also impacted by the start of southbound tolling from Martinez to Alamo.*

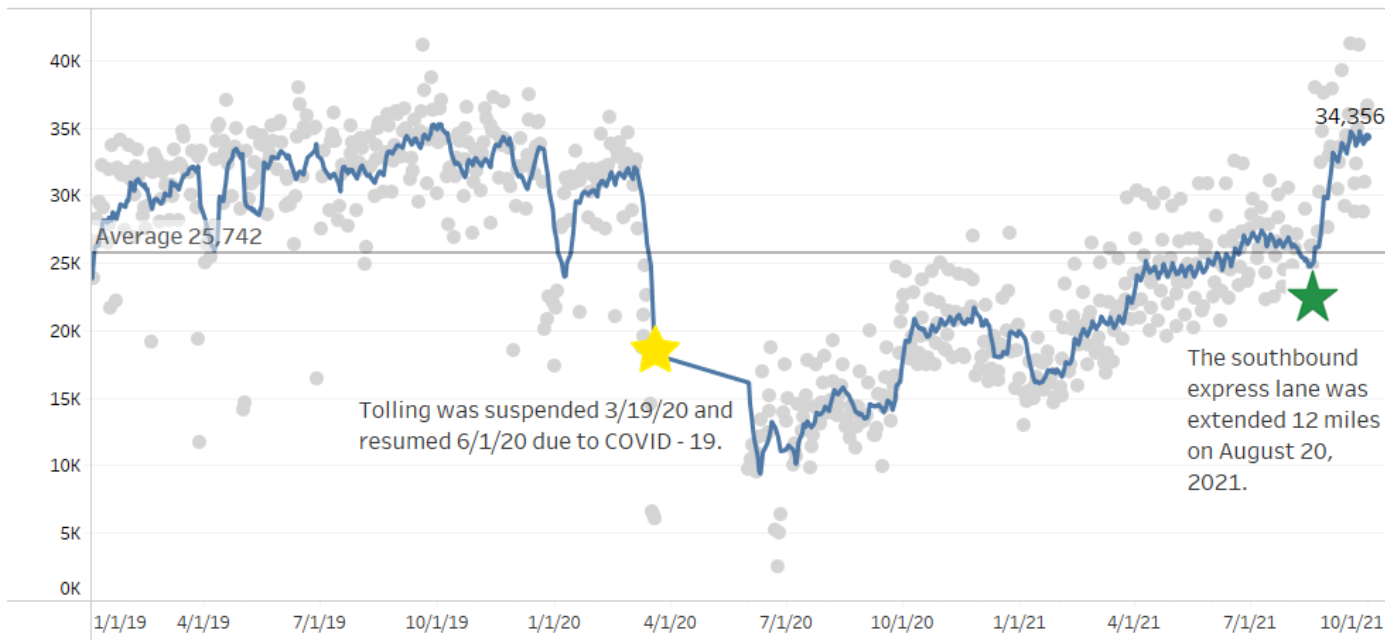
Express Lane Trips



1.9 million express lane trips were made in Q3 2021. Trips were up 17% from the prior quarter (Q2 2021), up 101% from Q3 2020, and down 10% from Q3 2019.

Average Daily Express Lane Trips

Average Daily Trips (ADT) (grey dots) with 10-day Moving Average (blue line) (Northbound & Southbound)

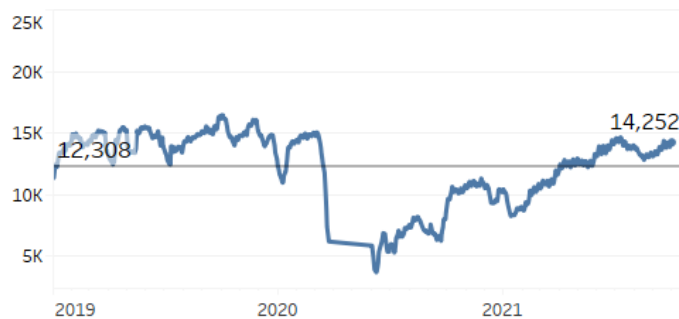


The number of tolling days varies per quarter, so Average Daily Trips (ADT) is best for seeing trends.

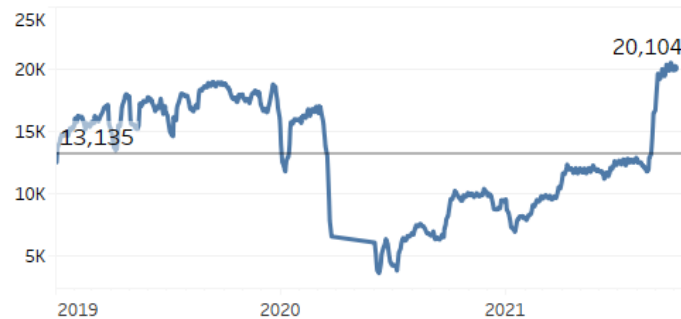
ADT since January 2019 is over 25,700 and was 29,500 in Q3 2021.

The 10-day ADT moving average grew to over 34,000 at the end of Q3 2021. This is due to COVID recovery and the opening of the southbound lane extension, as can be seen in the southbound ADT moving average graph at the lower right.

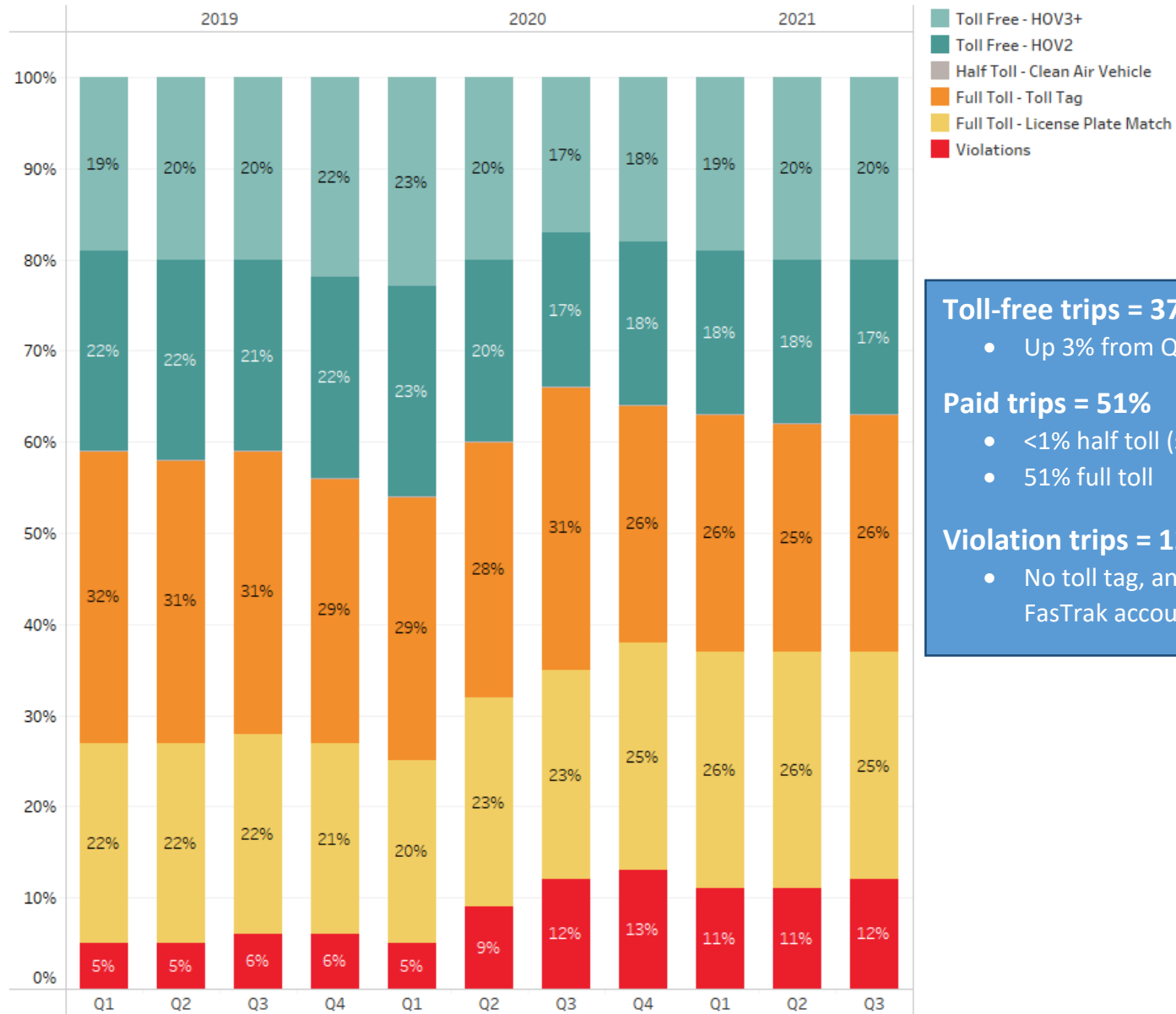
Northbound (10-day Moving Average)



Southbound (10-day Moving Average)



Trip Type



Toll-free trips = 37%

- Up 3% from Q3 2020

Paid trips = 51%

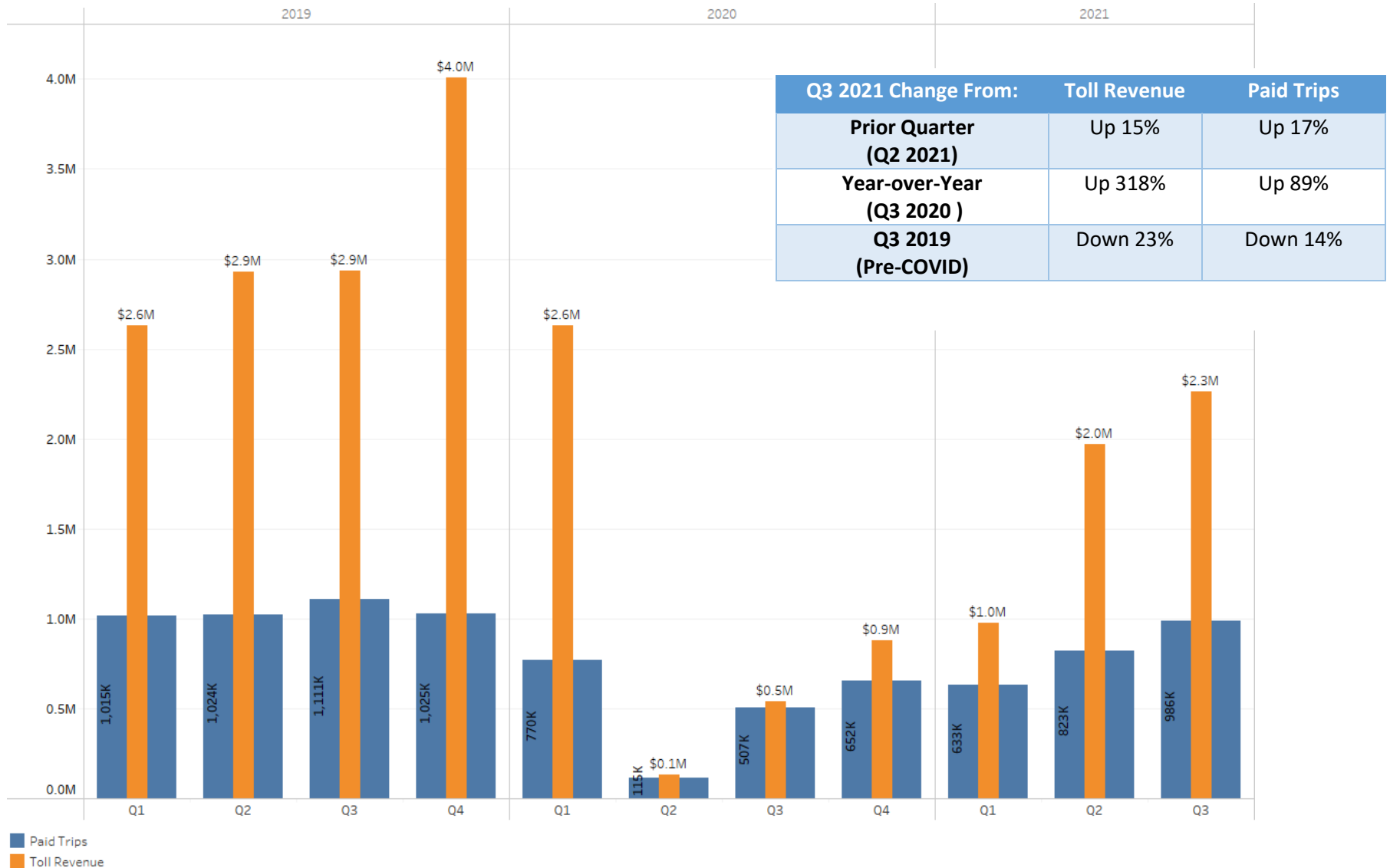
- <1% half toll (single occupant Clean Air Vehicles)
- 51% full toll

Violation trips = 12%

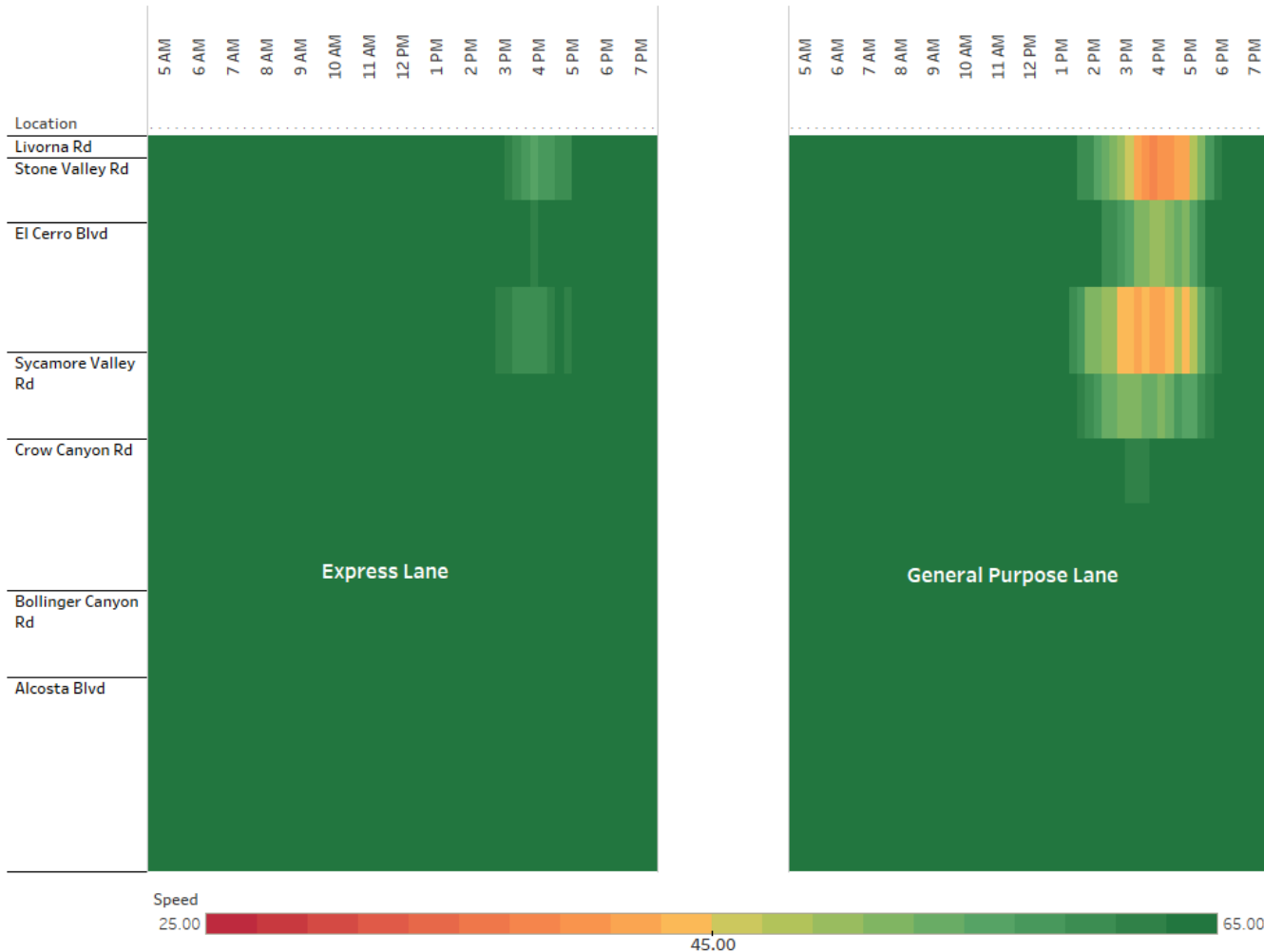
- No toll tag, and license plate was not matched to a FasTrak account

Toll Revenue* and Paid Trips

*Revenue from general tolls. Does not include revenue from violation fees.



Northbound Speed by Location and Time: Quarter Average



Q3 2021 northbound express lane speeds averaged 65 mph or higher. Northbound general purpose lane average speeds slowed below 45 mph in the afternoon at the north end of the corridor.

Northbound Peak Spot Traffic	
4 p.m. – 5 p.m. approaching Livorna Rd.	
Express Lane	Speed: 57 mph Volume: 1,195 vehicles
GP Lane	Speed: 39 mph Volume: 1,445 vehicles

Northbound Corridor-length Slowest Travel	
Northbound	4 p.m. – 5 p.m.
Express Lane	67 mph
GP Lane	58 mph
<i>Difference</i>	9 mph

Southbound Speed by Location and Time: Quarter Average



Q3 2021 southbound express lane speeds averaged 65 mph or higher, except between 7 and 9 a.m. when the average fell into the 50s from Monument Blvd. to SR-24. Southbound general purpose lane average speeds slowed to the 30s and 40s at that same location and time.

Southbound Peak Spot Traffic

8 a.m. – 9 a.m. south of Monument Blvd.

Express Lane Speed: 56 mph
Volume: 805 vehicles

GP Lane Speed: 36 mph
Volume: 1,190 vehicles

Corridor-length Average Speed in Peak Hour

Southbound 8 a.m. – 9 a.m.

Express Lane 70 mph

GP Lane 60 mph

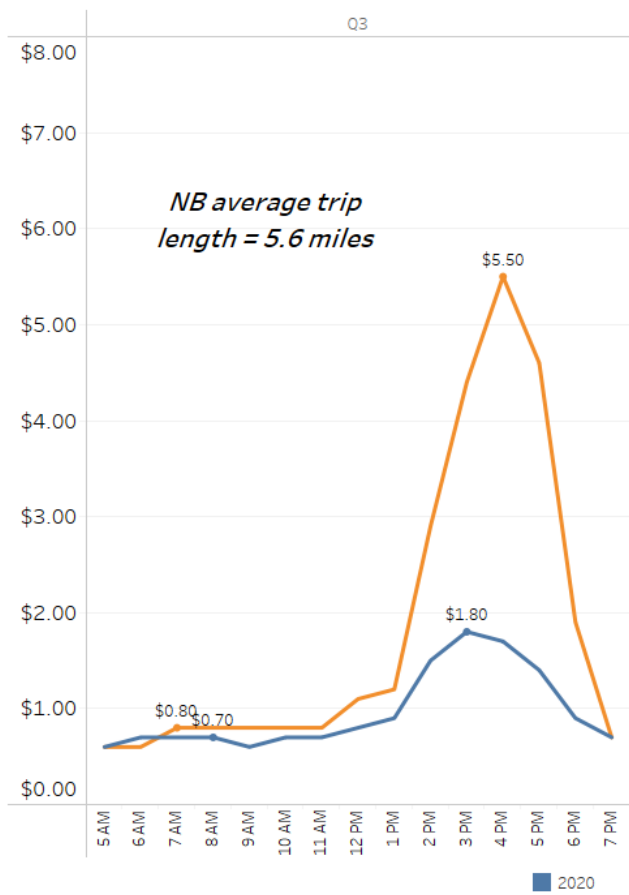
Difference 10 mph

Quarterly Average Toll Paid by Time of Day

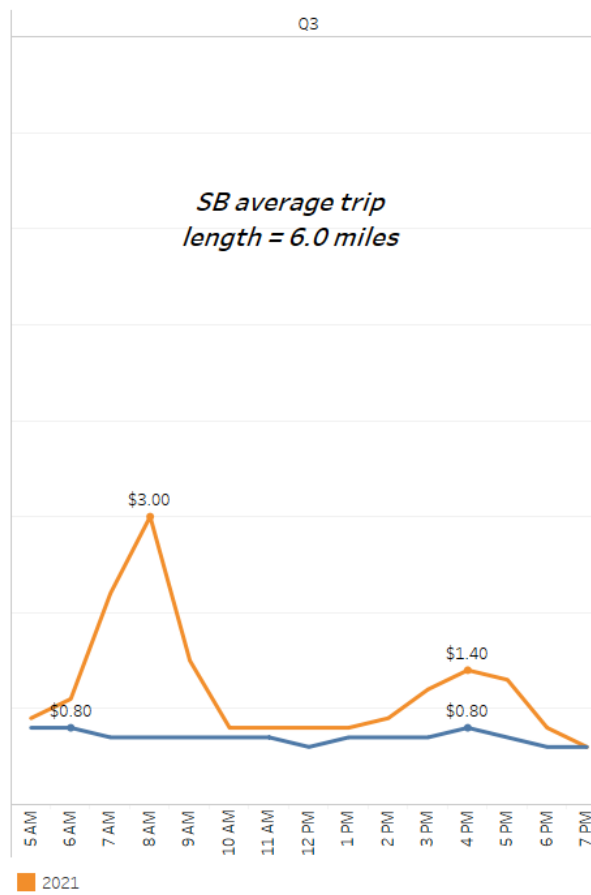
The average toll paid by drivers increased from Q3 2020 to Q3 2021 at all times of day both northbound and southbound, except for northbound at 6 a.m. The northbound average trip distance fell almost 0.5 miles from Q3 2020. The southbound average trip distance fell 0.2 miles from Q3 2020, despite the opening of the southbound express lane extension.

Q3 2021 Compared to Q3 2020

Northbound



Southbound



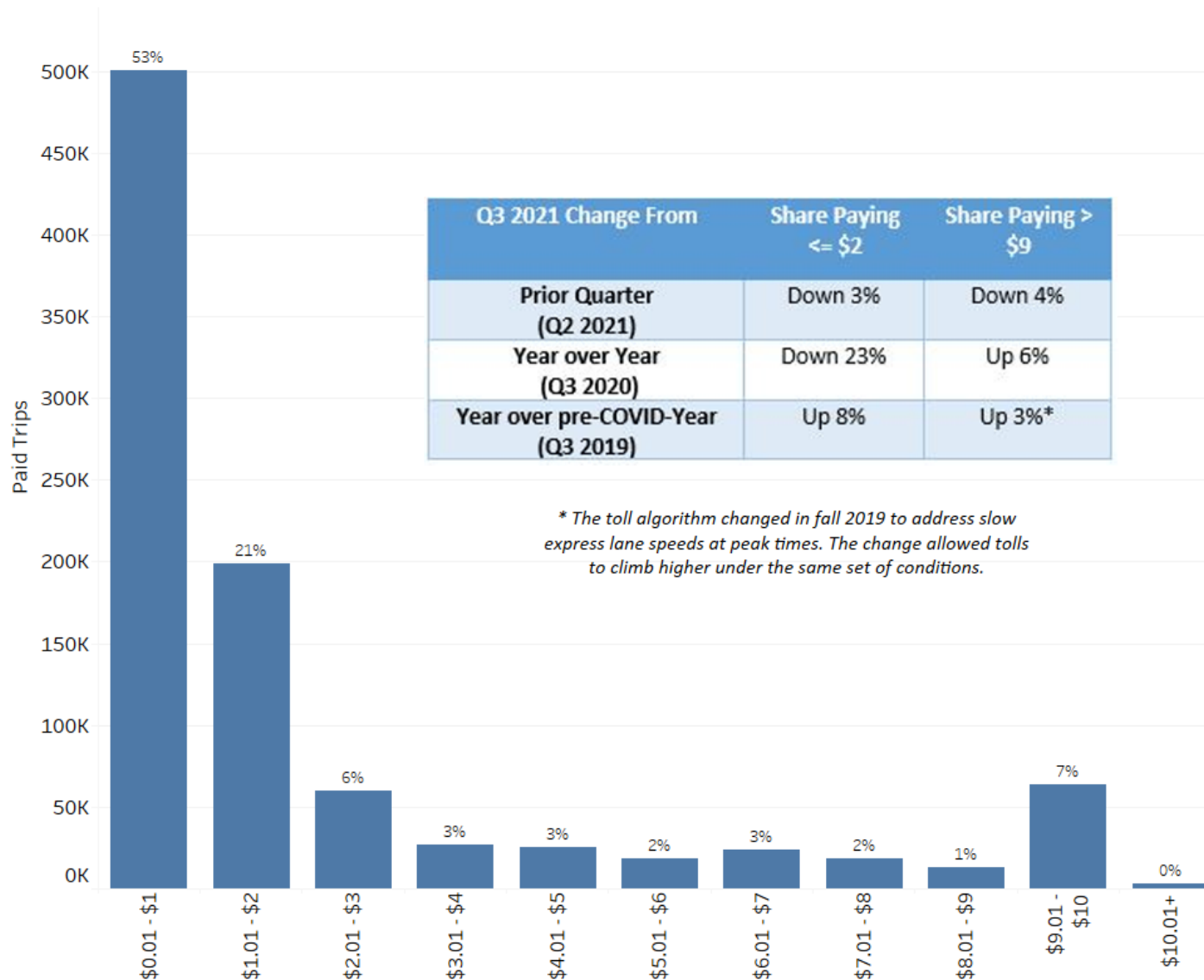
Northbound, the average toll paid peaked at \$5.50 between 4 and 5 p.m. Southbound, it peaked at \$3.00 between 8 and 9 a.m.

Compared to Q3 2020, peak tolls are up 205% northbound and 275% southbound. Q3 2020 tolls were very low due to lack of demand caused by the pandemic.

Q3 2021 AVERAGE TOLL PAID WAS \$1.90, COMPARED TO \$1.50 IN Q2 2021, 27% HIGHER.

Toll Distribution

Drivers made 960,000 paid express lane trips. 73% of paid trips cost \$2 or less while 7% cost more than \$9.



COVID-19 Impacts

Daily Trips

Averages	Pre-COVID (Jan 2018 - Feb 2020)	COVID (June 2020 – June 2021)	Q3 2021
Average Daily Express Lane Trips	32,300	19,100	29,500
Share of Toll-Free Trips	41%	37%	37%

Q3 2021 average daily express lane trips were up 54% from the average during the COVID peak (June 2020 through June 2021). The share of carpool trips stayed consistent.

Tolls

		Pre-COVID: Q3 2019	COVID: Q3 2020	Q3 2021
Average Assessed Toll	SB	\$2.00	\$0.70	\$1.40
	NB	\$2.70	\$1.20	\$2.40
Maximum Assessed Toll	SB	\$8.00	\$8.75	\$15.25
	NB	\$8.50	\$10.00	\$10.00
Share of Tolloed Trips Paying Maximum Toll	SB	2.9%	0.1%	0.5%
	NB	5.4%	1.3%	13.3%

Q3 2021 average assessed tolls were lower compared to Q3 2019 but higher compared to Q3 2020. The southbound maximum toll increased due to the extension of the southbound lane that opened in August 2021. The northbound maximum toll increased from pre-COVID levels due to changes to the toll algorithm effective fall 2019. The share paying the maximum toll northbound increased over Q3 2020, as well as over Q3 2019 due to a higher share of trips being made over an extended p.m. peak.

Note: The southbound express lane was extended 12-miles on August 20, 2021, increasing the 680 Contra Costa Express lanes from 25 to 37 miles. This contributes to higher trips and higher maximum tolls in Q3 in the southbound direction.

COVID-19 Impacts

Peak Period Traffic Impacts

Averages	Southbound (6 AM – 9 AM)			Northbound (3 – 6 PM)		
	Pre-COVID (Jan 2018 through Feb 2020)	COVID (June 2020 – June 2021)	Q3 2021	Pre-COVID (Jan 2018 through Feb 2020)	COVID (June 2020 – June 2021)	Q3 2021
Express Lane Volume	950	430 (-55% from pre-COVID)	590 (-38% from pre-COVID)	880	620 (-30% from pre-COVID)	820 (-7% from pre-COVID)
Express Lane Speed	67	84 (+25% from pre-COVID)	73 (+9% from pre-COVID)	62	72 (+16% from pre-COVID)	68 (+10% from pre-COVID)
General Purpose Lane Volume	1,380	1,100 (-20% from pre-COVID)	1,180 (-14% from pre-COVID)	1,370	1,280 (-7% from pre-COVID)	1,320 (-4% from pre-COVID)
General Purpose Lane Speed	60	72 (+20% from pre-COVID)	63 (+5% from pre-COVID)	56	64 (+14% from pre-COVID)	59 (+5% from pre-COVID)

Express lane traffic is resuming from the lows of the pandemic but has not fully recovered. Q3 2021 southbound a.m. peak period express lane vehicle volume was down 38% compared to a 55% decrease during the pandemic. Northbound, Q3 2021 p.m. peak period volume was down 7%; compared to a 30% decrease during the pandemic.

Q3 2021 southbound and northbound express lane speeds were faster than before the pandemic but not as fast as they were during the pandemic.

Southbound general purpose lane volume was about 14% lower than its pre-pandemic level. Northbound, it returned to within 4%. Average peak-period general purpose lane speeds were just 5% faster than before the pandemic began.

Note: The southbound express lane was extended 12-miles on August 20, 2021, increasing the 680 Contra Costa Express lanes from 25 to 37 miles.

How Drivers Use the Lanes

In Q3 2021, about 530,000 unique vehicles made about 1.9 million express lane trips.

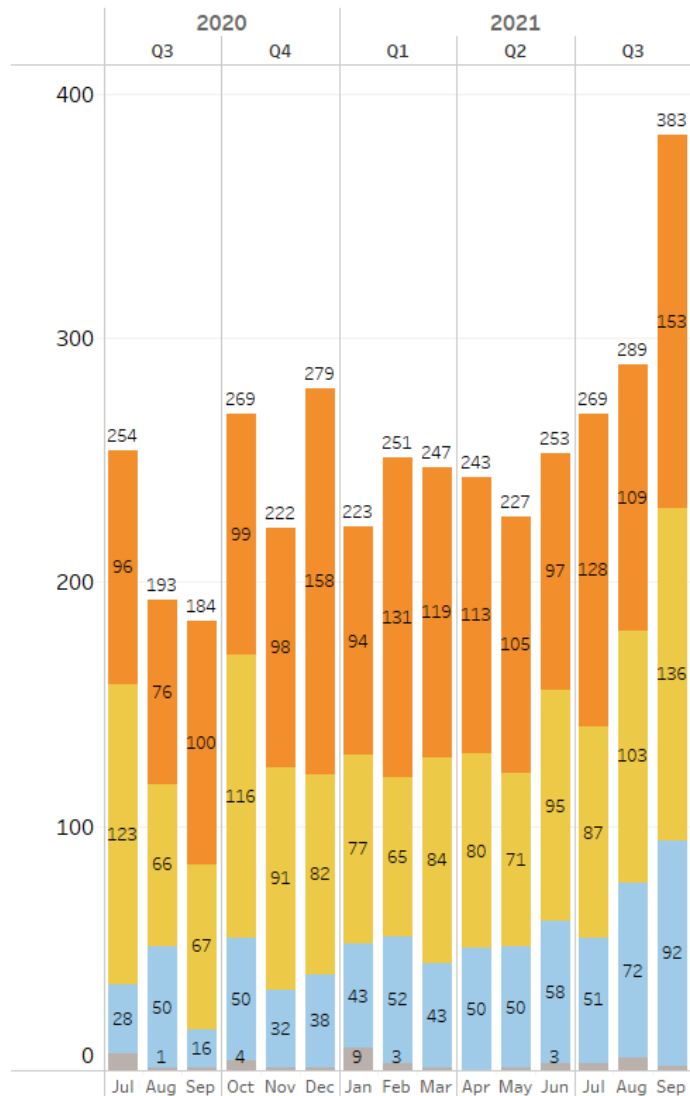
Nearly 280,000 of these vehicles (53%) carried toll tags and made over 1.2 million express lane trips (66% of trips). Nearly half of these drivers (127,000) made just one express lane trip in the quarter. Overall, these drivers averaged 4.6 express lane trips in the quarter, or 1.5 trips per month.

Over 250,000 of the unique vehicles (47%) did not carry toll tags and made nearly 645,000 express lane trips (34% of trips). Most of these drivers (162,000; 72%) made just one express lane trip in the quarter. Overall, these drivers averaged 2.5 express lane trips in the quarter, or 0.9 trips per month.

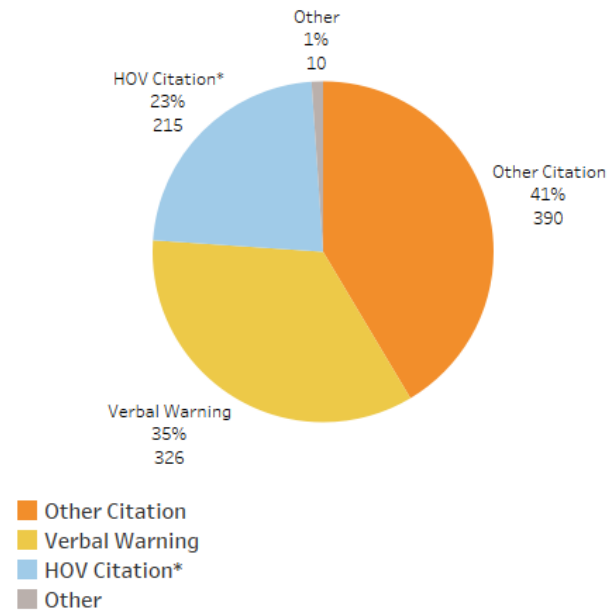
Of the 645,000 trips made without a toll tag in the vehicle, about 32% were not matched to FasTrak accounts, resulting in the 12% violation rate shown earlier.

	Vehicles	EL Trips	Trips Per Vehicle Per Month
With Toll Tags	280,000 (53%)	1.24 million (66%)	1.5
Without Toll Tags	250,000 (47%)	645,000 (34%)	0.9
Total	530,000	1.9 million	

CHP Enforcement



Q3 2021



*The number of historical HOV citations shown here may be higher than shown in earlier reports due to additional information provided by CHP in summer 2021.

CHP enforcement hours were up 20% over Q3 2020.

This quarter, CHP filled 93% of requested hours and made 942 enforcement contacts, 23% of which were related to carpool occupancy violations.

The average cost per enforcement contact was \$88.

For more information, visit expresslanes.511.org or [MTC's express lanes page](#).

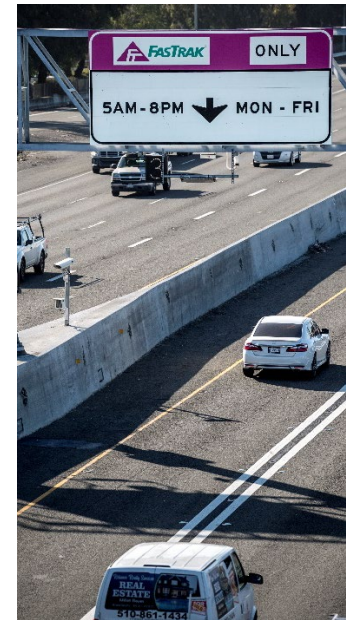


APPENDIX D

I-880 Alameda Express Lanes Operations Report

I-880 Express Lanes Performance Report

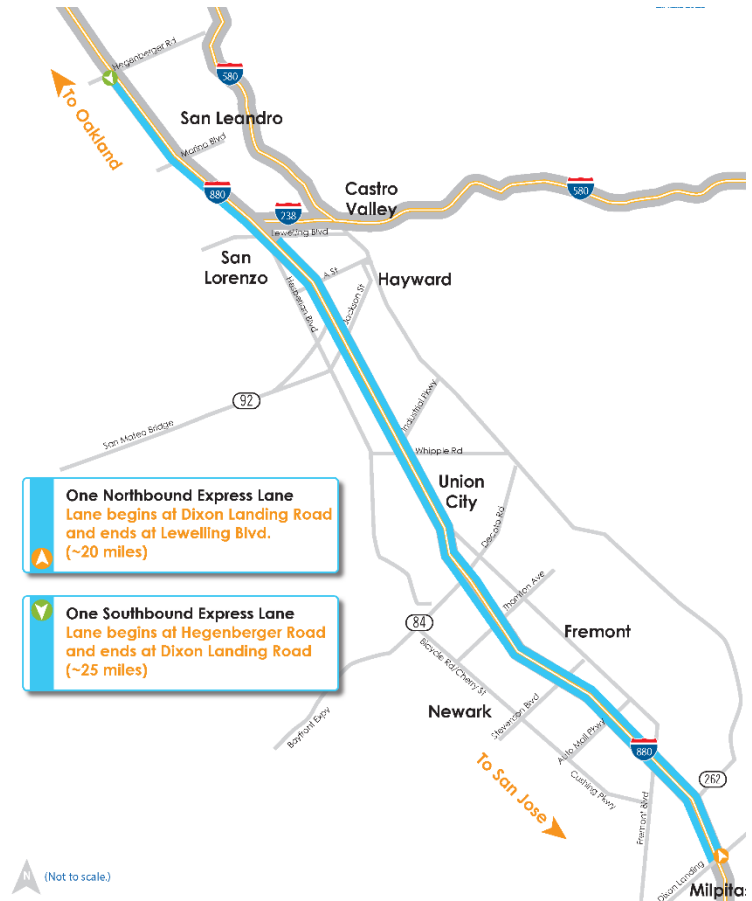
3rd Quarter 2021: July - September



Bay Area Infrastructure Financing Authority
Submitted February 2022

I-880 Express Lanes Policies

- Tolling Hours are 5 a.m. to 8 p.m. Monday – Friday.
- All drivers must have a FasTrak® account to avoid fines.
 - Solo drivers can carry a standard FasTrak tag* or a FasTrak Flex tag set to 1 or pay tolls via license plate.
 - Carpools (3+) travel toll-free with FasTrak Flex toll tags set to 3+.
 - Carpools (2) pay half-price tolls with FasTrak Flex toll tags set to 2.
 - Motorcycles travel toll-free with FasTrak Flex toll tags set to 3+.
 - Solo-drivers in eligible clean-air vehicles (CAV) pay half-price tolls with FasTrak CAV toll tags set to 1.



*Standard FasTrak tags do not have a switch and were issued prior to January 2020.

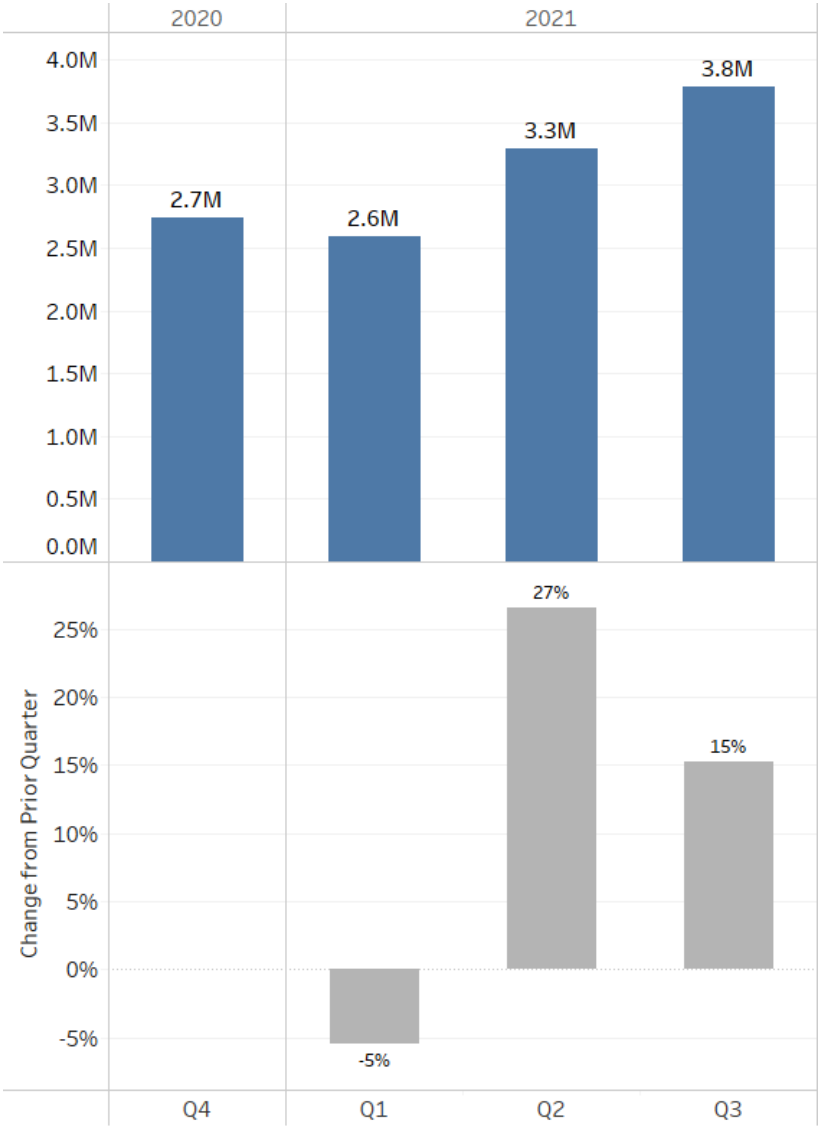
Carpools		All Drivers	
Must Have FasTrak Flex®		Must Have FasTrak®	
FREE	HALF TOLL	HALF TOLL	FULL TOLL
Motorcycles are FREE with FasTrak Flex toll tag set to 3+.		Clean Air Vehicles pay half-price tolls with FasTrak CAV toll tag.	

I-880 Express Lanes- Q3 2021 Performance Highlights

- Q3 2021 express lane trips were up 15% from the prior quarter to 3.8 million trips. Average daily express lane trips since the express lanes opened is over 49,000 and was 59,000 in Q3 2021.
- The share of toll-free HOV 3+ trips was 30%, up 2% from Q2 2021 and up 11% from the first quarter of tolling operations (Q4 2020). The share of half-price HOV2 trips was 8%, down 1% from Q2 2021 and the same as the first quarter of tolling. The combined share of carpool trips was 38%, up 1% from Q2 2021 and up 11% from Q4 2020.
- 14% of express lane trips were violations - express lane trips made with neither a FasTrak account nor a toll tag. The rate is lower than the prior two quarters.
- Toll revenue was up 23% over Q2 2021. Paid trips were up 7% and the average toll paid was up 23%.
- Corridor-length northbound travel was slowest between 4 and 5 p.m. when express lane speed averaged 18 mph faster than the general purpose lanes and the average assessed toll was \$7.10. Corridor-length southbound travel was slowest between 7 and 8 a.m. when express lane speed averaged 16 mph faster and the average assessed toll was \$6.10.
- Northbound, spot traffic peaked around Whipple Rd. between 4 and 5 p.m. when the express lane traveled 19 mph faster and moved 8% more vehicles than the average general purpose lane. Southbound, spot traffic peaked between Hacienda Ave. and W. Winton Ave. between 7 and 8 a.m. when the express lane traveled 29 mph faster with 8% fewer vehicles than the average general purpose lane.
- More than half of express lane drivers (54%) carried toll tags and made an average of 2.3 express lane trips per month. Drivers without FasTrak tags made an average of 1.1 trips per month.
- CHP made 2,570 enforcement contacts, of which 32% resulted in citations for crossing double white lines and 18% related to carpool occupancy.

The goal of express lanes is to maximize available lane capacity while keeping traffic moving, thus encouraging carpooling and transit ridership.

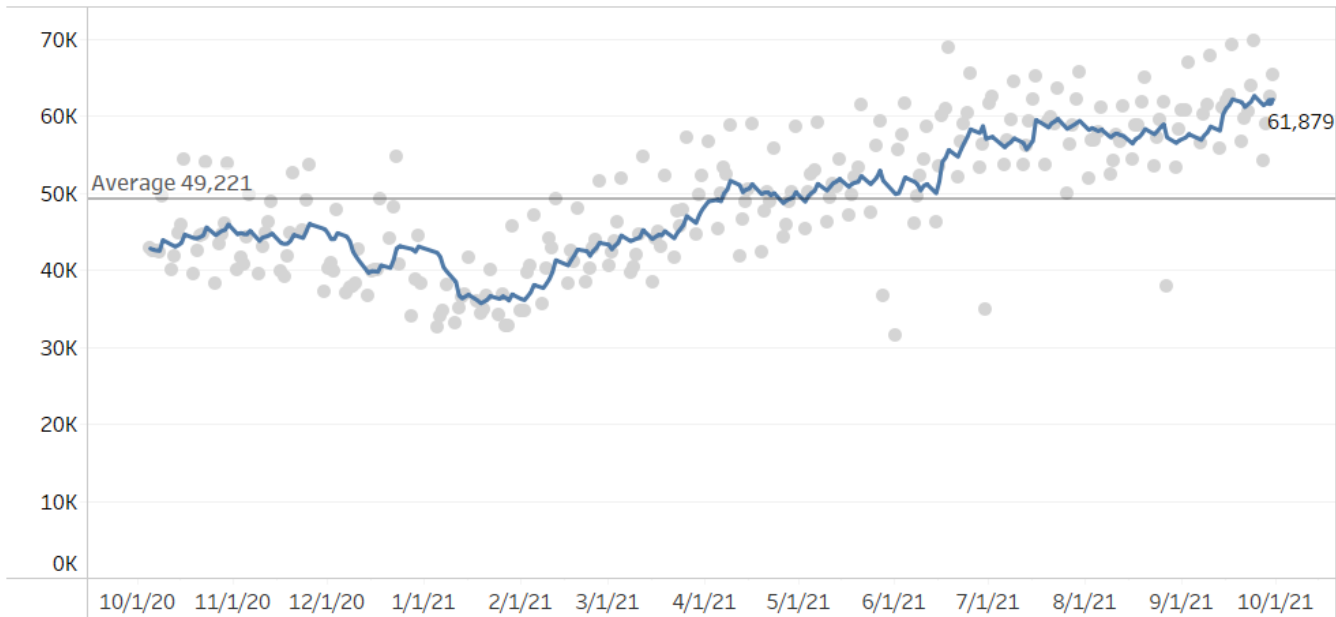
Express Lane Trips



3.8 million express lane trips were made in Q3 2021, up 15% from Q2 2021.

Average Daily Express Lane Trips

Average Daily Trips (ADT) (grey dots) with 10-day Moving Average (blue line) (Northbound & Southbound)

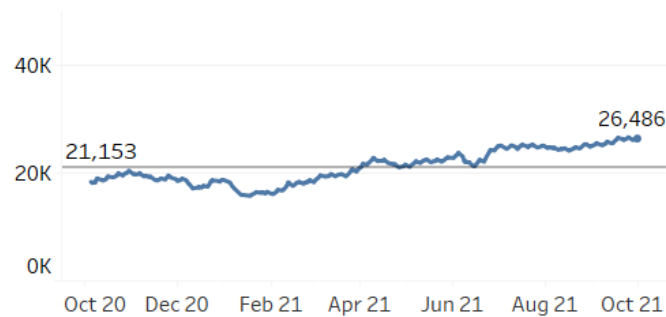


The number of tolling days varies per quarter, so Average Daily Trips (ADT) is best for seeing express lane trip trends.

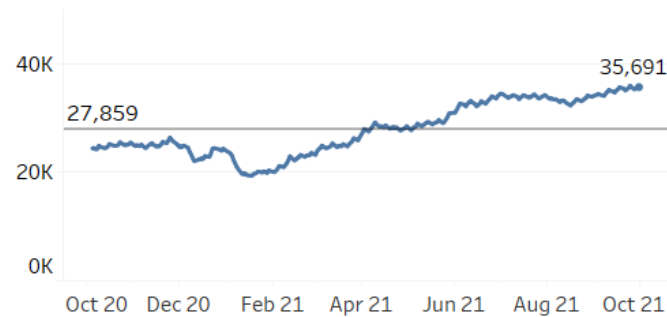
Average daily express lane trips since the express lanes opened is over 49,000 and was 59,000 in Q3 2021. The 10-day ADT moving average was almost 62,000 at the end of Q3 2021.

The southbound express lane is 25% longer than the northbound lane, and southbound ADT is 32% higher than northbound. More vehicles per mile have been using the lanes southbound than northbound.

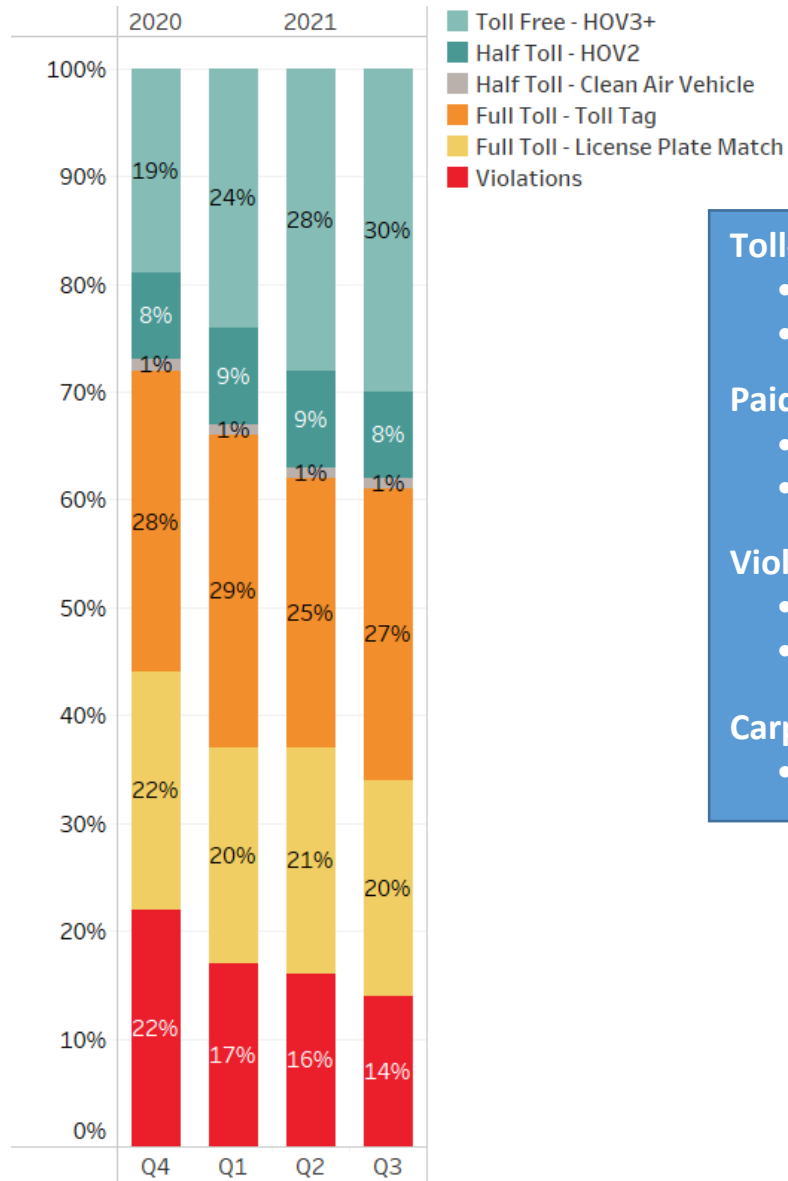
Northbound (10-day Moving Average)



Southbound (10-day Moving Average)



Trip Type



Toll-free trips = 30%

- Share up 2% from Q2 2021
- Share has grown each quarter

Paid trips = 56%

- 9% half toll
- 47% full toll

Violation trips = 14%

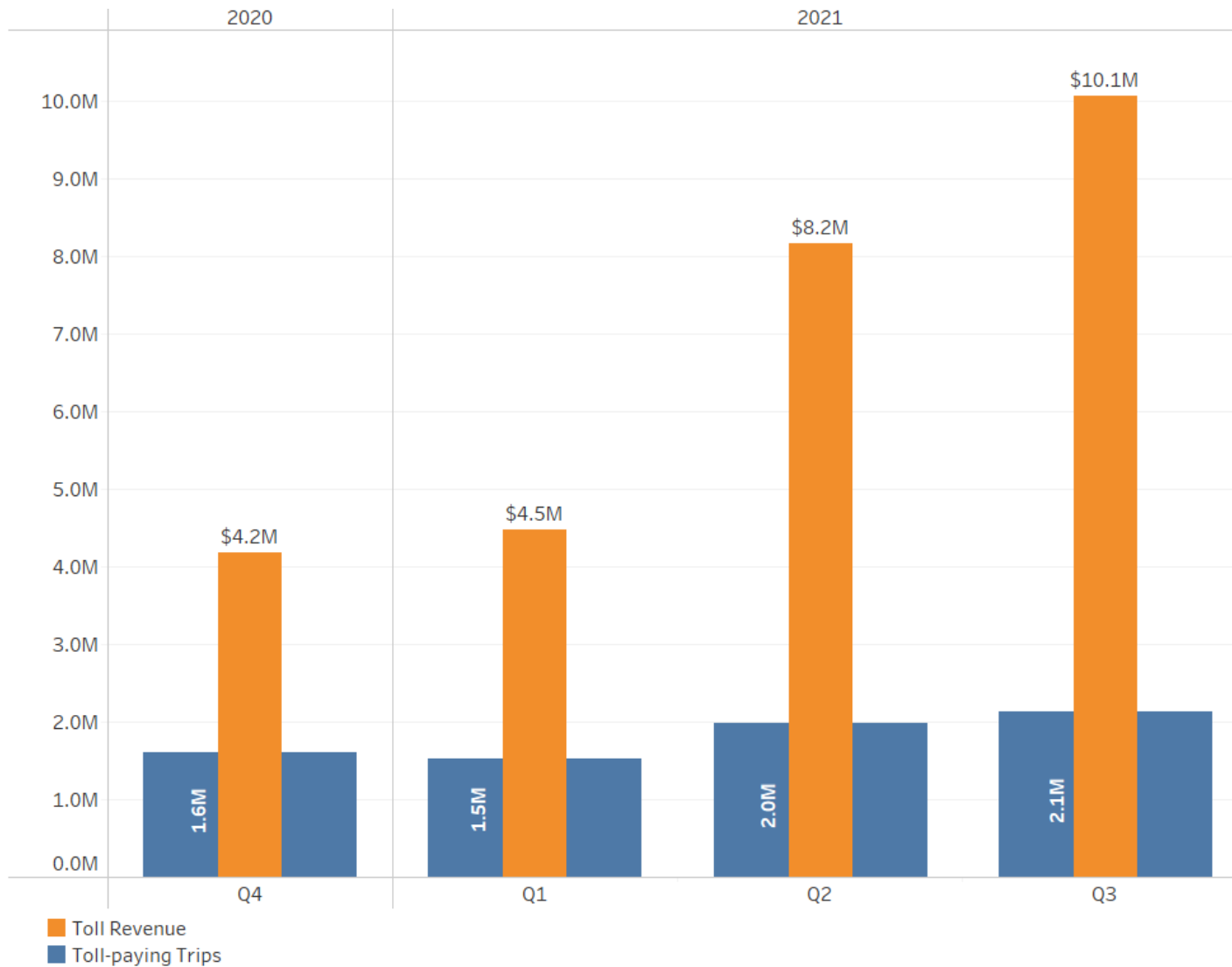
- No toll tag and license plate not matched to a FasTrak account
- Violation trips have fallen each quarter

Carpool trips (HOV 3+ and HOV 2) = 38%

- Share up 1% from Q2 2021

Toll Revenue* and Paid Trips

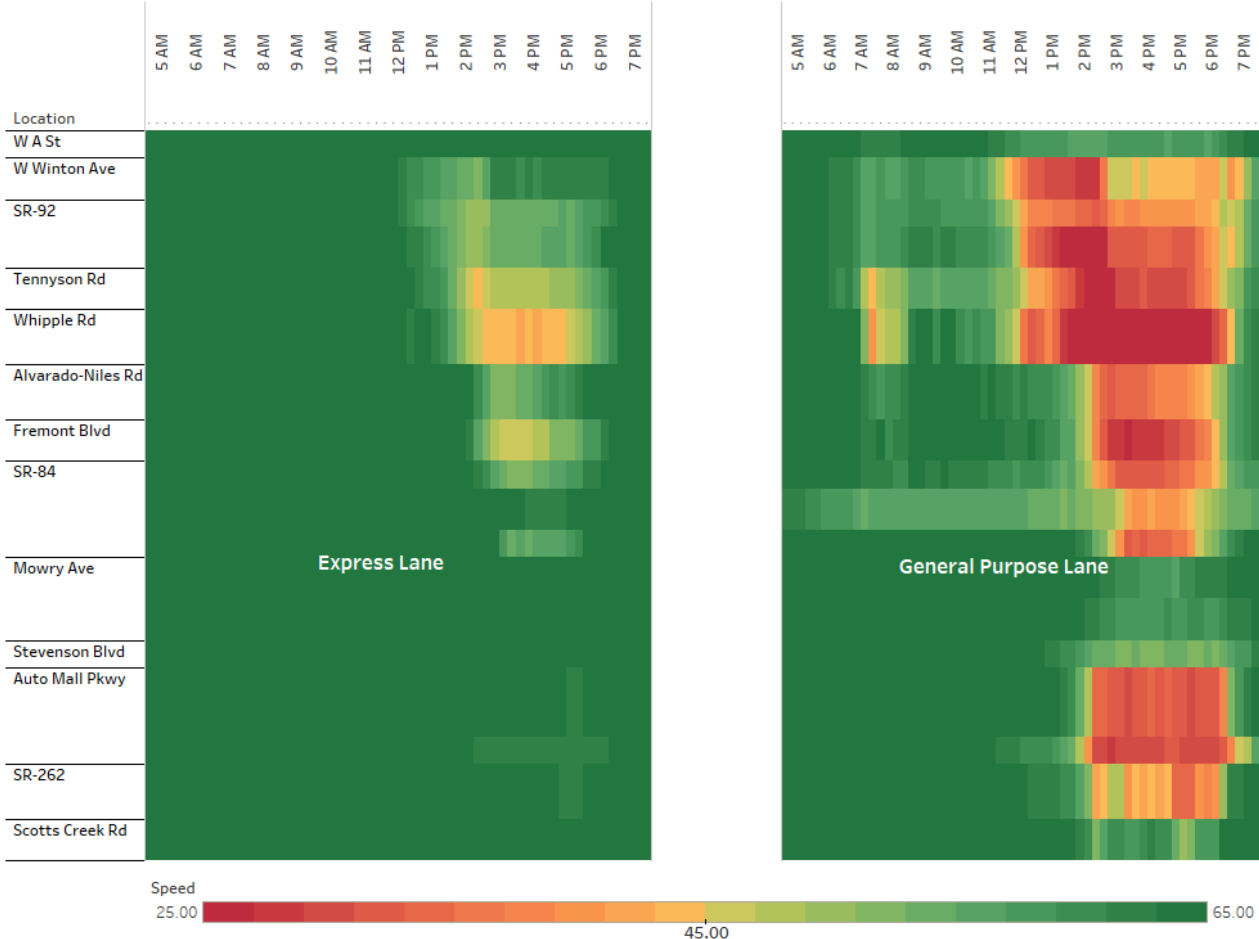
*Revenue from general tolls. Does not include revenue from violation fees.



From Q2 2021, general toll revenue was up 23%, paid trips were up 7%, and the average toll paid was up 23%.

Northbound Speed by Location and Time: Quarter Average

Northbound express lane average speeds slowed below 45 mph around Whipple Rd. between 2 and 5:30 p.m. General purpose lane average speeds were below 45 mph throughout most of the corridor for most of the afternoon and evening.

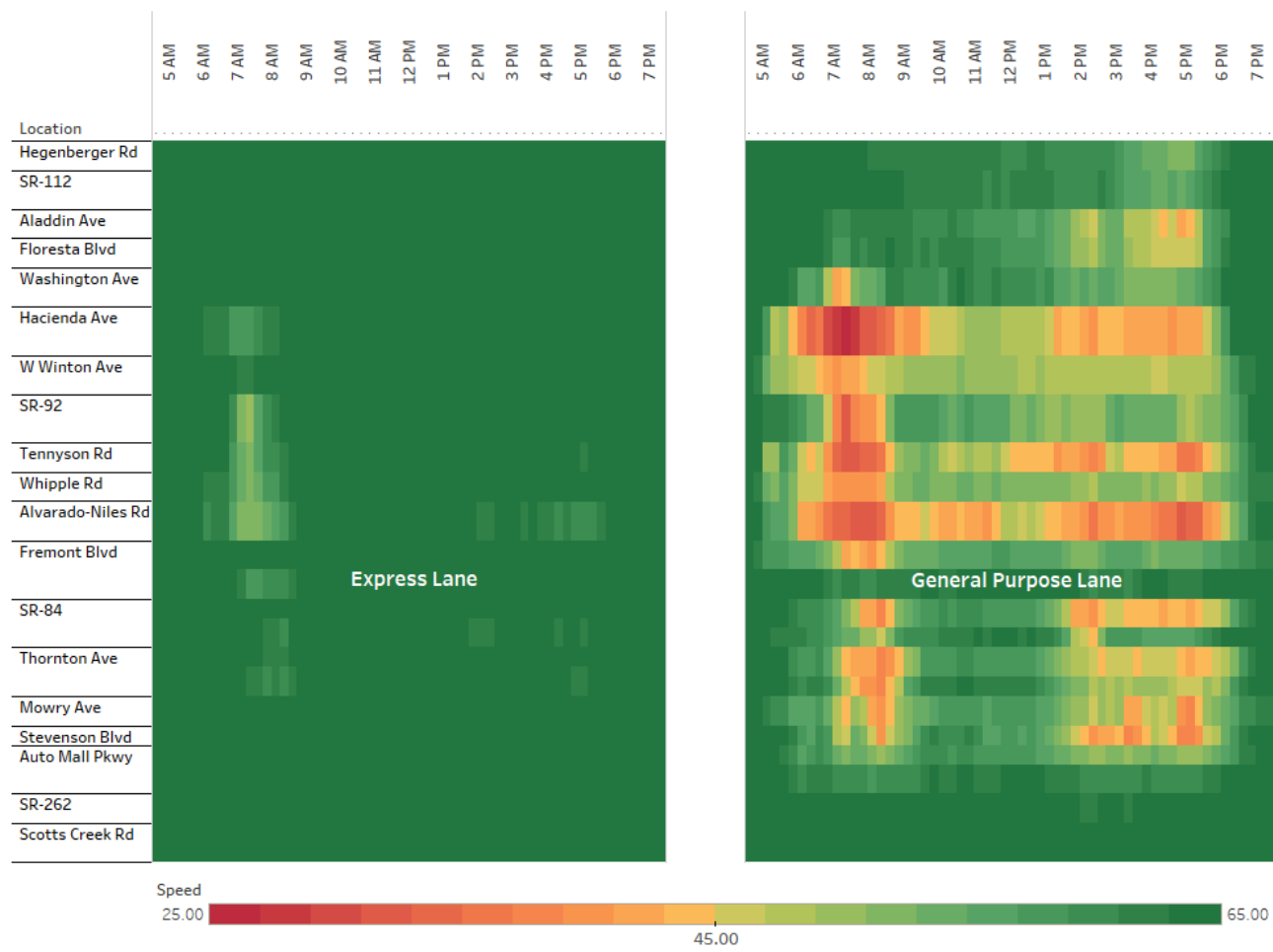


Northbound Peak Spot Traffic	
4 p.m. – 5 p.m. Around Whipple Road	
Express Lane	Speed: 47 mph Volume: 1,325 vehicles
GP Lane	Speed: 28 mph Volume: 1,229 vehicles

Peak spot traffic occurred around Whipple Rd. between 4 and 5 p.m. During peak spot traffic, the express lane carried more vehicles per hour at a faster speed than the average general purpose lane, because demand for the general purpose lanes overwhelmed their capacity and the lanes approached gridlock. Express lane demand, however, was limited by tolls. Access restrictions may have also helped maintain express lane speed with higher vehicle volumes.

Northbound Corridor-length Slowest Travel	
4 p.m. – 5 p.m.	
Express Lane	58 mph
GP Lane	40 mph
Difference	18 mph

Southbound Speed by Location and Time: Quarter Average



The southbound express lane average speed stayed at or above 50 mph. The southbound general purpose lane average speeds were slowest between 6 and 9 a.m. from Hacienda Ave to W. Winton Ave.

Southbound Peak Spot Traffic	
7 a.m. – 8 a.m. Hacienda Ave. to W. Winton Ave.	
Express Lane	Speed: 59 mph Volume: 1,178 vehicles
GP Lane	Speed: 30 mph Volume: 1,282 vehicles

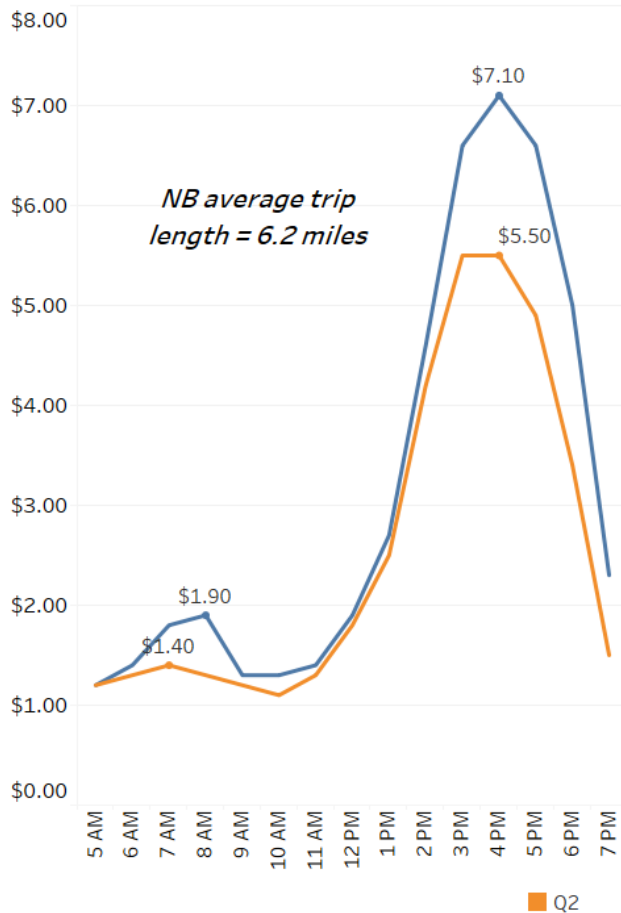
Southbound Corridor-length Slowest Travel	
7 a.m. – 8 a.m.	
Express Lane	65 mph
GP Lane	49 mph
Difference	16 mph

Quarterly Average Toll Paid by Time of Day

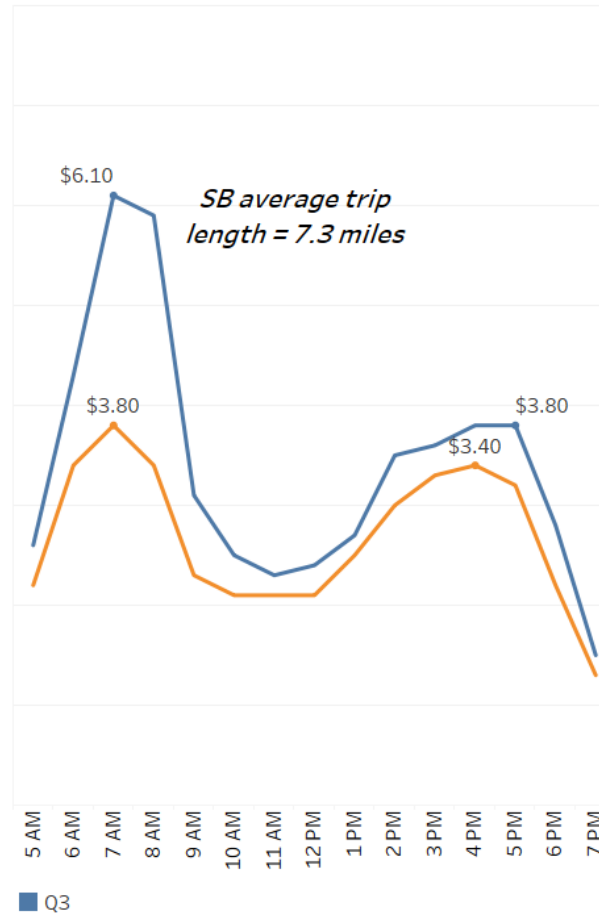
The average toll paid by drivers increased from Q2 to Q3 2021 at all times of day both northbound and southbound, while the average trip length stayed consistent, showing increased express lane demand.

Q3 2021 Compared to Q2 2021

Northbound



Southbound

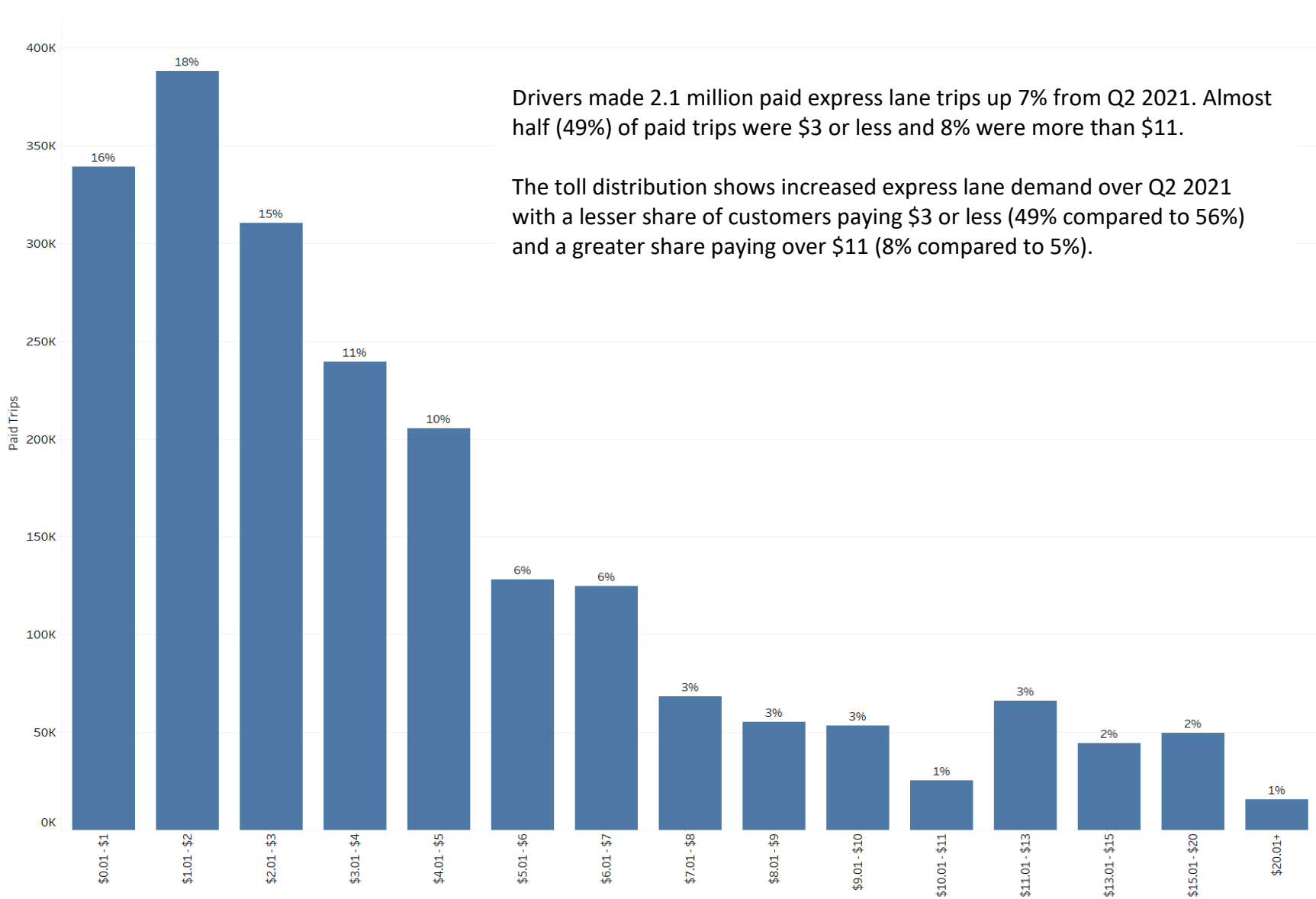


Northbound, Q3 2021 average tolls paid peaked at \$7.10 in the 4 p.m. hour, \$1.60 more than the Q2 peak.

Southbound, Q3 2021 tolls showed the most pronounced a.m. increase since I-880 tolling began in October 2022. At \$6.10, the Q3 southbound a.m. peak toll is \$2.30 higher than in the prior quarter.

Q3 2021 AVERAGE TOLL PAID WAS \$3.70, COMPARED TO \$3.00 IN Q2 2021, 23% HIGHER.

Toll Distribution



How Drivers Use the Lanes

In Q3 2021, nearly 720,000 unique vehicles made over 3.8 million express lane trips.

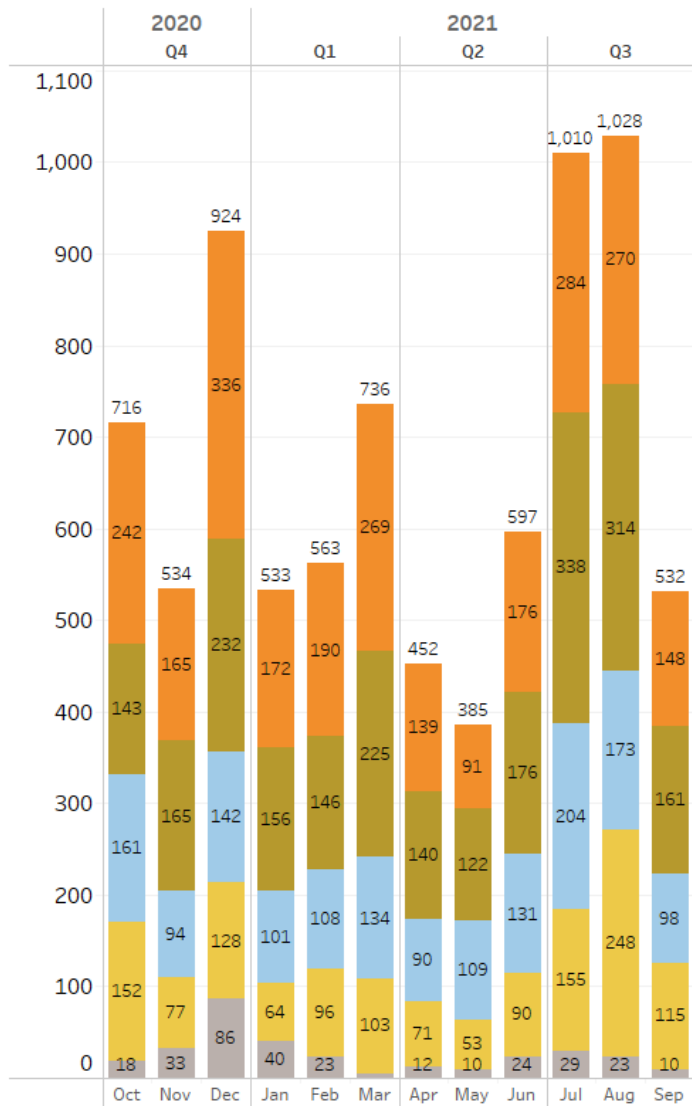
Nearly 390,000 of these vehicles (54%) carried toll tags and made almost 2.7 million express lane trips (71% of trips). Over 40% of these drivers (160,000) made just one express lane trip in the quarter. Overall, these drivers averaged 6.9 express lane trips in the quarter, or 2.3 trips per month.

Nearly 330,000 of the unique vehicles (46%) did not carry toll tags and made over 1.1 million express lane trips (29% of trips). Almost 60% of these drivers (190,000) made just one express lane trip in the quarter. Overall, these drivers averaged 3.4 express lane trips in the quarter, or 1.1 trips per month.

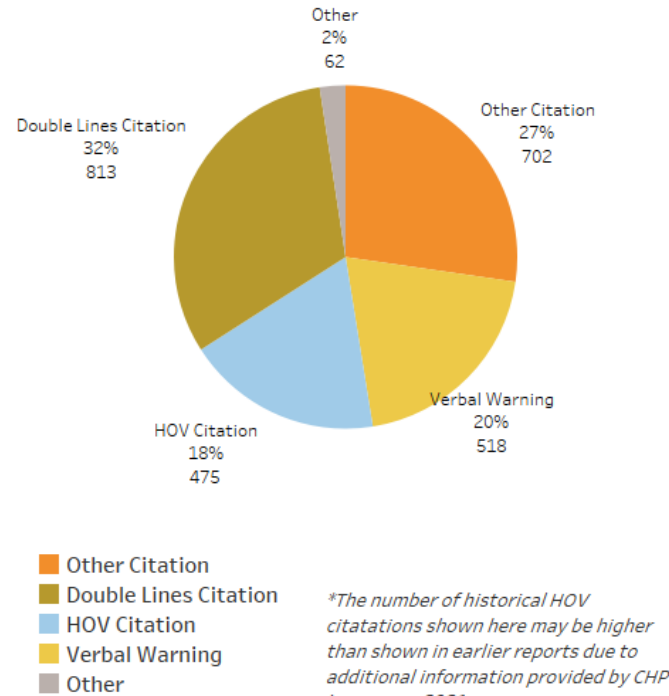
Of the 1.1 million trips made without a toll tag in the vehicle, about 42% were not matched to FasTrak accounts, resulting in the 14% violation rate shown earlier.

	Vehicles	EL Trips	Trips Per Vehicle Per Month
With Toll Tags	390,000 (54%)	2.7 million (71%)	2.3
Without Toll Tags	330,000 (46%)	1.1 million (29%)	1.1
Total	720,000	3.8 million	

CHP Enforcement



Q3 2021



CHP made 2,570 enforcement contacts in Q3 2021, 32% resulting in citations for crossing double white lines and 18% related to HOV occupancy violations. Officers prioritized illegal lane crossing citations over HOV citations for safety reasons.

CHP filled 62% of BAIFA’s requested 2,560 enforcement hours. The average cost per enforcement contact was \$74, down 20% from \$92 in Q2 2021.

For more information, visit expresslanes.511.org or [MTC's express lanes page](#).

