I-680 Contra Costa Express Lanes Performance Report 4th Quarter 2021: October - December



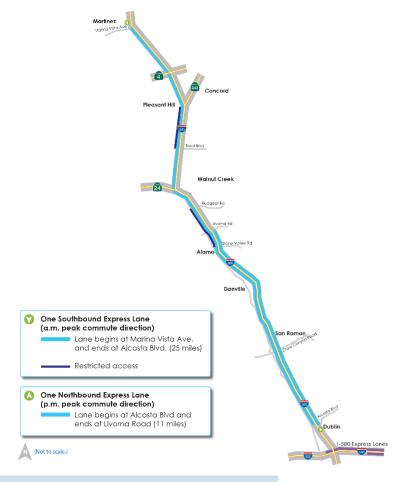




Bay Area Infrastructure Financing Authority
Submitted April 2022

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 penalties.
 - 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 halfprice tolls with FasTrak CAV toll tags set to 1.







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

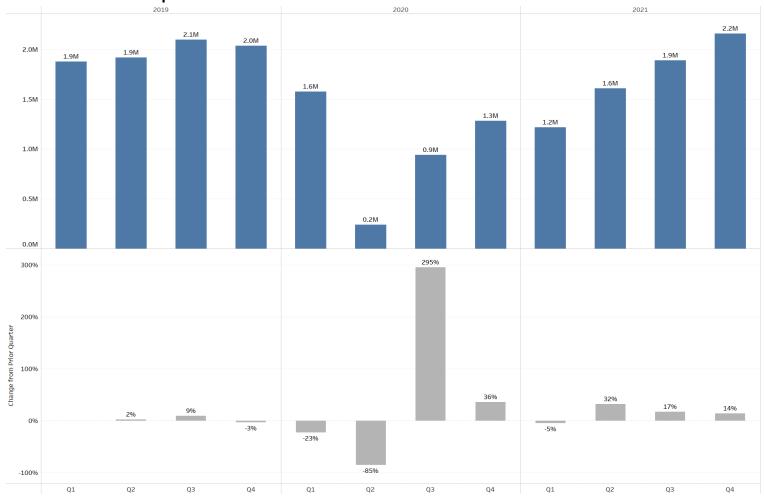
I-680 Contra Costa Express Lanes – Q4 2021 Performance Highlights

- Q4 2021 was the first quarter with 3 months of data that included the 12-mile extension of the southbound express lane, which began tolling operations on August 20, 2021.
- Express lane trips were up 14% from the prior quarter as the COVID-19 pandemic lessened and as the southbound extension added tolled miles. Express lane trips were up 68% from a year ago (Q4 2020) and up 6% from Q4 2019*, the last Q4 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 Q4 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%.
- The goal of express lanes is to maximize lane use while keeping traffic moving to encourage carpooling and transit ridership.
- Toll revenue was up 19% over the prior quarter, up 296% over a year ago (Q4 2020; pandemic), and down 13% from two years ago (Q4 2019; prepandemic). Paid trips were up 66% from a year ago, and up 6% from Q4 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 64 mph (9 mph faster than the general purpose lanes) and the average toll paid was \$6.20. Corridor-length southbound travel was slowest between 8 and 9 a.m. when express lane speed averaged 68 mph (10 mph faster than the general purpose lanes) and the average toll paid was \$4.80.
- Spot traffic, characterized by high vehicle use and slow speeds, peaked northbound approaching Livorna Rd. between 4 and 5 p.m. when the express lane average speed was 54 mph, 17 mph faster than the average general purpose lane, and average lane volume was 1,200 vehicles per hour, 12% lower than the average general purpose lane. Spot traffic peaked southbound south of Monument Blvd. between 8 and 9 a.m. when the express lane average speed was 51 mph, 17 mph faster than the average general purpose lane, and average lane volume was 724 vehicles per hour, 24% lower than the average general purpose lane.
- Half of express lane drivers carried toll tags and made an average of 1.6 trips per month. Drivers without toll tags in the vehicle made an average of less than one trip per month.
- CHP made 1,013 enforcement contacts, of which 26% resulted in citations related to carpool occupancy.

*Year-over-year comparisons identify trends without the influence of seasonality. Q4 2020 was heavily impacted by COVID-19, so this report includes some comparisons to Q4 2019. Q4 2021 data is also impacted by 12 additional southbound tolled miles.



Express Lane Trips



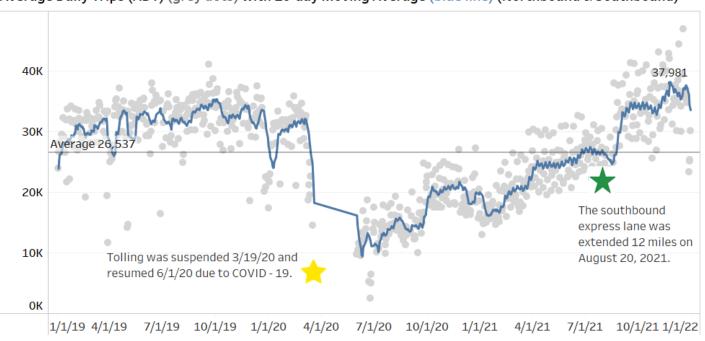
2.2 million express lane trips were made in Q4 2021. Trips were up 14% from the prior quarter (Q3 2021), up 68% from Q4 2020, and up 6% from Q4 2019. The increases are due to the 12-mile southbound lane extension that opened in August 2021 and the lessening of the COVID-19 pandemic that started in Q1 2020.



Average Daily Express Lane Trips

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

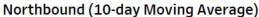
Average Daily Trips (ADT) (grey dots) with 10-day Moving Average (blue line) (Northbound & Southbound)



2022

Average daily trips 2019 through 2021 was over 26,500. Average daily trips in Q4 2021 were close to 35,000.

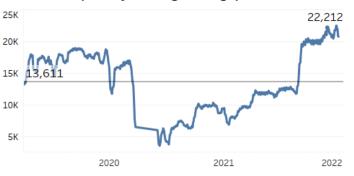
The 10-day ADT moving average peaked in late November at close to 38,000 and was made up of ~16,000 northbound ADT and ~22,000 southbound ADT.



2020

25K 20K 15K 12,334 10K 5K

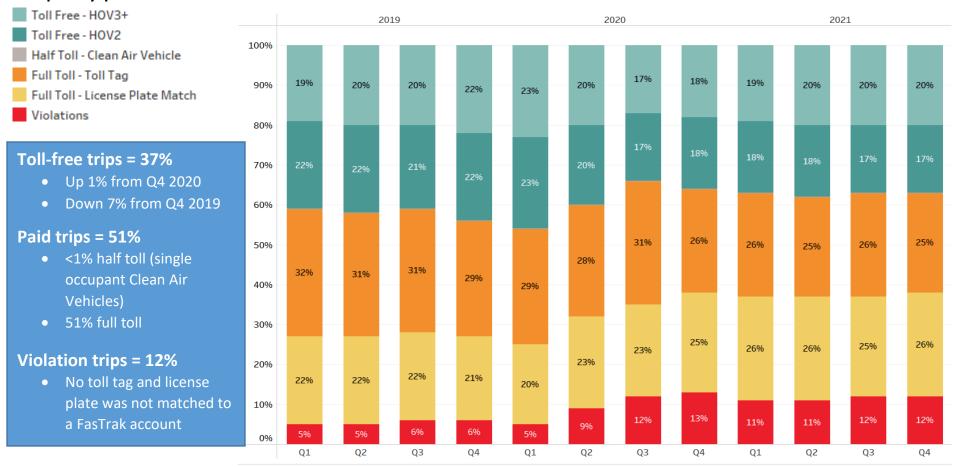
Southbound (10-day Moving Average)





2021

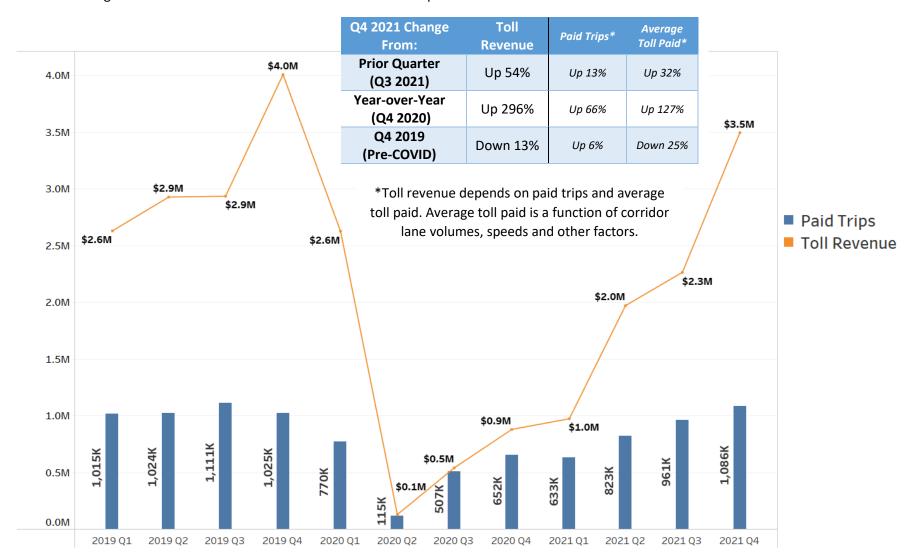
Trip Type



Violation trips are twice the share they were two years ago. The violation rate increased in the same time frame when Bay Area toll bridges replaced manual cash collection with invoices. This may have caused some drivers to think using express lanes without FasTrak will result in an invoice instead of a violation. Express lane signage states that FasTrak is required, and MTC has been advertising FasTrak requirements.

Toll Revenue* and Paid Trips

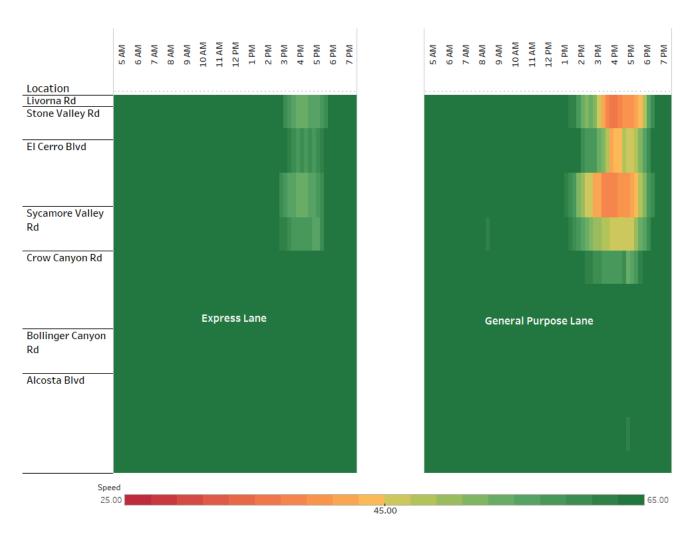
*Revenue from general tolls. Does not include revenue from violation penalties.





Northbound Speed by Location and Time: Quarter Average

Q4 2021 northbound express lane speeds averaged 64 mph or higher. Northbound general purpose lane average speeds slowed below 45 mph in the afternoon at the north end of the corridor.



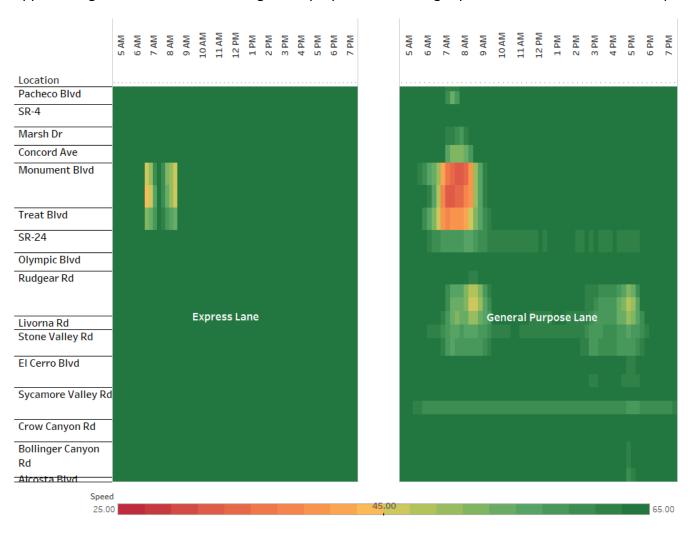
Northbound Peak Spot Traffic				
4 p.m. – 5 p.m.				
approaching Livorna Rd.				
Express Lane	Speed: 54 mph			
express Lane	Volume: 1,199 vehicles			
GP Lane	Speed: 37 mph			
GP Lane	Volume: 1,360 vehicles			

Northbound Corridor-length			
Slowest Travel			
Northbound	4 p.m. – 5 p.m.		
Express Lane	64 mph		
GP Lane	55 mph		
Difference	9 mph		



Southbound Speed by Location and Time: Quarter Average

Q4 2021 southbound express lane speeds averaged 65 mph or higher, except between 7 and 9 a.m. when the average fell to as low as 44 mph approaching Treat Blvd. Southbound general purpose lane average speeds slowed to as low as 32 mph at that same location and time.



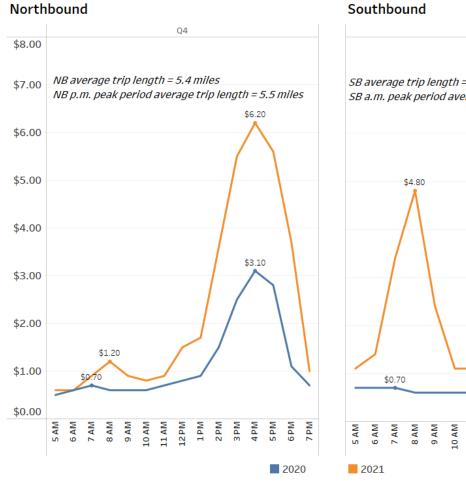
Southbound Peak Spot Traffic				
	8 a.m. – 9 a.m.			
south of Monument Blvd.				
F	Speed: 51 mph			
Express Lane	Volume: 724 vehicles			
GP Lane	Speed: 34 mph			
GF Laile	Volume: 955 vehicles			

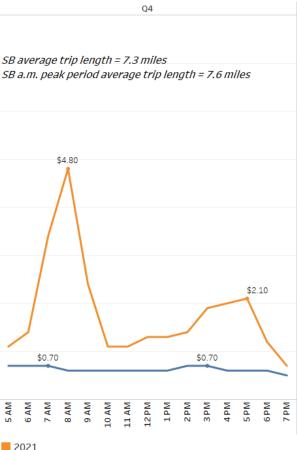
Corridor-length Average			
Speed in Peak Hour			
Southbound	8 a.m. – 9 a.m.		
Express Lane	68 mph		
GP Lane	58 mph		
Difference	10 mph		

Quarterly Average Toll Paid by Time of Day

The average toll paid by drivers increased from Q4 2020 to Q4 2021 at all times of day both northbound and southbound, except for northbound at 6 a.m. The northbound average trip distance fell 0.2 miles from Q4 2020. The southbound average trip distance increased 1.3 miles from Q4 2020, likely due to the extension of the southbound express lane in August 2021.

Q4 2021 Compared to Q4 2020





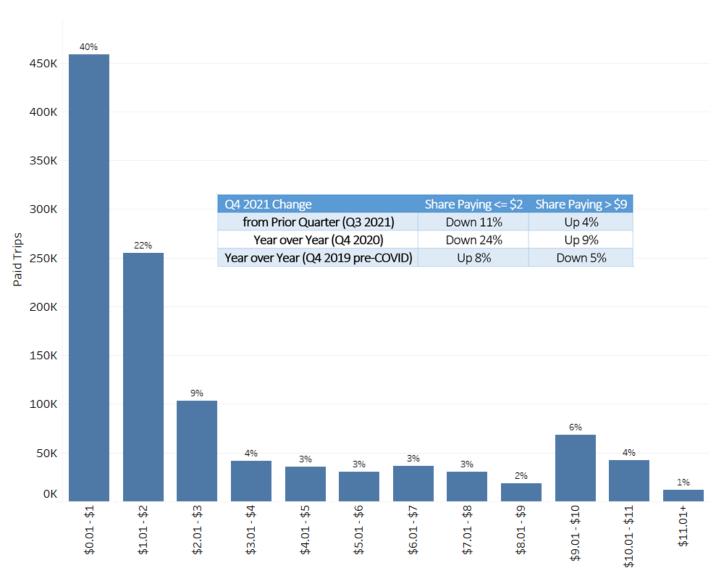
Northbound, the average toll paid peaked at \$6.20 between 4 and 5 p.m. Southbound, it peaked at \$4.80 between 8 and 9 a.m.

Compared to Q4 2020, peak tolls are up 100% northbound and 585% southbound. Q4 2020 tolls were low due to lack of demand caused by the pandemic.

Q4 2021 AVERAGE TOLL
PAID WAS \$2.50, COMPARED
TO \$1.10 IN Q4 2020,
127% HIGHER. IT WAS 32%
HIGHER THAN THE \$1.90
AVERAGE TOLL PAID IN Q3
2021.



Toll Distribution



Drivers made 1,085,000 paid express lane trips in the quarter, 62% of which cost \$2 or less while 11% cost more than \$9.

Compared to Q3 2021 and to a year ago, the share of drivers paying \$2 or less per trip is lower, but the share paying more than \$9 is higher, suggesting stronger express lane demand.

Compared to Q4 2019, before the pandemic, the share paying \$2 or less per trip is higher and the share paying more than \$9 is lower, suggesting express lane demand remains weaker than before the pandemic began.

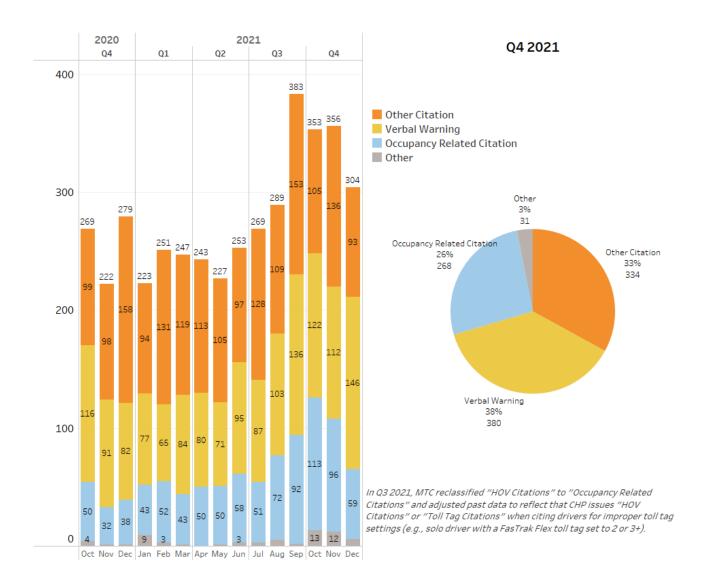
How Drivers Use the Lanes

In Q4 2021, about 573,000 unique vehicles made about 2.2 million express lane trips, as shown in the table below.

	Trips per Quarter	Unique Vehicles - Made Trips in Q4	Q4 Trips Per Unique Vehicle Per Month	Unique Vehicles – Made Only 1 Trip in Q4
Vehicles Carrying Toll Tags	1.41 million (66%)	286,000 (50%)	1.6	134,000 (50% of unique vehicles with toll tags)
Vehicles Not Carrying Toll Tags (i.e., license plate read)	753,000 (34%)*	286,000 (50%)	0.9	187,000 (65% of unique vehicles without toll tags)
Total	2.2 million	573,000	1.3	321,000 (60% of unique vehicles)

^{* 67%} of these trips were matched to a FasTrak account. The unmatched trips result in the 12% violation rate shown earlier.





CHP Enforcement

With the opening of the 12-mile express lane extension, CHP enforcement hours were up 50% over Q4 2020.

This quarter, CHP filled 82% of requested hours and made 1,013 enforcement contacts, 26% of which were related to carpool occupancy violations.

The average cost to BAIFA per enforcement contact was \$95.

COVID-19 Impacts

Daily Trips

Averages	Pre-COVID (Jan 2018 - Feb 2020)	COVID (June 2020 – June 2021)	Q4 2021
Average Daily Express Lane Trips	32,300	19,100	34,800
Share of Toll-Free Trips	41%	37%	38%

Q4 2021 average daily express lane trips were up 82% from the average during the COVID period of June 2020 through June 2021 due to the lessening of COVID-19's effect on traffic as well as the southbound express lane extension that opened August 2021. Q4 2021 average daily express lane trips were up 8% from Q4 2019 before the pandemic began, due to the lane extension. The share of carpool trips rose one percentage point from a year ago but was lower than Q4 2019.

Tolls

		Pre-COVID: Q4 2019	COVID: Q4 2020	Q4 2021
Average Assessed Tell	SB	\$2.80	\$0.60	\$2.10
Average Assessed Toll	NB	\$4.00	\$1.50	\$3.00
Marine Marana d Tall	SB	\$10.00	\$6.50	\$17.75
Maximum Assessed Toll	NB	\$10.00	\$10.00	\$10.00
Share of Tolled Trips	SB	1.3%	0.001%	0.02%
Paying Maximum Toll	NB	9.9%	1.0%	7.7%

Q4 2021 average assessed tolls were lower than in Q4 2019 but higher than in Q4 2020. This suggests that demand for the express lane at any given time and location was not as strong as before the pandemic, but stronger than a year ago during the pandemic. The southbound maximum toll increased because the southbound lane extension resulted in some longer, more expensive trips. The share paying maximum tolls increased from over a year ago but remained below what it was before the pandemic.

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 the southbound direction.



COVID-19 Impacts

Peak Period Traffic Impacts

	Southbound (6 AM – 9 AM)			Northbound (3 – 6 PM)		
Averages	Pre-COVID (Jan 2018 through Feb 2020)	COVID (June 2020 – June 2021)	Q4 2021	Pre-COVID (Jan 2018 through Feb 2020)	COVID (June 2020 – June 2021)	Q4 2021
Express Lane Volume	950	430 (-55% from pre-COVID)	622 (-35% from pre-COVID)	880	620 (-30% from pre-COVID)	859 (-2% from pre-COVID)
Express Lane Speed	67	84 (+25% from pre-COVID)	70 (+4% from pre-COVID)	62	72 (+16% from pre-COVID)	65 (+5% from pre-COVID)
General Purpose Lane Volume	1,380	1,100 (-20% from pre-COVID)	1,115 (-19% from pre-COVID)	1,370	1,280 (-7% from pre-COVID)	1,261 (-8% from pre-COVID)
General Purpose Lane Speed	60	72 (+20% from pre-COVID)	61 (+2% from pre-COVID)	56	64 (+14% from pre-COVID)	56 (+0% from pre-COVID)

Express lane traffic is resuming from the lows of the pandemic but has not fully recovered. Q4 2021 southbound a.m. peak period express lane vehicle volume was down 35%; compared to a 55% decrease during the pandemic. Northbound, Q4 2021 p.m. peak period volume was down 2%; compared to a 30% decrease during the pandemic.

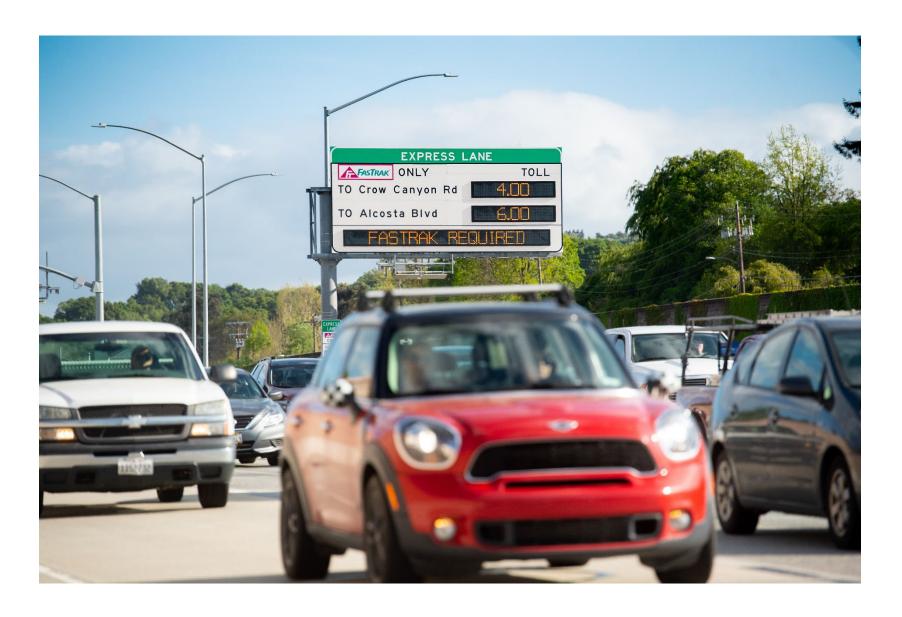
Q4 2021 southbound and northbound express lane speeds were faster than before the pandemic but not as fast as they were during the pandemic.

Southbound general purpose lane volume was about 19% lower than its pre-pandemic level. Northbound, it was 8% lower. Average peak-period general purpose lane speeds were just 2% faster southbound and were the same northbound compared to 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.



For more information, visit <u>expresslanes.511.org</u> or <u>MTC's express lanes page</u>.



I-880 Express Lanes Performance Report 4th Quarter 2021: October - December







Bay Area Infrastructure Financing Authority
Submitted April 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 penalties.
 - 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 halfprice tolls with FasTrak CAV toll tags set to 1.

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







I-880 Express Lanes – Q4 2021 Performance Highlights

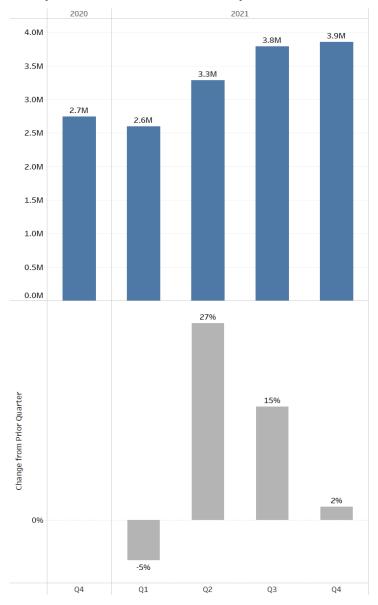
- Q4 2021 express lane trips increased 2% from the prior quarter to 3.9 million trips. Average daily express lane trips since tolling began topped 51,000. In Q4 2021 ADT was 62,000.
- The share of toll-free HOV 3+ trips was 33%, up 3% from Q3 2021 and up 14% from the first quarter of tolling operations (Q4 2020). The share of half-price HOV2 trips was 8%. The HOV2 trip share has been consistently 8% or 9% since tolling began.
- 14% of express lane trips were violations trips made with neither a toll tag nor a FasTrak account. The rate is the same as the prior quarter but lower than when tolling began.
- Quarterly toll revenue was up 11% over Q3 2021. Although paid trips fell 4%, the average toll paid
 increased 14%. Quarterly toll revenue was up 167% from a year ago (Q4 2020). Paid trips increased 28% and the average toll paid increased 100%.
- Corridor-length northbound travel was slowest between 5 and 6 p.m. when express lane speed averaged 56 mph (18 mph faster than the general purpose lanes), and the average toll paid was \$8.30. Corridor-length southbound travel was slowest between 7 and 8 a.m. and 5 and 6 p.m. at 63 mph (16 mph faster than the general purpose lanes in the a.m. and 13 mph faster in the p.m.) Southbound average toll paid peaked from 8 to 9 a.m. at \$6.80.
- Spot traffic, characterized by high vehicle volumes and slow speeds, peaked northbound around Whipple Rd. between 4 and 5 p.m. when the express lane average speed was 43 mph, 22 mph faster than the average general purpose lane, and average volume was ~1,200 vehicles per hour, 34% more than the average general purpose lane. Spot traffic peaked southbound around Whipple Rd. from 7 to 8 a.m. when the express lane average speed was 52 mph, 15 mph faster than the average general purpose lane, and average volume was ~1,200 vehicles per hour, about the same as the average general purpose lane.
- More than half of express lane drivers (54%) carried toll tags and made an average of 2.5 express lane trips per month. Drivers without FasTrak tags made an average of 1.1 trips per month.
- CHP made 2,377 enforcement contacts, of which 30% resulted in citations for crossing double white lines and 23% were related to carpool occupancy.

lanes is to maximize
lane use while keeping
traffic moving to
encourage carpooling
and transit ridership.

The goal of express



Express Lane Trips



3.9 million express lane trips were made in Q4 2021. Trips were up 2% from the prior quarter (Q3 2021) and up 40% from Q4 2020.

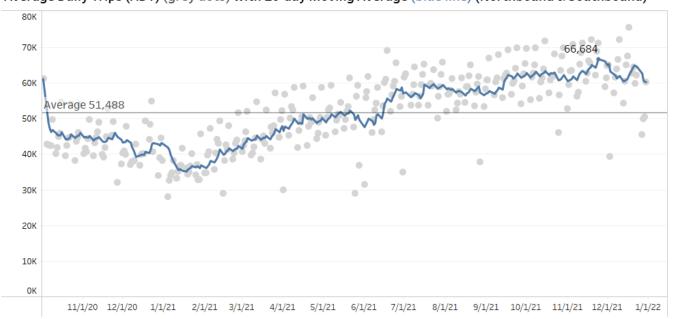
Quarter-over-quarter growth was slower than in the prior two quarters.



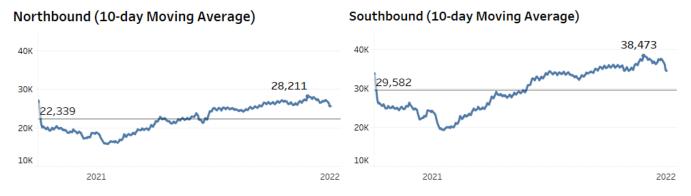
Average Daily Express Lane Trips

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

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



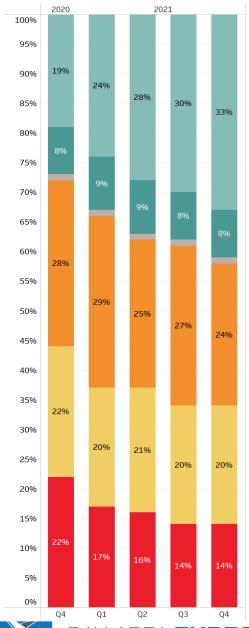
Average daily express lane trips since the express lanes opened topped 51,000. The 10-day ADT moving average reached a high of almost 67,000 trips in November 2021.



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



Trip Type



- Toll Free HOV3+
- Half Toll HOV2
- Half Toll Clean Air Vehicle
- Full Toll Toll Tag
- Full Toll License Plate Match
- Violations

Toll-free trips = 33%

- Share up 3% from Q3 2021
- The share has grown each quarter since tolling began, which could be due to drivers setting their toll tags incorrectly rather than growth in carpooling. In response, MTC is working with CHP to increase enforcement hours.

Paid trips = 53%

- 9% half toll
- 44% full toll share is down 3% from Q3 2021

Violation trips = 14%

- No toll tag and license plate not matched to a FasTrak account
- The share of violation trips held steady from last quarter

Carpool trips (HOV 3+ and HOV 2) = 41%

• Share up 3% from Q3 2021



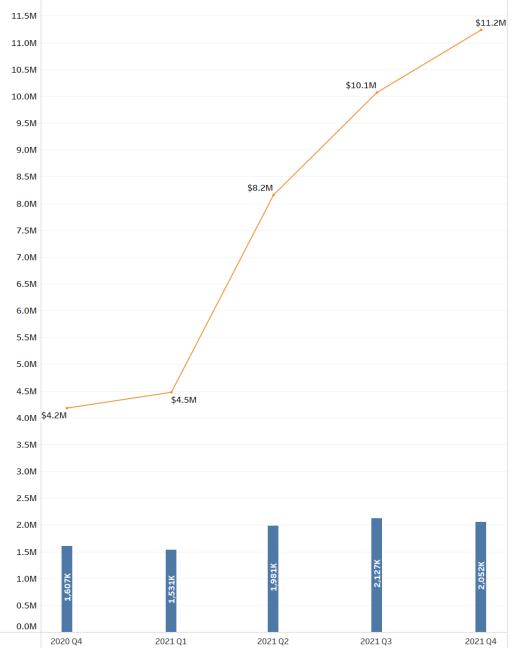
Toll Revenue* and Paid Trips

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

Q4 2021 Change From:	Toll Revenue	Paid Trips*	Average Toll Paid*
Prior Quarter (Q3 2021)	Up 11%	Down 4%	Up 14%
Year-over-Year (Q4 2020)	Up 167%	Up 28%	Up 100%

*Toll revenue depends on paid trips and average toll paid. Average toll paid is a function of lane volumes, speeds, and other factors.







Northbound Speed by Location and Time: Quarter Average

Northbound express lane quarterly average speeds slowed below 45 mph around Whipple Rd. between 2 and 5:45 p.m. General purpose lane average speeds fell below 35 mph throughout most of the corridor for most of the afternoon and evening with the slowest speeds occurring for the greatest duration around Whipple Road.



Peak spot traffic occurred around Whipple Rd. between 4 and 5 p.m. During peak spot traffic,

Northbound Peak Spot Traffic			
4 p.m. – 5 p.m.			
	Around Whipple Road		
Everossiono	Speed: 43 mph		
Express Lane	Volume: 1,187 vehicles		
GP Lane	Speed: 21 mph		
GP Lane	Volume: 889 vehicles		

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			
5 p.m. – 6 p.m.			
Express Lane	56 mph		
GP Lane	38 mph		
Difference	erence 18 mph		



Southbound Speed by Location and Time: Quarter Average

Southbound express lane quarterly average speed stayed at or above 45 mph. The southbound general purpose lane slowed below 45 mph between 6 and 9 a.m. for much of the length of the corridor and again in the 5 p.m. hour. Peak spot traffic in the corridor occurred between 7 and 8 a.m. from Hacienda Ave to SR-84 where the general purpose lanes slowed to 30 mph in multiple locations, and the express lane briefly slowed to 45 mph around Whipple Rd.



Factorial Speed: 37 mph Column: 1,257 vehicles GP Lane Southbound Peak Spot Traffic 7 a.m. – 8 a.m. Speed: 52 mph Volume: 1,257 vehicles Speed: 37 mph Volume: 1,266 vehicles

Southbound Corridor-length Slowest Travel				
7 – 8 a.m. 5 – 6 p.m.				
Express Lane	63 mph	63 mph		
GP Lane 49 mph 46 mph				
Difference 16 mph 13 mph				



Quarterly Average Toll Paid by Time of Day

Q4 2021 Compared to Q4 2020

\$1.10

\$1.00

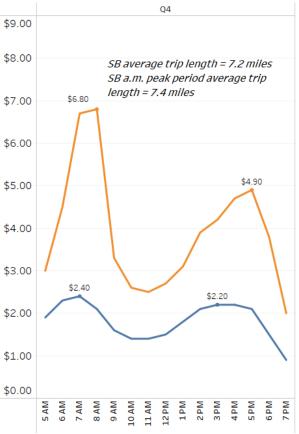
\$0.00

Northbound

\$9.00 \$8.00 NB average trip length = 6.0 miles NB p.m. peak period average trip length = 6.4 miles \$6.00 \$5.00 \$4.00 \$3.00 \$2.30

7 AM 8 AM 9 AM 10 AM 11 AM 12 PM





The average toll paid by drivers increased from Q4 2020 to Q4 2021 at all times of day both northbound and southbound. Average trip length increased 0.4 miles NB and 0.8 miles SB.

Northbound, Q4 2021 average tolls paid peaked at \$8.30 in the 4 p.m. hour, \$4.60 more than the Q4 2020 peak.

Southbound, Q4 2021 average tolls paid peaked at \$6.80 in the 8 a.m. hour, \$4.40 more than the Q4 2020 peak. Tolls peaked later than congestion as cars and tolls reacted to conditions between 7 and 9 a.m.

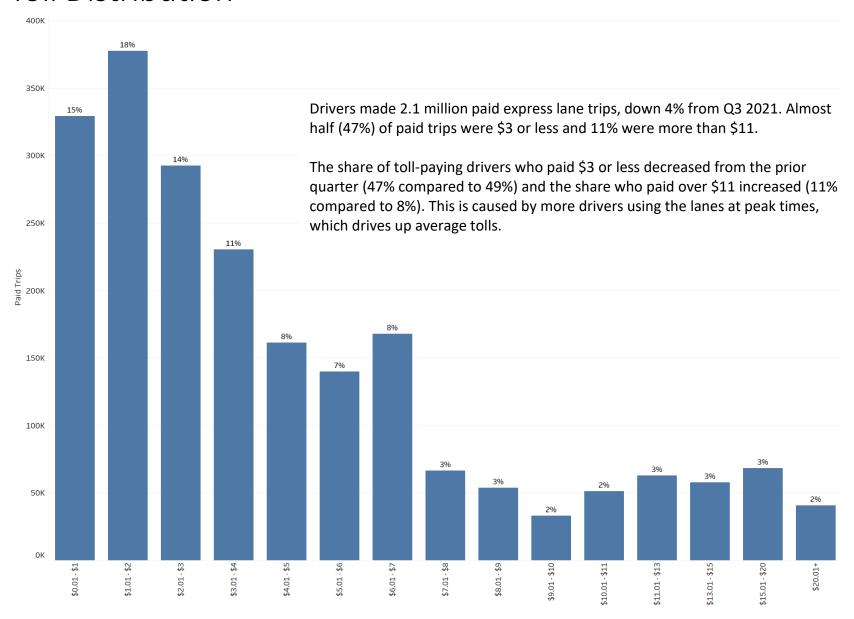
Q4 2021 AVERAGE TOLL PAID WAS \$4.20, COMPARED TO \$2.10 IN Q4 2020, 100% HIGHER.



3PM 4PM

2 P M

Toll Distribution





How Drivers Use the Lanes

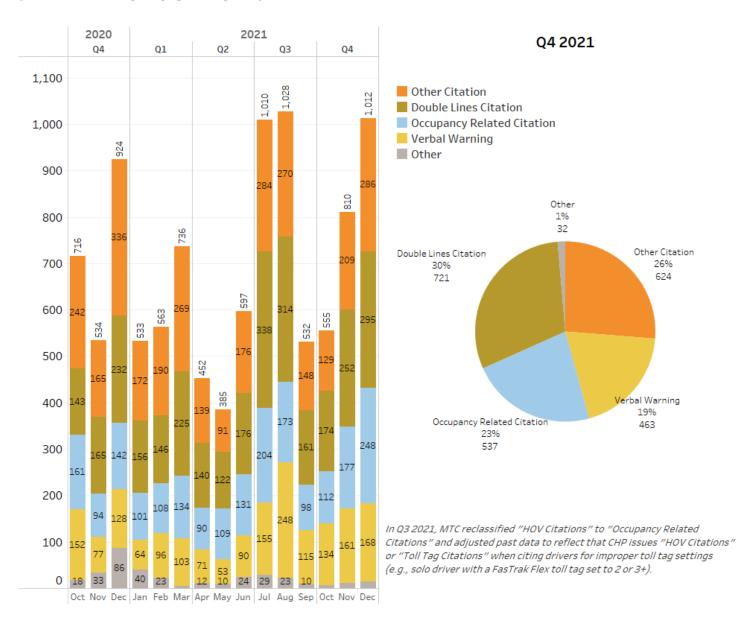
In Q4 2021, nearly 690,000 unique vehicles made over 3.9 million express lane trips, as shown in the table below.

	Trips per Quarter	Unique Vehicles - Made Trips in Q4	Trips Per Vehicle Per Month	Unique Vehicles – Made Only 1 Trip in Q4
Vehicles Carrying Toll Tags	2.8 million (71%)	360,000 (52%)	2.5	142,000 (40% of unique vehicles with toll tags)
Vehicles Not Carrying Toll Tags (i.e., license plate read)	1.1 million (29%)*	330,000 (48%)	1.1	197,000 (60% of unique vehicles without toll tags)
Total	3.9 million	690,000	1.9	339,000 (50% of unique vehicles)

^{* 58%} of these trips were matched to a FasTrak account. The unmatched trips result in the 14% violation rate shown earlier.



CHP Enforcement



CHP made 2,377 enforcement contacts in Q4 2021, 30% resulting in citations for crossing double white lines and 23% related to HOV occupancy violations.

CHP filled 58% of BAIFA's requested 2,984 enforcement hours. The average cost to BAIFA per enforcement contact was \$88.



For more information, visit expresslanes.511.org or MTC's express lanes page.

