

A composite image featuring a nighttime city skyline with illuminated skyscrapers in the upper half and a highway interchange with light trails from traffic in the lower half. A green banner with white text is overlaid across the middle.

HPTE: FUTURE OF TOLLING OPERATIONS

HPTE Board Retreat February 2019



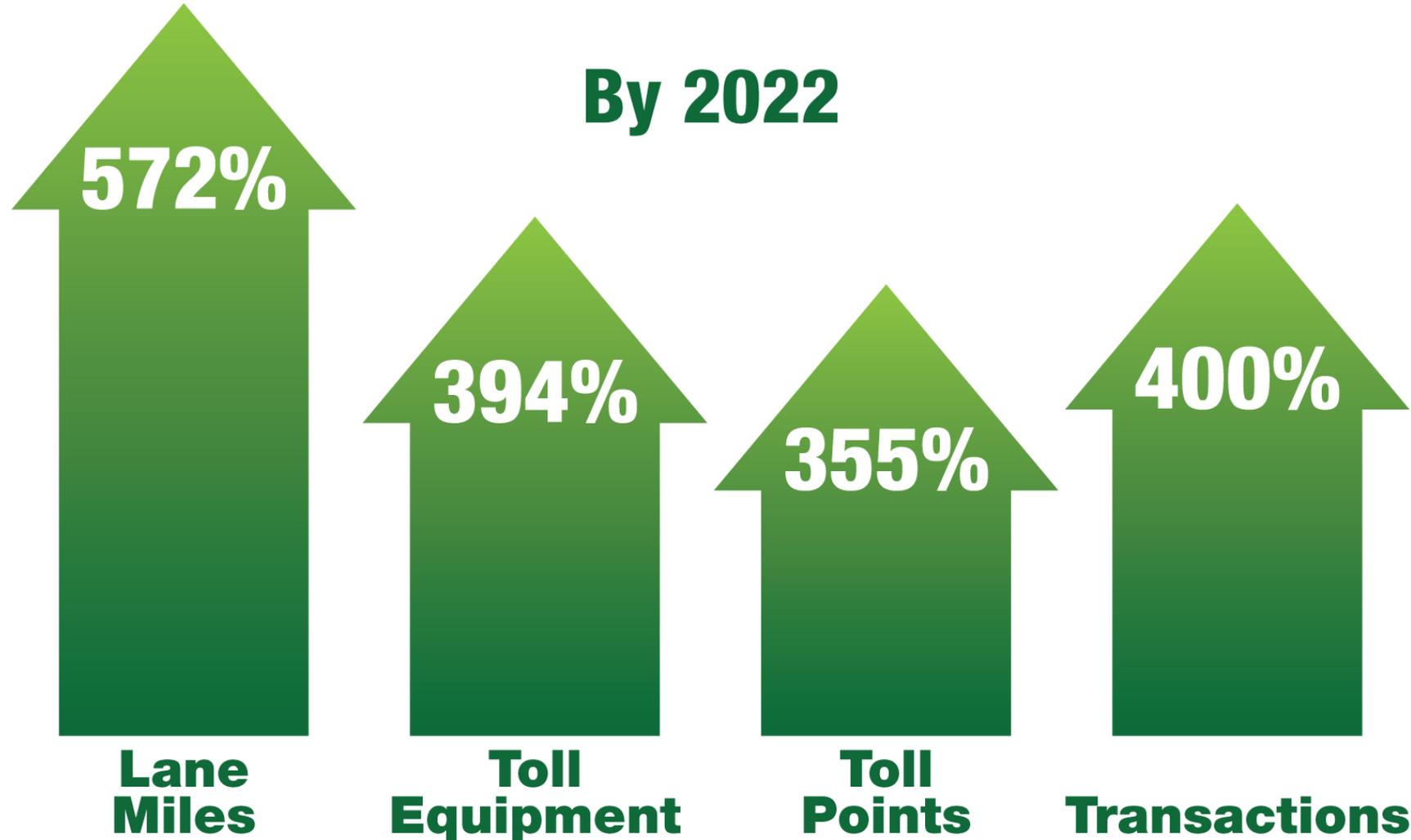
Outline

- HPTE's Success Story
- How Do HPTE Express Lanes Compare to Other States?
- Top 3 Tolling Operations Challenges
- Future Options
- Future Opportunities
- HPTE Next Steps –Board Direction

HPTE's Success Story...

HPTE Express Lanes' Growth

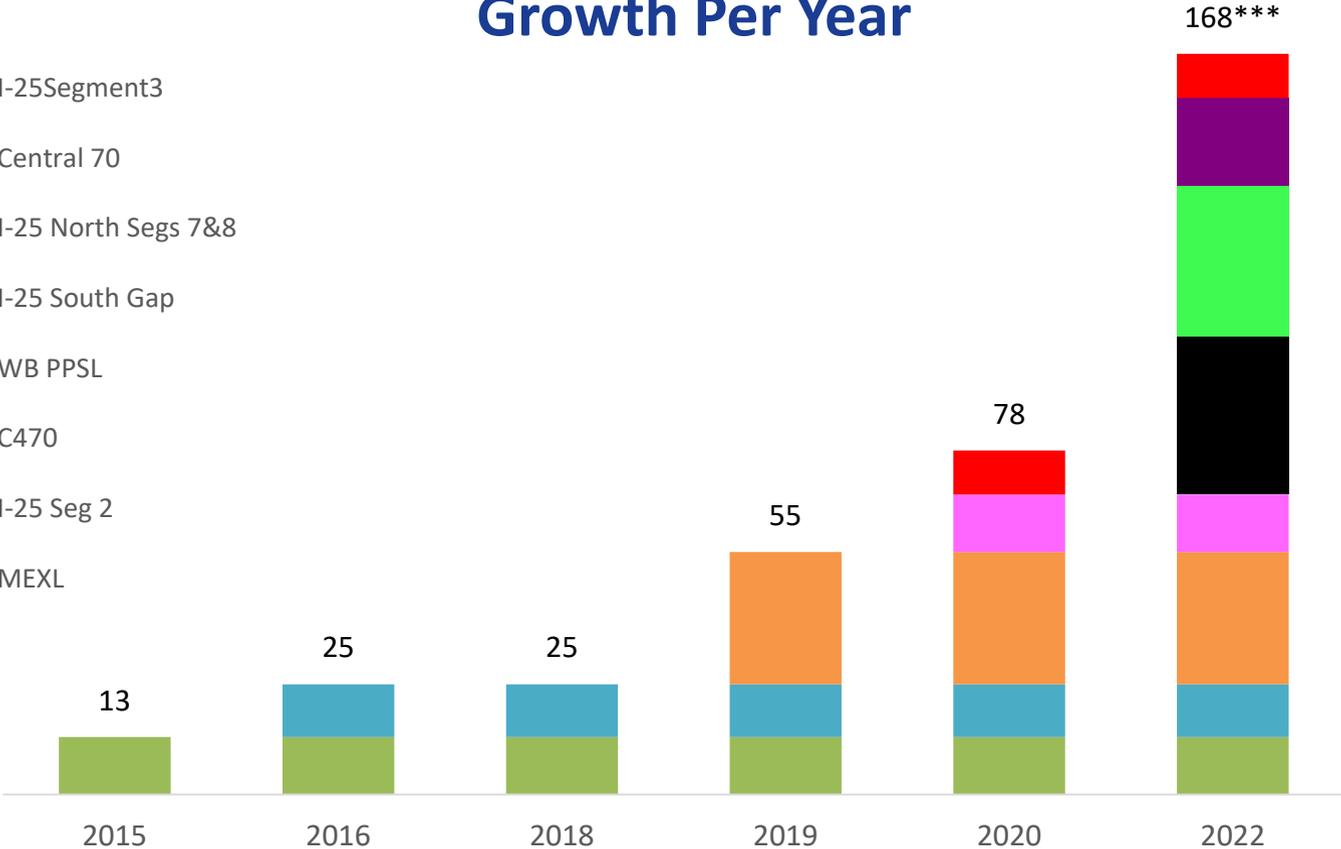
By 2022



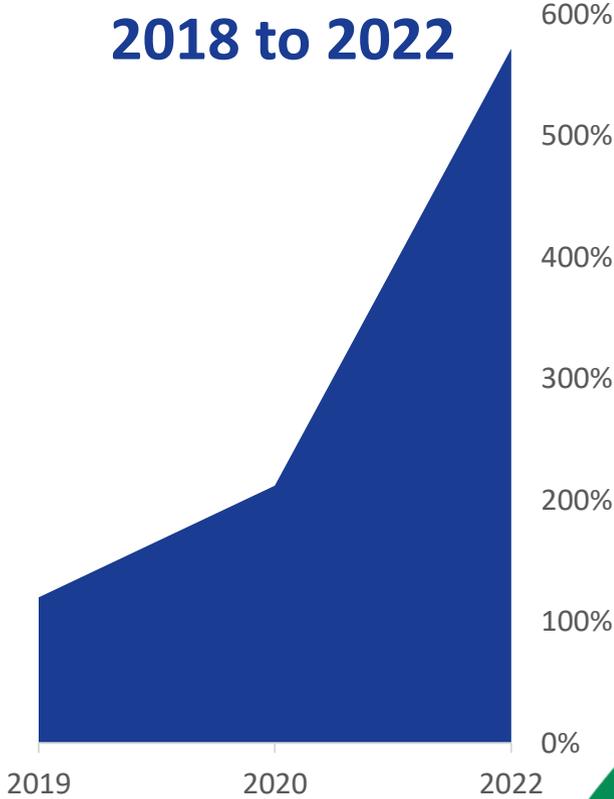
Growth in Total Lane Miles**

Growth Per Year

- I-25Segment3
- Central 70
- I-25 North Segs 7&8
- I-25 South Gap
- WB PPSL
- C470
- I-25 Seg 2
- MEXL



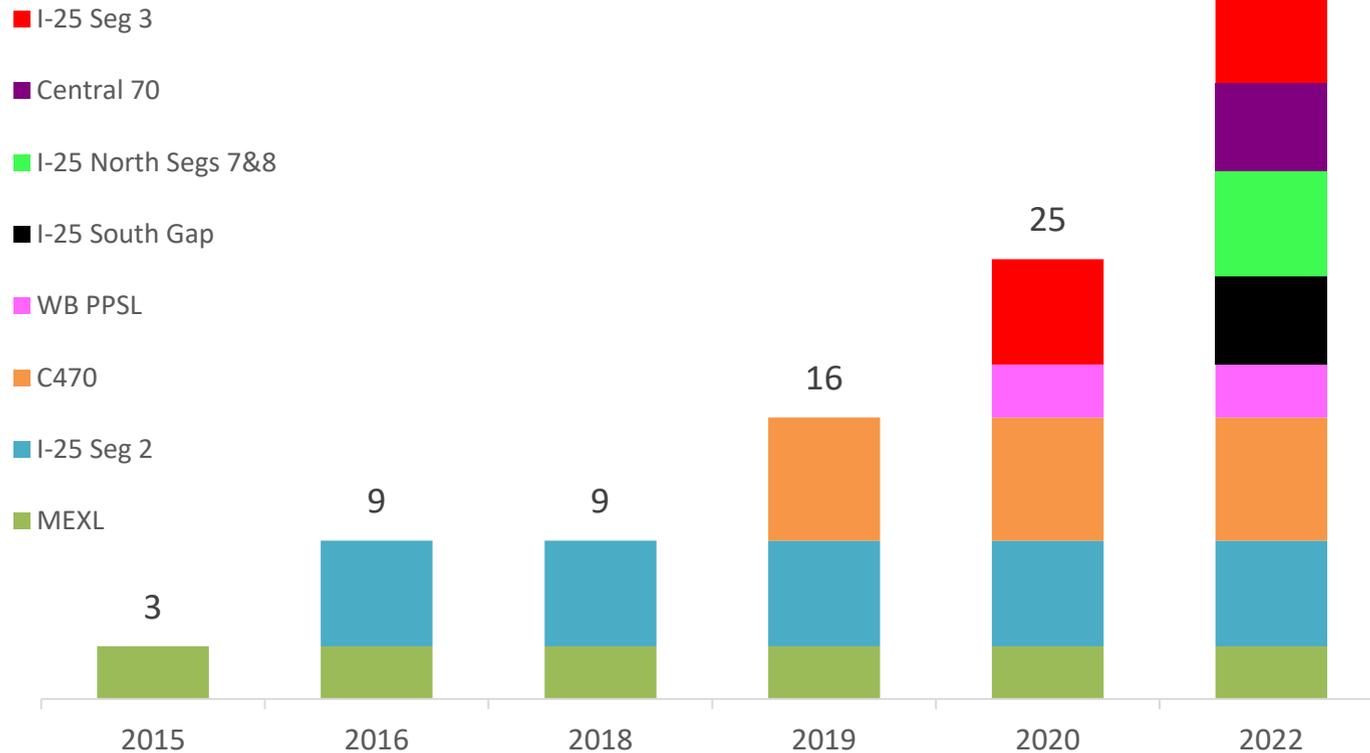
Percent Increase 2018 to 2022



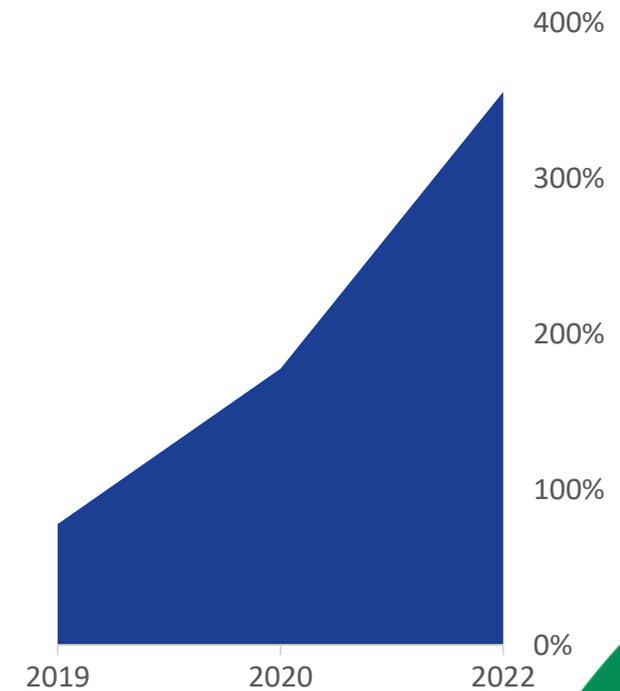
** Does not include US 36 or I-25 Central which are operated and maintained by Plenary Roads Denver (concessionaire)
 *** Including PRD Express Lanes, total will be 212 by 2022.

Growth in Total Toll Points**

Growth Per Year



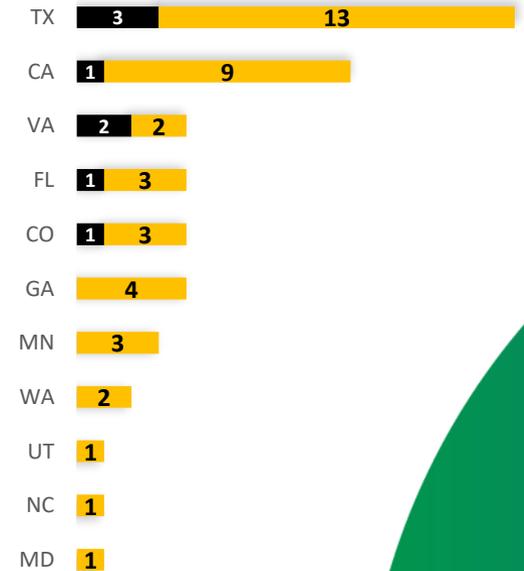
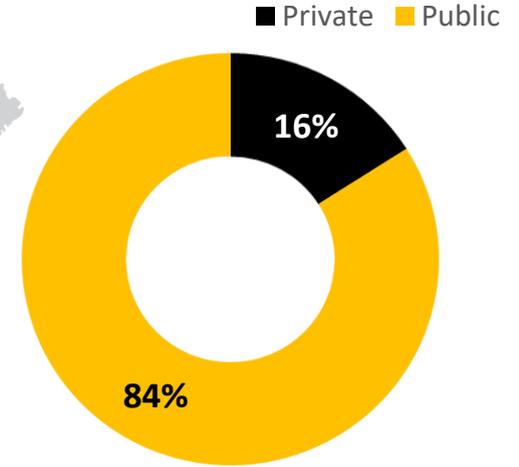
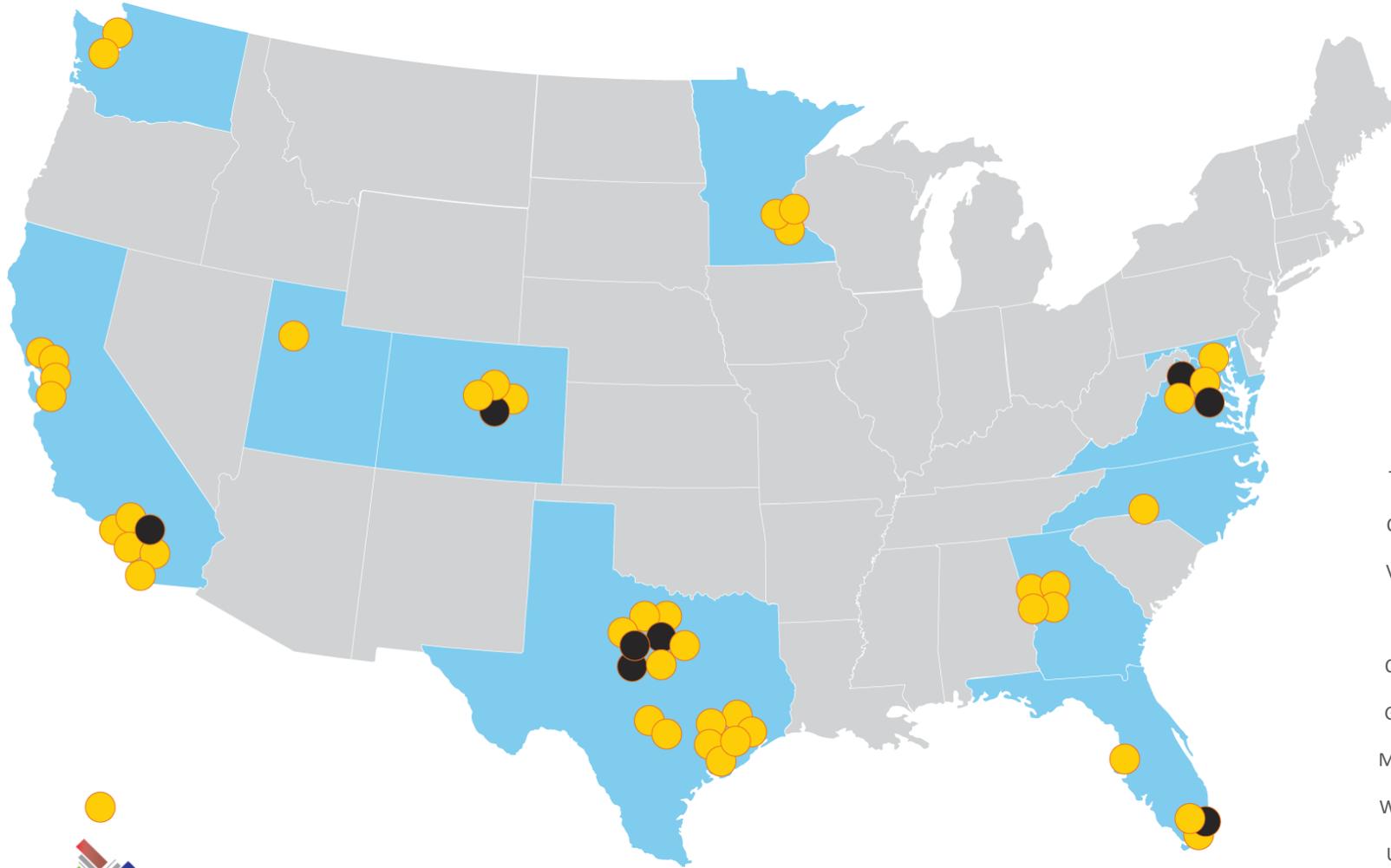
Percent Increase 2018 to 2022



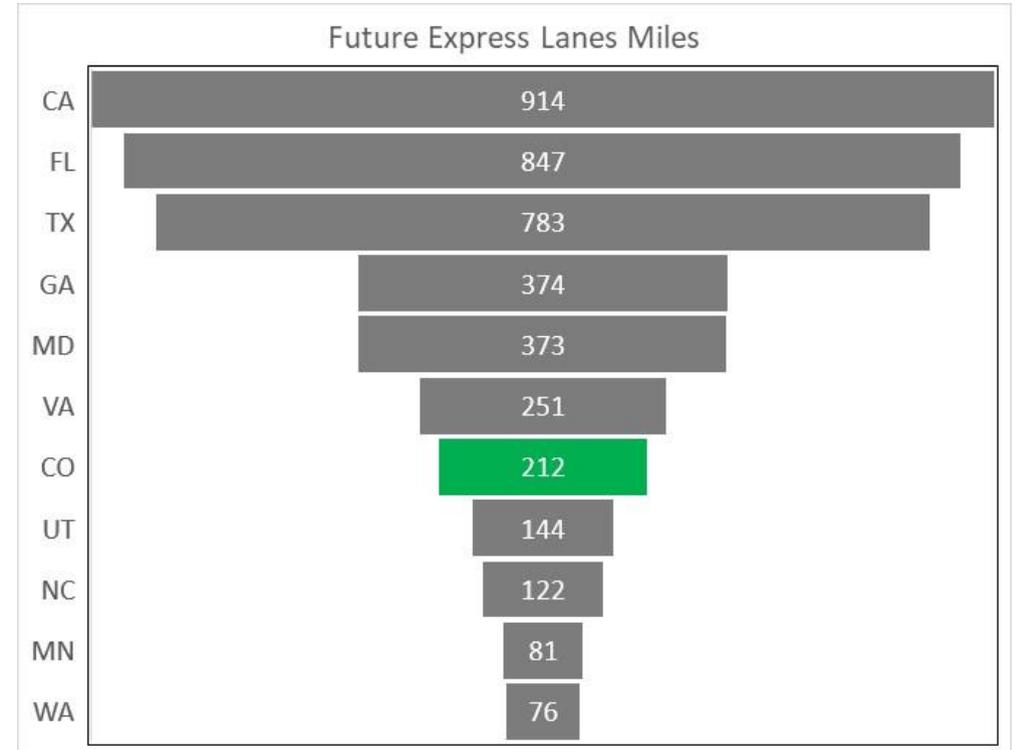
**Does not include US 36 or I-25 Central which are operated and maintained by Plenary Roads Denver (concessionaire)

How Do HPTE Express Lanes Compare to Other States?

Where are HPTE's Peers?

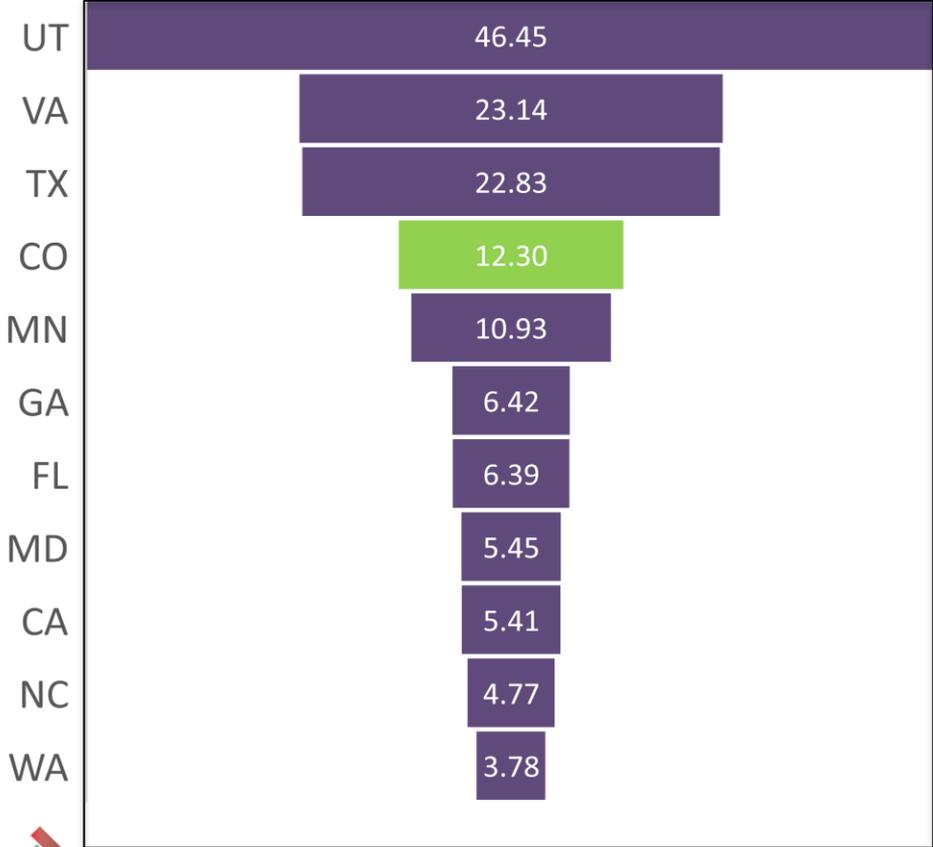


Express Lanes Growth Per State

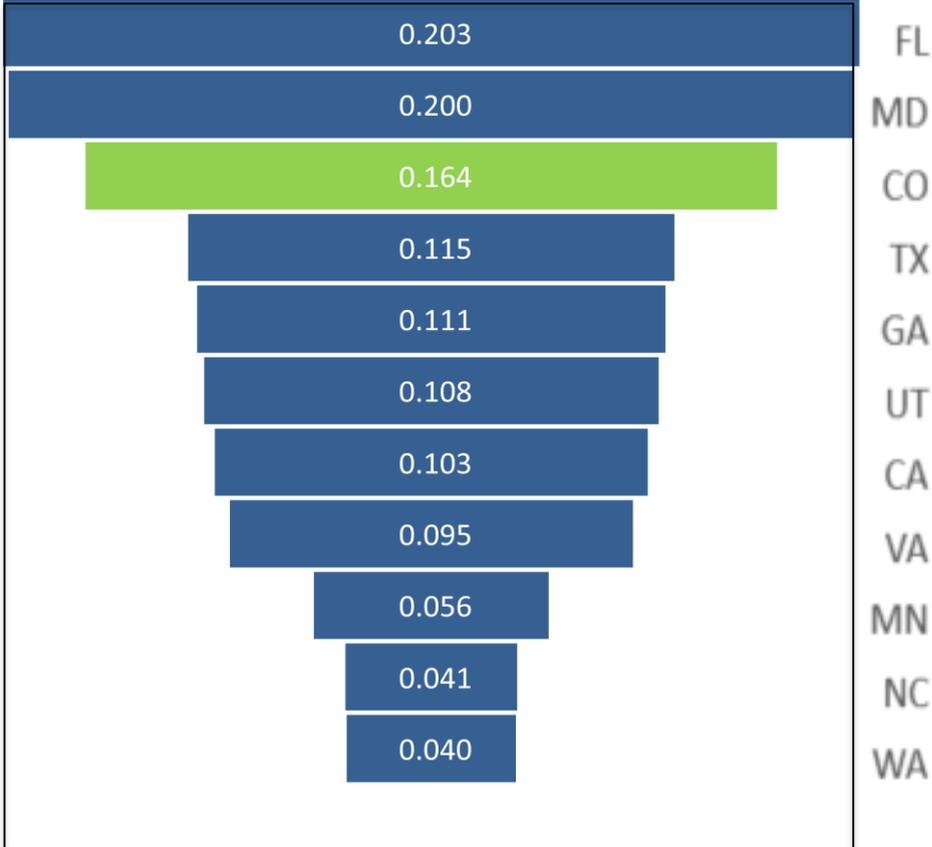


HPTE Express Lanes Growth Compared to Peers - Misc. Statistics

Express Lanes Miles Per Million Capita

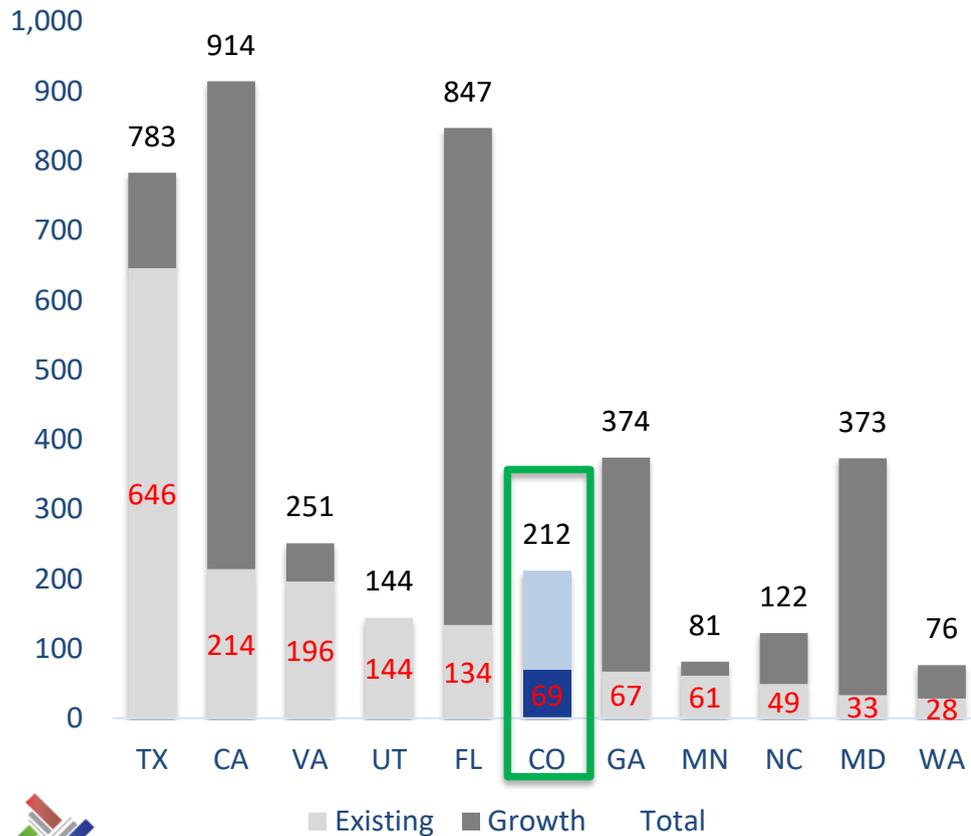


Express Lanes Miles Per Interstate Miles

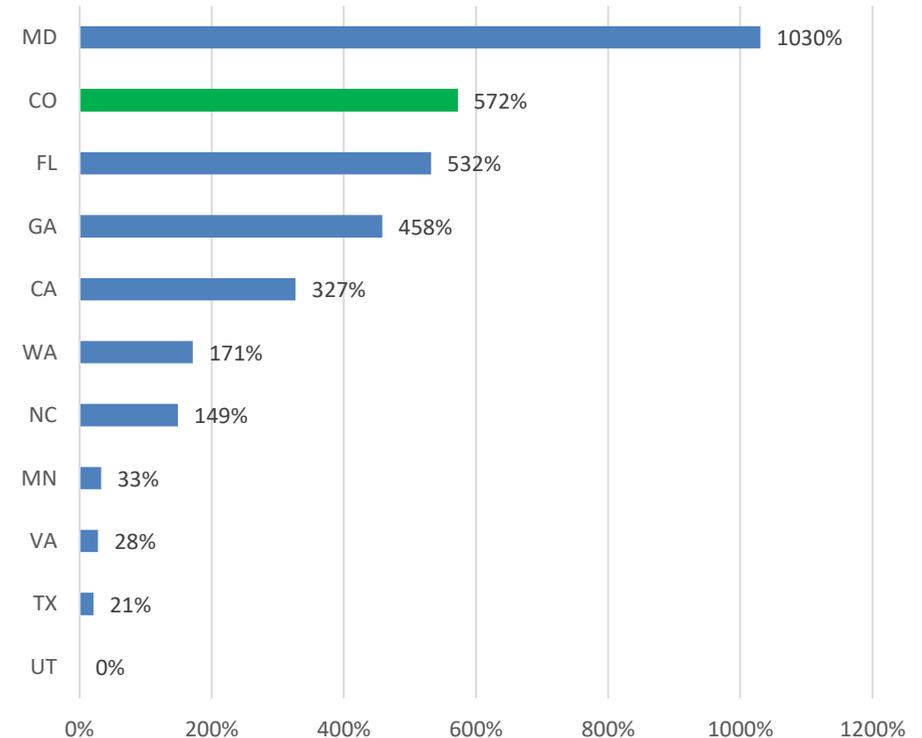


HPTE Express Lanes Growth Compared to Peers - Misc. Statistics Continued

Express Lanes Miles: Current and Future Growth Comparison with Peers



Express Lanes: Miles Growth





The light at the end of
the tunnel...is a train

Top 3 Tolling Operations Challenges

Top 3 Challenges

1-Active Management of Express Lanes

2-Data and Reporting

3-Equipment Monitoring & Maintenance

1- Active Toll Management: Real-Time Management

- Dynamic Tolling Management
- Incident Management / Toll Voiding
- Toll Equipment & Transaction Auditing
- Real-Time Traffic Condition Monitoring
- Toll Rate Setting & Adjustment
- Enforcement Management
- Toll Asset Management
- Tolling & ITS Equipment Monitoring



1 - Active Toll Management: How Do Our Peers Do It?

- ✓ Dedicated operations staff per facility
- ✓ Dedicated operations manager per facility
- ✓ Continuous real-time monitoring



Top 3 Challenges

1-Active Management of Express Lanes

2-Data and Reporting

3-Equipment Monitoring & Maintenance

2 - Data and Reporting

Data cloud management

Annual report for each corridor

Real-time dashboards

Ad hoc data requests

Scheduled reports



2 - Data and Reporting: How Do Our Our Peers Do It?

- ✓ Tolling and ITS data collection system
- ✓ Database
- ✓ Data fusion machine
- ✓ Reports and dashboards



Top 3 Challenges

1-Active Management of Express Lanes

2-Data and Reporting

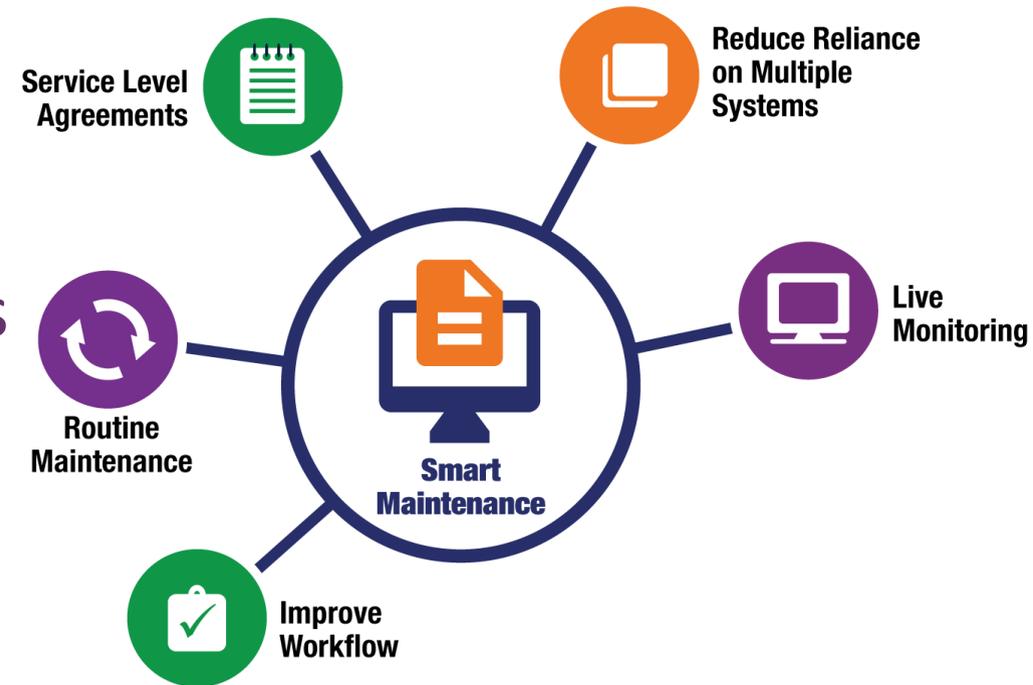
3-Equipment Monitoring & Maintenance

3 - Equipment Monitoring & Maintenance



3 - Equipment Monitoring & Maintenance: How Do Our Peers Do It?

- ✓ Contractors with Service Level Agreements (SLAs)
- ✓ Stringent uptime requirements
- ✓ Live monitoring
- ✓ Dedicated staff for routine and reactive maintenance

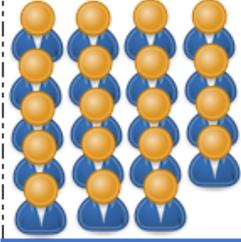


Peers Comparative Analysis

State	Express Lane	Existing Lane Miles	Total Revenue	Express Lanes Operations Location	# Express Lanes Operations Staff	# Express Lane Maintenance Staff	# Staff Working on EL Related Tasks (Data, Reports, etc.)
GA	I-85 Express	16	\$ 18.0 M	1	6	1	1
	I-75 South	12	\$ 1.7 M	1	6	1	1
MN	I-35E	9	\$ 0.3 M	1	3	1	1
	I-35W	18	\$ 1.7 M	1	3	1	1
	I-394	11	\$ 1.4 M	1	3	1	1
VA	I-66	9	\$ 25.0 M	1	3.5	3	2.5
	I-64	8.4	\$ 2.5 M	1	3.5	1	1.5
WA	SR 167	10	\$ 1.4 M	1	2	1	1
	I-405	17	\$ 16.4 M	1	2	1	1

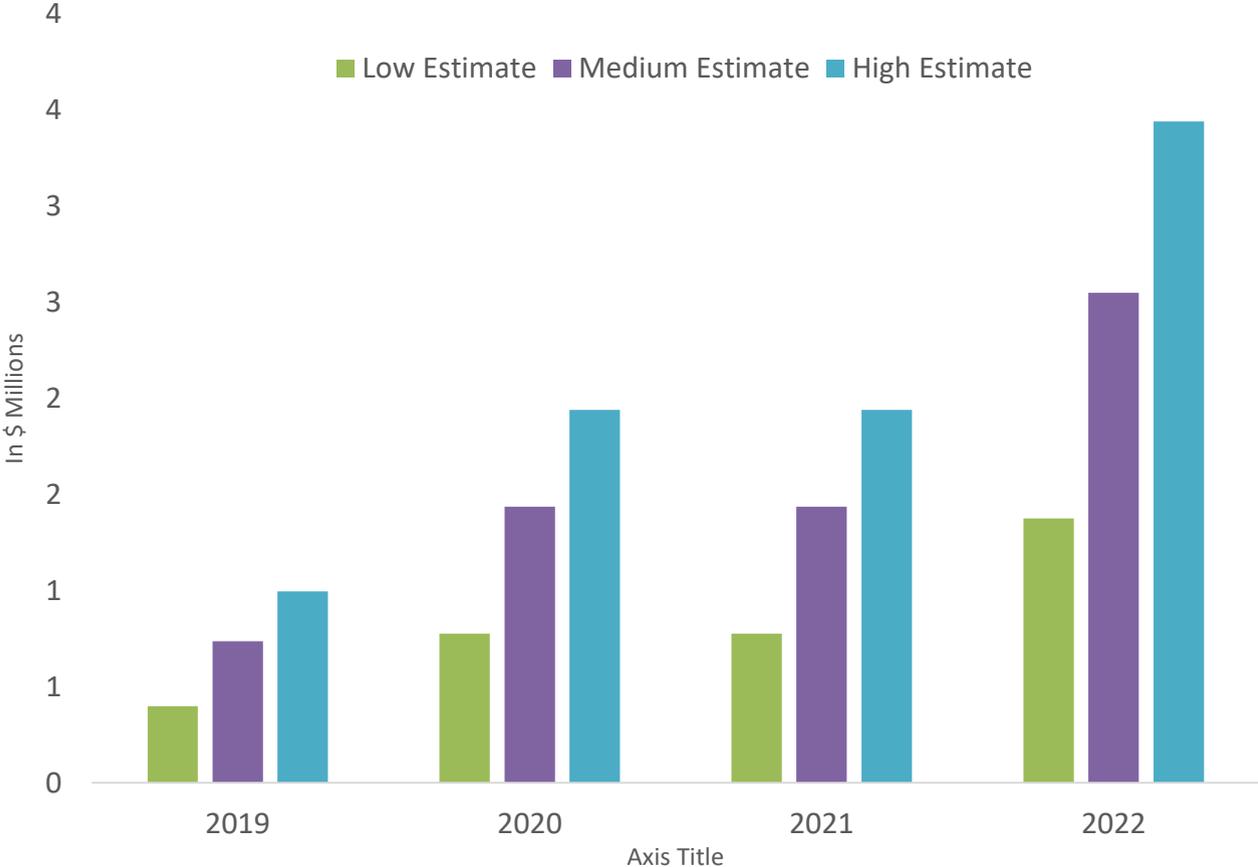
Future Options

Tolling Operations Division - Support Staff Timetable

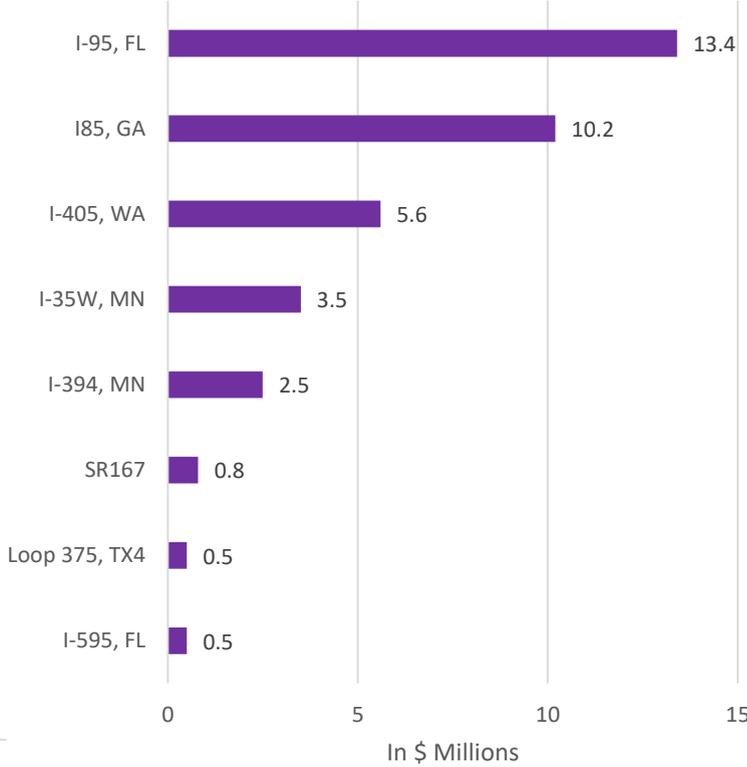
	2018	2019	2020	2021	2022					
Total Support Staff	1	5	9	9	15					
										
						I-25 Segment 2	I-25 Segment 2	I-25 Segment 2	I-25 Segment 2	I-25 Segment 2
						EB PPSL	EB PPSL	EB PPSL	EB PPSL	EB PPSL
						C470 Segment 1	C470 Segment 1	C470 Segment 1	C470 Segment 1	C470 Segment 1
						I-25 Segment 3	I-25 Segment 3	I-25 Segment 3	I-25 Segment 3	I-25 Segment 3
						WB PPSL	WB PPSL	WB PPSL	WB PPSL	WB PPSL
						Central 70				Central 70
						I-25 Gap				I-25 Gap
						I-25 Segment 7&8				I-25 Segment 7&8
	2018	2019	2020	2021	2022					

Tolling Operations Division - Cost Estimates

Yearly Tolling Operations Cost Estimates

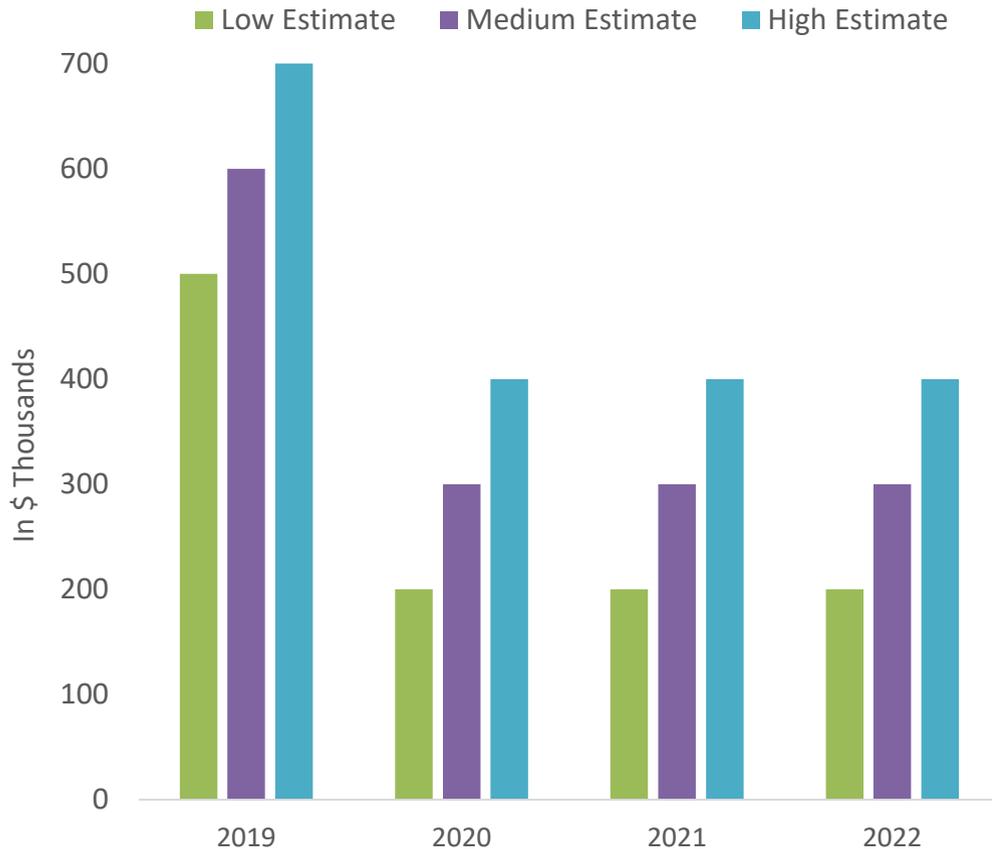


Peer's Yearly Tolling Operations Cost Estimates (Per Corridor)

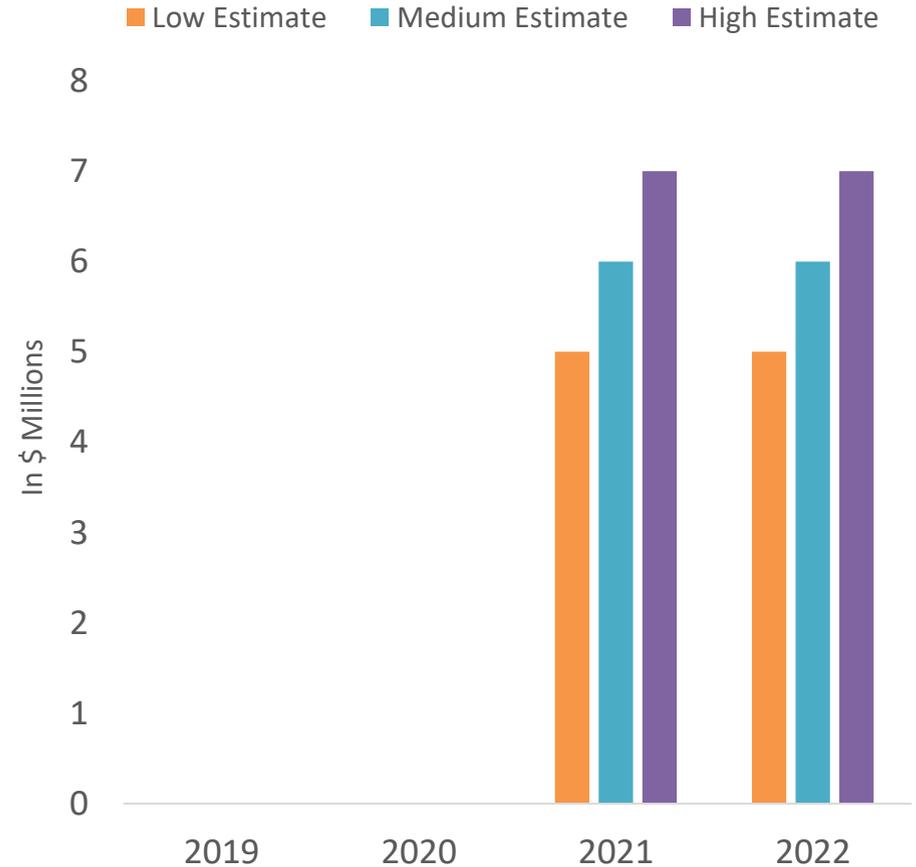


Tolling Operations Division - Capital Cost Estimates

Data Solution Cost



Tolling Equipment Early Life cycle



Future Opportunities

Future Opportunities

- ✓ E-470 TSA agreement to expire June of 2023
- ✓ New functionality

New Technology

**mobile

pluspass



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HPTE Next Steps –Board Direction

Board Direction Topics

- ✓ 1- Operations model option
- ✓ 2- Data solution investment
- ✓ 3- Future opportunities