

Appendix A

**Appendix A, Table 1
Identifying Roadway-Pricing Programs for Interviews**

Implementing Agency	Program Description	Purpose/Goals						Roadway-Pricing Policy	Challenges	Considerations for Incorporating Congestion Pricing in the Planning Process
		Reduce Congestion/ Increase Person Flow	Improve Air Quality/Reduce GHG/Improve Quality of Life	Improve Safety	Improve Reliability / Predictability of Travel	Generate Revenue ¹	Support Economic Growth			
	Cordon Pricing									
Tri-borough Bridge and Tunnel Authority, Metropolitan Transportation Authority, New York City, New York	<p>The Central Business District (CBD) Tolling Program would toll vehicles that enter Manhattan CBD and would include a zone that would cover 60th Street in Manhattan and all the roadways south of 60th Street.</p> <p>https://new.mta.info/project/CBDTP</p> <p>Status: Environmental Assessments completed in August 2022, and it is anticipated to go into operation in 2024.</p>	X	X			X	<ul style="list-style-type: none"> • Cordon tolls • Charge users once per day • Variable tolling • New York State tax credits for residents of the CBD making less than \$60,000 • Free for emergency vehicles and vehicles transporting people with disabilities 	<ul style="list-style-type: none"> • Opposition from elected officials, trade and civic associations, and the public. • Concerns about <ul style="list-style-type: none"> ○ disproportionate harm to working and low-income people ○ negative environmental and financial impacts ○ increased traffic in outer borough communities ○ increased cost of business 	<p>Analysis of</p> <ul style="list-style-type: none"> • potential shift to other travel times and modes of transportation, • how roadway pricing will impact equity populations, • how it will help support climate goals and target, and • potential congestion reduction from roadway pricing. <p>Lessons to be learned from this program include</p> <ul style="list-style-type: none"> • environmental impact assessments, • engagement with business chambers and residents, • concerns related to equity populations, and • establishment of tolling policies. 	
	Cordon Pricing/Targeted Road User Tolls (TRUT)									
City of Chicago, Chicago, Illinois	<p>The City of Chicago operates the Transportation Network Providers (TNP) Congestion Pricing. TNPs such as Uber or Lyft, which operate within the designated downtown cordon during peak-period pay surcharges. The designated downtown cordon includes the Chicago Loop, West Loop, South Loop, and the neighborhoods of River North, Streeterville, Near North, Gold Coast, Old Town, and Goose Island.</p> <p>https://www.chicago.gov/city/en/depts/mayor/press_room/press_releases/2019/october/NewRegulationsEaseTraffic.html</p> <p>Status: In operation since 2020.</p>	X	X			X	<ul style="list-style-type: none"> • Cordon pricing style with tax • Designated peak period is weekdays between 6 AM and 10 PM. • \$1.75 downtown zone surcharge for any single TNP trip that has an origin-destination in the downtown zone during peak period. • \$0.60 surcharge for any shared TNP trip that has an origin-destination in downtown zone during peak period. • \$5.00 surcharge for any trip that begins or ends in a special zone citywide (includes Airports, Navy Pier, and McCormick Place Convention Center). 	<ul style="list-style-type: none"> • Opposition from TNP companies persists. There is also some opposition from the public. 	<ul style="list-style-type: none"> • Chicago Department of Transportation continues to work with all stakeholders from ride-hailing companies to transportation advocates on long-term congestion policies that will further support goals ensuring affordable, accessible and reliable transportation options serving all areas of the city. • The TNP congestion pricing presents an opportunity for Chicago to both reverse the inequities embedded in its existing transportation system and to improve access to opportunities. • There have been discussions about expanding this program to additional neighborhoods. <p>Lessons to be learned include</p> <ul style="list-style-type: none"> • targeted pricing strategies focusing on specific problems and areas, and • engagement with stakeholders on policy changes. 	

¹ Uses of the revenue generated varied and included funding transportation improvements and providing travel choices; maintaining and preserving infrastructure; promoting transportation equity; promoting sustainable modes of transportation; supporting public transit; and making shared rides affordable in transportation equity neighborhoods.

Implementing Agency	Program Description	Purpose/Goals						Roadway-Pricing Policy	Challenges	Considerations for Incorporating Congestion Pricing in the Planning Process
		Reduce Congestion/ Increase Person Flow	Improve Air Quality/Reduce GHG/Improve Quality of Life	Improve Safety	Improve Reliability / Predictability of Travel	Generate Revenue ¹	Support Economic Growth			
	Express Lanes									
Colorado Transportation Investment Office, Colorado Department of Transportation, Denver, Colorado	<p>Colorado Department of Transportation (CDOT) operates and maintains a network of CDOT's Express Lanes within the Denver-Boulder metropolitan area.</p> <p>https://www.codot.gov/programs/expresslanes</p> <p>https://www.codot.gov/programs/ctio</p> <p>Status: In operation since 2006, some express lanes are currently in development or construction.</p>	X		X	X	X		<ul style="list-style-type: none"> Variably priced express lanes Variable tolling (tolls will vary at set times and days) Free for HOV 3+, motorcycles, buses, and transit vehicles General-purpose lanes are free 	<ul style="list-style-type: none"> Achieving interagency collaboration Ensuring that transportation equity communities receive an equitable distribution of the benefits of transportation activities without suffering disproportionately high and adverse effects 	<p>Stakeholder engagement was a key facet in developing recommendations for a future network of express lanes. The main communication goals were to educate and engage stakeholders and the public on</p> <ul style="list-style-type: none"> the purpose and benefits from the use of express lanes, how the results from the express lanes may benefit their local communities, and how to build a network of informed decision-makers to support the development and implementation of the projects. <p>Lessons to be learned include</p> <ul style="list-style-type: none"> innovative financing schemes, program benefits and accomplishments, federal and state oversight, and public engagement and acceptance of the program.
Bay Area Infrastructure Finance Authority (BAIFA), a unit of the Metropolitan Transportation Commission (MTC), San Francisco, California	<p>The Bay Area Infrastructure Finance Authority (BAIFA), a unit of the Metropolitan Transportation Commission (MTC), operates and maintains the MTC Bay Area express lanes. The growing Bay Area express lanes network is made up of more than 155 lane-miles, including I-580, I-680 southbound, I-880, State Route 237, US 101, State Route 237, and State Route 85.</p> <p>https://mtc.ca.gov/planning/transportation/driving-congestion-environment/mtc-express-lanes</p> <p>Status: In operation since 2010, developing vision and scope for future express lanes network.</p>	X	X	X	X	X		<ul style="list-style-type: none"> Variably priced express lanes Free for carpools, vanpools, commute buses, motorcycles, and clean air vehicles General-purpose lanes are free 	<ul style="list-style-type: none"> Required consensus among many stakeholders. Environmental groups raised concerns about the HOT network as contributing to more travel and emissions. Income equity issues were brought up early in the planning process and were addressed by devoting significant revenues to transit patronized by low-income groups. 	<p>The MTC Transportation 2035 plan evaluated the HOT lane network with express bus enhancements, regional freeway operational improvements, and regional rail expansion. The evaluation included</p> <ul style="list-style-type: none"> congestion and vehicle-miles traveled reductions, greenhouse gas emissions, and crash reduction. <p>MTC also developed a legislative framework for the express lane network that addresses issues such as</p> <ul style="list-style-type: none"> the roles and responsibilities of the key players, use of revenue, and project development processes. <p>MTC carefully framed its public engagement materials (web site, press releases, etc.) on the topic of HOT lanes for the public</p> <p>Lessons to be learned include</p> <ul style="list-style-type: none"> MTC experiences from existing express lanes, and Renewed scope and vision for future express lane network.

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		Reduce Congestion/ Increase Person Flow	Improve Air Quality/Reduce GHG/Improve Quality of Life	Improve Safety	Improve Reliability / Predictability of Travel	Generate Revenue ¹	Support Economic Growth			
Texas Department of Transportation, Dallas, Texas	<p>The Texas Department of Transportation (TxDOT) operates and maintains express lanes in the Dallas-Fort Worth area called TEXPRESS lanes. The TEXPRESS network is made up of more than 100 miles on eight roadways including I-35E, I-30, SH 114, I-635E, SH 183, and LOOP 12. TxDOT has several public-private partnerships (P3) with the LBJ Infrastructure Group, NTE Mobility Partners, and NTE Mobility Partners Segments 3.</p> <p>https://www.txdot.gov/discover/express-toll-hov-lanes/managed-lanes/express-lanes.html</p> <p>Status: In operation since 2015, some projects are currently in construction or development.</p>	X	X	X	X	X		<ul style="list-style-type: none"> Variably priced express lanes Discounts for HOV 2+ and motorcycles General-purpose lanes are free 	<ul style="list-style-type: none"> Environmental Justice has been a significant regional issue for decision-makers and the North Central Texas Council of Governments (NCTCOG) worked extensively with the Federal Highway Administration, TxDOT, and others to address this. More work was needed on communication and consensus building as the public and policymakers had difficulty understanding all nuances of the concept. Complaints about “double taxation” as many feel that federal, state, and local taxes already pay for building and maintaining the transportation system. 	<ul style="list-style-type: none"> NCTCOG staff’s strong analytical foundation through improving modeling tools facilitated analyzing a wide range of managed lanes options for consideration. NCTCOG considered innovative financial strategies including setting toll rates, use of comprehensive development agreements, use of revenue, and disposition of excess revenue. NCTCOG’s consistent messaging with respect to the benefits of pricing and policy coordination with elected officials facilitated the planning process. <p>Lessons to be learned include the benefit of building</p> <ul style="list-style-type: none"> a strong analytical foundation through modeling tools, consistent message with respect to benefits, and a sustainable transportation system.
Virginia Department of Transportation, Richmond, Virginia	<p>The Virginia Department of Transportation (VDOT) partnered with Transurban to create faster travel options including the express lanes on I-495, I-95 and I-395. VDOT operates the express lanes on I-66 inside the Beltway. The I-66 Express Mobility Partners operates and maintains the I-66 express lanes outside of the Beltway in a public-private partnership with VDOT.</p> <p>https://www.virginiadot.org/info/congestion_pricing.asp</p> <p>Status: In operation since 2012, some projects are in development.</p>	X	X		X	X	X	<ul style="list-style-type: none"> Variably priced express lanes Free for buses, motorcycles, carpools, vanpools, and HOV 3+ General-purpose lanes are free 	<ul style="list-style-type: none"> Drivers unfamiliar with congestion pricing may initially have questions and concerns. More work was needed to establish early communications and engagement with state and local agencies, elected officials, stakeholders (roadway or transit users), and the public. 	<ul style="list-style-type: none"> The Metropolitan Washington Council of Governments’ (MWCOC) travel demand model and regionally adopted land use forecasts were used to project travel demand for the near-term and long-term timeframes in the corridor and on major arterials. <p>Lessons to be learned include</p> <ul style="list-style-type: none"> how VDOT’s congestion-pricing strategies are working to achieve the objectives for the program, and how to structure early engagement efforts.
The Orange County Transportation Authority, Orange, California	<p>The Orange County Transportation Authority (OCTA) and Riverside County Transportation Commission (RCTC) operate and maintain the California State Route 91 (SR 91) express and I-405 express lanes.</p> <p>https://www.octa.net/91-Express-Lanes/About-the-91-Express-Lanes/</p> <p>Status: In operation since 1995, some express lanes are in construction or development.</p>	X			X			<ul style="list-style-type: none"> Variably priced express lanes Free for HOV 3+, zero emission vehicles and motorcycles, and vehicles with disabled and disabled veterans’ plates General-purpose lanes are free 	<ul style="list-style-type: none"> Public has little familiarity with roadway pricing to understand all nuances of the concepts Negative initial reactions to road charges 	<ul style="list-style-type: none"> Using roadway-pricing strategies to develop targeted capacity improvements enabled the State and regions to fund more mobility options within these targeted corridors and recognize social equity issues. “Fairness and Equity” themes resonated with the public Transportation choice was important to the public. Potential impacts on urban versus rural residents Building required consensus among many stakeholders. <p>Lessons to be learned from OCTA Express Lanes include</p> <ul style="list-style-type: none"> how to plan, operate, and finance express lanes, development of toll policies, and public engagement process.

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		Reduce Congestion/ Increase Person Flow	Improve Air Quality/Reduce GHG/Improve Quality of Life	Improve Safety	Improve Reliability / Predictability of Travel	Generate Revenue ¹	Support Economic Growth			
Washington State Department of Transportation, Seattle, Washington	<p>Washington State Department of Transportation (WSDOT) operates and maintains toll roads and bridges in the state. WSDOT's toll facilities include I-405 express lanes, SR 167 HOT lane, SR 520 Bridge tolling, SR 99 Tunnel tolling, and the Tacoma Narrows Bridge tolling.</p> <p>https://wstc.wa.gov/programs/tolling/</p> <p>Status: In operation since 2011, some express lanes are in development.</p>	X		X		X		<ul style="list-style-type: none"> Variably priced express lanes Free for motorcycle, carpools, vanpools, and HOV 3+ Free for transit and emergency vehicles General-purpose lanes are free 	<ul style="list-style-type: none"> Assessing equity impacts of distribution of benefits and revenue allocation policies Communicating how pricing will reduce congestion because the public and policymakers did not understand it 	<p>A comprehensive tolling study that</p> <ul style="list-style-type: none"> considered a broad range of policy motivations and applications, evaluated institutional and technical considerations, and considered a variety of case studies and resulted in eight policy recommendations. <p>A traffic choices study that examined how travelers change their travel behavior (number, mode, route, and time of vehicle trips) in response to time-of-day variable charges in a congestion pricing program. Using behavioral information to feed travel demand models for better analysis of road pricing.</p> <p>Treating pricing as an integral part of regional transportation plan development was important to the success of the Puget Sound Regional Council process.</p> <p>Lessons to be learned include</p> <ul style="list-style-type: none"> how WSDOT plans, selects, and builds toll facilities, especially the evaluation process and public engagement, incorporating pricing in MPO plans, public engagement, environmental impact studies, building consensus, and financing schemes.
Florida Department of Transportation, Tallahassee, Florida	<p>The Florida Department of Transportation (FDOT) operates and maintains express lanes on several high-traffic areas throughout the state, such as on I-295 in Jacksonville, I-595 in Broward county, I-75 and I-95 in Miami-Dade and Broward counties, I-4 Ultimate and Beachline Expressway in Orlando, and Veterans Expressway in Tampa.</p> <p>https://www.fdot.gov/traffic/teo-divisions.shtm/cav-ml-stamp/managedlanes.shtm</p> <p>Status: In operation since 2014, some express lanes are in development.</p>	X	X	X		X	X	<ul style="list-style-type: none"> Variably priced managed lanes Free for vanpools, carpools, hybrid and electric vehicles, buses, transit buses, school buses, motorcycles, and emergency vehicles General-purpose lanes are free 	<ul style="list-style-type: none"> Achieving interagency collaboration 	<ul style="list-style-type: none"> Several regional planning models from MPOs and Council of Governments were used to forecasts traffic and analyze a wide range of managed lanes options for consideration. Many of the FDOT express lanes were envisioned in long-range transportation plans. <p>Lessons to be learned include</p> <ul style="list-style-type: none"> community engagement and stakeholder/industry participation and workshops, planning and analyzing managed lane facilities, and tolling policies and operations.
Maryland Transportation Authority, Baltimore, Maryland	<p>Maryland Transportation Authority operates and maintains the I-95 Express Toll Lanes (I-95 ETL). There are currently two express toll lanes in addition to three to four toll-free general-purpose lanes in both directions. I-95 ETL Northbound Extension is a planned extension of the existing express toll lanes. There will be transit connections at the proposed park-and-ride facilities.</p> <p>https://mdta.maryland.gov/I95ETLNB/home.html</p> <p>https://mdta.maryland.gov/ETL/I-95_ExpressTollLanes.html</p> <p>Status: In operation since 2015. The full extension of this project is under construction and will be completed in 2027.</p>	X	X	X	X	X		<ul style="list-style-type: none"> Variably priced express lanes General-purpose lanes are free 	<ul style="list-style-type: none"> Building agency partnerships to facilitate communications and consensus building. Obtaining and incorporating public feedback into express lanes development and tolling policies 	<p>Roadway pricing is incorporated into Baltimore Metropolitan Council's Long-Range Transportation Plans and Transportation Improvement Program (TIP). The MPO holds public meetings to take comments on the TIP amendments for new Express Toll Lane program.</p> <p>Lessons to be learned include</p> <ul style="list-style-type: none"> public engagement, environmental impact studies, and how to incorporate into MPO plans.

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		Reduce Congestion/ Increase Person Flow	Improve Air Quality/Reduce GHG/Improve Quality of Life	Improve Safety	Improve Reliability / Predictability of Travel	Generate Revenue ¹	Support Economic Growth				
	Variable Pricing										
The New Jersey Turnpike Authority, Woodbridge, New Jersey	<p>The New Jersey Turnpike opened in 1951. The current length of the New Jersey Turnpike mainline expressway is 117 miles. Variable pricing began in the fall of 2000. This enabled a discount to travelers who use the facility during off-peak hours and use an EZ-Pass.</p> <p>https://www.njta.com/toll-calculator</p> <p>https://www.fhwa.dot.gov/policy/otps/vpqrtr/sec5.cfm</p> <p>Status: Variable rate pricing has been in operation since 2000.</p>	X	X		X	X			<ul style="list-style-type: none"> Variably priced tolling Discounts are available for senior citizens, and electric and hybrid vehicles with 45 miles per gallon (mpg) or better The discount is not applicable if a user pays by cash 	<ul style="list-style-type: none"> Addressing safety, customer satisfaction, resilience and sustainability, and connectivity issues Addressing potential environmental issues Building agency coordination to facilitate project development. 	<ul style="list-style-type: none"> The introduction of variable tolls has improved traffic flow and provided associated air pollution and energy consumption benefits. Preliminary data show that value pricing is working to shift traffic out of the peak period to off-peak period. <p>Lessons to be learned include</p> <ul style="list-style-type: none"> collaboration with other organizations (many tolled bridges and tunnels are operated by the Port Authority of New York and New Jersey), and revenue sharing for transit projects.
	HOT Lanes										
Minnesota Department of Transportation, St. Paul, Minnesota	<p>The Minnesota Department of Transportation operates and maintains the E-ZPass HOT Lanes. Minnesota's HOT lane system includes I-35E, I-35W South Metro, I-35W North Metro, and I-394.</p> <p>https://www.dot.state.mn.us/ezpassmn/howezpassworks.html</p> <p>Status: In operation since 2005.</p>	X			X				<ul style="list-style-type: none"> Variably priced HOT lanes Free for buses, motorcycles, and HOV 2+ General-purpose lanes are free 	<ul style="list-style-type: none"> Potential public acceptance hurdles associated with roadway pricing Lack of sufficient consensus, especially among legislative and local decision-makers, combined with lack of public support, led to failure of early proposals Identifying key target audience for specific roadway-pricing projects Building agency partnerships to facilitate communication and consensus building 	<p>Pricing is one of the five "key components" of the Twin Cities' Long-Range Plan to cope with "limited resources" and is cast as fully consistent with stated transit and HOV strategies.</p> <p>Lessons to be learned include</p> <ul style="list-style-type: none"> partnerships and agency roles, policy development, general consensus building and public engagement, how to incorporate into MPO plans.
	Parking and Curb Management Pricing										
District Department of Transportation, Washington, District of Columbia	<p>The District Department of Transportation operates the Penn Quarter/Chinatown Parking Pricing Pilot program. The program was implemented to better connect parking availability with demand by providing real-time parking information to motorists.</p> <p>https://dc.gov/release/dc-prepares-launch-new-parking-program-downtown</p> <p>Status: In Operation since 2016, expansion under consideration.</p>	X	X				X	<ul style="list-style-type: none"> Demand-based parking pricing Variably priced parking (peak vs. off-peak) Parking price adjustments occur every three months By the end of the pilot program, the parking prices varied from \$1.00 to \$5.50 per hour depending on the time of day and demand. Longer parking time limits were permitted on evenings and weekends when parking demand was lower. 	None	<p>The nature of curbside use is changing considerably and the demand for that use is changing considerably. Demand-based parking could lead to important safety outcomes by reducing double parking and blocking bike lanes and crosswalks.</p> <p>Lessons to be learned include</p> <ul style="list-style-type: none"> planning, public engagement, and parking strategies to address congestion. 	

GHG = greenhouse gas. HOT = high-occupancy toll lane. HOV = high-occupancy vehicle lane. HOV 2+/3+ = vehicles with 2/3 persons in high-occupancy vehicle lane.

**Appendix A, Table 2
Identifying Roadway-Pricing Programs for Interviews**

Implementing Agency/Location	Program Name	Roadway Pricing Type	Purpose/Goals						Criteria for Selecting Program for Interviews						
			Reduce Congestion/ Increase Person Flow	Improve Air Quality/ Improve Quality of Life	Improve Safety	Improve Reliability/ Predictability of Travel	Generate Revenue ²	Support Economic Growth	Opportunity to Learn from Challenges	Program Goals Align with the Boston MPO Planning Process	Ease of Implementing in the Boston Region ³	Program was Recommended by Workshop Participants	Environmental Assessment Completed before Implementation	Program Directly Addresses Equity Concerns	Total Points
Tri-Borough Bridge and Tunnel Authority, Metropolitan Transportation Authority, New York City, New York	Central Business District Tolling Program	Cordon Pricing	X	X			X		X	X	X	X	X	X	6
City of Chicago, Chicago, Illinois	Chicago's Transportation Network Provider Congestion Pricing	Cordon Pricing/Targeted Road User Tolls (TRUT)	X	X			X		X	X	X	X			4
Colorado Department of Transportation (CDOT), Denver, Colorado	FDOT's Express-Lanes Program	Express Lanes	X		X	X	X		X	X			X		3
Bay Area Infrastructure Finance Authority (BAIFA) / Metropolitan Transportation Commission, San Francisco Bay Area, California	Metropolitan Transportation Commission's Express-Lanes Program	Express Lanes	X	X	X	X	X		X	X		X	X		4
Texas Department of Transportation (TxDOT), Dallas, Texas	TxDOT's Express-Lanes Program	Express Lanes	X	X	X	X	X		X	X		X	X		4
Virginia Department of Transportation (VDOT), Northern Virginia/Washington DC Suburbs	VDOT's Express-Lanes Program	Express Lanes	X	X		X	X	X	X	X			X		3
The Orange County Transportation Authority, Orange County, California	Orange County Transportation Authority's Express-Lanes Program	Express Lanes	X			X			X	X					3
Washington State Department of Transportation (WSDOT), Seattle, Washington	WSDOT's Express-Lanes Program	Express Lanes	X		X		X		X	X			X		3
Florida Department of Transportation (FDOT), Tallahassee, Florida	FDOT's Express-Lanes Program	Express Lanes	X	X	X		X	X	X	X			X		3
Maryland Transportation Authority, Baltimore, Maryland	Maryland Transportation Authority's Express-Lanes Program	Express Lanes	X	X	X	X	X		X	X			X		3
The New Jersey Turnpike Authority, New Jersey	New Jersey Turnpike Variable Rate Pricing	Variable Pricing	X	X		X	X		X	X	X	X			4
Minnesota Department of Transportation (MnDOT), St. Paul/Minneapolis, Minnesota	MnDOT's E-ZPass Express Lanes Program	HOT Lanes	X			X			X	X	X		X		4
District Department of Transportation, Washington, District of Columbia	Penn Quarter/Chinatown Parking Pricing Program, Washington, DC	Parking and Curb Management Pricing	X	X				X	X	X	X	X			4

GHG = greenhouse gas. HOT = high-occupancy toll lane. HOV = high-occupancy vehicle lane. HOV 2+/3+ = vehicles with 2/3 persons in high-occupancy vehicle lane

The light green highlighted rows are the programs selected for interviews.

² Uses of the revenue generated varied and included funding transportation improvements and providing travel choices; maintaining and preserving infrastructure; promoting transportation equity; promoting sustainable modes of transportation; supporting public transit; and making shared rides affordable in transportation equity neighborhoods.

³ Ease of implementation include pricing programs that are low cost, does not involve widening or add lane miles or major changes to the highway system.

APPENDIX B

NOTES FROM THE INTERVIEWS

- Transportation Network Provider (TNP) Surcharge—Chicago, Illinois
- Minnesota Department of Transportation (MnDOT) High Occupancy Toll (HOT) Lanes—Minneapolis, Minnesota
- Central Business District Tolling Program—New York City, New York
- Bay Area Express Lanes—Northern California/San Francisco
- Chinatown/Penn Quarter Pilot Parking Program—Washington, District of Columbia

Chicago Transportation Network Provider Surcharge—July 5, 2023

Background

In 2019, Lori Lightfoot, who was the Chicago mayor at the time, proposed that a surcharge of \$1.75 (\$5.00 for special zones) be imposed on Transportation Network Provider (TNP) trips that either drop-off or pick up in designated neighborhoods in Chicago. This cordon style roadway pricing program was passed by the Chicago city council in 2019.

Federal and State Support

There wasn't much federal and state involvement with the implementation of this program.

Program Goals

- To reduce congestion caused by TNP companies.
- To raise revenue for Chicago and the Chicago Transit Authority (CTA).
- To maximize vehicle occupancies.

Revenue and Operating Costs

Revenue Background

- In 2019, this program produced \$200 million in revenue. \$16 million went towards the CTA. The remaining revenue was allocated towards the general funds for the City of Chicago.
- There is a Memorandum of Understanding (MOU) between Chicago and the CTA which details how the funding can be used. No MOU exists with Metra or Pace as they currently don't receive revenue from this program.

Fee Structure Goals

- Incentivize sharing rides when using TNPs. As a result, surcharges were reduced to 60 cents for shared TNP trips.

- Traveling through the downtown zone in a TNP without stopping won't result in the TNP surcharge. (Trip must start or end in the downtown area for a charge to occur)
- Chicago receives the TNP data monthly through an open portal. They know the number of surcharges that should be charged based on the ridership level.

Costs and Operations

- In-house staff time was mostly used to design the policy. Staff had a variety of roles, including a policy analyst, a data analyst and tax law specialist.
- It took around 20 staff members for the program to be implemented. Five staff members are working on this continuously.
- The Business Affairs and Consumer Protection department manages the TNP program. One staff member is a lawyer. Two to three staff members oversee analyzing the data. If this was a bigger program, such as the TNP surcharge program in New York City, there could be many more staff working on this.

Challenges

- TNPs have opposed the surcharge throughout the entire duration of this program.
- Chicago city council approval was difficult due to the council's size, which is over 50 people.
- The coronavirus pandemic occurred after implementation, so they don't know how effective this program would be at reducing congestion.
- Commuters are concerned about being over monitored while traveling in Chicago.
- This program was successful as far as being implemented, however it has not significantly reduced congestion.
- The surcharge would need to be \$10 to make an impact and affect travel behavior. Chicago proposed a lower surcharge fee to ensure that it would pass.
- Chicago did not have much time to implement this program, so they were not able to do a detailed analysis before implementation.

Opportunities

Using Data to Manage TNP's

As of 2019, TNP data was collected at the census block level. Since then, Chicago has been able to receive even more detailed data. At first, Chicago couldn't obtain the through points, just the beginning and end points of a trip. Now Chicago is receiving more frequent pings to make the routes visible.

Planning Process

Chicago staff sat down with transportation and civil organizations to inform them that they want to implement this program and warned about the challenges ahead.

Equity

Reducing the cost of shared rides that did not go downtown is a big priority. An objective is to shift congestion to neighborhoods that have roadways that are underutilized. Revenue from this program goes to support public transit investments at the CTA which helps address equity concerns. Chicago also uses revenue to invest in shared bicycles.

Keys to a Successful Program

- Robust data and make data readily available.
- Have a data scientist on your staff—Chicago’s data scientist can write code to do quick in-house analyses.
- Transparency to the public. Communication is the key to having the public on board.
- Ensure documents are written so that the public can read them. It helps when reports and presentations are non-technical.

Communication and Messaging

- Chicago has an open data portal. Advocates can obtain data and conduct their own analysis.
- The public loved these TNP policies. In addition, riders have become accustomed to the surcharge. It’s a modest fare for a TNP ride.

Expanding the TNP Surcharge

- Companies asked if the fee would go away during the pandemic but did not suspend this program during the pandemic.
- Chicago is using some of the revenue to complete a longer-term congestion study that will analyze the impacts of TNPs in different neighborhoods.
- Chicago desires to research how the surcharge, or any congestion pricing policies are impacting TNP drivers. Chicago wants to help TNP drivers whenever they can.

E-ZPass Minnesota Express Lanes—June 29, 2023

Background

Interest in congestion pricing started in the early 1990s when MnDOT and the Metropolitan Council began to study and implement congestion pricing.

Federal and State Support Enabling State Legislature

Public and political work in the early 1990s led to a state enabling legislature allowing the MnDOT and the Metropolitan Council to study and implement congestion pricing. In early 2000, a Value Pricing Advisory Task Force comprising state legislators and city officials and the I-394 Express Lane Community Task Force were formed and tasked with communicating benefits and understanding of the pricing project to the public. The task force visited SR 91 Express Lanes in California, which is using pricing to maximize capacity and maintained advantage for buses and carpools. The efforts led to the introduction of state legislation authorizing the conversion of underutilized High Occupancy Lane (HOV) lane into HOT Toll Lane.

Federal Support

The Federal Value Pricing Pilot Program supported the I-394 HOV to HOT conversion in 2005. The project received \$10 million federal demonstration grants and regular MnDOT funds. This low-cost conversion project involved installing tolling equipment for the contraflow lane.

Program Goals

- Manage congestion.
- Improve air quality.
- Support economic growth.

Revenue

- The main purpose of the E-ZPass Minnesota express lane program is to manage congestion, not revenue generation.
- Revenue from the pricing program is used to pay for operations and routine maintenance. Additional support for the program comes from MnDOT maintenance fund and state and federal funds.
- The state legislature specifies that excess revenues (after capital, operations, and maintenance costs) are to be used in the corridor and to transit enhancements on a 50/50 basis.

Challenges

- Opposition and support from the legislature and public.

- Equity concerns such as financial burdens or diversions.
- Environmental concerns and opposition to building new express lanes.
- Advocacy on climate change goals to reduce vehicles miles traveled.
- Operational challenges include traffic diversion where the managed lanes end up causing congestion at the terminals.
- Challenges for expanding highway projects that are not safety projects and funding for new express lanes.

Opportunities

- New projects emphasize engagement with underrepresented communities.
- E-ZPass express lane is evaluated as part of all new projects.
- Extensive public engagement now than in the past.
- Transit improvements to take pressure of local street.
- The University of Minnesota completed a study on equity enhancement in the systems and found that:
 - Income levels are balanced throughout the transportation network under the program.
 - Diversity, ethnicity, and race—The users of the express lanes are more racially diverse than the users of the general purpose lanes.
 - Excess revenue was used to target Central Business Districts in low-income communities to fund transit improvements.

Communication and Messaging

- Grasstops approach not a grassroots approach—assembling at task force comprising legislators, city officials, MPO, public, county officials, Federal Highway Administration (FHWA), MnDOT, and stakeholders.
- Detailed technical work evaluating different pricing strategies and the benefits to the public.
- Scanning trips: A visit to California SR 91 Express Lanes made the difference and convinced the task force to draft and champion legislation to implement congestion pricing.
- After study showed 60 percent of the public supported it.

Expanding the Express Lanes

- Since the I-394 HOT lane project, MnDOT has expanded express lanes on I-35W and I-35E. The expansions are a combination of conversion of existing HOV lanes into HOT lanes and new construction. Expansion of the Express Lanes on I-35 system also benefited from UPA grant of \$130 million.

New York City Central Business District Tolling Program—notes from meeting—July 21, 2023

Background

In 2006, the city of New York proposed to implement congestion pricing in Manhattan Central Business District (CBD). This congestion pricing program was approved by the City but was rejected by New York State. Since the congestion pricing bill failed to pass in 2008, this program was shelved until 2017.

In 2017, the idea of congestion pricing in Manhattan was revived due to budget shortfalls and revenue needed for transportation repairs. In 2019, the congestion pricing program was approved by New York State through the state budget and has since been approved by the FHWA, in 2023. The current target year for implementation of this program is 2024.

In the current version of this congestion pricing program, motor vehicles that travel south of 60th Street will be charged a toll. The toll rate hasn't been determined yet, but the final set rate will be between \$9 and \$23.

Federal and State Support

- The Environmental Assessment (EA) on the program was federally approved in the spring of 2023.
- The tolls were not finalized at the time of the EA so hypothetical scenarios were created to conduct the EA analysis.
- The three sponsors for the program are the Metropolitan Transportation Authority (MTA), State Department of Transportation, and the New York City Department of Transportation. There was a lot of collaboration with the FHWA.
- Several mitigations and discounts that the MTA offered to commuters helped this program receive FHWA approval.

Program Goals

- To raise revenue
- To reduce congestion
- To improve air quality
- To improve quality of life for residents of Manhattan CBD

Revenue and Operating Costs

Revenue Background

- The MTA will have to raise at least \$1.1 billion annually to meet their \$15 billion for the bonding for the capital plan. It is estimated that it will take 30 years to repay the bonds. This is why the tolls are projected to be so high.

Costs and Operations

- Upfront cost includes new poles and transmitters.
- Operating costs will be over \$100 million annually.
- EZ pass will be fully integrated to this project.
- No flashers can be used with the tolling equipment.
- The management of this program will be in house, but they would need to add more staff in existing operations to manage the new congestion pricing program.
- The MTA will collaborate with NYDOT.
- The FDR and Westside Highway will be exempt from the tolls.
- The toll algorithm will distinguish where all commuters are traveling to within the cordon.

Challenges

- \$23 congestion fee is too high for politicians. The MTA was hoping for a \$10 to \$15 congestion fee, but giving commuters discounts is driving the fee upwards.
- The MTA must give cross credit for people who already paid tolls in other nearby entry points (example: bridge tolls).
- There were a lot of required mitigation projects required to obtain the bonds for this project. This includes asthma centers, air filtration in schools, pollution eating vegetation, and improvements to parks.
- This program will cause some traffic diversions by commuters. More traffic will be pushed to the outer boroughs.
- There is an ongoing conflict between New York and New Jersey over congestion pricing. New Jersey sued New York in July 2023.

Opportunities

- The reason that cordon pricing was the chosen pricing method is because Manhattan is an island. This makes the location ideal for cordon pricing because entry points onto the island are limited and it would be easier to set up checkpoints.

Planning Process

Traffic Mobility Review Board (TMRB)—this is a six-member panel that will implement the tolling structure. The MTA and FHWA must also approve of the tolling structure.

The MTA did not consider adding a new transit project to be implemented before the congestion pricing program begins, because the pandemic caused the drop in ridership on the subway and extra capacity was not needed. Additionally, the model projects that transit ridership will only increase two percent with congestion pricing. However, there are discussions about possibly adding some

additional bus rapid transit routes to the system before or shortly after implementation.

Equity

- There are extensive equity analyses in the EA.
- The congestion pricing EA requires TNC drivers to be tolled only once a day
- Some of the revenue will be going toward updating the subway system and improving stations to ADA accessible standards.

Discounts

- Households under \$60,000 will receive a discount. This was negotiated by the FHWA when creating the EA.
- Out of zone discount—25 percent discount on the toll after the tenth trip in the cordon zone during a calendar month. This will apply to a frequent commuter. This discount was recommended by the FHWA.
- Fifty percent overnight discount from the hours of 12:00–4:00 AM. This was required by the FHWA.
- Emergency vehicles will get a discount. The definition of an emergency vehicle is still being determined.
- Individuals with disabilities will have a discount. This will require special plates.
- Public transport buses will have a discount.
- These discounts also apply to New Jersey and upstate New York residents.

Planned Assessments

When implemented, these assessments will be done:

- Environmental Monitoring from day one
- Before and after traffic studies
- EJ monitoring assessments

Communication and Messaging

- Communication with Politicians are very important.
- Expect the U-curve result of support. Support bottoms out right before implementation. Once implemented, support of the program will spike.
- The MTA had 19 public meetings hearings in 2021. In 2022, six more public meetings were held. The length of meetings grew over time. The last few meetings were 10 hours long. The comments were three to one negative to positive at these meetings.

Background of Other Similar Program

New York City TNC surcharge

- This program commenced in 2019. The surcharge is \$2.75 for Uber and Lyft.
- The first \$300 million in revenue goes into the subway action account. Then, \$50 million goes into the Outer Borough Transit Improvement account. 2022 is the first year that there was enough revenue that the Outer Borough Transit Improvement account received money.
- The fee has not decreased demand at its current price.

Bay Area Express Lanes—Metropolitan Transportation Commission (MTC) notes from meeting—June 30, 2023

Federal and State Support

Relevant Assembly Bills

- Assembly Bill 1467 – The bill in 2012 allowed regional transportation agencies (RTA), in cooperation with California Department of Transportation (Caltrans), to apply to the California Transportation Commission (CTC) to develop and operate high-occupancy toll lanes, including the administration and operation of a value pricing program and exclusive or preferential lane facilities for public transit. The Bay Area Express Lanes were completed under this bill.
- Assembly Bill 194 – New bill in 2015 -California Transportation Commission (CTC) – Value pricing program (Toll facilities program), gave the CTC responsibility to approve the tolling of an unlimited number of facilities. This new authority allowed regional transportation agencies (RTA) and Caltrans to apply to the commission to implement and operate HOT lanes, and other tolling schemes including a value pricing program or exclusive lanes program for transit or freight. Additionally, this legislation gives RTA and the state to consider alternative means to finance transportation infrastructure improvements. Before 2016, special legislation was required to grant an entity to implement a tolled facility.
- 23 U.S.C. 301 and 23 U.S.C. 129—This is a federal bill that allowed states to give authority for operators to build and operate tolled expressways. This passed in 2012. The bill allows the conversion of a HOV lane to a toll facility. However, there are restrictions on how revenue can be used (transit is allowed) and requirements for implementing tolling on interstate and non-interstate highways.
- California Senate Bill 743—This bill was implemented in 2018. The legislation prompted a change in the way the state measures the impacts of new development and transportation projects. It promotes reductions in vehicle miles traveled (VMT) as a measure of the impacts of transportation projects and developments. The goal of this bill is to reduce greenhouse

gas emissions, discourage sprawl and promote active transportation. Change in VMT would be compared to the project's cost.

Background

The MTC began implementing the Bay Area Express Lanes network after seeing the California SR 91 express lanes being implemented in Orange County, California, in the late 1990s. The Bay Area Express Lanes network concept was also driven by environmental concerns back in the 1990s. The goal of this program is to increase person throughput and reduce vehicle emissions. The objective was to increase carpooling and manage travel demand of single-occupant vehicles (SOV).

Program Goals

- Reduce congestion by rewarding use of high-occupancy vehicles.
- Provide reliable and faster trips.
- Provide a choice for drivers to pay for faster trips.
- Improve air quality.

Challenges

Equity Concerns

- Users thought it was a choice to use the express lanes. Now, stakeholders understand the purpose of an express lane is more nuanced than this.
- Riders on buses on express lanes tended to be higher income and the buses are emptier than on typical routes.
- Express Lanes Starts pilot program offers low-income drivers living in the San Francisco Bay Area at least 50 percent discounts on tolls in the I-880 Express Lanes. MTC is evaluating the 18-month pilot program and looking to implement it across the Bay Area Express Lanes.

Operations

- Operations are very complex and setting up high-tech systems was a challenge.
- Unanticipated costs such as replacing the toll systems every 10 years can be very expensive over time.
- Public perception that express lanes are difficult to use.
- Lack of customer service workers to help users.

Revenue

- Can use toll revenue for other projects. However, generating revenue to fund public transportation improvements was not the goal of the program.
- COVID-19 impacted the program. Traffic volumes are still below the pre-COVID-19 level. Revenues and operating/obligation costs are about equal.

- Loss of revenue due to toll violations and drivers cheating.
- Enforcement has been an issue as well. Existing technologies do not detect vehicle occupancies to determine if drivers have the appropriate occupancies or if they need to pay the toll.
- Tracking emerging technologies that can be used to increase enforcement and revenue.

Environmental Concerns

Environmental advocates express concerns about capacity expansion by adding more lanes for express lanes. MTC is looking at federal rules about converting general purpose lanes to toll lanes than building new toll lanes.

Opportunities

- Public engagement centered on how express lanes function and program benefits. This was done in a non-technical format that was easily understood by the public and focused the most on boards and communities, more than the public directly.
- The MTC considered express lanes pricing because the Assembly Bills 1467 and 194 authorized the Caltrans and regional planning agencies to implement managed lanes.
- The MTC decided that a three-person carpool was best for the region and were allowed to travel free on all express lanes to reduce congestion and VMT. A two-person carpool pays half-price toll or travel free on express lanes based on the level congestion.
- The Express Lanes program was originally included in the Long-Range Transportation Plan that was published in 2009. Agency and county partners participate in the process and each cycle has a performance assessment where the evaluation of the effectiveness of the roadway pricing facility occurs.
- Caltrans owns the freeways, but a memorandum of understanding gave MTC the responsibility for operating and collecting tolls on the system and maintenance on the express lanes.

Funding

The Bay Area Express Lanes program did not use public private partnerships, mainly because of federal funding and state propositions to fund transportation improvements.

Keys to Implementation

- Stakeholder partnership
- Communication
- Realistic cost

Takeaways and Lessons Learned

The MTC seeks to implement cost-effective, sustainable, and self-supporting managed lanes that help achieve regional goals.

- Reduce congestion so people and goods get where they need to go reliably.
- Support and promote the use of transit and high occupancy modes.
- Advance equity by improving equitable and affordable access to mobility options and in underinvested communities.
- Clean the air to support public health and fight climate change.
- Deliver Bay Area Express Lanes Network in a timely manner.
- Be responsible in the use of public funds.

District of Columbia (DC) Penn Quarter/Chinatown Parking Demand Program—notes from meeting—July 6, 2023**Background**

The DC Penn Quarter Parking program is a pilot program that converted fixed rate, on-street parking to variable rate on-street parking depending on parking demand. This program was implemented in the Chinatown/Penn Quarter Neighborhood. The pilot program began in 2014 and concluded in 2019, at which time the pricing adjustments in the neighborhood became permanent.

Federal and State Support

This program was funded from a grant through the FHWA Value Pricing Pilot Program

Program Goals and Outcomes

- Reduce time to find a space. This program was successful at reducing time to find a parking space. Circling for parking also decreased with this program.
- Reduce congestion and improve safety and use of other modes. Congestion was reduced two percent in the neighborhood when the program was implemented. There was a bigger congestion reduction in the Chinatown/Penn Quarter neighborhood than what was experienced citywide. The program did not have an impact on businesses.
- Develop parking management solutions through a cost-effective, asset light approach. This was achieved by using data fusion to determine a system which didn't require much additional equipment.

Implementation

There were three steps for implementation:

1. On street configuration, which involved converting to a pay by space system.
2. System design, which involved data monitoring at a block level instead of individual spaces. Sensors are expensive and pay by space monitoring doesn't work well with sensors, so it was not recommended to install sensors on every space.
3. Data fusion, which involved adjusting prices based on real-time demand.

Revenue and Operations

- Revenue from this program is allocated to the Washington Metropolitan Area Transit Authority, which operates the DC Metro. Some of the revenue is also allocated towards program operations.
- This program is not to generate revenue and parking pricing is reduced at underutilized parking spaces.
- Between 2014 and 2019 there were seven rounds of parking price increases or decreases, depending on the time of day. This resulted in 12 different parking prices by 2019. The most utilized parking spaces reached level 12 in 2019, which means parking will be \$7.00 per hour at the space during peak periods.
- There are four parking periods: weekday mornings 7:00–11:00 AM, weekday midday 11:00 AM–4:00 PM, weekday evening 4:00–10:00 PM, and all-day Saturday. Sundays are free.
- There are substantial operating costs for this program, but the asset-light approach reduced capital costs.
- Real time information is sent to the DC Park application. This shows block level parking availability to commuters that are looking for parking. If all blocks are displayed in red, it is best to utilize a parking garage.
- Seventy percent of revenue is through the DC Park application. Some commuters pay by coins but it's less than 10 percent of revenue. The District Department of Transportation (DDOT) is looking into implementing a coin free pilot soon.
- The district does not have any off-street parking. The 26,000 parking spaces that are operated by DDOT are all on-street parking.
- DDOT is working on cleaning up parking signs. The parking signs are currently confusing to commuters that are searching for parking.
- It's important to communicate to the commuters that it's best to view the app before they heading to the neighborhood. DDOT is working on possibly integrating the application to the vehicle GPS units.

Challenges

- Illegal/double parking increased when the program was implemented. There was also an increase in people parking in loading zones. As a

result, DDOT reduced prices in some locations to discourage this behavior.

- After the COVID-19 pandemic, parking is at 85–90 percent of its 2019 use. Employees in the offices in the neighborhood now work from home several days a week. Overall, there are fewer general activities downtown than in the period before the COVID-19 pandemic.

Opportunities

- Better real-time information on demand based on parking can help reduce the troubles of parking downtown.
- 2023 is the first year that vibrancy is returning to the DC neighborhood. DDOT is monitoring the data to determine if this trend will continue.
- If the parking is too expensive, commuters know that they have transit options. Because of this, DDOT can discourage commuters from driving to the neighborhood altogether.
- It is recommended that a smaller program such as this parking pricing program funds start-up transit options to provide a day one alternative for driving in a congestion pricing cordon.

Communication and Messaging

- DDOT expected political push back but didn't get much. Local politicians were already dealing with several parking bills, so they had a familiar background on the parking pilot.
- Most of the commuters are short term visitors and tourists, not residents and daily workers. Short term visitors often are from out of town and are not politically interested in this program, so they rarely opposed this program.
- Once parking rates reached \$7.00 per hour in some locations, some push back occurred. DDOT met with the local Advisory Neighborhood Commission to resolve the push back.
- DDOT stated that their biggest mistake was not engaging with the small business community sooner.
- DDOT regularly communicates with WTOP, which is a local news outlet.

Background of Other Similar Programs

- SF Park implemented variable parking in San Francisco before this program. They elected to install a sensor on every space that they monitored.
- Other programs include Park Indy (Indianapolis), Seattle and LA express park (Los Angeles). LA Express Park started at the same time but doesn't change prices as often. Some of these programs monitor off-street parking too.

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