PRICING OPTIONS FOR EQUITABLE MOBILITY

FINAL REPORT

CITY OF PORTLAND
PORTLAND BUREAU OF TRANSPORTATION
PORTLAND BUREAU OF PLANNING AND SUSTAINABILITY

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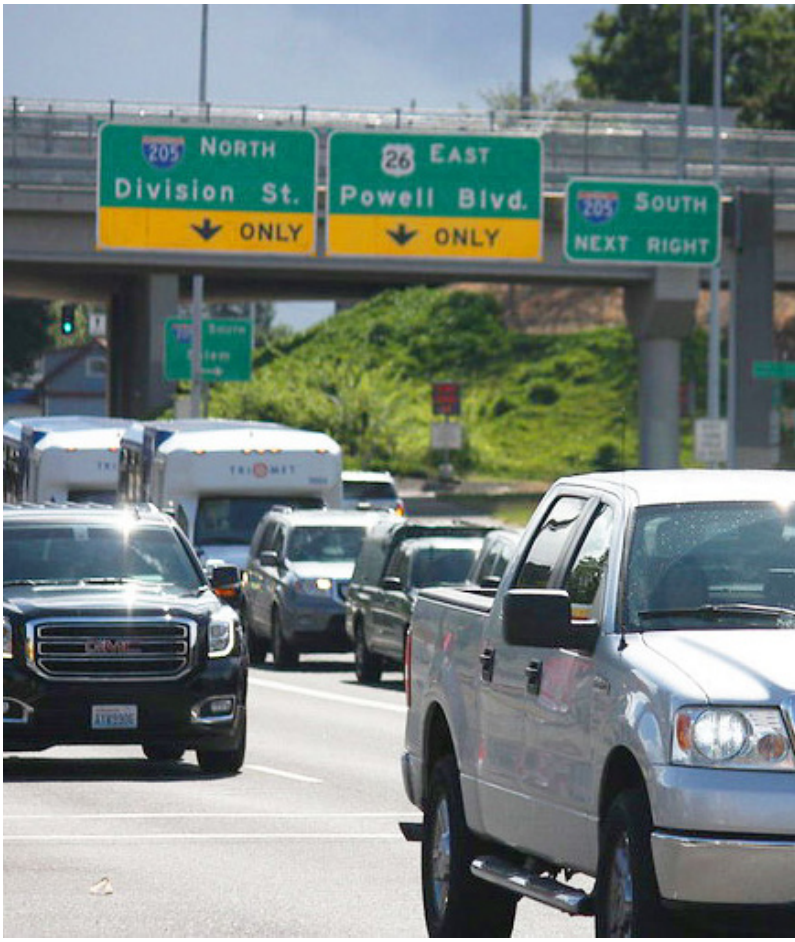
Chapter 1:
A priority conversation for Portland

The City of Portland's Pricing Options for Equitable Mobility (POEM) project started with a question:

Could we use new pricing strategies in Portland to improve mobility, address the climate crisis and move toward a more equitable transportation system?

Our transportation system today doesn't work for everyone. And with 600,000 new residents expected to live here by 2040, many of the problems we're experiencing now—like worsening traffic, increased risk of crashes and rising carbon emissions—are due to get worse. These challenges disproportionately impact Black, Indigenous and People of Color (BIPOC), Portlanders with low incomes and people with disabilities.

Regional interest in pricing—sometimes called "congestion pricing," "value pricing" or "mobility pricing"—has increased in recent years as we grapple with how to combat these challenges and better manage our roads. Pricing refers to strategies that involve charging people for driving or using roadway space. These charges can vary based on different factors, for instance how congested the roads are, the time of day or what type of vehicle is using the road. By applying a charge and sending a signal of "value" for using that road space, pricing can help people consider the impact of their travel choices and encourage certain behaviors (like carpooling, traveling at off-peak hours or using other, non-driving options when possible).



Here in Portland, we already put a price on things like parking spaces to help maintain and manage parts of our transportation system. But a lot of our system is unpriced and, to date, we haven't implemented any variable pricing—where charges change based on different factors. Other cities have effectively used pricing to reduce congestion, cut pollution and manage demand for road space. Pricing can also generate funds to reinvest in a better mobility future.

But pricing can also make driving more expensive, which could disproportionately burden some users of our system. At the City of Portland, we are committed to leading with racial equity and pursuing transportation justice. So, before deciding what role pricing might play here in Portland, we needed to explore if and how pricing can help reduce disparities and make our system work better for everyone.

In 2019, Portland City Council directed staff from the Bureau of Transportation (PBOT) and Bureau of Planning and Sustainability (BPS) to do that exploration, kicking off the POEM project. This document provides an overview of the POEM project, the POEM Community Task Force and emerging recommendations from this work.

A COMMITMENT TO TRANSPORTATION JUSTICE

Over the last five years, the City of Portland has strengthened its commitment to transportation equity. This means recognizing the harmful legacy of past decisions and moving decisively now to address these harms. Concretely, this means ensuring that communities of color and people with limited mobility, previously excluded from the decision-making process, have a prominent seat at the table and are centered in policy, investments, services, and programs.

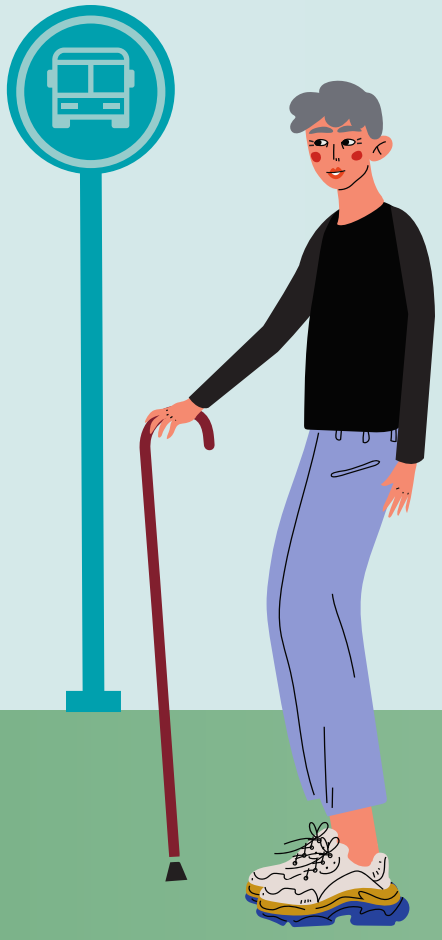
As we strive to achieve transportation justice, in all the work that we do, we will ask ourselves the following questions:

Will it advance equity and address structural racism?

Will it reduce carbon emissions?

Regional Coordination for Better Mobility

Between 2019 and 2021, the City of Portland, Metro and the Oregon Department of Transportation (ODOT) each led projects that consider ways pricing could help to address challenges related to equity, climate change, congestion, and safety. Each agency makes decisions for different parts of our region's transportation system. The three agencies coordinated efforts to leverage each other's work, learn from one another and share findings. Learn more about ODOT's Tolling Projects and the Metro Regional Congestion Pricing Study.



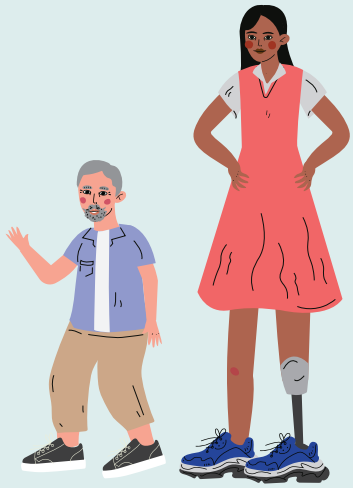
Why take a closer look at pricing now?

CROWDED ROADS HURT OUR HEALTH, OUR ECONOMY, AND THE CLIMATE

More than three-quarters of Portland metro area residents think congestion is a serious problem.[1] Regional modeling shows that by 2027, almost one-third of the region's roads will be congested or severely congested.[2] As people and goods spend more time stuck in traffic, this costs our economy money and worsens our quality of life. The transportation sector also accounts for approximately 42 percent of regional carbon emissions,[3] and as fossil fuel-powered vehicle trips increase, so does the climate impact. Portland is already experiencing the impacts of climate change with record-setting heat, flooding, wildfires and other extreme weather events.

We don't all bear these costs equally

BIPOC Portlanders, people living on low incomes and people with disabilities are more likely to be impacted by extreme weather events, are more likely to live in areas with less greenspace and are more vulnerable to heat-related and respiratory illnesses. These groups may also be burdened more by traffic congestion because of longer commutes and lower access to privately-owned vehicles.



BUILDING MORE ROADS IS NOT AN OPTION

We have limited space, and building more roads is very costly, both financially and environmentally. Furthermore, evidence shows that expanding road space leads to more driving—a phenomenon called "induced demand." If we add more lanes as a solution to growing congestion, the problem will only continue to get worse.

A PROVEN CONGESTION MANAGEMENT STRATEGY

Cities around the world have demonstrated that pricing strategies can help reduce single-occupancy vehicle trips and support more efficient, sustainable and equitable transportation modes. This is why City Council directed PBOT and BPS to explore how pricing strategies could be used in Portland to advance our values.

1 *Oregon Transportation Survey, 2019*
2 *Metro Regional Transportation Plan, 2018*
3 *Portland BPS, 2018*

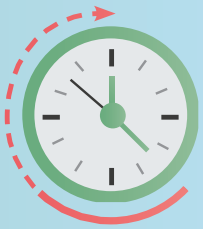
Transportation in Portland today: An unlevel playing field

Past transportation decisions and historic disinvestment have disproportionately harmed BIPOC Portlanders, people with low incomes and people with disabilities. To ensure a better transportation system for all, we need to take a closer look at what's not working today:

27% of Black households in Portland do not have access to a car

compared to just 13% of white households.[4]

A greater proportion of BIPOC Portlanders (17%) ride public transit than white Portlanders (11%)[5]



20% longer commute

Between 2000-2019, bus speeds decreased by 14%,[6] and average commute times are 20% longer for Black Portlanders than white Portlanders.[7]

Transportation is the sector that accounts for the largest portion of greenhouse gas emissions in our city.

Transportation accounts for 42% of greenhouse gas emissions in our region, the largest single source. These emissions have increased 8% since 1990, while other sectors declined during the same time period.[8] The impacts of climate change disproportionately burden BIPOC communities.[9]

People who live in diverse neighborhoods of Portland (15% or more BIPOC residents) experience diesel particulate matter levels on average 2-3 times higher than the rest of the city.[10] Pollutants like diesel particulate matter and carbon monoxide contribute to

respiratory illnesses. Long commutes also contribute to health problems like depression and obesity. BIPOC communities experience higher rates of diseases such as asthma, diabetes, heart disease and hypertension.[11]

The death rate from traffic-crash injuries among Black Multnomah County residents was almost twice the rate among white residents during the period of 2013-2017.[12]

4 National Equity Atlas, Year: 2017, https://nationalequityatlas.org/indicators/Car_access#/?breakdown=2
5 American Community Survey, Commute by Race data, Year: 2018
6 TriMet, https://trimet.org/about/performance.htm#performance
7 National Equity Atlas, Year: 2017, https://nationalequityatlas.org/indicators/Commute_time#/?breakdown=2
8 Portland Bureau of Planning and Sustainability, 2018 emissions summary, https://www.portland.gov/bps/climate-action/2018-carbon-emissions-and-trends
9 Oregon Health Authority, https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/CLIMATECHANGE/Documents/oregon-climate-health-exec-summary.pdf
10 Portland Bureau of Planning and Sustainability analysis, 2020
11 Multnomah County, 2014 Report Card on Racial and Ethnic Disparities, https://multco.us/file/37530/download
12 Multnomah County REACH Transportation Crash and Safety Report https://multco.us/file/95327/download

How did we get here?

Underinvestment in the transportation needs of BIPOC communities, Portlanders living on low incomes and people with disabilities

Land use policies that prioritize auto-users and white homeowners

A transportation funding source that costs low-income Portlanders the most

A system built around combustion engine cars

BIPOC community members left out of decision-making process

Systemic racism contributing to all the above

Pricing: one tool in the tool box

In order to improve mobility for people and goods throughout the city, we will need to use a combination of transportation tools. This includes:

Efficiently allocating road right-of-way:

Giving space and priority on our streets to modes of transportation that move more people equitably and sustainably

Building safe and accessible infrastructure:

Constructing projects and maintaining assets to keep our community moving

Directly providing mobility services and options:

Offering or permitting non-auto travel choices, like transit, bikeshare and micro-mobility services

Offering incentives and programs:

Helping encourage efficient and climate-friendly travel options through financial incentives and educational programming

Equitable pricing and reinvestment:

Applying costs and price signals to capture impacts, encourage certain behaviors, and support mobility investments

These strategies reinforce one another and all play an important part in making our system work for everyone.

Chapter 2:
The POEM Community Task Force

The POEM Community Task Force began meeting in January 2020. The City appointed Task Force members following a two-month, open recruitment process in late 2019. Nineteen people sat on the Task Force, representing diverse perspectives, interests and expertise from across our community. The group met monthly for two hours and transitioned to virtual convenings in April 2020 following the onset of the COVID-19 pandemic. All meetings were open to the public, and community members were invited to share comments with the Task Force throughout the project.

The Task Force's charge, as defined in its charter, was to inform PBOT and BPS as they consider if and how new pricing strategies could potentially be used more intentionally to improve mobility, address the climate crisis and advance equity for people historically underserved by the transportation system in Portland, including, but not limited to, BIPOC, Portlanders with low incomes and people with disabilities.

THE TASK FORCE'S WORK WAS DIVIDED INTO FIVE KEY PHASES:

Phase 1

Defining equitable mobility (January to March 2020):

In this phase, Task Force members adopted their charter; reviewed the history of transportation and mobility in our region, including the legacy of chronic underinvestment and systemic racism that have contributed to inequities in our system today; and developed a working draft Equitable Mobility Framework to guide their policy discussion in further phases.

Jan: Kickoff
Feb: How we got here
Mar: Equitable mobility workshop
Apr: Equitable mobility continued, COVID discussion

Phase 2

Policy overview (April to May 2020):

In this phase, Task Force members began exploring the implications of the COVID-19 pandemic on mobility (a conversation that continued through all phases) and received an overview snapshot of transportation funding today and why we're considering pricing.

May: Snapshot - transportation funding; high-level overview of pricing tools
Ongoing: Learning about COVID impacts, racial justice needs & mobility

Phase 3

Pricing typology introductions (June 2020 to February 2021):

In this phase, Task Force members learned about the five types of pricing strategies to be explored through the POEM Project and explored opportunities, risks and questions through the lens of the Equitable Mobility Framework.

Jul-Aug: Parking
Sep-Nov: Tolling
Jan: Cordon and area pricing; road usage charges
Feb: Commercial services

Phase 4

Bringing it all together (March to May 2021):

In spring 2021, the Task Force reviewed technical analysis on questions raised in Phase 3 and considered how different pricing strategies could influence equitable mobility. Analysis was informed by high-level modeling tools, Metrol Regional Congestion Pricing Study results, and supplemental research.

Mar-May: Review further analysis on ideas across all typologies to refine recommendations

Phase 5

Recommendations and final report (June to July 2021):

In the final phase, the Task Force made recommendations for nearer-term pricing actions, longer-term explorations and next steps. These recommendations to PBOT and BPS leadership are captured in Chapter 5 of this final report.

Jun-Jul:
- Review final analysis
- Vote on final recommendations
- Report developments and next steps

The Task Force was supported by a strategy and planning team comprised of PBOT and BPS staff as well as a community strategic advisor, whose time was supported by the American Cities Climate Challenge.

Chapter 3:
Defining equitable mobility

As the name suggests, the POEM Project sought to explore the relationship between pricing policies and equitable mobility. Defining equitable mobility was a key initial step for the POEM Task Force. Over its first few meetings, the group developed a working draft Equitable Mobility Framework. The Task Force used the framework throughout its process to guide conversation and analysis, explore trade-offs, and inform decision making.

The POEM Equitable Mobility Framework was inspired by and adapted from the Greenlining Institute's Mobility Equity Framework.

This framework prioritizes extending benefits, reducing disparities and improving safety for Black people, Indigenous people and People of Color (BIPOC communities). Leading with race, the framework will also be used to consider impacts on people with disabilities, people living on low incomes, multi-lingual individuals and displaced communities.

Why center race?

Because the creation and perpetuation of racial inequities has been baked into government, and racial inequities are deep and pervasive. Specifically, racism is a contributing factor to disparities in equitable mobility: unequal access to mobility options, sustainability and health outcomes, experiences of safety in public space and economic opportunity. Addressing racism itself must be part of the work of creating a more equitable transportation system.

WORKING DRAFT EQUITABLE MOBILITY FRAMEWORK

WE CARE ABOUT

Moving People & Goods

EFFICIENCY: Improve time and space-efficient movement of people and goods; non-driving trips should be time competitive with driving trips

TRANSPORTATION AFFORDABILITY: Reduce household expenditure on transportation

CONNECTIVITY: Create ability to get to jobs, services, recreation destinations, and places where you need to go by different modes

AVAILABILITY: Provide an abundance of choice in mobility options (e.g., sidewalks, bus lanes, bike lanes, service frequency)

RELIABILITY: Improve predictability of travel time

ACCESSIBILITY: Increase usability of transportation options by people of all abilities

QUALITY: Improve comfort of public transit, bike facilities, and pedestrian facilities (e.g., cleanliness, amenities)

Sustainability & Health

CLIMATE IMPACT: Decrease contributions to climate change

AIR QUALITY: Decrease air pollution

HEALTH IMPACT: Improve human health outcomes resulting from transportation

Safety

TRAFFIC SAFETY: Improve safety of the system (e.g., crash risk)

PERSONAL SAFETY: Ensure freedom from threat and fear of emotional, psychological, and physical harm when using public space

Economic Opportunity

JOB CREATION: Create new, green, long-term jobs in the transportation sector and support training and transition from other industries

WORKING CONDITIONS: Support workers in the transportation sector to achieve healthy working conditions, fair labor practices and living wages

CONNECTED THRIVING LOCAL ECONOMY: Support economic opportunity across the city; mobility is not a barrier to economic development

Equitable Transportation Planning Process

INCLUSIVE ENGAGEMENT AND OUTREACH: Collect perspectives from BIPOC communities and ensure they are consulted in decision-making processes

ACCOUNTABILITY AND EVALUATION: Ensure transparency of decision making and performance evaluation

POEM's Equitable Mobility Framework is one of many efforts that will inform the development of PBOT's wider transportation justice framework.

Chapter 4:

Information considered by the Task Force

Pricing in the transportation system can take many forms: it can be tied to parking, to particular roads or areas, or charged based on the amount of miles driven.

While pricing strategies are sometimes designed to raise revenue or cover programmatic costs, **the POEM Project focused on the role of pricing as a tool to manage travel demand and to better capture the true costs and impacts of a trip.**

The following sections provide an overview of the five types of pricing strategies explored through the POEM Project.

Over the course of the project, the Task Force used the Equitable Mobility Framework (see Chapter 3, page 12) to consider if and how each strategy type might make our transportation system more equitable, efficient, sustainable, safe, and supportive of economic opportunity. For each strategy, they identified the most promising opportunities as well as concerns, outstanding questions and critical considerations if further policy development were to move forward.

THE POEM PROJECT IS EVALUATING FIVE TYPES OF PRICING STRATEGIES:

Prices on parking

Prices on vehicle-based commercial services

(e.g., private for-hire trips and urban delivery)

Highway tolling

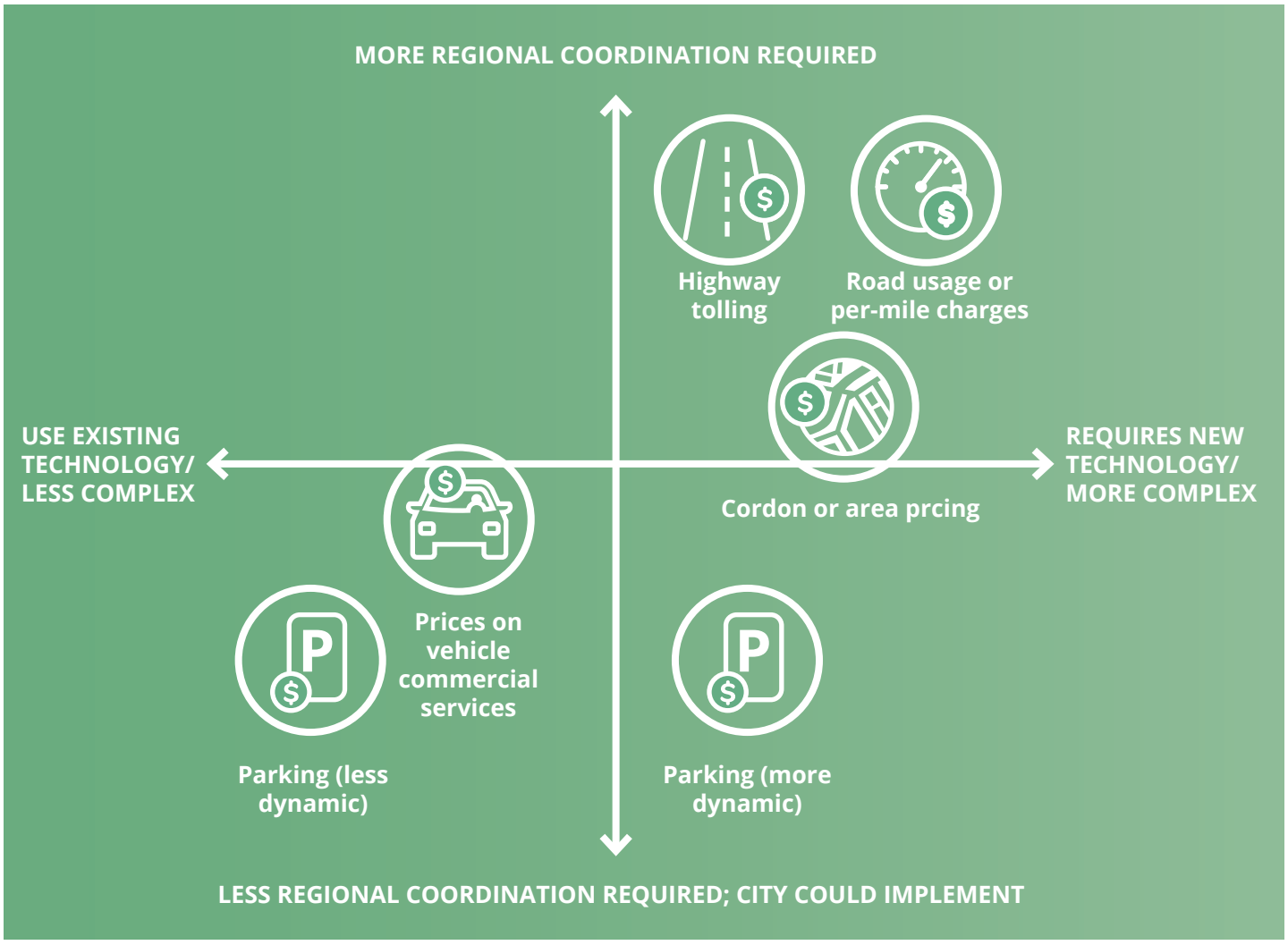
Cordons or area pricing

Road usage or per-mile charges

A SPECTRUM OF IMPLEMENTERS AND IMPLEMENTATION TIMELINES

Depending on the type of pricing strategy, implementation may require coordination among a number of agencies and jurisdictions. Generally, the more agencies involved, the longer the implementation timeline. Further influencing implementation complexity and timeline, some pricing tools could be implemented with existing technology, policy levers and infrastructure, while others will require investments in new structures and systems.

Pricing implementation spectrum



Prices on parking

Around a third of downtown traffic is the result of people looking for a parking spot. A Los Angeles-based study found that on average, vehicles cruise around 3.3 minutes (about 2.5 times around the block) when looking for parking.[14]

What is it?

Charging for parking is one of the pricing strategies people are most familiar with today. Parking can be publicly provided (meaning owned and operated by the City or another public agency) or privately provided by businesses or private landowners.

If parking is free (unpriced), there is little incentive for drivers to limit the time they use a parking space, which can reduce turnover. Studies have also found that free parking increases the likelihood that people will choose to drive rather than ride transit, walk, bike or use a different mode of transportation. In turn, research finds that if parking is priced, it can reduce commute drive-alone rates by 19% to 81%.[13]

Parking availability is important for providing access to businesses, services and residents' homes. Freeing up vacant spaces helps ensure people who need to find parking to get to these destinations can do so and prevents circling around the block.

Parking spaces also take up space in the roadway, which could be used for other purposes—like bike or bus lanes, street seating, business activity and more. Applying a price on parking helps capture the value of that space.

In recent years, many cities have started implementing more variable and dynamic parking pricing systems that respond to demand—prices are higher when things are more congested and lower during quieter times. This can help spread out parking demand, reduce emissions by limiting circling and overall levels of driving and congestion, and ensure that some spaces are available for people wanting to park and support businesses.

What's the status of parking pricing in Portland today?

Portland installed its first single-space parking meters in 1938. Since then, the City has implemented many policy changes to improve the basic tools and processes of parking pricing, including the recent development of a city-wide Performance-Based Parking Management manual.

PBOT manages more than 20,000 paid on-street parking stalls on public streets along with five downtown SmartPark garages.[15] Parking prices range from $1 to $3.50 an hour depending on the district and rules. Parking is generally free on holidays and often during evening, low-demand hours. In more residential areas, PBOT operates an Area Parking Permit Program, which allows residents and businesses to purchase permits to park on the street past posted visitor limits. Residents and businesses in areas experiencing parking challenges due to high demand can apply to create new permit districts—60% property owner approval is required before implementation.

There are also many privately owned parking lots and garages that are not affiliated with the City. Some of these are priced, while others are not.

13 Willson, R. W. and D. Shoup. 1990. "Parking Subsidies & Travel Choices: Assessing the Evidence."
14 Shoup, D. 2015. "Cruising for Parking"
15 https://www.portland.gov/transportation/parking/parking-guide

EQUITABLE MOBILITY CONSIDERATIONS OF PRICING PARKING

The following sections summarize ways **parking pricing** can impact equitable mobility, as defined by the Task Force in the Equitable Mobility Framework (see Chapter 3).

Moving People & Goods

- Can reduce driving trips and overall miles driven, which can lower congestion, improve system efficiency and reduce circling
- Can make driving more expensive for those without other options, if discounts, rebates or exemptions are not provided
- Can generate revenue which could be reinvested in expanding and improving transportation options

Sustainability & Health

- Can reduce greenhouse gas emissions if it disincentivizes driving and encourages use of more climate-friendly travel options (walking, biking, transit, carpooling)
- Can reduce air pollution associated with driving and circling while waiting for open spots
- Can improve physical health by encouraging active transportation
- Can reduce driving trips and overall miles driven, which is correlated with reduced traffic safety risks

Safety

- Can reduce driving trips and overall miles driven, which is correlated with reduced traffic safety risk
- Can increase need for enforcement of parking rules
- Can generate revenue which could be reinvested in safety improvements

Economic Opportunity

- Can support turnover on streets, ensuring customers can access business destinations
- Can raise costs for commuters who currently park for free

Highlights from Task Force discussion on parking

The POEM Community Task Force discussed parking pricing primarily at meetings #6 and #7 (July and August 2020). Detailed summaries of all meetings are available on the Task Force website.

Most promising opportunities identified through the Task Force's discussion:

Discourage subsidized commuter parking: Task Force members were interested in policy solutions like parking cash-out programs (where employers who offer free parking must provide that value to employees as a cash credit to use on other transportation options if they wish) that could encourage commuters to drive less.

Increase the amount of priced parking in the city: Task Force members discussed the significant amount of unpriced parking—both public and private—and the opportunity for advancing equitable mobility by expanding what is priced.

Decrease time and complexity for action: Task Force members discussed opportunities to make it easier for residents and the City to respond to shifting demand and implement pricing strategies in neighborhoods around the city. They noted the current area parking permit system, which requires more than 60% of property owners to approve a new district, is too complex and time consuming.

Move toward a truly dynamic system: Task Force members felt moving toward a truly dynamic system (where technology allows prices to adjust in real time) should be the goal to most efficiently and effectively manage demand.

Important considerations and policy questions:

Ensure affordability and protections for Portlanders living on low incomes: Task Force members discussed the impact that higher parking fees could have on Portlanders living on low incomes who have to drive and encouraged consideration of discounts or exemptions tied to existing means-based programs.

Collect data to understand who is driving and parking where: To better understand equitable mobility impacts of parking proposals, Task Force members noted the urgent need for better demographic data on who drives and parks where in Portland.

Reinvest in multi-modal alternatives: Since priced parking makes driving to an area more expensive, Task Force members discussed the importance of reinvesting parking revenue into other travel options into and around that area.

Support COVID-19 recovery: Task Force members discussed the impact the COVID-19 pandemic has had on local businesses and the importance of evaluating economic impacts of parking pricing proposals.

Prices on vehicle-based commercial services

The World Economic Forum estimates in the top 100 global cities, there will be 36% more delivery vehicles in inner cities by 2030. If this occurs without intervention, delivery emissions are projected to rise by 32% by 2030 while traffic congestion will increase by 21% or about 11 minutes of commute time per day.[16]

What is it?

The POEM Project explored pricing two broad categories of vehicle-based commercial services:

- **Private for-hire transportation services:** Taxis and app-based, ride hailing services called transportation network companies (TNCs), including Lyft and Uber.
- **Urban delivery services:** Cars, vans or trucks used to transport food, goods and other lighter-duty freight to people's homes and businesses. Within urban delivery, there are different types of trips, including on-demand urban delivery services (such as instant or same-day food and grocery deliveries) and more traditional parcel delivery services (where goods are shipped and transported from a central warehouse to homes or businesses by car, van, or truck).

The share of miles driven on U.S. roadways that comes from commercial vehicle traffic is on the rise.[17] [18] For example, Uber and Lyft have been operating in Portland since 2014; by 2019 Portlanders took more than 12 million annual trips in private for hire vehicles.[19] During the same five-year period on the urban delivery side, e-commerce sales nearly tripled globally,[20] a trend that only accelerated during the COVID-19 pandemic.[21]

These commercial services offer several benefits and opportunities. For one, they provide a high level of personal convenience by allowing customers to summon transportation or delivery services from their phones or computers. They also can help expand accessibility for people with disabilities or who live farther from transportation options or jobs, shops, and services. Growing alongside this consumer demand is a burgeoning workforce, including drivers, warehouse workers, technicians, and operations and logistics employees.

The staggering growth of these services, however, also places significant pressure on the limited space of the urban street network. Because of this, many transportation agencies are looking to better understand the impacts of and potential management tools for these services as they consider how to effectively address traffic congestion, improve safety, and reduce carbon emissions.

What's the status of prices on vehicle-based commercial services in Portland today?

Here in Portland, some administrative fees are already in place related to commercial services. This includes a flat $0.50 per-ride surcharge on

16 World Economic Forum, 2020)
17 Balding, M. et. al. (2019). "Estimated TNC Share of VMT in Six U.S. Metropolitan Regions." Fehr and Peers. https://drive.google.com/file/d/1FIUskVkj9lsAnWJQ6kLhAhNoVLjfFdx3/view
18 World Economic Forum (2020). "The Future of Last-Mile Ecosystem." http://www3.weforum.org/docs/WEF_Future_of_the_last_mile_ecosystem.pdf
19 City of Portland (2021). "Private for-hire transportation (PFHT). https://www.portland.gov/transportation/regulatory/private-hire/pfht
20 World Economic Forum (2020).
21 Sorin Garber & Associates. https://6f9e7409-6f5f-49c4-b048- 31b59fdc9c52.filesusr.com/ugd/0ec6cb_f3a918ab40f244f6b3054ba33ecdc8ea.pdf

private for-hire trips and permit fees for taxi companies, administered by the City of Portland. To date, these fees have not been designed to reduce the impact of these services on the greater transportation system. The City does not currently regulate or add prices to on-demand delivery, except for a limit imposed on third-party food delivery fees charged to restaurants passed by City Council in July 2020, protecting food establishments during the COVID-19 crisis.

EQUITABLE MOBILITY CONSIDERATIONS OF PRICES ON VEHICLE-BASED COMMERCIAL SERVICES

The following sections summarize ways prices on **vehicle-based commercial services** can impact equitable mobility, as defined by the Task Force in the Equitable Mobility Framework (see Chapter 3).

Moving People & Goods

- Can reduce miles driven by encouraging use of alternative travel or delivery options, which can lower congestion and improve system efficiency
- Can make these trips more expensive for those without other viable options, if discounts, rebates or exemptions are not provided
- Can generate revenue which could be reinvested in mobility improvements

Sustainability & Health

- Can reduce greenhouse gas emissions if it reduces miles driven and encourages use of more climate-friendly travel options for people movement (walking, biking, transit, carpooling)
- Can also reduce greenhouse gas emissions by incentivizing shifts to electric or lower-carbon fuels based on the price structure
- Can reduce air pollution associated with combustion engine use and idling if driving is reduced

Safety

- Can reduce miles driven, which is correlated with reduced traffic safety risks
- Can increase need for enforcement of parking rules
- Can generate revenue which could be reinvested in safety improvements

Economic Opportunity

- Can impact supply/demand for commercial services
- Can impact workforce employed by these services by affecting demand, while also generating revenue to support programs and protections that benefit workers
- Can potentially benefit brick and mortar establishments
- Can potentially burden urban delivery-reliant businesses

Highlights from Task Force discussion on pricing commercial services

The POEM Community Task Force discussed pricing commercial services primarily at meeting #12 (February 2021). Detailed summaries of all meetings are available on the Task Force website.

Most promising opportunities identified through the Task Force's discussion:

Shift demand in most congested areas at most congested times: Task Force members expressed concern about the concentration of commercial services traveling in parts of the city where many alternative travel options exist, which pricing could help address.

Design a commercial services price to encourage fuel shifting: Task Force members were intrigued by ways of using pricing to encourage companies, drivers and consumers to choose electric or low-emission vehicles.

Couple pricing with other policy interventions: Task Force members noted the inefficient nature of many commercial service trips (i.e., the time spent getting to a pick-up location) and encouraged exploration of strategies, that alongside pricing could address that, such as designated pick-up/ drop-off zones.

Build on existing regulatory framework: Task Force members thought the current surcharge and regulatory framework for private for-hire trips could enable the City to quickly build on existing policy.

Important considerations and policy questions:

Weigh the equitable mobility costs and benefits: Task Force members acknowledged the benefits these services can offer to people with limited travel options, as well as the utility of urban delivery during the COVID-19 pandemic. They noted it will be important to design potential future prices in a way that acknowledges these benefits.

Evaluate workforce implications: Task Force members discussed the ramifications reduced demand could have on gig economy workers and encouraged analysis of these workforce impacts in the development of any future policies.

Understand true congestion reduction impacts: Task Force members noted more evaluation is needed to assess how high a price would have to be to influence demand from consumers of commercial services.

Highway tolling

What is it?

Tolling involves charging a direct fee for a vehicle to use a roadway facility, such as a highway, bridge or tunnel. Unlike fuel taxes or mileage-based charges, tolls are applied to a specific facility and only charged to users of that facility.

Highway tolls can be flat, meaning the same rate is charged at all times of the day to all users, or variable, where the price ranges based on the vehicle, how many people are in the vehicle, time of day, congestion levels or distance driven on the tolled facility.

Tolls are often used to generate funds for infrastructure construction and maintenance. For example, a new bridge might be tolled to pay off the cost of building the bridge or needed repairs. Tolling a complete, existing, unpriced roadway to manage demand has not yet been implemented in the United States (though this is permissible through the federal Value Pricing Pilot Program).

What's the status of highway tolling in Portland today?

Oregon has limited history with tolling. Tolls have been used a few times to fund bridge projects across the Columbia River, including the construction of the I-5 Bridge (tolls removed in 1966), the Astoria Megler Bridge (tolls removed in 1993), the Bridge of the Gods ($2 toll still charged) and the Hood River Bridge ($2 toll still charged).[22]

But beyond these examples, Oregonians are generally unfamiliar with the concept of paying a user fee to access road infrastructure when traveling within the state.

Tolling has become a topic of much greater interest in the Portland region over the past few years. In 2017, the Oregon State Legislature directed the Oregon Transportation Commission (OTC) to seek federal approval to implement tolling on I-5 and I-205 in the Portland metropolitan area to address congestion through the passage of House Bill 2017 ("Keep Oregon Moving"). The Oregon Department of Transportation (ODOT) conducted a feasibility analysis between 2017 and 2018 to identify and explore different tolling scenarios on these highways. Through this process, ODOT convened the Value Pricing Policy Advisory Committee of regional stakeholders, including the City of Portland, to analyze and inform selection of tolling alternatives. The City expressed qualified support for these projects moving to the next phase of analysis, while outlining policy objectives the City would want to see met in any pricing program (a City recommendation letter to the OTC can be viewed here).

ODOT is proceeding with the environmental review process of tolling on interstate highways, and the City remains engaged as a key stakeholder.

22 ODOT (2020). "Oregon Toll Program: About Tolls and Pricing" https://www.oregon.gov/odot/tolling/Pages/About.aspx

EQUITABLE MOBILITY CONSIDERATIONS OF HIGHWAY TOLLING

The following sections summarize ways **highway tolling** can impact equitable mobility, as defined by the Task Force in the Equitable Mobility Framework (see Chapter 3).

Moving People & Goods

- Can reduce miles driven by encouraging use of alternative travel options, which can lower congestion and improve system efficiency
- Can make driving on the highway more expensive for those without other viable options, if discounts, rebates, or exemptions are not provided
- Can generate revenue which could be reinvested in mobility improvements
- Can encourage use of local, unpriced roads instead of the highway (called diversion), which could worsen congestion and travel time on those roads

Sustainability & Health

- Can reduce greenhouse gas emissions if it reduces miles driven and encourages use of more climate-friendly travel options (walking, biking, transit, carpooling)
- Can reduce air pollution and respiratory health risks in neighborhoods bordering highways associated with combustion engine driving if trips and idling are reduced
- If trips are diverted to local roads, could shift air pollution and respiratory health risks to different neighborhoods

Safety

- Can reduce miles driven, which typically correlates to reduced traffic safety risks
- Can divert traffic onto local roads, increasing traffic safety risks if not properly managed
- Can introduce new enforcement needs using technology that could raise privacy and personal safety concerns
- Can generate revenue which could be reinvested in safety improvements

Economic Opportunity

- Can help businesses move freight more efficiently and reliably
- Can add costs for people and businesses who have to make frequent highway trips during the day
- Can create jobs related to toll infrastructure construction and administration

Highlights from Task Force discussion on highway tolling

The POEM Community Task Force discussed highway tolling primarily at meetings #8, #9 and #10 (September – November 2020). Detailed summaries of all meetings are available on the Task Force website.

Most promising opportunities identified through the Task Force's discussion:

Reduce the need for costly highway expansions: Task Force members discussed how the region's current unmanaged highway system contributes to climate change, air pollution, serious and fatal traffic crashes, burdensome transportation costs, and many other problems, which disproportionately burden Black people, Indigenous people and People of Color (BIPOC), Portlanders with low incomes, and people with disabilities. Expanding highways will only make these negative impacts worse.

Task Force members said they do not want to see an increasing reliance on highway infrastructure and instead believe tolling has the potential to be a tool to manage our system more efficiently, reducing the need to spend limited resources on expensive widening projects.

Prioritize efficient use of limited space, while offering opportunities for multimodal investment: Task Force members expressed that highway tolling should be implemented intentionally to manage demand on our transportation system (i.e., designed as congestion pricing). Reducing miles driven for the sake of climate and equity outcomes should be the primary goal, not revenue generation.

Task Force members were also clear that, as efforts are made to reduce traffic demand on the highways, we must provide people with robust multimodal travel alternatives to driving (e.g., walking, rolling, biking and public transit). Tolling revenue must be available to create and support these alternatives.

Provide options through a variable rate structure: Some Task Force members noted toll prices should be variable based on level of demand and congestion to best optimize mobility, climate and equity outcomes.

Highlights from Task Force discussion on highway tolling (cont.)

Important considerations and policy questions:

Consider changing Oregon state constitutional restrictions on revenue: Task Force members expressed concern that the current Oregon state constitution restricts use of funds generated through taxes on motor vehicles to only capital improvements in the roadway. While capital bike, pedestrian and transit improvements are possible, it does not allow for investments in things like transit service. The Task Force recommended the City advocate for amending the constitutional restriction to allow for these types of noncapital, multimodal investments, which they felt are critical to advancing equitable mobility.

Examine financial, technology and enforcement impact on BIPOC Portlanders, Portlanders with low incomes and people with disabilities: Task Force members strongly felt that discounts, exemptions or rebates must be provided for Portlanders with low incomes, noting that more evaluation would be needed to determine what would most minimize overall burdens, while still achieving demand management outcomes. They also noted that technology and payment systems must be designed to reduce barriers for individuals with limited access to bank accounts and include strong privacy and enforcement protections. Finally, Task Force members advocated for tickets and fines for non-compliance to be means-based (i.e., structured by income level) to mitigate disproportionate impacts.

Require local and regional stakeholder involvement: Task Force members discussed the potentially significant impacts tolling could have on the local road network if trips are diverted off the highway onto city streets. They argued that local and regional stakeholders must be involved in designing the toll program to ensure equitable outcomes.

Cordon or area pricing

What is it?

Cordon pricing—also called area pricing or congestion zones—is a form of pricing that charges vehicles that drive into and/or within a specific area. It is generally used to manage traffic in dense, congested areas, like city centers and central business districts.

Singapore introduced the first cordon pricing project in 1975. Cordon pricing was then introduced in Central London in 2003 and Stockholm in 2006. Today, several cities around the world have cordon-like pricing arrangements, and many more are studying or exploring the possibility. In the U.S., New York is poised to be the first city to implement a cordon-style congestion fee.

Most cordons are implemented by placing toll-collection cameras or gantries on all roadways, bridges or tunnels entering the cordon zone. The cordon pricing structure can be designed in several ways: charges can be constant, or they can be more variable based on different factors (e.g., vehicle type, occupancy, time of day, congestion levels) depending on the primary goal of the program.

While congestion-focused cordons are proven to have climate and air quality benefits, several cities have also started implementing low-emission zones with the explicit goal of reducing air pollution and encouraging drivers to transition to cleaner fuels. These zones often involve charging based on fuel type or emission profile; electric or low-emission vehicles may pay the least or nothing at all, while high-emitting vehicles pay higher fees. Low-emission zones may not provide the same degree of benefits to trip times, reliability or transportation safety that are associated with overall reduced miles driven, but they can be effective at reducing emissions.

Some cities (like London) utilize both congestion-focused and low-emission focused cordons to achieve maximum benefits. Implementing such policies in the United States at the local level requires attention to potential federal preemption issues related to auto emission standards.

What's the status of cordon pricing in Portland today?

There is no cordon pricing in the Portland area or in the United States today. New York, which has been considering congestion pricing since 1970, is poised to be the first city to implement a cordon-style congestion fee, charging a one-time surcharge to drivers who enter Manhattan south of 60th Street between 6 a.m. – 8 p.m.[23]

23 Frishberg, H. and Plitt, A. (2019). "Congestion pricing in NYC, explained." https://ny.curbed.com/2018/3/14/17117204/new-york-congestion-pricing-cuomo-subway-uber

EQUITABLE MOBILITY CONSIDERATIONS OF CORDONS

The following sections summarize ways **cordon or area pricing** can impact equitable mobility, as defined by the Task Force in the Equitable Mobility Framework (see Chapter 3).

Moving People & Goods

- Can reduce miles driven by encouraging use of alternative travel options, which can lower congestion and improve system efficiency particularly within the cordoned area
- Can make driving into the cordoned area more expensive for those without other viable options, if discounts, rebates or exemptions are not provided
- Can generate revenue which could be reinvested in multimodal alternatives for traveling into and around the cordoned area
- Can encourage drivers that used to drive through the unpriced cordon area to drive around and avoid paying the charge, which could worsen congestion and travel time on nearby roads

Sustainability & Health

- Can reduce greenhouse gas emissions if it reduces overall miles driven on the system and encourages use of more climate-friendly travel options (walking, biking, transit, carpooling)
- Can reduce greenhouse gas emissions by encouraging shifts to low or zero-emission vehicles if the pricing structure is designed to incentivize these types of trips
- Can reduce air pollution and respiratory health risks within the cordoned area

Safety

- Can reduce miles driven and overall car trips into the cordoned area, which is correlated with reduced traffic safety risks
- Can divert traffic onto roads around the cordon, increasing traffic safety risks if not properly managed
- Can introduce new enforcement needs using technology that could raise privacy and personal safety concerns
- Can generate revenue which could be reinvested in safety improvements

Economic Opportunity

- Can make goods movement more efficient if designed to reduce overall miles driven
- Can add costs for people and businesses who have to make frequent driving trips
- Can create jobs related to administration, as well as through revenue reinvestment

Highlights from Task Force discussion on cordons and area pricing

The POEM Community Task Force discussed cordons primarily at meeting #11 (January 2021). Detailed summaries of all meetings are available on the Task Force website.

Most promising opportunities identified through the Task Force's discussion:

Address congestion and pollution in areas where its most acute: Task Force members discussed how cordons focus policy intervention in the most crowded and polluted parts of the city and noted the strong congestion and air quality improvements seen in other cities that have introduced this strategy (like London).

Build off parking pricing: Task Force members talked about how parking pricing in the Central City could send a similar type of price signal to people driving into the area. They suggested further consideration of how parking could be a pilot for a longer-term cordon strategy or how the two tools might be bundled for best outcomes.

Open opportunities for reinvestment and complementary strategies: Task Force members noted that while cordons can be an effective demand strategy, they also generate revenue from a specific area that can be reinvested in many things that further increase equitable mobility in that location (like public transit, biking, walking and affordable housing).

Important considerations and policy questions:

Displacement and "pricing out" from Central City: Task Force members noted gentrification and rising costs in close-in neighborhoods have pushed lower-income Portlanders further away from the Central City. They expressed caution around the impacts of making it more expensive to drive into downtown and advocated for income-based discounts, rebates or exemptions.

Diversion and cordon boundaries: Depending on the boundaries of the cordon and trip patterns, drivers could drive around the cordon, increasing miles driven and impacts on local streets. Task Force members encouraged deeper consideration of how a cordon would need to be designed to avoid these impacts and account for the highways that pass through the Central City.

Effect on non-Central City trips: Task Force members noted the regional and citywide congestion and climate benefits of a cordon could be limited if it only manages demand for a small number of trips. The group discussed the importance of linking the pricing strategy with the priority outcome.

Road usage or per-mile charges

What is it?

A road usage charge (RUC), also sometimes called a vehicle miles traveled (VMT) charge, is a per-mile fee levied on road users based on distance traveled. Unlike tolls or cordons, a RUC could be implemented throughout a transportation system, rather than in a specific corridor or geographic area.

As vehicles become more fuel efficient (and/or electrified), revenues from fuel taxes have been and will continue to decline. As a result, some states are looking for an alternative to fuel taxes which are a key funding source for the construction and maintenance of state and local roads.

RUC systems offer a unique opportunity to both become a primary source for funding the transportation system and incorporate price signals to meet goals around climate, mobility and equity. As the pricing tool that would apply most widely (i.e., all driving in a jurisdiction), state departments of transportation in most cases are considering these per-mile charges as a future source of transportation revenues, as opposed to other charging mechanisms like tolls or cordons that are used to manage demand and congestion.

However, depending on how a pay-per-mile system is structured and prices are set, it has the potential to be used as a tool to manage demand and congestion, encourage fuel or vehicle efficiency, and provide a more equitable fee structure for transportation funding.

RUCs can either be designed as a flat fee where all vehicles are charged the same amount per-mile, or can be variable with different per-mile fees charged based on vehicle efficiency, driver income, location or time of day when miles are driven, or other factors.

What's the status of road usage or per-mile charges in Portland today?

Oregon began exploring alternative ways of funding the state's transportation system by establishing a Road User Fee Task Force (RUFTF) in 2001. ODOT conducted two RUC pilots, in 2006 and 2012. In 2015, Oregon launched OReGO, the first pay-per-mile program for personal vehicles in the country.

OReGO is a voluntary mileage-based fee system. The current rates for OReGO are set so all vehicles pay the same per-mile rate—based on cost neutrality with gas taxes. Variable rate RUCs have not yet been tested in Oregon.

EQUITABLE MOBILITY CONSIDERATIONS OF ROAD USAGE OR PER-MILE CHARGES

The following sections summarize ways **road usage or per-mile charges** can impact equitable mobility, as defined by the Task Force in the Equitable Mobility Framework (see Chapter 3).

Moving People & Goods

- By making the cost of driving more transparent, it may reduce miles driven and encourage use of alternative travel options, which can lower congestion and improve system efficiency. A variable RUC based on congestion or a RUC with higher costs than current gas tax rates, may also discourage driving miles and help create a more efficient system.
- Can make driving more expensive for those without other viable options or for those who live further from services and destinations, if the RUC is higher than current gas tax rates and discounts, rebates or exemptions are not provided
- Can generate revenue, which could be reinvested in multimodal alternatives if designed as more than just a gas tax replacement

Sustainability & Health

- Can reduce greenhouse gas emissions if it reduces overall miles driven on the system and encourages use of more climate-friendly travel options (walking, biking, transit, carpooling)
- Can reduce air pollution and respiratory health risks if miles driven decline overall
- Can reduce current financial benefits of switching to electric if electric and more fuel-efficient vehicles have to pay more than they are currently paying

Safety

- Can reduce miles driven and overall car trips if cost of driving increases from today, which is correlated with reduced traffic safety risks
- Requires new technology that could raise privacy concerns
- Can generate revenue which could be reinvested in safety improvements

Economic Opportunity

- Can make goods movement more efficient if designed to reduce overall miles driven
- Can add costs for people and businesses who have to make frequent driving trips
- Can add some complexity for inter-state trips
- Can create jobs related to administration, as well as through revenue reinvestment

Highlights from Task Force discussion on road usage or per-mile charges

The POEM Community Task Force discussed road usage or per-mile charges primarily at meeting #11 (January 2021). Detailed summaries of all meetings are available on the Task Force website.

Most promising opportunities identified through the Task Force's discussion:

Design a variable charge to best achieve mobility, climate and equity goals: Task Force members felt a variable RUC could help accomplish numerous policy goals and potentially reduce the need for facility-based or cordon charging, if there was enough flexibility. They also discussed how it could become incrementally more nuanced overtime.

Evaluate system-wide versus localized impact and benefits: Task Force members were intrigued by the RUC as a strategy that could reduce miles driven and lead to mobility, climate and equity benefits system-wide, rather than just on a single facility or in one area.

Increase awareness of unseen driving costs: Task Force members discussed how a RUC might more effectively lead to behavior change because the cost of driving will be more visible to users.

Important considerations and policy questions:

Administration challenges and time to implementation: Task Force members asked questions about the cost and steps required to set up and administer a state-wide program, particularly as only Oregon and Utah have implemented such systems so far in the U.S. There was interest in learning more about true timelines to implementation and technology that may be available for earlier piloting given the urgency of the challenges facing our system.

Privacy and technology barriers: Task Force members discussed the concerns drivers may feel with technology that tracks their driving, including personal safety risks this may pose for vulnerable groups. They felt privacy protections should be taken very seriously and be easy to understand. Task Force members also noted the potential burden a more digital pricing system could pose for unbanked populations.

Connection to fuel shifting: Task Force members noted the RUC is very connected to reducing miles driven and may make it more expensive to drive hybrid and electric vehicles that use less gas. This emphasized the importance of being clear about policy objectives when selecting and designing a pricing tool.

Preliminary modeling insights

In addition to reviewing case studies and engaging in qualitative discussions about these strategies, the Task Force also consulted two sources of high-level technical modeling analysis to further inform their understanding of how pricing could influence equitable mobility.

Transportation modeling involves running scenarios through a tool that uses algorithms to predict impacts on travel demand. Models can help forecast and estimate what might occur in a transportation system under different scenarios, but they do not provide absolute answers— only statistical estimations.

Metro's Regional Congestion Pricing Study

Metro, the Portland area's regional government and metropolitan planning organization, conducted its Regional Congestion Pricing Study (RCPS) at roughly the same time as the POEM project. This technical study evaluated different types of congestion pricing strategies for their potential effectiveness in greater Portland, using Metro's regional travel demand model. More information is available on the Metro RCPS website.

Metro staff presented RCPS findings to the POEM Task Force at meeting #13 in March 2021. They shared how eight different modeled pricing scenarios falling under four main strategy types (road usage or per-mile charges, cordons, parking pricing and roadway tolling) influenced several key performance measures compared to the 2027 baseline scenario in the travel demand model.

In their presentation, Metro staff also shared information about what the RCPS modeling was not able to look at, including design tweaks that could reduce impacts and increase benefits. For example, the modeling did not assess:

- What would happen to key metrics if prices were variable and changed based on things like occupancy, time-of-day or level of congestion?
- What would happen if discounts, rebates or exemptions were provided for certain drivers based on income or other factors?
- What would happen if any strategies were combined?
- What would happen if pricing revenue was reinvested to mitigate any impacts or further advance benefits?

PRELIMINARY MODELING INSIGHTS

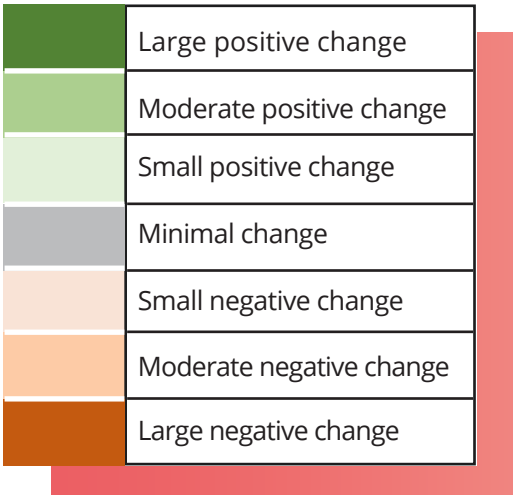
The following table summarizes the high-level findings from the RCPS modeling.

Figure 1: Metro RCPS high-level summary results

Metro Regional Transportation Plan Goal	Metrics	Regionwide per-mile charge B : ($0.0685/mile higher than baseline cost)	Regionwide per-mile charge C: ($0.132/mile higher than baseline cost)	Cordon A (downtown only, no highways)	Cordon B (downtown, Central Eastside and Lloyd District, no highways)	Parking A (higher parking charges, regionwide	Parking B (much higher parking charges, region-wide)	Roadway Tolling A (toll on all limited-access highways in region)	Roadway Tolling B (higher toll on all limited-access highways in region
Congestion & Climate	Daily miles driven								
	Drive alone rate								
	Daily transit trips								
	2 hr freeway delay								
	2 hr arterial delay								
Climate	Emissions								
Equity	Job access (auto)								
	Job access (transit)								
Total Regional Travel Cost*		Medium-High	High	Medium-Low	Medium-Low	Low	Low	Medium	Medium

Note: Green indicates better alignment with regional goals when compared to the Baseline Alternative.

**How much the entire region is paying for traveling. Some scenarios may have high costs for individual drivers and lower overall costs because the charge only applies to some travelers.*



Take-aways from the RCPS modeling shared with the POEM Task Force

Various pricing strategies can be effective at reducing miles driven and advancing regional transportation goals. The modeling suggests that all four types of pricing would help address climate and congestion priorities, and all eight unique scenarios would reduce overall miles driven, drive-alone rates, greenhouse gas and other emissions, and increase daily transit trips.

The geographic distributions of benefits and costs vary by scenario, and there are tradeoffs for implementing different pricing strategies. For example:

- Per-mile charges and parking pricing scenarios show the most positive changes on a regional scale in this modeling.
- Cordon pricing and tolling scenarios see some increases in delay and reductions in job access due to modeled diversion of vehicles on to non-tolled streets. Importantly, these scenarios looked at only one type of pricing at a time, so in the cordon scenario, for instance, where the highways near downtown are unpriced, the model is showing diversion of trips onto those unpriced facilities, which worsens congestion. If a cordon were implemented at the same time as highway pricing, the results might be different.

The modelling did not consider variable pricing (charging more during peak times), the impact of discounts or exemptions, or the impact of revenue reinvestment. **In the future, there should be additional analysis and consideration of the impact of:**

- Design changes, including variable pricing, to improve benefits and reduce impacts.
- Targeting revenues to improve performance (safety, equity, congestion, climate).

Implementing pricing to maximize performance and to address equity and safety requires detailed analysis to understand who benefits and where the benefits and costs occur.

POEM pricing sandbox

At Task Force meeting #14 in April 2021, the consultant team supporting the POEM project presented another set of modeling results from the pricing sandbox tool developed for this project. Like the Metro model, the sandbox is a travel demand model that allows for testing different scenarios and estimating different hypothetical outcomes. It is not as detailed as Metro's model and, while designed to model a city with Portland-like characteristics, it is not intended to model the city of Portland itself.

The sandbox modeled six different scenarios, looking at cordon pricing, corridor pricing, citywide road usage or pay-per-mile charging, parking and road usage charging in key zones, and pricing on transportation network companies (TNCs) trips in downtown. The scenarios were evaluated for how well they performed related to key outcomes described in the Equitable Mobility Framework, like reduction in driving miles and changes in transit trips.

The table below summarizes the results of these scenarios in the hypothetical "sandbox city."

Figure 2: Sandbox high-level summary results

	Downtown cordon	Tolling two highways	Tolling all highways	Citywide road usage or per-mile charge	Parking and road usage or per-mile charge in key zones	Central City TNC fee*
Change in overall vehicle miles travelled (VMT)						
Change in private car mode share						
Change in TNC mode share*						
Change in transit mode share						
CO2 emissions						
Particulate matter emissions						
Revenue generating potential	$	$	$$	$$$	$$$	$

*Change in TNC share was not considered a positive or negative change unless accompanied by a decrease or increase in VMT respectively

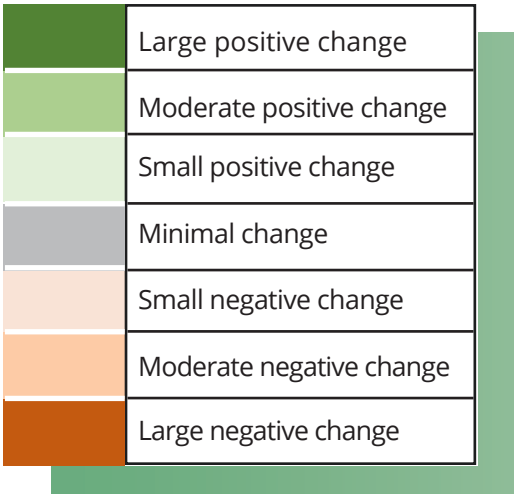
- Large positive change
- Moderate positive change
- Small positive change
- Minimal change
- Small negative change
- Moderate negative change
- Large negative change

POEM PRICING SANDBOX

The POEM project team also used the sandbox to model what impact not charging drivers on low income and low and zero-emission vehicles would have on VMT. These results are shown in the following table.

Figure 3: Sandbox results – exemptions for specific groups

Scenario	Impact on miles driven from baseline without exemptions	Impact on miles driven from baseline with exemption for low income drivers	Impact on miles driven from baseline with exemption for low zero-emission vehicles
Downtown cordon			
Two highways			
All highways			
Citywide RUC			
Parking and RUC in key zones			

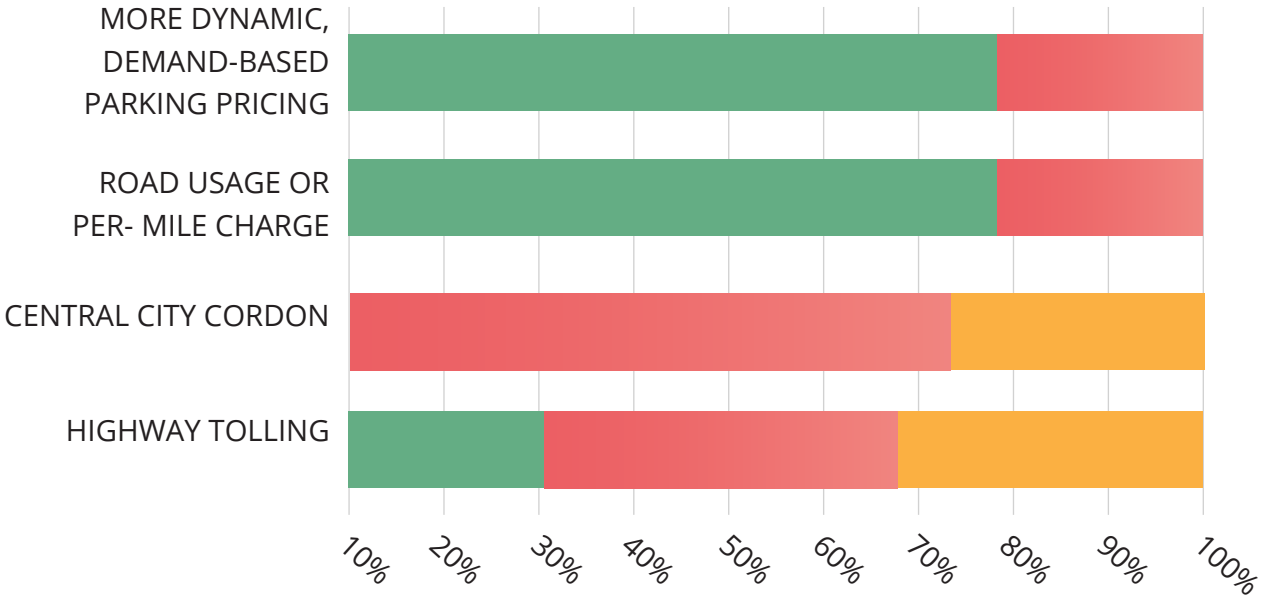


Task Force impressions of longer-term strategies

After reviewing the modeling information and considering the additional information discussed throughout their meetings together, Task Force members were asked to assess how much promise four of the longer-term pricing strategy types (highway tolling, Central City cordon, road usage or pay-per-mile charges, and dynamic, demand-based parking) have to advance equitable mobility in Portland. The following chart summarizes their feedback.

TASK FORCE FEEDBACK ON PROMISE OF LONGER-TERM PRICING STRATEGIES

Q **Based on what we've discussed and considered to date, how much promise do you think each of these strategies has to advance equitable mobility in Portland?**



I think this shows significant promise; the City should continue advancing this strategy

I think this shows some promise but I'm not sure; more discussion needed

I don't think this will advance equitable mobility

Pricing implementation: lessons learned

Throughout the POEM project, the Task Force heard from subject matter experts with experience designing and implementing pricing in several international cities. These presentations touched on several overarching themes communities looking to implement pricing should consider:

Be transparent with policy goals: Clearly identifying the primary objectives of a pricing strategy is critical for selecting and agreeing on evaluation criteria and ensuring stakeholders understand why pricing is being implemented.

Balance complexity with clarity: While implementers may seek to use pricing to achieve multiple policy objectives, keeping things simple can help build coalitions, increase trust and gain political support.

Identify a rationale and scale for implementation: Implementers should consider the tradeoffs between starting small and having a big impact in an area where the need may be greatest due to congestion or pollution, or the opportunity to impact outcomes, possibly to a lesser extent, over a larger area. Piloting strategies to show proof of concept could be attractive to policymakers and help introduce new approaches to the public, while enabling assessment of benefits and burdens.

Embed equity in design: Policymakers must consider who will benefit and who is paying when designing a pricing system; mitigation after the fact is not enough.

Reinvest revenue to further advance equitable mobility: The way pricing revenue is used has the potential to augment the mobility, climate, safety and economic benefits of a pricing policy, and can also help mitigate any impacts, such as unwanted traffic diversion or increased costs for people living on lower incomes. How revenue is used matters.

Build coalitions: Successful pricing projects are often championed by diverse coalitions of supporters who can communicate why a proposal will benefit a wide range of stakeholders.

Be ready when political stars align: Pricing is rarely popular and can be politically contentious. However, evidence shows that public opinion rises once pricing is in place and people see the benefits. It is important to be ready to act quickly when there is a window of opportunity.

Pricing is not a one-size-fits-all solution: To advance equitable mobility, pricing needs to be implemented alongside complementary strategies that expand mobility options, improve accessibility, provide information to people about multimodal transportation choices, and support the transition to more climate-friendly travel modes.

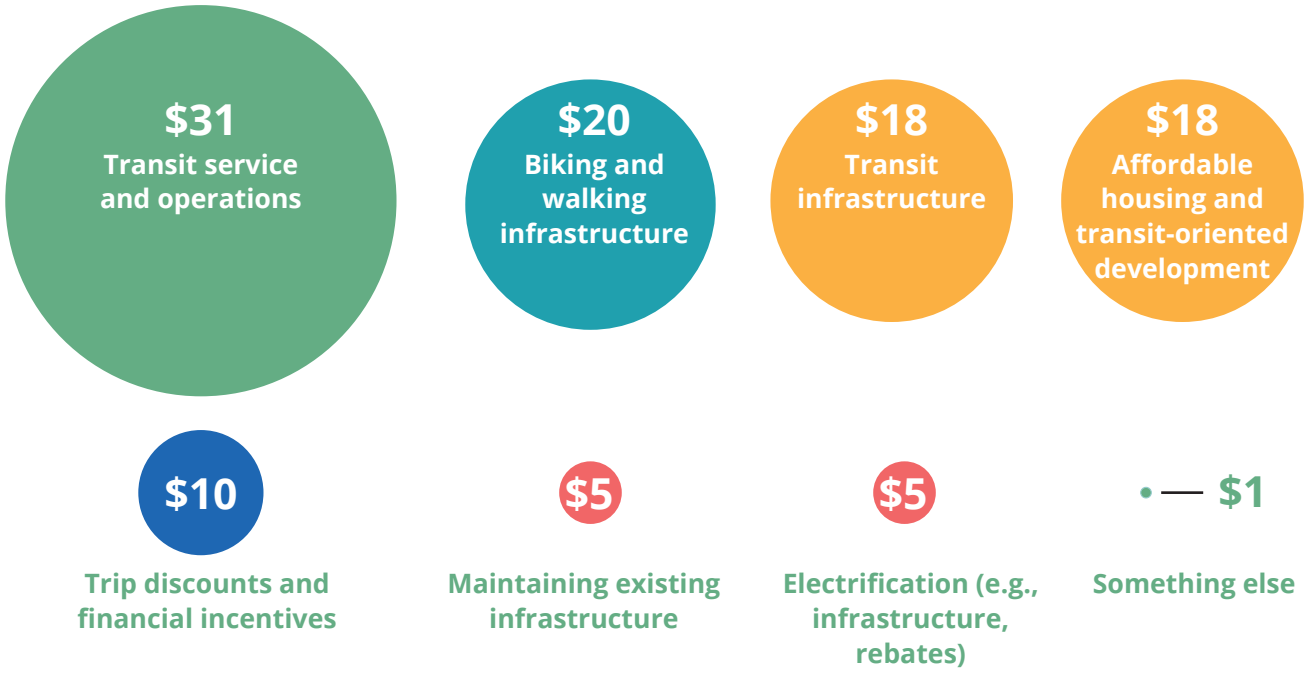
Complementary equitable mobility strategies

In Meeting #15, the Task Force focused on complementary strategies that are critical to advance alongside pricing to improve equitable outcomes and meet our climate goals.

After identifying several categories of complementary strategies, the Task Force engaged in a mock reinvestment exercise, where they had the chance to allocate hypothetical pricing revenue across these different areas. The figure below shows the results of this reinvestment exercise.

The importance of advancing strategies like these in parallel with pricing came up in almost every Task Force meeting, reinforcing the holistic approach we must take when considering what role pricing might play in our system. The City is committed to investing in and supporting all of these areas, but revenue is finite and policymakers must make trade-offs about what strategies are most important to pair specifically with pricing.

RESULTS OF TASK FORCE MOCK REINVESTMENT EXERCISE IN MEETING #15*



**Task Force members were each given $9 of hypothetical revenue, broken out into different bill denominations (one $3, two $2, and two $1), to reflect that investments in these areas cost different amounts. These values are not intended to correlate with any actual revenue estimates—the exercise was intended only to capture feedback on priorities.*

Take-aways from Task Force discussion on complementary strategies

Robust public transit is a necessary complement to pricing: Throughout the Task Force process, the importance of transit as an alternative to driving came up frequently. Several other cities who have successfully advanced pricing have linked it to public transit investment.

Housing and equitable mobility are interrelated: Task Force members often noted that the availability of affordable housing near public transit and in connected communities is vital for reducing the need for long, expensive driving trips.

Clear linkages between pricing and reinvestment are helpful: Task Force members discussed the benefits of tying pricing to reinvestments people will see and perceive as related to what is being priced. It helps if people know what they are paying for.

Fuel shifting is critical for meeting our climate goals: While we must reduce miles driven to cut emissions, the remaining trips on the road should be powered by electricity whenever possible. Opportunities for pricing design and reinvestment to support fuel shifting should be explored, alongside other strategies to encourage this market transformation.

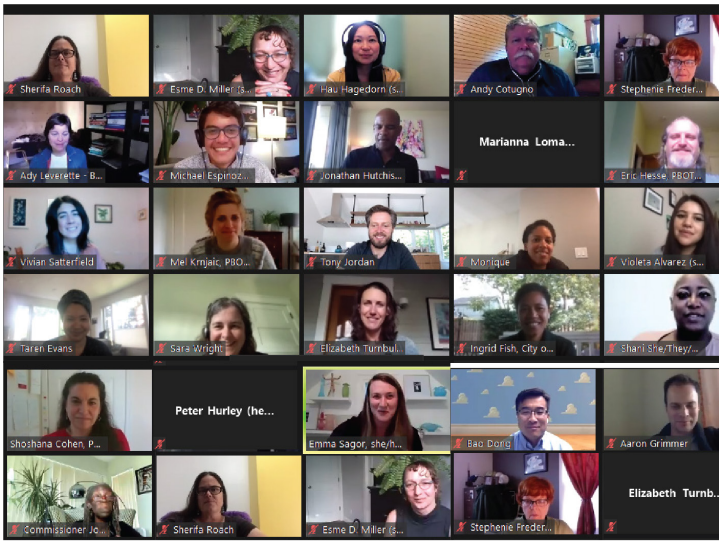
People can make the best decisions for themselves: Task Force members were intrigued by the possibility to give cash directly to Portlanders with low incomes, empowering them to reinvest that money in what would most meet their mobility needs.

Chapter 5:

Task Force recommendations and next steps

At their final meeting, the POEM Community Task Force voted to adopt the following recommendations. These recommendations are intended to advise City leadership as they consider if and how to move forward with new pricing strategies to advance climate, equity and mobility goals ("equitable mobility"). A majority of members had to approve of a recommendation for it to advance.

At least 16 out of 19 (84%) of Task Force members voted to approve every recommendation. While there was significant consensus around the recommendations that follow, some Task Force members who voted no expressed concerns around potential community and business impacts. A complete record of the vote totals, including more details about the rationale for any no votes, is available on the POEM website.



The recommendations are categorized as follows:

1. **FOUNDATIONAL STATEMENTS:** The premise upon which the Task Force made its recommendations.
2. **PRINCIPLES OF PRICING FOR EQUITABLE MOBILITY:** Overarching themes that should be applied to all future pricing policy analysis and development.
3. **NEARER-TERM PRICING RECOMMENDATIONS:** Specific strategies the City should pursue as quickly as possible.
4. **LONGER-TERM PRICING RECOMMENDATIONS:** Strategies the City should continue exploring but may take longer to develop and implement.
5. **COMPLEMENTARY STRATEGIES TO ADVANCE ALONGSIDE PRICING:** Policy areas that are most vital to invest in in parallel with pricing.
6. **IMPLEMENTATION NEXT STEPS:** Recommendations around how the City should proceed with further policy work and public engagement on pricing.

1 Foundational statements

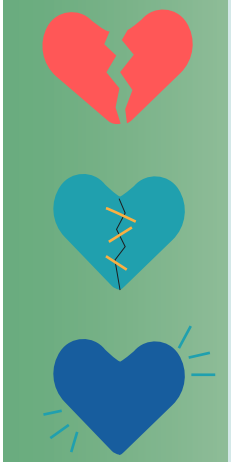
There is an urgent need to address current challenges

Portland's transportation system today is inequitable, contributes to the climate crisis, exacerbates poor health outcomes, costs our economy, and presents safety risks to users from traffic crashes and personal threats on our streets. There is an urgent need to improve the transportation system to address these challenges. Existing strategies are not making enough progress on any of these fronts and therefore require a stronger and more intersectional approach.

We are in a climate crisis

The transportation sector contributes more than 40% of greenhouse gas emissions in the Portland region. Reducing transportation emissions will take a three pronged approach:

1. **Reducing driving** by making other options safer and more attractive.
2. **Shifting the trips** that remain on the road to zero-emission vehicles (including cars, buses and freight).
3. **Planning and building** connected, inclusive, and complete neighborhoods to reduce the need for long trips.



We must acknowledge our history of disinvestment and harm

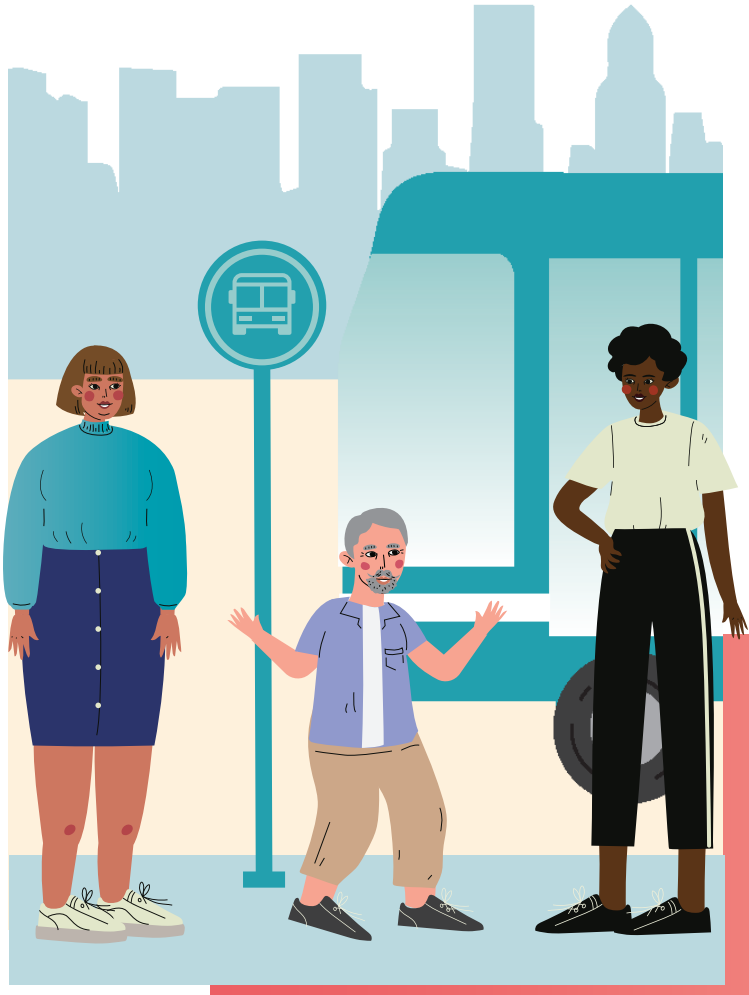
Past transportation decisions and historic disinvestment have disproportionately harmed Black people, Indigenous people, and People of Color (BIPOC), Portlanders with low incomes and people with disabilities. This has resulted in demolition of neighborhoods, gentrification, longer travel times, unequal access to transportation options and increased traffic and personal safety risks. In order to achieve a more equitable system, we must improve outcomes for these communities. This includes outcomes related to not only multimodal mobility, but also climate, health, safety and economic opportunity. We also must make our transportation planning processes more inclusive and accountable. These values are articulated in the Equitable Mobility Framework.

Our system today over-prioritizes cars

The current transportation system prioritizes drivers of private vehicles and deprioritizes the mobility and access of people who do not have the physical or legal ability to drive, and/or who do not have reliable use of a functioning private vehicle. Furthermore, in the US more than a third of driving trips are shorter than two miles. In Portland there are approximately one million non-commute trips under two miles made each day by car—more than double the number of all commute trips in the city. Many Portlanders, however, are reliant on driving to meet their needs within our current system.

2 Principles for pricing for equitable mobility

- **Pricing holds promise as a strategy** to help move people and goods in a more efficient, climate-friendly and equitable way, but ONLY if it is designed, implemented and adjusted with intention.
- **The City should urgently advance pricing options for equitable mobility policies.** Failure to act will only worsen the challenges we experience today and is not an option.
- **The City should utilize the Equitable Mobility Framework** to guide pricing policy deliberations and commit to evaluating equitable mobility impacts of the existing system and any future proposed transportation policy.
  - This includes impacts to moving people and goods, safety, climate and health, and the economy.
- **The City must advance complementary strategies alongside pricing** to improve equitable mobility outcomes. Pricing is just one policy tool and not a stand-alone solution.
  - Additional transportation demand management programs; multimodal infrastructure, operations and service investments; land use policies; affordable housing; and more must also be prioritized to create a more equitable and sustainable mobility system.
- **The City must engage community stakeholders**, especially those representing BIPOC communities, Portlanders living on low incomes, people with disabilities, multi-lingual and displaced communities in the next stage of pricing policy development, as well as ongoing evaluation.



Specifically, the City should design future pricing strategies according to the following guidelines:

Prioritize the goal of reducing traffic demand and using the existing transportation system as efficiently as possible to move people and goods in a more climate-friendly and equitable way.

- While pricing generates revenue and the reinvestment of revenue is a critical way to make pricing strategies equitable, revenue generation should never be the top priority.

Recognize that a pricing policy is only effective if it reduces traffic demand and/or raises enough revenue to fund effective demand management or multimodal improvements.

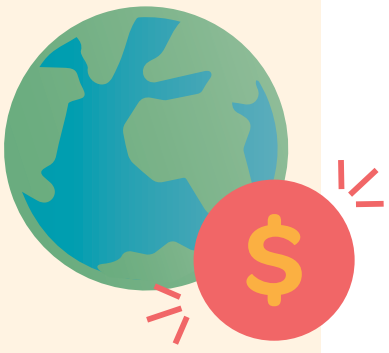
- Setting rates or surcharges too low to affect demand or fund improvements is inequitable.
- Programs should be designed to be data driven and regularly reviewed for impact. Rates and surcharges should be set to meet policy goals.

Provide exemptions for households living on low incomes.

- The City should develop one set of income-based policy standards that can be applied to current and future pricing programs to limit administrative costs and complexity.
- Until a universal basic income can be guaranteed, exempting households living on low-incomes should be the highest priority to avoid exacerbating current inequities.
- When exemptions are not possible, cash rebates or payments to households living on low incomes is preferred as it allows individuals to make the best transportation decisions for their personal situation.
- More evaluation and community engagement are needed to determine what specific design would be most equitable and would minimize overall burdens, while still achieving demand management outcomes.
- Pricing programs should build off existing means-testing systems wherever possible to not add additional program access burdens.

Center climate and equity outcomes (e.g., reducing greenhouse gas emissions, reducing transportation cost burdens, expanding job access, etc.) throughout pricing program design.

- This includes evaluating how different variable-rate designs, where prices change based on factors like income, time of day, congestion levels, occupancy, geography, and fuel efficiency may further advance climate and equity goals, with a bias toward equitable outcomes.



- Evaluation should not unnecessarily delay implementation but should be thorough and focused on understanding impacts to BIPOC community members, Portlanders with low incomes, and people with disabilities. The City should also commit to ongoing evaluation of equity implications of policies once implemented.
- To move with the urgency required by the climate crisis, pricing policies that focus on managing demand for people with the most options should be prioritized. As stated above, exemptions for drivers with low incomes are critical.

Reinvest revenue generated from pricing in strategies that further expand equitable mobility.

- Pricing revenue should be reinvested to support frequent, competitive and high-quality multimodal access to areas where pricing is implemented and to mitigate potential negative impacts of traffic diversion.
- High-priority complementary investment areas include transit service, operations and infrastructure; biking and walking infrastructure; affordable housing near transportation options; and multimodal discounts and financial incentives, including driving options for those without access who need it. Additional investment areas include electrification infrastructure and rebates as well as maintaining the existing infrastructure necessary for multimodal mobility.
- Community stakeholders should always be involved in revenue allocation decisions.

Reduce unequal burdens of technology and enforcement.

- Technology and payment systems must be designed to reduce barriers for individuals with limited access to bank accounts (e.g., by allowing use of prepaid debit cards).
- Technology and payment systems should include strong privacy protections.
- The location of pricing infrastructure should be considered so it doesn't overtly impact BIPOC or communities living on low incomes.
- Automated enforcement mechanisms should be used to reduce the potential for enforcement bias.
- Tickets and fines for non-compliance should be means-based (i.e., structured by income level) to mitigate disproportionate impacts.

3 Nearer-term pricing recommendations (advance in next 1-3 years)

The City should pursue the following recommendations as quickly as possible to advance equitable mobility outcomes.

To the extent possible given the urgency of action, the City should advance these actions as a package to achieve maximum mobility and equity benefits:

Create a flexible commuter benefits program, requiring employers that provide free or subsidized parking to offer their employees that parking value in taxable cash income or alternative transportation benefits.

- Several examples of this policy exist including in California and Washington, DC, and these programs can be administered at city, regional or state levels.
- Further policy work, stakeholder engagement and pilot projects are needed to determine the most effective design and administration of a flexible commuter benefits program. The City should move as quickly as possible to conduct this policy work and implement a parking cash out policy, with a plan to review and revise to improve the program over time.

Create new priced on-street parking permit and meter districts and reduce the time and complexity involved in approving new districts, allowing the City to respond more flexibly and responsively to neighborhood parking demand.

- The current system is unnecessarily complex, requiring many layers of approval and a vote of 60% of residents to create a new district. This limits the ability to react to changing conditions and acute demand management needs.
- The City should make the final decision as to management of the significant resource that is in the public right-of-way.

Develop and implement a fee on privately-owned, off-street parking lots to further advance equitable mobility objectives.

- As with City-owned parking, using pricing to manage demand for privately-provided parking can help improve efficiency and turnover while reducing climate and air quality impacts, and make our roads safer.

Accelerate implementation of the 2018 Performance-Based Parking Management policy to assess where public on-street parking pricing should be immediately adjusted and establish a structure for regular evaluation and adjustment to market rates, more frequently than once a year.

- As on-street parking demand in the Central City rebounds to pre-pandemic levels, there is a unique opportunity (and a critical need) to apply best practices for on-street meter pricing.

Develop and implement a fee on urban delivery, including on-demand parcel and food delivery services, to reduce rapidly growing vehicle miles travelled (VMT) generated by these trips and negative mobility, climate and safety impacts.

- Proposals should recognize the ways delivery services help meet needs for people who have limited options.
- The current working conditions experienced by many urban delivery workers are inadequate, and there is a need for stronger workforce protections, living wages and access to essential benefits. Pricing policies related to these services should, to the extent possible, be designed to be supportive of the urban delivery workforce.
- Proposals should consider a differentiated fee structure to incentivize moving to zero-emission delivery vehicles and should consider variability based on congestion level, time of day, location, or other factors to best achieve equitable mobility outcomes.
- Proposals should integrate whenever possible with flexible curb management strategies, such as short-term pick-up/drop-off zones and technology that allows for short term reservation of drop zones for delivery vehicles.

Modify the existing fee structure on private for-hire transportation to better manage VMT generated by these trips and reduce negative mobility, climate and safety impacts.

- Proposals should recognize the ways private for-hire services can provide mobility options for those with limited other choices.
- The current working conditions experienced by many private for-hire drivers are inadequate, and there is a need for stronger workforce protections, living wages and access to essential benefits. Pricing policies related to these services should, to the extent possible, be designed to be supportive of the private for-hire driver workforce.
- Proposals should consider a differentiated fee structure to incentivize zero-emission private-for-hire vehicles and should consider variability based on congestion level, time of day, location, or other factors to best achieve equitable mobility outcomes.

The City should advocate for amending the Oregon state constitutional restriction that limits use of funds generated through taxes on motor vehicles.

- While capital bike, pedestrian and transit improvements are possible under the current restriction, it does not allow for investments in noncapital, multimodal services like transit operations, which are critical to advancing equitable mobility.

Regarding highway tolling, the City should advocate for the recommendations and outcomes outlined in the Task Force letter on tolling dated March 9, 2021.

The City should continue to actively engage and advocate for the values articulated in the letter through legislative and intra-agency staff coordination channels.

4 Longer-term pricing recommendations

The City should also continue considering pricing strategies that could have wider system benefits but may take longer to develop and implement.

The longer-term strategies that show the most promise for advancing equitable mobility if developed according to the previously mentioned principles and based on the information considered to date include:

Truly dynamic demand-based parking pricing designed to reduce vehicle miles traveled (VMT) and advance climate and equity outcomes.

- This could build on existing technologies, provide flexibility and responsiveness, and be implemented by the City of Portland.

A locally controlled Road Usage Charge (RUC) designed to advance mobility, climate and equity outcomes.

- A RUC is currently being considered at the state level primarily as a tool to replace the fuels tax and replace transportation revenue.
- The City should insist upon, advocate for, and mobilize support for the statewide RUC to be designed to advance climate, equity and mobility outcomes, while exploring a City or regional RUC that aligns with POEM principles and prioritizes transportation demand management.

While not recommended as highly by the Task Force because initial modeling results showed it might not be as effective at improving equitable mobility, the City should also continue exploring how a Central City cordon could help to advance mobility, climate and equity goals.

- The Central City is the area with the most plentiful multimodal transportation alternatives, and pre-COVID, it was one of the most congested areas of the city. It is too early to know the longer-term implications of COVID on Central City travel patterns and businesses. More evaluation and monitoring is needed.
- Modeling presented to the Task Force showed that a cordon might lead to significant diversion outside of the Central City and might not be as effective at improving mobility outcomes as other tools.
- Further exploration of the potential benefits and drawbacks of a Central City cordon is necessary.

5 Complementary strategies to advance alongside pricing

The POEM Task Force recognizes the importance of all the following complementary strategies in creating a more equitable mobility system:

1. **PUBLIC TRANSIT INFRASTRUCTURE, OPERATIONS AND SERVICE**
2. **BICYCLE AND PEDESTRIAN INFRASTRUCTURE AND PROGRAMS**
3. **INFRASTRUCTURE AND PROGRAMS that enhance traffic safety, including from potential traffic diversion**
4. **INCENTIVES AND FINANCIAL SUPPORT for different travel options**
5. **STRATEGIES TO INCENTIVIZE SHIFT to electric/more fuel-efficient cars, freight and buses**
6. **AFFORDABLE HOUSING connected to multi-modal transportation options**
7. **LAND USE POLICY that leads to more connected, complete and inclusive neighborhoods**

Revenue generated from potential future pricing strategies may not allow for investments in all these areas and will not be enough to meet every need. Transportation revenues are also declining, while maintenance needs grow, and current restrictions limit some reinvestment opportunities.

Acknowledging these constraints, the City should prioritize reinvestment to the extent possible in critical strategies that most help enable connected, inclusive and complete neighborhoods and improve equitable access to non-driving options, including: public transit, operations, service and infrastructure; bicycle and pedestrian infrastructure; and affordable housing near transportation options.

Additionally, the City must recognize that because of displacement and unequal access to multimodal options in parts of the city, many Portlanders must drive to meet their needs. Car access today is also inequitable. While expanding non-driving options should be the priority, the City should also invest in strategies that improve equitable access to shared and electric automobile travel for people who need it.

In the design of both pricing policies and complementary strategies, the City should explore opportunities to provide direct financial support to Portlanders living on low incomes to improve equitable mobility outcomes, enabling community members to make the best decisions for their specific needs.

6 Implementation next steps

The City should be prepared to make the bold decisions required to advance climate, equity and mobility goals.

The City should take a leadership role in advancing transformative pricing policies that improve equitable mobility given the urgent need to address the climate crisis and inequitable status quo.

- This includes piloting strategies where the City has implementation authority and spearheading regional collaboration on interjurisdictional strategies.

The City should invest in regular data collection and/or surveying to inform equity analyses of potential pricing and other transportation policies.

- A more robust understanding of travel behaviors and barriers, including demographic information, is critically important in order to understand likely impacts to BIPOC communities, Portlanders living on low incomes, people with disabilities and other communities; to support potentially controversial policy positions; and also to evaluate the ongoing impacts of pricing programs.
- The City should partner with local research institutions and other agencies in this work.

The City should study the near and longer-term mobility impacts of the COVID-19 pandemic to inform future policy development (e.g., changing travel behaviors, forecasted telework patterns, economic impacts, etc.).

The City should conduct wider community engagement to inform further pricing policy development.

- This includes a commitment to inclusive, accessible public involvement opportunities and centering equity in the public engagement approach.
- The City should also demonstrate that staff is learning from previous community conversations and build upon existing community feedback.

The City should partner with community members, businesses and organizations to advance the conversation around pricing, helping build a coalition to champion the most transformative pricing options for equitable mobility.

The City should explore models for a unified financial assistance system for households living on low incomes that could be applied across pricing programs and transportation services to reduce burdens on these households and administrative complexity.

- The system should both reduce barriers of means testing for financial assistance and enable more flexibility for utilizing multiple transportation options provided by different service providers.

What's next?

In 2019, when the process kicked off, the City was grappling with a question:

Could we use new pricing strategies in Portland to improve mobility, address the climate crisis and move toward a more equitable transportation system?

After two years of analysis and Task Force conversation, the POEM project suggests that pricing is a promising and currently under-utilized tool that could help make our transportation system more efficient, address the inequities we see today, and help reduce carbon emissions. How pricing strategies are designed, however—from selecting the right tool, to setting price levels and exemptions, to reinvesting any revenue generated—is critical to achieving these goals in a way that advances transportation justice.

The POEM project was the start of a conversation. PBOT and BPS staff will utilize the lessons gained from this process to guide future work around pricing, and the Task Force's recommendations will be shared with City Council in fall 2021. As we move toward implementation of these recommendations, more public engagement and community input will be critical to further shape and design pricing options that truly advance equitable mobility.

FOR MORE INFORMATION and to sign up for updates about the POEM project, visit www.portland.gov/transportation/planning/pricing-options-equitable-mobility-poem.

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