City of Mountain View

North Bayshore
Congestion Pricing Feasibility Study

Equity White Paper

April 2021 (DRAFT)

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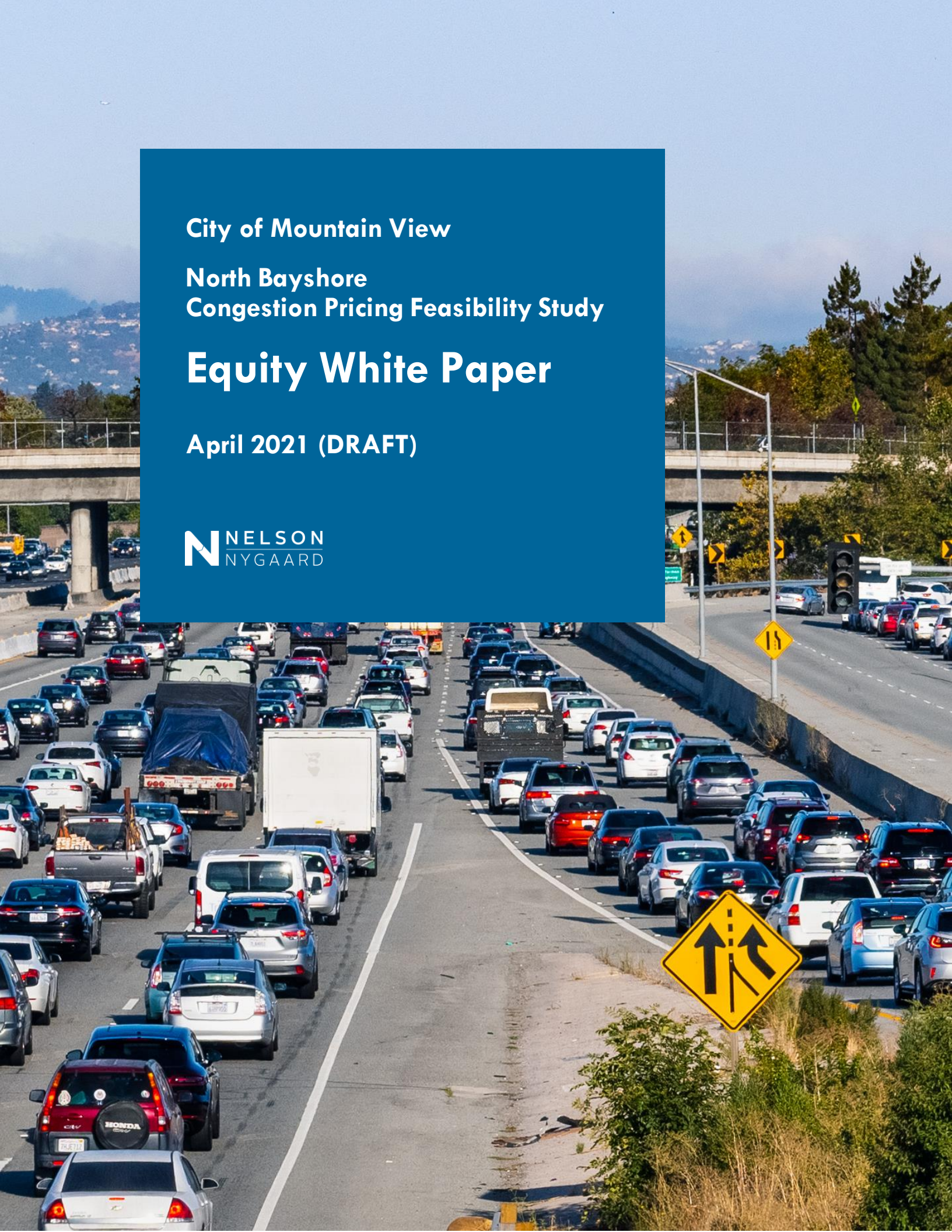

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INTRODUCTION

What is Congestion Pricing?

Congestion pricing typically establishes a fee for driving into or within specific areas during peak congestion. Congestion pricing has been implemented throughout the world and is being studied in major metro areas throughout the U.S., including Los Angeles, Seattle, Washington D.C., and San Francisco. New York City is in the process of implementing a congestion pricing program in lower Manhattan.

Congestion pricing can take different forms, including:

- **Cordon pricing**: Vehicles pay a fee when crossing a boundary into a specific zone.
- **Area pricing**: Vehicles pay a fee for driving *inside* a specific zone.
- **Variable pricing of entire roadways:** Instead of a fixed toll rate on toll road, toll rates are varied throughout the time of day.
- **Express Lanes/High Occupancy Toll (HOT) lanes:** Vehicles pay a fee or meet occupancy requirements to managed lanes on a highway corridor.
- **Fleet pricing:** Certain vehicle types, such as ride-hailing vehicles, pay a fee to drive in a specific zone.
- **VMT pricing:** Vehicles pay a fee based on the distance they travel (measured in vehicle miles traveled, or VMT) in a certain zone.

What is the North Bayshore Congestion Pricing Feasibility Study?

Before the COVID-19 pandemic, traffic congestion in Mountain View's North Bayshore district (Figure 1) was an ongoing challenge, with thousands of vehicles clogging the three district gateways daily. To minimize congestion and enable district growth, the City of Mountain View set a target for a 45% single-occupancy vehicle (SOV) mode share and a vehicle trip cap for the district and its three gateways.

More and better travel options to North Bayshore are planned and efforts to encourage commutes by transit, biking, and walking have helped keep congestion from worsening. North Bayshore has not met its mode share or trip cap goals, however, and planned development threatens to exacerbate congestion problems.

The long-term impacts of COVID-19 remain unknown, but the City is planning for a return of congestion to a 'new normal.' To address the likely return of congestion, all potential tools for reducing congestion—including congestion pricing—need to be explored. The North Bayshore Congestion Pricing Feasibility Study will assess congestion pricing's potential role in reducing traffic in North Bayshore.

Project Goals

The City of Mountain View is balancing a potential congestion pricing program's goal of congestion reduction with other key district priorities. These goals will guide program development and evaluation of program options.

- **Reduce congestion**
- **Support economic development**
- **Advance social equity**
- **Promote health and the environment**

What are the White Papers?

As part of the North Bayshore Congestion Pricing Feasibility Study, three white papers on key congestion pricing issues have been developed. Each white paper explores a key issue by examining peer approaches, assessing best practices, and identifying how those best practices could be applied to the successful implementation of congestion pricing in North Bayshore. The three white paper subject areas are:

- Equity
- Finances 101
- Technology and administration

Figure 1 North Bayshore Congestion Pricing Feasibility Study Area

EQUITY AND CONGESTION PRICING

Why focus on equity in transportation?

Inequality, particularly as it pertains to race and class, is a pervasive challenge in the Bay Area. In the Bay Area, inequality is often tied to decades-long investments in automobility. Historic investments in a driving-based transportation system have moved vehicles faster and further, but the system has expanded deep inequities in transportation networks, often at the expense of lower-income and minority communities.

Many inequities created by this system remain entrenched in the United States and the Bay Area. For example:

- The combination of a lack of walking and biking infrastructure and inadequate public transportation has limited access to opportunities. This type of access has been described as the single strongest factor behind whether people can escape poverty.[1]
- Nationwide, Black and Hispanic people are, on average, paying a higher share of their respective annual incomes on transportation expenses.[2][3]
- Low-income and minority communities have borne the brunt of air quality impacts caused by transportation. These communities have elevated rates of chronic illnesses triggered by traffic-related air pollution.[4]
- The same vulnerable communities that are impacted by historic social and economic inequality face disproportionate risks from climate change.

New equity-based approaches to transportation funding, policies, and programs are crucial to repairing historic inequity, and ensuring the transportation system provides equality of access to all who use it.

Why focus on equity in congestion pricing?

Congestion pricing programs typically charge a flat rate to people that drive into, out of, or on a priced roadway. This type of fee is regressive, as it charges people based on the

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[1] Raj Chetty and Nathaniel Hendren. August 2018. The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects. *The Quarterly Journal of Economics*, Volume 133, Issue 3. pp. 1107–1162. <https://doi.org/10.1093/qje/qjy007>

[2] Bureau of Labor Statistics, "Table 2200. Hispanic or Latino origin of reference person: Annual expenditure means, shares, standard errors, and coefficients of variation". *Consumer Expenditure Survey* (2019, from https://www.bls.gov/cex/tables/calendar-year/mean-item-share-average-standard-error/reference-person-latino-2019.pdf)

[3] Bureau of Labor Statistics, "Table 2100. Race of reference person: Annual expenditure means, shares, standard errors, and coefficients of variation". *Consumer Expenditure Survey* (2019, from https://www.bls.gov/cex/tables/calendar-year/mean-item-share-average-standard-error/reference-person-race-2019.pdf)

[4] American Public Health Association. November 10, 2009. Improving Health through Transportation and Land-Use Policies policy statement. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/31/08/21/improving-health-through-transportation-and-land-use-policies>

congestion they produce and not progressively, based on their ability to pay. This means that people with lower incomes are paying a higher proportion of their income per charge, while people with higher incomes are paying a lower share.

New fees of any kind often meet opposition, but the regressive nature of a congestion pricing fee can reduce trust and support for the program among communities that have been negatively impacted by transportation projects and policies. This damage to trust and support can be especially severe if a proposed congestion pricing program does not have a sufficient strategy for mitigating the impact of the fee.

Another key equity concern is that of accessibility. People who live in a fee zone, cannot avoid the fee zone, or must travel by motor vehicle (e.g., people with disabilities who cannot take transit) could be charged the same rates as people who otherwise could avoid driving into the zone but choose not to.

Two key strategies for addressing equity concerns related to congestion pricing are:

- Addressing payment inequity in the program directly through **means-based pricing**, rebates, discounts, or exemptions. In practice, this strategy has mostly taken the form of discounts and exemptions for:
  - Emergency vehicles
  - Transit vehicles
  - Vehicles used by people with disabilities
  - Fee-zone residents
- Addressing inequity through reinvestment of **net program revenue** in targeted enhancements and access improvements. In practice, reinvestments are often focused on alternative transportation options for people from historically disadvantaged groups or neighborhoods, and could take the form of improved transit service, upgraded pedestrian or bike infrastructure, or road repair.

When used together, these strategies can proactively promote equity in the transportation system. One example of using these two strategies together would be a congestion pricing program where means-based fees ensure low-income users pay a smaller proportion of their income, and where program net revenue is invested in services for populations who do not have access to a vehicle.

Potential Congestion Pricing Implications

Exemptions and discounts can be the most politically expedient solutions to equity concerns, as they provide targeted relief for certain users or satisfy the concerns of certain stakeholders. However, special care must be taken to ensure exemptions and discounts do not harm program efficacy by reducing the traffic reduction effects of a pricing program, or by reducing the revenue generated for complementary programs. When discounts and exemptions are used, they should—as much as possible—be limited to essential services and/or the minimum required to build public support or trust.

EQUITY AND NORTH BAYSHORE

What are the Equity Challenges in North Bayshore?

North Bayshore is envisioned as a mixed-use, mixed-income, walkable neighborhood. A congestion pricing charge, and its related multimodal projects, has the potential to help North Bayshore's transformation to a low auto-use community. Two key equity challenges have emerged in preliminary stakeholder discussions, including:

- Potential impacts to **existing and future residents**, especially in affordable housing. While a congestion charge may help residents enjoy a healthier, more mobile neighborhood, it could also dilute the affordability of the neighborhood.
- Potential impacts to **lower-income employees** working at both large and small businesses in North Bayshore. Although many of these workers commute outside of peak hours, and may not be charged under certain program policies, many others do travel during peak periods. Some lower-income workers in North Bayshore are contract workers that do not always receive the same commute benefits as full-time employees, raising further equity concerns.

Figure 2 summarizes equity challenges facing key North Bayshore user groups, as identified through stakeholder outreach.

Figure 2 Equity Challenges for North Bayshore User Groups

North Bayshore User Group	Issues/Challenges
Residents	▪ Low(er)-income residents may struggle to afford a congestion pricing fee. ▪ Affordable housing that is planned for North Bayshore may not be truly affordable if residents cannot afford to regularly pay a congestion pricing fee.
Small Business Employees	▪ Many existing and future low(er)-wage workers in North Bayshore may not be able to afford a congestion pricing fee. ▪ Small businesses in North Bayshore may need to adjust operations for their employees, putting them at a disadvantage to nearby competitors.
Tech Campus Contract Employees	▪ Many low(er)-wage contract workers at large technology corporations may not be able to afford a congestion pricing fee. ▪ Available information indicates that contract workers must travel further and are not always provided equal commute benefits as full-time employees of the same companies.
Visitors and Customers	▪ Regional educational opportunities, such as the Computer History Museum and events hosted by technology companies, may become unaffordable for visitors if a congestion pricing fee is implemented. ▪ Many customers of businesses in North Bayshore may choose to shop elsewhere if they must pay a congestion pricing fee, putting businesses in North Bayshore at a disadvantage.
Recreation and Events Visitors	▪ Regional recreational opportunities at Shoreline Regional Park and the Shoreline Amphitheatre may become unaffordable for visitors if a congestion pricing fee is implemented. ▪ Events that are held for members of disadvantaged communities, such as people with disabilities, may become unaffordable for attendees if a congestion pricing fee is implemented.

PEER APPROACHES TO EQUITY

Equity is not specifically defined as an outcome or objective for the earliest adopters of congestion pricing programs in Europe and Singapore, although all programs include some level of implicit equity provisions in the form of exemptions and discounts for certain groups (Figure 3). These exemptions or discounts are generally meant to mitigate disproportionate impacts.

For the most part, equity has been proactively centered in the planning, design, and outreach processes of potential and upcoming domestic congestion pricing programs. Cities that are currently studying congestion pricing, such as Seattle, San Francisco, Portland, and Los Angeles, are prioritizing equity more explicitly than previously adopted programs overseas.

Peer Approaches

In peer congestion pricing programs, equity is generally considered in three elements of program design and planning. These three elements to incorporating equity are discussed in more detail below.

- **Goals and Evaluation Framework:** Equity is built into the goals and evaluation metrics of a congestion pricing program.
- **Policies and Programs:** Equity is built directly into congestion pricing programs and policies.
- **Outreach and Communication:** Equity is built into the outreach and communication that occurs before and during congestion pricing program development.

Goals and Evaluation Framework

City of Seattle[5]

The 2019 Seattle Congestion Pricing Study included a detailed five-step Congestion Pricing and Equity Toolkit that will serve as the evaluation framework for the City of Seattle as it plans a potential congestion pricing program.[6] The goals of the Seattle congestion pricing study are derived from the goals of the Equity Program established by the Seattle Department of Transportation in 2017:

- Provide safe, environmentally sustainable, accessible, and affordable transportation options.
- Support disproportionately cost-burdened communities in Seattle to thrive in place.

[5] Seattle Department of Transportation. May 2019. *Seattle Congestion Pricing Study Phase 1: Pricing and Equity White Paper*. <https://www.seattle.gov/Documents/Departments/SDOT/About/PricingandEquityWhitePaper_20190516.pdf>

[6] This toolkit was drafted in part by TransForm, a Bay Area transportation equity organization that authored the influential *Pricing Roads, Advancing Equity* paper.

- Mitigate the effects of displacement, including racial disparities related to displacement.

Following is a summary of the five-step equity framework incorporated into the development of Seattle's congestion pricing study.

- **Identify Who, What, and Where**: The first step is where several key equity decisions are made regarding the populations that need to be considered from a racial equity and social justice perspective, the type and nature of pricing and complementary strategies to be considered, and the geographic reach of the study.
- **Define Equity Outcomes and Performance Indicators**: The second step differentiates the two separate types of equity from which desired outcomes and performance indicators are derived:
  - **Outcome equity** focuses on the actual impact of the program on affordability, access to opportunity, and community health.
  - **Process equity** is focused on program outreach and communication.
- **Determine Benefits and Burdens**: Upon adopting a set of performance indicators, the next step is to determine the impacts of proposed alternatives. This analysis should be tailored to the scale of impacts, community priorities, and the potential of those impacts to help or hurt vulnerable populations.
- **Choose Programs to Advance Transportation Equity**: The program selection step is the final step before program implementation and seeks to identify which policies and measures maximize equity across all groups while minimizing harm to vulnerable populations.
- **Provide Accountable Feedback and Evaluation**: The final step in the framework encourages a post-implementation process for ongoing monitoring and evaluation of equity impacts. To ensure monitoring and evaluation occur on a reasonable timeline, mechanisms should be developed for providing feedback to the community and decision-makers on the successes and shortcomings of the program and emerging opportunities. The results of monitoring and evaluation should be communicated clearly and consistently with affected communities.

City of San Francisco[7]

In spring 2020, the San Francisco County Transportation Authority released evaluation metrics for its Downtown Congestion Pricing Study. The equity component of the evaluation metrics outlined three target equity metrics that should be achieved as a result of a pricing program, and identified the data sources for measuring these targets. The equity targets are:

- Decrease downtown travel time for targeted equity-focus communities.

[7] San Francisco County Transportation Authority. May 2020. San Francisco Downtown Congestion Pricing Study Goals and Evaluation Metrics. <https://www.sfcta.org/sites/default/files/2020-05/Downtown-Congestion-Pricing_FINAL-Goals-and-Evaluation-Metrics_2020-05-28.pdf>

- Maintain household travel costs of low-income households.
- Increase the number of jobs that can be accessed within a 30-minute drive or 45-minute transit trip for targeted equity-focus communities.

The study also outlined income level and Community of Concern[8,9] distribution metrics for its overall congestion, safety, and air quality goals to ensure these benefits are measured and adjusted with an equity lens.

Policies and Programs

Figure 3 details characteristics of select peer congestion pricing programs. These characteristics show common and novel approaches for addressing programmatic equity concerns, including:

- Programs are often only in **operation during peak daytime hours**, inherently exempting shift/overnight workers (who are often lower-wage workers) and people with diminished overnight transit access from the fee.
- All programs tend to provide **fee exemptions** for transit vehicles, vehicles used by people with disabilities, and emergency vehicles.
- **Zone residents or people who cannot avoid the zone** are sometimes provided exemptions or discounts, though the strategies and mechanisms for doing so vary widely.
- Most programs allocate at least some program **net revenue to public transit and/or mobility infrastructure** across multiple modes.

[8] Association of Bay Area Governments and Metropolitan Transportation Commission. 2021. Plan Bay Area 2040 Equity Analysis. <www.planbayarea.org/previous-plans/plan-bay-area-2040-2017/plan-bay-area-2040-equity-analysis>

[9] San Francisco County Transportation Authority. Communities of Concern. <www.sfcta.org/policies/communities-concern>

Figure 3 Peer Congestion Pricing Program Equity Characteristics

Peer	Rules and Fee(s)	Exemptions	Discounts	Methods	Revenue Allocations
London	Any non-exempt vehicle entering the zone between 07:00-22:00, every day except Christmas Day. Fees: £15 same day or advance, £17.50 up to three days after travel.	Emergency vehicles, motorcycles and mopeds, vehicles used by people with disabilities, licensed taxis.	▪ Zone residents (90%, currently closed to new registrants) ▪ Breakdown vehicles, vehicles with 9+ seats, vehicles that meet "clean" standards, motor tricycles, roadside recovery vehicles (100%) No discounts for employees of businesses working in the zone.	People seeking discounts or exemptions must apply online and submit relevant documentation.	▪ ~80% to transit ▪ ~10% to road safety, surfaces, and bridges ▪ ~5% to pedestrian and bicycle programs
Stockholm	Any non-exempt vehicle entering the zone between 06:00-18:29. Not applicable on or the day before public holidays, or during the month of July. Fees: 11-35 SEK in off-peak season (max. 105/day), 11-45 SEK in peak season (max. 135/day).	Motorcycles and mopeds, emergency vehicles, military vehicles, public buses, residents of an island that is only accessible through the zone.	None No discounts for employees of businesses working in the zone.	Fee is assessed through license plate recognition, which identifies exemptions automatically through vehide registration details.	Net revenues are invested in transit and roadway improvements
Milan	Any non-exempt vehicles that are allowed to enter the cordon zone between 10:00-18:29. Not applicable on weekends or public holidays. Fees: €2-€100, depending on vehicle size, purpose, and ownership.	Motorcycles, emergency vehicles, vehicles used by people with disabilities, public transit vehides, electric vehicles, public utility vehicles, taxis	Zone residents are not charged for their first 40 entrances of the calendar year and receive a 20% discount from their 41st entrance on. No discounts for employees of businesses working in the zone.	People seeking discounts or exemptions must apply online and submit relevant documentation.	All revenues are invested in sustainable mobility policies to reduce air pollution, including public transport, pedestrian and bike programs, and goods distribution systems.
NYC (in design)	Any non-exempt vehicle entering the zone (remaining rules and fee details are TBD).	For-hire vehicles, emergency vehicles, MTA vehicles, vehicles used by people with disabilities.	Residents of the zone with incomes less than $60,000 per year. Likely no discounts for employees of businesses working in the zone.	Tax credit equal to the amount paid in congestion charges.	▪ 80% to New York City subway, Staten Island Railway and MTA regional bus operations ▪ 20% to commuter rail

New York City – Bridge and Tunnel Fees

The New York City Regional Plan Association (RPA) released recommendations to the public and city for an equity-focused congestion pricing program centered on repairing existing inequities in the application of bridge and tunnel fees into Manhattan by ensuring all entrances pay the same overall fee.

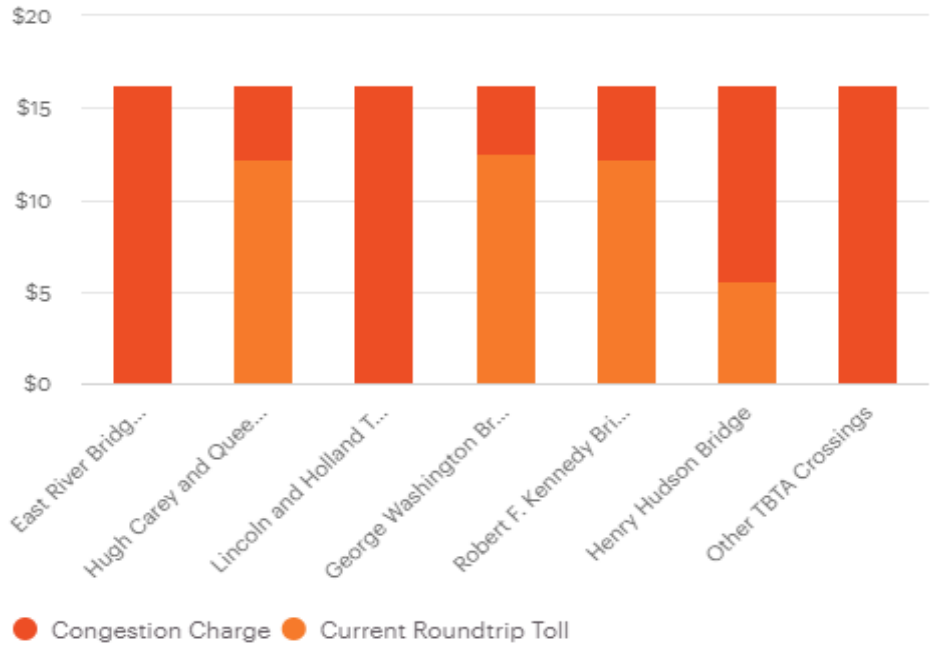
In the existing system, direct entry into the zone from Long Island is priced unequally (Figure 4). This system not only allows users who could afford the tolls to avoid paying, but it does so in a way that draws these users away from wealthier neighborhoods in lower Manhattan and Midtown and into and through some of the highest concentrations of public housing in Brooklyn, Queens, and lower Manhattan, thereby increasing VMT and associated impacts in these neighborhoods. Because many of these affected neighborhoods are home to dense concentrations of people of color, people with disabilities, and people with low incomes, the public health outcomes of this 'toll shopping' behavior is inequitable.

Figure 4 Existing Bridge and Tunnel Fees into Cordon Zone

Sources: RPA. 2020. Congestion Pricing in New York City. <https://rpa.org/work/reports/congestion-pricing-in-nyc>

The proposed toll structure, shown in Figure 5, would prevent higher-earning users from avoiding fees by ensuring all vehicles entering the zone are assessed equally, and removing the incentive for users across the region to plan their trips through (and add VMT to) historically disadvantaged neighborhoods in search of the best rate. These outcomes would be ensured by assessing vehicles the same total charge, regardless of their point of entry.

Figure 5 RPA Equitable Cordon Fee Strategy



Source: RPA. 2020. Congestion Pricing in New York City. <https://rpa.org/work/reports/congestion-pricing-in-nyc>

Outreach and Communication

City of Seattle

As discussed above, in the 'Goals and Evaluation Framework' section above, Process Equity is a key focus for Seattle. The key measure is the full participation of vulnerable communities in the planning, implementation, and project follow-up phases. Potential performance indicators of Process Equity include:

- The number of meetings and focus groups with marginalized communities and the amount of project budget dedicated to equity outreach programs.
- The number and/or share of languages into which materials are translated.
- Staff time and funding for community-based organizations (CBOs) to conduct/participate in needs assessments.
- Number of community-identified priorities being implemented.

Equity Outcomes

Because the limited number of operational congestion pricing programs were not explicitly designed with an equity focus, and do not have defined equity metrics, the ability to determine direct equity outcomes of existing programs is limited. Still, there are some studies that have attempted to measure and identify equity outcomes.

A recent study sought to identify common health impacts from the congestion pricing programs in Singapore, London, Stockholm, Milan, and Gothenburg. While the research acknowledges the need for further study across a more diverse range of urban contexts and policy settings, and a need for longer-term impacts study, it found that available evidence generally supports claims that road pricing achieves reductions in auto trips, pollution, asthma attacks, and collisions, while increasing life expectancy. Further, people living inside the cordon generally appear to see better outcomes than those outside of the cordon.[10]

Conversely, the evidence also suggests congestion pricing may be associated with reductions in social interactions, and that the groups that generally had the best health and transportation outcomes were people with higher incomes, men, and people aged 35-55.[11]

The overall takeaway of the study is that congestion pricing generally produces beneficial transportation and health outcomes but there are inequities in the distribution of benefits and burdens. This inequitable distribution of benefits and burdens likely reflects the lack of direct equity-focused planning and application of these programs, and is evidence of the need for approaching future programs with an explicit equity lens.

[10] Kate Hosford, Caislin Firth, Michael Brauer, and Meghan Winters. 2021. The effects of road pricing on transportation and health equity: a scoping review. *Transport Reviews.* <DOI: 10.1080/01441647.2021.1898488>

[11] Ibid.

APPLYING PEER APPROACHES TO NORTH BAYSHORE

The ways that peer congestion pricing programs incorporate equity into their goals, evaluation frameworks, program design, and outreach illuminate some best practices for North Bayshore. Sound approaches used by peer programs are discussed below.

Application: Goals and Evaluation Framework

Equity and transportation experts stress the incorporation of equity goals in congestion pricing program goals and evlauation frameworks. Mountain View should formalize equity into its goals and evaluation framework. The evaluation framework should outline:

- The key communities for which equity outcomes are a concern.
- The equity goals that should be achieved for the communities of concern through the pricing program.
- The strategy and methods for measuring equity outcomes.

Application: Policies and Programs

Peer congestion pricing programs have some common equity-focused exemptions and discounts. It is recommended that Mountain View consider exemption and discounts for similar trip types, at a minimum. These include:

- Vehicles transporting people with disabilities.
- Transit vehicles, including private transit vehicles.
- Emergency and service vehicles.

Discounts and exemptions for residents of the cordon area are common political flashpoints for programs, and should be considered and applied if deemed necessary. Operational pricing programs typically do not include exmptions or discounts for employees and visitors of businesses in the pricing area. In general, discounts and exemptions should be discouraged unless they align with program goals, or in the most special of use cases.

Application: Outreach and Marketing

Ensuring key groups are at the table during every feasible step of program development is important. Mountain View should be sure stakeholders are given opportunities to provide input on a potential congestion pricing program. Including these stakeholders will also likely help build a broad base of political support for a potential future program. These stakeholders should include but are not be limited to:

- The Santiago Villa mobile home community
- Contract workers at large tech companies
- Lower-wage workers at small businesses
- Affordable housing developers

KEY STUDY QUESTIONS FOR NORTH BAYSHORE

To ensure equitable outcomes in a potential future congestion pricing program in North Bayshore, the following additional study questions should be revisited throughout the current study and during any future potential program design, implementation, or review.

- How will North Bayshore **balance equity goals, and the desire for exemptions and discounts, with congestion reduction** goals?
- Who are the key equity-focused communities that would be impacted by a congestion pricing program? How can their needs best be met by non-driving alternatives and **how will these needs evolve over time**?
- How can more **process equity** be incorporated into the development of a congestion pricing program in North Bayshore? Who else can be involved?
- How can Mountain View **determine and update** equity targets?
- How can Mountain View measure equity outcomes as new tools become available? What will be the process for **equity-focused program adjustments**?