



Getting Around Metro Vancouver

A CLOSER LOOK AT MOBILITY
PRICING AND FAIRNESS

By Marc Lee
APRIL 2018

Summary

METRO VANCOUVER IS AT A CRITICAL POINT where congestion-induced delays are the norm on the region's roads and bridges. Congestion problems will only steadily worsen due to a growing population and with every additional car added to the region's roads. Expansion of public transit is widely seen as essential to ensure accessible mobility, but progress has been slow.

Mobility pricing is one solution to such transportation challenges. Broadly defined, mobility pricing includes any fees paid by users to access a city's or region's transportation network, including transit fares, fuel taxes or bridge tolls. Declining technology costs, and widely cited case studies in London, Stockholm and Singapore, have prompted interest from cities around the world in changing the way drivers are charged in order to contain congestion, reduce pollution and raise revenues in support of the transportation system.

Paying for transportation in Metro Vancouver

Mobility pricing is based on the principle that users pay for what they use, taking away the illusion of *free roads*. Newer forms of mobility pricing would shift the way we pay for driving on Metro Vancouver's roads and/or bridges. This is envisioned as both a long-term replacement for fuel tax revenues, which are anticipated to decline as the number of electric vehicles increases, as well as a source of revenue to support the expansion of transit services and infrastructure in the region.

In Metro Vancouver we pay for transportation through a mix of *user fees* (transit fares, fuel taxes, and until recently, tolls on two bridges) and *public subsidies* (property taxes, BC Hydro levy, transfers from other levels of government). However, there are important differences between the treatment of public transit and private vehicles.

Public transit use is clearly subsidized. Fare revenue covers just over half (52 per cent) of the operating cost of providing transit service, reflecting a public subsidy that keeps ridership levels higher and roads less congested.

However, the perception that drivers fully pay for their rides is false. Most of the costs of driving are private costs: buying a vehicle, maintaining it, paying for insurance and filling up the tank. Once these costs have been paid, every trip on the road is free. Only fuel taxes and parking sales taxes represent revenue in support of the transportation network.

Yet, there are substantial public costs for infrastructure and services for cars: building and maintaining roads and bridges, policing and related public services, subsidies to fuel production, and parking spaces. In addition are external costs—those imposed on society as a whole—through carbon emissions, air pollution, sprawl, noise, and the environmental costs of upstream fuel extraction and processing.

What would mobility pricing look like in Metro Vancouver?

Any mobility pricing initiative must contribute to achieve the goals of Metro Vancouver's 2040 regional growth strategy and vision of more compact and complete communities, and transit-oriented development, sustainable economic development, and supporting a range of transportation choices.

An independent commission is currently considering two broad models for Metro Vancouver:

1. **Congestion point charges**, which could result in tolls on most regional bridges and other key choke points on highways.
2. **Distance-based charges**, which could vary by time and location.

The first model is informed by real-world experiences, in particular London, Stockholm and Singapore, which have implemented a congestion-charging zone to access their central cities. Details of each scheme differ due to local geography and politics.

Stockholm is an ideal case study for Vancouver because of its similar size (900,000 people in the central city and about two million regionally) with many bodies of water defining the 18 points where there are congestion charges. Stockholm witnessed about a 25 per cent drop in traffic volume across the areas with congestion point charges (the cordon). Of this about 10 percentage points were work trips that switched to transit, while 6 percentage points were changes to discretionary trips—switching destination, reducing frequency or combining trips that previously would have been separate.

A distance-based charge would have a more direct relationship between charges and road space being used. However, a key shortcoming of this system is that it lacks fully implemented real world examples and also raises privacy issues. Technology for distance-based pricing would likely have much higher start-up costs. Metro Vancouver would be a pioneer if it went this route, doubly so given the desire that technology be time- and location-sensitive.

Equity issues for mobility pricing

Mobility pricing will likely fail if it is perceived to be unfair, although fairness is in the eye of the beholder. Through one lens, the “user pays” or “benefits received” principle, mobility pricing can be viewed as equitable because it charges those who are causing the problem and lets price determine access or who chooses to use the roads at peak times.

If all households had equal starting points in terms of income or resources, this might suffice. But of course that's not the world we live in. Thus, ability to pay is another core fairness principle, in particular with regard to low-income households. Fairness for other disadvantaged populations (including those precluded from driving due to age or disability) must also be considered.

That is, mobility pricing will create winners and losers. Importantly, equity outcomes depend both on how pricing is

done (who pays) as well as how revenues are used (funding transit and any compensating mechanisms). Three central fairness or equity issues include:

- Impacts on low-income households.
- Impacts on households in different parts of the region.
- Fairness in comparison to public transit, car-sharing and ride-hailing.

A key equity concern is that low-income households who have no other options are either financially harmed or get priced out, while affluent drivers get faster car speeds without noticing much of an impact on their budget. Some people cannot immediately change their behaviour and/or may live in areas where it is hard to even consider alternative modes of getting around. Differential rates based on time of day will adversely affect workers who have little choice over their work hours.

Income equity issues in Metro Vancouver are also related to the high cost of housing. Low-income households may be forced to move further away from the central city to find affordable housing. These households already pay in the form of increased time spent travelling, which can add up to many hundreds of hours per year.

BC's carbon pricing experience holds lessons for mobility pricing. With the carbon tax, a low-income credit is funded out of carbon tax revenues. This should be considered for mobility pricing as well. Using mobility pricing revenues to expand public transit can further address congestion by getting more people out of their vehicles. It benefits most low-income households because they are much more reliant on public transit.

A well-designed cordon/toll on all regional bridges and other key nodes on major highways would address some of this particular fairness concern. That said, bridge tolls or a cordon system could end up charging people for short trips that cross a boundary while not charging longer trips that do not cross a charging boundary.

A per-km charging system is more closely linked to actual use of infrastructure, but could end up charging more to those who live furthest away from work and who live in areas poorly served by public transit. In Metro Vancouver's auto-dependent areas, a major build-out of public transit should thus be part of the revenue recycling regime.

The need to invest in public transit is a central lesson from case studies of mobility pricing in other jurisdictions. The availability of reliable and fast transit options greatly reduces the need to own a car (or multiple cars).

In addition to transit, a future of more seamless connections will also include car-sharing and ride-hailing services. These promote consumer choice but may also cannibalize transit ridership, and therefore contribute to congestion and increased emissions and pollution. Thus, mobility pricing should apply to ride-hailing and car-sharing services.

Conclusion

There are many complications and trade-offs at play in a move towards mobility pricing: different objectives, models, and equity and other policy issues. Getting car drivers and passengers on board is not impossible, but implies a pricing package that is perceived to be effective and fair. At the end of the day drivers may simply prefer to pay with their time by queuing at regional choke points rather than pay more to relieve that congestion.

If the political hurdles can be overcome, well-designed mobility pricing could be an important part of the solution to manage congestion and accelerate the shift away from auto-dependency. Key directions for any mobility pricing scheme include:

Address low income with a credit—Achieving fair outcomes means a mobility pricing scheme should develop more fine-grained analysis of, and an equity plan for, low-income workers and families. Some portion of revenues will be needed to assist certain people who have no other options than to drive.

Expand public transit first—Investing in public transit is the only way to guarantee accessible mobility for all citizens over the long term.

Level the playing field with other modes of transportation—Any mobility price should apply to ride-hailing and car-sharing services. More efficient modes like transit should also have priority in terms of lanes and traffic signals so that shared transportation is rewarded with faster and more convenient trips.

Download the full report at:
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ACKNOWLEDGEMENTS

Thanks to Daniel Firth, Seth Klein and four anonymous reviewers for feedback at the peer review stage. Thanks also to Move Up: Movement of United Professionals for their financial support.

The opinions and recommendations in this report, and any errors, are those of the author and do not necessarily reflect the views of the publishers or funders.

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PUBLISHING TEAM

Jean Kavanagh, Seth Klein, Terra Poirier
Layout: Paula Grasdal
Copyedit: Amanda Growe
Cover photo: iStock.com

ISBN 978-1-77125-389-5



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