Category
User Fees and Regulatory Charges

Geography/ Location
ON, BC, QC

Municipality Size
Large

Tier
Conditional

Constraints
Equity; Political; Feasibility

Administrative Capacity Required
High

Fiscal Tool Brief: Congestion Charges

Local Governments for Sustainability
Les gouvernements locaux pour le développement durable
CANADA

Congestion charges manage urban traffic by increasing travel costs in high-demand areas or peak periods, helping reduce congestion, improve travel times, and lower emissions.

Congestion charges, also known as congestion pricing programs, are systems that place surcharges on the use of public goods during periods or in areas of high demand. These systems are most commonly applied to road use in congested urban centers. It is similar to tolls on highways and bridges, but with a different objective. While tolls, which are designed primarily to fund road construction or maintenance, congestion charges specifically aim to regulate demand by increasing the cost of travel at peak times or in high-traffic zones.[1] Economically, they function as a form of value pricing or dynamic pricing, similar to "surge pricing" used by ride-sharing platforms, where prices increase when demand exceeds available capacity. These charges can take the form of road pricing, higher peak fares for transit, or "pay-as-you-go" based on the distance travelled.[2] This mechanism regulates demand in order to manage congestion without increasing supply but by increasing the price of roads (Figure 1). By influencing travel behaviour, congestion charges help reduce traffic volumes, improve travel times, and decrease associated emissions.[3,4]

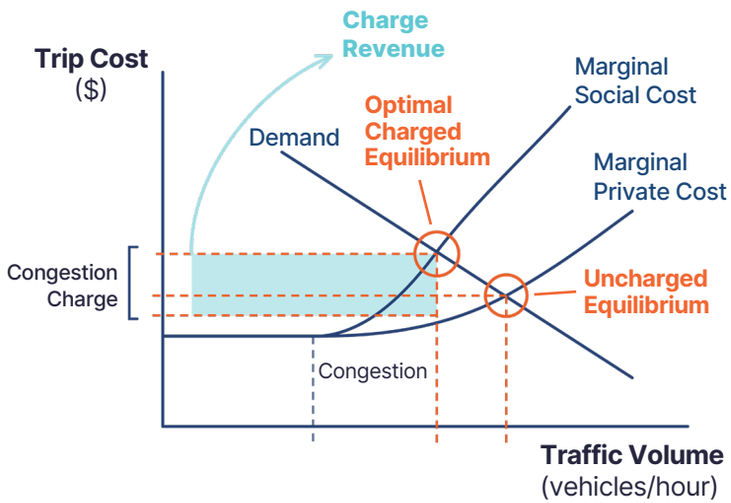

Figure 1. Principle of Marginal Social Cost Pricing[5]

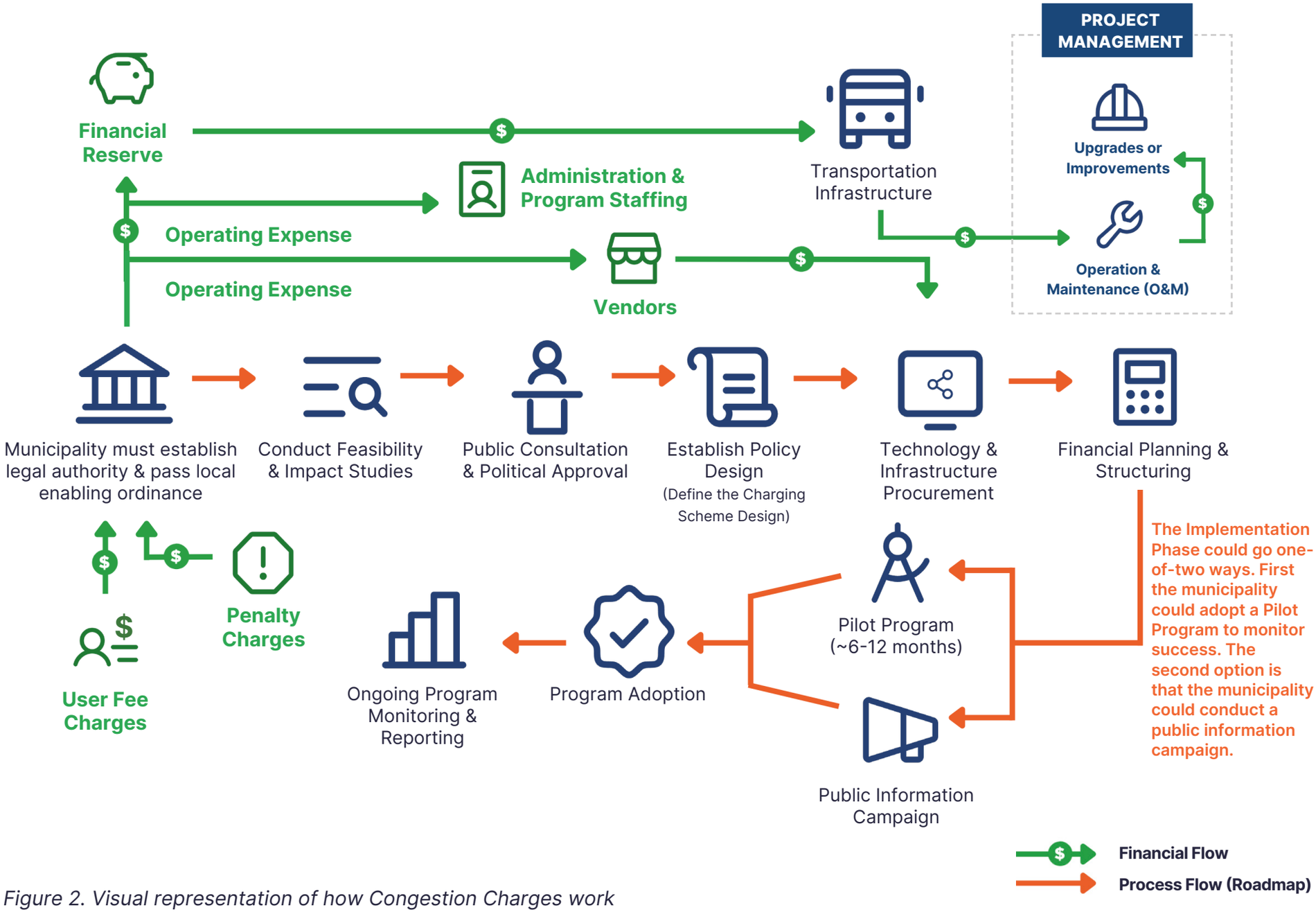

Figure 2. Visual representation of how Congestion Charges work

Examples

Previous attempts to introduce congestion charging in Canada especially in Vancouver and Toronto have not been successful, due to political resistance, public acceptability concerns, and unresolved governance questions.[6] More recently in Toronto, this trajectory may be changing with the creation of a Chief Congestion Officer role, signalling renewed institutional focus on managing congestion and reconsidering pricing-based tools.[7]

In contrast to Canada's experience, congestion charging has been successfully implemented in several international cities. For example, Singapore (SG) has an Electronic Road Pricing (ERP) system in place to manage road congestion. In 1975, the government first launched their congestion pricing system called Area Licensing Scheme (ALS) that charged a flat rate for vehicles entering Singapore's central area.[8] After the introduction of ALS, there was an immediate reduction of 45% in traffic and 25% in vehicle crashes. There were also benefits including more public transit commuters, smoother travel speeds, and cleaner air conditions. In 1998, the ALS system was replaced by the ERP system, and the ERP system further decreased the traffic levels by 15%. Under the ERP system, bigger vehicle types pay more, and the charges can fluctuate based on the traffic conditions[9] at the time.[10] While the system reduces traffic levels, it also generates revenues with approximately $64 million Singapore Dollars in net profits per year, allowing the government to pursue ambitious public transportation programs more easily.[11,12]

New York City (US) established a Congestion Relief Zone in its urban center aiming to reduce the excess traffic in the area and help improve quality of life.[13] Vehicles entering this zone are charged a toll. The program helps reduce traffic and travel time, improve safer streets and cleaner air, reduce greenhouse gas emissions, encourage public transit ridership, and promote the quality of life. In addition, the raised funds can also be used to fund public transit improvements, including the accessibility improvements at the subway stations and transit electrification.[14]

Moreover, London (UK) has also implemented a Congestion Charge of £18 per day when drivers travel within the Congestion Charge zone during specific hours and days. The Congestion Charging scheme was first introduced in February 2003 and it has been successful in managing traffic and congestion in central London.[15] In a recent proposal, the City is planning to increase the charge and provide discounts for electric vehicles, continuing to reduce congestion in the area and encouraging the adoption of clean vehicles.[16] Other cities that have implemented congestion charges include Stockholm (SE), Gothenburg (SE), and Milan (IT).

Relevance to Advancing Adaptation

Congestion charging is primarily a demand-management and emissions-reduction tool; it does not directly help to adapt to climate change. Evidence from London, Stockholm, and Singapore shows reductions in traffic and air pollutants following implementation.[17,18] These outcomes support mitigation and public health objectives, but do not in themselves increase resilience to climate hazards. Its relevance to adaptation lies in how revenues are used. International programs demonstrate that congestion pricing can generate stable, locally controlled funding streams.[19] When earmarked for resilience investments, such as flood-proofing transit stations, upgrading drainage, reinforcing critical corridors, or improving network redundancy, congestion charging can serve as a financing mechanism within a broader climate adaptation strategy. The pricing mechanism is therefore indirect: its

adaptation value depends on governance decisions, revenue dedication, and integration into long-term capital planning.

Accessibility

Congestion charging is currently a potential rather than readily available fiscal tool, as no standing federal or provincial program explicitly enables cities to levy road use charges without higher order government authorization. In most provinces, municipalities would require enabling legislation or provincial consent to introduce new user charges on public roads, particularly where charges extend beyond traditional toll bridges or municipally owned facilities, creating a jurisdictional constraint on access.[20,21] Large municipalities such as Toronto, Vancouver or Montreal are better positioned to pursue congestion charging due to their scale, congestion severity, and administrative capacity, but even these municipalities have so far been limited to feasibility studies and pilot discussions rather than implementation.[22] From a financial perspective, congestion charging does not operate as a grant or transfer program rather, it is a locally generated revenue mechanism, meaning access depends less on eligibility criteria and more on legal authority, political approval, and technical readiness. Advances in electronic tolling and vehicle tracking technologies have reduced implementation barriers and costs for some municipalities, making the tool more accessible in principle over time, particularly for municipalities with existing smart transportation infrastructure.[23]

Feasibility

The feasibility of congestion charges is constrained primarily by political and social acceptance rather than technical or economic factors. Examples from municipalities globally show that congestion reliably reduces peak traffic and generates stable local revenue, supported by mature and widely deployed technologies such as electronic tolling and license plate recognition.[24,25] Early discussions in Vancouver and Toronto indicate that equity concerns, regional coordination challenges, and anticipated public opposition remain the main barriers to implementation.[26] While international experience shows public acceptance typically increases after implementation as benefits become visible, this dynamic creates high upfront political risk. As a result, congestion charging is most feasible in large, transit-rich metropolitan regions with acute congestion and strong regional governance.

Risk

While congestion charging can reduce congestion and generate dedicated revenue, it introduces several risks for municipalities, particularly related to public acceptance, equity, and governance. A primary risk is political and reputational. Strong opposition prior to implementation has led to cancelled or delayed proposals where charges were perceived as unfair, poorly timed, or insufficiently linked to visible benefits such as transit improvements.[27] Equity risks are also significant. Without exemptions, rebates, or complementary investments, congestion charges may disproportionately affect lower income or car dependent households, increasing the likelihood of legal challenges or sustained public resistance. Operational risks include higher than expected implementation or operating costs, privacy concerns associated with vehicle tracking technologies, and slower than anticipated congestion reduction, which can undermine public confidence if early results are not evident.[28] Finally, there is a risk that revenues are perceived as general taxation if not clearly earmarked and transparently reinvested, weakening public trust and long-term political viability.

Scalability

Congestion charging is scalable once implemented, as revenues can grow with traffic volumes, pricing adjustments, and geographic expansion of the charging zone. International municipal experience shows that charges can be increased incrementally, differentiated by time of day, vehicle type, or location, and expanded from pilot corridors or cordon areas to broader regions as governance capacity and public acceptance mature.[29] Revenues scale predictably when charges are indexed to inflation or congestion intensity, enabling municipalities to align funding with long term transportation and infrastructure investment needs. However, scalability in the Canadian context depends on strong regional coordination, as congestion patterns and commuter flow often cross municipal boundaries; without this, scaling beyond a single municipality may be limited. Where revenues are transparently reinvested in transit and mobility alternatives, congestion charging can evolve from a localized intervention into a durable, region-wide funding mechanism over time.

Evaluation Matrix

Scoring: High = +1 | Medium = 0 | Low = –1

Criterion	Rating	Score	Key Evidence	Assessment
Effectiveness & Performance	Medium	0	Primarily a mitigation tool; adaptation benefits depend on revenue use	Generates revenue, but its adaptation value is indirect and depends on earmarking funds for resilience investments.
Economic Efficiency	Medium	0	Requires advanced systems (e.g., tolling, tracking), but proven internationally	Demand pricing is efficient in principle, but technical and operational complexity reduces overall efficiency in municipal use.
Equity & Fairness	Low	-1	Disproportionate impacts on lower-income, car-dependent users	The tool can impose regressive burdens unless offset through rebates, exemptions, or transit reinvestment.
Political Acceptability	Low	-1	Failed attempts in Canadian cities due to opposition	Strong public resistance and political risk significantly constrain adoption.
Feasibility (Admin/Legal)	Low	-1	Requires provincial authorization; not currently enabled in most jurisdictions	Legal authority and governance barriers limit feasibility despite technical viability.
Coherence (Portfolio Fit)	Medium	0	Can fund transit and resilience investments if integrated into planning	The tool can support broader transport and resilience planning, but only with deliberate coordination and revenue alignment.

Best Use Context

Most effective in large, transit-rich metropolitan areas with severe congestion and strong regional governance. The tool is best suited where enabling legislation exists and municipalities can clearly reinvest revenues into transit and resilience infrastructure. Its adaptation relevance remains conditional rather than inherent.

Context Factor	Relevance	Notes
Municipal Size	High	Most viable in large metropolitan regions with significant congestion.
Administrative Capacity Required	High	Requires advanced technology, governance coordination, and enforcement systems.
Development Pressure	Low	Not dependent on growth; tied to traffic demand.
Climate Risk Targeting	Low	Does not inherently target adaptation; depends on revenue allocation.
Fiscal Flexibility Required	High	Requires strong political mandate and intergovernmental coordination.

Recommended Citation

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