

# EVIDENCE BRIEF

The **Social Sciences and Humanities Research Council** in collaboration with **Infrastructure Canada**

SSHRC's *Imagining Canada's Future* initiative mobilizes social sciences and humanities research to address emerging economic, societal and knowledge needs for Canada, and help guide decision-making across all sectors toward a better future. This evidence brief addresses the Future Challenge Area of: **Mobility and Public Transit**

## Shifting to public transport: The influence of soft interventions

### About the project

Researchers in transport have highlighted the need for a paradigm shift from personal vehicle-centric planning to planning for sustainable modes where public transport plays a critical and structural role. The success of public transport depends on a plethora of factors and can be achieved through various targeted interventions.

This scoping review presents and analytically evaluates evidence of policy measures—from academic literature—that policy-makers can adopt to increase public transport use. The range of interventions included in the literature can be organized from two perspectives: 1) hard (infrastructure) and soft (behavioural); and 2) push (discourage) and pull (encourage). Interventions can then be classified as a combination of those two.

The focus of this study is on soft-pull interventions, which we further classified into three sub-categories: 1) **internally motivating strategies** that gradually but firmly instill pro-sustainability attitudes and norms in people's minds whether they are the general public (including children) or policy-makers; 2) **satisfaction-increasing strategies** that primarily help retain current users, especially those who feel forced to use public transport, and secondarily attract new riders by improving the service factors and modifying travellers' inaccurate perceptions of the service; and 3) **stimulating public transit use and car-habit disrupting strategies**, such as offering attractive incentives and tailored information to encourage auto drivers to give public transport a try and break their car habit.

### Key findings

- Internally motivating strategies address psychological barriers, biases and misinformation regarding sustainable transport modes. These help by fundamentally changing social norms and assist in establishing ecological travel attitudes and behaviour. Education, especially from early childhood, and awareness management approaches lie within this category. It is crucial that policy-makers shift their attention from merely awareness-raising to awareness-management. Instead of providing massive travel information for all, attention should be paid to fine-tuning the format, style, sender, etc. according to the characteristics of the target population. In spite of their prolonged implementation period, these strategies are likely to have long-lived effects.
- Increasing both users' experienced and perceived satisfaction is also highly essential. Satisfaction can change attitudes and hence behaviour, which is imperative to retaining current users as well as attracting new

ones. While improving public transport satisfaction is also a function of "hard" factors such as the public transport network and speed, our review highlighted more achievable and low-cost "soft" measures as complementary approaches that can improve users' satisfaction, by modifying their inaccurate perception of existing service factors. One significant strategy would be an electronic ticketing system through which passengers can prepay their smartcard online using credit/debit cards (or charge public transport pass in a transit app) and use it on any compatible public transport mode across Canada. This will not only facilitate passenger boarding but also reduce the uncertainty about travel time. Another important strategy is the provision of real-time information that can help compensate service unreliability by reducing passengers' perceived and actual wait time. A combination of e-ticketing and real-time information (possibly merged onto a smartphone app) can therefore be an effective strategy.

- Among all interventions that provoke habit disruption and stimulate trying public transport, monetary incentives—specifically free public transport tickets—have shown success for shifts at both the motivation stage and behaviour stage. This means that even though a change might not be observed right after the intervention, intentions to use transit in the future are likely to increase. Feedback and gamification applications (or apps) are also

two modern techniques that inform travellers of their travel emissions, costs, peer/social influences, calories and so on in an attractive and fun game-like setting. Since stimulating and habit-disrupting approaches are generally external motivations that bear the risk of losing their effectiveness in the long-term, the implementation of them with one or more additional strategies, such as awareness campaigns, is highly recommended.

## Policy implications

- Target travel behaviours and deal with them proactively, particularly during phases of people’s lives when they are more likely to change travel behaviour (e.g., residential relocation, taking on a new job, the COVID-19 pandemic). At such points, individuals are considering and establishing what their travel habits will be.
- Design customized public transport promotion strategies that best suit the situation and the characteristics of their target population. Apart from socio-demographics, an important characteristic is the “stage of change” with respect to using public transport. Different behavioural stages will require different approaches.
- Make using public transport easy; use feedback to support an individual’s public transport use. Smartphone technologies and new transit apps that integrate multiple mobility management techniques into one platform should be designed. Examples include 1) seamless e-ticketing at both local and national levels; 2) incentives such as earning travel points/credits for trips made using public transport, especially for avoiding peak travel; 3) a combination of gamification and feedback (e.g., on happiness, health, finances, safety, climate emissions) to emphasize the intrinsic reasons for using public transport in order to help riders maintain their habit; 4) incorporating real-time information into existing popular travel apps such as Google Maps.

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