

Congestion Management Strategy



Vancouver as of 2018



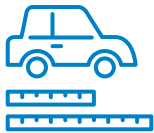
50%

of trips are made on foot,
by bike or transit.



6

major bridges in Vancouver.



32%

decrease in distance driven
per person since 2007.



4.6%

population increase
in Vancouver since 2011.



1416 km

of major road network, arterial
streets and local streets.



Travel time reliability
coming in 2019.

Contents

- Overview2
- Background..... 4
- Policy overview 6
- Improve monitoring of traffic conditions and trends..... 8
- Improve road safety10
- Ensure a smart and efficient transportation system..... 12
- Coordinate street use.....14
- Prioritize people and goods movement.....16



Overview



Vancouver's Transportation 2040 plan has a vision to achieve “a city with a smart and efficient transportation system.”

Regionally, our population is growing, and with that, so are the demands and pressures to support the movement of more people and more goods.

While growth is a positive indicator of a thriving city, it results in increased demand that can result in impacts to traffic flow on the street network.

A strategy to manage congestion is key to achieving efficient, reliable travel that will support the economy and future prosperity of the region.

Transportation 2040 acknowledges the importance of motor vehicles as part of the city's transportation mix and contains policies intended to minimize congestion or mitigate congested-related impacts. These include making it easier for people to find parking through improved curb space management and wayfinding, optimizing traffic signal timing, supporting comprehensive regional mobility pricing, and coordinating major construction activities for special events.

Transportation 2040 also identifies strategies to enhance overall mobility and access in Vancouver by enabling more trips to be made by walking, cycling, and transit, and by reducing the need to drive. Continuing to prioritize these more space-efficient modes of transportation encourages their use and reduces the number of cars on the road today. It also improves health, results in more reliable and cost-effective transit service, and helps ensure that future population and job growth does not result in gridlock.

With more people leaving their personal vehicles at home and choosing to take transit, walk, or cycle, we need to build infrastructure which supports the growth of these more sustainable modes, such as pedestrian signals, crosswalks, wider sidewalks, cycling facilities, and more transit.

The Congestion Management Strategy will help to support our economy, honour our transportation hierarchy of active transportation first, and find ways to continue to use our streets more efficiently.



Background



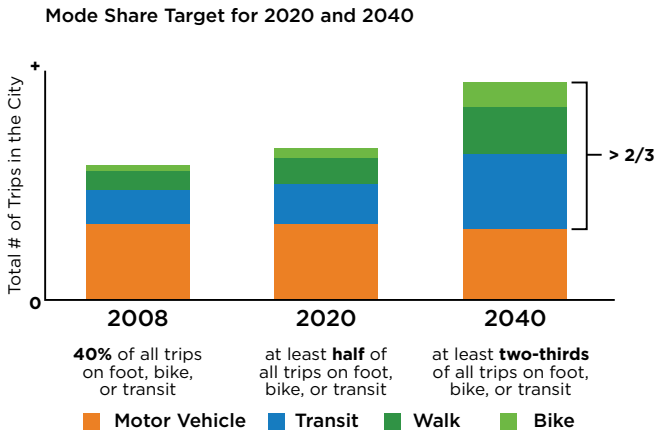
In the 1960s, Vancouver made a conscious decision not to build a freeway downtown. The Dunsmuir and Georgia viaducts are the only remnants of the freeway that was never built.

Vancouver is one of the few major cities in North America without a freeway system. The decision not to put a freeway through downtown set the stage for the green and livable life style that Vancouver is known for today. In place of a freeway network, Vancouver has a complete grid of arterial streets that provide the kind of resiliency that a limited freeway network cannot. The limit of physical space geographically has also led to a compact city that is almost completely built-out. It means that our street space is limited and serves a multitude of purposes, from traffic movement to event space and business activity (such as filming or construction). Our vibrant, active city also has an increasing number of people choosing to walk and cycle.

Vancouver has a history of prioritizing sustainable modes of transportation including walking, cycling, and transit. Since the 1997 Transportation Plan, policy prioritizing walking, cycling and public transit has guided the direction of transportation and planning projects across the city. In 2012, Vancouver City Council approved Transportation 2040, a plan that sets specific targets to increase the sustainable transportation mode share to 50% of all trips by 2020, and two-thirds of all trips by 2040. In 2016, the City achieved the 2020 target, four years ahead of schedule.

The Challenge: A growing city with limited road space

Over the next 30 years, we’re expecting about 130,000 new residents and close to 90,000 new jobs, bringing more trips and more activity to Vancouver. The street network is largely built out, leaving few opportunities for building new roads. We need to make the most out of our existing network.



For all trips originating in the City of Vancouver.
 Source: Data and analysis based on TransLink Trip Diaries. Opinions expressed do not necessarily represent the views of TransLink.

Policy Overview

The Congestion Management Strategy provides direction on identifying and monitoring congestion, developing strategies to address impacted areas, and tracking progress and results.

There are five priority goal areas with dedicated targets to help meet our congestion management needs:

1. Improve monitoring of traffic conditions and trends
2. Improve road safety
3. Ensure a smart and efficient transportation system
4. Coordinate street use
5. Prioritize people and goods movement.

Key considerations are applied to all five areas.

Vehicle Volumes and Goods Movement

Though the mode split for motor vehicle is planned to decrease from 60% in 2008 to 33% in 2040, the total number of trips by motor vehicle is not expected to significantly decline. Vancouver's street network will continue to carry significant volumes of motor vehicles for the foreseeable future.

While the total number of private vehicles may remain similar over the years, there will be an increasing number of new transit, goods movement, and emergency services as more residents and jobs come to Vancouver. The continued reliability of our street network is critical to ensuring efficient movement for modes of vehicles including buses, trucks, and emergency vehicles.

Innovation and Technology

Recent advancements in technology have made it increasingly possible and affordable for cities to gather vital information on how people use and interact with the transportation system.

Technology such as smart street lighting is allowing cities to gather large volumes of data about traffic volumes, parking occupancy, travel speeds and travel modes. Mobile phone technology and apps are also allowing users to share crowd-sourced traffic data and in some cases these apps can automatically detect if users are on foot, cycling, taking transit, or in a private vehicle simply based on data collected from the smart phones' sensors. This data is critical for making informed decisions to improve the transportation network.

The emergence of the connected and automated vehicle is expected to be the most significant and disruptive technology in transportation since the introduction of the private vehicle. It will be critical to work

pro-actively with industry and senior levels of government to consider and implement technology in roadway infrastructure to monitor and support the operation of connected and automated vehicle technology.

Supporting Public Transit

We have the opportunity to review our street network performance in coordination with TransLink's Annual Transit Service Performance Review. Many Vancouver bus routes are seeing travel time increasing. Congestion is a contributor to this trend. Other factors, such as overcrowding at bus stops and buses bunching also contribute to decreasing average travel speeds.

Street space allocation, signal programming, and network design are the keys to managing congestion. Directly enhancing the speed and reliability of transit will provide increased capacity to move people along our frequent transit corridors and help to minimize the operating costs.

Network Reliability

The reliability of the network is key to achieving managed congestion in Vancouver. We will prioritize efficient transportation modes while fully considering overarching City transportation priorities such as safety, accessibility, and goods movement.

Moving Forward: Priority Goals

1. Improve monitoring of traffic conditions and trends
2. Improve road safety
3. Ensure a smart and efficient transportation system
4. Coordinate street use
5. Prioritize people and goods movement

Related Policies

- Transportation 2040
- Moving Towards Zero Fatalities
- TransLink 10-Year Investment Plan

The City will explore and consider adopting new technologies in communication and transportation to optimize the street network.

① Improve monitoring of traffic conditions and trends

Baseline conditions of traffic volumes and trends need to be measured on key arterial streets in order to measure congestion and track progress. Once these baseline conditions are established, we can better understand where congestion is most problematic.

Vancouver is already recognized as a leader in deploying automated technology for counting the number of people walking and cycling. We have also developed a customized traffic data management system to store and manage the large volumes of data that is collected for all modes of transportation.

We will explore and implement new technologies to capture trends in travel time and reliability to help make informed decisions to address congestion.



MONITORING INITIATIVES

Ongoing:

- Street use monitoring
- Traffic control with VPD Traffic Authority
- Monitoring with traffic cameras

New:

- Establish baseline travel times along major arterial streets across the city
 - e.g.: automated travel time monitoring expanded traffic count locations
- Traffic cameras at all major intersections
- Deliver annual report to Council on travel time reliability

What the City is doing:

ACTION	STATUS	RECOMMENDATION	ESTIMATED ANNUAL COST
Use data to establish baseline travel times (and thus reliability) along major arterial streets across the city.	NEW	<p>Allocate capital funding annually from existing Transportation Monitoring Program to explore new and efficient technologies to capture data such as corridor travel times and traffic volumes.</p> <p>Consider the use of crowd-sourced data from mobile phone apps to capture road use activity and information sharing.</p>	\$100k
Traffic monitoring and enforcement of street use 7 days per week.	Underway	Traffic monitoring by two full-time staff assigned to review and enforce the use of streets 7 days per week.	\$150k
Utilize traffic control with VPD Traffic Authority: the VPD Traffic Authority designation is unique as these are not full members but have the ability to control traffic and provide police presence at traffic closures.	Underway	Consider expanding use of traffic authority personnel to high traffic conflict locations during peak times to support safe and efficient movement; expand VPD traffic authority program to provide more resources.	TBD
Enhance monitoring with traffic cameras and emerging technologies.	NEW	Develop plan and cost of expanding traffic camera monitoring to include cameras at every major intersection. Deploy emerging technologies such as smart street lighting to begin capture traffic volumes and related data on road use.	TBD
Develop annual report on travel time reliability on major corridors and changes related to improvements.	NEW	Staff report back to Council annually in the spring.	

② Improve Road Safety

By reducing the frequency of and severity of collisions, the street network will operate more effectively and efficiently.

The City set a goal of zero transportation related fatalities in its Transportation 2040 Plan. In 2016, it released the Moving Towards Zero Strategy, which outlines strategies to achieve zero traffic related fatalities and serious injuries on the road network by focusing on improvements to safety hotspots.

The actions set out in the Congestion Management Strategy will be complimentary and supportive of our zero fatalities goal.



ROAD SAFETY INITIATIVES

Ongoing:

- Lighting improvements
- Collision analysis
- Partnerships
- Mindful travel campaign and education on safe walking, cycling and driving

New:

- Conduct intersection safety studies to identify safety hotspots and areas of concerns, as well as counter measures

What the City is doing:

ACTION	STATUS	RECOMMENDATION	ESTIMATED ANNUAL COST
Complete corridor and intersection safety studies.	NEW	Allocate capital funding from existing traffic safety program to conduct safety studies along major arterials to identify safety concerns and recommendations for mitigation measures.	\$250k
Identify and address safety hotspots.	NEW	Work with ICBC and VPD to prioritize and address safety hotspots in the city for counter measure improvements such as signals, crosswalks, and curb bulges.	\$1M
Improve street lighting at intersections.	Underway	Continue initiative - Identify and target up to 20 key intersections annually for enhanced lighting with LED technology funding from existing annual street lighting program.	\$150k
Conduct collision conflict analysis.	Underway	Allocate capital funding from existing transportation safety program to partner with academia to use leading technology such as video analytics to proactively study intersections with potential conflicts. Develop mitigation measures to address safety concerns.	\$75k
Work collaboratively with partners.	Underway	Share collision and hospitalization data with ICBC, VPD, Vancouver Coastal Health, and BC Ambulance which will assist in identifying key locations, trends and severity of crashes.	
Mindful travel campaign.	Underway	Funded from annual transportation safety capital program.	\$35k

③ Ensure a smart and efficient transportation system

The application of technology will play a vital role optimizing the city's transportation system. Technology is particularly important for achieving efficiencies in Vancouver, as the city has little space left to add in new roadways.

Since 1986, the City has operated a centralized traffic signal management system that has evolved over time with advancements in technology. The system has been a key component in ensuring that signals can communicate with each other to optimize operations, maintain a coordinated network, and allow staff to monitor and manage the system remotely. Furthermore, the deployment of traffic cameras facilitates in monitoring of traffic conditions so that adjustments can be made as conditions change over time.

The City will continue to explore new and emerging technologies in monitoring and data collection including smart street lighting and infrastructure to support connected and automated vehicles.

It is equally important that the city's infrastructure is resilient and well-maintained to support efficient and reliable operation.

TRAFFIC CONGESTION INITIATIVES

Ongoing:

- Centralized signal management system
- Public awareness
- Parking management strategy

New:

- Update corridor signal timing & optimization
- Adjust peak-period parking regulations to support transit service and overall traffic flow
- Implement spot improvements to enhance transit service & reliability
- Explore emerging technologies including smart street lighting, responsive signal timing systems, and infrastructure to monitor and support connected and automated vehicles

What the City is doing:

ACTION	STATUS	RECOMMENDATION	ESTIMATED ANNUAL COST
Review peak period parking regulations.	NEW	Review peak period parking regulations and identify and implement changes to support transit service expansions as well as enhance reliability and safety on arterials in the city.	\$20-25k
Corridor signal timing review.	NEW	Signal timing review calibrated with travel time data. Goal to optimize reliability and increase safety on the corridor.	\$20-25k
Implement spot improvements for transit operations.	NEW	Consider measures such as extending no parking regulations at street corners to improve transit service and reliability.	\$15-20k
Expand intelligent transportation systems (ITS).	NEW	Develop strategy to update the existing centralized traffic signal management system and signal controller technology and plan for emerging technologies such as connected and automated vehicles.	TBD
Maintain operation of signals during power outages.	Underway	Continue to implement battery back-up to all major intersections in the City through existing signal program capital funding. Currently there are 138 intersections with battery back-up.	\$150k
Increase communication and public awareness of traffic impacts.	Underway	Expand use of electronic variable message signs (VMS) and static advisory signs to educate road users on upcoming impacts and proactively communicate traffic impacts in social media, radio, and print.	
Implement a parking management strategy.	Underway	Implementation of dynamic pay parking rates to adjust for demand and enable people to more easily and quickly find available parking.	

④ Coordinate street use

Streets are used for many activities other than driving, including large and small scale events, staging for development and construction, and other activities such as filming.

The diverse use of streets is a sign of a healthy, vibrant city with a strong economy.

However, a key component of supporting the reliable operation of the city's street network for the purposes of travelling is to manage and coordinate impacts related to construction, development, and events.

A number of initiatives have already been implemented to support coordination of street use. One example is a software called PlanIt, which helps to plan and coordinate street use conflicts. In 2016, it was used to detect and resolve more than 1,400 potential conflicts.



STREET USE INITIATIVES

Ongoing:

- Walking and cycling provisions at construction sites
- Proactive street use planning / Project Management Office
- Managing street use data

New:

- Review street use practices for private development
 - e.g. look at other jurisdictions to identify when development-related street use is supported and related fees
- Develop construction traffic management manual

What the City is doing:

ACTION	STATUS	RECOMMENDATION	ESTIMATED ANNUAL COST
Review street use practices related to private construction and development.	NEW	Conduct a best practices review of major cities in North America to determine street use related to development, when street use is supported, and appropriate fees.	\$25-50K one time cost for study
Develop a construction traffic management manual.	NEW	Develop and finalize a construction traffic management manual through 2018 which outlines acceptable traffic management practices to minimize and coordinate traffic impacts and ensures traffic restrictions are identified during the development permit phase.	
Support transit and active modes at construction sites.	Underway	Continue best practices to support transit and active modes in traffic management plans at construction sites.	
Strategically plan street use.	Underway	Continue initiative lead by Engineering Project Management Office to proactively plan street use impacts across departments, utilities, private development, film and events.	
Manage street use data and coordinate impacts.	Underway	Utilize software systems to better manage street use data and coordinate impacts. Make data open to the public and software developers. Seek and support partnerships with software developers to share street use data.	

⑤ Prioritize people and goods movement

The City has a hierarchy of transportation modes, with walking as the top priority, followed by cycling, transit, shared vehicles, and finally the private car. By shifting the preferred modes, there is more space on the road for goods movement to support our local, provincial, and national economies, as well as providing road space for emergency services.

Current policies including the Greenest City Action Plan, Renewable City Strategy, and Transportation 2040 have positioned Vancouver to be a leader in sustainable transportation.



TRANSPORTATION INITIATIVES

Ongoing:

- Mobility pricing
- Supporting rapid transit
- Supporting complete streets
- Rail transport & safety
- Commercial vehicles regulations

What the City is doing:

ACTION	STATUS	RECOMMENDATION	ESTIMATED ANNUAL COST
Mobility pricing	Underway	Support TransLink in exploring the possible implementation of an integrated and coordinated approach to pricing mobility services in Metro Vancouver to improve fairness, efficiency, travel reliability, and support continued investment in the regional transportation system through new revenues.	-
Support rapid transit implementation	Underway	Develop a Rapid Transit office within the City to support the planning and design of the Millennium Line Broadway Extension of the SkyTrain, SkyTrain station upgrades, and future rapid transit lines.	\$1.3M
Develop complete streets policy framework	Complete	Report to Council with recommendation on a Complete Streets Policy.	-
Rail transportation and safety	Underway	Support the development and implementation of a grade separation strategy and grade crossing safety upgrades.	TBD
Commercial vehicle working group	Underway	Work with TransLink and local municipalities to standardize regulations and streamline permitting process for commercial vehicles in the Lower Mainland.	TBD

Glossary

Congestion: A condition on transport networks that occurs as use increases. It is characterized by slower speeds, longer trip times, and increased vehicular queuing.

Infrastructure: The “hardware” that supports efficient, sustainable transportation such as signals and crosswalks for pedestrians, wider sidewalks, cycling facilities, and more transit.

Mode share: The proportion of trips taken using a particular method – or mode – of travel (e.g. walking, cycling, transit, auto).

Sustainable transportation: Travelling by walking, cycling, rolling or taking public transit.



For More Information:

Phone: 3-1-1

TTY: 7-1-1

Outside Vancouver:

604-873-7000

Hỏi chi tiết

資料查詢

Obtenga Información

ਜਾਣਕਾਰੀ ਲਏ

vancouver.ca