

Action 1: People-First Streets That Invite Walking, Biking, and Rolling

Phase 2
ENGAGEMENT BACKGROUNDER

TRANSPORT
2050



This backgrounder expands on information in the Transport 2050 Phase 2 Discussion Guide.

Overview

Through Transport 2050, we are proposing actions to better serve the needs of people who live, work, and play in Metro Vancouver.

One transformative action that could be taken is to redesign our streets to: *create more people-first streets to make walking, biking, and rolling safe and comfortable.*

What is our current situation?

Streets serve many functions. They act as vital connectors, moving people that travel by a variety of modes, including walking, biking, rolling, driving, and public transit. Streets also facilitate goods movement and provide access to shops and services, as well as social spaces for gathering.

What is rolling?

Rolling includes a range of wheeled vehicles, such as wheelchairs or scooters.

However, most streets were designed to prioritize high-speed vehicle movement at the expense of other uses and users. Streets use about a third of the land area in urban Metro Vancouver and make up 80% of all public space. So how we use them has a big impact on the shape of our region.

Today, approximately 50% of all trips made in Metro Vancouver are less than 5 kilometres in length. Many of these trips are being made by car even though many 1-kilometre trips could be just as easily made on foot. Also, many trips under 5 kilometres would be faster by bike than by car. This would make cycling a time-competitive alternative to driving for about half the trips in the region.

Many people in our region would like to use active transportation more often, which includes walking, biking and rolling (including such devices as scooters and wheelchairs). However, there are two major barriers preventing people from using active transportation more often:

- First, they don't feel safe or comfortable travelling next to fast-moving traffic; and
- Second, adequate facilities and connections aren't provided that make it convenient to access destinations, such as jobs, amenities, or parks.

With respect to **safety**, peoples' anxieties about walking, rolling and cycling next to fast-moving traffic are justified. According to ICBC data, motor vehicle crashes kill nearly 100 people in our region every year, an average of 40 of whom are on foot or bike. The key factor in these fatalities is motor vehicle speed.

Based on the human body's ability to withstand impact, illustrated in Figure 1, the National Association of City Transportation Officials (NACTO) recommends the top design speed for urban streets should be no higher than 40km/h.

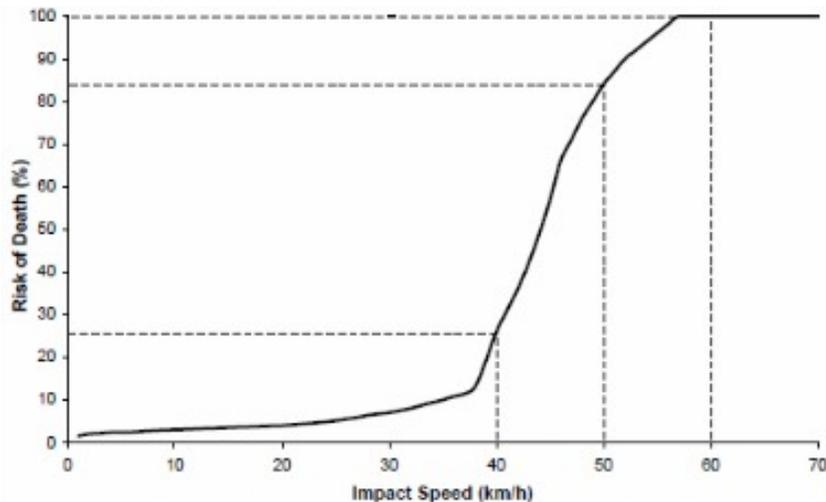


Figure 1 – Risk of pedestrian death as a function of vehicle impact speed

Source: Anderson, R., McLean, A., Farmer, M., Lee, B., & Brooks, C. (1997). Vehicle travel speeds and the incidence of fatal pedestrian crashes. *Accident Analysis and Prevention*, 29(5), 667-674.

Conventional engineering practice typically builds roads with a design speed that is even higher than the posted speed limit, ostensibly to accommodate driver errors. However, this practice is now understood to encourage speeding and increases the likelihood of traffic crashes and fatalities. A key step towards creating safer streets and eliminating traffic fatalities is to reconfigure most of our roads so their physical design aligns with their intended speeds.

With respect to **convenience**, in many parts of our region, easy walkway and bikeway connections are missing.

- **Walkways:** Sidewalks are an important space allocation along roads to give people a safe place to walk and roll. Only approximately 28% of roads in Metro Vancouver have sidewalks on both sides, while 56% have sidewalks on at least one side, and the remaining 16% do not have sidewalks. These gaps in the sidewalk network leave unsafe or uncomfortable conditions that discourage people from walking.
- **Bikeways:** Most people feel safest biking when they have physical separation from vehicle traffic. Of the cycling network within our region, 40% is made up of neighbourhood street bikeways or shared bikeways, 37% of the network is made up of painted bike lanes and bike accessible shoulders that do not protect cyclists from vehicle traffic, 21% of the network is made up of multi-use paths for people biking, walking, or rolling, and 2% is made up of protected bike lanes or protected bike paths. Facilities that are only comfortable for people with lots of cycling experience discourage many people from biking either for recreation or for commuting purposes.

But it's not always as easy as just carving out space on all roads for all users such as people walking, rolling, biking, driving, using transit, and moving goods. Often providing adequate space to comfortably accommodate all travel modes is challenging due to limited road space within communities. We need to consider the street network as a whole to see where different modes could be provided with adequate space on different streets, to ensure safety, comfort, and efficiency.

The potential people moving capacity of streets

We need to reconsider the efficiency of streets, increasing the *people moving capacity*—the number of people that can travel a given route within a given amount of time—rather than the vehicle moving capacity. As illustrated in the graphic below, one 10-foot lane can move many more people walking, biking, or rolling, than by car.

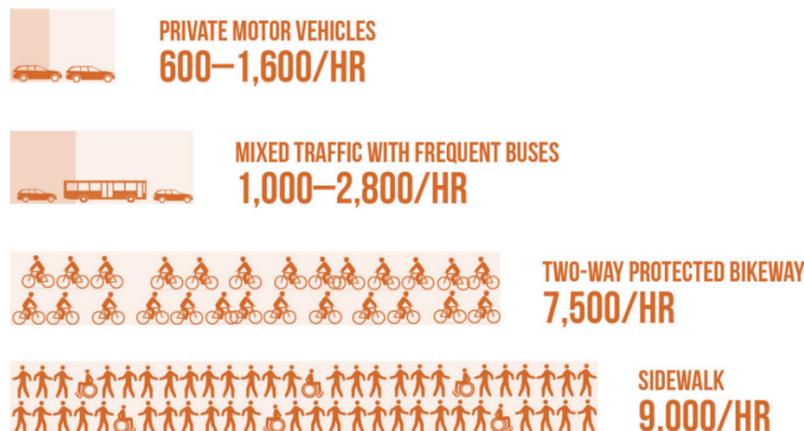


Figure 2 - Excerpt from *Transit Street Design Guide*, National Association of City Transportation Officials (NACTO)

Global lessons from pandemic responses

Many cities, including some in Metro Vancouver, have experimented with different ways to use urban space and roads during the COVID-19 pandemic. Reduced vehicle traffic volumes and an increase in needing to socialize, travel and exercise outside, resulted in a need and opportunity to repurpose road space for new public space, active transportation, and recreational opportunities. This experience is likely to lead to a heightened awareness of the importance of healthy outdoor public spaces.

For example, the City of North Vancouver created slow streets and piloted temporary [changes to Grand Boulevard West](#) in order to create additional space for people walking, biking, and rolling. The City changed the separated bike path that parallels Grand Boulevard West to a walkway, creating more space for pedestrians to safely distance while getting around on foot. In order to provide more safe space for cyclists, this project also repurposed the northbound travel lane on Grand Boulevard West to cyclists only, creating additional space for cyclists, while restricting northbound traffic on this road.



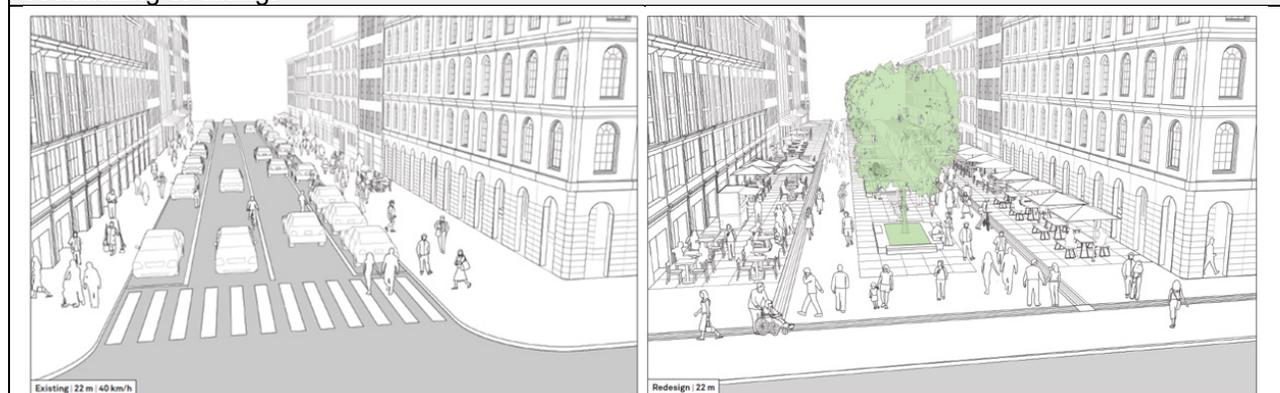
An example of a temporary slow street in North Vancouver. Photo: City of North Vancouver

What could safer, more people-oriented streets look like?

As noted earlier, we need to consider the street network as a whole to see where different modes—driving, transit, walking, biking, rolling—could be provided with adequate space on different streets. People-first streets prioritize safety, livability, and connection through the reallocation of road space, currently oriented to cars, for use by people walking, biking, rolling, or taking transit. They can be designed in a variety of ways, ranging from expanding public plazas and space for parks, to enhanced sidewalks, separated bike lanes, dedicated transit lanes or reduced vehicle speed limits.

Here are three examples of how different types of streets in our region could be reimagined. Although these images depict urban locations, other less dense areas could also see and benefit from these types of change.

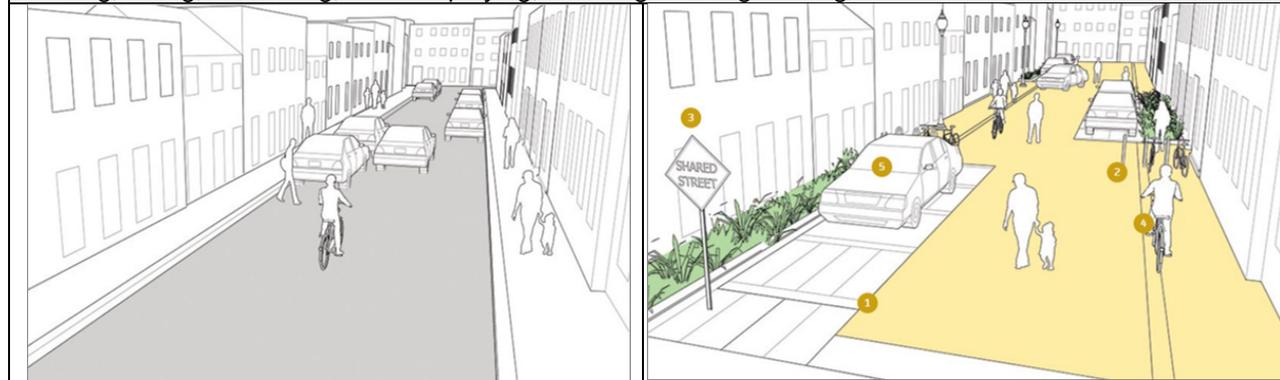
In **urban centres**, pedestrian-priority areas could be expanded to give priority to people walking, trees to shade the sidewalk, benches for people to sit, and extending patios and outdoor gathering space for socializing or dining.



Before: 50km/h street with parked cars.

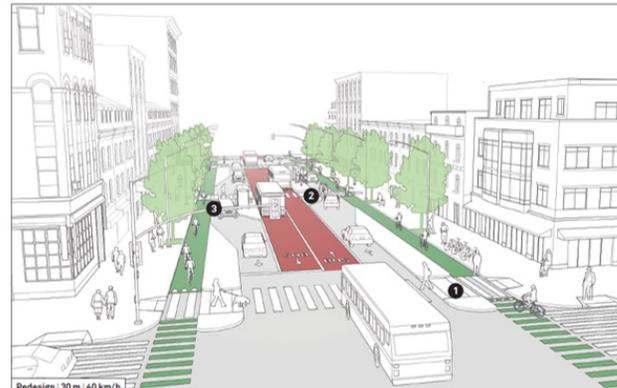
After: 10km/h zone with pedestrian space and room for occasional low-speed shuttles to serve people with mobility challenges.

Most **neighbourhood streets** could be reimagined as low-speed zones with priority given to people walking, biking, and rolling, children playing, and neighbours gathering.



Before: 50 km/h street with parked cars and little comfortable space for walking, biking, and rolling.

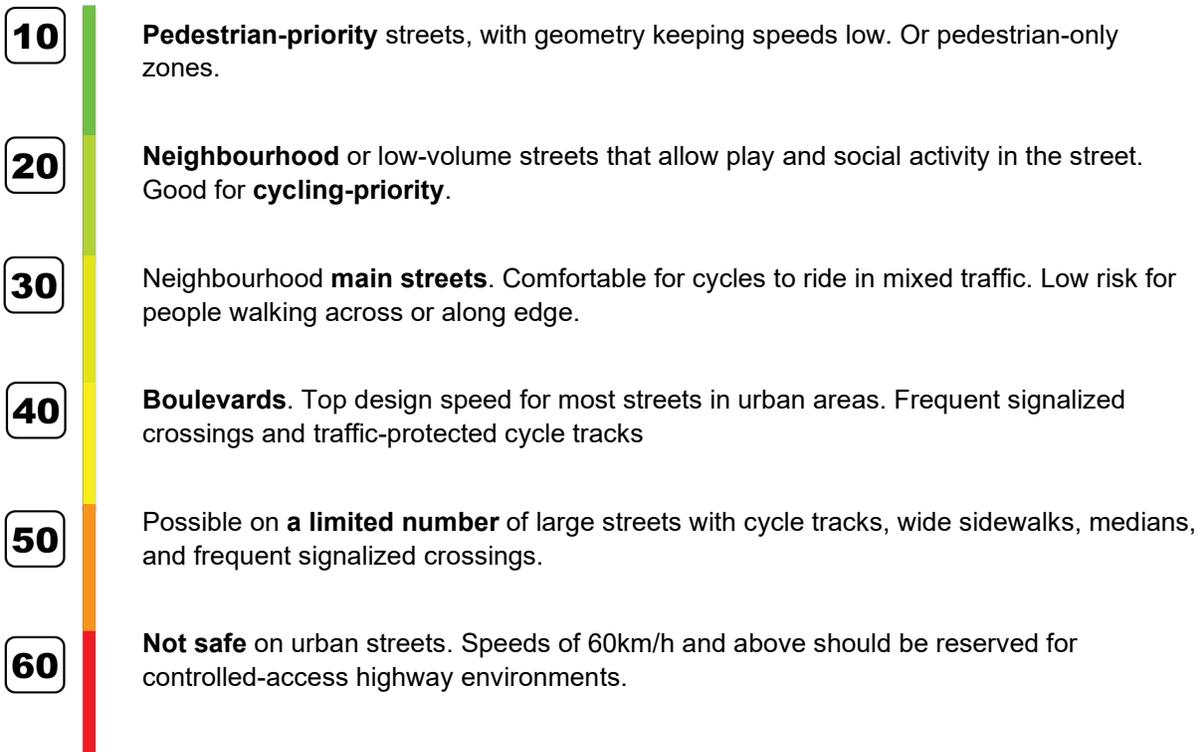
After: 20km/h street where placement of street furniture, landscape design, and limited number of parking stalls ensure that users travel at walking/cycling speeds. Cars are welcome as guests but only if travelling to or from a destination in the zone.

<p>On urban boulevards, wider sidewalks and separated bike lanes can give people comfortable places to walk, bike and roll.</p>	
 <p>Existing: 30 m 60 km/h</p>	 <p>Redesign: 30 m 40 km/h</p>
<p>Before: 60km/h boulevard with three general purpose lanes in each direction.</p>	<p>After: 40km/h boulevard with wider sidewalks and shortened crossings, separated bike lanes, and transit priority lanes.</p>

Images: Urban Street Design Guide, National Association of City Transportation Officials (NACTO)

Different urban street types can combine to create **complete networks of safe and comfortable** walkways and bikeways providing everyone with access to all destinations across the community. The concept below is based on guidance in the Global Street Design Guidelines (2016) from the National Association of City Transportation Officials (NACTO).

Target Speed (km/h)



What's our opportunity?

Our communities are changing rapidly as the population grows in a space-constrained region.

Between now and 2050, with one million more people coming to the region, Metro Vancouver's Regional Growth Strategy encourages growth and development in urban centres. As these communities grow, residents will be able to access more of their daily needs closer to home. Ensuring they can easily and comfortably access those daily needs means providing good quality active transportation facilities in a connected network.

With more digital access to everyday goods and services, such as working from home and home deliveries of daily needs, people are becoming less dependent on personal vehicles. Fewer trips by personal vehicles means we'll have an opportunity to make more efficient and people-centred use of our streets.

To further support this shift, we will continue to support and invest in active transportation facilities. Active transportation is cost and space effective, healthy, and climate-friendly. Studies have shown that the best way to get more people using active transportation is to provide safe spaces for it.

We have an opportunity on some of our streets to reduce traffic speeds and to use some of our existing asphalt to support and promote active transportation in key areas to make it safer and more comfortable for everyone to walk, bike, and roll.

How can we benefit from redesigning our streets to make walking, biking, and rolling feel safer and more comfortable?

Our streets are public spaces. How we use this public space influences our ability to achieve our desired outcomes.

There are a wide variety of benefits of redesigning our streets to promote walking, biking, and rolling, including:

- **Safety:** Reduces or eliminates traffic-related injuries and fatalities for all road users (whether they walk, bike, roll, or drive) by separating modes and/or reducing speed limits.
- **Health:** Improves physical and mental health by encouraging more active forms of transportation like walking and cycling.
- **Equity:** Increases equity by improving free and physically accessible mobility options for more people of all ages, abilities, incomes and backgrounds in more areas of the region.
- **Climate change and air quality:** Having more people walk, roll and cycle means fewer vehicle trips. This results in lower air pollution and GHG emissions from vehicles, helping improve air quality for people on our streets and in our neighbourhoods, and contributing to regional, provincial, and national efforts to combat climate change.
- **Affordability:** The average personal car costs over \$10,000 per year to own¹. Active transportation on safe facilities provides more affordable and convenient transportation options without the need to own a personal device. The freedom to reduce vehicle expenses and have access to more transportation options can result in a more affordable region.
- **Economic:** Enabling people to easily access the services they need close by, creating new opportunities for local businesses to thrive in our communities.
- **Social:** Improved feeling of community through new and improved spaces for social gatherings and events, connecting people with their neighbours.



A pop-up plaza in Vancouver. Photo: City of Vancouver

¹ Canadian Automobile Association Driving Costs Calculator: <https://carcosts.caa.ca>

What are some considerations or potential challenges with redesigning our streets?

Changes to the road network require careful study to fully understand local context and ensure equitable implementation. The advancement of people-first streets would need to be undertaken through a comprehensive and context-specific design approach with a robust public engagement plan.

- **Emerging technologies:** people-first streets need to be able to respond to changes in technology and vehicles. Shared public bikes and scooters have unlocked new trip types by facilitating flexible one-way trips. Electric bikes and scooters are further reducing barriers and opening up active transportation for more people (including seniors and people with disabilities) and different trip types (e.g., traveling with cargo, kids, or in hilly areas). E-bikes and e-scooters can often travel much faster than traditional bikes and kick scooters, creating the need to ensure sufficient space or separate facilities are allocated to these faster mobility devices.
- **Reconfiguring traffic and transportation plans:** Creating more people-first streets will require repurposing some street space previously dedicated to general purpose traffic for active transportation. While we anticipate fewer people needing to drive over the next 30 years, drivers could experience slower driving times on some roads and increased parking costs. These are big shifts in street design and use that should be integrated with local and regional traffic and transportation plans as well as educational campaigns.
- **Cooperation across governments:** The successful implementation of people-first streets will require collaboration with the Province, TransLink and municipalities to bring land use, transportation, and social plans into alignment. This type of cooperation—along with support from residents and business owners—will help to foster an environment where people-first streets can thrive.

Promoting 15-minute neighbourhoods

Redesigning our streets and enhancing the connectivity of our walkway and bikeway networks can also help support the development of more complete communities—or 15-minute neighbourhoods—where residents can complete most of their daily tasks within an easy 1-kilometre walk or roll. 15-minute neighbourhoods entice people to stay local by providing more convenient and attractive access to local neighbourhood shops and services.

The graphic below illustrates the difference between a disconnected and well-connected street network. The disconnected street network (on the left) results in long walking or biking distances. The well-connected street network (on the right) enables shorter, more direct walking and rolling connections.



Figure 3 - Walking distances are shorter in more connected networks (source: TransLink Transit-Oriented Communities Primer).

There is a lot of potential for growth in active transportation; an opportunity to build on the recent momentum of the increasing walking and rolling mode share and to intensify efforts to grow the cycling mode share.

Supporting compact and complete communities as outlined in *Metro 2040: Shaping Our Region*, as well as increasing the connectivity of our walkway and bikeway networks, will help shrink the distances people need to travel and enable more people to access their daily needs through walking, cycling or rolling.

Examples of people-first streets from here and around the world

New Westminster's Front Street Mews

New Westminster removed a portion of the Front Street Parkade and redesignated a section of Front Street as a "Mews." [The Front Street Mews](#) is now a pedestrian-friendly street that includes new features such as widened sidewalks, street furniture, lighting, street trees, traffic calming, planters, and angled parking spots to access local businesses. Prior to 2020, the Front Street Mews was the site of Fridays on Front, a weekly summertime community event including artisan vendors, live music, and New Westminster merchants.



Front Street Mews, Photo: City of New Westminster

Toronto's King Street Priority Corridor

The [King Street Transit Priority Corridor](#) project in Toronto helped to improve transit reliability, speed and capacity by giving traffic priority to streetcars. Changes included prohibiting through movements for cars at select intersections, eliminating on-street parking, and expanding space for streetcar stops. Cyclists are able to continue to use King Street, travelling straight through at intersections. This has allowed for a greater diversity of public space in the curb lanes, including parklets, public seating, patio seating for restaurants and cafés, and taxi stands.



King Street Transit Priority Corridor, Photo: City of Toronto

New York City Pedestrian Plazas

New York City has partnered with local organizations on a [NYC Plaza Program](#) to convert underused streets into vibrant, social neighbourhood plazas. The program prioritizes sites in neighbourhoods that lack open space, and partners with community groups that commit to operate, manage, and maintain these spaces. Each plaza begins with the creation of temporary, affordable pilot projects and gradually transitions towards the creation of permanent public spaces. New York City has also made significant new investments in separated bikeways over the last decade, creating more options to navigate the city safely using active modes of transportation.



Pearl-Archway Plaza in Brooklyn, hosted by Brooklyn Flea, Photo: City of New York

We need your input

What do you think about slowing speeds and/or repurposing space on some streets to improve safety and invite more people to walk, bike and roll?

Visit transport2050.ca to take the survey.