

Transportation Changes in Response to COVID-19

Some municipalities are making changes to their street network to allow pedestrians to maintain increased physical distance during the COVID-19 response. Operational changes are also being made in some locations. The approaches being taken fall into two primary categories:

1. Street reconfiguration
2. Signal timing adjustments

One major concern with these measures is that they will encourage people to exit the home and will increase social contact in a time when the prevailing public health advice is to stay at home as much as possible. There is a concern also that selective implementation might create areas that attract people who would have otherwise used their local amenities, concentrating those who do venture out.

That said, it has been recognised that walking and getting outside “is important to our health and mental health to get us through this.”¹ In fact, the government in the United Kingdom, which is under a stricter lockdown than Canada, carved out a specific exemption allowing each person one daily period of outdoor exercise.²

As of April 6th 2020 the Government of Canada recommends:³

You can go for a walk if you:

- *have not been diagnosed with COVID-19*
- *do not have symptoms of COVID-19*
- *have not travelled outside of Canada in the past 14 days*

If you go out for a walk, do not congregate and always practise physical (social) distancing by keeping at least 2 metres apart from others at all times.

Staying isolated within your home can be disproportionately hard on those who share a home with roommates, have a small home, and/or have no garden or other outdoor space. These characteristics are often typical for dense downtown areas and housing for people with a lower income.

Because of the factors above access to outdoor spaces is connected to issues of public health, mental health, social equity, and transportation. Some view it as inevitable that people will want to get outdoors and see a need to accommodate that, others consider any action to facilitate outdoor activity as inviting

Fundamentally, changing transportation networks in response to COVID-19 is more a question of these other priorities. Implications to transportation are discussed below for several alternative approaches.

¹ Dr. Bonnie Henry, Provincial Health Officer for British Columbia <https://vancouversun.com/opinion/sandy-james-how-do-we-use-city-streets-in-the-time-of-physical-distancing/>

² <https://www.theglobeandmail.com/canada/article-toronto-vancouver-look-into-closing-roads-to-traffic-to-create-space/>

³ <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks.html>

Street reconfiguration

Lane reassignments

This approach takes space between the curbs and assigns it for use by pedestrians and/or cyclists.

Delineators (pylons/barriers) are used to distinguish the affected areas.

Lane reassignments would use the curbside lane where implemented. The curb lane serves one of three functions depending on the street:

- a. Primary vehicle travel capacity, as is the case on two lane streets. Some of these streets would be wide enough to allow space to be dedicated at the curb edge without impacting vehicle travel. However, most of these streets would need localized closures to accommodate this change.
- b. Secondary vehicle travel capacity, as is the case on four lane streets. Given that vehicle travel volumes are down at this time, changes to these lanes would have the least overall impact on vehicle travel.
- c. On street parking, as is the case on the majority of streets in the downtown and in residential areas. The impact of removing parking varies by location. The winter parking ban this past winter had the same general effect on streets outside the downtown core.

These types of changes can be targeted to areas surrounding essential services. For example, streets near grocery stores or pharmacies.

The street network in St. John's does not often provide easy or parallel alternatives to facilities affected under a program such as this. As such, the feasibility of many streets is reduced relative to what may be the experience in other cities with more robust networks.

Because of the need for temporary delineation this type of initiative requires a significant effort to implement. Pylons or wooden barriers, which would be easiest to deploy, are also susceptible to wind and are not feasible for an extended period without constant monitoring and maintenance. Jersey barriers or similar are not currently in stock in sufficient supply to modify any significant length of street. Installation would also require a boom truck which would be expensive to employ.

Using coloured paint to delineate active transportation spaces could assist with linear facilities supplemented by vertical barriers at key points such as intersections. This would not be feasible until the weather improves. Further comment from Public Works is recommended before this alternative is explored.

Street closures

Full street closures, taken on a block by block basis are easier to implement than lane reassignments. However, the impact to adjacent properties on the affected streets is far greater.

Traffic calmed boulevards

A traffic calmed boulevard uses restrictions on vehicle traffic to make the space more inviting and safer for active users. The easiest restriction to implement on a temporary basis while providing the maximum benefit is to create streets with no through traffic. This is accomplished by blocking through movements of a street at each intersection with jersey barriers or similar. Gaps are left that are large enough to allow easy passage of cyclists.

Because no curb side lanes are affected this change has less impact on nearby properties. However, pedestrians realize fewer benefits relative to cyclists than the other strategies outlined.

Signal timing adjustments

Pedestrian Recall

Placing a traffic signal on pedestrian recall causes the walk signal to activate on every cycle of the traffic signal. This results in less time available for vehicle traffic and more time allocated to pedestrian traffic regardless of whether a pedestrian is present or not. In the current circumstances it also precludes the need to press the button, which cuts down one potential source of SARS-CoV-2 transmission. This measure seems to be more common in larger municipalities where the population density means that the number of button activations per unit time is quite high. This transmission vector would also seem to be somewhat mitigated effectively by recommended hygiene practices such as hand washing when returning home.

Some municipalities have traffic signal controllers connected to a central management platform which allows easy implementation and roll back of this strategy. In St. John's our controllers require a physical visit to make changes to the signal timing plan.

We currently have 108 full traffic signals operating in the City and another 31 pedestrian signals (overhead flashers, RRFBs or pedestrian signal). The pedestrian recall approach would only work at full traffic signals. Existing pedestrian signals would need new equipment and substantial modifications to be placed on a timed cycle.

Additional implementation considerations are the need to post signs advising people that they should no longer use the pushbutton. In addition to the work required to adjust the signal timing, there would be work and expense involved in procuring and mounting these signs.

The inclusion advisory committee should be consulted with respect to a change such as this as the operation of accessible pedestrian signals would be impacted.

Shorter cycle lengths

With a shorter interval between successive greens, shorter cycle lengths decrease delays for both pedestrians and vehicles in low volume situations. The work involved to retime a signal with a shorter cycle is substantially greater than that to place a signal on pedestrian recall.

Conclusion

The potential benefits of increased outdoor space seem clear to allow physical activity while maintaining physical distance. However, the effort to implement these strategies is not insignificant. It is also not clear the magnitude of the risk that could be introduced by inducing demand in concentrated areas.

Making the most use of our existing open areas and trails would seem to be a more effective method of allowing outdoor activity throughout the City. If one of the strategies above were to be implemented, the most feasible and least risk option would be a selective implementation of pedestrian recall at locations to be determined by Council. Regardless of approach, it would be prudent to keep these options in mind as the weather improves and the COVID-19 situation develops.