



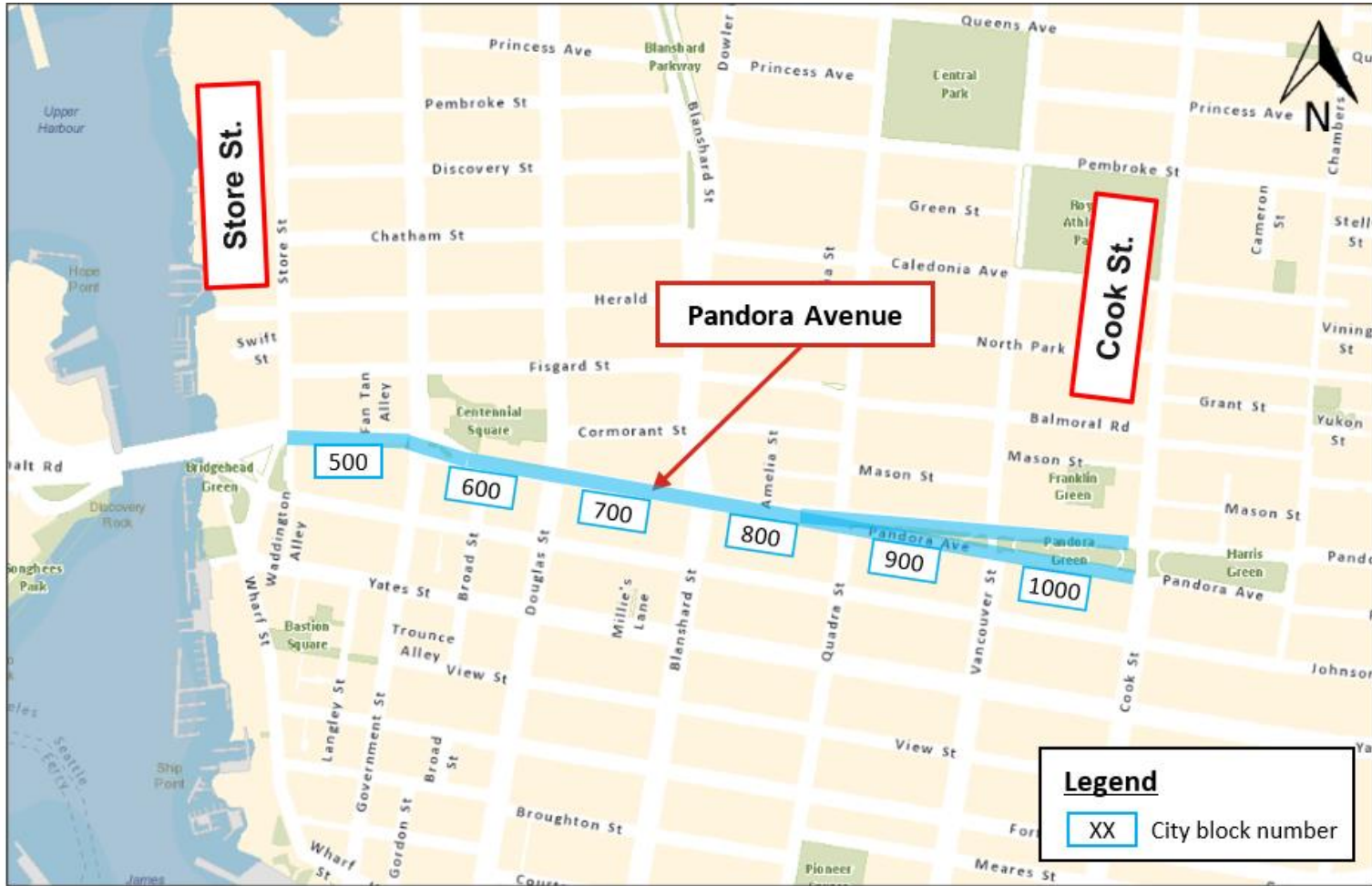
Floating bus stops – Are they improving the safety of all road users?

CARSP/PRI 2021 Joint Virtual Conference  
August 23, 2021

## Presentation Outline

- Reconstruction Project
- Safety Review
- Hearing and Court Decision
- Potential Implications
- Discussion

# Reconstruction Project – Study Area



- 1.2-km road section
- Secondary arterial with an average of over 10,000 vehicles per day
- Two-lane, one-way with on-street parking
- 40 km/h posted speed
- 7 signalized intersections
- 2 unsignalized intersections

# Reconstruction Project



Before



After

# Reconstruction Project - Floating Bus Stops



# Safety Review

- April 2017: Construction completed
- July 4, 2018: the Canadian Federation of the Blind filed a BC Human Rights Tribunal Complaint alleging that the floating bus stops discriminated against blind people

Request: installation of chicanes/maze gates



TNS retained to provide an expert opinion on the safety of the bicycle facility on Pandora Avenue

## Part 1

Cycling facility design

- Separation
- Travel of direction: one-way vs two-way facilities
- Placement: access points, connectivity, destinations

## Part 2

Bus stop configuration and pedestrian crossings

- Prevailing guidance
- Treatments installed
- Examples of similar facilities

# Safety Review – Overall Safety



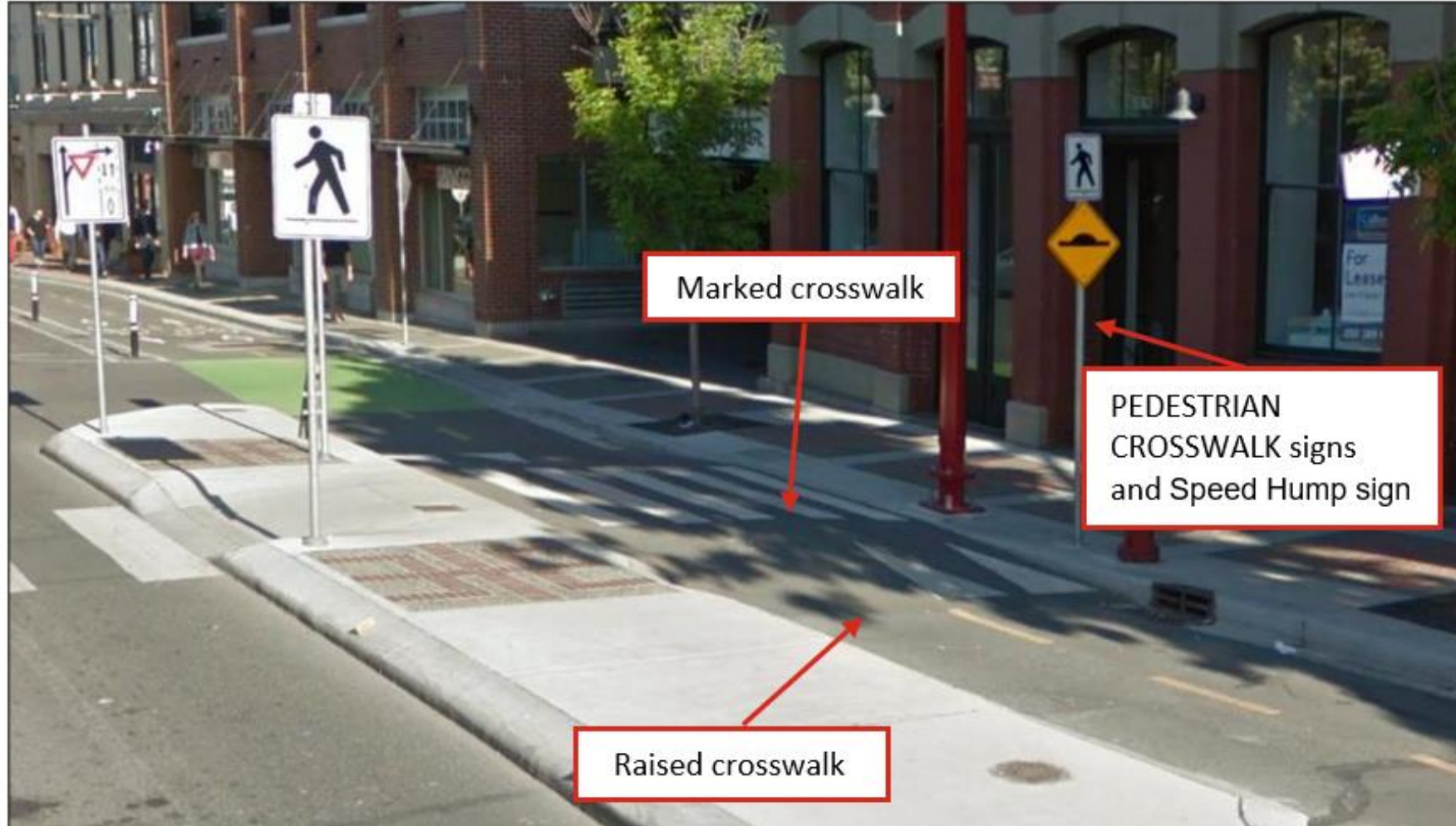
Before



After



# Safety Review – Pedestrian Crossings



# Safety Review – Recent Changes



# Safety Review – Examples



**Queens Quay West at Bay St. east side,  
Toronto**



**Rue Rachel Est at de Lorimier, Montréal, QC**



**Rue Jarry at Avenue Christophe Colomb,  
Montreal, QC**



**Sherbook Street at Westminster Avenue, Winnipeg, MB**

## Ruling on B.C. bus stops reflects cities' 'terrible' track record on accessibility, plaintiff says



'Floating' bus stops used by many cities discriminate against blind people, human rights tribunal finds



Bethany Lindsay · CBC News · Posted: Nov 21, 2020 6:00 AM PT | Last Updated: November 21, 2020



VANCOUVER ISLAND | News

## BC Human Rights Tribunal upholds complaint that Victoria bike lanes discriminate against the blind



Adam Chan Associate Digital Producer, CTV News Vancouver Island  
[Contact](#)

Published Friday, November 13, 2020 1:18PM PST  
Last Updated Friday, November 13, 2020 5:14PM PST



Previous report: Victoria seeks to dismiss bike lanes complaint



Members of Victoria's blind community say the city has created a dangerous problem with the design of its new bike lanes: (Dec. 12, 2018)

## Complainant's Case

*“Totally blind people and those with significant vision impairment **are unable to see an approaching cyclist in the Pandora Bikeway**”*

*They are **dependent on their sense of hearing to know if a cyclist is approaching and if it has stopped.***

*Frightened and anxious about crossing to the Floating Stop because [they] could not hear the cyclists*

*Required to shout loudly to indicate [they were] about to cross the Stop Crosswalk and had no confidence [they] could be heard”*

# Overall Safety

*“[140] The Complainant suggests that the **Stop Crosswalks have resulted in a net increase in conflict issues**; however, the evidence of Mr. Nolet and others makes it clear that there is a **significant concern about the higher speed conflict areas involving motor vehicles versus cyclists** over the low speed conflict issues between pedestrians and cyclists.*

*I find that the decision to place the **Pandora Bikeway on the north side of Pandora was a sound one.**”*

# Design Guidance

*“The bikeways are compliant with the Design Guide.*

*The evidence viewed in totality leads to an inevitable conclusion that the Design Guide does not consider or recognise the issue which is the subject of the Complaint.*

*No discussion is engaged at any point of the Design Guide respecting the safety of visually impaired pedestrians crossing a Stop Crosswalk to a Floating Stop who are unable to hear cycle traffic.*

*[148] I find therefore that in the period from the opening of the Pandora Bikeway to the date of this decision the City has discriminated against the Class at the Pandora Floating Stops.”*

# Accommodations

- A. Convert the Floating Stops back to curbside bus stops;
- B. Move the Pandora Bikeway to the south side of Pandora Avenue;
- C. Install a railway style crossarm to stop traffic on the Bikeway;
- D. Automated bicycle detection to alert vision impaired persons bicycles have stopped;
- E. Utilise an underpass or bridge to the Floating Stops;
- F. Install a chicane or bollards to further slow cycle traffic; and
- G. Use volunteer crossing guards such as at school crossings to stop approaching bicycle traffic.

# Accommodations



# Accommodations

*“I find that the **pedestrian activated audible flashing yellow is a reasonable accommodation of the issue** raised by this complaint at this point in time.*

*The solutions advanced by the Complainant all **create undue hardship for the City or are not proven technology for the purposes for which they are being advanced.***

*However, the use of the audible flashing light is not a full answer either. It satisfies the BFRJ requirements at this point in time but **does not mean the City should not implement technologies that would provide fully guaranteed protection for blind pedestrians** if such solutions become available in the future and would not result in undue hardship to the City.”*

## Implications

- **Local impact on existing facilities:** installation of flashing beacon system at each crossing on Pandora
- **Future facilities in BC:** hesitation to install floating bus stops in Victoria and BC
- **Complaints:** more complaints could be filed about existing floating bus stops
- **Design guide:** may require some changes related to the people involved in the development of design guides

# BC Active Transportation Guide (2019)

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# Implications

- Future facilities in Canada
- **Research** on how to better accommodate people with reduced visibility

Thank You  
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