

Ensuring Complete Streets rather than Compete Streets

City of Kitchener

OPWA - ROW Conference

October 12, 2023

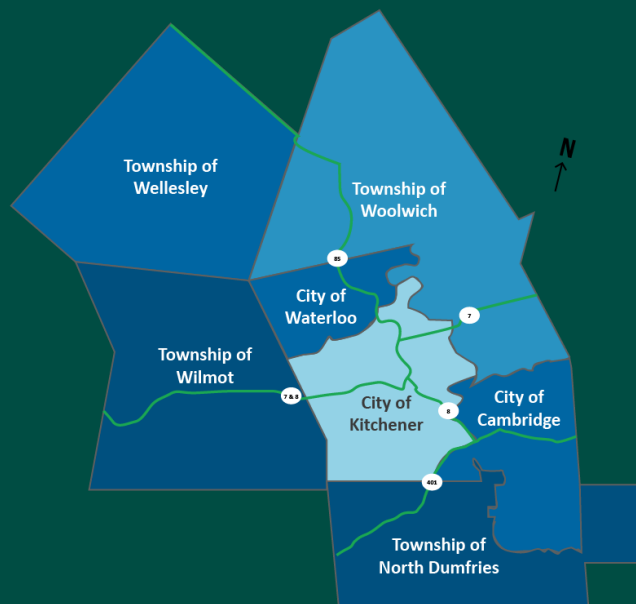


Barry Cronkite
Director – Transportation
Services



Roslyn Lusk
Director – Operations, Roads &
Traffic

Fun facts about Kitchener



10%

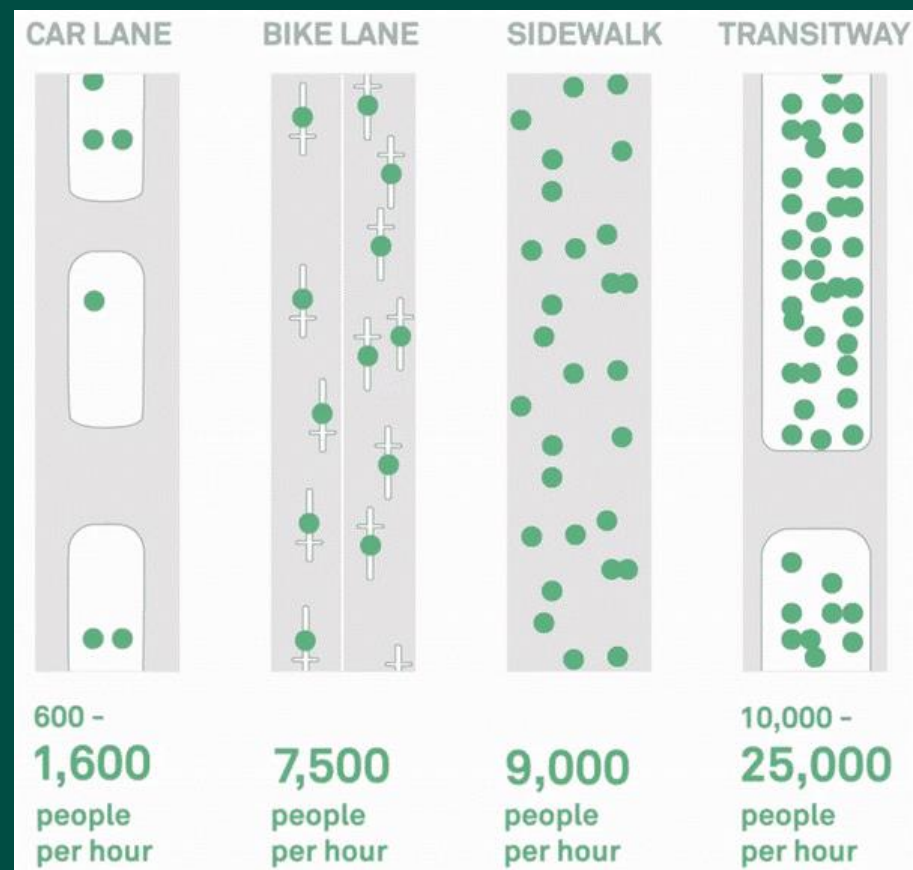


Today's presentation

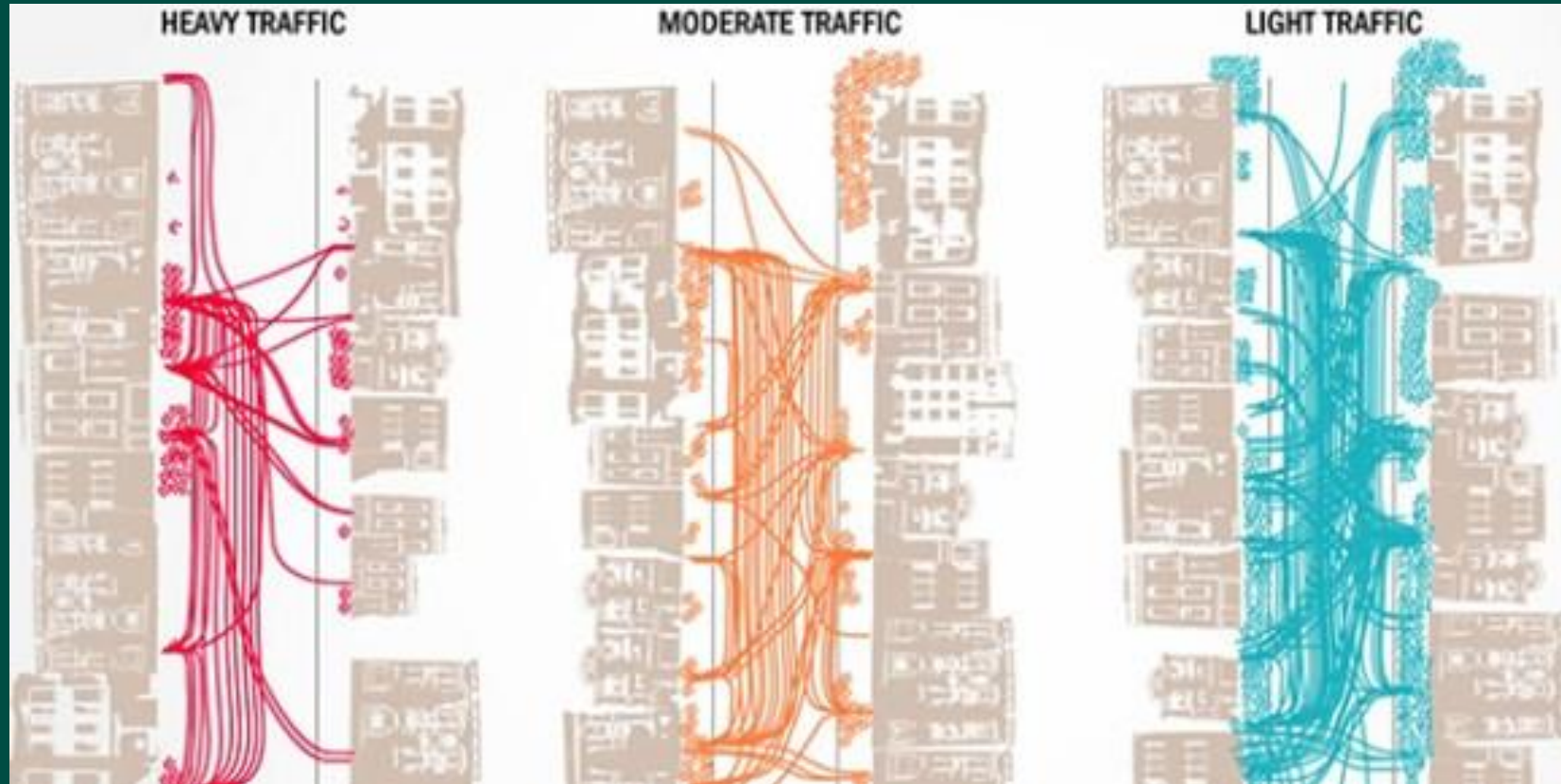
1. Why Complete Streets?
2. Competing aspects
3. Kitchener's Complete Streets approach
4. Building support
5. What's changing in Kitchener
6. Operational Impacts

Why Complete Streets?

Streets and movement



Streets and neighbourhood belonging



Competing Aspects



PUBLIC HEALTH AND SAFETY

- Fire Response
- Emergency Medical Services Response



CRITICAL SERVICE DELIVERY

- TRANSPORTATION
- Drinking water
- Electricity
- Gas
- Telecommunications
- Wastewater management
- Stormwater management
- Waste Management





ENVIRONMENTAL

- MODAL SHIFT TO ACTIVE TRANSPORTATION
- Tree canopy targets
- Salt Management
- Groundwater infiltration



OPERATIONS AND MAINTENANCE

- Ensure Public Health and Safety
- Ensure Critical Services Delivered
- Ensure Environmental Stewardship





Kitchener's Complete Streets Approach

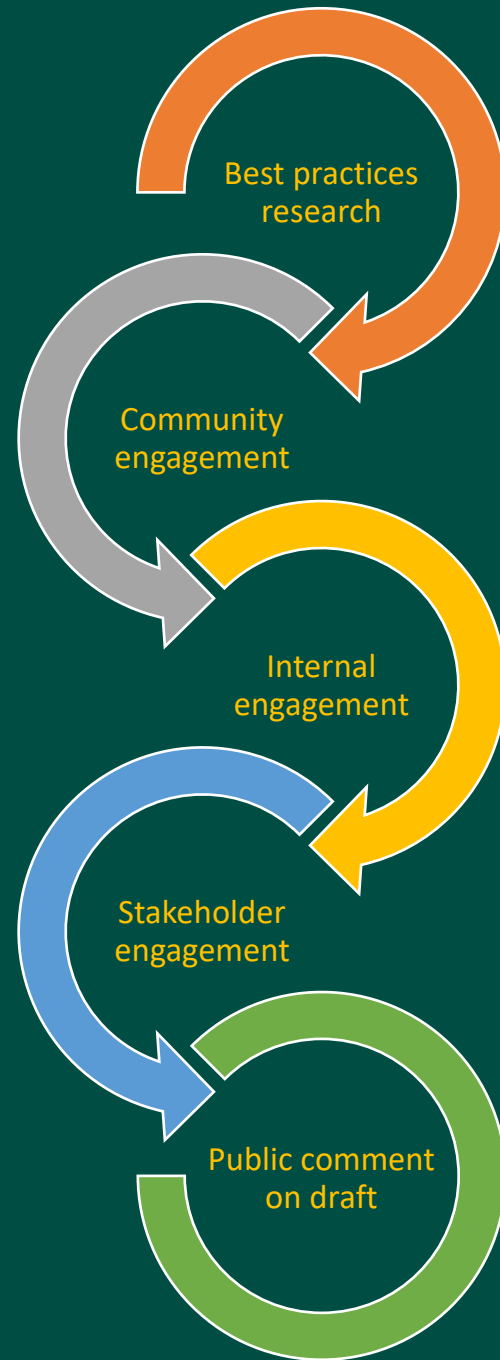
Complete Streets vision

Every street in Kitchener is
safe, comfortable and convenient
for all.



Building support for Complete Streets

Our process



Best practices

Address common concerns:

- Winter – are these changes maintainable?
- Active Transportation facilities - Will they come?
- Are all these changes an attack on cars?



Community engagement

- Partnership with Wilfrid Laurier University
- Targeted different ages, abilities and modes of transportation
- 610 residents engaged





Internal engagement –
time to tackle complete
vs. compete!

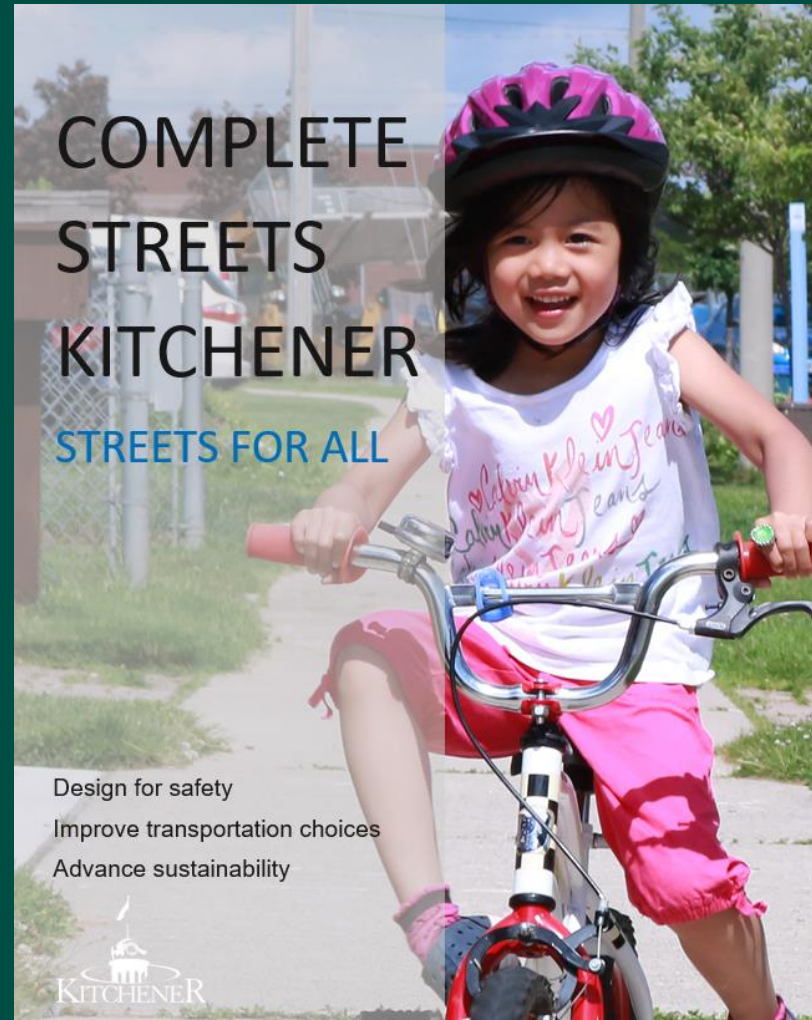
- Project team
- “Large vehicles”
workshop
- Rounds of
comments

Stakeholder engagement

- Utilities Coordinating Committee
- Region of Waterloo
- Grand River Accessibility Advisory Committee
- Waterloo Region Homebuilders' Association

The result? Complete Streets Guidelines

- Safety
- Choices
- Sustainability



So what's changed in
Kitchener?

Street classifications

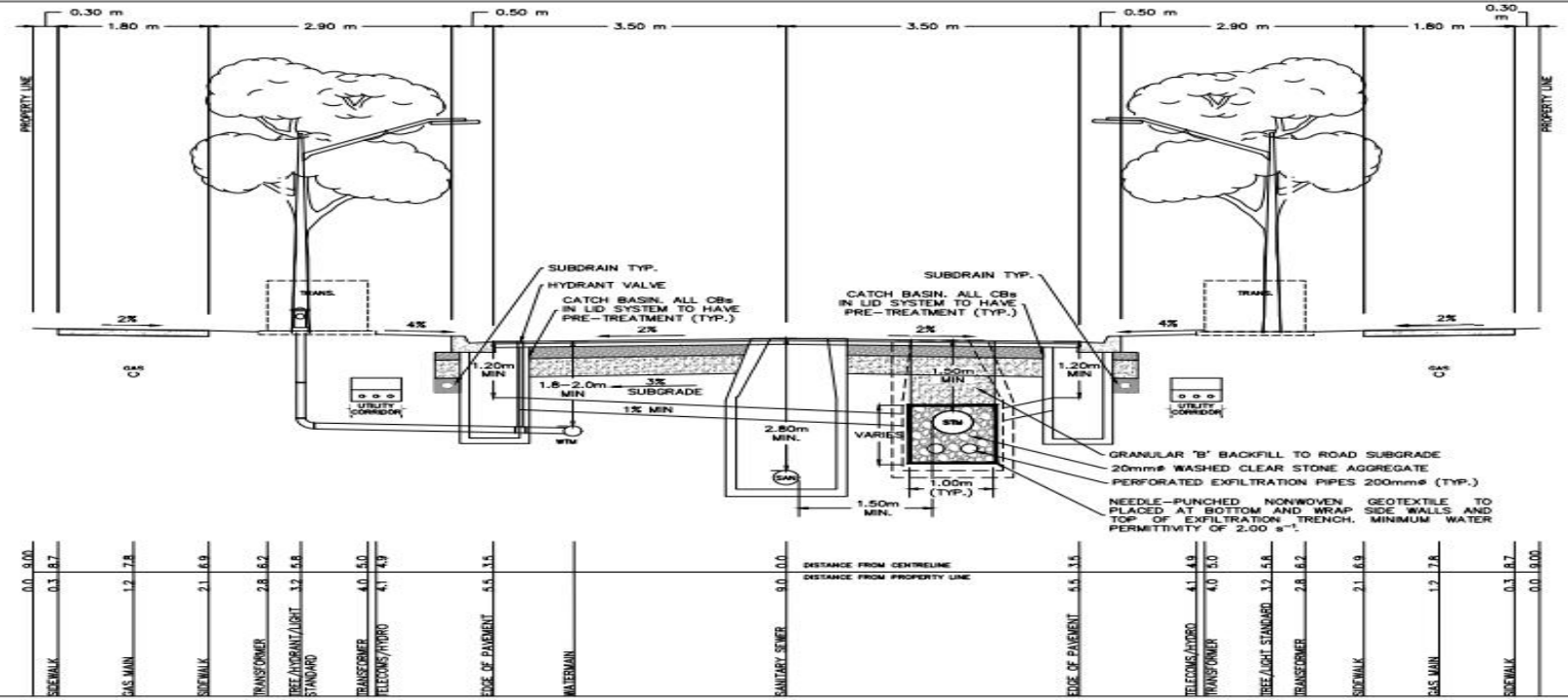


Local Street



0.3m 1.8m 2.9m 0.5m 7.0m 0.5m 2.9m 1.8m 0.3m

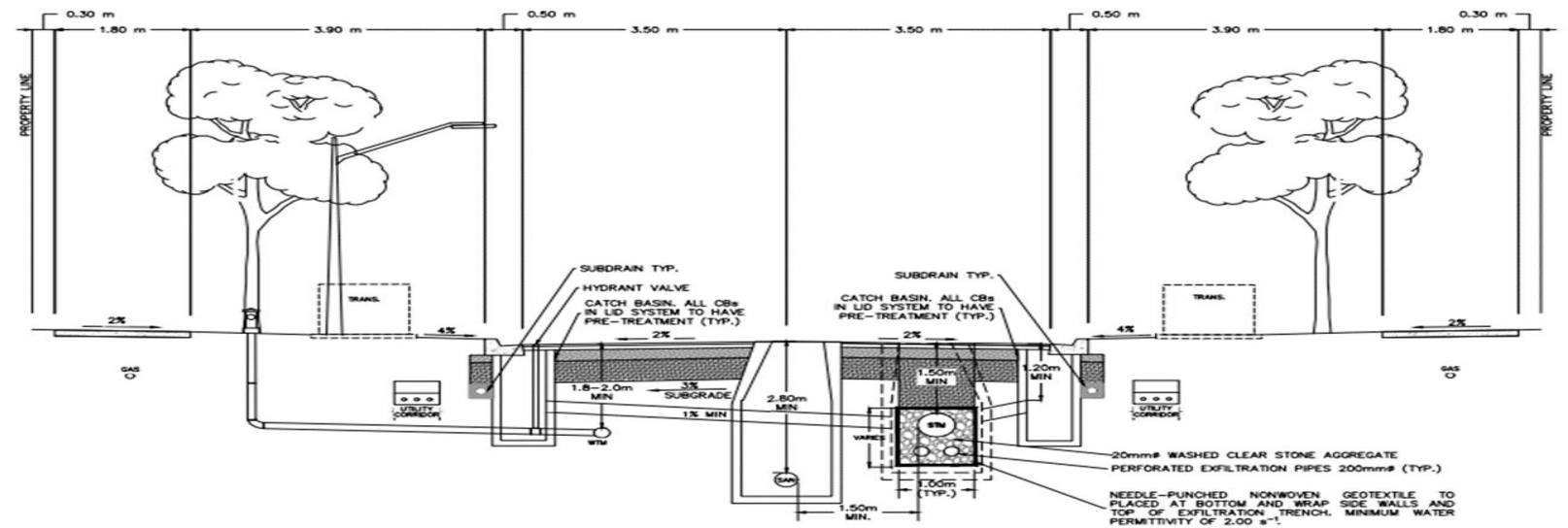
Local Street Preferred



Minor Collector

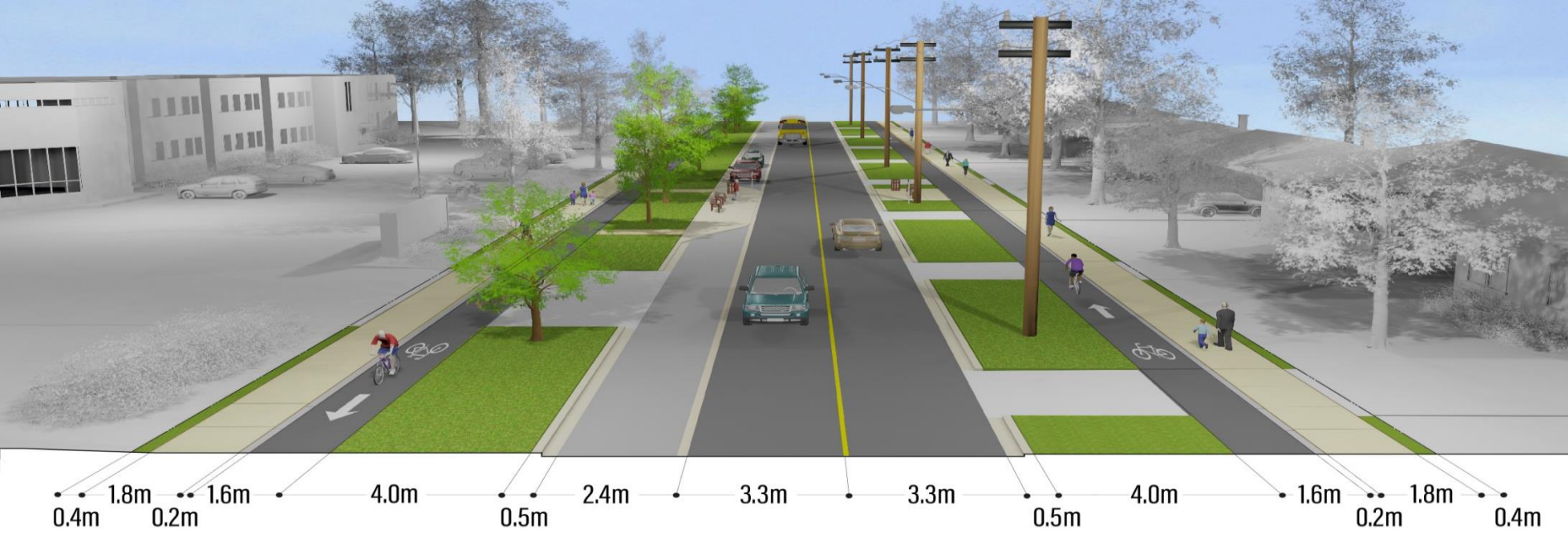


0.3m 1.8m 3.9m 0.5m 7.0m 0.5m 3.9m 1.8m 0.3m

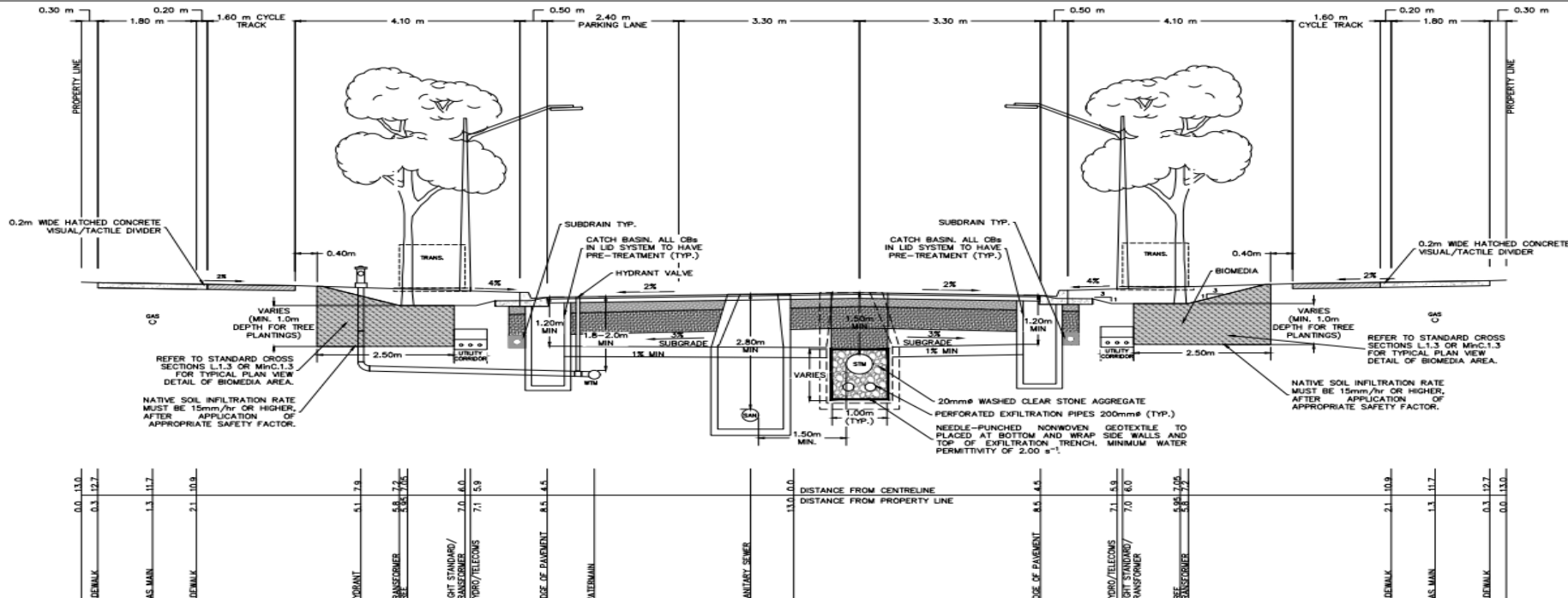


0.0	10.0	0.0	10.0
SIDEWALK	0.1 0.7	0.0	0.0
GAS MAIN	1.2 8.8	10.0	10.0
SIDEWALK	2.1 7.9	0.0	0.0
TREE/HYDRANT	2.9 7.1	0.0	0.0
TRANSFORMER	3.8 6.2	0.0	0.0
LIGHT STANDARD	4.0 6.0	0.0	0.0
TRANSFORMER	5.0 5.0	0.0	0.0
HYDRANT/TELECOMS	5.1 4.9	0.0	0.0
EDGE OF PAVEMENT	6.5 3.5	0.0	0.0
WATER MAIN		0.0	0.0
SANITARY SEWER	10.0 0.0	0.0	0.0
DISTANCE FROM CENTRELINE		0.0	0.0
DISTANCE FROM PROPERTY LINE		0.0	0.0
EDGE OF PAVEMENT	6.5 3.5	0.0	0.0
HYDRANT/TELECOMS	5.1 4.9	0.0	0.0
TRANSFORMER	5.0 5.0	0.0	0.0
TRANSFORMER	3.8 6.2	0.0	0.0
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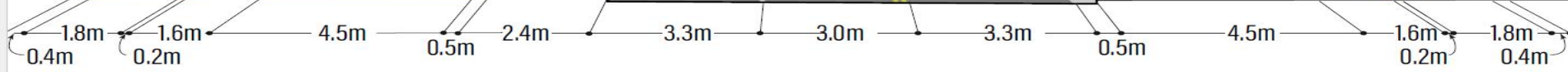
Major Collector



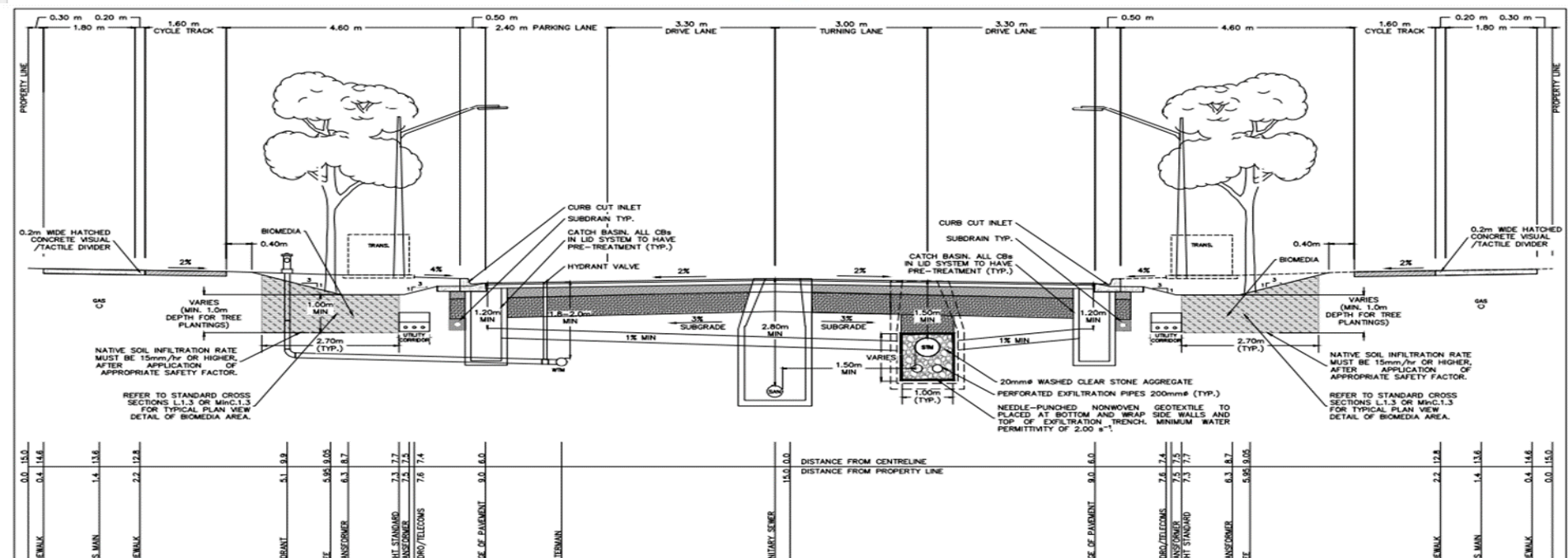
Major Collector Preferred



Arterial Thoroughfare



Arterial Thoroughfare Preferred



Key design changes



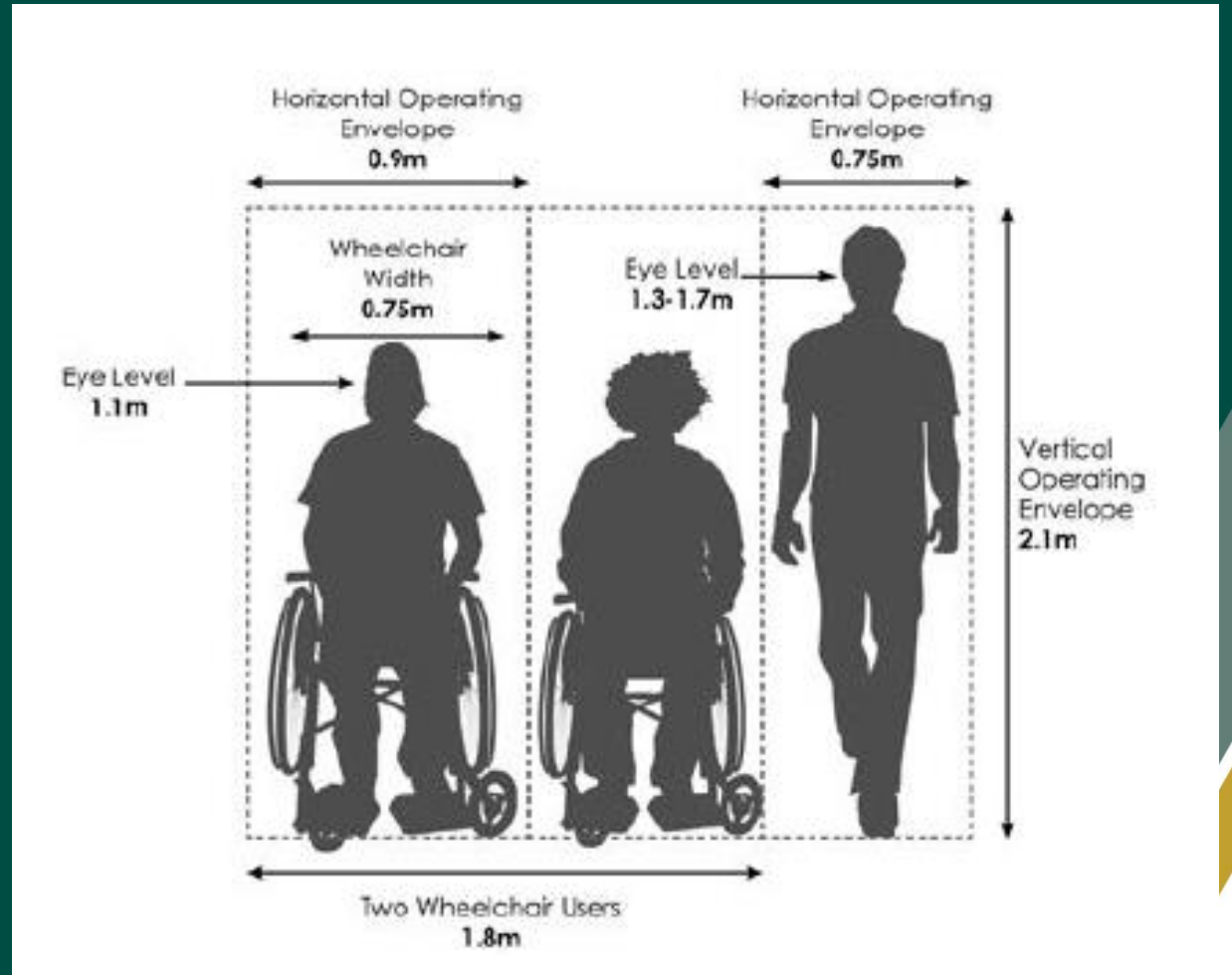
Narrower lanes

“Researchers consistently found a reduction in speed with decreases in lane width and vice versa.”



Wider sidewalks: 1.8 m

- Improving pedestrian realm top theme in public engagement
- Enough space for two strollers/wheelchairs
- 1.8 m recommended by Institute for Transportation Engineers
- Waterloo, Waterloo Region, Calgary, Ottawa, Edmonton, Saskatoon, Niagara have at least 1.8 minimum



Corner radii reduced: 6.0 – 8.0 m



All ages and abilities cycling

Separated bike lanes



Cycle tracks



Boulevard multi-use trails



Before & after scenarios

Street	Cambridge Avenue		
Project limits	Bruce to Sherwood		
Street classification	Local		
Right of Way width	20		

Current strengths	
Sidewalks exist both sides	
Low motor vehicle volumes (AADT: 483)	
Parking both sides	
Wide boulevards	

Current challenges	
Slightly higher speeds for a local street (85th: 46-50 km/h)	
Difficult school crossing at Krug Street (distance and high speeds)	
Uncomfortable crossing at Sherwood entrance to school	
Few street trees	

Current overall score		14.4
Percent of max score		58%
Pedestrian*		2.6
Cycling		3
Transit		
Motorized vehicles		3.3
Green		2.50
Sense of Place		3

Proposed upgrades	
Widen sidewalks to 1.8 m	
Narrow pavement to 7.0 m	
Widen boulevards	
Plant more trees	
Tighten turning radii and narrow crossing distances	

Potential impacts	
Loss of parking on one side	
Expected reduce in speeds for narrower pavement width and curb extensions	

Capital impacts	
Less cost for narrower pavement width	
Higher cost for wider sidewalks	

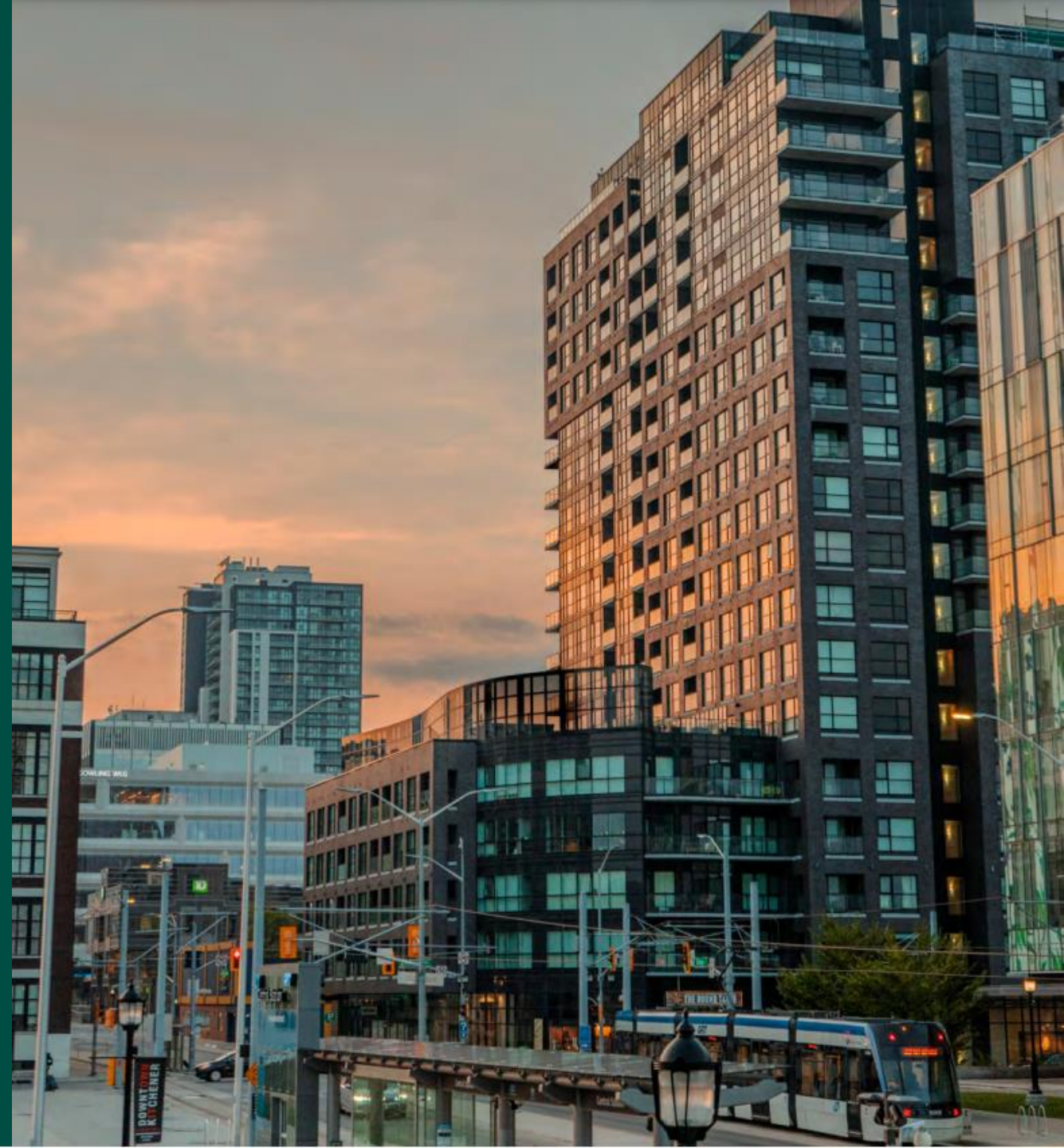
Operating impacts	
Tighter roadscape for snow plows	

Potential Overall score		17.2
Percent of max score		69%
Pedestrian		3.4
Cycling		3.5
Transit		
Motorized vehicles		4.3
Green		3
Sense of Place		3

Operational Impacts

Changing Look of Kitchener

	2017	2022
# of Residential Units	2691	5019



New Infrastructure Related to Complete Streets

- 4.7 km Side-Running LRT
- 3.5 km Separated Bike Lanes
- 60 km Multi-Use Paths
- 18 km Multi-Use Trails
- 29 km Bike Lanes (with no snow storage)
- 11 km Downtown Sidewalks



Minimum Maintenance Standards – The MMS

highway includes a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle, any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof;

bicycle lane means,

- (a) a portion of a roadway that has been designated by pavement markings or signage for the preferential or exclusive use of cyclists, or
- (b) a portion of a roadway that has been designated for the exclusive use of cyclists by signage and a physical or marked buffer;

roadway means the part of the highway that is improved, designed or ordinarily used for vehicular traffic, but does not include the shoulder, and, where a highway includes two or more separate roadways, the term “roadway” refers to any one roadway separately and not to all of the roadways collectively

sidewalk means the part of the highway specifically set aside or commonly understood to be for pedestrian use, typically consisting of a paved surface but does not include crosswalks, medians, boulevards, shoulders or any part of the sidewalk where cleared snow has been deposited;

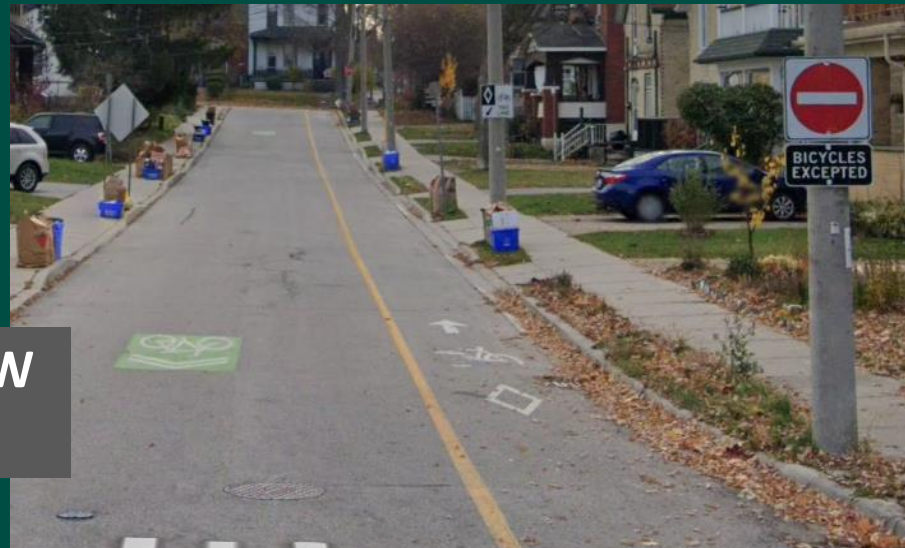
Complete Streets with On-Road Cycling Facilities



BIKE LANE



SHARROWS



**CONTRA-FLOW
BIKE LANE**

Complete Streets with On-Road Separated Cycling Facilities



Complete Streets with Off-Road Facilities



SIDEWALKS



MULTI-USE PATHS

Minimum Maintenance Standards – The MMS

Roadway

Class of Highway	Depth	Time
1	2.5 cm	4 hours
2	5 cm	6 hours
3	8 cm	12 hours
4	8 cm	16 hours
5	10 cm	24 hours

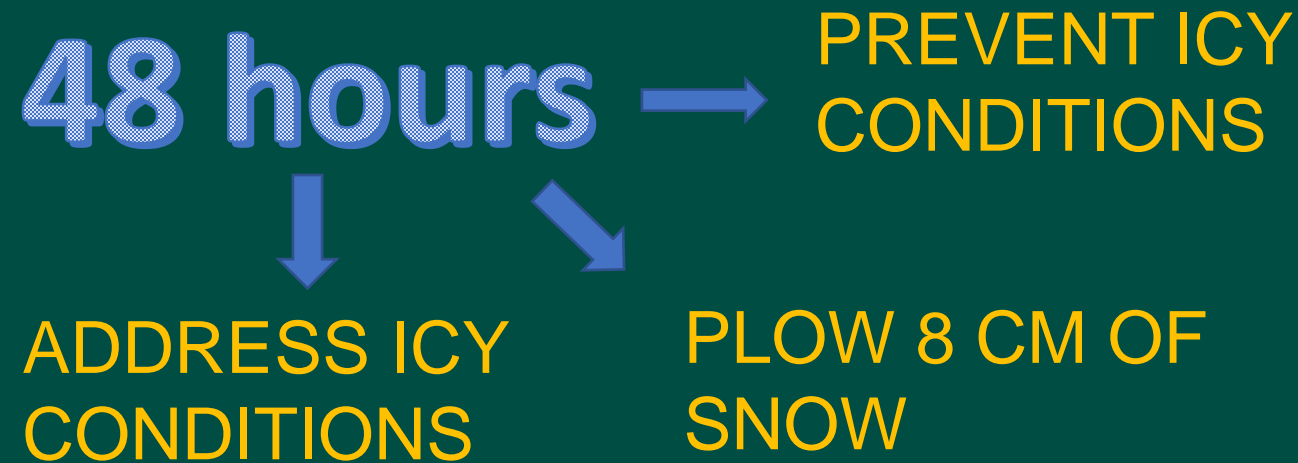


Bicycle Lanes

Class of Highway	Depth	Time
1	2.5 cm	8 hours
2	5 cm	12 hours
3	8 cm	24 hours
4	8 cm	24 hours
5	10 cm	24 hours

Maintenance Standards – The MMS

Sidewalks and Multi-use Paths within the ROW



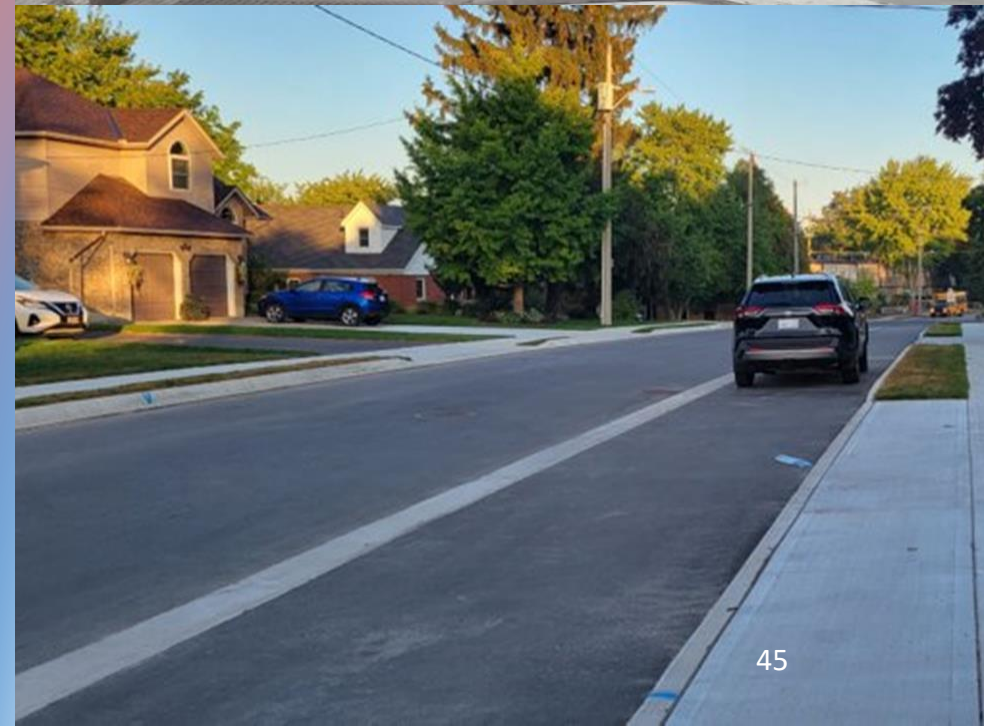
Maintenance Considerations for Complete Streets





Maintenance Considerations for Complete Streets

Maintenance Considerations for Complete Streets



One Road – 3 Winter Maintenance Routes



46

Operational Changes Required for Complete Streets Success

SNOW LOADING



2017 - \$100 k
LRT Snow Loading Night Shift
One Crew

2019 - \$350 k
City Bike Lanes Snow Loading

2021 - \$500 k
+Region Bike Lanes Snow Loading
2 crews + Supervisor

2021 - \$50 k
+Downtown Separated Bike Lanes
and City Hall

Snow Loading Priorities

- cycling lanes
- along LRT routes
- in downtown core areas (commercial areas)
- at select intersections of roadways
- in areas of City with limited snow storage available in the boulevard
- where travel lane widths are compromised



New Complete Street Infrastructure - 2023

Final Thoughts on Ensuring Complete Streets rather than Compete Streets

Questions?