

Elk Street Traffic Calming & Cycling Facility Review

Presentation to Town of Aylmer Council

April 5, 2023

AGENDA ITEM #5.3.2

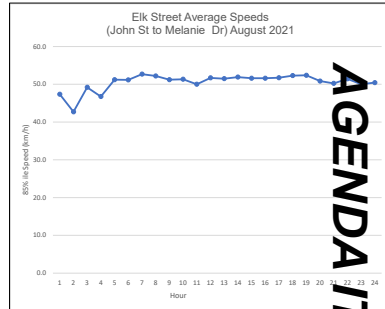
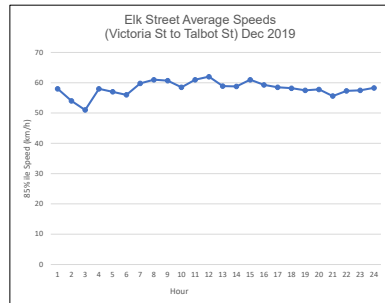
Presentation Overview

- ▶ Existing Conditions
- ▶ Background Context
- ▶ Cycling Facility Assessment
- ▶ Traffic Calming Opportunities
- ▶ Design Alternatives for Elk Street
- ▶ Recommendations

Existing Conditions

► Volumes and Speeds (2019)

Segment	John Street to Melanie Drive	Victoria Street to Talbot Street
Average Daily Traffic	2,275	1,852
Speed Limit	40 km/h	50 km/h
85%ile Speed	50.6 km/h	58.2 km/h
Over Speed Limit	20.9%	61.1%
Average Speed of Speeding Traffic	54.7 km/h	56.9 km/h
AM Peak Volume	127 (11-12 am)	150 (9-10 am)
PM Peak Volume	225 (5-6 pm)	197 (4-5 pm)



- School area and lower speed limit influencing speeds
- Higher rate of speeding east of Victoria Street
- Average speeds relatively uniform throughout the day
- 85%ile means 85% of vehicles are travelling at or below that speed
 - usually referred to as the “free flow” or desired speed of motorists”

Elk Street Characteristics

- Lane Collector Road
- 10 intersections
- 2 Schools
- Community Safety Zone
- 40km/h – 50 km/h Speed Limit
- On Street Parking
- 1,900 – 2,300 vehicles per day



Existing Conditions

► Origin – Destination Patterns

Origin-Destination Pattern	AM PEAK (8-9 am)		PM PEAK (2:30–4:00 pm)	
Through Traffic	100	40.0%	122	29.2%
Traffic To / From Local Residences	14	5.6%	68	16.3%
Traffic To / From Side Roads	136	54.4%	227	54.5%
Total Recorded Vehicles	250		417	

- Through traffic is between 30% and 40% of total volume
- Higher rate of through traffic in the morning
- Over half of traffic uses Elk Street to access sideroads
- Pattern is consistent with Collector Road designation

What do these categories mean?

Through Traffic

- Drove from John Street to Talbot Street E – no stops

To / From Local Residences

- Stopped at a residence or entered from a residence on Elk St

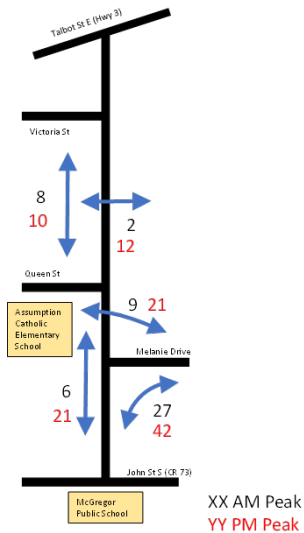
To / From Side Roads

- Turned onto sideroad or entered from sideroad



Existing Conditions

▶ Pedestrians



▶ Parking Activity

Section	Cars Parked Friday December 2		
	North Side	South Side	Total
John Street to Melanie Drive	0	0	0
Melanie Drive to Queen Street	0	0	0
Queen Street to Victoria Street	2	3	5
Victoria Street to Talbot Street East	4	2	6
Total	6	5	11

Date	Cars Parked Thursday December 8		
	North Side	South Side	Total
John Street to Melanie Drive	0	0	0
Melanie Drive to Queen Street	0	0	0
Queen Street to Victoria Street	0	1	1
Victoria Street to Talbot Street East	1	2	3
Total	1	3	4

- Highest parking demand / length of stay on south side
- Highest parking activity east of Queen Street
- School oriented pedestrian activity (higher in afternoon)
- Pedestrian crossing demand east and west of Queen Street

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Parking Review

Friday Dec 2

Thursday Dec 8

Monday Dec 26 (Boxing Day)

Parking Review considered number of vehicles observed and length of stay



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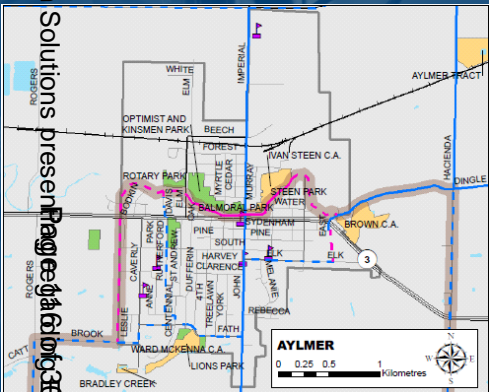
Paradigm Transportation Solutions of the City of Regina, presenting a parking study for 30th Street Project...

Background Context

- ▶ Why is a cycling facility being considered?

- Elgin County / St Thomas Active Transportation Plans have identified Elk Street as part of a cycling network through Aylmer
- Aylmer Official Plan
 - clear policy direction that supports the provision of sidewalks, trails, bike lanes and other infrastructure to support Active Transportation as part of new developments and through municipal infrastructure projects
- Elk Street provides connectivity for the eastern portion of the community and links the fairgrounds, to local schools on Elk Street and to John Street South.

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Source: Elgin - St Thomas Active Transportation Initiative (Dec 2012 MMM Group)



Cycling Facility Assessment

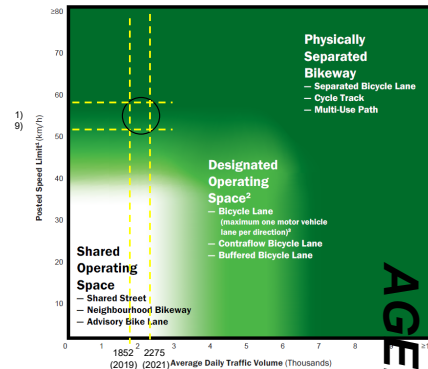
Ontario Traffic Manual Book 18

- Provincial standard for bicycle facility selection and design across Ontario
- Volumes and Speeds would suggest that a separate cycling lane or physically separated facility would be required

User Profile & Network Function

- A cycling facility that is attractive for users of All Ages and Abilities would be safer and generate higher use
- On Street Bike Lane or Multi-Use Path Design most appropriate for site conditions and users

Desirable Cycling Facility Pre-Selection Nomograph
Urban/Suburban Context (Step 1)



Factor	Shared Space	On Street Bike Lane	Multi-Use Path	Separated Cycling Track
OTM Book 18 Assessment	✗	✓	✓✓	
Suitable for All Ages and Abilities	✗	✓	✓✓	
Accommodate On-Street Parking	✓	✗	✓	
Maintenance Considerations	✓	✓	✗	
Fits within Available Right-of-Way	✓	✓	✓	
Safety	✗	✓	✓	
Carry Forward	✗	✓	✓	

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What does All Ages and Abilities Mean?

- All users feel safe
- All users feel comfortable (low stress)
- Equitable to all users regardless of ability or skill



Paradigm Transportation Solutions presents the results of the 30th Street Project...

Traffic Calming Opportunities

- ▶ 11 different categories of traffic calming measures typically used in Canadian Municipalities



- ▶ Vertical Deflection
- ▶ Horizontal Deflection
- ▶ Roadway Narrowing
- ▶ Surface Treatments
- ▶ Pavement Markings
- ▶ Access Restrictions
- ▶ Gateways
- ▶ Enforcement
- ▶ Education
- ▶ Shared Space
- ▶ Emerging Technologies

- ▶ Each have advantages and disadvantages
- ▶ Consider role of road, types of users, and key problems
- ▶ Most Vertical and Horizontal deflection treatments are not appropriate for a Collector Road

What is Traffic Calming?

Devices or design treatments intended to:

Reduce the negative effects of motor vehicle use, alter driver behaviour, and improve conditions for non-motorized street users.”

Traffic Calming Opportunities

- ▶ 8 opportunities identified for Elk Street

1. Add Sidewalks (both sides)

- best measure to address pedestrian safety
- reduces need to cross
- will be used if provided



2. Curb Radius Reduction

- slows traffic entering
- shortens cross walks



3. Curb Extensions

- narrows pavement, slows traffic,
- shortens cross walks, makes pedestrians more visible at crossings



Traffic Calming Opportunities

Paradigm Transportation Solutions presenting the results of the Street Project...

A PXO is special form of cross walk where pedestrians have the right of way over vehicles”

Lane narrowing and on-street parking both reduce the width of the road, make drivers feel more constrained, and can reduce speeds”



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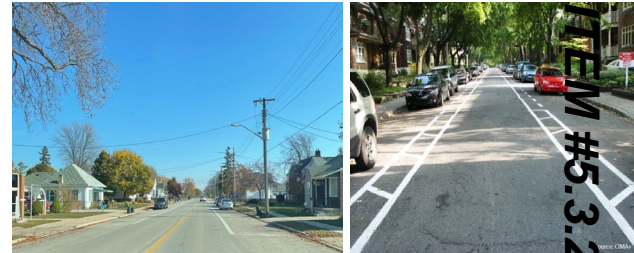
- 4. Enhanced Markings
 - draw attention to crosswalks
 - assign right-of-way (with PXO)
 - narrow lane width



- 5. Lane Narrowing
 - slows traffic



- 6. On Street Parking
 - narrows pavement, slows traffic
 - works best when parking area is well defined
 - Larger reduction in speed where demand is high and turnover is frequent

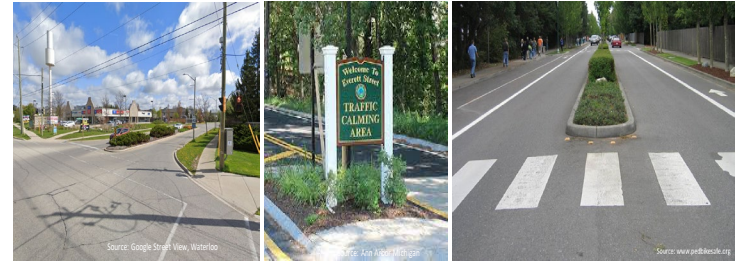


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Traffic Calming Opportunities

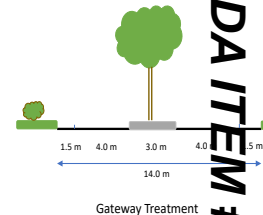
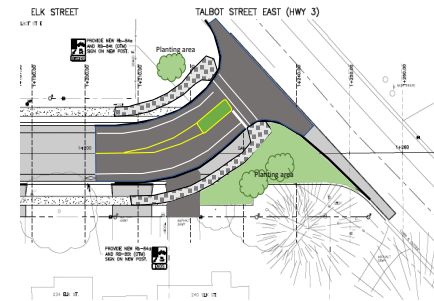
7. Gateway Treatment

- defines entry to neighbourhood
- changes character of road
- signs, medians, plantings



8. Realign Elk Street and Talbot Street

- Combine with gateway
- Reduces speed of entering vehicles
- Defines entry to neighbourhood
- Improves visibility for turns
- Reduces rolling stops



Would require approval of MTO

Talbot Street East (Highway 3) is owned by the Ontario Ministry of Transportation (MTO) and the Town has entered into a connecting link agreement to operate and maintain Talbot Street East through Aylmer.

Implementation of the realignment concept would require discussions and approval from the MTO.

Design Alternatives for Elk Street

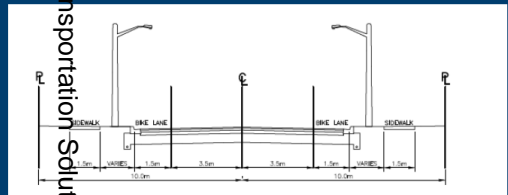
- ▶ On-Street Bicycle Lanes vs Multi-Use Path
- ▶ Various Configurations of Multi-use Path (north side, south side, hybrid)

The provision of a multi-use path on the north side of Elk Street is recommended:

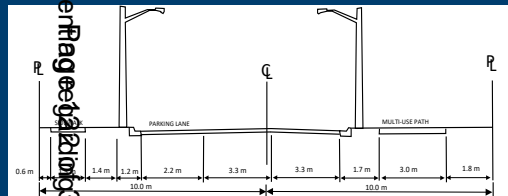
- ▶ Consistent with OTM Book 18 best practice
- ▶ Path is on same side as school
- ▶ Maintains parking lane on the south side of Elk Street
- ▶ Compatible with traffic calming measures
- ▶ Avoids relocation of main hydro pole line
- ▶ Fewest driveway conflicts
- ▶ Fewest boulevard parking spaces lost on driveways

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Paradigm Transportation Solutions presenting the Elk Street Project...



On Street Bike Lanes
Presented at Public Open House



Proposed Multi-Use Path



Recommendations

1. Add missing sidewalks
2. Provide 3.0 m wide Multi-Use Path on North Boulevard
3. Reduce Curb Radius at all intersections
4. Provide Curb extensions at Melanie Dr, Queen St and Victoria Street intersections
5. Add continuous solid yellow centreline
6. Use “Ladder Style” Crosswalks / “Cross Ride Style” Crosswalks (on Trail)
7. Add 2 “Type D” Pedestrian Crossovers (PXO) at Queen Street and Victoria Street
8. Restrict Parking with 15 m of crosswalks

Recommendations

9. Narrow lane width to 3.3 m
10. Provide 2.2 m parking lane on south side
 - designed as a parking bay in conjunction with curb extensions
11. Incorporate gateway treatment into redesign of Elk Street / Talbot Street East intersection
 - 3.0 m median, signage, plantings
12. Work with MTO to seek approval for realignment of Elk Street / Talbot Street intersection
13. Eliminate westbound right turn lane at Victoria St
14. Incorporate accessibility standards at all cross walks
 - depressed curb ramps, tactile indicator plates, etc

Costs

- ▶ Traffic Calming measures estimated at \$189,000

Item	Total
Curb Radius Reduction	Included in Road Work ¹
Curb Extensions	Included in Road Work ¹
Talbot Street Realignment	Included in Road Work ¹
Traffic Calming Sign	\$600.00
PXO Type D (incl signs & markings)	\$10,000.00
Centerline Pavement Marking	\$6,000.00
Ladder Crosswalk Pavement Markings	\$3,600.00
Cross Ride Crosswalk Markings	\$5,000.00
Wc-37 Trail Crossing Warning Signs	\$1,200.00
Gateway Median Island	\$15,000.00
Gateway Plantings (require MTO Approval)	\$11,000.00
Eliminate 1.5 m Sidewalk and Replace with 3.0 m Asphalt Path (Extra Cost)	\$111,600.00
Sub Total	\$164,000.00
Contingency - 15%	\$24,600.00
Total	\$188,600.00

Costs are offset by savings in asphalt due to narrowing of lane widths



Recommended Design Concept

JOHN STREET SOUTH

ELK STREET

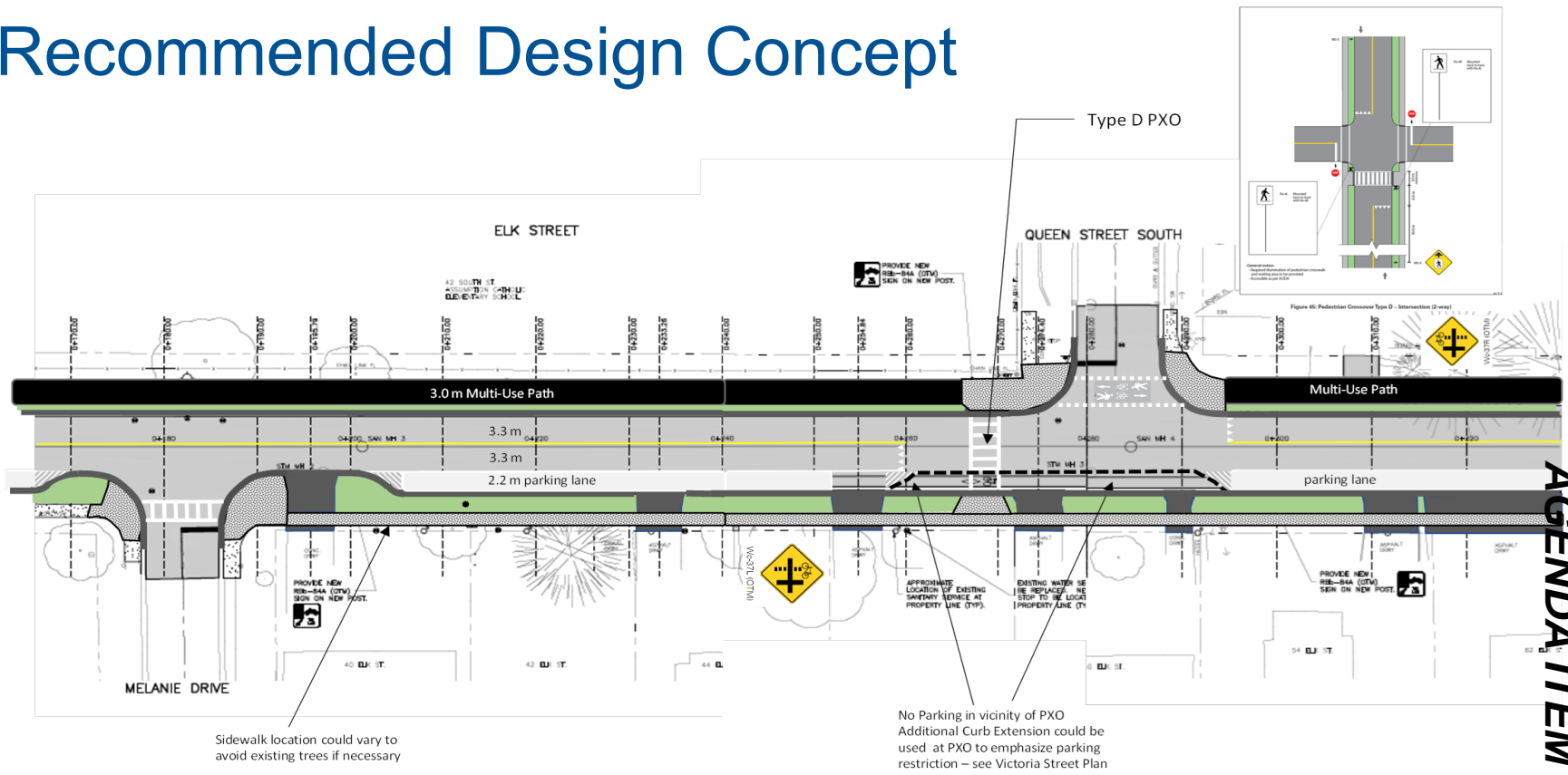


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Recommended Design Concept

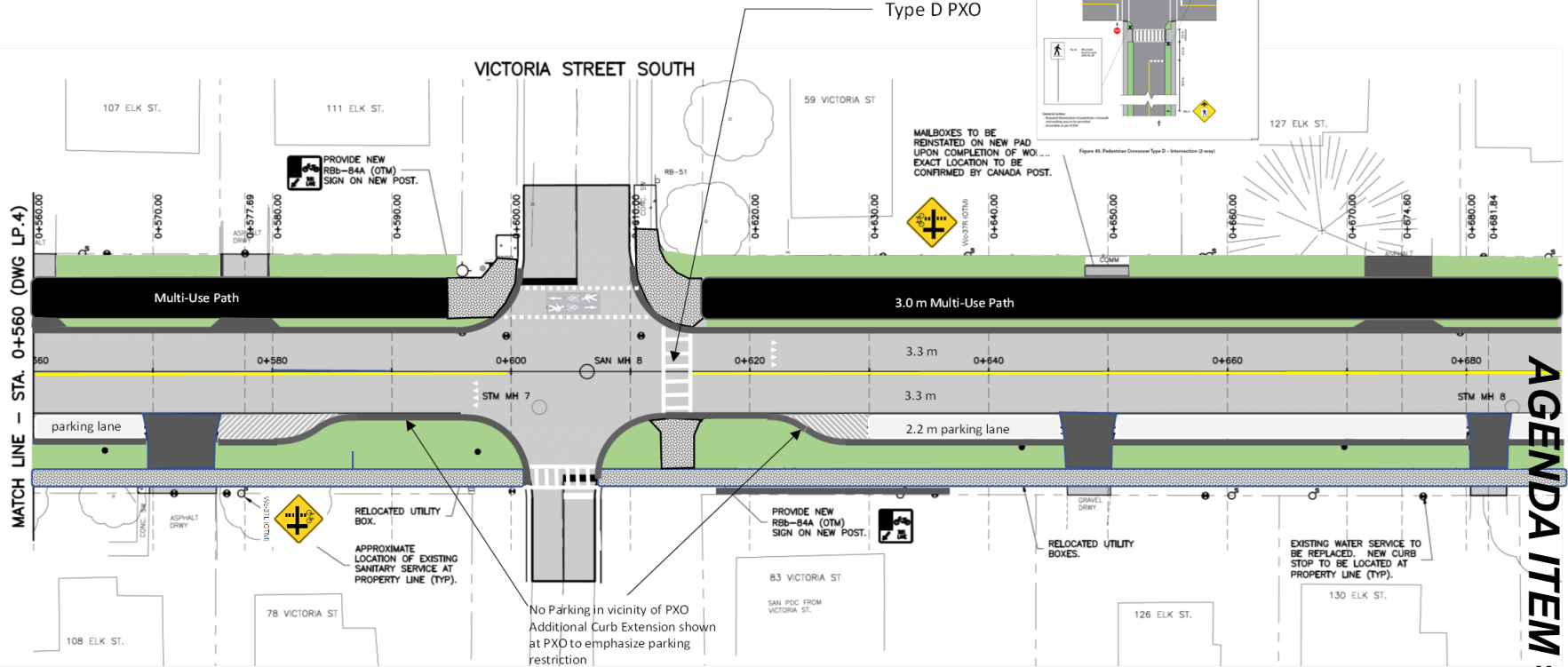


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Recommended Design Concept

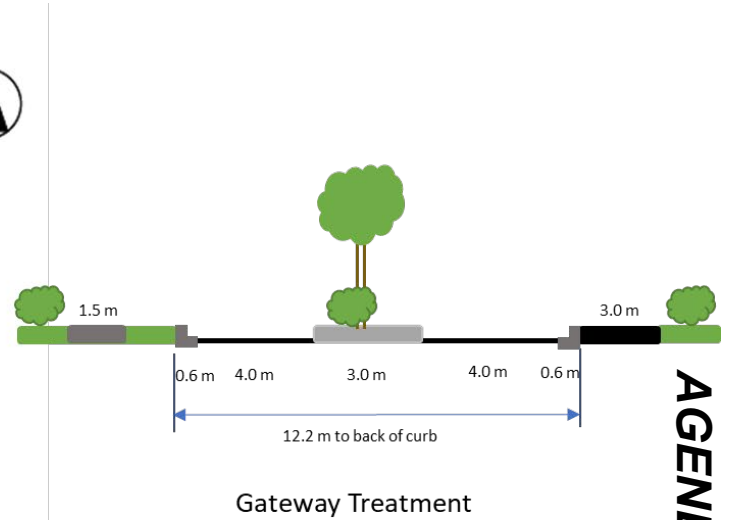
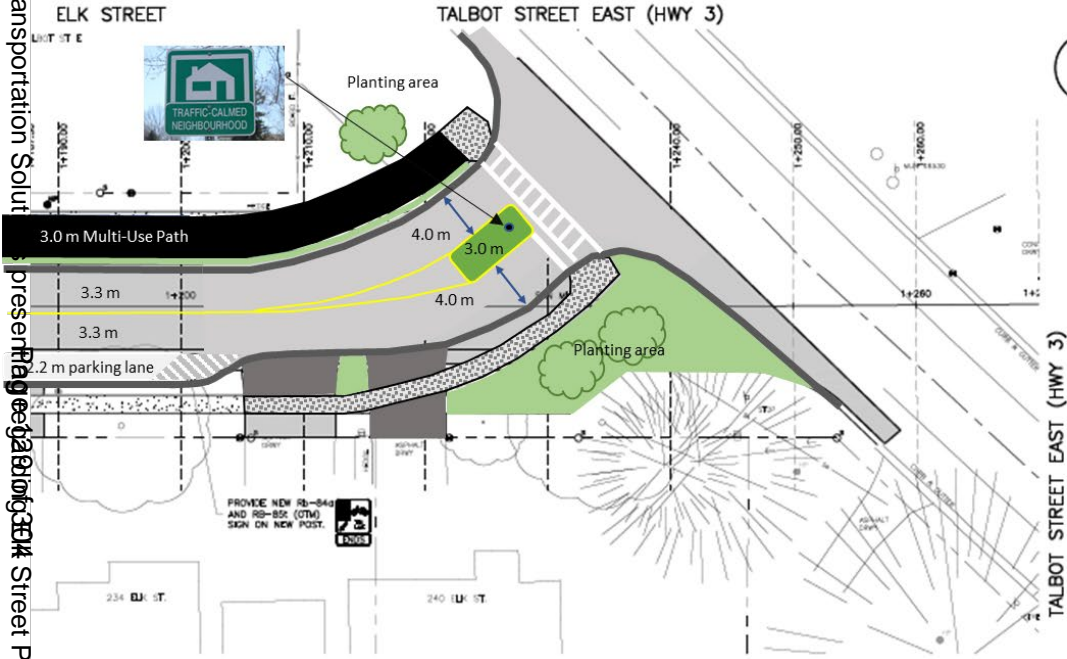


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Recommended Design Concept

Paradigm Transportation Solutions
Presenting the Recommended Design Concept for the 330M Street Project



Subject to MTO Approval

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people. planet.

TESLA

Questions?

The Uptown LOOP



BIKE ROUTE

↑ Erb Street
0.12 km 0.5 min

← Public Square
0.13 km 0.5 min

→ Laurel Trail /
Sourline Trail

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productivity.



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premier. partners.