

# PUBLIC MEETING

ROYAL YORK ROAD  
RECONSTRUCTION PROJECT  
MIMICO CREEK TO ASHLEY ROAD

CITY OF TORONTO  
FEBRUARY 16, 2005

# UMA ENGINEERING LTD.

- **RETAINED BY CITY TO COMPLETE DETAILED DESIGN**
- **DESIGN SERVICES TO INCLUDE:**
  - **Road pavement reconstruction**
  - **Sidewalk replacement as necessary**
  - **Watermain replacement**
  - **Wastewater main replacement as necessary**
  - **Storm sewer replacement as necessary**
  - **Streetlighting review**
  - **Streetscape improvements**
- **PRESENT STATUS:**
  - **Preparing comprehensive plans of existing topographic, geotechnical and utility conditions**
  - **Existing tree location, size, species and condition being reviewed in conjunction with arborist retained by City**
  - **Reviewing road safety issues in conjunction with road safety audit consultant**

# ROAD PAVEMENT CROSS-SECTION ALTERNATIVES

## ISSUES TO BE REVIEWED

- Traffic, cyclist and pedestrian safety
- Sidewalk width and location
- Tree preservation
- Pavement width and number of vehicle lanes
- Bicycle lanes
- Curb and gutter
- Streetscape improvements
- Streetlight conditions
- Stormwater management opportunities

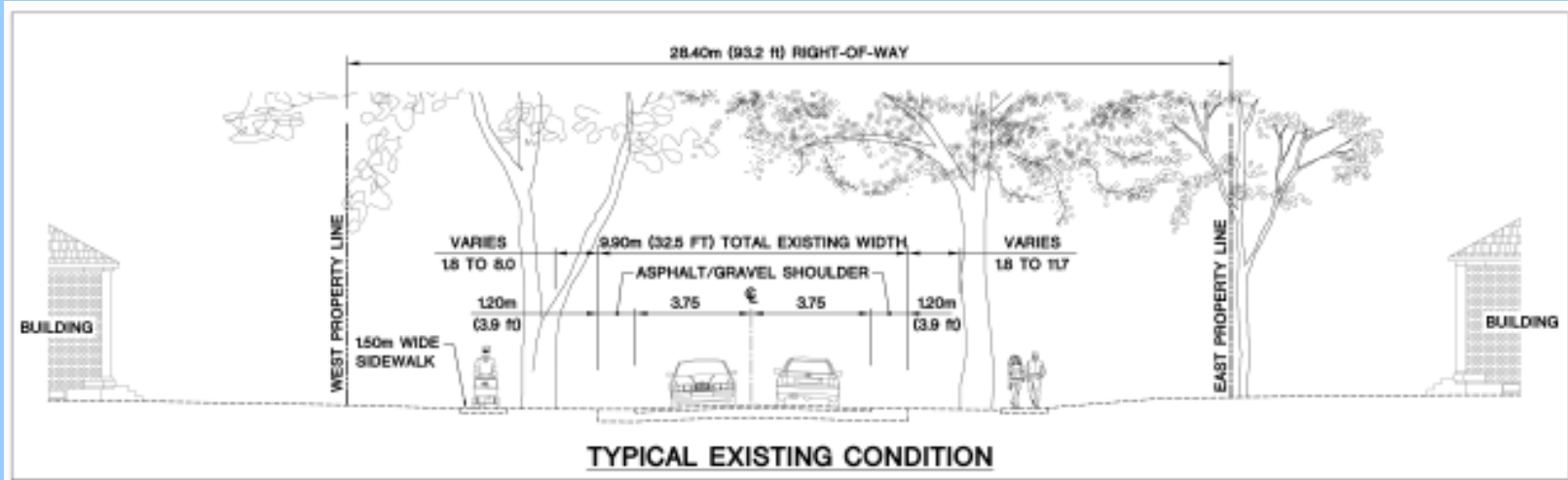
## TYPE OF ALTERNATIVES REVIEWED

- Typical locations, one each south and north of Bloor (Usher to Ashley may differ)
- Seven (7) types of section at each location
- Six (6) types including curb and gutter
- One (1) type including ditches

# TYPICAL EXISTING CONDITION

- **Arterial road**
- **High traffic volumes (approx. 20 - 25,000 vehicles/day)**
- **Travel speed concerns**
- **Inconsistent pavement width**
- **7.0 to 7.5 m vehicle driving width (2 lanes)**
- **0.5 to 2.0 m asphalt/granular shoulder areas outside of driving lanes**
- **8.5 to 9.9 m total pavement width**
- **Poor pavement conditions**
- **Poor drainage conditions**
- **Relatively flat grade increasing south to north**
- **Numerous existing trees**
- **Sidewalk both sides, non-standard sidewalk width south of Bloor**
- **Generally non-curb and gutter condition**
- **Inconsistent swales/ditches direct drainage to catchbasins/storm sewers**

# TYPICAL EXISTING CONDITION

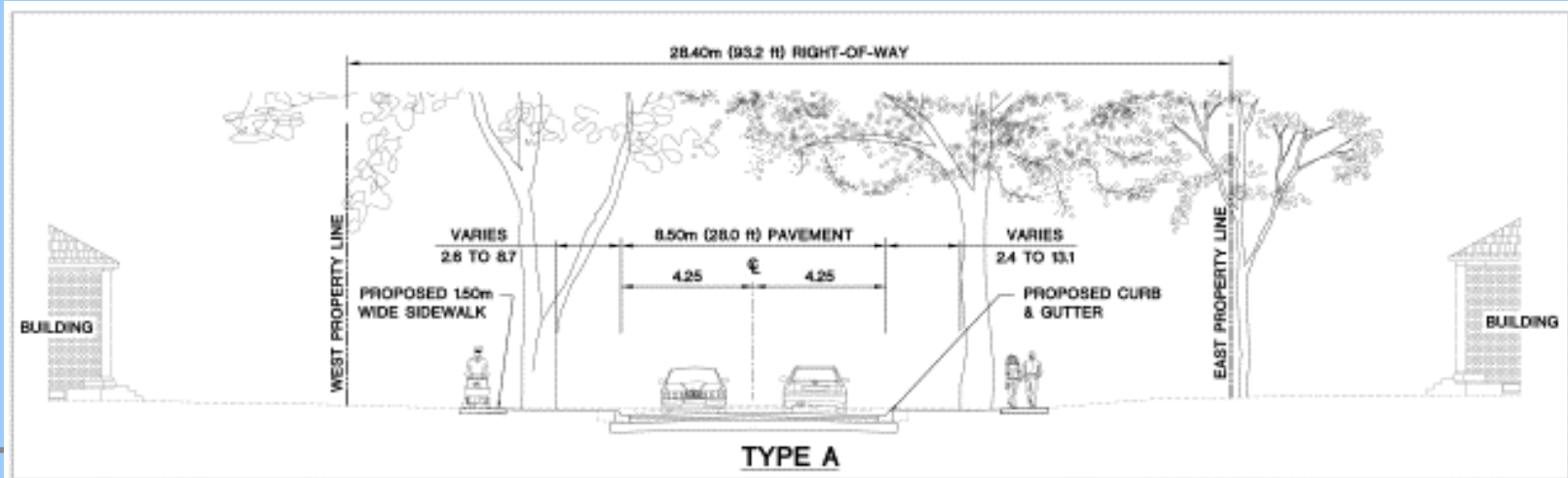


# DETERMINATION OF PROPOSED SECTIONS

- **Significant number to reflect alternate configurations**
- **Urban and rural sections**
- **Two (2) and three (3) lane sections**
- **Bike lane requirements**
- **Emergency vehicle needs**
- **Complete range of options even if some are not expected to be suitable**

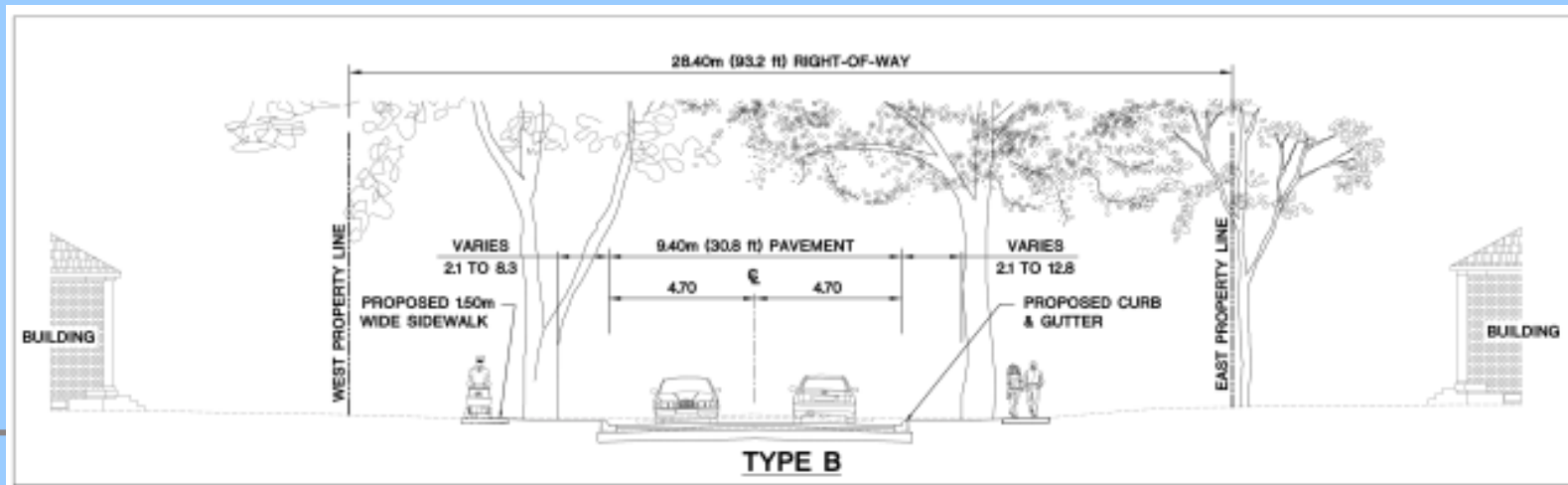
# PROPOSED TYPE A SECTION

- 8.5 m pavement width
- Curb and gutter
- 1.5 m wide sidewalks both sides
- Bike lanes not included, Level D
- Increased driving lane width compared to existing
- Removal of swales/ditches

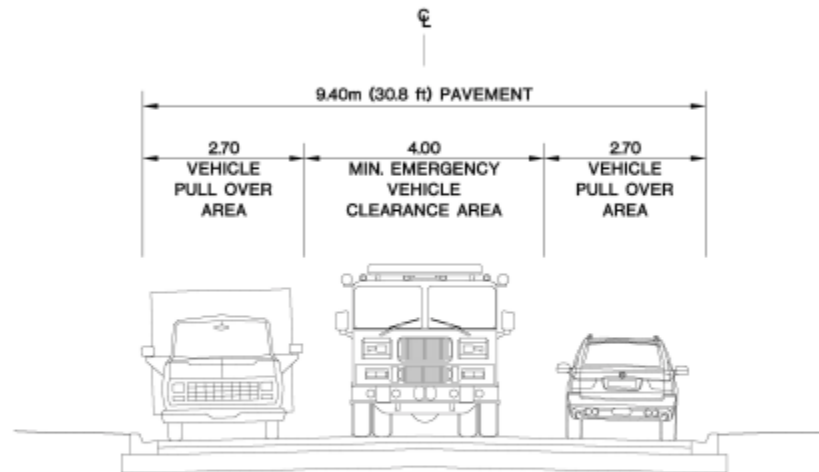


# PROPOSED TYPE B SECTION

- 9.4 m pavement width
- Curb and gutter
- 1.5 m wide sidewalks both sides
- Bike lanes not included, Level D
- Increased driving lane width compared to existing
- Removal of swales/ditches
- Pavement width required to provide minimum 4.0 m wide clearance area required for emergency vehicles with other vehicles stopped on each side of roadway



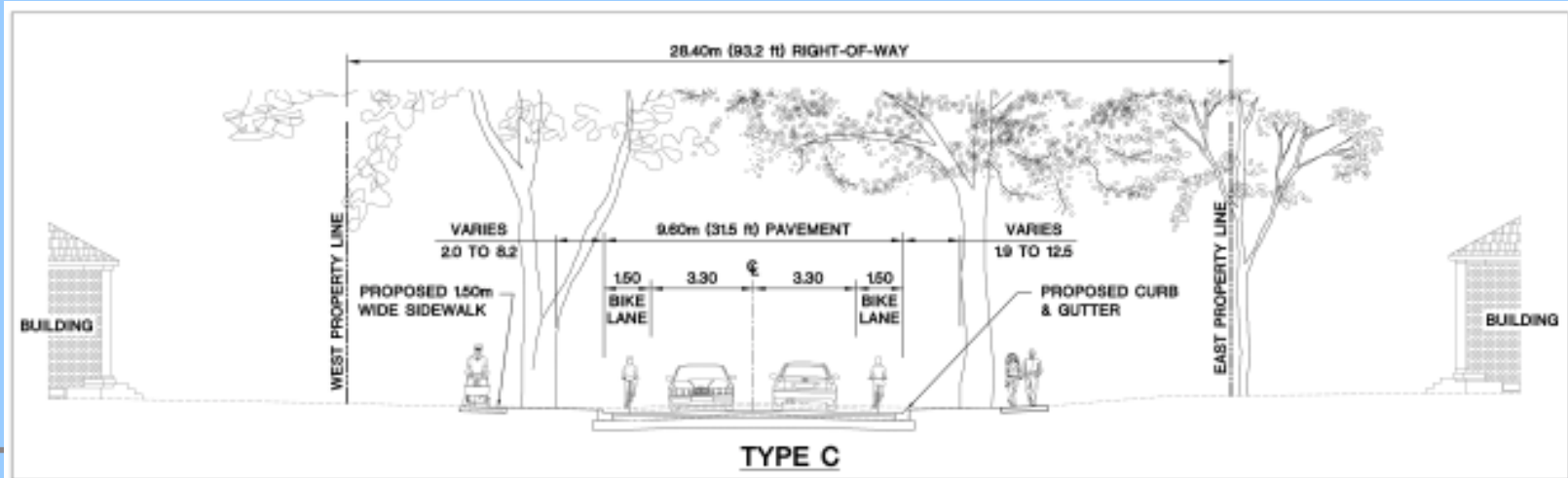
# EMERGENCY VEHICLE CLEARANCE AREA



NOTE: PAVEMENT SCENARIO SHOWN IN TYPE B 2-LANE PROPOSED SECTION.

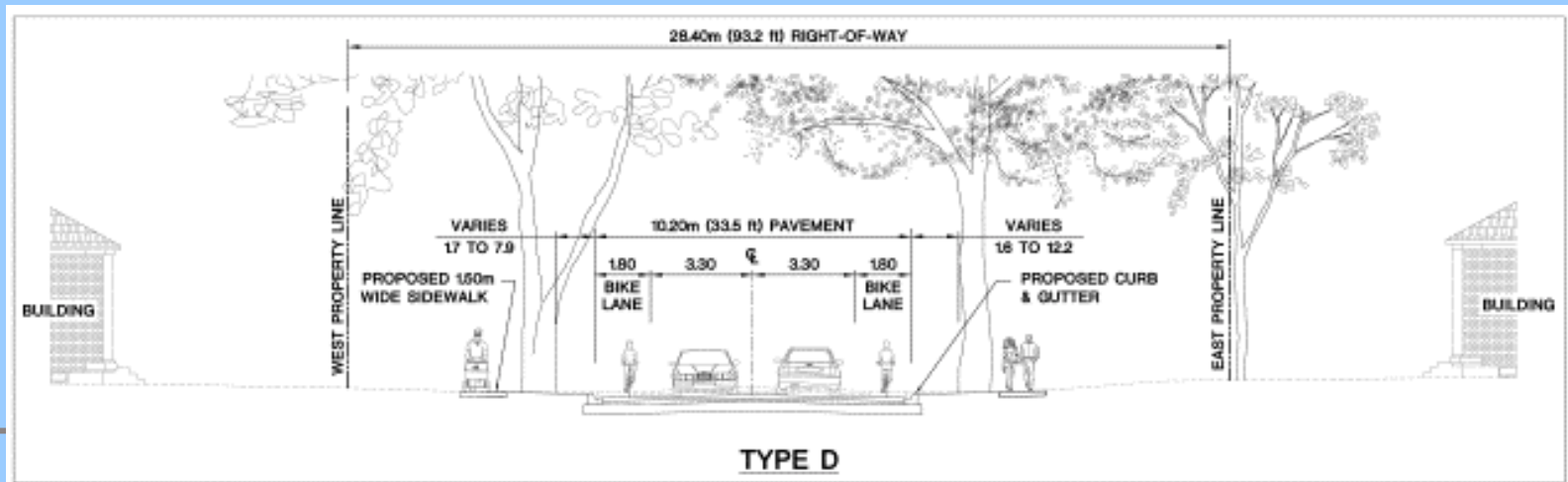
# PROPOSED TYPE C SECTION

- 9.6 m pavement width
- Curb and gutter
- 1.5 m wide sidewalks both sides
- 1.5 m wide bike lanes included each side, Level C
- Reduced driving lane width compared to existing
- Removal of swales/ditches



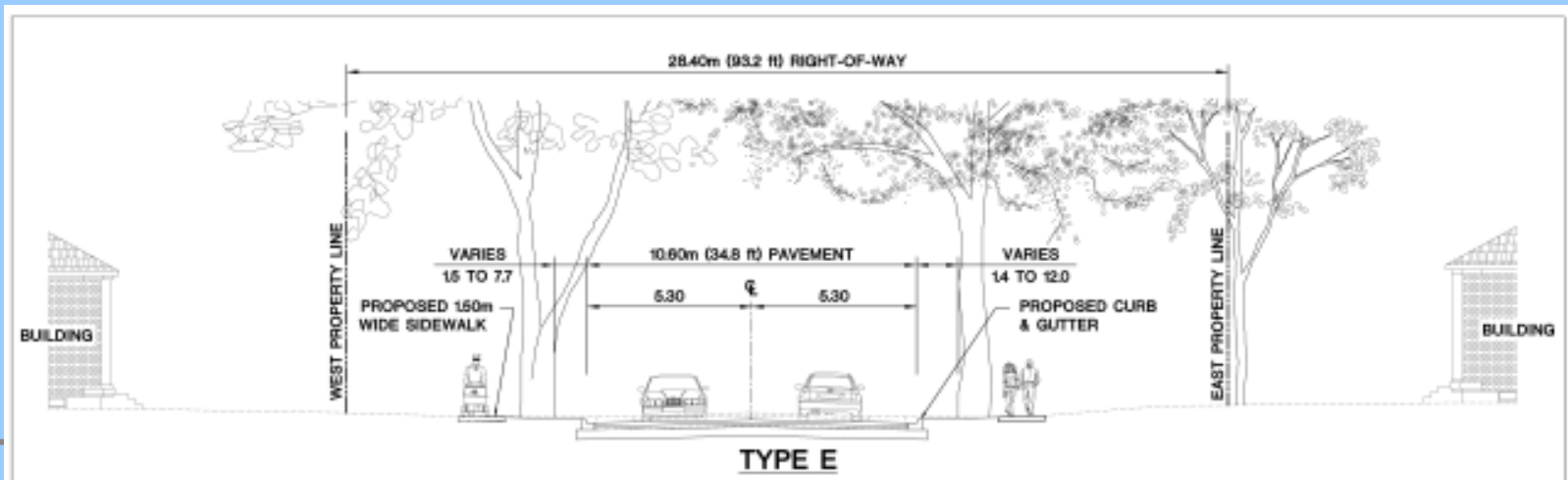
# PROPOSED TYPE D SECTION

- 10.2 m pavement width, standard minimum width with bike lanes
- Curb and gutter
- 1.5 m wide sidewalks both sides
- 1.8 m wide bike lanes included each side, Level C
- Reduced driving lane width when compared to existing
- Removal of swales/ditches



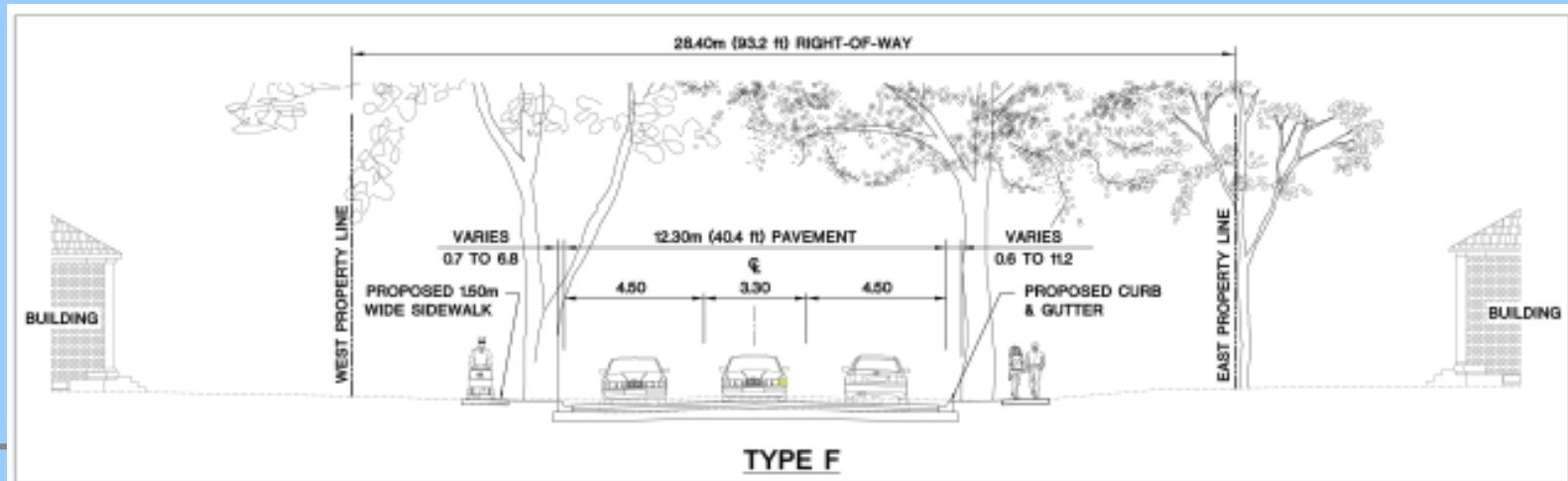
# PROPOSED TYPE E SECTION

- 10.6 m pavement width
- Curb and gutter
- 1.5 m wide sidewalks both sides
- Bike lanes not included but section considered bike friendly, Level C
- Increased driving lane width compared to existing
- Removal of swales/ditches



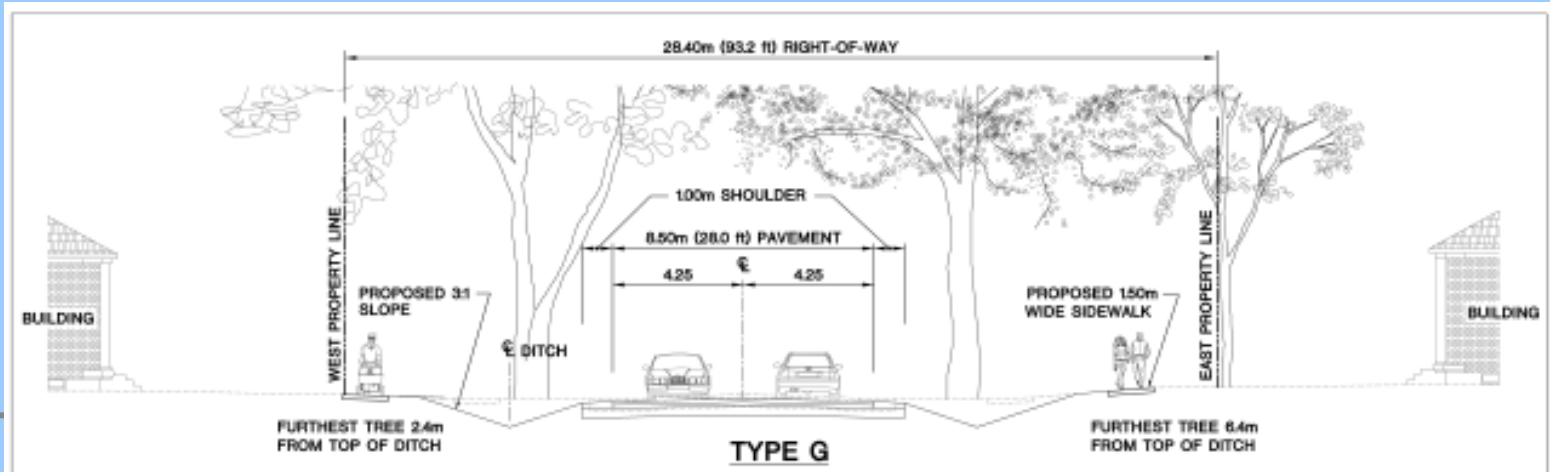
# PROPOSED TYPE F SECTION

- 12.3 m pavement width
- Curb and gutter
- 1.5 m wide sidewalks both sides
- Bike lanes not included, Level D
- Auxiliary continuous centre left turn lane included
- Increased driving lane width compared to existing
- Removal of swales/ditches



# PROPOSED TYPE G SECTION

- 8.5 m pavement width
- 1.0 m paved shoulder area each side
- Road ditches each side to depth required to drain road pavement
- Curb and gutter not included
- 1.5 m wide sidewalk both sides
- Bike lanes not included, Level D
- Increased driving lane width compared to existing
- Drainage would continue to be directed to existing sewers
- Impact area approximately 15.3 m to limit of ditch slopes



# EVALUATION OF PROPOSED SECTIONS

- **Cross Section Evaluation Matrix**
- **Listing of issues reviewed within identified criteria**

# CROSS SECTION EVALUATION MATRIX

X-Sections Evaluation Criteria	Existing Condition 8.5m to 9.9m	Type A 8.50m	Type B 9.40m	Type C 9.60m	Type D 10.20m	Type E 10.60m	Type F 12.30m	Type G 8.50m
Traffic Safety	3.5	2.5	2.0	2.0	2.0	2.0	1.5	3.0
Cyclist Safety	3.5	2.5	2.5	1.5	1.5	2.0	2.5	3.0
Pedestrian Safety	3.5	2.5	2.5	2.0	2.0	2.5	2.0	3.0
Preservation of Existing Trees	1.5	2.0	2.5	2.5	3.0	3.0	3.5	4.0
Traffic Operation	4.0	2.5	2.5	2.0	2.0	2.5	1.5	3.0
Emergency Vehicle Access	3.0	4.0	2.5	2.5	2.5	2.0	1.5	2.5
Transit Operation	3.5	2.5	2.5	2.5	2.5	2.5	2.0	3.0
Adjacent Property Impact	1.0	2.0	2.0	2.0	2.5	2.5	3.5	4.0
<b>Total</b>	<b>23.5</b>	<b>20.5</b>	<b>19.0</b>	<b>17.0</b>	<b>18.0</b>	<b>19.0</b>	<b>18.0</b>	<b>25.5</b>

## Ranking

1 - Excellent

2 - Good

3 - Fair

4 - Poor

# TRAFFIC SAFETY

- **Pavement conditions**
- **Pavement width and number of lanes**
- **Sight distance**
- **Horizontal and vertical alignment**
- **Travel speed**
- **Collisions**
- **Curb and gutter**
- **Inconsistent ditches and pavement width**
- **Passing on right issue**
- **Drainage conditions**
- **Driveway access**

# CYCLIST SAFETY

- Arterial road
- Traffic volume
- Travel speed
- Visibility
- Designated bike lane
- Pavement conditions
- Drainage conditions
- Inconsistent pavement width and ditches
- Traffic lane width
- Existence of shoulder

# PEDESTRIAN SAFETY

- **Sidewalk location and width**
- **Pavement conditions**
- **Pedestrian crossings**
- **Visibility**
- **Drainage conditions**
- **Curb and gutter**
- **Inconsistent ditches**
- **Passing on right issue**
- **Pavement width and number of lanes**
- **Clear zone width, curb side**
- **Refuge zone within paved area**

# PRESERVATION OF EXISTING TREES

- **Root location**
- **Pavement width**
- **Road grade changes**
- **Drainage conditions**
- **Curb and gutter protective barrier for trees**
- **Stormwater management opportunities via infiltration**
- **Construction activities**
- **Reconstruction of underground services**
- **Total impact area**



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# TRAFFIC OPERATIONS

- **Pavement width**
- **Number of lanes**
- **Sight distance**
- **Obstruction close to pavement**
- **Road maintenance effort**
- **Snow clearance and removal**
- **Pavement and drainage conditions**
- **Passing on right issue**
- **Passing on left issue**
- **Centre left turn lane**
- **Travel speed**
- **Designated bike lanes**
- **Driveway access**

# EMERGENCY VEHICLE ACCESS

- **Arterial road**
- **Traffic volume**
- **Response time**
- **Minimum 4.0 m wide vehicle clear area**
- **Total pavement width**
- **Defined pavement edge condition (curb and gutter)**
- **Degree of safety for others**

# TRANSIT OPERATIONS

- **Pavement width**
- **Number of lanes**
- **Pedestrian safety**
- **Passing on right issue**
- **Travel speed**
- **Curb and gutter**
- **Designated bike lanes**
- **Centre left turn lane**
- **Reliability of service**



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# ADJACENT PROPERTY IMPACT

- **Pavement width**
- **Width of construction zone**
- **Road grade changes**
- **Curb and gutter/boulevard increases landscape potential versus existing shoulder and ditch areas**

# HIGHEST RATED CROSS-SECTION ALTERNATIVE

- Type C is the highest rated, 9.6 m wide pavement
- Provides minimum City standard through lane width of 3.3 m
- Provides minimum bike lane width of 1.5 m
- Approximately same total pavement width as existing
- Provides curb and gutter to direct drainage, eliminate passing on the right, provide barrier between vehicles and pedestrians, define road pavement edge
- Provides 4.0 m minimum clearance requirement for emergency vehicles
- Provides standard 1.5 m wide sidewalks both sides
- While providing other required services, it minimizes impact on existing trees
- Reduces actual vehicle driving lane width when compared to existing conditions
- Provides opportunity to implement infiltration at catchbasins for stormwater management