Complete Streets: Moving From Vision to Reality

Shawn Smith
York Region Transportation Services
Wednesday, June 28, 2017

@shawnsmith905
About York Region
Vision and Mission

Transportation is a multi-jurisdictional responsibility
Designing Great Streets Road Typologies

- City Centre
- Main Street
- Avenue
Designing Great Streets Road Typologies

- Rural Road
- Connector
- Rural Hamlet Road
Toolbox and Cross Sections
York Region Pedestrian and Cycling Design Guidelines
Decision Making Process

1. Opportunity Statement
2. Review Context
3. Produce Objectives
4. Select a Typology
5. Determine Elements of the Street
6. Refine Elements
7. Build Plan & Section
8. Build Intersections & Transitions
9. Revisit Opportunity Statement
VivaNext Rapidways
Highway 7 – The Past
VIDEO – Rapidway Intersections

https://www.youtube.com/watch?v=ZqvIvw71CP0
2013 Highway 7 East Rapidway
Buffered Bike Lane
Left Turn Bike Boxes
Highway 7 Cross Section
Before: Highway 7 and East Beaver Creek
After: Highway 7 and East Beaver Creek
Before: Highway 7 and Lunar Crescent
After: Highway 7 and Lunar Crescent
Highway 7 and Highway 404
Before (2011)…

Highway 7 – Markham
The Future
Moving More People
Development Activity
Bike Lane v2.0

1.9 SIDEWALK CLEARWAY

2.0 BIKEWAY

0.61 CONTINUITY STRIP

0.3 BARRIER CURB AND GUTTER

2.0% ELEVATION

50mm ELEVATION

150mm ELEVATION

UNIT PAVER RESTRAINT

BUFFERED BIKE LANE CURB & GUTTER LOCATION

3.3 TRAVEL LANE

4.8
Bike Lane v3.0
Bike Lane v3.0
Intersection Treatment
Evaluation
York Region's Rapidways: the good, the bad and the ugly

SEPTEMBER 12, 2013 | BY SEAN MARSHALL
COMPLETE STREET TRANSFORMATIONS
Outcomes

Shorter transit travel times

More sustainable transportation

A safer street for all

http://www.tcat.ca/knowledge-centre/complete-street-transformations/
Good intentions, bad design make Hwy. 7 a jumble of contradictions: Hume

The redesigned Highway 7 in Markham was remade to accommodate a variety of new users as well as a full complement of cars. For a traffic engineer, this is having your cake and eating it too.
Highway 7 Performance Monitoring

Public Survey

Traffic Camera Video Review
Two-Stage Pedestrian Crossing
Left Turn Bike Boxes
How are cyclists making left turns?

Cyclists are using a variety of techniques to complete a left turn from Highway 7 onto a side street.

- **23%** use the in-boulevard bike boxes to make a two-stage left turn.
- **13%** make a vehicular left by merging across traffic lanes.
- **31%** use the pedestrian crosswalks to cross in two stages.

**33%** use all three techniques.
Highway 7 Westbound at Valleymede
Urban Post Multi Cyclists
Highway 7 Westbound at Vallemede
Bike Lane vs Sidewalk Cyclists
Highway 7 Westbound at Vallemede

- Hwy 7 WB - BIK: 61.5%
- Sidewalk Eastbound: 19.7%
- Sidewalk Westbound: 18.8%
Cyclist comfort

Enhanced separation is needed to improve cyclist perceptions of safety along Highway 7.

35% of cyclists do not feel safe riding along Highway 7

92% of cyclists indicated better separation would make them feel safer
Comments from Highway 7 Users

Having a bike lane is a good idea; however, the bike lane does not meet the needs.

I strongly think we should have poles adjacent to the cyclist path. I don’t trust many drivers who text and drive.

For the driver it is better if cyclists are separated from cars.

Driving beside the painted line is scary! I’m always so nervous beside cyclists.
Piloting Enhanced Separation
Questions/Discussion

Shawn Smith, M.Eng., P.Eng.
Program Manager
Active and Sustainable Transportation
Transportation Services

1-877-464-9675 ext. 75051
shawn.smith@york.ca
york.ca/cycling
Davis Drive
Highway 7 Vaughan Metropolitan Centre
Highway 7 at Highway 400 Interchange
Ramp Crossings

Between Famous Ave & Commerce St (1 km):
- 4 free-flow ramps to cross at grade
- North side 360 m long conflict zones (36%)
- South side 400 m long conflict zones (40%)

E-S free-flow ramp with 300 m right-turn lane and taper

E-N free-flow ramp 60 m direct taper

W-S free-flow ramp with 100 m right-turn lane and taper

W-N free-flow ramp with 300 m right-turn lane and taper
Centre Median Multi-Use Path
Centre Median Multi-Use Path
Canopy – Conceptual Design
Transition to Centre Median

Consider continuing the west-bound cycle track to the proposed VMC Entrance as an interim connection until the proposed future connection is implemented.

Implement stop bar and Cyclists Left Turn Only sign.

Implement a Yield to Pedestrians Sign.

Consider adding sharrow markings along crossride and replacing double hatched line with single hatched line.

Consider moving the crossride to the west side of the cross walk to minimize number of conflict points given the recommended interim connection to VMC entrance.
Transition to Centre Median
Left Turn Bike Boxes

Shawn Smith
York Region Transportation Services

Wednesday, June 28, 2017
Painted Bike Box
Painted Bike Box
Early Concept
Version 1.0

NOTES:
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE NOTED.
2. CONCRETE SHALL BE 30MPa COMPRESSIVE STRENGTH AT 28 DAYS ENTRAINMENT.
3. PAVER FOR CONTINUITY STRIP:
   MANUFACTURER: UNBLOCK, ECO-PRIORA
   SIZE: 120X120X80mm
   OR APPROVED EQUAL
4. BIKE DETECTION SYSTEM IS REQUIRED
5. INCLUDE TRANSVERSE CONTRACTION JOINTS ACROSS BIKE BOX PAD
6. BIKE BOX PAD TO HAVE LIGHT BROOM FINISH PERPENDICULAR TO BETWEEN THE ROAD EDGE AND BARRIER CURB OR SIDEWALK.
Left Turn Bike Boxes - New
Left Turn Bike Boxes - Retrofit
Construction
Intersection Crossing
Winter Maintenance
Winter Maintenance
Tire marks
Version 2.0
Version 2.0
Version 3.0 – Protected Intersection