

Appendix E.1 – YR- TMP Kennedy Road Project Sheets

*Kennedy Road Environmental Assessment between
Steeles Avenue and Major Mackenzie Drive*

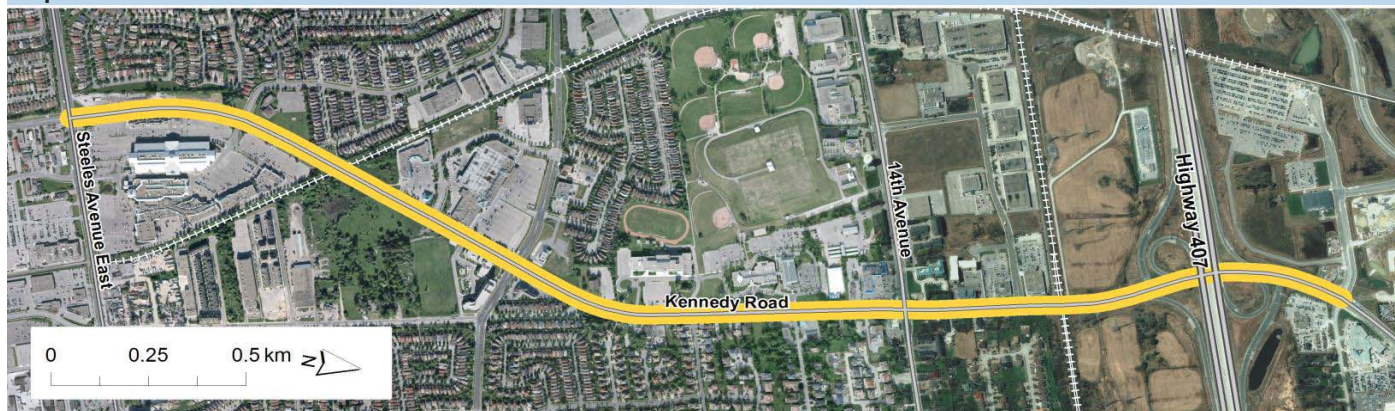


2001 - Kennedy Road - Steeles Avenue to Highway 407

Project Description

Location	Kennedy Road	Project ID	2001
Municipality	Markham	Road Segment ID	03-01 to 03-03
Project Limits	Steeles Avenue to Highway 407	Length	3,080 m
Project Type	Widen to 6 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	2,330	1,580	1.29	0.90
Daily truck volume	3,210 /day	2,000 /day		

Description

Existing 4 general purpose lanes with turning lanes at intersections and median lane in some sections. Crossing over Highway 407 is 6 lanes. Continuous sidewalks on both sides. No dedicated cycling facilities. Curbside transit service. At-grade rail crossing of Stouffville GO Line north of Steeles Ave. CP Havelock railway underpass north of 14th Avenue; structural walls abuts the travel lanes and sidewalks.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor.

Land Use and Built Environment A number of larger commercial properties including Pacific Mall at northeast corner of Steeles Avenue, public high school and community centre, and surrounding residential community. Constrained corridor at two small cemeteries located on each side of Kennedy Road north of 14th Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	2,930	1,870	1.62	1.06
2041 Proposed Network	2,840	2,070	1.21	0.89

2001 - Kennedy Road - Steeles Avenue to Highway 407 (continued)

Problem or Opportunity Statement

- Capacity improvements needed to address existing congestion.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements needed to support transit and HOV.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Optimize existing facility with intersection improvements only - Minor improvement for corridor traffic flow. Does not address overall traffic congestion. Does not improve transit/HOV and active modes.
3. Widen corridor to 6 lanes for general purpose capacity improvements - Improves traffic flow and reduces congestion. Opportunity to improve walking and cycling facilities. Does not support shift to transit/HOV. Not consistent with Council policy to widen to 6 lanes for transit/HOV lanes only.
4. Widen corridor to 6 lanes to implement transit/HOV lanes - Addresses traffic capacity. Opportunity to improve walking and cycling facilities. Potential to improve transit travel time and encourage shift to transit/HOV.
5. Widen corridor to implement rapid transit - Does not address traffic congestion. Transit ridership does not meet RT threshold.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and travel demand, no improvements to walking and cycling facilities, does not encourage shift to transit/HOV.






Recommended Improvement and Justification

Recommendation Widen corridor to 6 lanes to implement transit/HOV lanes.

Justification Corridor experiences congestion in the peak periods and is over capacity in existing and 2041. Widening provides capacity for HOV and transit. Corridor is an important link to Milliken GO station (RER) and capacity improvement is needed to support growth of Markham Centre. Opportunity to improve walking and cycling facilities.

TMP Phase 2022 to 2026

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
				

Costs

Capital Cost	\$ 57,779,400
Incremental Annual Road Operating Cost	\$ 153,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 58,100

Related Projects

Name	Project ID
Kennedy Road - Highway 7 to Major Mackenzie Drive - Widen to 6 lanes	2002
Stouffville GO Grade Separation - Kennedy Road north of Steeles Avenue - Rail grade separation	2134

2001 - Kennedy Road - Steeles Avenue to Highway 407 (continued)

Key Intersections and Constraints

Kennedy Road at Steeles Avenue



Kennedy Road at 14th Avenue



Kennedy Road at Highway 407



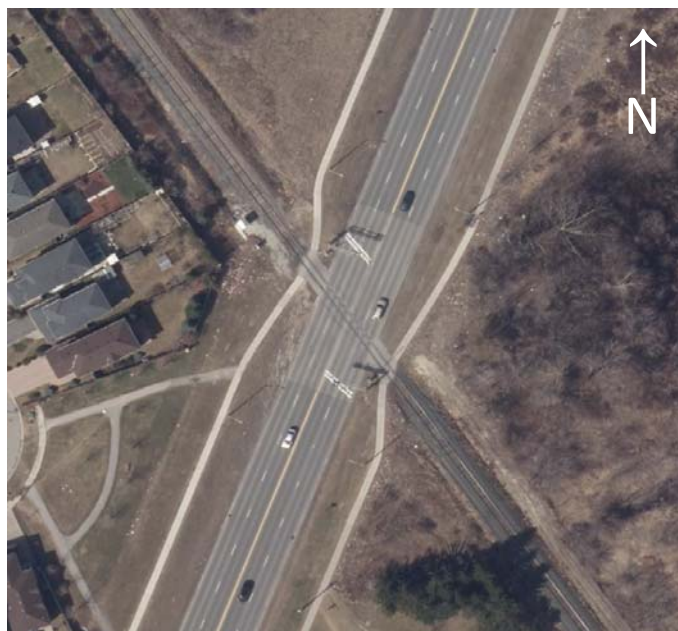
Railway underpass north of 14th Avenue (Image capture: 2015, ©2016 Google)



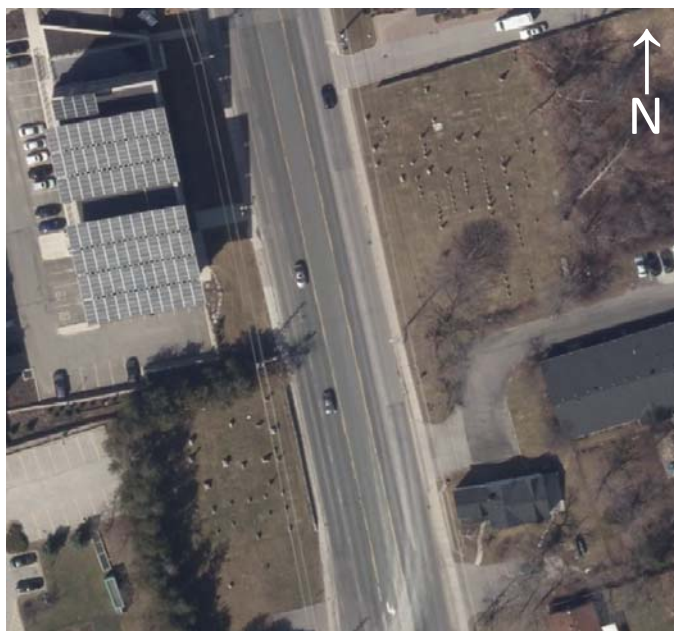
2001 - Kennedy Road - Steeles Avenue to Highway 407 (continued)

Key Intersections and Constraints

Stouffville GO at Kennedy Road



Cemeteries on both sides constrain widening of Kennedy Road north of 14th Avenue

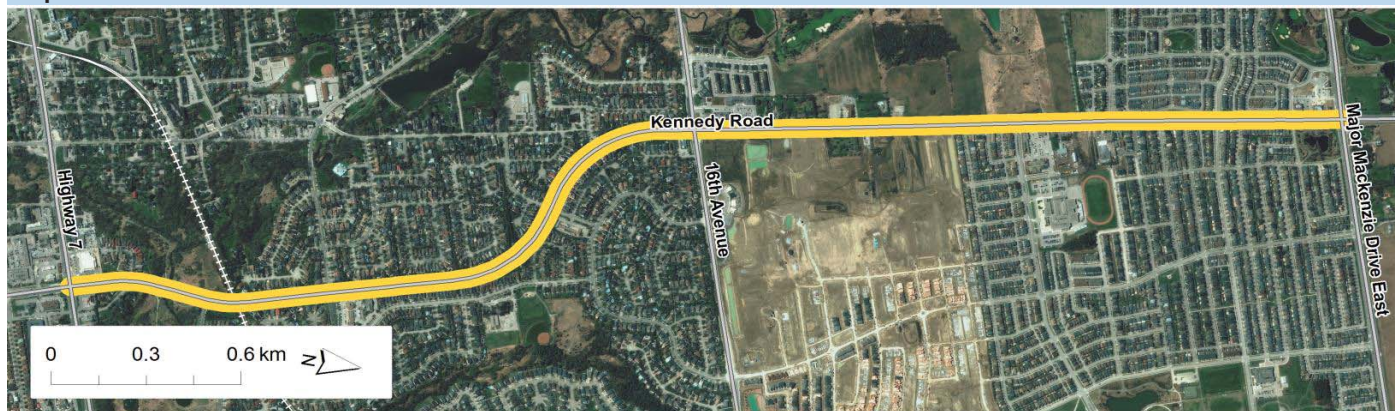


2002 - Kennedy Road - Highway 7 to Major Mackenzie Drive

Project Description

Location	Kennedy Road	Project ID	2002
Municipality	Markham	Road Segment ID	03-06 to 03-08
Project Limits	Highway 7 to Major Mackenzie Drive	Length	4,270 m
Project Type	Widen to 6 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
Model Forecast				
2011 Existing	2,000	1,790	1.11	0.99
Daily truck volume	1,300 /day	1,060 /day		

Description

Existing 4 general purpose lanes with turning lanes at intersections and median lane in some sections. Continuous sidewalks on both sides. No dedicated cycling facilities. Curbside transit service. At-grade rail crossing of Stouffville GO Line north of Highway 7.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor. Crosses open space and Rouge River north of Highway 7.

Land Use and Built Environment Low density residential backing onto Kennedy between Highway 7 to 16th Avenue. Cemeteries on east and west sides north of 16th Avenue. Some agricultural lands and golf course on the west side. Primarily new residential developments north of 16th Avenue up to Major Mackenzie Drive.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	2,930	2,910	1.62	1.61
2041 Proposed Network	3,320	3,230	1.42	1.38

2002 - Kennedy Road - Highway 7 to Major Mackenzie Drive (continued)

Problem or Opportunity Statement

- Capacity improvements needed to address existing congestion.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements needed to support transit and HOV.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Optimize existing facility with intersection improvements only - Minor improvement for corridor traffic flow. Does not address overall traffic congestion. Does not improve transit/HOV and active modes.
3. Widen corridor to 6 lanes for general purpose capacity improvements - Improves traffic flow and reduces congestion. Opportunity to improve walking and cycling facilities. Does not support shift to transit/HOV. Not consistent with Council policy to widen to 6 lanes for transit/HOV lanes only.
4. Widen corridor to 6 lanes to implement transit/HOV lanes - Addresses traffic capacity based on average v/c ratios. Opportunity to improve walking and cycling facilities. Potential to improve transit travel time and encourage shift to transit/HOV.
5. Widen corridor to implement rapid transit - Does not address traffic congestion. Transit ridership does not meet RT threshold.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and travel demand, no improvements to walking and cycling facilities, does not encourage shift to transit/HOV.






Recommended Improvement and Justification

Recommendation Widen corridor to 6 lanes to implement transit/HOV lanes.

Justification Corridor experiences high traffic volumes. Widening provides capacity for HOV and transit. Capacity improvement is needed to support growth of Markham Centre and North Markham. Opportunity to improve walking and cycling facilities.

TMP Phase 2022 to 2026: Highway 7 to 16th Avenue
2027 to 2031: 16th Avenue to Major Mackenzie Drive

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
				

Costs

Capital Cost	\$ 40,843,000
Incremental Annual Road Operating Cost	\$ 213,400
Incremental Road Maintenance and Rehabilitation Cost	\$ 80,500

Related Projects

Name	Project ID
Kennedy Road - Steeles Avenue to Highway 407 - Widen to 6 lanes	2001
Kennedy Road - Major Mackenzie Drive to Donald Cousens Parkway - Widen to 4 lanes	2003
Stouffville GO Grade Separation - Kennedy Road north of Highway 7 - Rail grade separation	2137

2002 - Kennedy Road - Highway 7 to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Kennedy Road at Highway 7



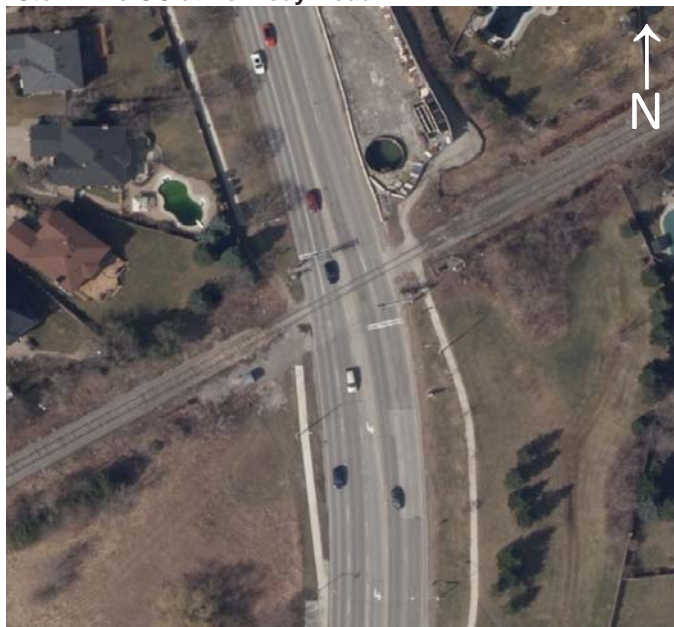
Kennedy Road at 16th Avenue



Kennedy Road at Major Mackenzie Drive



Stouffville GO at Kennedy Road



2002 - Kennedy Road - Highway 7 to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Cemetery west of Kennedy Road constrain widening south of Major Mackenzie Drive



Cemetery east of Kennedy Road constrain widening south of Major Mackenzie Drive

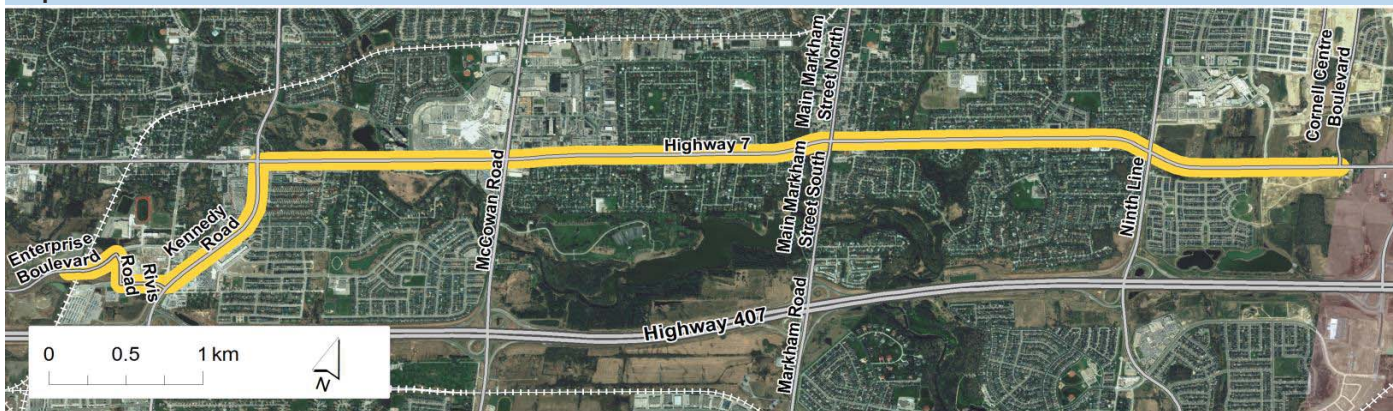


1010 - Highway 7 - Unionville GO Station to Cornell Terminal

Project Description

Location	Highway 7	Project ID	1010
Municipality	Markham	Road Segment ID	90-04 to 07-42
Project Limits	Unionville GO Station to Cornell Terminal	Length	9,200 m
Project Type	RT Corridor		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 45 metres

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	1,930	1,380	1.07	0.74
Daily truck volume	2,730 /day	1,660 /day		

Description

Existing 4 general purpose lanes with median lane and turn lanes at intersections. Continuous sidewalk on both sides of Kennedy Road. Discontinuous sidewalk segments on Highway 7 between Kennedy Road and McCowan Road. Continuous sidewalks on both sides from west of McCowan Road to west of Reesor Road. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor. Multiple crossings of Rouge River and Regional Greenlands System between Kennedy Road and McCowan Road.

Land Use and Built Environment Mostly commercial uses with some woodlots to the north east of Kennedy Road. Some residential development backing onto Highway 7 between McCowan Road and Ninth Line. Cemeteries on both sides of Highway 7 east of Markham Road.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Proposed Network	2,740	1,970	1.37	1.09	1,950	1,080

1010 - Highway 7 - Unionville GO Station to Cornell Terminal (continued)

Problem or Opportunity Statement

Corridor improvements needed to address high transit demands along Highway 7 corridor; corridor improvements needed to increase transit speed and reliability.

Alternatives Considered

Approved Highway 7 Corridor Rapid Transit EA considered range of alternatives.

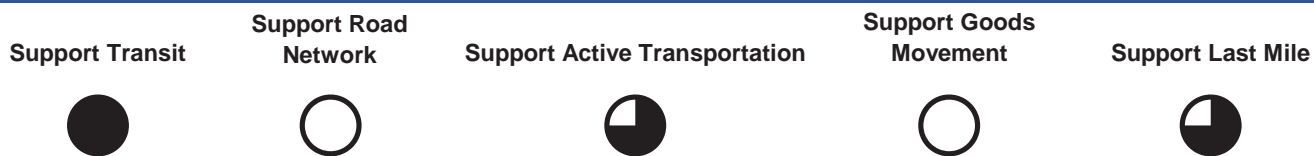
Recommended Improvement and Justification

Recommendation Widen corridor to provide dedicated rapidway.

Justification Highway 7 Rapid Transit EA identified median rapid transit. Interim terminus at Cornell Terminal. Further extension east of Cornell Terminal to CP Havelock subject to introduction of GO service. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.

TMP Phase 2022 to 2026

Alignment with TMP Objectives



Costs

Capital Cost	\$	367,443,100
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
Highway 7 - Town Centre Boulevard to Kennedy Road - RT Corridor

Project ID
1009

1010 - Highway 7 - Unionville GO Station to Cornell Terminal (continued)

Key Intersections and Constraints

Highway 7 at Kennedy Road



Highway 7 at McCowan Road



Highway 7 at Markham Road



Highway 7 at Ninth Line



1010 - Highway 7 - Unionville GO Station to Cornell Terminal (continued)

Key Intersections and Constraints

Highway 7 at Donald Cousens Parkway



Cemeteries on both sides of Highway 7 east of Markham Road

