Appendix B – Transit Projects

1001 - Yonge Street - Highway 7 to Major Mackenzie Drive

Project Description

Location	Yonge Street	**Project ID**	**1001**
Municipality	Richmond Hill	**Road Segment ID**	01-06 to 01-08
Project Limits	Highway 7 to Major Mackenzie Drive	**Length**	4,200 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,620	1,510	1.01	0.94
Daily truck volume	2,560 /day	1,970 /day		

Description

Existing 4 general purpose lanes with centre median lane in some sections and turn lanes at intersections. Continuous sidewalk on both sides. No dedicated cycling facilities. High frequency curbside transit service including Viva Blue and Yonge Street routes.

Natural and Built Environment

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

Land Use and Built Environment Mix of commercial retail centres and higher density residential land uses on both sides of Yonge Street.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	1,890	1,820	1.18	1.13	7,180	6,430

1001 - Yonge Street - Highway 7 to Major Mackenzie Drive (continued)

Problem or Opportunity Statement

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

Alternatives Considered

Approved Yonge Street Rapid Transit EA considered range of alternatives.

Recommended Improvement and Justification

Recommendation Widen corridor to provide dedicated rapidway.

Justification EA provides detailed justification. Part of VivaNext rapidway construction (2014-2018). Opportunity to introduce cycling facilities in the corridor. Opportunity to implement transit smart corridor.

TMP Phase 2017 to 2021

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	Funded	
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Yonge Street - Major Mackenzie Drive to Gamble Road/19th Avenue - RT Corridor	1002
Yonge Subway Extension - Steeles Avenue to Richmond Hill Centre - Subway	1019

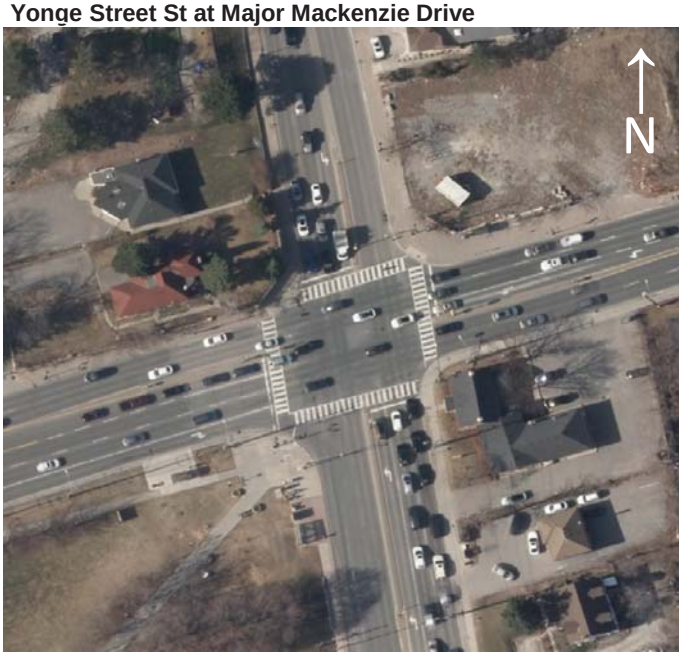
1001 - Yonge Street - Highway 7 to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Yonge Street at Highway 7

Yonge Street at 16th Avenue

Yonge Street St at Major Mackenzie Drive

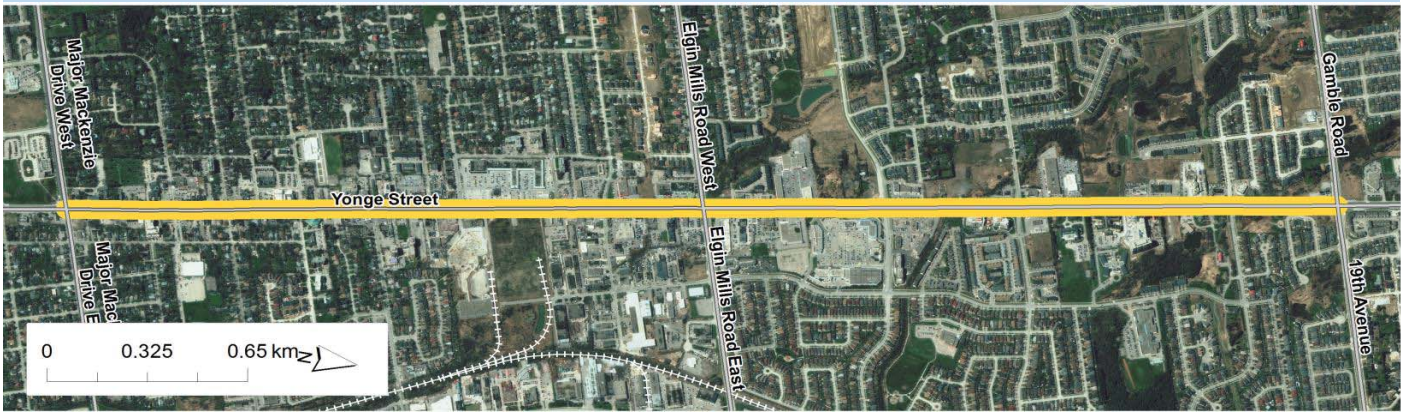


1002 - Yonge Street - Major Mackenzie Drive to Gamble Road/19th Avenue

Project Description

Location	Yonge Street	**Project ID**	**1002**
Municipality	Richmond Hill	**Road Segment ID**	01-10 to 01-12
Project Limits	Major Mackenzie Drive to Gamble Road/19th Avenue	**Length**	3,900 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,650	1,480	0.82	0.82
Daily truck volume	1,900 /day	950 /day		

Description

Existing 4 general purpose lanes. Historic downtown Richmond Hill area between Major Mackenzie Drive and Crosby Avenue with on-street parking reducing through lanes to one in each direction in the off-peak. North of Crosby Avenue, most sections with median lane and turn lanes at intersections. Continuous sidewalk on both sides. No dedicated cycling facilities. High frequency curbside transit service including Viva Blue and Yonge Street routes.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides with several crossings of watercourses that are part of the Regional Greenlands System.

Land Use and Built Environment Historic main street area north of Major Mackenzie Drive to approximately Crosby Avenue. Mix of larger-scale commercial uses north of Crosby Avenue with some higher density residential.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,000	1,830	1.04	1.02	3,860	3,640

1002 - Yonge Street - Major Mackenzie Drive to Gamble Road/19th Avenue (continued)

Problem or Opportunity Statement

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

Alternatives Considered

Approved Yonge Street Rapid Transit EA considered range of alternatives.

Recommended Improvement and Justification

Recommendation

Widen corridor to provide dedicated rapidway (maintain curbside service through constrained section of Downtown Richmond Hill).

Justification

EA provides detailed justification. Region to work with Town of Richmond Hill to prioritize rapid transit through constrained section by removing on-street parking and replacing with off-street parking. Option maximizes person-carrying capacity. Part of VivaNext rapidway construction (2014-2018). Opportunity to introduce cycling facilities in the corridor. Opportunity to implement transit smart corridor.

TMP Phase

2017 to 2021

Alignment with TMP Objectives

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

Costs

Capital Cost	Funded	
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

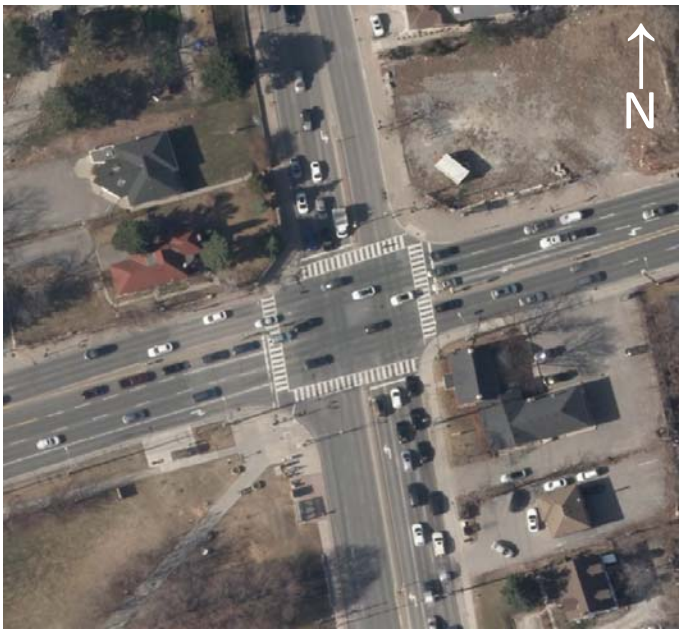
Related Projects

Name	Project ID
Yonge Street - Highway 7 to Major Mackenzie Drive - RT Corridor	1001
Yonge Street - Gamble Road/19th Avenue to Mulock Drive - RT Corridor	1003

1002 - Yonge Street - Major Mackenzie Drive to Gamble Road/19th Avenue (continued)

Key Intersections and Constraints

Yonge Street at Major Mackenzie Drive



Yonge Street at Elgin Mills Road

Yonge Street at 19th Avenue

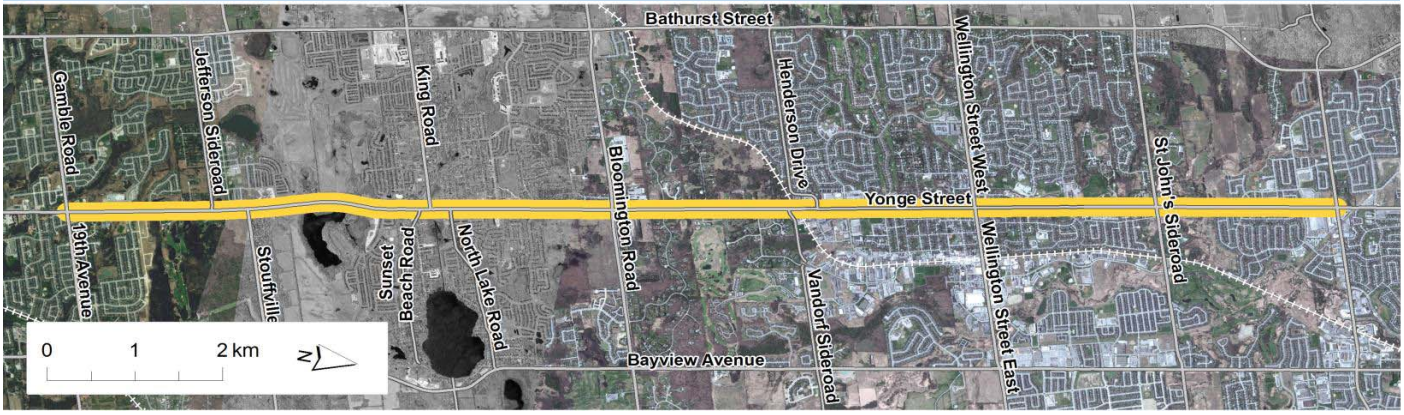
Downtown Richmond Hill (Image capture: 2015, ©2016 Google)

1003 - Yonge Street - Gamble Road/19th Avenue to Mulock Drive

Project Description

Location	Yonge Street	**Project ID**	**1003**
Municipality	Richmond Hill, Aurora, Newmarket	**Road Segment ID**	01-14 to 01-26
Project Limits	Gamble Road/19th Avenue to Mulock Drive	**Length**	14,600 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,450	1,220	0.73	0.66
Daily truck volume	1,310 /day	780 /day		

Description

Existing 4 general purpose lanes with median lane and turn lanes at major intersections. Underpass of GO Barrie line north of Bloomington Road. Sidewalks in urban built up areas only - Oak Ridges, Aurora. No dedicated cycling facilities. High frequency curbside transit service including Viva Blue and Yonge Street routes.

Natural and Built Environment

Natural Environment Observations: Several crossings of watercourses and Regional Greenlands System. Corridor runs adjacent to parklands and Bond Lake.
Environmentally Sensitive Areas: Designated ESA on east side between 19th Avenue and Stouffville Road. Second ESA on east side, south of Old Colony Road. Corridor crosses Oak Ridges Moraine between Bloomington Road and Henderson Drive. Abuts ANSI on east side north of Stouffville Road.
Source Water Protection Areas: SWP area from north of Bloomington Road to Green Lane.

Land Use and Built Environment Mostly lower density residential backlots with some large commercial areas. A few sections of woodlots and parklands. Cemetery on east side of Yonge Street north of Bloomington Road. Mostly commercial north of Henderson. Main street area through downtown Aurora north and south of Wellington Street.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	1,860	1,610	1.02	0.87	3,070	2,480

1003 - Yonge Street - Gamble Road/19th Avenue to Mulock Drive (continued)

Problem or Opportunity Statement

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

Alternatives Considered

Approved North Yonge Street Rapid Transit EA considered range of alternatives.

Recommended Improvement and Justification

Recommendation

Widen corridor to provide dedicated rapidway (maintain curbside service through constrained section of Downtown Aurora).

Justification

EA provides detailed justification. Region to work with Town of Aurora to prioritize rapid transit through constrained section by removing on-street parking and replacing with off-street parking. Option maximizes person-carrying capacity. 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

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

Costs

Capital Cost	$	590,397,700
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Yonge Street - Major Mackenzie Drive to Gamble Road/19th Avenue - RT Corridor	1002
Yonge Street - Mulock Drive to Davis Drive - RT Corridor	1004

1003 - Yonge Street - Gamble Road/19th Avenue to Mulock Drive (continued)

Key Intersections and Constraints

Yonge Street at 19th Avenue

Yonge Street at Stouffville Road

Yonge Street at King Road

Yonge Street at Bloomington Road

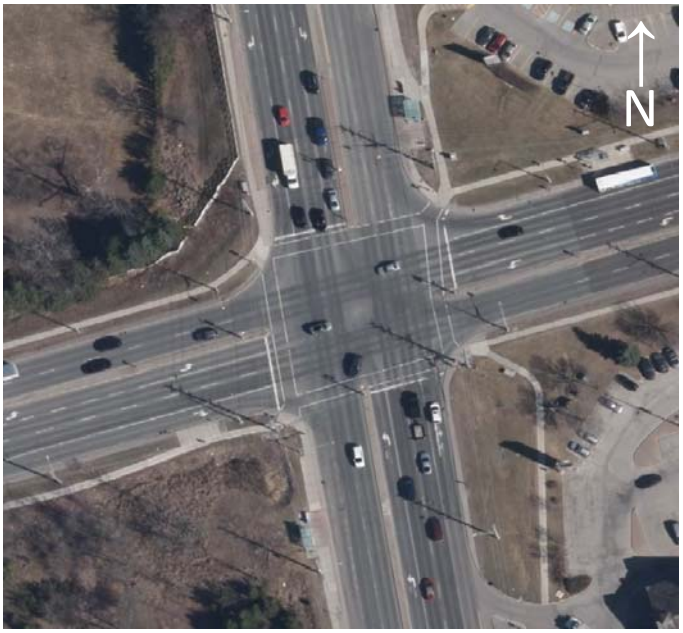
1003 - Yonge Street - Gamble Road/19th Avenue to Mulock Drive (continued)

Key Intersections and Constraints

Yonge Street at Wellington Street

Yonge Street at St John's Sideroad

Yonge Street at Mulock Drive



Downtown Aurora (Image capture: 2015, ©2016 Google)

1004 - Yonge Street - Mulock Drive to Davis Drive

Project Description

Location	Yonge Street	**Project ID**	**1004**
Municipality	Newmarket	**Road Segment ID**	01-27 to 01-28
Project Limits	Mulock Drive to Davis Drive	**Length**	2,400 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,410	1,250	0.78	0.69
Daily truck volume	1,330 /day	1,290 /day		

Description

Existing 4 general purpose lanes with median lane and turn lanes at intersections. Continuous sidewalk on both sides. No dedicated cycling facilities. High frequency curbside transit service including Viva Blue and Yonge Street routes.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor.
Source Water Protection Areas: SWP area from north of Bloomington Road to Green Lane.

Land Use and Built Environment Mostly retail commercial on both sides. York Region administrative office and Court of Justice on the west side of Yonge Street. Cemetery on west side of Yonge Street, south of Eagle Street.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	1,820	1,680	1.01	0.93	1,800	1,780

1004 - Yonge Street - Mulock Drive to Davis Drive (continued)

Problem or Opportunity Statement

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

Alternatives Considered

Approved North Yonge Street Rapid Transit EA considered range of alternatives.

Recommended Improvement and Justification

Recommendation Widen corridor to provide dedicated rapidway.

Justification Need established through North Yonge transitway EA. Part of VivaNext rapidway construction (2014-2018). Opportunity to introduce cycling facilities in the corridor. Opportunity to implement transit smart corridor.

TMP Phase 2017 to 2021

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	Funded	
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

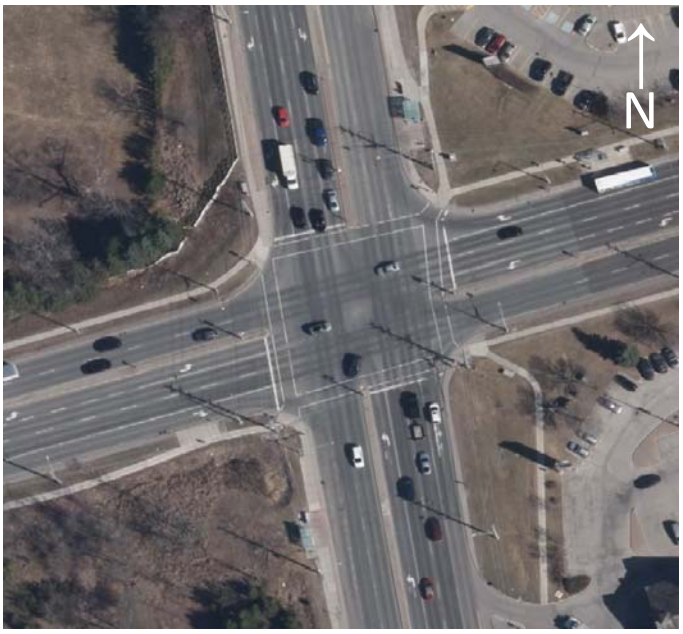
Related Projects

Name	Project ID
Yonge Street - Gamble Road/19th Avenue to Mulock Drive - RT Corridor	1003
Yonge Street - Davis Drive to Green Lane - RT Corridor	1005
Yonge Street - Davis Drive to Green Lane - Widen to 6 lanes	2124

1004 - Yonge Street - Mulock Drive to Davis Drive (continued)

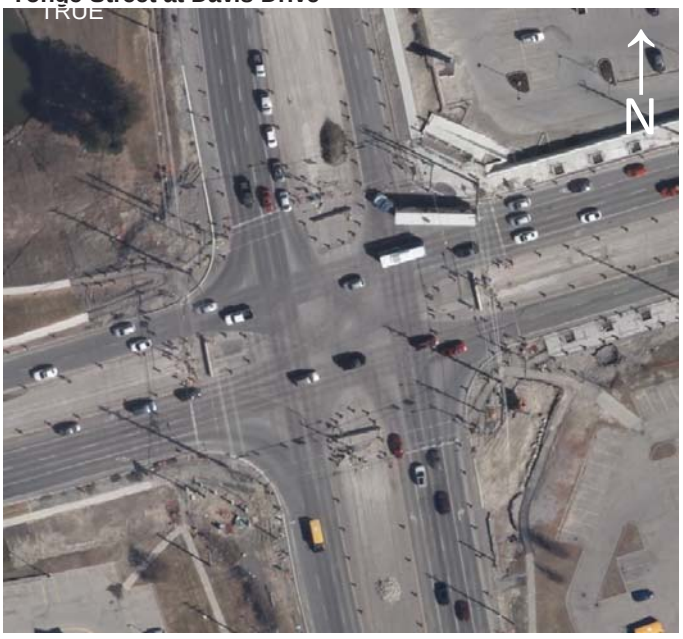
Key Intersections and Constraints

Yonge Street at Mulock Drive



Yonge Street at Eagle Street

Yonge Street at Davis Drive



Cemetery on west side of Yonge Street, south of Eagle Street

1005 - Yonge Street - Davis Drive to Green Lane

Project Description

Location	Yonge Street	**Project ID**	**1005**
Municipality	Newmarket, East Gwillimbury	**Road Segment ID**	01-30
Project Limits	Davis Drive to Green Lane	**Length**	2,100 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,320	1,320	0.66	0.66
Daily truck volume	1,200 /day	1,200 /day		

Description

Existing 4 general purpose lanes with turn lanes at intersections. Continuous sidewalk on both sides. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor.
Source Water Protection Areas: SWP area from north of Bloomington Road to Green Lane.

Land Use and Built Environment Regional shopping center in the northwest quadrant of Yonge Street at Davis Drive. Large scale retail commercial throughout the corridor.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,600	2,600	1.30	1.30	1,610	1,610

1005 - Yonge Street - Davis Drive to Green Lane (continued)

Problem or Opportunity Statement

Corridor improvements needed to improve transit speed and reliability. Transit improvements needed to support growth in East Gwillimbury and corridor intensification in Newmarket.

Alternatives Considered

Approved North Yonge Street Rapid Transit EA considered range of alternatives.

Recommended Improvement and Justification

Recommendation	Transition six lane transit/HOV corridor (Interim solution) to dedicated rapidway through conversion of existing road lanes.
Justification	Need established through North Yonge Transitway EA. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor.
TMP Phase	2032 to 2041

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	87,240,700
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Yonge Street - Davis Drive to Green Lane - Widen to 6 lanes	2124
Yonge Street - Mulock Drive to Davis Drive - RT Corridor	1004

1005 - Yonge Street - Davis Drive to Green Lane (continued)

Key Intersections and Constraints

Yonge Street at Davis Drive

Yonge Street at Green Lane

1006 - Highway 7 - Highway 50 to Helen Street

Project Description

Location	Highway 7	**Project ID**	**1006**
Municipality	Vaughan	**Road Segment ID**	07-06 to 07-12
Project Limits	Highway 50 to Helen Street	**Length**	2,300 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	3,580	2,460	1.03	0.84
Daily truck volume	4,280 /day	3,900 /day		

Description

Existing 6 general purpose lanes with turning lanes at intersections between Highway 50 and west of Kipling Avenue. From west of Kipling Avenue to west of Helen Street only 4 general purpose lanes. CP MacTier railway underpass and crossing of Humber River between Kipling Avenue and Islington Avenue. Continuous sidewalks on both sides between Highway 27 and Helen Street. No dedicated cycling facilities. Viva curbside transit service from Martin Grove Road easterly.

Natural and Built Environment

Natural Environment Observations: Corridor crosses Humber River and major valley feature within Regional Greenlands System between Martin Grove Road and Pine Valley Drive.

Land Use and Built Environment Employment lands from Highway 50 to Martin Grove Road. Mix of smaller scale commercial uses, school and community centre in Woodbridge area. Cemetery located on north side just east of Islington Avenue. Corridor passes under CP MacTier rail bridge.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	4,050	3,180	1.12	0.96	1,190	1,000

1006 - Highway 7 - Highway 50 to Helen Street (continued)

Problem or Opportunity Statement

Corridor improvements needed to address high transit demands along Highway 7 corridor; constrained section from Kipling to Helen impacts both road and transit operations; corridor improvements needed to increase transit speed and reliability.

Alternatives Considered

Approved Highway 7 Corridor Rapid Transit EA considered range of alternatives. Highway 7 Rapid Transit EA identified median rapid transit plus 6 lanes. Highway 7 Rapid Transit EA assumed mixed traffic from Kipling to Helen. TMP considered further alternatives to eliminate corridor constraint from Kipling to Helen.

Recommended Improvement and Justification

Recommendation

Widen corridor to provide dedicated rapidway including constrained section from Kipling to Helen.

Justification

EA provides detailed justification for dedicated rapidway. Eliminating constraint improves transit speeds and service reliability and maximizes ridership potential. Opportunity to eliminate transit and traffic bottleneck. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.

TMP Phase

2027 to 2031: Highway 27 to Helen Street
2032 to 2041: Highway 50 to Highway 27

Alignment with TMP Objectives

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

Costs

Capital Cost	$	373,269,500
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Highway 7 - Helen Street to Yonge Street - RT Corridor	1007
Highway 7 - Kipling Avenue to Helen Street - Widen to 6 lanes	2115

1006 - Highway 7 - Highway 50 to Helen Street (continued)

Key Intersections and Constraints

Highway 7 at Highway 50

Highway 7 at Highway 427

Highway 7 at Highway 27

Highway 7 at Islington Avenue

1006 - Highway 7 - Highway 50 to Helen Street (continued)

Key Intersections and Constraints

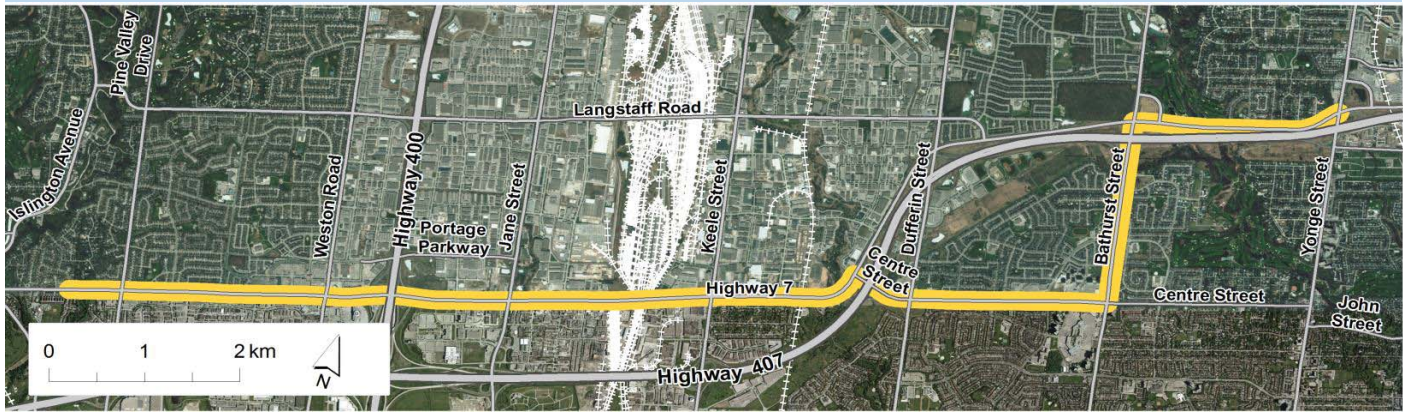
CP MacTier railway underpass east of Kipling Avenue
(Image capture: 2015, ©2016 Google)

1007 - Highway 7 - Helen Street to Yonge Street

Project Description

Location	Highway 7	**Project ID**	**1007**
Municipality	Vaughan	**Road Segment ID**	07-12 to 07-24
Project Limits	Helen Street to Yonge Street	**Length**	14,800 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	3,590	2,530	1.19	0.96
Daily truck volume	8,790 /day	4,310 /day		

Description

Existing 6 general purpose lanes with median lane in most sections and turning lanes at intersections. Sidewalks on at least one side between Helen Avenue and Weston Road. No sidewalks between Weston Road and Keele Street. Small segments with sidewalk on one side between Keele Street and Yonge Street. No dedicated cycling facilities. Viva transit service along Centre Street from Highway 7 to Bathurst Street and along Bathurst Street from Centre Street to Highway 7.

Natural and Built Environment

Natural Environment Observations: Corridor crosses watercourse and parklands west of Centre Street. Sugarbush Heritage Park located on north side of Highway 7 at Bathurst.
Environmentally Sensitive Areas: Designated ESA and ANSI (Sugarbush Heritage Park) at northwest corner of Highway 7 and Bathurst Street.

Land Use and Built Environment Mostly commercial and industrial/office park between Pine Valley Drive and Dufferin Street. Residential to the north between Dufferin Street and Yonge Street. Commercial shopping mall at Centre Street and Bathurst Street.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	3,410	2,710	1.28	1.03	1,760	810

1007 - Highway 7 - Helen Street to Yonge Street (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. Part of VivaNext rapidway under construction (2014-2019). Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.

TMP Phase 2017 to 2021

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	Funded	
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Highway 7 - Highway 50 to Helen Street - RT Corridor	1006
Highway 407 New Interchange - at Centre Street - New Interchange	2108
Highway 400 Interchange Improvements - at Highway 7 - Vaughan Metropolitan Centre - Interchange Improvement	2114
Highway 7 - Kipling Avenue to Helen Street - Widen to 6 lanes	2115

1007 - Highway 7 - Helen Street to Yonge Street (continued)

Key Intersections and Constraints

Highway 7 at Pine Valley Drive

Highway 7 at Weston Road

Highway 7 at Highway 400

Highway 7 at Jane Street

1007 - Highway 7 - Helen Street to Yonge Street (continued)

Key Intersections and Constraints

Highway 7 at Keele Street

Centre Street at Dufferin Street

Centre Street at Bathurst Street

Highway 7 at Bathurst Street

Key Intersections and Constraints

Highway 7 at Yonge Street

1009 - Highway 7 - Town Centre Boulevard to Kennedy Road

Project Description

Location	Highway 7	**Project ID**	**1009**
Municipality	Markham	**Road Segment ID**	07-32 to 07-34
Project Limits	Town Centre Boulevard to Kennedy Road	**Length**	3,000 m
Project Type	RT Corridor		

Map

Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	2,150	1,990	1.07	0.99
Daily truck volume	4,060 /day	3,590 /day		

Description

Under construction for widening to 6 lanes between Town Centre Boulevard and Sciberras Road. At-grade rail crossing west of Main Street Unionville. Existing sidewalks east of Sciberras Road on at least one side. Curbside transit service. Right of way constrained near Main Street Unionville.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor. Corridor crosses Rouge River east of Main Street Unionville.

Land Use and Built Environment Mix of commercial and residential uses.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,690	2,460	1.24	1.06	1,790	1,510

1009 - Highway 7 - Town Centre Boulevard to Kennedy Road (continued)

Problem or Opportunity Statement

Corridor improvements needed to address high transit demands along Highway 7. Corridor is parallel to dedicated rapidway in Markham Centre (Highway 7 route on Enterprise).

Alternatives Considered

Approved Highway 7 Corridor Rapid Transit EA considered range of alternatives. The TMP considered the addition of Viva curbside service on Highway 7.

Recommended Improvement and Justification

Recommendation Viva curbside service.

Justification Widening of Highway 7 underway from Town Centre Boulevard to Sciberras for 6 lane transit/HOV, with Viva curbside service. Rapidway not needed due to close proximity to parallel rapidway (Highway 7 route on Enterprise). Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.

TMP Phase Under construction

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	-
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Highway 7 - Unionville GO Station to Cornell Terminal - RT Corridor	1010
Stouffville GO Grade Separation - Highway 7 west of Kennedy Road - Rail grade separation	2135

1009 - Highway 7 - Town Centre Boulevard to Kennedy Road (continued)

Key Intersections and Constraints

Highway 7 at Warden Avenue

Highway 7 at Main Street Unionville

Highway 7 at Kennedy Road

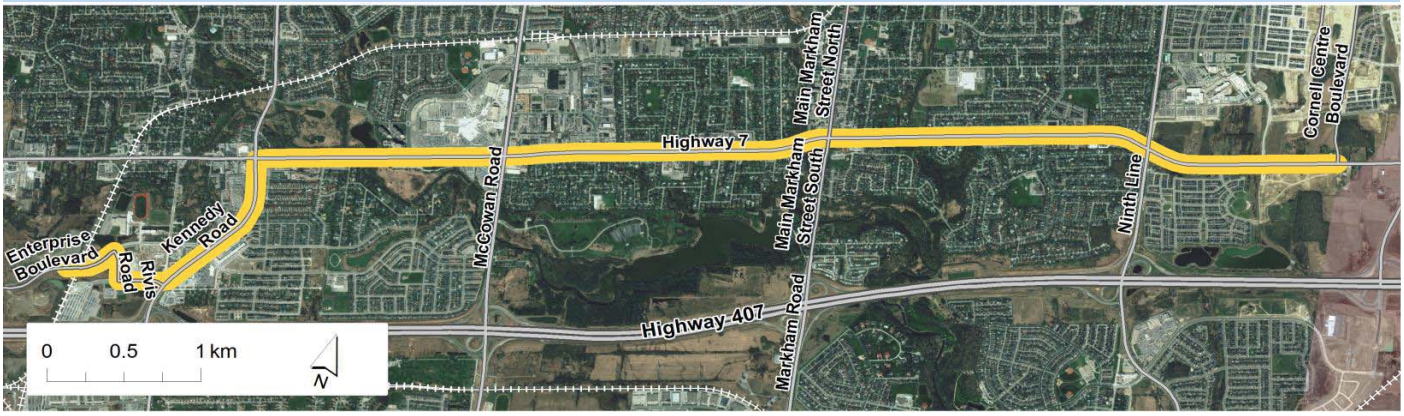
At-grade crossing of Stouffville GO at Highway 7

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	
Model Forecast	Maximum	Average	Maximum	Average
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	
	Maximum	Average	Maximum	Average	Maximum	Average
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

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

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

Related Projects

Name	Project ID
Highway 7 - Town Centre Boulevard to Kennedy Road - RT Corridor	1009

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

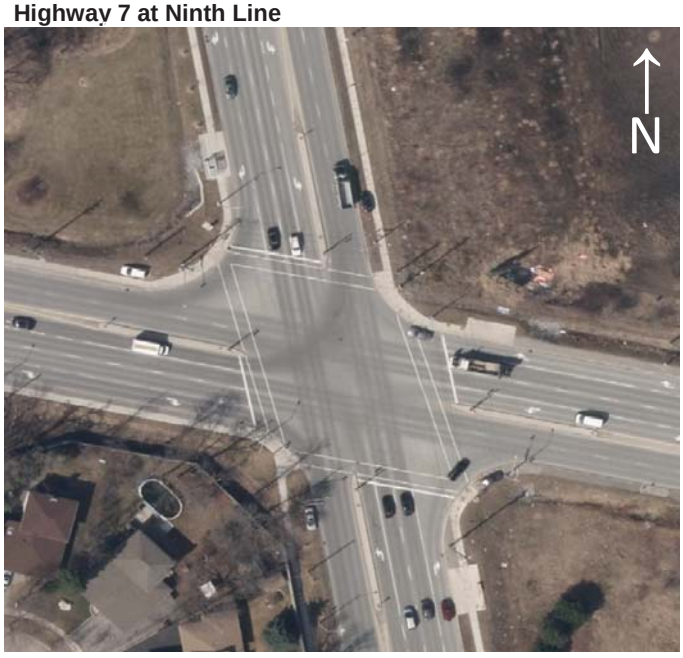
Key Intersections and Constraints

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

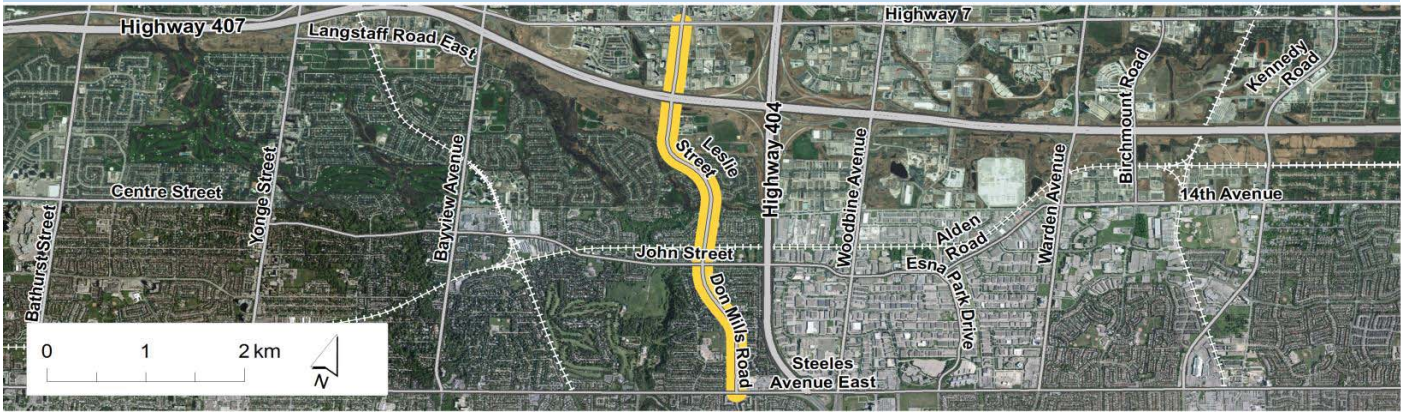
Cemeteries on both sides of Highway 7 east of Markham Road

1011 - Don Mills Road - Leslie Street - Steeles Avenue to Highway 7

Project Description

Location	Don Mills Road - Leslie Street	**Project ID**	**1011**
Municipality	Markham	**Road Segment ID**	12-02 to 12-04
Project Limits	Steeles Avenue to Highway 7	**Length**	4,300 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,770	1,520	0.98	0.87
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes with turn lanes at intersections. Continuous sidewalk on both sides. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor. Corridor crosses watercourse and parklands north of John Street.

Land Use and Built Environment Mostly low-density residential communities, parkland, secondary school. Employment area north of Highway 407.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,170	1,720	1.20	0.99	850	780

1011 - Don Mills Road - Leslie Street - Steeles Avenue to Highway 7 (continued)

Problem or Opportunity Statement

Corridor improvements needed to address high transit demands along Don Mills Road-Leslie Street corridor; corridor improvements needed to increase transit speed and reliability; opportunity to connect to proposed Don Mills rapid transit corridor in Toronto which connects to connects to Don Mills Station on Sheppard subway.

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 transit needs in the corridor.
3. Widen corridor to 6 lanes to implement transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV but not consistent with rapid transit planning on Don Mills south of Steeles.
4. Widen corridor to implement rapid transit - Best addresses problem or opportunity statement. Consistent with rapid transit planning on Don Mills south of Steeles.

Recommended Improvement and Justification

Recommendation Widen corridor to provide dedicated rapidway.

Justification Serves major employment areas along Leslie Street. Improves transit speed and service reliability. Opportunity to introduce cycling facilities in the corridor. Opportunity to implement transit smart corridor. Connects to Steeles rapid transit and potential rapid transit on Don Mills in Toronto.

TMP Phase 2027 to 2031

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	295,237,300
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

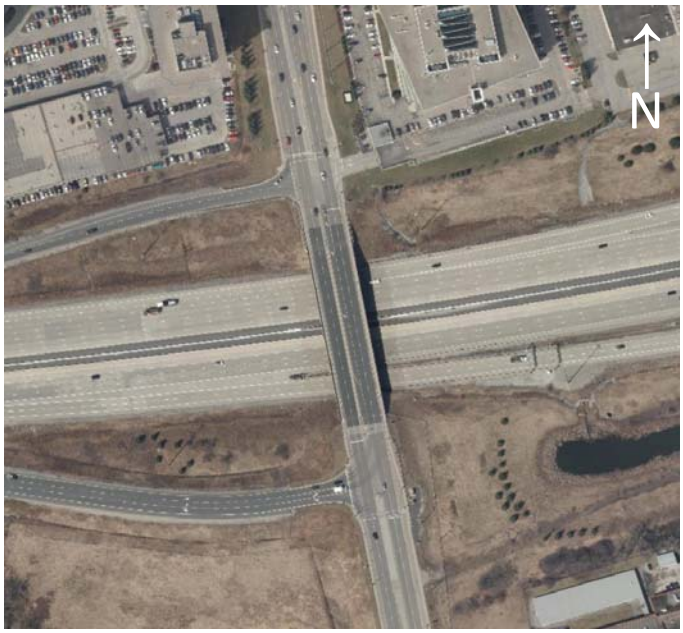
Name	Project ID
Leslie Street - Highway 7 to Major Mackenzie Drive - RT Corridor	1012

1011 - Don Mills Road - Leslie Street - Steeles Avenue to Highway 7 (continued)

Key Intersections and Constraints

Don Mills Road at Steeles Avenue

Leslie Street at Highway 407



Leslie Street at Highway 7

1012 - Leslie Street - Highway 7 to Major Mackenzie Drive

Project Description

Location	Leslie Street	**Project ID**	**1012**
Municipality	Richmond Hill	**Road Segment ID**	12-06 to 12-08
Project Limits	Highway 7 to Major Mackenzie Drive	**Length**	4,100 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	2,220	1,930	1.23	1.07
Daily truck volume	1,190 /day	940 /day		

Description

Existing 4 general purpose lanes with turn lanes at intersections. Continuous sidewalk on both sides. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor. Crosses Regional Greenlands System at 16th Avenue and at Major Mackenzie Drive.

Land Use and Built Environment Major employment area between Highway 7 and north of 16th Avenue. Mainly residential north of 16th Avenue on the west side of Leslie Street.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,500	2,110	1.39	1.17	960	930

1012 - Leslie Street - Highway 7 to Major Mackenzie Drive (continued)

Problem or Opportunity Statement

Corridor improvements needed to address high transit demands along Leslie Street; Corridor improvements needed to increase transit speed and reliability.

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 transit needs in the corridor.
3. Widen corridor to 6 lanes to implement transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV.
4. Widen corridor to implement rapid transit - Best addresses problem or opportunity statement.

Recommended Improvement and Justification

Recommendation Widen corridor to provide dedicated rapidway.

Justification Best addresses the need to improve transit speed and reliability to support ridership growth. Connects to planned Don Mills rapid transit south of Steeles. Serves major employment area. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.

TMP Phase 2027 to 2031

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	271,571,000
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Don Mills Road - Leslie Street - Steeles Avenue to Highway 7 - RT Corridor	1011

1012 - Leslie Street - Highway 7 to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Leslie Street at Highway 7

Leslie Street at 16th Avenue

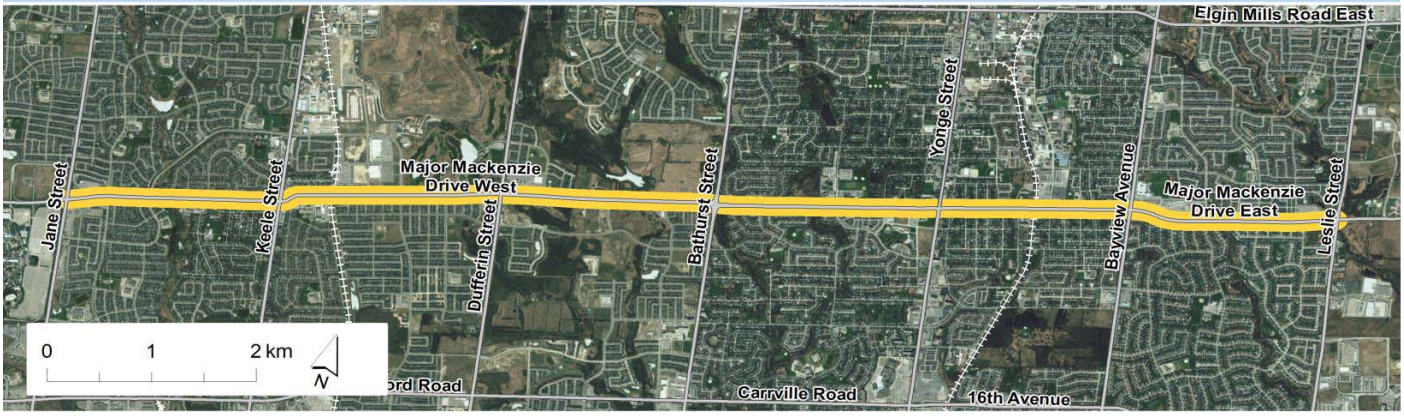
Leslie Street at Major Mackenzie Drive

1013 - Major Mackenzie Drive - Jane Street to Leslie Street

Project Description

Location	Major Mackenzie Drive	**Project ID**	**1013**
Municipality	Vaughan, Richmond Hill	**Road Segment ID**	25-18 to 25-28
Project Limits	Jane Street to Leslie Street	**Length**	12,100 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,850	1,480	1.15	0.87
Daily truck volume	1,770 /day	1,250 /day		

Description

Existing 4 general purpose lanes with turn lanes at intersections. Continuous sidewalks on both sides from Jane Street to Keele Street and from Bathurst Street to Leslie Street. Curbside transit service. Underpass of GO Barrie Line east of Keele Street; piers abut travel lanes.

Natural and Built Environment

Natural Environment

Observations: Existing development on both sides of corridor. Multiple crossings of watercourses and Regional Greenlands System. Section of corridor between Keele Street and Bathurst Street is located within the Oak Ridges Moraine Designated Area.

Environmentally Sensitive Areas: Designated ANSI located north of corridor between Dufferin Street and Bathurst Street (but not immediately adjacent to corridor).

Land Use and Built Environment

Mostly low density residential communities with backlots or window streets on to Major Mackenzie Drive. Maple community with commercial and residential frontage on Major Mackenzie on both sides of Keele Street. Direct residential frontage between Yonge Street and Bayview Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,130	1,730	1.33	1.02	1,490	760

1013 - Major Mackenzie Drive - Jane Street to Leslie Street (continued)

Problem or Opportunity Statement

Corridor improvements needed to address transit demands along Major Mackenzie Drive. Corridor improvements needed to increase transit speed and reliability.

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 transit needs in the corridor.
3. Widen corridor to 6 lanes to implement transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV.
4. Widen corridor to implement rapid transit - Best addresses problem or opportunity statement.

Recommended Improvement and Justification

Recommendation	Widen corridor to provide dedicated rapidway, maintain curbside service in constrained areas (to be determined in Class EA Phase 3).
Justification	Best addresses the need to improve transit speed and reliability to support ridership growth. Conversion from curbside Viva service to median rapidway. Provides connection between Jane RT in the west to Leslie and/or Woodbine RT in the east. High transit demand connecting to Yonge Street RT. Further extension west of Jane Street to CP MacTier 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	2027 to 2031

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	403,686,400
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Major Mackenzie Drive - Leslie Street to Donald Cousens Parkway - RT Corridor	1014
Major Mackenzie Drive - Leslie Street to Kennedy Road - Widen to 6 lanes	2125

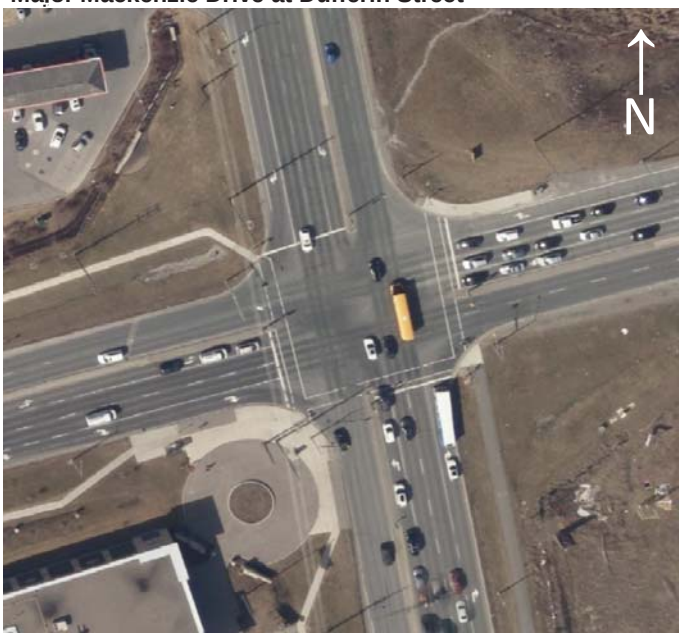
1013 - Major Mackenzie Drive - Jane Street to Leslie Street (continued)

Key Intersections and Constraints

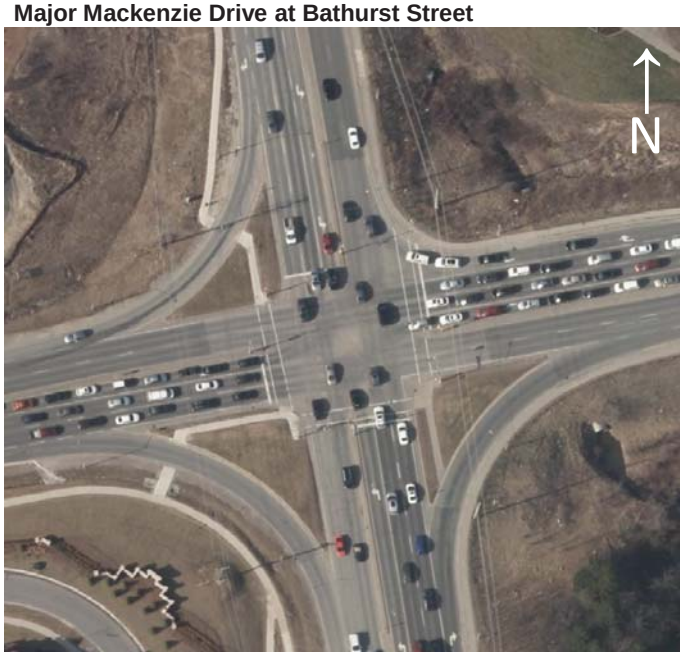
Major Mackenzie Drive at Jane Street

Major Mackenzie Drive at Keele Street

Major Mackenzie Drive at Dufferin Street



Major Mackenzie Drive at Bathurst Street



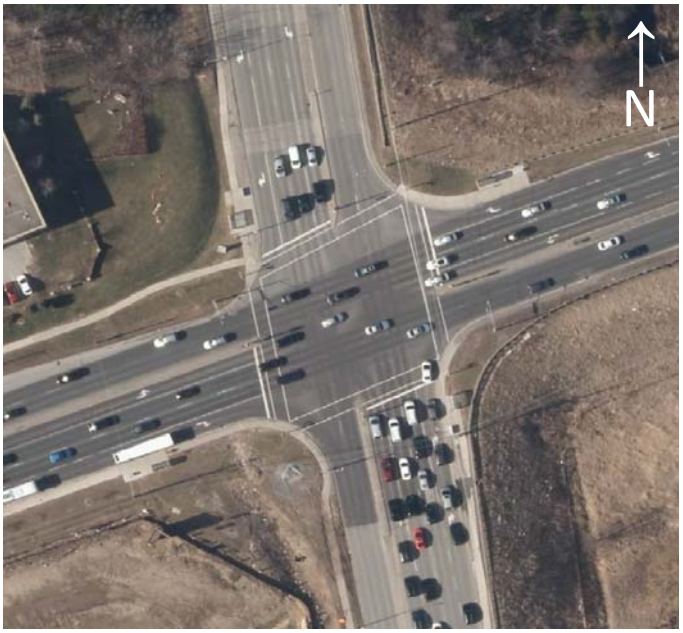
1013 - Major Mackenzie Drive - Jane Street to Leslie Street (continued)

Key Intersections and Constraints

Major Mackenzie Drive at Yonge Street

Major Mackenzie Drive at Bayview Avenue

Major Mackenzie Drive at Leslie Street



Barrie GO railway underpass east of Keele Street (Image capture: 2015, ©2016 Google)

1014 - Major Mackenzie Drive - Leslie Street to Donald Cousens Parkway

Project Description

Location	Major Mackenzie Drive	**Project ID**	**1014**
Municipality	Richmond Hill, Markham	**Road Segment ID**	25-29 to 25-40
Project Limits	Leslie Street to Donald Cousens Parkway	**Length**	11,000 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,800	1,450	1.00	0.81
Daily truck volume	1,360 /day	910 /day		

Description

Existing 4 general purpose lanes with turn lanes at intersections. Continuous sidewalks on both sides from Markland Street to Kennedy Road. Sidewalk on south side from Kennedy Road to Markham Road. No dedicated cycling facilities. Curbside transit service. At-grade crossing of Stouffville GO line west of Donald Cousens Parkway.

Natural and Built Environment

Natural Environment Observations: Existing development on south side and agricultural fields on north side of corridor from east of Woodbine Avenue easterly. Corridor has several crossings of watercourses and the Regional Greenlands System.

Land Use and Built Environment Primarily lower density residential developments from Highway 404 to Warden Avenue on both sides. East of Warden Avenue are primarily agricultural uses on the north side and a golf course on the both sides. Residential developments along south side easterly from Kennedy Road.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,670	2,070	1.48	1.12	1,360	810

1014 - Major Mackenzie Drive - Leslie Street to Donald Cousens Parkway (continued)

Problem or Opportunity Statement

Corridor improvements needed to provide competitive transit service for North Markham. Opportunity to influence higher transit mode share.

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 transit needs in the corridor.
3. Widen corridor to 6 lanes to implement transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV.
4. Widen corridor to implement rapid transit - Best addresses problem or opportunity statement.

Recommended Improvement and Justification

Recommendation	Implement Viva curbside service. Transition corridor to dedicated rapidway through conversion of existing road lanes (Leslie Street to Kennedy Road) and corridor widening (Kennedy Road to Donald Cousens Parkway).
Justification	Provides higher-order transit service connecting central Major Mackenzie RT, Leslie and/or Woodbine RT across to future GO station east of Highway 48. Serves future development in North Markham. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.
TMP Phase	2027 to 2031: Viva Curbside Service 2032 to 2041: Dedicated Rapidway

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	564,558,000
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

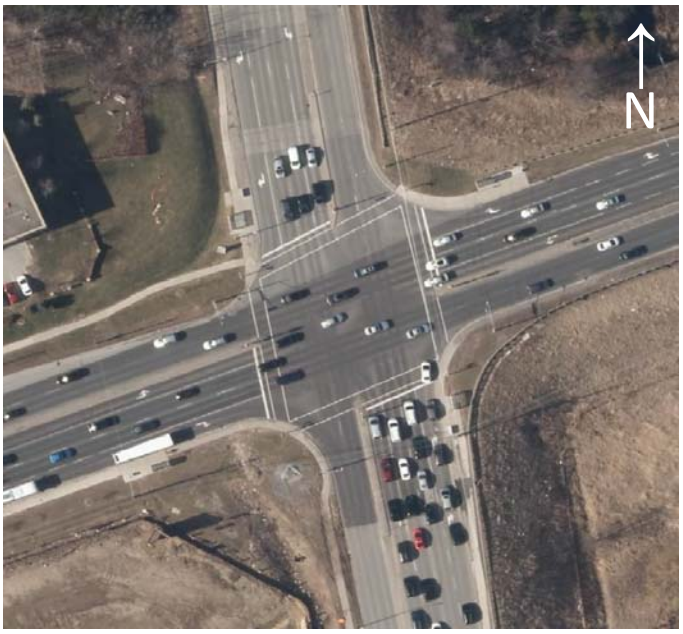
Related Projects

Name	Project ID
Major Mackenzie Drive - Jane Street to Leslie Street - RT Corridor	1013
Major Mackenzie Drive - Leslie Street to Kennedy Road - Widen to 6 lanes	2125
Major Mackenzie Drive - Donald Cousens Parkway to Delray Drive - Widen to 4 lanes	2128

1014 - Major Mackenzie Drive - Leslie Street to Donald Cousens Parkway (continued)

Key Intersections and Constraints

Major Mackenzie Drive at Leslie Street



Major Mackenzie Drive at Highway 404

Major Mackenzie Drive at Woodbine Avenue

Major Mackenzie Drive at Warden Avenue

1014 - Major Mackenzie Drive - Leslie Street to Donald Cousens Parkway (continued)

Key Intersections and Constraints

Major Mackenzie Drive at Kennedy Road

Major Mackenzie Drive at McCowan Road

Major Mackenzie Drive at Donald Cousens Parkway

1017 - Jane Street - Highway 7 to Rutherford Road

Project Description

Location	Jane Street	**Project ID**	**1017**
Municipality	Vaughan	**Road Segment ID**	55-04 to 55-06
Project Limits	Highway 7 to Rutherford Road	**Length**	4,100 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,650	1,470	0.92	0.82
Daily truck volume	1,070 /day	920 /day		

Description

Existing 4 lanes with median lane and turn lanes at intersections. No sidewalks between Highway 7 and Langstaff Road. Sidewalks on both sides between Langstaff Road and Rutherford Road. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

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

Land Use and Built Environment Edgeley cemetery located north of Highway 7 on east side of Jane Street. Mainly employment/industrial uses on both sides of Jane Street, with Vaughan Mills located on southwest quadrant of Jane Street and Rutherford Road.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	1,900	1,530	1.05	0.85	750	730

1017 - Jane Street - Highway 7 to Rutherford Road (continued)

Problem or Opportunity Statement

Corridor improvements needed to address transit demands along Jane Street and support Spadina Subway; corridor improvements needed to increase transit speed and reliability.

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 transit needs in the corridor.
3. Widen corridor to 6 lanes to implement transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV .
4. Widen corridor to implement rapid transit - Best addresses problem or opportunity statement.

Recommended Improvement and Justification

Recommendation	Transition six lane transit/HOV corridor (Interim solution) to dedicated rapidway through conversion of existing road lanes.
Justification	Provides higher-order transit service connecting to subway extension at Vaughan Metropolitan Centre and major destinations including Vaughan Mills Mall. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.
TMP Phase	2027 to 2031

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	183,623,000
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Jane Street - Rutherford Road to Major Mackenzie Drive - RT Corridor	1018
Jane Street - Highway 7 to Major Mackenzie Drive - Widen to 6 lanes	2160

1017 - Jane Street - Highway 7 to Rutherford Road (continued)

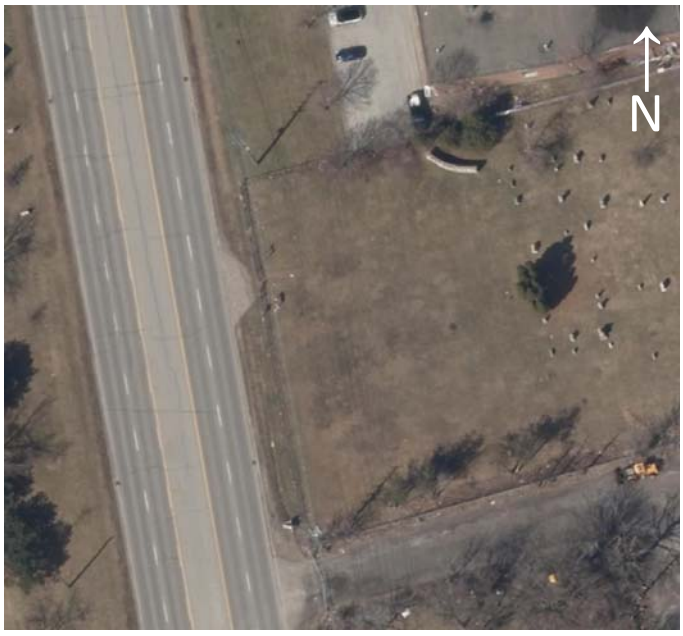
Key Intersections and Constraints

Jane Street at Highway 7

Jane Street at Langstaff Road

Jane Street at Rutherford Road

Cemetery on the east side of Jane Street north of Highway 7.



1018 - Jane Street - Rutherford Road to Major Mackenzie Drive

Project Description

Location	Jane Street	**Project ID**	**1018**
Municipality	Vaughan	**Road Segment ID**	55-08
Project Limits	Rutherford Road to Major Mackenzie Drive	**Length**	2,100 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	2,210	2,210	1.23	1.23
Daily truck volume	780 /day	780 /day		

Description

Existing 4 lanes with median lane and turn lanes at intersections. Continuous sidewalks on both sides. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

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

Land Use and Built Environment Mainly commercial developments along Jane Street with amusement park parking lot on the west side from Canada's Wonderland Drive to Major Mackenzie Drive.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,180	2,180	1.21	1.21	800	800

1018 - Jane Street - Rutherford Road to Major Mackenzie Drive (continued)

Problem or Opportunity Statement

Corridor improvements needed to address transit demands along Jane Street and support Spadina Subway; corridor improvements needed to increase transit speed and reliability.

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 transit needs in the corridor.
3. Widen corridor to 6 lanes to implement transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV .
4. Widen corridor to implement rapid transit - Best addresses problem or opportunity statement.

Recommended Improvement and Justification

Recommendation

Transition six lane transit/HOV corridor (Interim solution) to dedicated rapidway through conversion of existing road lanes.

Justification

Provides higher-order transit service connecting to subway extension at Vaughan Metropolitan Centre and major destinations including Vaughan Mills Mall, Vaughan Hospital and Canada's Wonderland. Opportunity to introduce cycling facilities in the corridor. Opportunity to implement transit smart corridor.

TMP Phase

2027 to 2031

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	106,104,100
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

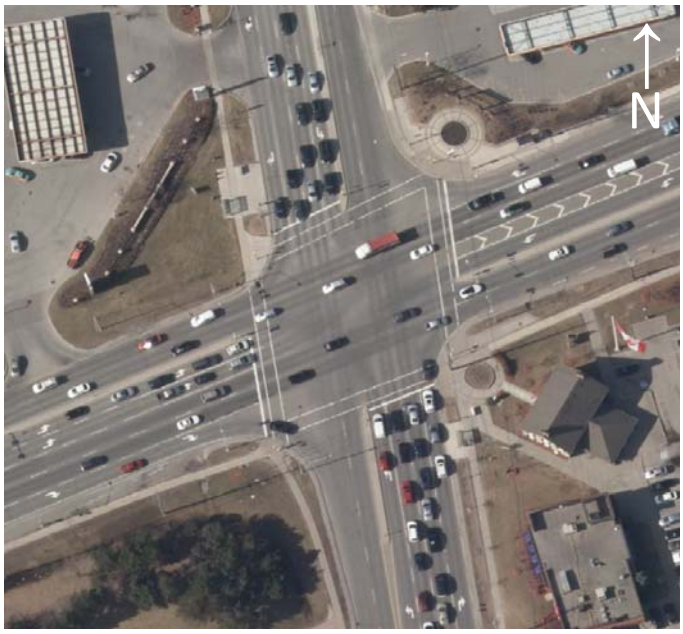
Name	Project ID
Jane Street - Highway 7 to Rutherford Road - RT Corridor	1017
Jane Street - Highway 7 to Major Mackenzie Drive - Widen to 6 lanes	2160

1018 - Jane Street - Rutherford Road to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Jane Street at Rutherford Road

Jane Street at Major Mackenzie Drive



1019 - Yonge Subway Extension - Steeles Avenue to Richmond Hill Centre

Project Description

Location	Yonge Subway Extension	**Project ID**	**1019**
Municipality	Vaughan, Markham, Richmond Hill		
Project Limits	Steeles Avenue to Richmond Hill Centre		
Project Type	Subway		

Map

Existing Conditions

Description

Yonge Subway (Line 1) currently ends at Finch Station. Yonge Street corridor has the highest transit ridership in York Region, with 2500 buses per day in mixed traffic travelling to/from Finch Station.

Natural and Built Environment

Natural Environment

Observations: Existing development on both sides of corridor. Corridor crosses Regional Greenlands System north of John Street.

Land Use and Built Environment

Mix of commercial properties fronting on Yonge Street and high-density residential developments along the corridor. Historic Thornhill village north of John Street. Planned Langstaff growth area south of Hwy 407.

Future Transportation Conditions

	Peak Hour Transit Riders	
	Maximum	Average
2041 Proposed Network	14,520	13,230

Problem or Opportunity Statement

Highest transit ridership in York Region. Demand exceeds capacity of non-fully separated rapid transit.

Alternatives Considered

Approved Yonge Subway Extension EA considered range of alternatives.

1019 - Yonge Subway Extension - Steeles Avenue to Richmond Hill Centre (continued)

Recommended Improvement and Justification

Recommendation	Construct subway extension from Finch Station to Richmond Hill Centre.
Justification	Yonge Subway EA and Conceptual Design Study completed, Funding for construction included in the "Next Wave" of Metrolinx projects. Ridership meets threshold for subway. Subway extension is required to achieve growth targets for Langstaff/Richmond Hill Centre.
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	$	3,090,000,000
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Yonge Street - Highway 7 to Major Mackenzie Drive - RT Corridor	1001

1021 - Green Lane - Yonge Street to GO Station

Project Description

Location	Green Lane	**Project ID**	**1021**
Municipality	East Gwillimbury	**Road Segment ID**	19-26 to 19-28
Project Limits	Yonge Street to GO Station	**Length**	2,300 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,450	1,450	0.72	0.72
Daily truck volume	1,530 /day	1,530 /day		

Description

Existing 4 general purpose lanes with turn lanes at intersection and rural cross-section. Sidewalk on north side along commercial development block east of Yonge Street only. Curbside transit service. At-grade crossing of Barrie GO east of 2nd Concession.

Natural and Built Environment

Natural Environment Observations: Tree lots interspersed among agricultural lands; Holland River crossing east of Barrie GO line.
Source Water Protection Areas: SWP area north of Green Lane at 2nd Concession.

Land Use and Built Environment Retail commercial at Yonge Street and Green Lane. Existing agricultural uses from east of Yonge Street to GO Station. Lands are designated for development as part of East Gwillimbury Green Lane Secondary Plan.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,120	2,120	1.06	1.06	160	160

1021 - Green Lane - Yonge Street to GO Station (continued)

Problem or Opportunity Statement

Corridor improvements needed to improve transit speed and reliability. Transit improvements needed to support growth in East Gwillimbury and encourage mode shift to transit.

Alternatives Considered

Approved North Yonge Street Rapid Transit EA considered range of alternatives.

Recommended Improvement and Justification

Recommendation

Transition six lane transit/HOV corridor (Interim solution) to dedicated rapidway through conversion of existing road lanes.

Justification

Need established through North Yonge transitway EA. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor.

TMP Phase

2032 to 2041

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	77,226,800
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Green Lane - Yonge Street to 2nd Concession - Widen to 6 lanes	2126
Green Lane - 2nd Concession to Highway 404 - Widen to 6 lanes	2023
Barrie GO Grade Separation - Green Lane east of 2nd Concession - Rail grade separation	2140

1021 - Green Lane - Yonge Street to GO Station (continued)

Key Intersections and Constraints

Green Lane at Yonge Street

Green Lane at 2nd Concession

At-grade crossing of Barrie GO at Green Lane

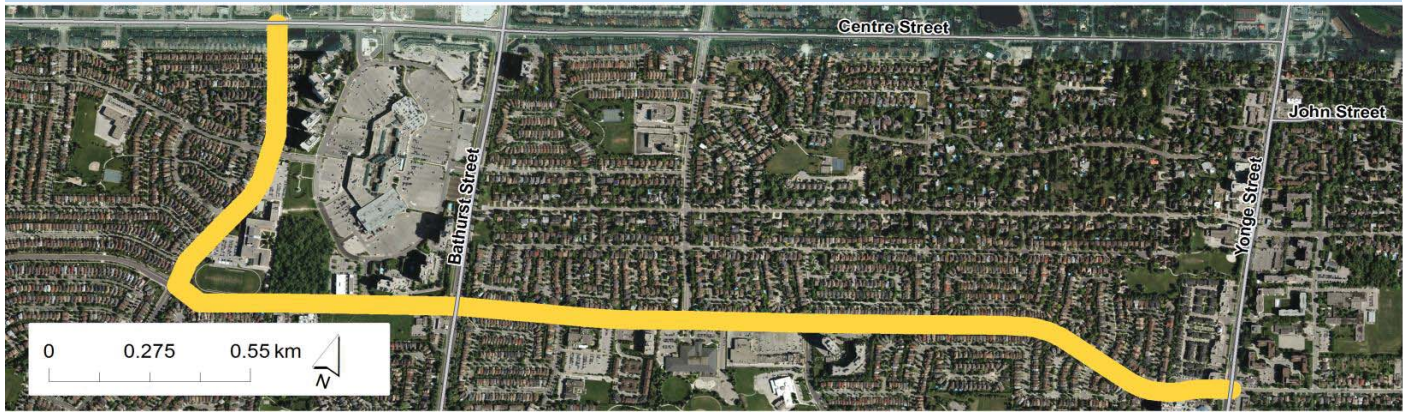
Green Lane at Holland River

1022 - Clark Avenue-New Westminster Drive - Centre Street to Yonge Street

Project Description

Location	Clark Avenue-New Westminster Drive	**Project ID**	**1022**
Municipality	Vaughan	**Road Segment ID**	N/A
Project Limits	Centre Street to Yonge Street	**Length**	3,800 m
Project Type	RT Corridor		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	N/A	N/A	N/A	N/A
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes with turn lanes at intersections. No dedicated cycling facilities. Continuous sidewalks on both sides. Curbside transit service.

Natural and Built Environment

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

Land Use and Built Environment Mostly low density residential backing onto Clark Avenue. Some higher density residential buildings. Plan. Low density residential development on the west side of New Westminster Drive. On the east side, higher density residential south of Centre Street and a high school north of Clark Avenue. Promenade Mall located east of New Westminster Drive and North of Clark Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	N/A	N/A	N/A	N/A	N/A	N/A

1022 - Clark Avenue-New Westminster Drive - Centre Street to Yonge Street (continued)

Problem or Opportunity Statement

Accommodate high volume of buses destined to Yonge Corridor and Finch Station from west.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Provide Viva curbside service

Recommended Improvement and Justification

Recommendation Viva curbside service.

Justification Most efficient alternative for accommodating bus routings to Yonge corridor and Finch Station from west. Part of Viva Network Expansion Plan. Opportunity to implement transit smart corridor.

TMP Phase 2017 to 2021

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	12,075,000
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Highway 7 - Helen Street to Yonge Street - RT Corridor	1007

1022 - Clark Avenue-New Westminster Drive - Centre Street to Yonge Street (continued)

Key Intersections and Constraints

New Westminster Drive at Centre Street

New Westminster Drive at Clark Avenue

Clark Avenue at Bathurst Street

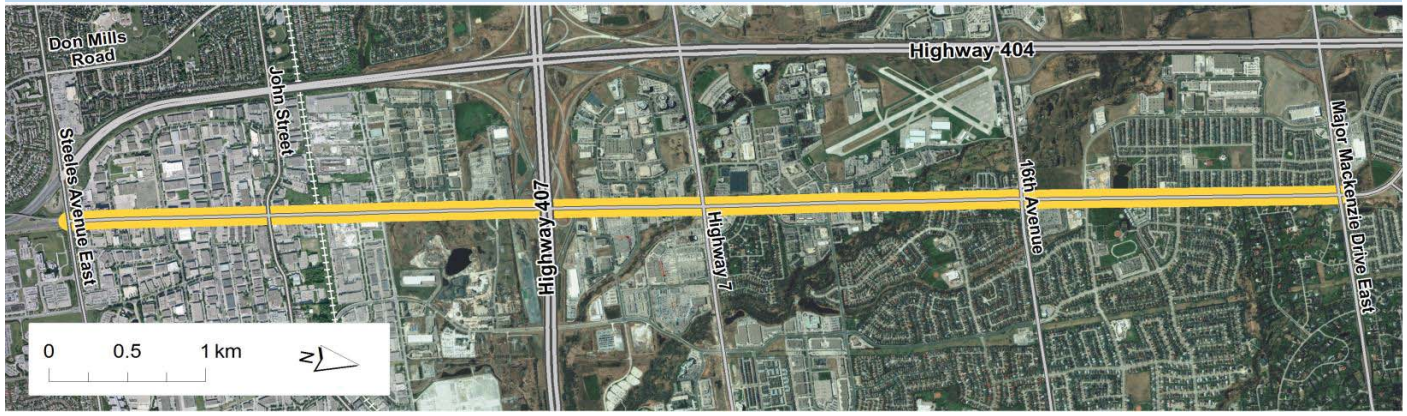
Clark Avenue at Yonge Street

1023 - Woodbine Avenue - Steeles Avenue to Major Mackenzie

Project Description

Location	Woodbine Avenue	**Project ID**	**1023**
Municipality	Markham	**Road Segment ID**	08-01 to 08-04
Project Limits	Steeles Avenue to Major Mackenzie	**Length**	8,200 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	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	2,570	2,040	1.21	0.95
Daily truck volume	N/A	N/A		

Description

Existing 6 general purpose lanes with median lane and turn lanes at intersections. Continuous sidewalks on both sides. No dedicated cycling facilities. Curbside transit service north of Denison Street.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor. Crossing of watercourse and Regional Greenlands System at Highway 7.

Land Use and Built Environment Mostly employment uses with a mix of office and light industrial on both sides of corridor.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	2,930	2,460	1.22	0.99	460	330

1023 - Woodbine Avenue - Steeles Avenue to Major Mackenzie (continued)

Problem or Opportunity Statement

Corridor improvements needed to improve transit speed and reliability. Transit improvements would support Buttonville Airport redevelopment and Woodbine corridor intensification.

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 transit needs in the corridor.
3. Convert curb lanes to transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV .
4. Construct full dedicated rapidway.

Recommended Improvement and Justification

Recommendation	Implement Viva curbside service on six lane corridor. Further study required for the transition to dedicated rapidway and to confirm connection south of Steeles Avenue.
Justification	Woodbine Avenue is a major employment corridor with potential for intensification and mixed use development. Enhancing transit capacity would support Buttonville redevelopment. Enhancing transit capacity and speed will help achieve a higher transit mode share. Opportunity to introduce cycling facilities in the corridor. Opportunity to implement transit smart corridor.
TMP Phase	2027 to 2031: Viva Curbside Service 2032 to 2041: Dedicated Rapidway

Alignment with TMP Objectives

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

Costs

Capital Cost	$	512,517,000
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID

1023 - Woodbine Avenue - Steeles Avenue to Major Mackenzie (continued)

Key Intersections and Constraints

Woodbine Avenue at Steeles Avenue

Woodbine Avenue at Highway 407

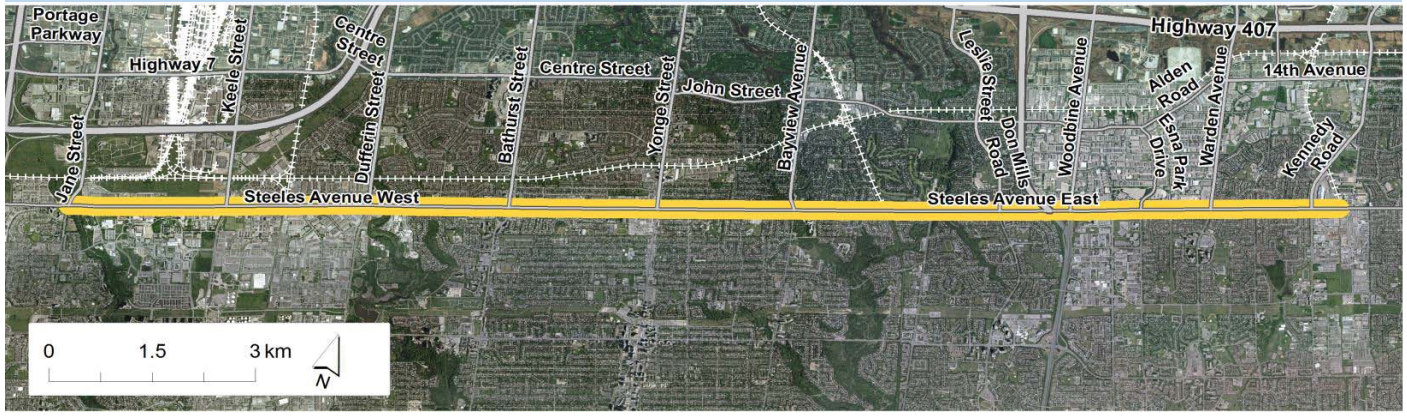
Woodbine Avenue at Highway 7

1024 - Steeles Avenue - Spadina Subway to Milliken GO

Project Description

Location	Steeles Avenue	**Project ID**	**1024**
Municipality	Vaughan, Markham	**Road Segment ID**	95-18 to 95-46
Project Limits	Spadina Subway to Milliken GO	**Length**	18,000 m
Project Type	RT Corridor		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW 36 to 45 metres

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	2,580	1,860	1.07	0.92
Daily truck volume	N/A	N/A		

Description

Existing corridor with 4 to 6 general purpose lanes. Continuous sidewalks on both sides from Keele Street to Woodbine Avenue and from Victoria Park Avenue to Markham Road. No dedicated cycling facilities. At-grade crossing of GO Stouffville Line east of Kennedy Road and At-grade crossing of CP Havelock east of Tapscott Road.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides through most of the corridor with several crossings of watercourses and Regional Greenlands System.

Land Use and Built Environment Wide range of land uses including suburban residential and commercial uses on both sides of corridor.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	1,760	1,530	1.10	0.95	3,100	2,670

1024 - Steeles Avenue - Spadina Subway to Milliken GO (continued)

Problem or Opportunity Statement

Corridor improvements needed to address high transit demands along Steeles Avenue corridor; corridor improvements needed to increase transit speed and reliability. City of Toronto has also identified the potential implementation of a new rapid transit facility on Steeles Avenue between York University and McCowan Road.

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 transit needs in the corridor.
3. Widen corridor to 6 lanes to implement transit/HOV lanes - Potential to improve transit travel time and encourage shift to transit/HOV but not consistent with Toronto's rapid transit planning on Steeles Avenue
4. Widen corridor to implement rapid transit - Best addresses problem or opportunity statement. Consistent with rapid transit planning on Steeles Avenue.

Recommended Improvement and Justification

Recommendation	Widen corridor to provide dedicated rapidway and transition existing six lane sections to dedicated rapidway through conversion of existing road lane.
Justification	Connects Spadina Subway, Yonge Subway and Milliken GO Station/RER. Identified as priority in City of Toronto Transit Plans. Opportunity to introduce cycling facilities and eliminate sidewalk gaps in the corridor. Opportunity to implement transit smart corridor. Project terminates at Milliken GO as identified in the Toronto TMP while the Big Move identifies the project extending east to York/Durham Line with a connection to Taunton Road in the Region of Durham.
TMP Phase	2027 to 2031

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	844,395,900
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Steeles Avenue - Pine Valley Drive to Jane Street - Steeles (Widen to 6 lanes)	2117
Steeles Avenue - Kennedy Road to Markham Road - Steeles (Widen to 6 lanes)	2121
Stouffville GO Grade Separation - Steeles Avenue east of Kennedy Road - Rail grade separation	2133

1024 - Steeles Avenue - Spadina Subway to Milliken GO (continued)

Key Intersections and Constraints

Steeles Avenue at Jane Street

Steeles Avenue at Keele Street

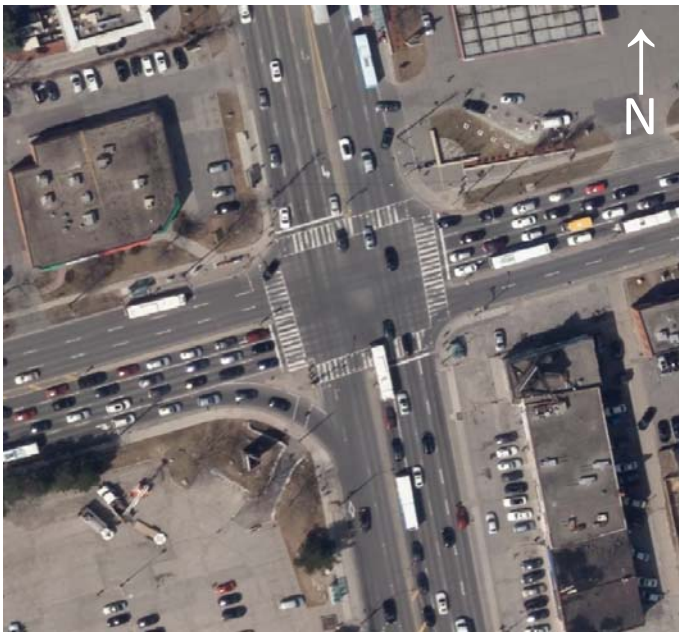
Steeles Avenue at Dufferin Street

Steeles Avenue at Bathurst Street

1024 - Steeles Avenue - Spadina Subway to Milliken GO (continued)

Key Intersections and Constraints

Steeles Avenue at Yonge Street



Steeles Avenue at Bayview Avenue

Steeles Avenue at Don Mills Road

Steeles Avenue at Highway 404

1024 - Steeles Avenue - Spadina Subway to Milliken GO (continued)

Key Intersections and Constraints

Steeles Avenue at Woodbine Avenue

Steeles Avenue at Warden Avenue

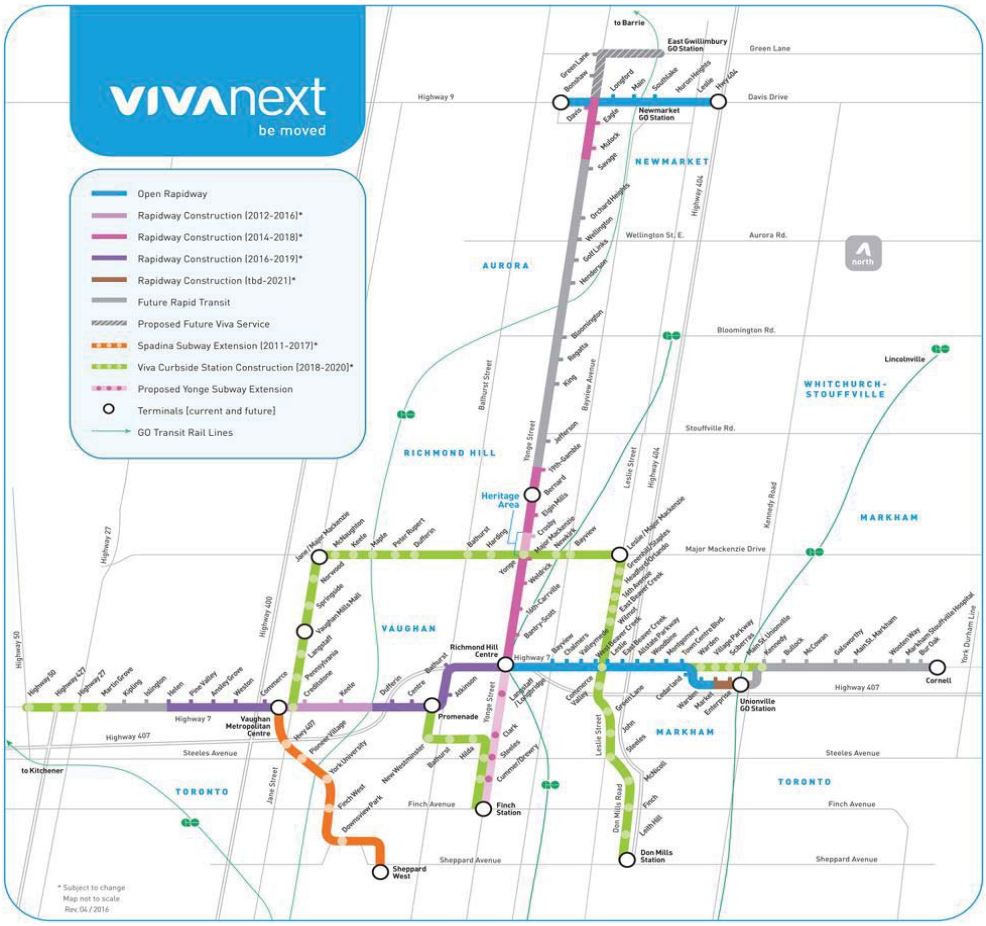
Steeles Avenue at Kennedy Road

1025 - Viva Expansion Plan - Jane St/Major Mackenzie Dr/Leslie St/Hwy 7/Clark Ave

Project Description

Location	Viva Expansion Plan	**Project ID**	**1025**
Municipality	Vaughan, Richmond Hill, Markham		
Project Limits	Jane St/Major Mackenzie Dr/Leslie St/Hwy 7/Clark Ave		
Project Type	RT Corridor		

Map



Existing Conditions

Description

Future expansion of the VivaNext Rapidway network.

Problem or Opportunity Statement

Transit service improvements needed in advance of dedicated rapidway to build ridership and increase transit mode share.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Provide Viva curbside service

1025 - Viva Expansion Plan - Jane St/Major Mackenzie Dr/Leslie St/Hwy 7/Clark Ave (continued)

Recommended Improvement and Justification

Recommendation Viva curbside service.

Justification Builds transit ridership in advance of dedicated rapidways.

TMP Phase 2017 to 2021

Alignment with TMP Objectives

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

Costs

Capital Cost	$	192,717,000
Incremental Annual Road Operating Cost	$	-
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

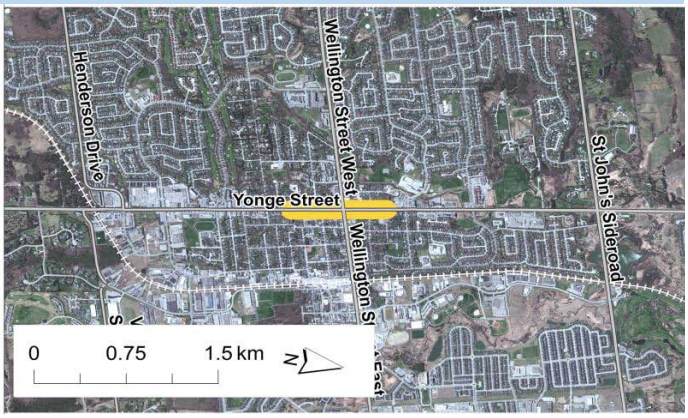
Name	Project ID
Highway 7 - Highway 50 to Helen Street - RT Corridor	1006
Highway 7 - Town Centre Boulevard to Kennedy Road - RT Corridor	1009
Don Mills Road - Leslie Street - Steeles Avenue to Highway 7 - RT Corridor	1011
Leslie Street - Highway 7 to Major Mackenzie Drive - RT Corridor	1012
Major Mackenzie Drive - Jane Street to Leslie Street - RT Corridor	1013
Jane Street - Highway 7 to Rutherford Road - RT Corridor	1017
Jane Street - Rutherford Road to Major Mackenzie Drive - RT Corridor	1018
Clark Avenue-New Westminster Drive - Centre Street to Yonge Street - RT Corridor	1022

1026 - Yonge Street - Downtown Aurora, Downtown Richmond Hill

Project Description

Location	Yonge Street	**Project ID**	**1026**
Municipality	Aurora, Richmond Hill	**Road Segment ID**	N/A
Project Limits	Downtown Aurora, Downtown Richmond Hill	**Length**	4,000 m
Project Type	RT Corridor		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
Model Forecast	Maximum	Average	Maximum	Average
2011 Existing	1,300	1,120	0.81	0.72
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes with curb lanes used for on-street parking during the off-peak periods. Sidewalks on both sides. Streetscape features. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Historic developments on both sides of Yonge Street corridor.
Source Water Protection Areas: Downtown Aurora section located within SWP area.

Land Use and Built Environment Historic main street developments with no setback from the roadway right-of-way.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio		Peak Hour Transit Riders	
	Maximum	Average	Maximum	Average	Maximum	Average
2041 Proposed Network	1,670	1,480	1.04	0.94	3,860	2,780

1026 - Yonge Street - Downtown Aurora, Downtown Richmond Hill (continued)

Problem or Opportunity Statement

Transit service improvements needed in advance of dedicated rapidway to build ridership and increase transit mode share.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Provide Viva curbside service with transit priority treatment (HOV/transit-only lanes) and provisions for off-street parking.

Recommended Improvement and Justification

Recommendation

Further study required, in consultation with Richmond Hill and Aurora, to accommodate Viva curbside service, priority treatment through constrained areas, and provision for off-street parking.

Justification

Maintain transit travel speed and service reliability on Yonge Street through downtown Aurora and Richmond Hill. Provides for off-street parking to support heritage business areas.

TMP Phase

2017 to 2021

Alignment with TMP Objectives

Support Transit	Support Road Network	Support Active Transportation	Support Goods Movement	Support Last Mile
●	○	◕	○	◕

Costs

Capital Cost	$	74,880,000
Incremental Annual Road Operating Cost	$	68,000
Incremental Road Maintenance and Rehabilitation Cost	$	-

Related Projects

Name	Project ID
Yonge Street - Highway 7 to Major Mackenzie Drive - RT Corridor	1001
Yonge Street - Major Mackenzie Drive to Gamble Road/19th Avenue - RT Corridor	1002
Yonge Street - Gamble Road/19th Avenue to Mulock Drive - RT Corridor	1003

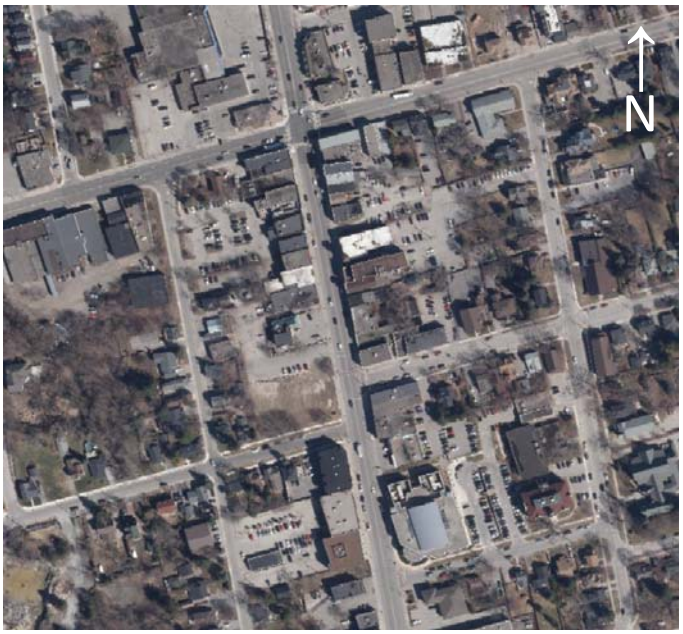
1026 - Yonge Street - Downtown Aurora, Downtown Richmond Hill (continued)

Key Intersections and Constraints

Downtown Richmond Hill

Historic main street in downtown Richmond Hill (Image capture: 2015, ©2016 Google)

Downtown Aurora



Historic main street in downtown Aurora (Image capture: 2015, ©2016 Google)