

2035 - Kirby Road - Dufferin Street to Bathurst Street

Project Description

Location	Kirby Road	Project ID	2035
Municipality	Vaughan	Road Segment ID	29-22
Project Limits	Dufferin Street to Bathurst Street	Length	2,020 m
Project Type	Missing Link		

Map



Preliminary Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

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

Description

No existing facilities.

Natural and Built Environment

Natural Environment Observations: Area includes forested areas, aggregate pit, small watercourse, and agricultural fields between Dufferin Street and Bathurst Street. Area is within the Oak Ridges Moraine designated area. Environmentally Sensitive Areas: Large designated area within the concession block.

Land Use and Built Environment Stone and aggregate business with concrete dump site located to the south. Primarily forested areas or agricultural lands located to the north.

Future Transportation Conditions

2041 Do Nothing	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	N/A	N/A	N/A	N/A
2041 Proposed Network	1,330	1,330	0.95	0.95

2035 - Kirby Road - Dufferin Street to Bathurst Street (continued)

Preliminary Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate future travel demands.
- Network improvements needed to support walking and cycling.
- Network improvements needed to support transit.

Preliminary Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Widen parallel/adjacent corridor - May not fully address travel demand needs as adjacent corridor is at capacity. No improvements to walking and cycling. No improvement to transit service.
3. Construct missing link - Addresses travel demand. Opportunity to provide walking and cycling facilities. Potential to improve transit service.

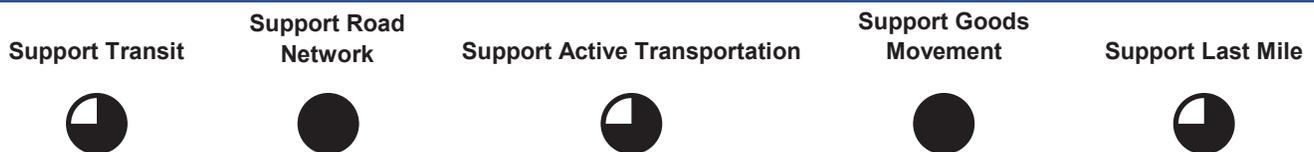
Preliminary Recommended Improvement and Justification

Recommendation Construct 4-lane missing link. Phases 1 and 2 alternatives to be revisited as part of subsequent Environmental Assessments and network analysis.

Justification New road link serves approved development in North Vaughan and provides network connectivity. Corridor also supports goods movement as an Interim Primary Arterial for Goods Movement. Opportunity to improve walking and cycling facilities. Note: Currently under City of Vaughan jurisdiction but is a potential candidate for transfer to York Region. MNRF and TRCA have identified that this project is in an area with significant environmental sensitivities and the Region is committed to revisiting Phase 1 and Phase 2 of the Class EA as part of the next stage of the EA.

TMP Phase 2027 to 2031

Preliminary Alignment with TMP Objectives



Preliminary Costs

Capital Cost	\$	41,807,400
Incremental Annual Road Operating Cost	\$	167,600
Incremental Road Maintenance and Rehabilitation Cost	\$	76,200

Related Projects

Name
Kirby Road - Pine Valley Drive to Dufferin Street - Widen to 4 lanes

Project ID
2034

2035 - Kirby Road - Dufferin Street to Bathurst Street (continued)

Key Intersections and Constraints

Kirby Road at Dufferin Street



Kirby Road at Bathurst Street



2036 - 19th Avenue - Jefferson Forest Drive to Bayview Avenue

Project Description

Location	19th Avenue	Project ID	2036
Municipality	Richmond Hill	Road Segment ID	29-26
Project Limits	Jefferson Forest Drive to Bayview Avenue	Length	650 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	680	680	0.38	0.38
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with turning lanes at intersections. No continuous sidewalks from Linda Margaret Crescent-Jefferson Forest Drive to Bayview Avenue. Segmented sidewalks available adjacent to residential development. No dedicated cycling facilities. No transit services. At-grade rail crossing for Richmond Hill GO/CN Rail Line west of Bayview Avenue.

Natural and Built Environment

Natural Environment Observations: Wooded area east of railway line.

Land Use and Built Environment Residential west of railway line.

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	830	830	0.46	0.46
2041 Proposed Network	1,340	1,340	0.74	0.74

2036 - 19th Avenue - Jefferson Forest Drive to Bayview Avenue (continued)

Problem or Opportunity Statement

- Transportation network improvements are needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
5. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard.

Justification Corridor is under construction for widening to 4 lanes. Capacity improvement needed to accommodate existing and 2041 demand. Provides for continuous sidewalks and cycling facilities between Yonge Street and Bayview Avenue.

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	\$ 7,597,200
Incremental Annual Road Operating Cost	\$ 32,500
Incremental Road Maintenance and Rehabilitation Cost	\$ 12,300

Related Projects

Name	Project ID
19th Avenue - Bayview Avenue to Woodbine Avenue - Widen to 4 lanes	2037
Richmond Hill GO Grade Separation - 19th Avenue west of Bayview Avenue - Rail grade separation	2150

2036 - 19th Avenue - Jefferson Forest Drive to Bayview Avenue (continued)

Key Intersections and Constraints

19th Avenue at Yonge Street



19th Avenue at Bayview Avenue



Richmond Hill GO at 19th Avenue

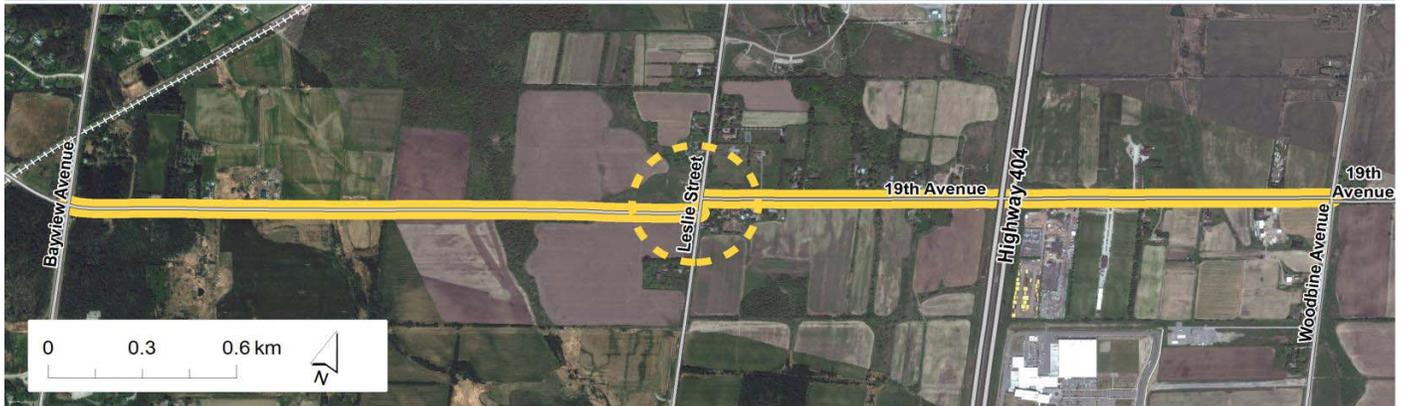


2037 - 19th Avenue - Bayview Avenue to Woodbine Avenue

Project Description

Location	19th Avenue	Project ID	2037
Municipality	Richmond Hill, Markham	Road Segment ID	29-28 to 29-30
Project Limits	Bayview Avenue to Woodbine Avenue	Length	4,040 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	790	520	0.87	0.58
Daily truck volume	60 /day	20 /day		

Description

Existing 2 general purpose lanes. Turning lanes at intersection of Bayview Avenue/19th Avenue. Jogged intersection at Leslie Street. No sidewalks on either side. No dedicated cycling facilities. No transit services.

Natural and Built Environment

Natural Environment Observations: Agricultural fields.
Environmentally Sensitive Areas: Designated area on the north side of 19th Avenue west of Leslie Street.

Land Use and Built Environment Primarily agricultural.

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	1,130	1,080	1.25	1.20
2041 Proposed Network	2,050	1,830	1.13	1.01

2037 - 19th Avenue - Bayview Avenue to Woodbine Avenue (continued)

Problem or Opportunity Statement

- Transportation network improvements are needed to accommodate expansion of the Designated Urban Area.
- Transportation network improvements are needed to serve employment lands.
- Elimination of jogged intersection needed to provide continuous corridor.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
5. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard and realign jogged intersection.

Justification Forecast volumes exceed threshold for widening. Serves growth in designated built up area. Realigned intersection adds capacity and improves traffic flow. Improves walking and cycling facilities.

TMP Phase 2022 to 2026: Bayview Avenue to Leslie Street
2027 to 2031: Leslie Street to Woodbine Avenue

Alignment with TMP Objectives

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

Costs

Capital Cost	\$ 34,471,600
Incremental Annual Road Operating Cost	\$ 201,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 76,200

Related Projects

Name	Project ID
19th Avenue - Jefferson Forest Drive to Bayview Avenue - Widen to 4 lanes	2036
Highway 404 New Interchange - at 19th Avenue - New Interchange	2105

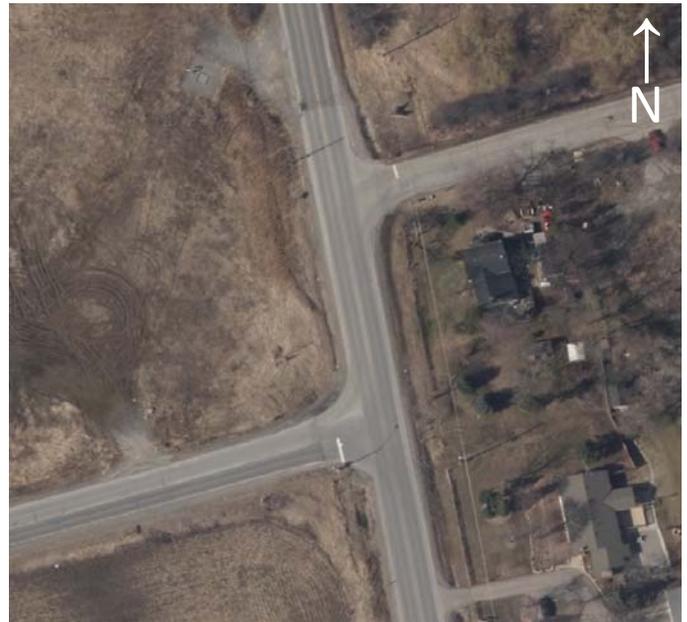
2037 - 19th Avenue - Bayview Avenue to Woodbine Avenue (continued)

Key Intersections and Constraints

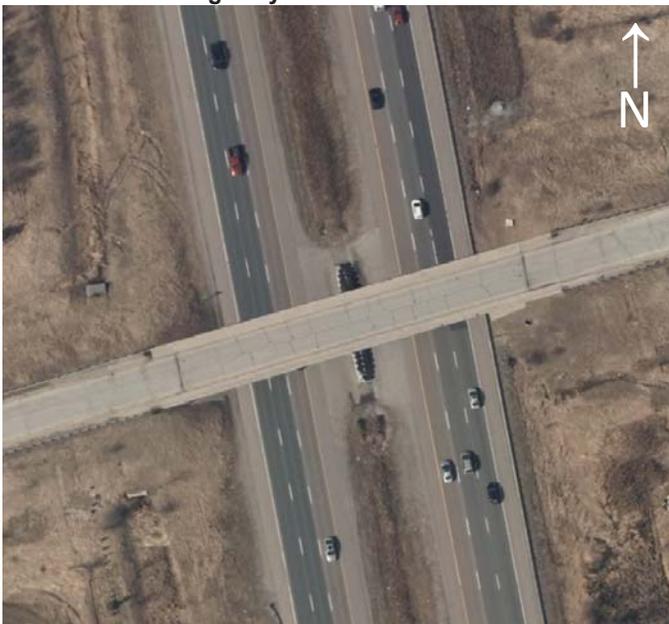
19th Avenue at Bayview Avenue



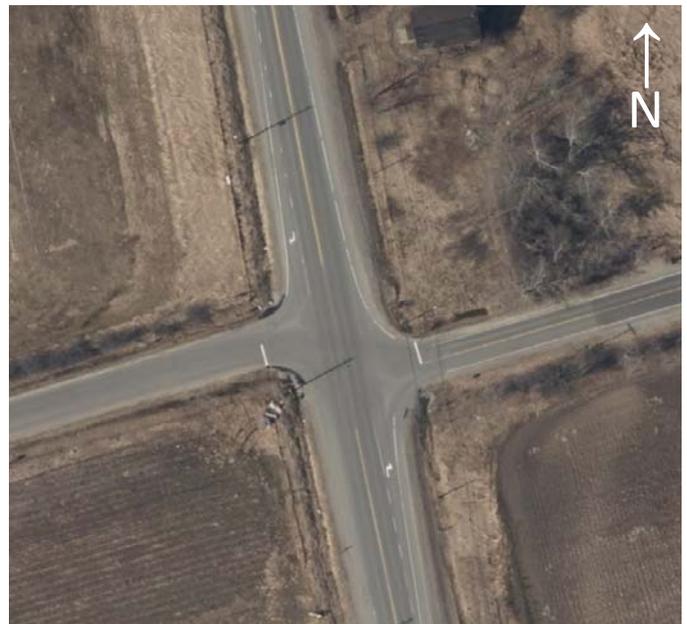
Jogged intersection at 19th Avenue at Leslie Street



19th Avenue at Highway 404



19th Avenue at Woodbine Avenue



2038 - York/Durham Line - Steeles Avenue to Stouffville Road

Project Description

Location	York/Durham Line	Project ID	2038
Municipality	Markham, Whitchurch-Stouffville	Road Segment ID	30-02 to 30-14
Project Limits	Steeles Avenue to Stouffville Road	Length	15,140 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	820	630	0.90	0.71
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes, with turning lanes at some intersections. No sidewalks on either side. No dedicated cycling facilities. No transit services. At-grade rail crossing for CP Havelock Rail Line south of 16th Avenue.

Natural and Built Environment

Natural Environment Observations: Wooded areas. Corridor is adjacent to Regional Greenlands System and abuts or traverses Rouge National Urban Park.
Source Water Protection Areas: Designated area centred on Stouffville.

Land Use and Built Environment Primarily agricultural lands, with some woodlots. Residential south of Main Street Stouffville. The majority of the corridor abuts or traverses the Rouge National Urban Park.

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	1,380	1,090	1.53	1.23
2041 Proposed Network	1,810	1,400	1.01	0.80

2038 - York/Durham Line - Steeles Avenue to Stouffville Road (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.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and maintain rural cross-section outside of urban area.

Justification Forecast travel demands meet threshold for widening to 4 lanes. Markham sections of corridor is outside of urban area and rural cross-section recommended, including in Rouge National Urban Park. Paved shoulder and possible off-road pathway accommodates cycling. Stouffville section of corridor within designated built up area and urban cross-section with walking and cycling facilities is recommended.

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	\$	62,046,600
Incremental Annual Road Operating Cost	\$	405,900
Incremental Road Maintenance and Rehabilitation Cost	\$	285,400

Related Projects

Name **Project ID**

2038 - York/Durham Line - Steeles Avenue to Stouffville Road (continued)

Key Intersections and Constraints

York/Durham Line at Steeles Avenue



York/Durham Line at 14th Avenue



York/Durham Line at Highway 407



York/Durham Line at Highway 7

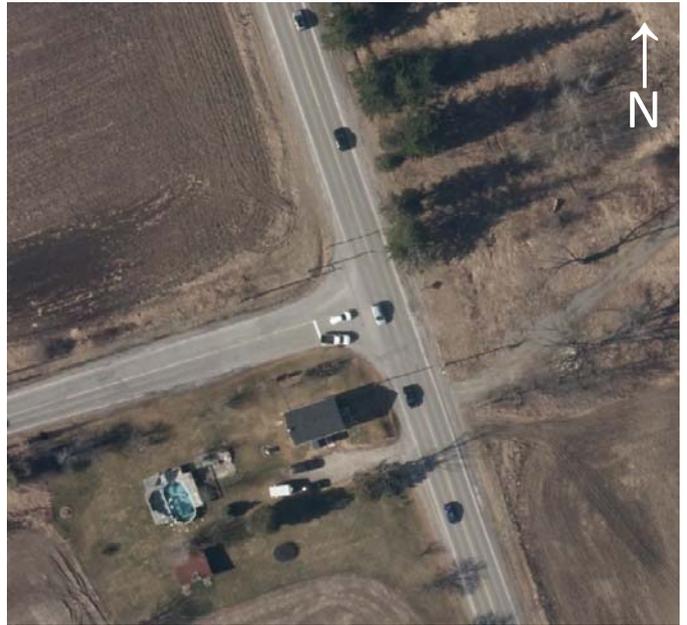


Key Intersections and Constraints

York/Durham Line at 16th Avenue



York/Durham Line at Major Mackenzie Drive



York/Durham Line at Stouffville Road



York/Durham Line at Concession Road 9

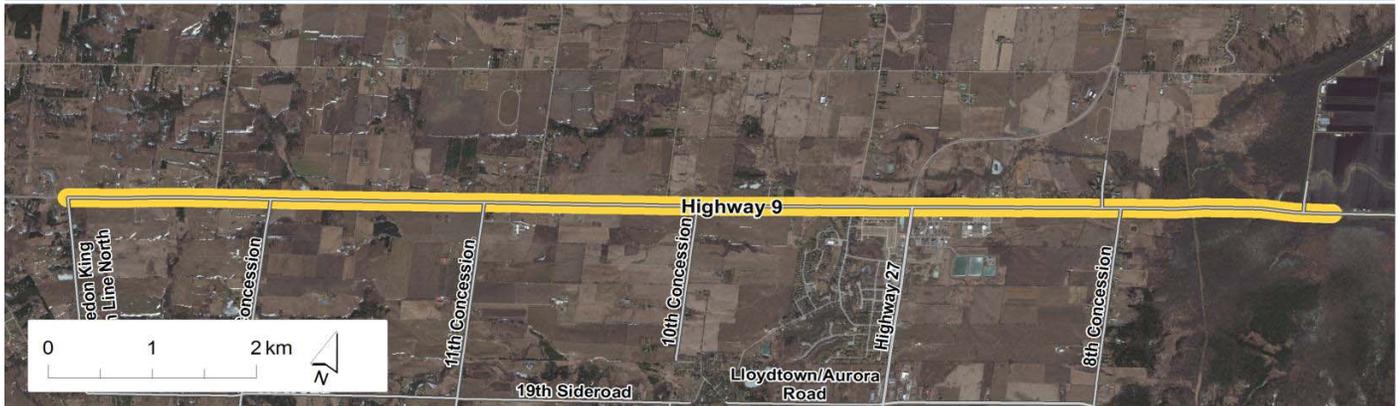


2039 - Highway 9 (MTO) - Highway 27 to east of West Canal Bank Road

Project Description

Location	Highway 9 (MTO)	Project ID	2039
Municipality	King	Road Segment ID	31-10 to 31-14
Project Limits	Highway 27 to east of West Canal Bank Road	Length	4,600 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2011 Existing	410	390	0.34	0.32
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes. Widens to 4 lanes at intersections of Highway 27/Highway 9 and Weston Road/Highway 9. No sidewalks on either side. Shared roadway (unsigned route) east of project limit to Weston Road. No transit service.

Natural and Built Environment

Natural Environment Observations: Pottageville Swamp Conservation Area south of Highway 9 between Concession 8 and Weston Road.
 Environmentally Sensitive Areas: Designated area (Holland Marsh) between 8th Conc and Weston Road on both sides of Highway 9.
 Source Water Protection Areas: Protection area centred on Schomberg.

Land Use and Built Environment Primarily agricultural lands with wooded lots and protected areas west of West Canal Bank Road. Highway 9 runs alongside a canal east of West Canal Bank Road.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	1,640	1,140	1.37	0.95
2041 Proposed Network	1,230	860	0.82	0.55

2039 - Highway 9 (MTO) - Highway 27 to east of West Canal Bank Road (continued)

Problem or Opportunity Statement

- Capacity improvements needed to address existing congestion.
- Capacity improvements needed to accommodate future travel demands.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and maintain rural cross-section.

Justification Capacity improvements serve growth in northern York. Highway 9 is main east-west arterial through northern York and also serves as Primary Arterial for Goods Movement. Paved shoulders accommodate cycling.

TMP Phase 2027 to 2039

Alignment with TMP Objectives

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

Costs

Capital Cost	\$	14,978,000
Incremental Annual Road Operating Cost	\$	96,700
Incremental Road Maintenance and Rehabilitation Cost	\$	86,700

Related Projects

Name **Project ID**

Key Intersections and Constraints

Highway 9 at Highway 27



Highway 9 at Weston Road



Highway 9 at Highway 400



2040 - Davis Drive - Woodbine Avenue to Highway 48

Project Description

Location	Davis Drive	Project ID	2040
Municipality	Whitchurch-Stouffville, East Gwillimbury	Road Segment ID	31-32 to 31-38
Project Limits	Woodbine Avenue to Highway 48	Length	8,210 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	740	640	0.74	0.64
Daily truck volume	1,280 /day	790 /day		

Description

Existing 4 general purpose lanes from Woodbine Avenue to Bales Drive. Tapers to 2 lanes from Bales Drive to Highway 48. There are turning lanes at intersections. No sidewalks on either side. Paved shoulder from Woodbine Avenue to Warden Avenue. Off-road Hiking Trail both west of rail crossing and east of McCowan Road. Curbside transit from Woodbine Avenue to Bales Drive. Grade separated rail crossing of Richmond Hill GO/CN Rail Line west of McCowan.

Natural and Built Environment

Natural Environment Observations: Significant forested area. Corridor is within the Oak Ridges Moraine designated area. Environmentally Sensitive Areas: Large designated area from Kennedy Road to east of Highway 48.

Land Use and Built Environment Primarily agricultural with some light industrial west of Warden Avenue. Primarily forests east of Warden 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	860	840	0.86	0.84
2041 Proposed Network	1,360	1,320	0.68	0.66

2040 - Davis Drive - Woodbine Avenue to Highway 48 (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.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and maintain rural cross-section.

Justification Capacity improvement needed for growth in northern York. Forecast volumes meet thresholds for widening to 4 lanes. Improvement provides continuous east-west 4-lane arterial through northeast York. Capacity improvement also supports goods movement on this Primary Arterial Goods Movement corridor. Paved shoulders accommodate cycling.

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	\$ 36,533,900
Incremental Annual Road Operating Cost	\$ 172,700
Incremental Road Maintenance and Rehabilitation Cost	\$ 154,800

Related Projects

Name	Project ID

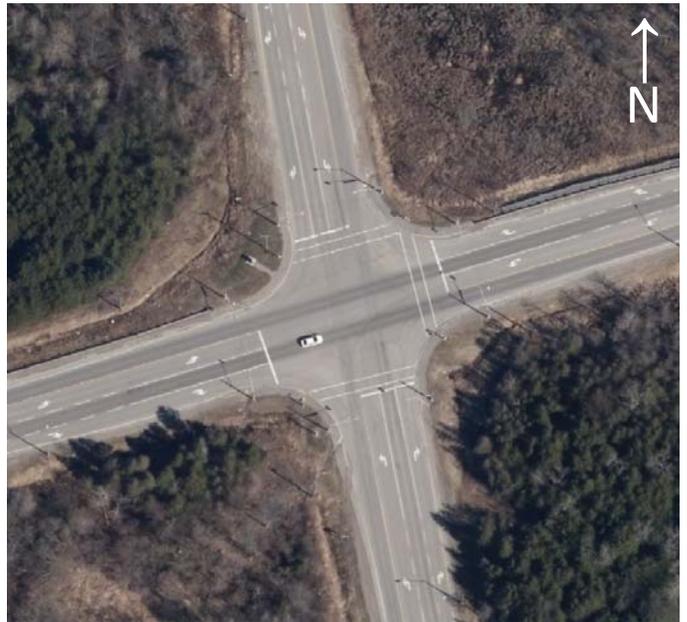
2040 - Davis Drive - Woodbine Avenue to Highway 48 (continued)

Key Intersections and Constraints

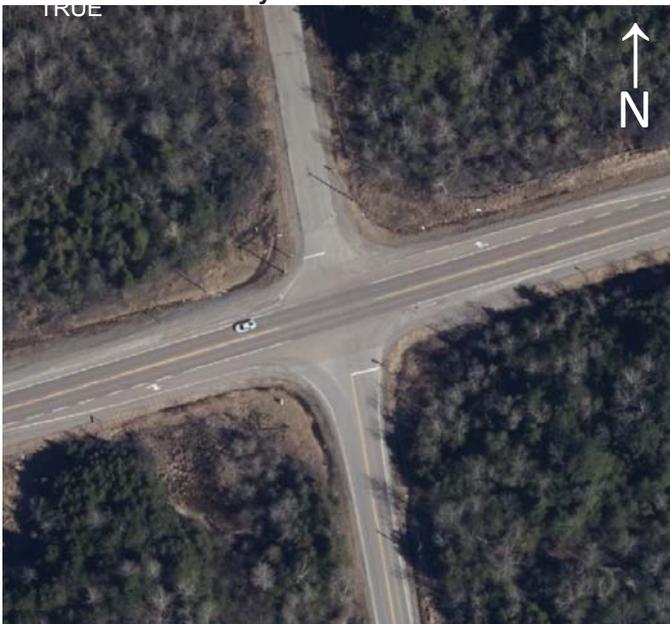
Davis Drive at Woodbine Avenue



Davis Drive at Warden Avenue



Davis Drive at Kennedy Road



Davis Drive at McCowan Road



2040 - Davis Drive - Woodbine Avenue to Highway 48 (continued)

Key Intersections and Constraints

Davis Drive at Highway 48

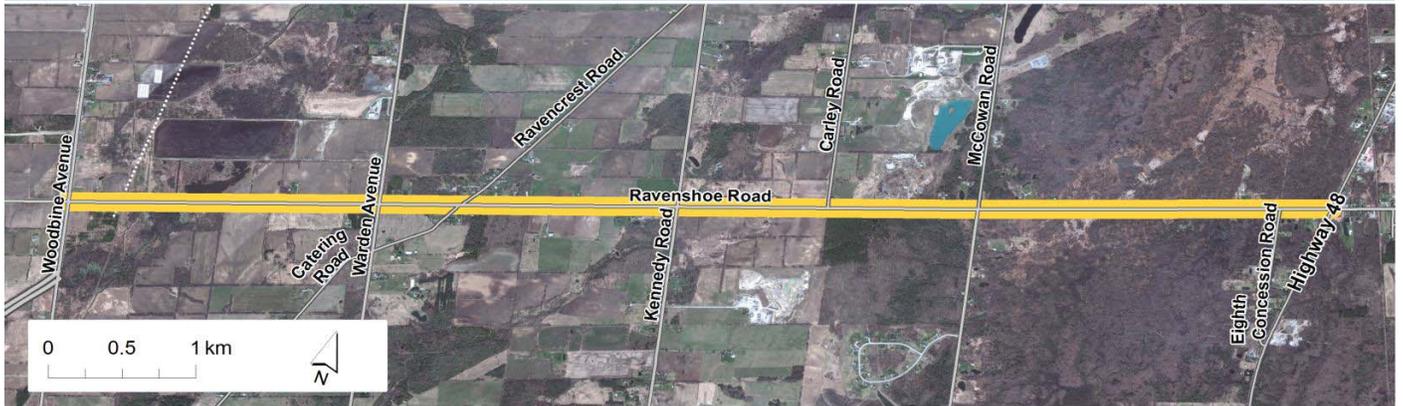


2041 - Ravenshoe Road - Woodbine Avenue to Highway 48

Project Description

Location	Ravenshoe Road	Project ID	2041
Municipality	East Gwillimbury, Georgina	Road Segment ID	32-31 to 32-38
Project Limits	Woodbine Avenue to Highway 48	Length	8,610 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	610	350	0.61	0.34
Daily truck volume	280 /day	220 /day		

Description

Existing 2 general purpose lanes with turning lanes at intersections. No sidewalks on either side. No transit service.

Natural and Built Environment

Natural Environment Observations: Significant forested areas and agricultural fields on both sides.
 Environmentally Sensitive Areas: Designated area between Woodbine Avenue and Kennedy Road crossing Ravenshoe Road. Second designated area between Kennedy Road and Highway 48 including York Regional Forest (Brown Hill Tract).

Land Use and Built Environment Primarily agricultural with community of Ravenshoe located east of Warden 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	1,070	650	0.64	0.53
2041 Proposed Network	1,410	460	0.70	0.23

2041 - Ravenshoe Road - Woodbine Avenue to Highway 48 (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.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and maintain rural cross-section. Urban cross-section with sidewalks may be required through Ravenshoe community.

Justification Capacity improvement serves growth in northeast York including new employment areas. Corridor also serves as Primary Arterial for Goods Movement. Paved shoulders accommodate cycling.

TMP Phase 2027 to 2031: Woodbine Avenue to Warden Avenue
2032 to 2041: Warden Avenue to Highway 48

Alignment with TMP Objectives

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

Costs

Capital Cost	\$ 27,688,800
Incremental Annual Road Operating Cost	\$ 181,100
Incremental Road Maintenance and Rehabilitation Cost	\$ 162,300

Related Projects

Name	Project ID

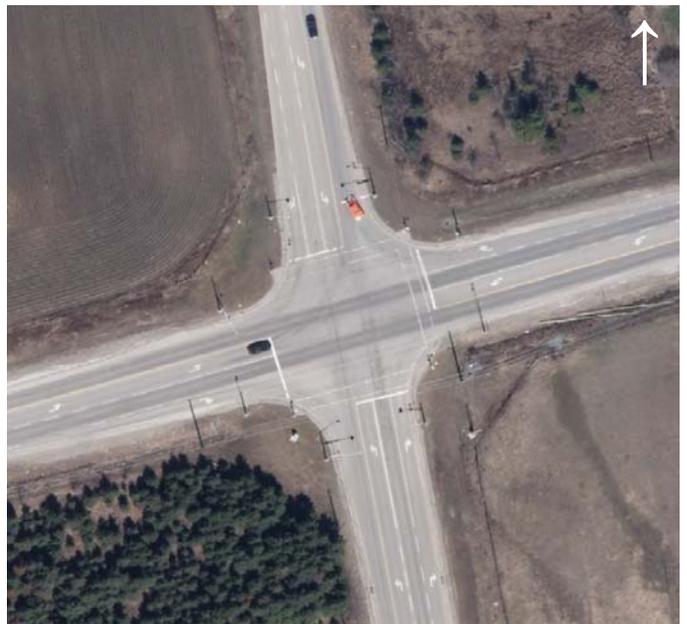
2041 - Ravenshoe Road - Woodbine Avenue to Highway 48 (continued)

Key Intersections and Constraints

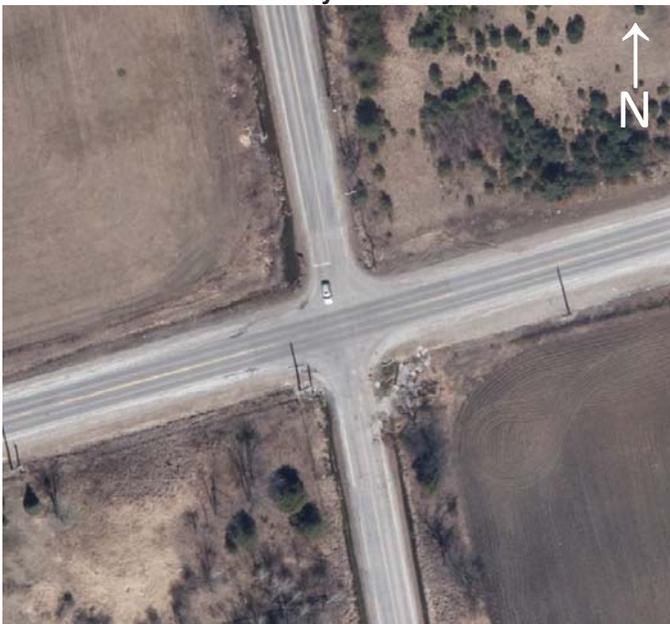
Ravenshoe Road at Woodbine Avenue



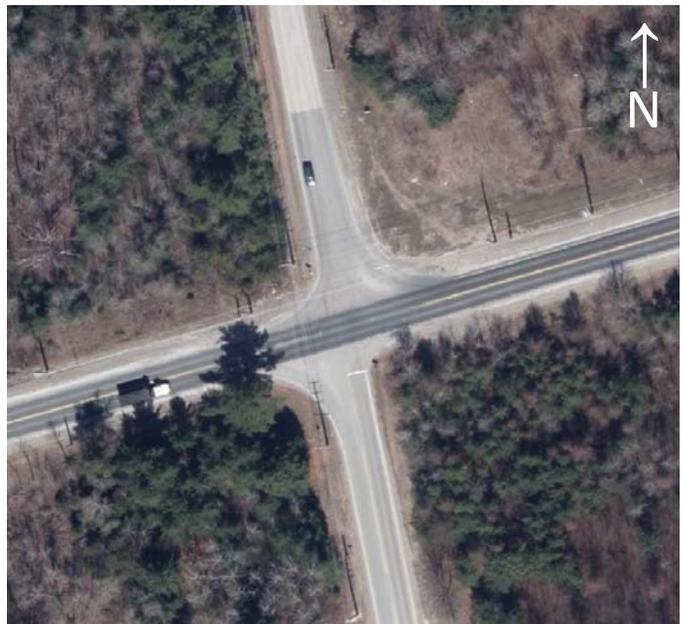
Ravenshoe Road at Warden Avenue



Ravenshoe Road at Kennedy Road



Ravenshoe Road at McCowan Road



2041 - Ravenshoe Road - Woodbine Avenue to Highway 48 (continued)

Key Intersections and Constraints

Ravenshoe Road at Highway 48



Cemetery on south side, west of Kennedy Road



2042 - Glenwoods Avenue - Woodbine Avenue to Highway 404 Extension

Project Description

Location	Glenwoods Avenue	Project ID	2042
Municipality	Georgina	Road Segment ID	33-31
Project Limits	Woodbine Avenue to Highway 404 Extension	Length	1,100 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

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

Description

Existing 2 general purpose lanes with turn lanes at intersection. No sidewalks on either side. No dedicated cycling facilities. No transit services.

Natural and Built Environment

Natural Environment Observations: Agricultural fields.

Land Use and Built Environment Primarily agricultural lands. Planned Keswick Business Park development.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	N/A	N/A	N/A	N/A
2041 Proposed Network	290	290	0.21	0.21

2042 - Glenwoods Avenue - Woodbine Avenue to Highway 404 Extension (continued)

Problem or Opportunity Statement

- Transportation network improvements are needed to accommodate expansion of the Designated Urban Area.
- Transportation network improvements are needed to serve employment lands.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
5. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard and realign jogged intersections.

Justification Capacity improvement serves growth of designated employment area in East Gwillimbury and provides access to future Highway 404 extension. Opportunity to improve walking and cycling facilities. Realignment to eliminate jogged intersection at Woodbine Avenue to improve east-west traffic flow. Corridor is currently under the jurisdiction of Town of Georgina.

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	\$ 5,496,900
Incremental Annual Road Operating Cost	\$ 55,000
Incremental Road Maintenance and Rehabilitation Cost	\$ 20,700

Related Projects

Name **Project ID**

2042 - Glenwoods Avenue - Woodbine Avenue to Highway 404 Extension (continued)

Key Intersections and Constraints

Glenwoods Avenue at Woodbine Avenue



Jogged intersection at Glenwoods Avenue and Woodbine Avenue

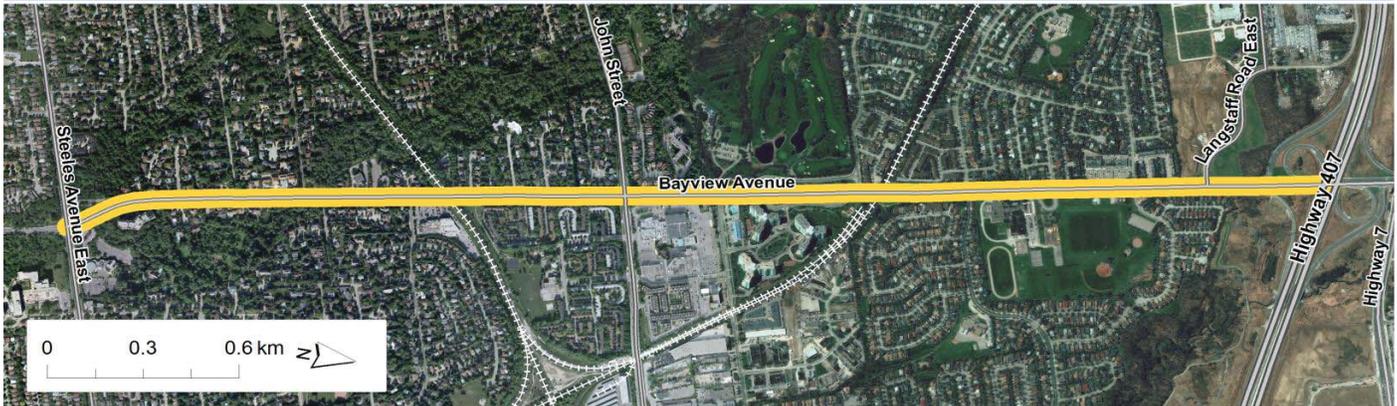


2043 - Bayview Avenue - Steeles Avenue to Highway 407

Project Description

Location	Bayview Avenue	Project ID	2043
Municipality	Markham	Road Segment ID	34-02 to 34-03
Project Limits	Steeles Avenue to Highway 407	Length	3,980 m
Project Type	Widen to 6 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	1,580	1,370	0.87	0.80
Daily truck volume	2,580 /day	2,530 /day		

Description

Existing 4 general purpose lanes from Steeles Avenue to Romfield Circuit. Widens to 6 lanes from Romfield Circuit to Highway 407. Disconnected Sidewalk on east side from Highway 407 to Romfield Circuit and from Royal Orchard Boulevard to Steeles Avenue. Continuous sidewalk on the west side only. Shared roadway (signed route) between Langstaff Road and Romfield Circuit. Curbside transit available. CN York subdivision railway underpass south of John Street; structural walls abuts travel lanes and sidewalks. Grade separated bridge crossing over Richmond Hill GO/CN Rail Line and Royal Orchard Boulevard north of John Street.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides.

Land Use and Built Environment Mix of low to high density residential. Includes some neighbourhood commercial land uses, a community centre and public high school.

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	2,120	1,880	1.17	1.10
2041 Proposed Network	2,340	2,090	1.00	0.93

2043 - Bayview Avenue - 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.

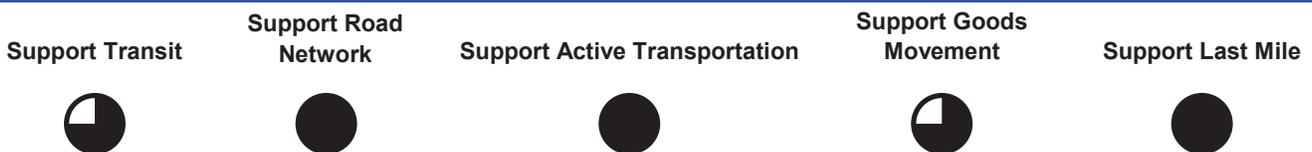
Recommended Improvement and Justification

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

Justification Corridor is congested during peak periods. Additional capacity is need to accommodate existing and 2041 volumes and transit ridership. Transit/HOV lane benefits transit travel time and encourages shift to transit/HOV. Opportunity to improve walking and cycling facilities.

TMP Phase 2022 to 2026

Alignment with TMP Objectives



Costs

Capital Cost	\$ 91,448,000
Incremental Annual Road Operating Cost	\$ 198,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 75,000

Related Projects

Name	Project ID
Bayview Avenue - Highway 7 to Major Mackenzie Drive - Widen to 6 lanes	2044

2043 - Bayview Avenue - Steeles Avenue to Highway 407 (continued)

Key Intersections and Constraints

Bayview Avenue at Steeles Avenue



Bayview Avenue at Highway 407



Railway underpass south of John Street (Image capture: 2015, ©2016 Google)



2044 - Bayview Avenue - Highway 7 to Major Mackenzie Drive

Project Description

Location	Bayview Avenue	Project ID	2044
Municipality	Richmond Hill	Road Segment ID	34-06 to 34-08
Project Limits	Highway 7 to Major Mackenzie Drive	Length	4,060 m
Project Type	Widen to 6 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	2,530	2,220	1.06	1.00
Daily truck volume	2,290 /day	2,140 /day		

Description

Existing 6 general purpose lanes from Highway 7 to Briggs Avenue. Existing 4 general purpose lanes from Briggs Avenue to Major Mackenzie Drive. There are turning lanes at intersections and median lane for some sections. Continuous sidewalks on both sides. No dedicated cycling facilities. Curbside transit available.

Natural and Built Environment

Natural Environment Observations: Forested area on west side of Bayview Avenue, north of 16th Avenue. Existing development on both sides.

Land Use and Built Environment Primarily low density residential with some commercial uses fronting on Bayview 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	3,260	3,020	1.54	1.37
2041 Proposed Network	3,110	3,100	1.33	1.32

2044 - Bayview Avenue - 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. 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 is congested during peak periods. Additional capacity is need to accommodate existing and 2041 volumes and transit ridership. Transit/HOV lane benefits transit travel time and encourages shift to transit/HOV. 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	\$ 31,333,400
Incremental Annual Road Operating Cost	\$ 202,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 76,500

Related Projects

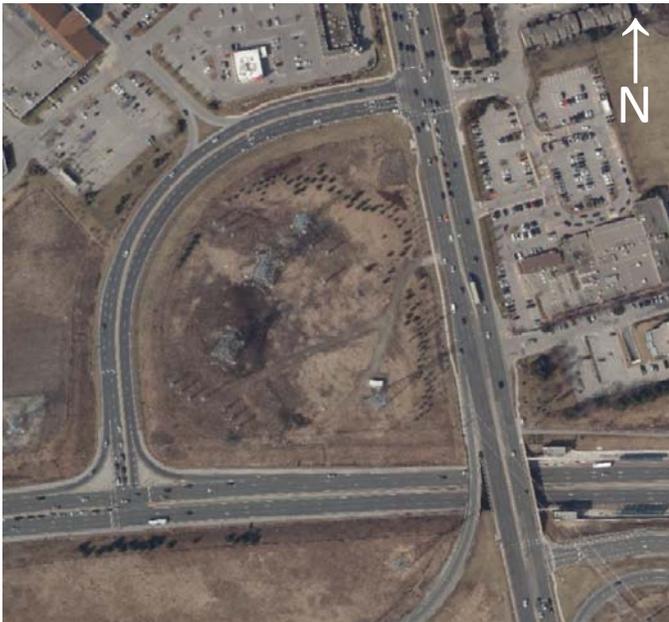
Name
Bayview Avenue - Steeles Avenue to Highway 407 - Widen to 6 lanes

Project ID
2043

2044 - Bayview Avenue - Highway 7 to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Bayview Avenue at Highway 7



Bayview Avenue at 16th Avenue



Bayview Avenue at Major Mackenzie Drive



2045 - Bayview Avenue - Elgin Mills Road to Wellington Street

Project Description

Location	Bayview Avenue	Project ID	2045
Municipality	Richmond Hill, Aurora	Road Segment ID	34-12 to 34-22
Project Limits	Elgin Mills Road to Wellington Street	Length	12,740 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	760	570	0.84	0.63
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes from Elgin Mills Road to Stouffville Road. Widens to 4 general purpose lanes from Stouffville Road to south of Balliol Avenue. Tapers into 2 lanes from south of Balliol Avenue to Wellington Street. Widens to 4 lanes at the intersections of Elgin Mills Road/Bayview Avenue, Bloomington Road/Bayview Avenue, and Wellington Street/ Bayview Avenue. There are turning lanes at intersections and median lane in some sections. There is no continuous sidewalk from Elgin Mills to Wellington. Shared roadway (signed route) from Old Colony Road to Bloomington Road. Curbside transit from Elgin Mills Road to North Lake Road and from Stone Road to Wellington Street. . Grade separate rail crossing for Richmond Hill GO/CN Rail Line north of 19th Avenue.

Natural and Built Environment

Natural Environment Observations: A number of significant forested areas north of 19th Avenue. Corridor is within the Oak Ridges Moraine from 19th Avenue to south of Wellington Street.
Environmentally Sensitive Areas: Large designated area centred on Bayview Avenue and Stouffville Road. Small designated area crossing Bayview Avenue at Newman Avenue south of Bloomington Road. Another large designated area between Bloomington Road and Wellington Street. ANSIs east of Bayview Avenue north and south of Bethesda Sideroad.

Land Use and Built Environment A mix of low density and estate residential. A mix of well established communities and new development areas. Some agricultural land uses on the east side of Bayview 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	1,240	900	1.37	0.99
2041 Proposed Network	1,960	1,540	1.09	0.84

2045 - Bayview Avenue - Elgin Mills Road to Wellington Street (continued)

Problem or Opportunity Statement

- Transportation network improvements are needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

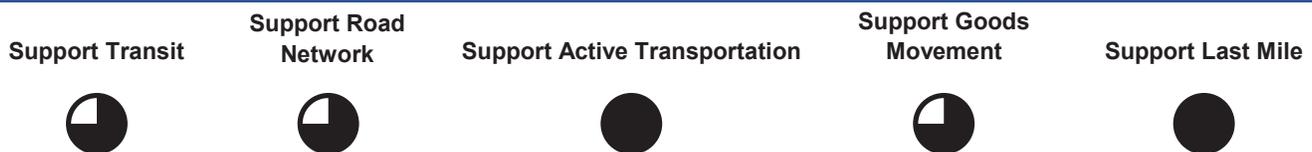
Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard within designated urban areas.

Justification Corridor experiences congestion during peak periods. Forecast volumes meet thresholds for 4-lane widening. Section from Elgin Mills Road to Stouffville Road is included in 10-year Capital Program and construction started in December 2015. Opportunity to improve cycling facilities.

TMP Phase 2017 to 2021: Elgin Mills Road to Stouffville Road
 2027 to 2031: Stouffville Road to Bethesda Sideroad
 2032 to 2041: Bethesda Sideroad to Wellington Street

Alignment with TMP Objectives



Costs

Capital Cost	\$ 104,048,400
Incremental Annual Road Operating Cost	\$ 571,600
Incremental Road Maintenance and Rehabilitation Cost	\$ 240,100

Related Projects

Name **Project ID**

2045 - Bayview Avenue - Elgin Mills Road to Wellington Street (continued)

Key Intersections and Constraints

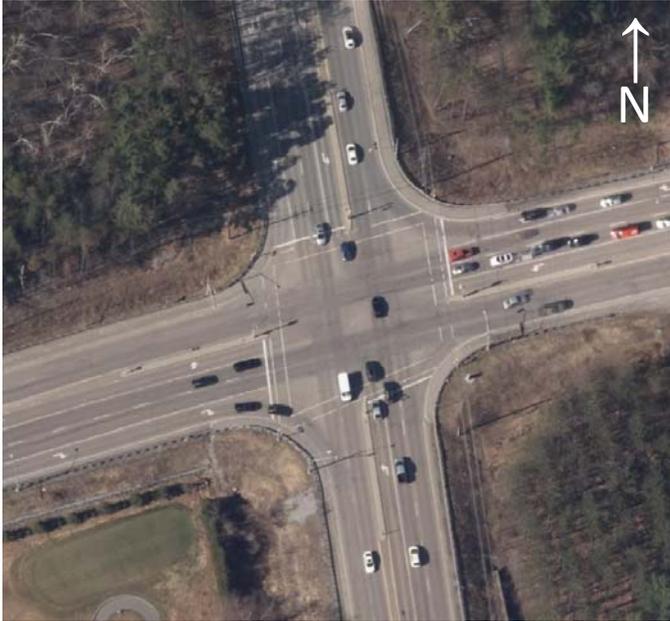
Bayview Avenue at Elgin Mills Road



Bayview Avenue at 19th Avenue



Bayview Avenue at Stouffville Road



Bayview Avenue at Bloomington Road



2045 - Bayview Avenue - Elgin Mills Road to Wellington Street (continued)

Key Intersections and Constraints

Bayview Avenue at Wellington Street



Railway underpass north of 19th Avenue (Image capture: 2015, ©2016 Google)

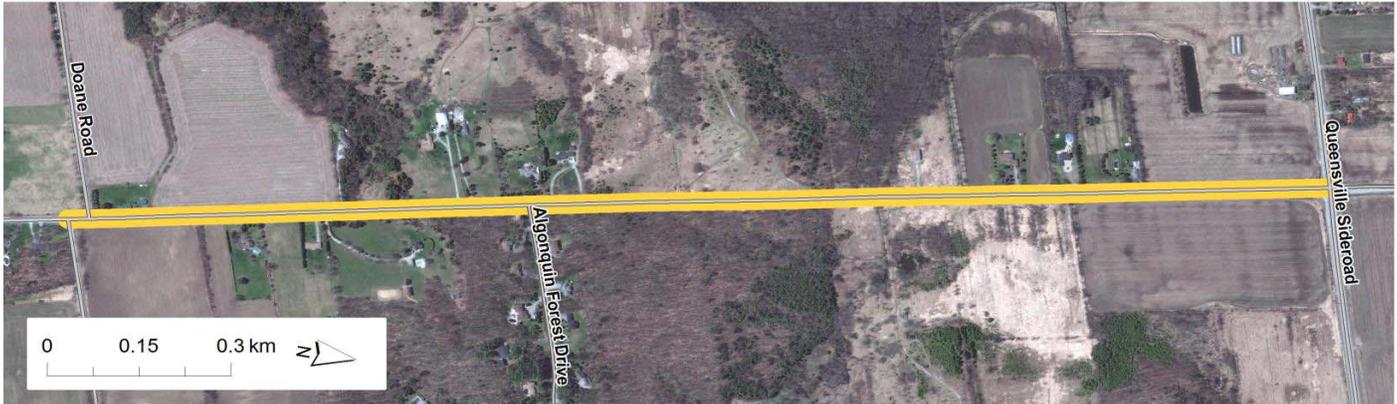


2046 - 2nd Concession - Doane Road to Queensville Sideroad

Project Description

Location	2nd Concession	Project ID	2046
Municipality	East Gwillimbury	Road Segment ID	34-36
Project Limits	Doane Road to Queensville Sideroad	Length	2,040 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	430	430	0.43	0.43
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with turning lanes at intersections. No sidewalks on either side. No dedicated cycling facilities. No transit service.

Natural and Built Environment

Natural Environment Observations: Forested areas.
Environmentally Sensitive Areas: Designated area to the west of 2nd Concession, between Doane Road and Queensville Sideroad.

Land Use and Built Environment Primarily agricultural lands.

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	620	620	0.31	0.31
2041 Proposed Network	930	930	0.46	0.46

2046 - 2nd Concession - Doane Road to Queensville Sideroad (continued)

Problem or Opportunity Statement

- Transportation network improvements are needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

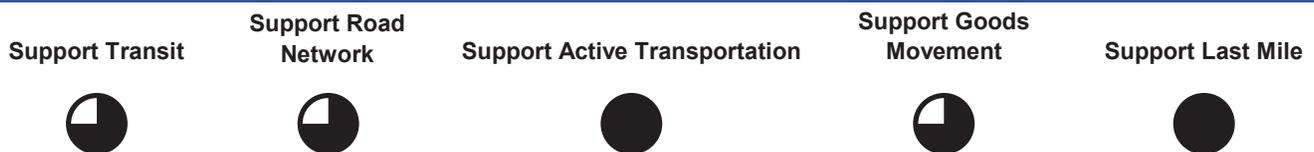
Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard.

Justification Serves growth in designated built up area in East Gwillimbury. Provides walking and cycling facilities in planned future urban area.

TMP Phase 2032 to 2041

Alignment with TMP Objectives



Costs

Capital Cost	\$ 11,051,100
Incremental Annual Road Operating Cost	\$ 102,000
Incremental Road Maintenance and Rehabilitation Cost	\$ 38,500

Related Projects

Name	Project ID
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2046 - 2nd Concession - Doane Road to Queensville Sideroad (continued)

Key Intersections and Constraints

2nd Concession at Doane Road



2nd Concession at Queensville Sideroad

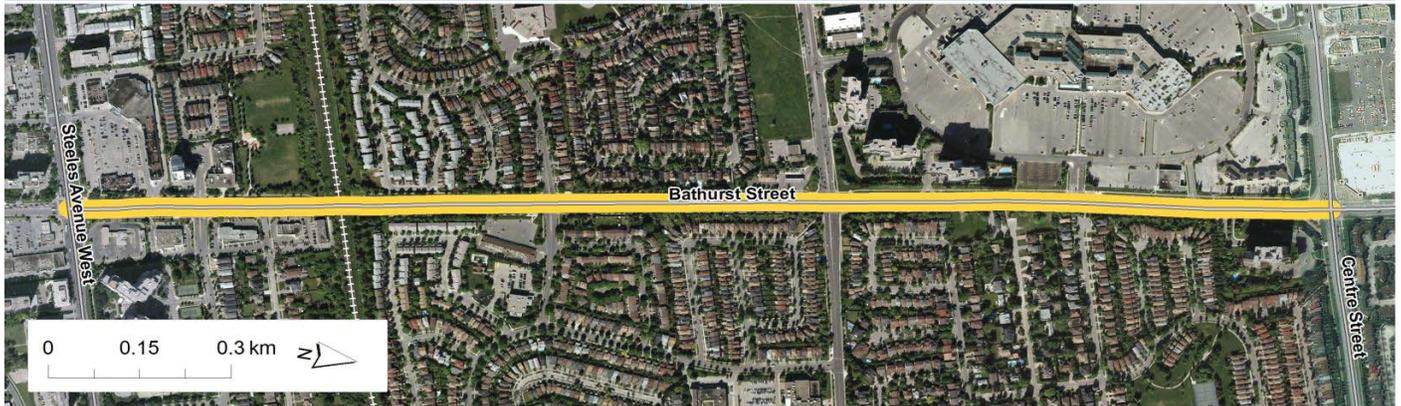


2047 - Bathurst Street - Steeles Avenue to Centre Street

Project Description

Location	Bathurst Street	Project ID	2047
Municipality	Vaughan	Road Segment ID	38-02
Project Limits	Steeles Avenue to Centre Street	Length	2,080 m
Project Type	Widen to 6 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 45 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	1,540	1,540	0.96	0.96
Daily truck volume	1,260 /day	1,260 /day		

Description

Existing 5 general purpose lanes from Steeles Avenue to the railroad crossing. Tapers to 4 lanes from the railway underpass to Centre Street. Continuous sidewalks on both sides. No dedicated cycling facilities. Curbside transit available. Grade separated rail crossing for CN York Subdivision north of Steeles Avenue.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides.

Land Use and Built Environment Low density residential areas with a regional shopping centre and commercial uses at Centre Street.

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	1,740	1,740	1.08	1.08
2041 Proposed Network	1,980	1,980	0.92	0.92

2047 - Bathurst Street - Steeles Avenue to Centre Street (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. Forecast volumes meet threshold for widening. Transit/HOV lane benefits transit travel times. Encourages shift to transit/HOV. 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	\$	51,448,300
Incremental Annual Road Operating Cost	\$	104,000
Incremental Road Maintenance and Rehabilitation Cost	\$	39,200

Related Projects

Name	Highway 7 - Helen Street to Yonge Street - RT Corridor	Project ID	1007
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2047 - Bathurst Street - Steeles Avenue to Centre Street (continued)

Key Intersections and Constraints

Bathurst Street at Steeles Avenue



Bathurst Street at Centre Street



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

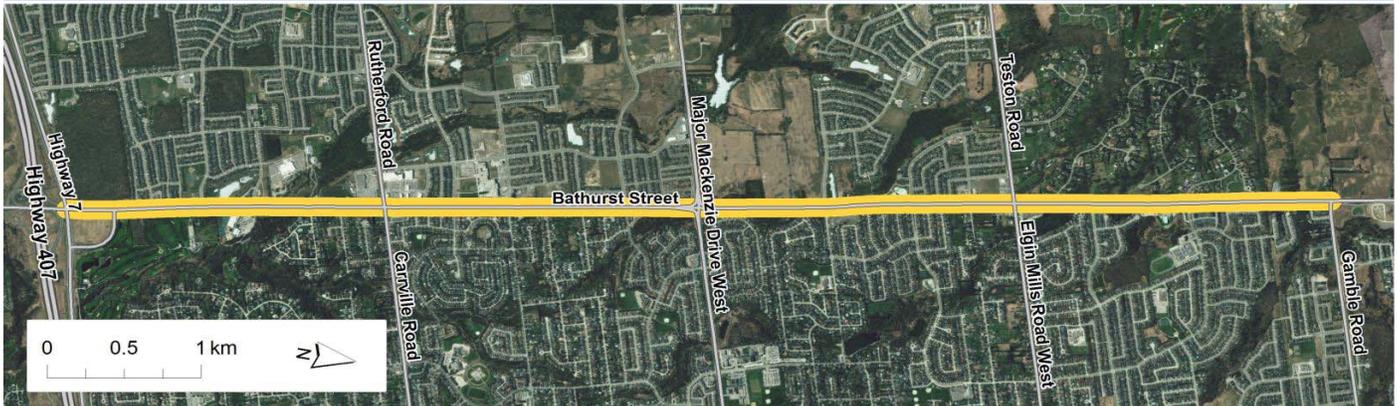


2048 - Bathurst Street - Highway 7 to Gamble Road

Project Description

Location	Bathurst Street	Project ID	2048
Municipality	Vaughan, Richmond Hill	Road Segment ID	38-06 to 38-12
Project Limits	Highway 7 to Gamble Road	Length	8,250 m
Project Type	Widen to 6 lanes		

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	2,750	2,280	1.12	1.05
Daily truck volume	2,030 /day	1,580 /day		

Description

Existing 6 general purpose lanes from Highway 7 to Autumn Hill Boulevard. Tapers to 4 lanes from Autumn Hill Boulevard to Gamble Road. There are turning lanes at intersections and median lane in some sections. Sidewalk is not continuous from Highway 7 to Gamble Road. No dedicated cycling facilities. Curbside transit available.

Natural and Built Environment

Natural Environment Observations: Sugarbush Heritage Park immediately north of Highway 7. Corridor is within the Oak Ridges Moraine designated area from south of Teston Road to Gamble Road.
Environmentally Sensitive Areas: Designated area at northwest corner of Highway 7 and Bathurst Street. Area to the east of Bathurst Street (Don River East) south of Rutherford Road.

Land Use and Built Environment Primarily residential development on both sides of Bathurst Street with some commercial and institutional land uses directly on Bathurst Street.

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	3,610	3,290	1.70	1.54
2041 Proposed Network	3,580	3,290	1.53	1.30

2048 - Bathurst Street - Highway 7 to Gamble Road (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. Forecast volumes meet threshold for widening. Transit/HOV lane benefits transit travel times and encourage shift to transit/HOV. 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	\$	68,733,100
Incremental Annual Road Operating Cost	\$	412,400
Incremental Road Maintenance and Rehabilitation Cost	\$	155,500

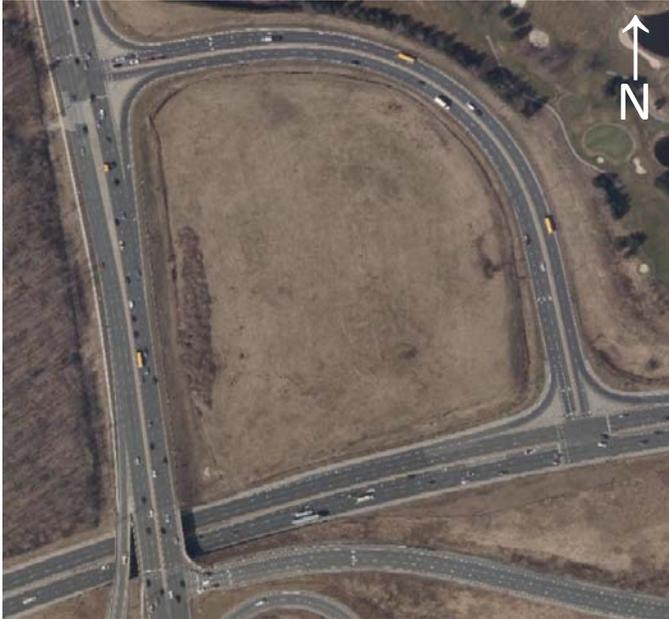
Related Projects

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

2048 - Bathurst Street - Highway 7 to Gamble Road (continued)

Key Intersections and Constraints

Bathurst Street at Highway 7



Bathurst Street at Rutherford Road



Bathurst Street at Major Mackenzie Drive



Bathurst Street at Elgin Mills Road



2048 - Bathurst Street - Highway 7 to Gamble Road (continued)

Key Intersections and Constraints

Bathurst Street at Gamble Road



2049 - 15th Sideroad - Highway 400 to Jane Street

Project Description

Location	15th Sideroad	Project ID	2049
Municipality	King	Road Segment ID	40-16
Project Limits	Highway 400 to Jane Street	Length	920 m
Project Type	Missing Link		

Map



Preliminary Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

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

Description

15th Sideroad is discontinuous at Highway 400. Existing section of corridor is unpaved, gravel surface for approximately 500m west of Jane Street and vegetated for approximately 420m east of Highway 400.

Natural and Built Environment

Natural Environment Observations: Agricultural fields. Within the Oak Ridges Moraine designated area
Source Water Protection Areas: Protection area westerly from just west of Jane Street.

Land Use and Built Environment Primarily agricultural lands. Road is discontinuous at Highway 400. Original road allowance has unpaved and vegetated sections.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	N/A	N/A	N/A	N/A
2041 Proposed Network	1,010	1,010	0.63	0.63

2049 - 15th Sideroad - Highway 400 to Jane Street (continued)

Preliminary Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Capacity improvements needed to accommodate future travel demands.
- Network improvements needed to support walking and cycling.
- Network improvements needed to support transit.

Preliminary Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
3. Widen corridor to 4 lanes and construct a 4 lane missing link with a rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
4. Widen corridor to 4 lanes and construct a 4 lane missing link with an urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
5. Widen parallel/adjacent corridor - May not fully address travel demand needs as adjacent corridor is at capacity and provides no improvements to walking and cycling facilities.

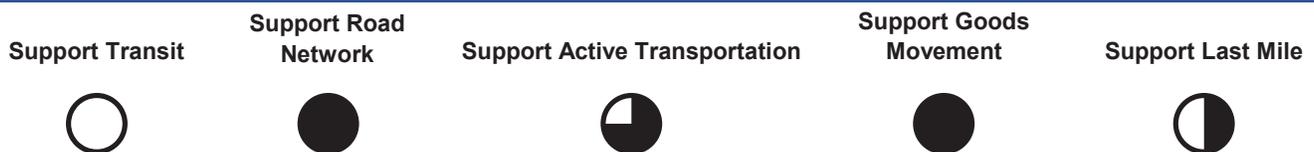
Preliminary Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct a 4 lane missing link with a rural cross section. Phases 1 and 2 alternatives to be revisited as part of subsequent Environmental Assessments.

Justification Construction to coincide with new interchange at Highway 400 and new connection east of Jane Street. Serves as Primary Arterial for Goods Movement. Corridor is outside of designated urban area. Opportunity to improve walking and cycling facilities. MNR and TRCA have identified that this project is in an area with significant environmental sensitivities and the Region is committed to revisiting Phase 1 and Phase 2 of the Class EA as part of the next stage of the EA.

TMP Phase 2032 to 2041

Preliminary Alignment with TMP Objectives



Preliminary Costs

Capital Cost	\$ 2,509,100
Incremental Annual Road Operating Cost	\$ 19,300
Incremental Road Maintenance and Rehabilitation Cost	\$ 17,300

Related Projects

Name	Project ID
15th Sideroad - Jane Street to Keele Street - Missing Link	2050
15th Sideroad - Keele Street to Bathurst Street - Widen to 4 lanes	2051
Highway 400 New Interchange - at 15th Sideroad - New Interchange	2111

2049 - 15th Sideroad - Highway 400 to Jane Street (continued)

Key Intersections and Constraints

15th Sideroad at Highway 400



15th Sideroad at Jane Street

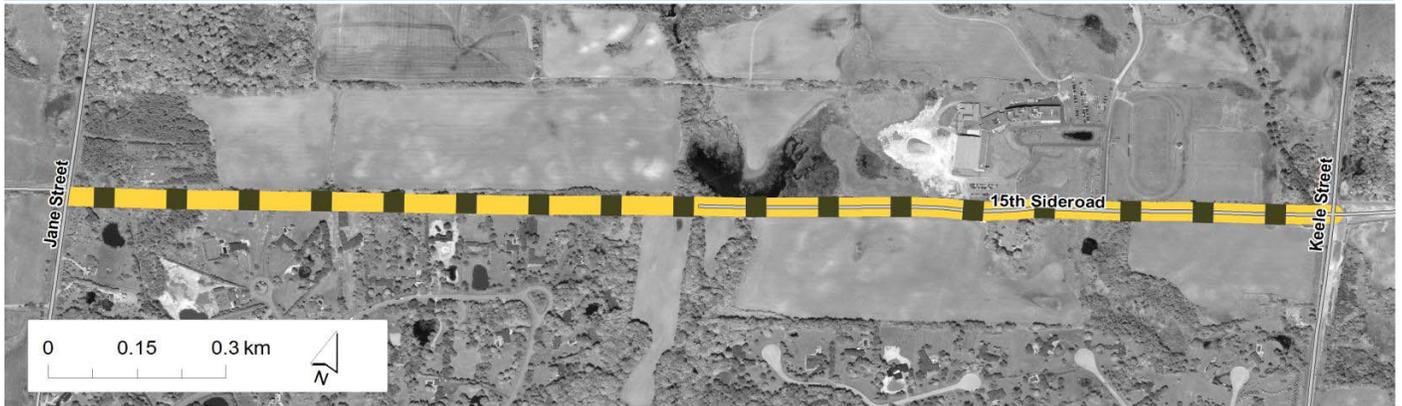


2050 - 15th Sideroad - Jane Street to Keele Street

Project Description

Location	15th Sideroad	Project ID	2050
Municipality	King	Road Segment ID	40-18
Project Limits	Jane Street to Keele Street	Length	2,140 m
Project Type	Missing Link		

Map



Preliminary Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

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

Description

15th Sideroad is discontinuous between Jane Street and Keele Street and is an unopened road allowance. There is a local road connection to Villanova College and Marylake Retreat Centre at Keele St. This segment of 15th Sideroad is not currently under Regional jurisdiction.

Natural and Built Environment

Natural Environment Observations: Primarily agricultural fields. Small pond immediately adjacent to right of way. Partially within Regional Greenlands System.
 Environmentally Sensitive Areas: ANSI midway between Jane Street and Keele Street.
 Source Water Protection Areas: At northern edge of protection area.

Land Use and Built Environment Agricultural and institutional uses to the north. Estate residential and agricultural to the south.

Future Transportation Conditions

Future Transportation Conditions	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	N/A	N/A	N/A	N/A
2041 Proposed Network	1,410	1,410	0.88	0.88

2050 - 15th Sideroad - Jane Street to Keele Street (continued)

Preliminary Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Capacity improvements needed to accommodate future travel demands.
- Network improvements needed to support walking and cycling.
- Network improvements needed to support transit.

Preliminary Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Widen parallel/adjacent corridor - May not fully address travel demand needs as adjacent corridor is at capacity. No improvements to walking and cycling. No improvement to transit service.
3. Construct missing link - Addresses travel demand. Opportunity to provide walking and cycling facilities. Potential to improve transit service.

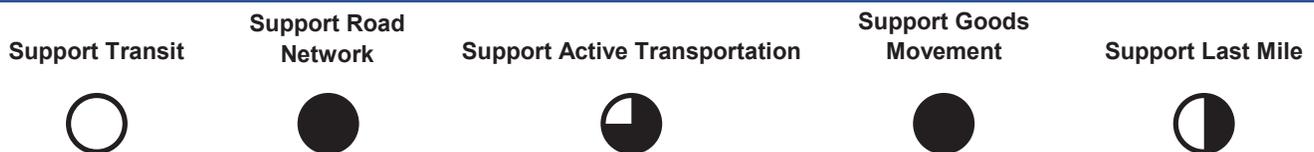
Preliminary Recommended Improvement and Justification

Recommendation Construct 4-lane missing link. Phases 1 and 2 alternatives to be revisited as part of subsequent Environmental Assessments.

Justification New road connection needed for network connectivity and to serve growth in King City. Corridor connects to future interchange on Highway 400 to the west and supports goods movement as a Primary Arterial for Goods Movement. Opportunity to improve walking and cycling facilities. There is a potential future GO station west of Bathurst Street. MNR and TRCA have identified that this project is in an area with significant environmental sensitivities and the Region is committed to revisiting Phase 1 and Phase 2 of the Class EA as part of the next stage of the EA.

TMP Phase 2032 to 2041

Preliminary Alignment with TMP Objectives



Preliminary Costs

Capital Cost	\$ 37,973,700
Incremental Annual Road Operating Cost	\$ 177,500
Incremental Road Maintenance and Rehabilitation Cost	\$ 80,700

Related Projects

Name	Project ID
15th Sideroad - Highway 400 to Jane Street - Widen to 4 lanes	2049
15th Sideroad - Keele Street to Bathurst Street - Widen to 4 lanes	2051
Highway 400 New Interchange - at 15th Sideroad - New Interchange	2111

2050 - 15th Sideroad - Jane Street to Keele Street (continued)

Key Intersections and Constraints

15th Sideroad at Jane Street



15th Sideroad at Keele Street



2051 - 15th Sideroad - Keele Street to Bathurst Street

Project Description

Location	15th Sideroad	Project ID	2051
Municipality	King	Road Segment ID	40-20 to 40-22
Project Limits	Keele Street to Bathurst Street	Length	4,000 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Proposed up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	480	450	0.59	0.56
Daily truck volume	470 /day	430 /day		

Description

Existing 2 general purpose lanes with turning lanes at intersections. No sidewalks on either side. Paved shoulder. Curbside transit available. At-grade rail crossing of Barrie GO Line west of Bathurst Street.

Natural and Built Environment

Natural Environment Observations: Woodlot south side of 15th Sideroad between rail line and Bathurst Street. Partially within Regional Greenlands System.
Environmentally Sensitive Areas: ANSI at the northeast corner of 15th Sideroad and Keele Street.

Land Use and Built Environment Primarily agricultural lands with Seneca College King Campus to the north. Some residential frontage between Dufferin Street and Bathurst Street.

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	610	570	0.76	0.71
2041 Proposed Network	1,170	1,150	0.73	0.72

2051 - 15th Sideroad - Keele Street to Bathurst Street (continued)

Problem or Opportunity Statement

- Transportation network improvements are needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
3. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
4. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
5. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard within designated urban area.

Justification Road widening needed to serve designated urban area. Also serves as Primary Arterial for Goods Movement with connection to Highway 400 at a new interchange. Opportunity to improve walking and cycling facilities within urban area.

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	\$ 17,292,500
Incremental Annual Road Operating Cost	\$ 142,300
Incremental Road Maintenance and Rehabilitation Cost	\$ 75,400

Related Projects

Name	Project ID
15th Sideroad - Highway 400 to Jane Street - Widen to 4 lanes	2049
15th Sideroad - Jane Street to Keele Street - Missing Link	2050
Highway 400 New Interchange - at 15th Sideroad - New Interchange	2111
Barrie GO Grade Separation - 15th Sideroad west of Bathurst Street - Rail grade separation	2152

2051 - 15th Sideroad - Keele Street to Bathurst Street (continued)

Key Intersections and Constraints

15th Sideroad at Keele Street



15th Sideroad at Dufferin Street



15th Sideroad at Bathurst Street



Barrie GO at 15th Sideroad

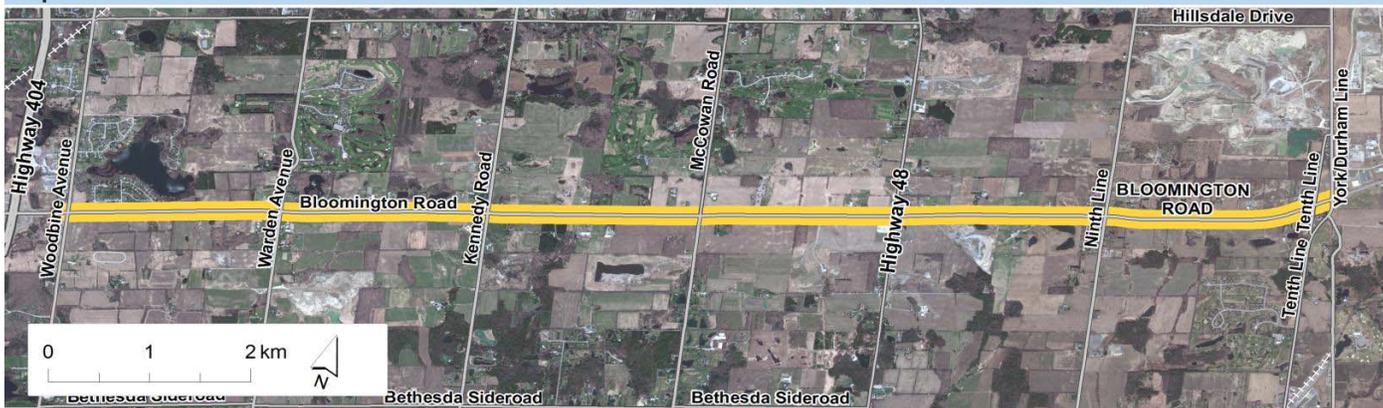


2052 - Bloomington Road - Woodbine Avenue to York/Durham Line

Project Description

Location	Bloomington Road	Project ID	2052
Municipality	Whitchurch-Stouffville	Road Segment ID	40-32 to 40-42
Project Limits	Woodbine Avenue to York/Durham Line	Length	12,580 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	710	550	0.71	0.55
Daily truck volume	2,160 /day	1,460 /day		

Description

Existing 2 general purpose lanes with turning lanes at intersections. Widens to 4 lanes at the intersection of Woodbine Avenue/Bloomington Road, Warden Avenue/Bloomington Road, Kennedy Road/Bloomington Road, McCowan Road/Bloomington Road, and Highway 48/Bloomington Road. No sidewalks on either side. No dedicated cycling facilities. No transit services.

Natural and Built Environment

Natural Environment Observations: Primarily agricultural fields. Corridor is within Oak Ridges Moraine designation and Regional Greenlands System.

Environmentally Sensitive Areas: ANSI located on the north side from Woodbine Avenue to east of Warden Avenue.

Source Water Protection Areas: Protection area between Highway 48 and just east of Ninth Line. Second protection area at York/Durham Line.

Land Use and Built Environment Primarily agricultural lands with a public school at the northwest corner of Bloomington Road and Warden 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	960	840	0.96	0.83
2041 Proposed Network	1,720	1,510	0.86	0.75

2052 - Bloomington Road - Woodbine Avenue to York/Durham Line (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.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

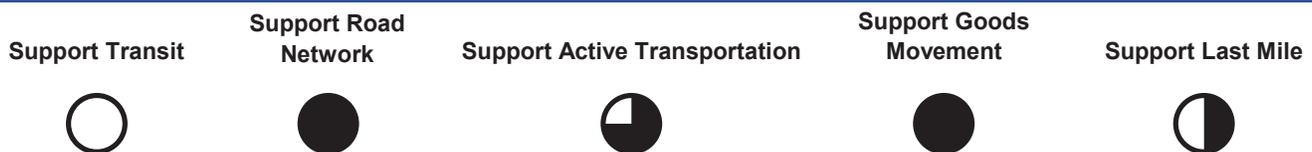
Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and maintain rural cross-section.

Justification Forecast volumes approaching threshold for widening. Corridor provides an east-west connection to north Durham (Uxbridge) and serves as a Primary Arterial for Goods Movement. Corridor is outside of designated urban area. Paved shoulder accommodates cycling.

TMP Phase 2032 to 2041

Alignment with TMP Objectives



Costs

Capital Cost	\$ 44,155,800
Incremental Annual Road Operating Cost	\$ 264,600
Incremental Road Maintenance and Rehabilitation Cost	\$ 237,100

Related Projects

Name	Project ID
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2052 - Bloomington Road - Woodbine Avenue to York/Durham Line (continued)

Key Intersections and Constraints

Bloomington Road at Woodbine Avenue



Bloomington Road at Warden Avenue



Bloomington Road at Kennedy Road



Bloomington Road at McCowan Road



2052 - Bloomington Road - Woodbine Avenue to York/Durham Line (continued)

Key Intersections and Constraints

Bloomington Road at Ninth Line



Bloomington Road at York/Durham Line



2053 - Donald Cousens Parkway (19th Avenue) - Woodbine Avenue to Major Mackenzie Drive

Project Description

Location	Donald Cousens Parkway (19th Avenue)	Project ID	2053
Municipality	Markham	Road Segment ID	48-20 to 48-10
Project Limits	Woodbine Avenue to Major Mackenzie Drive	Length	10,310 m
Project Type	Widen to 4 lanes; New arterial corridor		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Proposed up to 43 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	230	230	0.25	0.25
Daily truck volume	N/A	N/A		

Description

Section of 19th Avenue from Woodbine to east of Woodbine is an existing 4-lane rural road. Alignment of the remainder of the planned road to be determined through future EA study. Jugged intersection at Woodbine Avenue.

Natural and Built Environment

Natural Environment Observations: Corridor will cross Regional Greenlands System and City of Markham's Greenway System in several locations.

Land Use and Built Environment Primarily agricultural land uses. Lands to the south are primarily designated for future urban development. Lands to the north are "white belt" lands outside of the urban boundary.

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	1,170	1,170	1.29	1.29
2041 Proposed Network	2,480	1,860	1.38	0.95

2053 - Donald Cousens Parkway (19th Avenue) - Woodbine Avenue to Major Mackenzie Drive (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Transportation network improvements needed to serve employment lands.
- Network improvements needed to accommodate future travel demands.
- Network improvements needed to support walking and cycling.
- Network improvements needed to support transit.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Provides no improvements to walking and cycling.
3. Construct 2-lane urban arterial - Addresses network connectivity. Opportunity to provide walking and cycling facilities.
4. Construct 4-lane urban arterial - Addresses network connectivity and future travel demand. Opportunity to provide walking and cycling facilities..

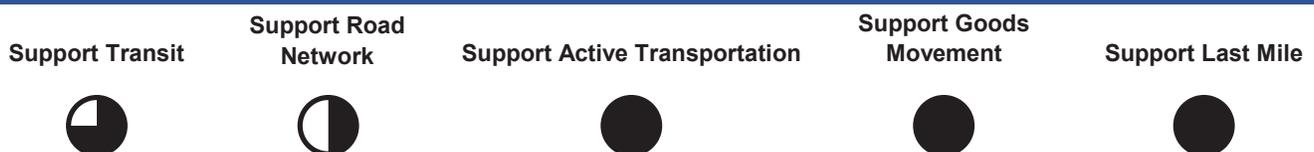
Recommended Improvement and Justification

Recommendation Construct new 4-lane arterial.

Justification Provides connection to existing sections of Donald Cousens Parkway south of Major Mackenzie Drive. New road serves developing growth area in North Markham. Provides walking and cycling facilities. Corridor serves as Primary Arterial for Goods Movement.

TMP Phase 2027 to 2031: Woodbine Avenue to Warden Avenue
2032 to 2041: Warden Avenue to Markham Road
2027 to 2031: Markham Road to Major Mackenzie Drive

Alignment with TMP Objectives



Costs

Capital Cost	\$ 67,115,700
Incremental Annual Road Operating Cost	\$ 836,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 378,100

Related Projects

Name
Donald Cousens Parkway - Major Mackenzie Drive to 16th Avenue - Widen to 4 lanes

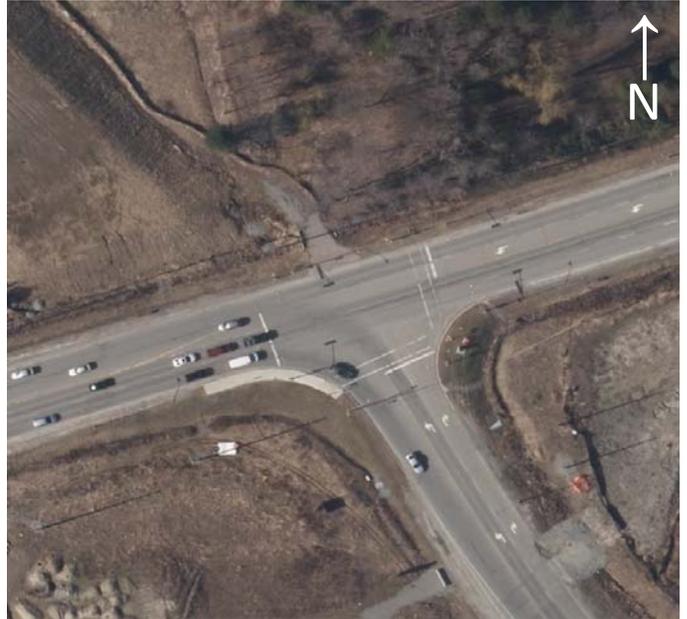
Project ID
2054

Key Intersections and Constraints

19th Avenue at Woodbine Avenue



Donald Cousens Parkway at Major Mackenzie Drive

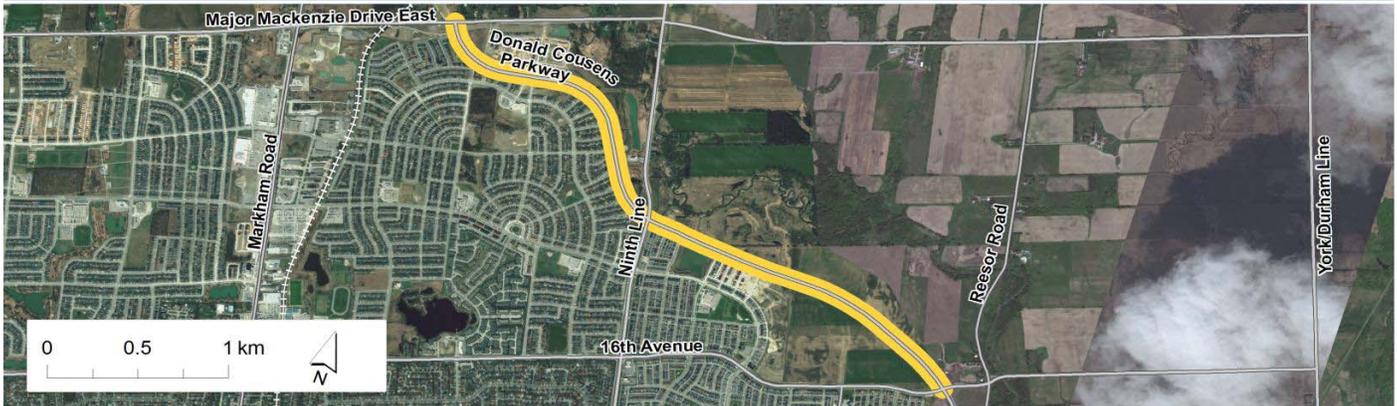


2054 - Donald Cousens Parkway - Major Mackenzie Drive to 16th Avenue

Project Description

Location	Donald Cousens Parkway	Project ID	2054
Municipality	Markham	Road Segment ID	48-09 to 48-08
Project Limits	Major Mackenzie Drive to 16th Avenue	Length	3,730 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 45 metres

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
Model Forecast				
2011 Existing	600	540	0.59	0.53
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with curb and gutter on the south (west) and shoulder on the north (east). Sidewalk on south side to support residential developments. Sidewalk is a Shared Boulevard for pedestrians and cyclists between Major Mackenzie and Ninth Line. There is no existing cycling facility between Ninth Line and 16th Avenue, and no sidewalk connection to 16th Avenue.

Natural and Built Environment

Natural Environment Observations: Regional Greenlands System and Rouge National Urban Park on the north (east) side of portions of the corridor. Agricultural fields on both sides just north of 16th Avenue.

Land Use and Built Environment Residential development to the west. Agricultural and forested lands to the east. The Rouge National Urban Park abuts portions of the north (east) side of the corridor.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	1,160	1,140	1.16	1.13
2041 Proposed Network	1,650	1,580	0.82	0.79

2054 - Donald Cousens Parkway - Major Mackenzie Drive to 16th Avenue (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Network improvements needed to accommodate future travel demands.
- Network improvements needed to support walking and cycling.
- Network improvements needed to support transit.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
3. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
4. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation	Widen corridor to 4 lanes and construct to urban arterial standard. Parks Canada requested that the current rural cross-section on the north side of Donald Cousens Parkway be retained in the ultimate 4-lane widening to reflect the rural character of Rouge National Urban Park along much of the north side of this corridor.
Justification	Existing road was built with partial urbanization (one side) to accommodate planned widening to 4 lanes. Widening will serve growth in built up area. Corridor serves as Primary Arterial for Goods Movement. Opportunity to improve walking and cycling facilities.

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	\$ 20,231,800
Incremental Annual Road Operating Cost	\$ 186,400
Incremental Road Maintenance and Rehabilitation Cost	\$ 70,300

Related Projects

Name	Donald Cousens Parkway (19th Avenue) - Woodbine Avenue to Major Mackenzie Drive - Widen to 4 lanes; New ar	Project ID	2053
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2054 - Donald Cousens Parkway - Major Mackenzie Drive to 16th Avenue (continued)

Key Intersections and Constraints

Donald Cousens Parkway at Major Mackenzie Drive



Donald Cousens Parkway at Ninth Line



Donald Cousens Parkway at 16th Avenue



2055 - Ninth Line - Steeles Avenue to Box Grove Area

Project Description

Location	Ninth Line	Project ID	2055
Municipality	Markham	Road Segment ID	69-02
Project Limits	Steeles Avenue to Box Grove Area	Length	1,240 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 45 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	830	750	1.03	0.85
Daily truck volume	260 /day	260 /day		

Description

Existing 2 general purpose lanes. No sidewalk facilities on either side. Paved shoulders. Railway underpass of CN York Subdivision and at-grade rail crossing of the CP Havelock line within 30 m of each other.

Natural and Built Environment

Natural Environment Observations: Rouge River flows parallel to Ninth Line on the west side. Regional Greenlands System and Rouge National Urban Park on the east side of portions of the corridor.

Land Use and Built Environment Golf course and Rouge River on the west side. Primarily agricultural on the east side. Rouge National Urban Park is adjacent to portions of the east side of the corridor.

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	1,150	1,060	1.21	1.18
2041 Proposed Network	2,080	1,830	1.30	1.04

2055 - Ninth Line - Steeles Avenue to Box Grove Area (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements need to support transit.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
3. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
4. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard.

Justification Forecasts exceed threshold for widening. Capacity improvements will serve growth in designated urban area. Component of "DCP to Morningside Avenue Link" that is a joint project with the City of Toronto and connects to widening of segment of Steeles Avenue (see Project #2122) between Ninth Line and Morningside Avenue. Opportunity to improve walking and cycling facilities. Parks Canada noted the need to protect for north-south trail connections through the railroad overpass area.

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	\$ 9,700,000
Incremental Annual Road Operating Cost	\$ 62,000
Incremental Road Maintenance and Rehabilitation Cost	\$ 23,400

Related Projects

Name	Project ID
Steeles Avenue - Markham Road to 11th Concession - Steeles (Widen to 6 lanes)	2122

2055 - Ninth Line - Steeles Avenue to Box Grove Area (continued)

Key Intersections and Constraints

Donald Cousens Parkway at Steeles Avenue



2056 - Doane Road - Yonge Street to Woodbine Avenue

Project Description

Location	Doane Road	Project ID	2056
Municipality	East Gwillimbury	Road Segment ID	45-26 to 45-30
Project Limits	Yonge Street to Woodbine Avenue	Length	5,970 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	280	210	0.55	0.40
Daily truck volume	30 /day	20 /day		

Description

Existing 2 general purpose lanes. No sidewalks on either side. Jugged intersections at 2nd Concession, Leslie Street, and Woodbine Avenue. Shared roadway (unsigned route). No transit services.

Natural and Built Environment

Natural Environment Observations: Holland Landing Conservation Area between Yonge Street and 2nd Concession.
 Environmentally Sensitive Areas: Crosses edge of designated ESA east of Leslie Street.
 Source Water Protection Areas: Protection area includes the corridor from east of 2nd Concession to east of Woodbine Avenue.

Land Use and Built Environment Primarily agricultural and conservation area.

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	930	700	1.86	1.23
2041 Proposed Network	1,170	820	1.16	0.81

2056 - Doane Road - Yonge Street to Woodbine Avenue (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Elimination of jogged intersections needed to provide continuous corridor.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements need to support transit.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
5. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

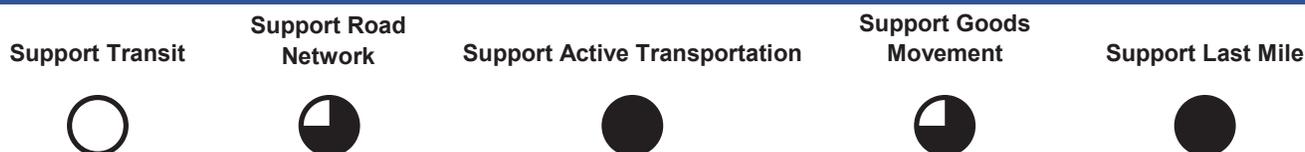
Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes, construct to urban arterial standard and realign jogged intersections.

Justification Widening serves growth within designated built up area. Provides improved access to future interchange to Highway 404 at Doane Road. Section from Yonge Street to Highway 404 included in 10-year Capital Plan for reconstruction and widening to 4 lanes. Realigned intersections adds capacity and improves traffic flow. Provides improved facilities for walking and cycling.

TMP Phase 2022 to 2026

Alignment with TMP Objectives



Costs

Capital Cost	\$ 30,327,500
Incremental Annual Road Operating Cost	\$ 298,400
Incremental Road Maintenance and Rehabilitation Cost	\$ 112,500

Related Projects

Name
Highway 404 New Interchange - at Doane Road - New Interchange

Project ID
2102

2056 - Doane Road - Yonge Street to Woodbine Avenue (continued)

Key Intersections and Constraints

Doane Road at Yonge Street



Jogged intersection at Doane Road at 2nd Concession



Jogged intersection at Doane Road at Leslie Street



Doane Road at Highway 404



2056 - Doane Road - Yonge Street to Woodbine Avenue (continued)

Key Intersections and Constraints

Jogged intersection at Doane Road at Woodbine Avenue



2057 - Teston Road - Pine Valley Drive to Weston Road

Project Description

Location	Teston Road	Project ID	2057
Municipality	Vaughan	Road Segment ID	49-14
Project Limits	Pine Valley Drive to Weston Road	Length	2,150 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	450	450	0.64	0.64
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with turning lanes at intersections. Widens to 4 lanes at the intersection of Weston Road/Teston Road. Jogged intersection at Pine Valley Drive. No sidewalks on either side. Shared roadway (unsigned route). No transit service.

Natural and Built Environment

Natural Environment Observations: Corridor crosses Regional Greenlands System and forested areas.

Land Use and Built Environment Primarily agricultural lands.

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	920	920	1.30	1.30
2041 Proposed Network	1,160	1,160	0.83	0.83

2057 - Teston Road - Pine Valley Drive to Weston Road (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Elimination of jogged intersection needed to provide continuous corridor.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements need to support transit.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
5. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard and realign jogged intersection.

Justification Widening accommodates growth in designated urban area. Provides continuous east-west corridor with completion of adjacent missing link. Realigned intersection adds capacity and improves traffic flow. Provides improved walking and cycling facilities.

TMP Phase 2022 to 2026

Alignment with TMP Objectives



Costs

Capital Cost	\$ 22,793,900
Incremental Annual Road Operating Cost	\$ 107,500
Incremental Road Maintenance and Rehabilitation Cost	\$ 40,500

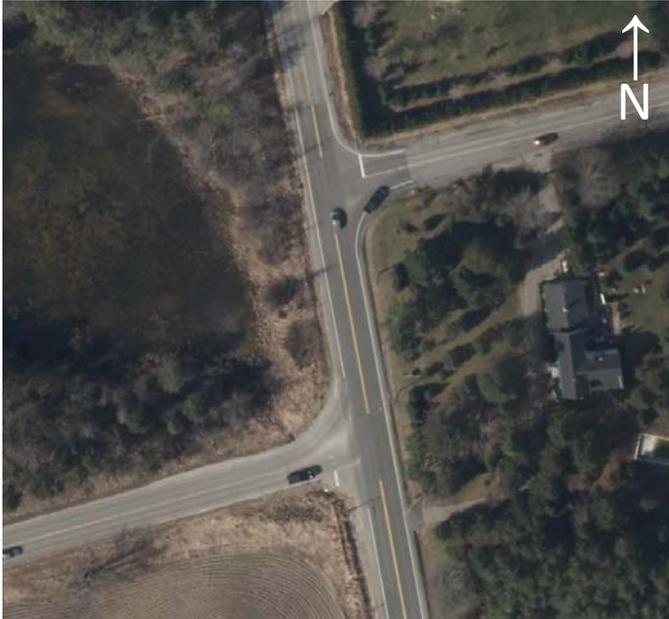
Related Projects

Name	Project ID
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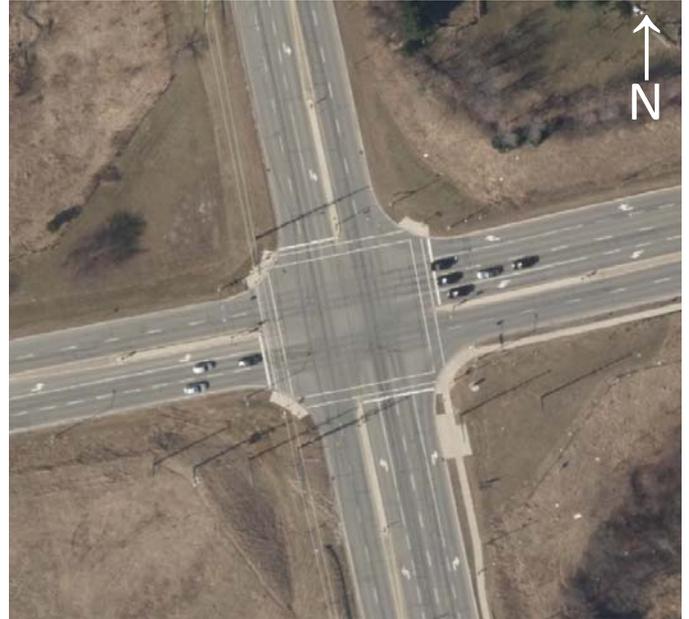
2057 - Teston Road - Pine Valley Drive to Weston Road (continued)

Key Intersections and Constraints

Jogged intersection at Teston Road at Pine Valley Drive



Teston Road at Weston Road

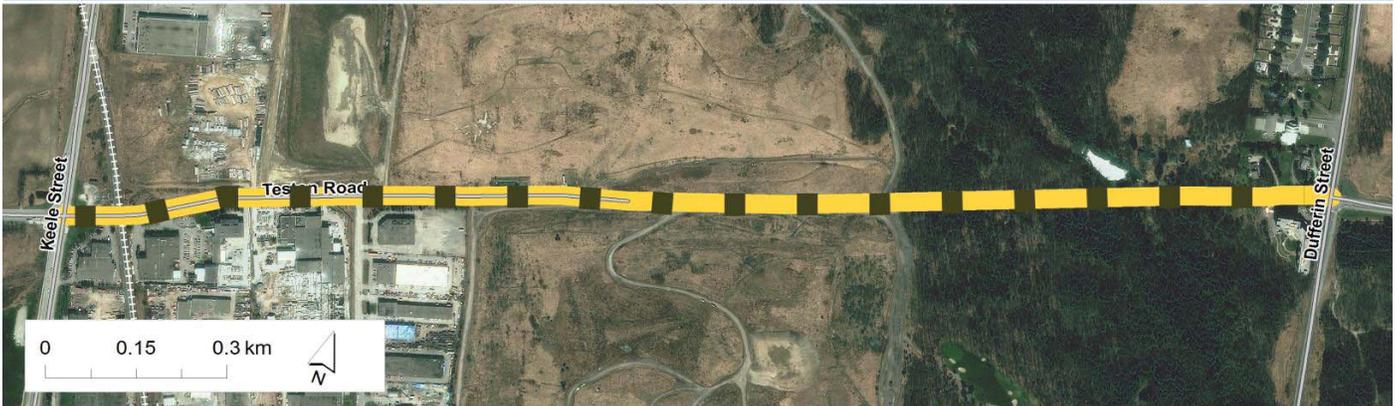


2058 - Teston Road - Keele Street to Dufferin Street

Project Description

Location	Teston Road	Project ID	2058
Municipality	Vaughan	Road Segment ID	49-20
Project Limits	Keele Street to Dufferin Street	Length	2,100 m
Project Type	Missing Link		

Map



Preliminary Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Proposed up to 36 metres

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

Description

Existing 2 general purpose lanes (unmarked from Keele into industrial area). East section is discontinuous with greenspace, steep valley and creek. At-grade crossing of Barrie GO line.

Natural and Built Environment

Natural Environment Observations: Corridor crosses valley lands and watercourse parallel to Dufferin Street. Valley spans approximately 640 m. Corridor is within Oak Ridges Moraine designated area.
Environmentally Sensitive Areas: Corridor would cross designated ESA west of Dufferin Street.

Land Use and Built Environment Industrial land uses and Keele Valley Landfill site located approximately 135 m east of Keele Street.

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	N/A	N/A	N/A	N/A
2041 Proposed Network	1,590	1,590	0.88	0.88

2058 - Teston Road - Keele Street to Dufferin Street (continued)

Preliminary Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Capacity improvements needed to accommodate future travel demands.
- Network improvements needed to support walking and cycling.
- Network improvements needed to support transit.

Preliminary Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Widen parallel/adjacent corridor - May not fully address travel demand needs as adjacent corridor is at capacity. No improvements to walking and cycling. No improvement to transit service.
3. Construct missing link - Addresses travel demand. Opportunity to provide walking and cycling facilities. Potential to improve transit service.

Preliminary Recommended Improvement and Justification

Recommendation Construct 4-lane missing link. Alternatives to be evaluated as part of subsequent Environmental Assessments.

Justification New road connection needed for network connectivity in Northern Vaughan to serve growth in the area. Road link provides opportunity to improve walking and cycling facilities along the corridor. An Individual EA study for Teston Road from Keele Street to Bathurst Street is underway. MNRF and TRCA have identified that this project is in an area with significant environmental sensitivities. Project specific EA to revisit phases 1 and 2 alternatives supported by a detailed network analysis.

TMP Phase 2022 to 2026

Preliminary Alignment with TMP Objectives

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

Preliminary Costs

Capital Cost	\$ 109,000,000
Incremental Annual Road Operating Cost	\$ 174,200
Incremental Road Maintenance and Rehabilitation Cost	\$ 79,200

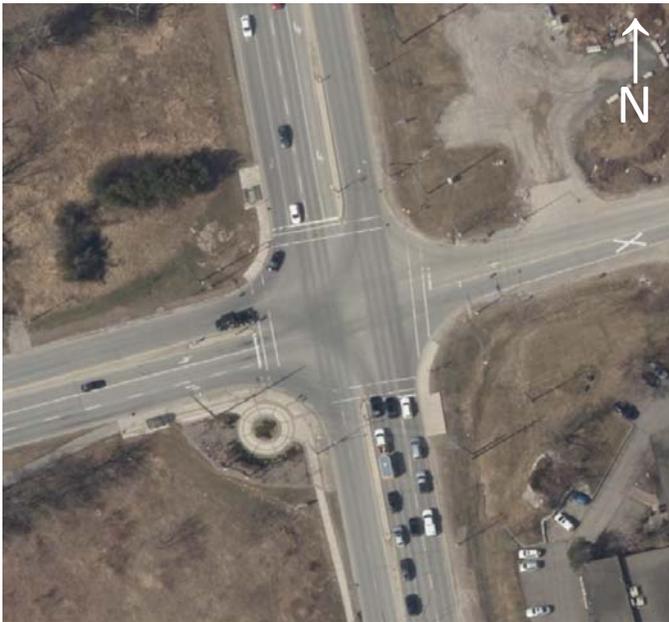
Related Projects

Name	Project ID
Teston Road/Elgin Mills Road - Dufferin Street to Yonge Street - Widen to 4 lanes	2059
Barrie GO Grade Separation - Teston Road east of Keele Street - Rail grade separation	2146

2058 - Teston Road - Keele Street to Dufferin Street (continued)

Key Intersections and Constraints

Teston Road at Keele Street



Teston Road at Dufferin Street



Barrie GO at Teston Road

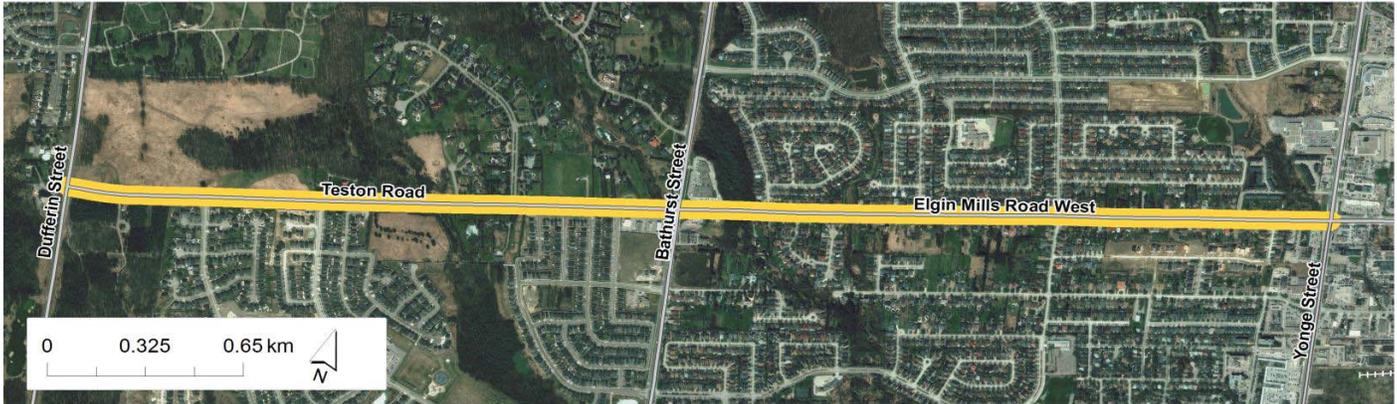


2059 - Teston Road/Elgin Mills Road - Dufferin Street to Yonge Street

Project Description

Location	Teston Road/Elgin Mills Road	Project ID	2059
Municipality	Vaughan, Richmond Hill	Road Segment ID	49-22 to 49-24
Project Limits	Dufferin Street to Yonge Street	Length	4,210 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	780	570	0.97	0.71
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with turning lanes at intersections and median lane in some sections. Widens to 4 lanes at the intersections of Yonge Street/Elgin Mills Road and Bathurst Street/Teston Road. Sidewalk on south side only from Quail Run Boulevard to Bathurst Street. Sidewalk on north side only from Bathurst Street to Regent Street. Sidewalks on both sides from Regent Street to Yonge Street. Paved shoulder between Dufferin Street and Torah Gate. Curbside transit from Lady Fenrose Avenue to Via Romano Boulevard and from Bathurst Street to Yonge Street.

Natural and Built Environment

Natural Environment Observations: Forested areas north of Teston Road between Dufferin Street and Bathurst Street which are part of Regional Greenlands System. Corridor is within Oak Ridges Moraine designated area.
Environmentally Sensitive Areas: South of Elgin Mills Road between Kennedy Road and McCowan Road.

Land Use and Built Environment Primarily residential

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	1,040	790	1.30	0.99
2041 Proposed Network	1,690	1,370	1.05	0.85

2059 - Teston Road/Elgin Mills Road - Dufferin Street to Yonge Street (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements need to support transit.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

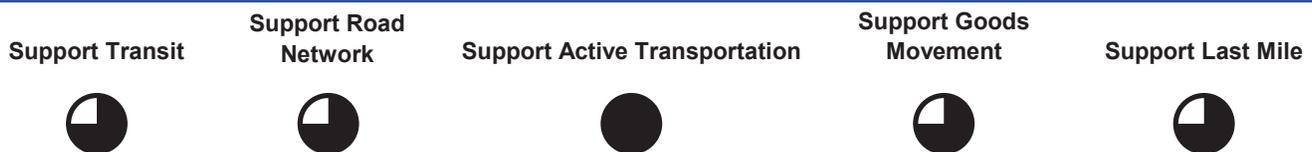
Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard.

Justification Widening accommodates growth in designated urban area. Provides continuous east-west corridor and improved walking and cycling facilities. Teston Road EA study (Keele Street to Bathurst Street) underway.

TMP Phase 2022 to 2026

Alignment with TMP Objectives



Costs

Capital Cost	\$ 27,552,600
Incremental Annual Road Operating Cost	\$ 210,400
Incremental Road Maintenance and Rehabilitation Cost	\$ 79,400

Related Projects

Name	Project ID
Teston Road - Keele Street to Dufferin Street - Missing Link	2058

2059 - Teston Road/Elgin Mills Road - Dufferin Street to Yonge Street (continued)

Key Intersections and Constraints

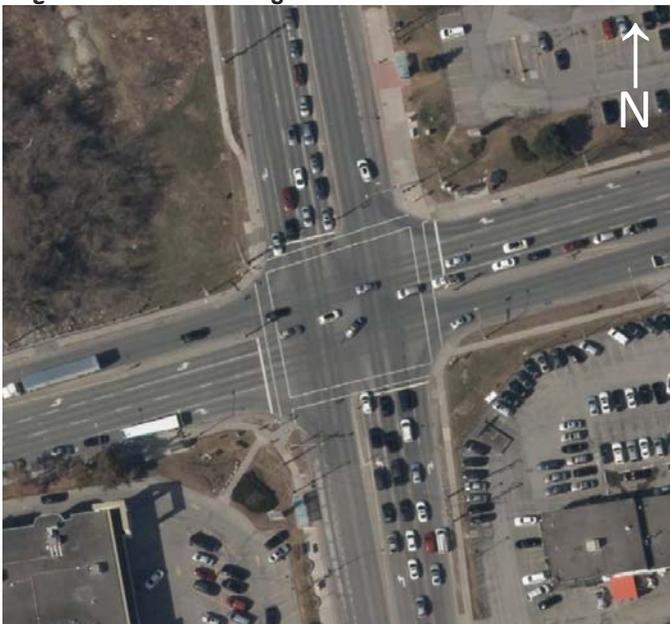
Teston Road at Dufferin Street



Teston Road/Elgin Mills Road at Bathurst Street



Elgin Mills Road at Yonge Street



2060 - Elgin Mills Road - Woodbine Avenue to Donald Cousens Parkway

Project Description

Location	Elgin Mills Road	Project ID	2060
Municipality	Markham	Road Segment ID	49-30 to 49-38
Project Limits	Woodbine Avenue to Donald Cousens Parkway	Length	7,960 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2011 Existing	1,070	550	0.83	0.62
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with turning lanes at intersections. Sidewalks on both sides from Woodbine Avenue to Duke of York Street. No dedicated cycling facilities. Curbside transit between Woodbine Avenue and Victoria Square Boulevard.

Natural and Built Environment

Natural Environment Observations: Crossing of Little Rouge Creek east of McCowan Road. Crosses Regional Greenlands System.

Land Use and Built Environment Residential development between Woodbine Avenue and Victoria Square Boulevard. Victoria Square hamlet at Woodbine Avenue. Primarily agricultural uses east of Victoria Square Boulevard. Markham Fairgrounds at northeast corner of McCowan Road and Woodbine Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	2,060	1,100	1.47	1.27
2041 Proposed Network	1,770	1,330	1.18	0.89

2060 - Elgin Mills Road - Woodbine Avenue to Donald Cousens Parkway (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements need to support transit.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard.

Justification Serves designated urban area, including employment lands and North Markham. Improves walking and cycling facilities. Connects to Donald Cousens Parkway as continuous route.

TMP Phase 2027 to 2031: Woodbine Avenue to Kennedy Road
2032 to 2041: Kennedy Road to Donald Cousens Parkway

Alignment with TMP Objectives

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

Costs

Capital Cost	\$ 44,857,400
Incremental Annual Road Operating Cost	\$ 397,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 150,000

Related Projects

Name **Project ID**

2060 - Elgin Mills Road - Woodbine Avenue to Donald Cousens Parkway (continued)

Key Intersections and Constraints

Elgin Mills Road at Woodbine Avenue



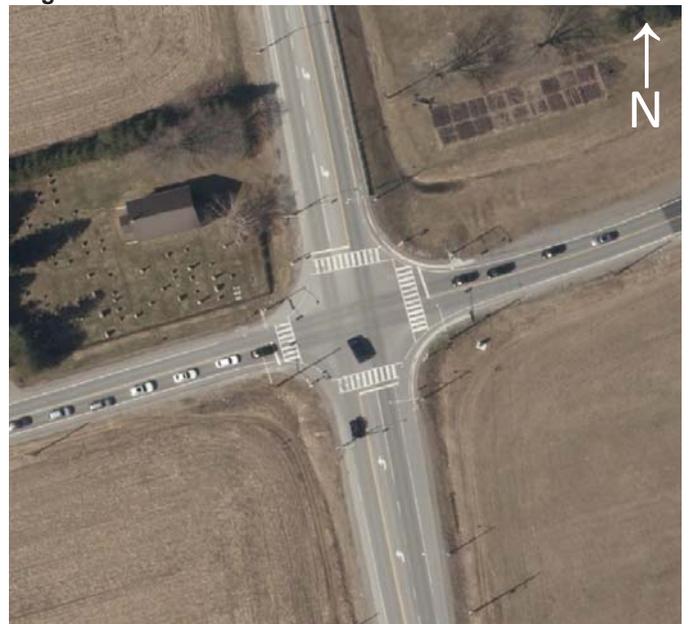
Elgin Mills Road at Warden Avenue



Elgin Mills Road at Kennedy Road



Elgin Mills Road at McCowan Road



2060 - Elgin Mills Road - Woodbine Avenue to Donald Cousens Parkway (continued)

Key Intersections and Constraints

Victoria Square Community (Image capture: 2015, ©2016 Google)



Cemetery at northwest corner of Elgin Mills Road and McCowan Road



2063 - Dufferin Street - Langstaff Road to Rutherford Road

Project Description

Location	Dufferin Street	Project ID	2063
Municipality	Vaughan	Road Segment ID	53-06
Project Limits	Langstaff Road to Rutherford Road	Length	2,100 m
Project Type	Widen to 6 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 45 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	2,130	2,130	1.18	1.18
Daily truck volume	1,260 /day	1,260 /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 available.

Natural and Built Environment

Natural Environment Observations: Forested area northeast quadrant of Dufferin Street and Langstaff Road. Existing development on both sides.

Land Use and Built Environment Employment/industrial lands on the west side north of Langstaff Road. Primarily residential for remainder of corridor.

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	2,630	2,630	1.46	1.46
2041 Proposed Network	2,890	2,890	1.23	1.23

2063 - Dufferin Street - Langstaff Road to Rutherford Road (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. Convert 2 existing lanes between Highway 407 & Langstaff Road to transit/HOV lanes for continuous transit/HOV lanes.

Justification Corridor experiences congestion in peak periods. Forecast volumes meet thresholds for widening to 6 lanes. Transit/HOV lane benefits transit travel time and encourages shift to transit/HOV. Opportunity to improve walking and cycling facilities.

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	\$ 17,683,900
Incremental Annual Road Operating Cost	\$ 105,000
Incremental Road Maintenance and Rehabilitation Cost	\$ 39,600

Related Projects

Name	Project ID
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2063 - Dufferin Street - Langstaff Road to Rutherford Road (continued)

Key Intersections and Constraints

Dufferin Street at Langstaff Road



Dufferin Street at Rutherford Road



2064 - Dufferin Street - Major Mackenzie Drive to 15th Sideroad

Project Description

Location	Dufferin Street	Project ID	2064
Municipality	Vaughan	Road Segment ID	53-10 to 53-18
Project Limits	Major Mackenzie Drive to 15th Sideroad	Length	10,290 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
Model Forecast				
2011 Existing	1,000	770	1.11	0.84
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes from Major Mackenzie Drive to north of Sir Benson Drive. Tapers to 2 lanes from south of King Road to 15th Sideroad. Widens to 4 lanes at the intersection of Dufferin Street/King Road. There are turning lanes at intersections and median lane in some sections. Sidewalk on west side only from Tatton Court to Nicort Road. Paved shoulder from Major Mackenzie Drive to King Road. Shared roadway (unsigned route) from King Road to 15th Sideroad. No transit services. At-grade rail crossing for Barrie GO Line north of King Road.

Natural and Built Environment

Natural Environment Observations: Agricultural fields north of Kirby Road. Maple Nature Reserve on east side north of Major Mackenzie Road. Within Regional Greenlands System and Oak Ridges Moraine designated area. Environmentally Sensitive Areas: Adjacent to designated ESA south of Teston Road. Crosses large designated area from south of Kirby Road to south of King Vaughan Road. Adjacent to designated area north of King Vaughan Road. ANSI between Major Mackenzie Drive and Teston Road.

Land Use and Built Environment Golf course on the west side and Maple Nature Reserve on the east side north of Major Mackenzie. Large cemetery and second golf course on the east side, north of Teston. Primarily agricultural north of Kirby Road.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	1,580	1,220	1.60	1.33
2041 Proposed Network	2,100	1,700	1.16	0.95

2064 - Dufferin Street - Major Mackenzie Drive to 15th Sideroad (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements need to support transit.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

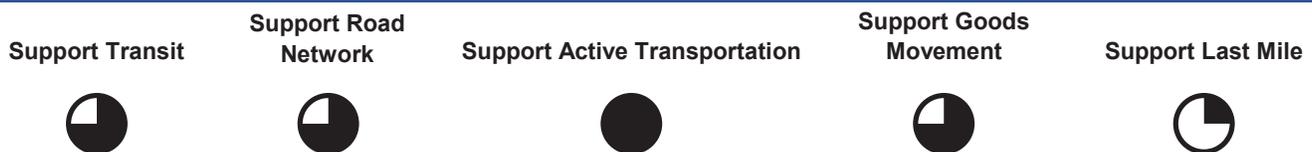
Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard within designated urban area.

Justification Widening accommodates growth in designated urban area. Forecast demands meeting threshold for widening to 4 lanes. Improves walking and cycling facilities within urban area.

TMP Phase 2022 to 2026: Major Mackenzie Drive to Teston Road
2032 to 2041: Teston Road to 15th Sideroad

Alignment with TMP Objectives



Costs

Capital Cost	\$ 49,426,900
Incremental Annual Road Operating Cost	\$ 394,500
Incremental Road Maintenance and Rehabilitation Cost	\$ 194,000

Related Projects

Name
Barrie GO Grade Separation - Dufferin Street north of King Road - Rail grade separation

Project ID
2145

2064 - Dufferin Street - Major Mackenzie Drive to 15th Sideroad (continued)

Key Intersections and Constraints

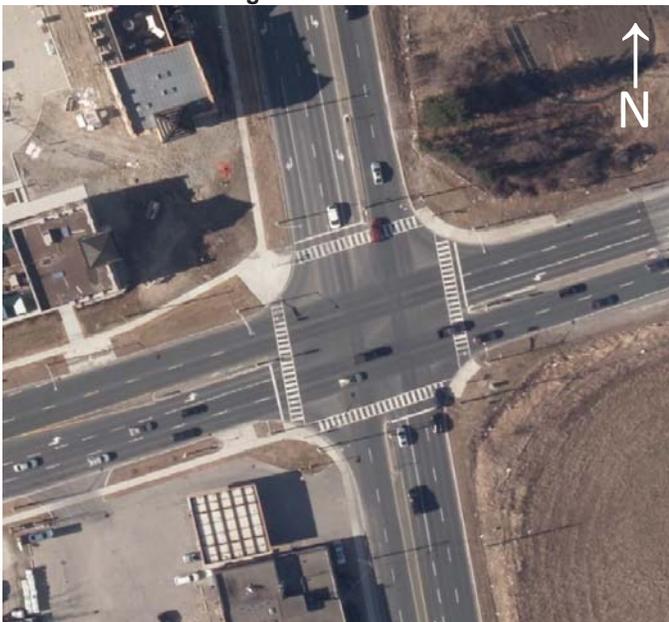
Dufferin Street at Major Mackenzie Drive



Dufferin Street at Teston Road



Dufferin Street at King Road



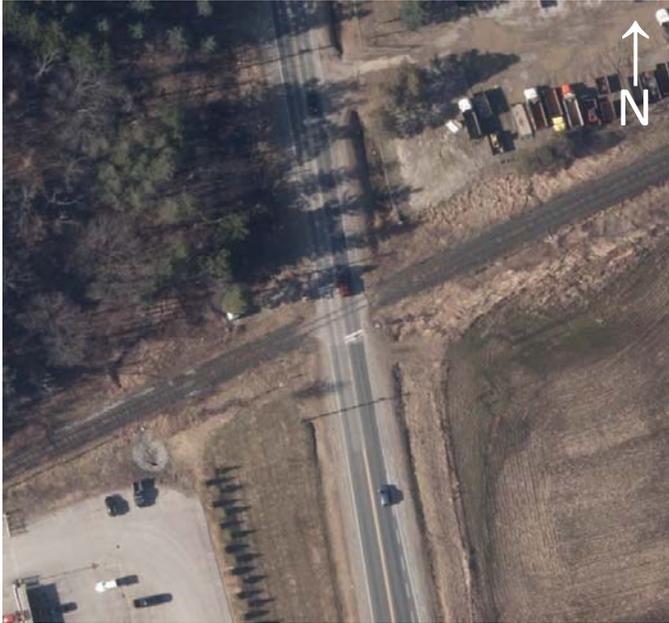
Dufferin Street at 15th Sideroad



2064 - Dufferin Street - Major Mackenzie Drive to 15th Sideroad (continued)

Key Intersections and Constraints

Barrie GO at Dufferin Street



2065 - Jane Street - Teston Road to 15th Sideroad

Project Description

Location	Jane Street	Project ID	2065
Municipality	Vaughan, King	Road Segment ID	55-12 to 55-18
Project Limits	Teston Road to 15th Sideroad	Length	8,240 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	890	810	0.88	0.80
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with turning lanes at some intersections. Widens to 4 lanes at the intersection of Jane Street/Teston Road. Sidewalk on east side only by adjacent development at the intersection of Teston Road/Jane Street. Paved shoulder. No transit services.

Natural and Built Environment

Natural Environment Observations: Corridor is within Oak Ridges Moraine designated area north of King Vaughan Road. Source Water Protection Areas: Protection area from north of King Road to 15th Sideroad.

Land Use and Built Environment Primarily agricultural lands with pockets of estate residential. Small cemetery south of King Road. Designated urban area on both sides south of Kirby Road. Designated urban area west of Jane Street north of Kirby Road to north boundary of Vaughan. Adjacent to King City urban area.

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	1,510	1,310	1.50	1.30
2041 Proposed Network	2,080	1,990	1.04	0.99

2065 - Jane Street - Teston Road to 15th Sideroad (continued)

Problem or Opportunity Statement

- Transportation network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.
- Corridor improvements needed to support walking and cycling.
- Corridor improvements need to support transit.

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.
3. Urbanize corridor but maintain 2-lane cross-section - Does not address traffic congestion. Opportunity to improve walking and cycling facilities.
4. Widen corridor to 4 lanes and maintain rural cross-section - Addresses traffic capacity. Does not improve walking facilities.
5. Widen corridor to 4 lanes and construct to urban arterial standard - Addresses traffic capacity. Opportunity to improve walking and cycling facilities.
6. Widen parallel/adjacent corridor - Potential to divert some traffic to other corridors. Does not address corridor congestion and provides no improvements to walking and cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes and construct to urban arterial standard.

Justification Corridor experiences congestion in peak periods. Widening accommodates growth in urban area, including North Vaughan employment lands. Opportunity to improve walking and cycling facilities.

TMP Phase 2027 to 2031: Teston Road to Kirby Road
2032 to 2041: Kirby Road to 15th Sideroad

Alignment with TMP Objectives



Costs

Capital Cost	\$ 44,936,200
Incremental Annual Road Operating Cost	\$ 411,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 155,300

Related Projects

Name	Project ID
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2065 - Jane Street - Teston Road to 15th Sideroad (continued)

Key Intersections and Constraints

Jane Street at Teston Road



Jane Street at King Road

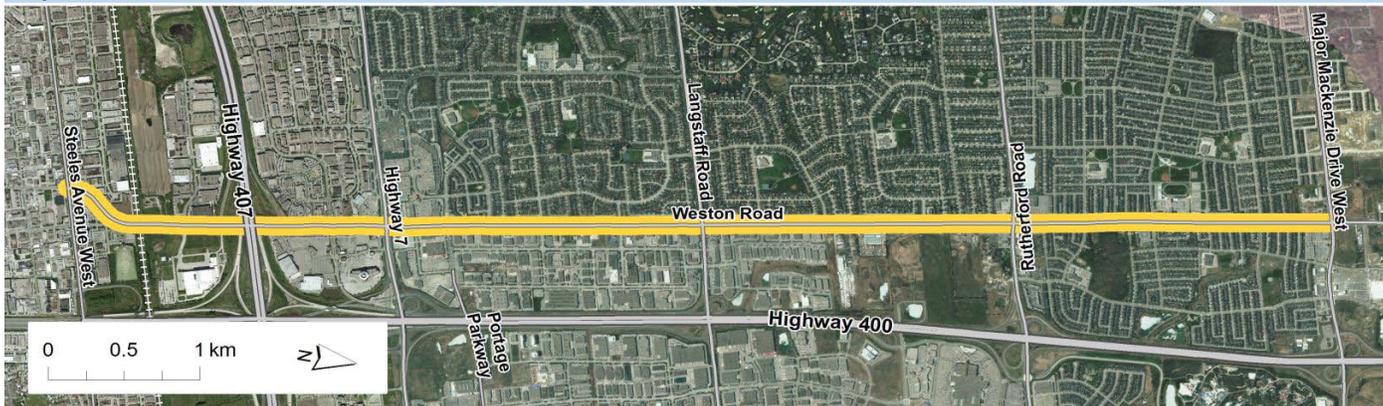


2066 - Weston Road - Steeles Avenue to Major Mackenzie Drive

Project Description

Location	Weston Road	Project ID	2066
Municipality	Vaughan	Road Segment ID	56-01 to 56-08
Project Limits	Steeles Avenue to Major Mackenzie Drive	Length	8,470 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	2,220	1,910	1.23	1.06
Daily truck volume	2,200 /day	1,360 /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 sidewalk on west side. Disconnected sidewalks on east side from Major Mackenzie Drive to Rutherford Road, from Valeria Boulevard to Langstaff Road, and from Century Place to Steeles Avenue. No dedicated cycling facilities. Curbside transit available. Grade separated rail crossing for CN York Subdivision north of Steeles Avenue.

Natural and Built Environment

Natural Environment Observations: Forested area on the east side north of Rutherford Road. Existing development on both sides.

Land Use and Built Environment Significant employment/industrial area between Weston Road and Highway 400 from Steeles Avenue to Rutherford Road. Residential development on the west side of Weston north of Highway 7. School and community centre at Davos Road.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour V/C Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	2,870	2,440	1.59	1.35
2041 Proposed Network	2,860	2,570	1.06	0.95

2066 - Weston Road - Steeles Avenue 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. 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 is congested in peak periods. Forecast demands meet threshold for widening to 6 lanes. Transit/HOV lane benefits transit travel times and encourages shift to transit/HOV. Opportunity to improve walking and cycling facilities.

TMP Phase 2022 to 2026: Steeles Avenue to Langstaff Road
2027 to 2031: Langstaff Road 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	\$	92,161,800
Incremental Annual Road Operating Cost	\$	423,300
Incremental Road Maintenance and Rehabilitation Cost	\$	159,700

Related Projects

Name	Project ID
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2066 - Weston Road - Steeles Avenue to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Weston Road at Steeles Avenue



Weston Road at Highway 407



Weston Road at Highway 7



Weston Road at Langstaff Road



2066 - Weston Road - Steeles Avenue to Major Mackenzie Drive (continued)

Key Intersections and Constraints

Weston Road at Rutherford Road



Weston Road at Major Mackenzie Drive

