

2102 - Highway 404 New Interchange - at Doane Road

Project Description

Location	Highway 404 New Interchange	Project ID	2102
Municipality	East Gwillimbury	Road Segment ID	45-29 to 45-30
Project Limits	at Doane Road		
Project Type	New Interchange		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Description

Components of interchange ramps have been pre-constructed as part of Highway 404 extension.

Natural and Built Environment

Natural Environment Observations: Regional Greenlands System south of Doane Road.
Environmentally Sensitive Areas: ESAs across Highway 404 north of Doane
Source Water Protection Areas: Within SWP zone

Land Use and Built Environment Primarily agricultural lands.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Interchange improvements at adjacent interchange - Potential to divert travel demand to other corridors. Does not address travel demand in corridor.
3. New partial interchange - Improves access to highway, but only to/from select directions.
4. New full interchange - Addresses travel demand and improves highway access to/from all directions.

2102 - Highway 404 New Interchange - at Doane Road (continued)

Recommended Improvement and Justification

Recommendation Construct new full interchange.

Justification Identified in 2009 TMP and confirmed through Doane Road EA. Interchange is required to serve growth in Queensville and Sharon. Interchange ramps already partially roughed in. Opportunity to include park and ride lot with interchange improvements. Approval required from MTO.

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	\$	4,063,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
Doane Road - Yonge Street to Woodbine Avenue - Widen to 4 lanes

Project ID
2056

Key Intersections and Constraints

Highway 404 at Doane Road



2103 - Highway 404 Interchange Improvements - at Mulock Drive

Project Description

Location	Highway 404 Interchange Improvements	Project ID	2103
Municipality	Newmarket, Whitchurch-Stouffville	Road Segment ID	74-29 to 74-30
Project Limits	at Mulock Drive		
Project Type	Interchange Improvements		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Description

Existing partial interchange with access to/from the south. Signalized intersection at northbound off-ramp.

Natural and Built Environment

Natural Environment Observations: Forested areas and watercourse in the northeast and northwest quadrants.
Source Water Protection Areas: Within SWP zone

Land Use and Built Environment Agricultural lands to the east. Low density residential to the southwest and employment lands to the northwest.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- 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. Interchange improvements at adjacent interchange - Potential to divert travel demand to adjacent corridor. Does not address travel demand in corridor.
3. Interchange improvements - Addresses travel demand and improves access to/from Highway 404.

2103 - Highway 404 Interchange Improvements - at Mulock Drive (continued)

Recommended Improvement and Justification

Recommendation Interchange improvements.

Justification Additional ramps to/from north at Mulock Drive interchange are needed for improved connectivity. Interchange reduces traffic on local/collector streets including Harry Walker Parkway and Davis Drive. MTO conducting Class EA for improvements along Highway 404 from Highway 407 to Green Lane. MTO plans include missing ramps to/from north at Mulock Drive. Opportunity to include park and ride lot with interchange improvements.

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	\$	6,000,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

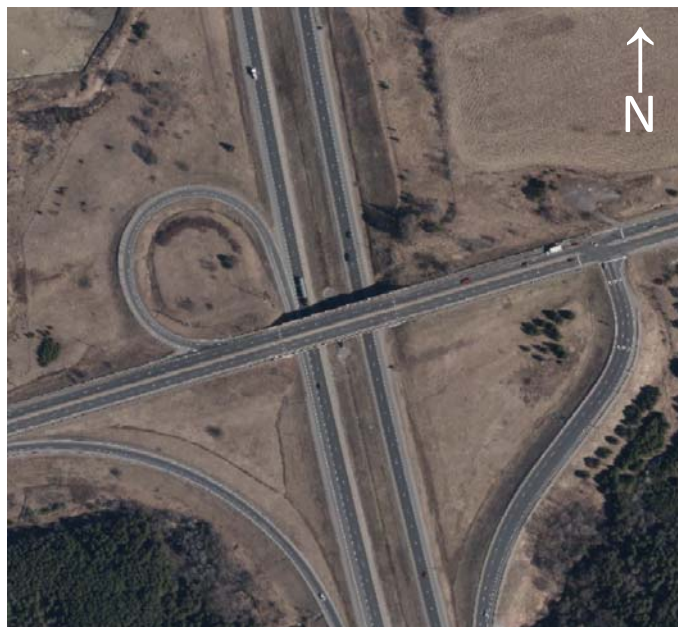
Related Projects

Name

Project ID

Key Intersections and Constraints

Highway 404 at Mulock Drive



2104 - Highway 404 New Interchange - at St John's Sideroad

Project Description

Location	Highway 404 New Interchange	Project ID	2104
Municipality	Aurora, Whitchurch-Stouffville	Road Segment ID	26-29 to 26-30
Project Limits	at St John's Sideroad		
Project Type	New Interchange		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Description

Existing Highway 404 underpass of St. John's Sideroad.

Natural and Built Environment

Natural Environment Observations: Regional Greenlands System to the north and south.
Source Water Protection Areas: Near SWP zone

Land Use and Built Environment Agricultural lands to the northwest, southwest and southeast. Residential parcels with direct frontage on St. John's Sideroad to the east.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Interchange improvements at adjacent interchange - Potential to divert travel demand to other corridors. Does not address travel demand in corridor.
3. New partial interchange - Improves access to highway, but only to/from select directions.
4. New full interchange - Addresses travel demand and improves highway access to/from all directions.

2104 - Highway 404 New Interchange - at St John's Sideroad (continued)

Recommended Improvement and Justification

Recommendation Construct new full interchange.

Justification New interchange needed to accommodate growth in east Aurora. Interchange provides alternative access to Highway 404 and relieves traffic on Wellington Street, eliminating the need to widen Wellington beyond the current 4 lanes. Approval required from MTO.

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	\$	40,250,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
St John's Sideroad - Bayview Avenue to Highway 404 - Widen to 4 lanes

Project ID
2029

Key Intersections and Constraints

Highway 404 at St John's Sideroad



2105 - Highway 404 New Interchange - at 19th Avenue

Project Description

Location	Highway 404 New Interchange	Project ID	2105
Municipality	Richmond Hill, Markham	Road Segment ID	29-29 to 29-30
Project Limits	at 19th Avenue		
Project Type	New Interchange		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Description

Existing Highway 404 underpass of 19th Avenue.

Natural and Built Environment

Natural Environment Observations: Regional Greenlands System with watercourse on the west side of Highway 404.

Land Use and Built Environment Primarily agricultural uses. Industrial site in the southeast quadrant.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate growth in Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Interchange improvements at adjacent interchange - Potential to divert travel demand to other corridors. Does not address travel demand in corridor.
3. New partial interchange - Improves access to highway, but only to/from select directions.
4. New full interchange - Addresses travel demand and improves highway access to/from all directions.

2105 - Highway 404 New Interchange - at 19th Avenue (continued)

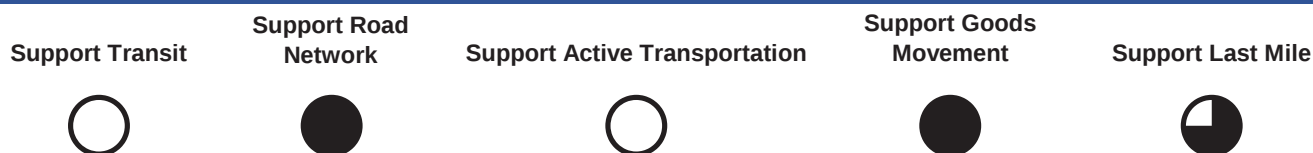
Recommended Improvement and Justification

Recommendation Construct new full interchange.

Justification New interchange needed as connection to Donald Cousens Parkway and to accommodate growth in North Markham and Richmond Hill. 19th Avenue is currently under the jurisdiction of Richmond Hill/Markham and is a candidate for transfer to the Region. A new interchange has been protected in North Leslie Secondary Plan approvals. Approval required from MTO.

TMP Phase 2027 to 2031

Alignment with TMP Objectives



Costs

Capital Cost	\$	40,250,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name	Project ID
19th Avenue - Bayview Avenue to Woodbine Avenue - Widen to 4 lanes	2037
Donald Cousens Parkway (19th Avenue) - Woodbine Avenue to Major Mackenzie Drive - Widen to 4 lanes; New ar	2053

Key Intersections and Constraints

Highway 404 at 19th Avenue

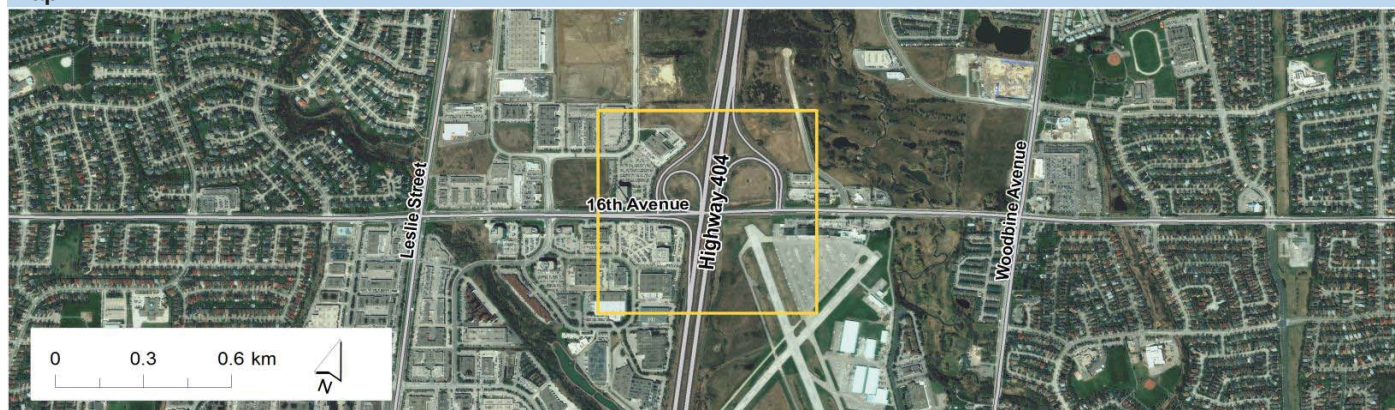


2106 - Highway 404 Interchange Improvements - at 16th Avenue

Project Description

Location	Highway 404 Interchange Improvements	Project ID	2106
Municipality	Richmond Hill, Markham	Road Segment ID	73-29 to 73-30
Project Limits	at 16th Avenue		
Project Type	Interchange Improvements		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Description

Existing interchange (ParClo AB).

Natural and Built Environment

Natural Environment Observations: Existing development on both sides.

Land Use and Built Environment Primarily employment lands in surrounding area. Buttonville airport in southeast corner.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- 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. Interchange improvements at adjacent interchange - Potential to divert travel demand to adjacent corridor. Does not address travel demand in corridor.
3. Interchange improvements - Addresses travel demand and improves access to/from highway.

2106 - Highway 404 Interchange Improvements - at 16th Avenue (continued)

Recommended Improvement and Justification

Recommendation Interchange improvements.

Justification Interchange re-configuration improves capacity and reduces delay at the intersections. MTO conducting Class EA for improvements along Highway 404 from Highway 407 to Green Lane. MTO plans include reconfiguration of existing interchange to Parco A once Buttonville Airport redevelops. Opportunity for new park and ride facility. Approval required from MTO.

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	\$ 13,750,000
Incremental Annual Road Operating Cost	\$ -
Incremental Road Maintenance and Rehabilitation Cost	\$ -

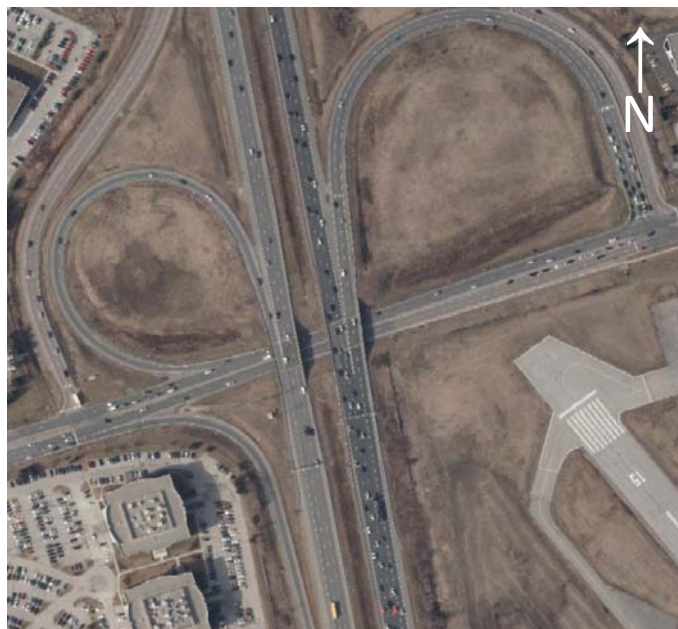
Related Projects

Name
16th Avenue - Leslie Street to Woodbine Avenue - Widen to 6 lanes

Project ID
2087

Key Intersections and Constraints

Highway 404 at 16th Avenue



2107 - Highway 407 New Interchange - at Martin Grove Road

Project Description

Location	Highway 407 New Interchange	Project ID	2107
Municipality	Vaughan	Road Segment ID	07-10
Project Limits	at Martin Grove Road		
Project Type	New Interchange		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

Description

Existing Highway 407 underpass. This section of Martin Grove Road is 4 general purpose lanes with continuous sidewalks on both sides. No dedicated cycling facilities.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides.

Land Use and Built Environment Hydro corridor to the northeast. Large industrial/commercial building to the northwest.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- 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. Interchange improvements at adjacent interchange - Potential to divert travel demand to other corridors. Does not address travel demand in corridor.
3. New partial interchange - Improves access to highway, but only to/from select directions.
4. New full interchange - Addresses travel demand and improves highway access to/from all directions.

2107 - Highway 407 New Interchange - at Martin Grove Road (continued)

Recommended Improvement and Justification

Recommendation Construct new interchange.

Justification New Highway 407 interchange at Martin Grove Road was identified in 2009 TMP. Previous feasibility study indicated that a partial interchange to/from the east is feasible within the existing Highway 407 right-of-way. Interchange would serve residential and industrial areas to the south and industrial areas to the north, providing improved accessibility to Highway 407. Approval required from MTO and 407 ETR.

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	\$	40,250,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name

Project ID

Key Intersections and Constraints

Highway 407 at Martin Grove Road

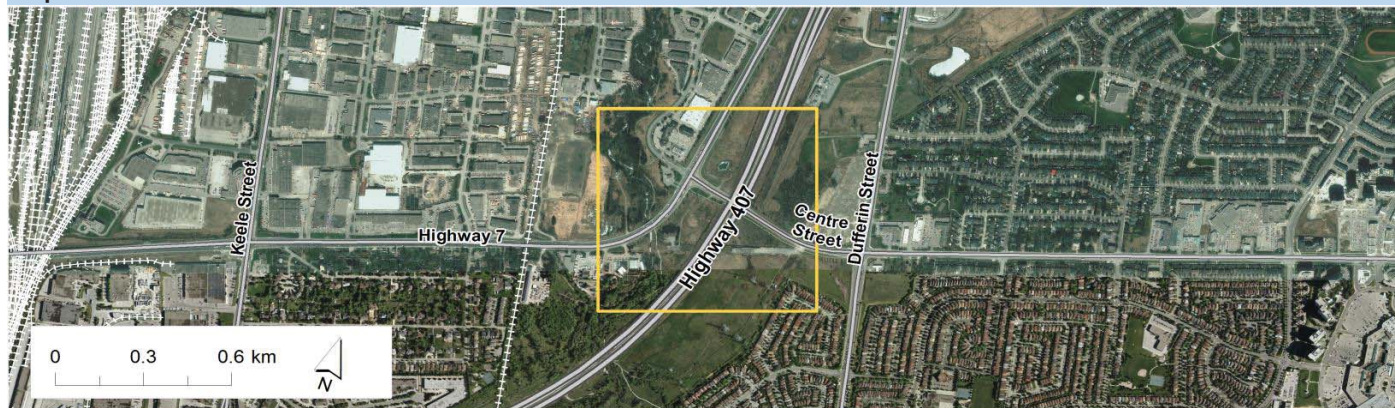


2108 - Highway 407 New Interchange - at Centre Street

Project Description

Location	Highway 407 New Interchange	Project ID	2108
Municipality	Vaughan	Road Segment ID	71-19 to 71-21
Project Limits	at Centre Street		
Project Type	New Interchange		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 45 metres

Description

Existing Highway 407 overpass. This section of Centre Street is 4 general purpose lanes with paved shoulders with a median island under the structure. A sidewalk is provided on the south side. No dedicated cycling facilities.

Natural and Built Environment

Natural Environment Observations: Greenlands system, watercourse and trail in the southwest quadrant.

Land Use and Built Environment Hydro corridor parallel to Highway 407 on the east side. Approx 130 m to Highway 7 on the west side. Community park in the northeast quadrant.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- 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. Interchange improvements at adjacent interchange - Potential to divert travel demand to other corridors. Does not address travel demand in corridor.
3. New partial interchange - Improves access to highway, but only to/from select directions.
4. New full interchange - Addresses travel demand and improves highway access to/from all directions.

2108 - Highway 407 New Interchange - at Centre Street (continued)

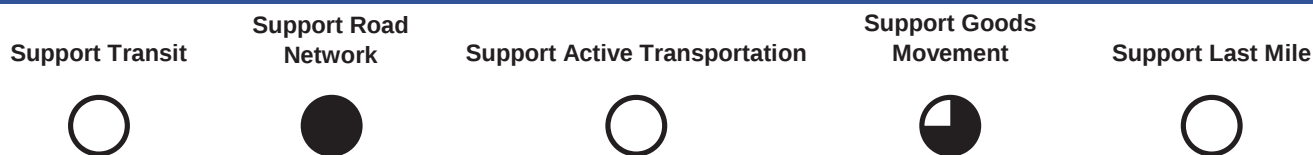
Recommended Improvement and Justification

Recommendation Construct new interchange.

Justification New Highway 407 interchange at Centre Street was identified in 2009 TMP. Previous feasibility study indicated several design concepts for this interchange would be feasible. The Interchange serves the residential and commercial areas to the southeast and industrial areas to the northwest. Approval required from MTO and 407 ETR.

TMP Phase 2032 to 2041

Alignment with TMP Objectives



Costs

Capital Cost	\$	40,250,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

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

Key Intersections and Constraints

Highway 407 at Centre Street



2109 - Highway 407 Interchange Improvements - at Ninth Line

Project Description

Location	Highway 407 Interchange Improvements	Project ID	2109
Municipality	Markham	Road Segment ID	69-04
Project Limits	at Ninth Line		
Project Type	Interchange Improvements		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 45 metres

Description

Existing interchange (ParClo A) without the S-E on-ramp in the southeast quadrant. This section of Ninth Line is 4 general purpose lanes (5 lanes on the structure) with continuous sidewalks on both sides. No dedicated cycling facilities.

Natural and Built Environment

Natural Environment Observations: Greenlands system with watercourse in the southeast quadrant.

Land Use and Built Environment Primarily lower density residential. Big box retail commercial in the southeast quadrant.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate growth in Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Interchange improvements at adjacent interchange - Potential to divert travel demand to adjacent corridor. Does not address travel demand in corridor.
3. Interchange improvements - Addresses travel demand and improves access to/from highway.

2109 - Highway 407 Interchange Improvements - at Ninth Line (continued)

Recommended Improvement and Justification

Recommendation Interchange improvements.

Justification New ramp from South to East needed to serve growth in Markham. York Region completed interchange feasibility study identifying the need for missing ramp. A full interchange improves utility of Ninth Line. 407 ETR has not committed to improvements, but will consider if BCA thresholds are met. Approval required from MTO and 407 ETR.

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	\$	3,750,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

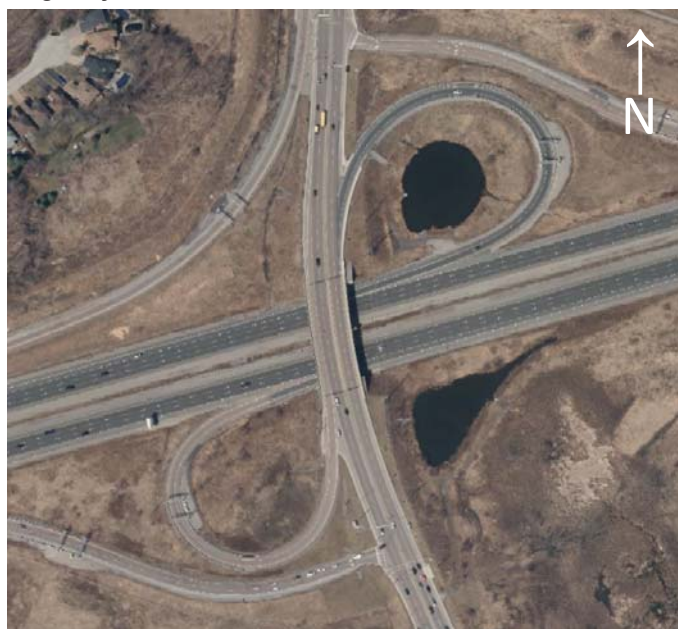
Related Projects

Name

Project ID

Key Intersections and Constraints

Highway 407 at Ninth Line



2110 - Highway 407 Interchange Improvements - at Donald Cousens Parkway

Project Description

Location	Highway 407 Interchange Improvements	Project ID	2110
Municipality	Markham	Road Segment ID	48-05
Project Limits	at Donald Cousens Parkway		
Project Type	Interchange Improvements		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Description

Existing partial interchange missing S-W on-ramp and S-E on-ramp.

Natural and Built Environment

Natural Environment Observations: Regional Greenlands System adjacent to Highway 407 on the north side.

Land Use and Built Environment Big box retail commercial to the southwest. Agricultural and open space in the northwest, northeast and southeast quadrants.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate growth in Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Interchange improvements at adjacent interchange - Potential to divert travel demand to adjacent corridor. Does not address travel demand in corridor.
3. Interchange improvements - Addresses travel demand and improves access to/from highway.

2110 - Highway 407 Interchange Improvements - at Donald Cousens Parkway (continued)

Recommended Improvement and Justification

Recommendation Interchange improvements.

Justification Donald Cousens Parkway to Morningside Link EA recommended completing interchange with the addition of ramps to/from south. 407 ETR has not committed to improvements, but will consider if BCA thresholds are met. Approval required from MTO and 407 ETR.

TMP Phase 2022 to 2026

Alignment with TMP Objectives

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

Costs

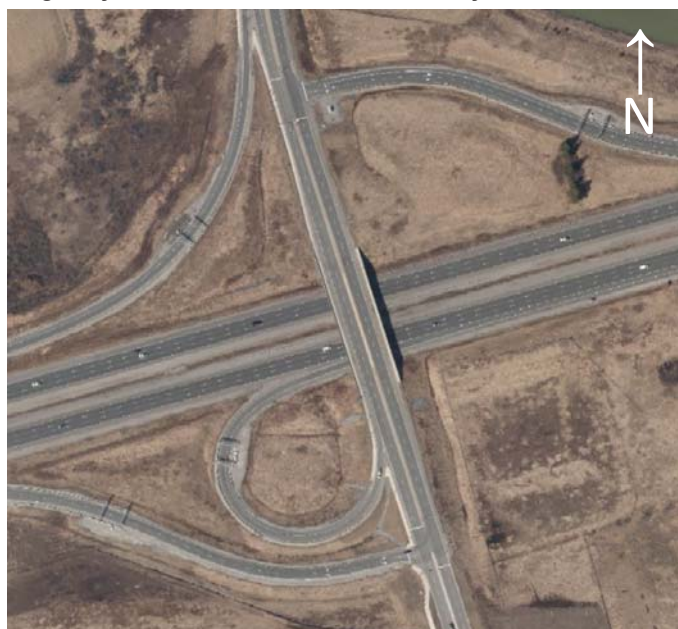
Capital Cost	\$	6,750,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name	Project ID
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Key Intersections and Constraints

Highway 407 at Donald Cousens Parkway



2111 - Highway 400 New Interchange - at 15th Sideroad

Project Description

Location	Highway 400 New Interchange	Project ID	2111
Municipality	King	Road Segment ID	40-15 to 40-16
Project Limits	at 15th Sideroad		
Project Type	New Interchange		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

Description

15th Sideroad is discontinuous at Highway 400. Existing corridor is unpaved, gravel surface.

Natural and Built Environment

Natural Environment Observations: Interchange is located within Regional Greenlands System.
Environmentally Sensitive Areas: ANSI in southwest quadrant.

Land Use and Built Environment Primarily agricultural lands in the vicinity. MTO weigh station located on Highway 400 just north of 15th Sideroad.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate growth in Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Interchange improvements at adjacent interchange - Potential to divert travel demand to other corridors. Does not address travel demand in corridor.
3. New partial interchange - Improves access to highway, but only to/from select directions.
4. New full interchange - Addresses travel demand and improves highway access to/from all directions.

2111 - Highway 400 New Interchange - at 15th Sideroad (continued)

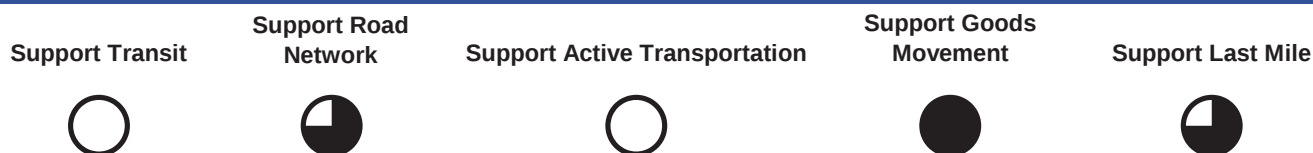
Recommended Improvement and Justification

Recommendation Construct new full interchange.

Justification New interchange identified in Mid-York East-West Transportation Corridor Feasibility study as a carry-forward corridor. 15th Sideroad currently under jurisdiction of King Township and is a candidate for transfer to the Region. Need for interchange related to planned improvements on 15th Sideroad resulting in a continuous east-west road, eliminating the missing link between Jane and Keele, and across Highway 400. New interchange and corridor improvements provide traffic relief on King Road through King City and provides alternate truck route bypassing King City. Approval required from MTO.

TMP Phase 2032 to 2041

Alignment with TMP Objectives



Costs

Capital Cost	\$	40,250,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
15th Sideroad - Highway 400 to Jane Street - Widen to 4 lanes

Project ID
2049

Key Intersections and Constraints

Highway 400 at 15th Sideroad



2112 - Highway 400 New Interchange - at King Vaughan Road

Project Description

Location	Highway 400 New Interchange	Project ID	2112
Municipality	Vaughan	Road Segment ID	29-15 to 29-16
Project Limits	at King Vaughan Road		
Project Type	New Interchange		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW N/A

Description

Existing Highway 400 underpass with 2-lanes on King Vaughan Road.

Natural and Built Environment

Natural Environment Observations: Regional Greenlands System located in southwest quadrant. Watercourses on both sides of Highway 400.

Land Use and Built Environment Industrial land use in the northeast quadrant. Primarily agricultural lands on northwest, southwest and southeast quadrants. Private residence located in southeast quadrant approx 50 m from Highway 400.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- Network improvements needed to accommodate expansion of the Designated Urban Area.
- Capacity improvements needed to accommodate future travel demands.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Interchange improvements at adjacent interchange - Potential to divert travel demand to other corridors. Does not address travel demand in corridor.
3. New partial interchange - Improves access to highway, but only to/from select directions.
4. New full interchange - Addresses travel demand and improves highway access to/from all directions.

2112 - Highway 400 New Interchange - at King Vaughan Road (continued)

Recommended Improvement and Justification

Recommendation Construct new interchange.

Justification Interchange required to support growth in Northern Vaughan. Interchange provides connection to Highway 400 and also to GTA West. Interchange feasibility to be confirmed through GTA West EA. York Region working with MTO and Vaughan through the GTA West EA to confirm final interchange configuration in the area of the future GTA West / Highway 400 freeway to freeway interchange. Identified as a carry-forward corridor in the Mid-York East-West Transportation Study. Approval required from MTO.

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	\$	40,250,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name	Project ID
King Vaughan Road - Pine Valley Drive to Bathurst Street - Widen to 4 lanes	2018

Key Intersections and Constraints

Highway 400 at King Vaughan Road

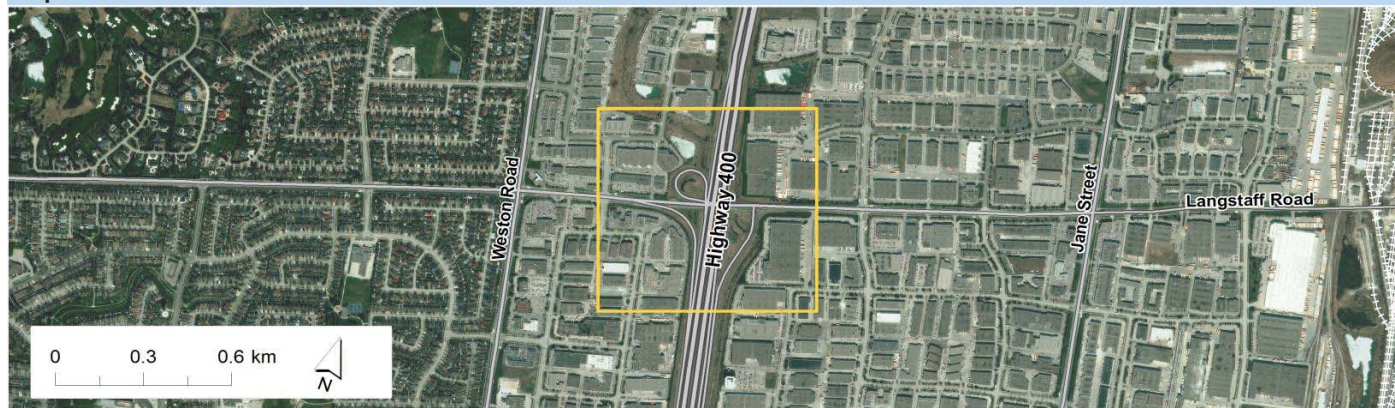


2113 - Highway 400 Interchange Improvements - at Langstaff Road

Project Description

Location	Highway 400 Interchange Improvements	Project ID	2113
Municipality	Vaughan	Road Segment ID	72-15 to 72-16
Project Limits	at Langstaff Road		
Project Type	Interchange Improvements		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Description

Existing partial interchange with access to/from the south only. Signalized intersection at northbound off-ramp.

Natural and Built Environment

Natural Environment Observations: Watercourse on east side of Highway 400 crossing to west side north of Langstaff Road.

Land Use and Built Environment Employment/industrial lands surrounds interchange area.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- 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. Interchange improvements at adjacent interchange - Potential to divert travel demand to adjacent corridor. Does not address travel demand in corridor.
3. Interchange improvements - Addresses travel demand and improves access to/from highway.

2113 - Highway 400 Interchange Improvements - at Langstaff Road (continued)

Recommended Improvement and Justification

Recommendation Interchange improvements.

Justification Interchange improvements needed to provide access to/from the north. A full interchange provides improved highway connectivity for goods movement. Need for improvement increases when Langstaff Road missing link is constructed between Jane Street and Keele Street. Opportunity for new park and ride facility. Langstaff Road EA (Weston to Highway 7) is scheduled to commence in 2016. Approval required from MTO.

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	\$ 14,250,000
Incremental Annual Road Operating Cost	\$ -
Incremental Road Maintenance and Rehabilitation Cost	\$ -

Related Projects

Name
Langstaff Road - Weston Road to Jane Street - Widen to 6 lanes

Project ID
2079

Key Intersections and Constraints

Highway 400 at Langstaff Road

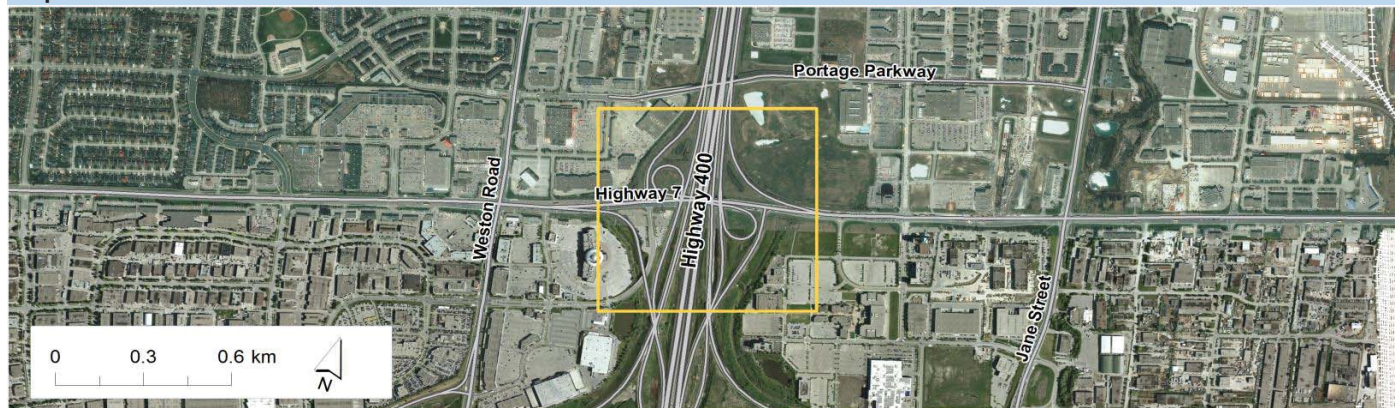


2114 - Highway 400 Interchange Improvements - at Highway 7 - Vaughan Metropolitan Centre

Project Description

Location	Highway 400 Interchange Improvements	Project ID	2114
Municipality	Vaughan	Road Segment ID	07-15 to 07-16
Project Limits	at Highway 7 - Vaughan Metropolitan Centre		
Project Type	Interchange Improvements		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 60 metres

Description

Existing full interchange at Highway 7

Natural and Built Environment

Natural Environment Observations: Watercourse on east side of Highway 400 ramps.

Land Use and Built Environment Major commercial/employment area in the surrounding vicinity.

Problem or Opportunity Statement

- Improved network connectivity needed to move people and goods.
- 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. Interchange improvements at adjacent interchange - Potential to divert travel demand to adjacent corridor. Does not address travel demand in corridor.
3. Interchange improvements - Addresses travel demand and improves access to/from highway.

2114 - Highway 400 Interchange Improvements - at Highway 7 - Vaughan Metropolitan Centre (continued)

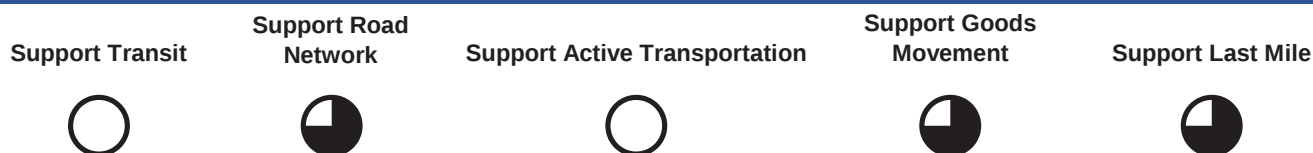
Recommended Improvement and Justification

Recommendation Interchange improvements.

Justification Improvements to existing full interchange on Highway 400 at Highway 7 is needed to accommodate Vaughan Corporate Centre Plan. Approval required from MTO.

TMP Phase 2017 to 2021

Alignment with TMP Objectives



Costs

Capital Cost	\$	19,200,000
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
Highway 7 - Helen Street to Yonge Street - RT Corridor

Project ID
1007

Key Intersections and Constraints

Highway 400 at Highway 7

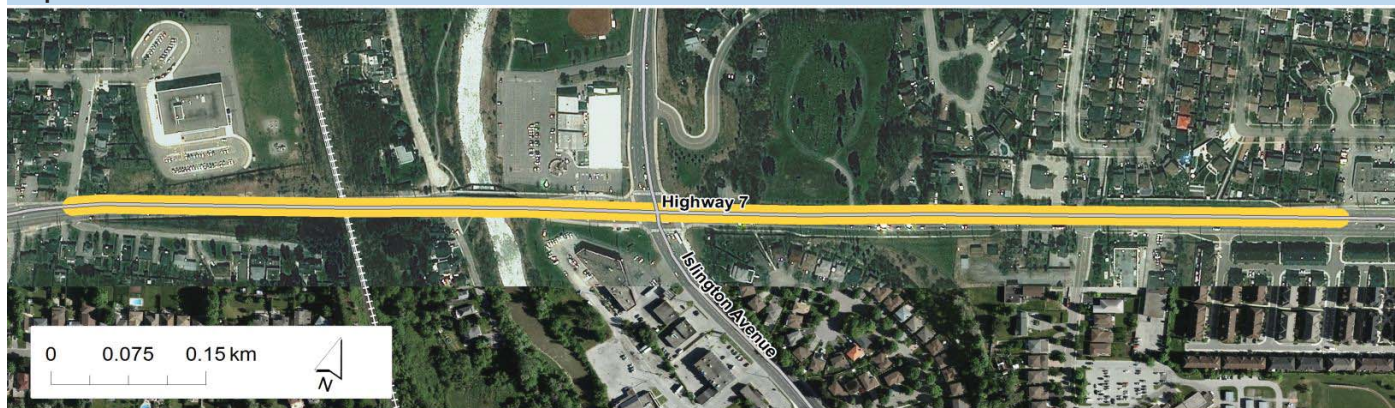


2115 - Highway 7 - Kipling Avenue to Helen Street

Project Description

Location	Highway 7	Project ID	2115
Municipality	Vaughan	Road Segment ID	07-11 to 07-12
Project Limits	Kipling Avenue to Helen Street	Length	1,400 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 VIC Ratio	
	Maximum	Average	Maximum	Average
Model Forecast				
2011 Existing	2,070	1,280	1.03	0.64
Daily truck volume	4,280 /day	2,710 /day		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Continuous sidewalk on the north side. No pedestrians allowed on the south side between McKenzie St & Wallace St. No dedicated cycling facilities. CP MacTier Subdivision railway underpass east of Kipling Avenue; structural walls abuts travel lanes. Curbside transit service, including Viva Orange.

Natural and Built Environment

Natural Environment Observations: Crosses the Humber River valley between Kipling Avenue and Islington Avenue.

Land Use and Built Environment Mostly low-density residential; parkland in the Humber River valley, public school, pool and arena to the north

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	2,690	1,680	1.34	0.84
2041 Proposed Network	3,240	2,000	1.08	0.67

2115 - Highway 7 - Kipling Avenue to Helen Street (continued)

Problem or Opportunity Statement

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

Alternatives Considered

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.
4. Widen corridor to implement dedicated rapid transit - Does not address traffic congestion. 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 travel demand, no improvements to walking and cycling facilities, does not encourage shift to transit/HOV.

Recommended Improvement and Justification

Recommendation Widen to 6 lanes in addition to dedicated rapidway. Construction to be coordinated with rapidway construction.

Justification EA provides detailed justification for dedicated rapidway. Eliminating constraint (railway underpass) improves transit speeds and service reliability and maximizes ridership potential. 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	\$ 65,608,800
Incremental Annual Road Operating Cost	\$ 70,000
Incremental Road Maintenance and Rehabilitation Cost	\$ 26,400

Related Projects

Name	Project ID
Highway 7 - Highway 50 to Helen Street - RT Corridor	1006
Highway 7 - Helen Street to Yonge Street - RT Corridor	1007

2115 - Highway 7 - Kipling Avenue to Helen Street (continued)

Key Intersections and Constraints

Highway 7 at Islington Avenue



Railway underpass east of Kipling Avenue (Image capture: 2015, ©2016 Google)

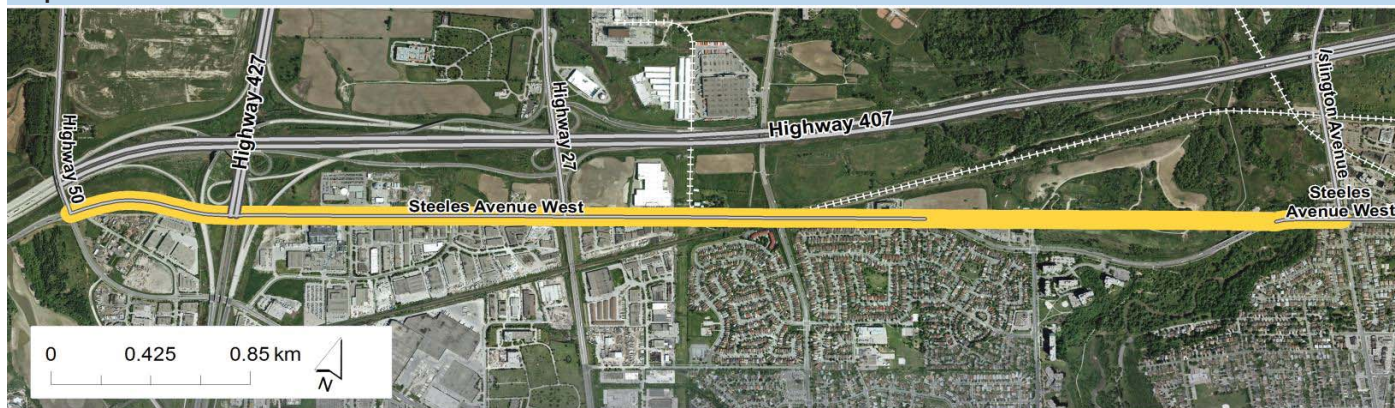


2116 - Steeles Avenue - Highway 50 to Islington Avenue

Project Description

Location	Steeles Avenue	Project ID	2116
Municipality	Vaughan	Road Segment ID	95-07 to 95-11
Project Limits	Highway 50 to Islington Avenue	Length	4,230 m
Project Type	Steeles (Widen to 6 lanes)		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW 45 metres

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	940	640	0.58	0.40
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Continuous sidewalk on south side. No continuous sidewalk on north side from Highway 50 to Islington Avenue. No dedicated cycling facilities. Curbside transit service between Highway 427 and Islington Avenue. Grade separated rail crossing for CN York Subdivision under the intersection of Steeles Avenue/Martin Grove Road.

Natural and Built Environment

Natural Environment Observations: Thackeray Park and Humber River valley lands located on both sides of Steeles Avenue between Kipling Avenue and Islington Avenue.

Land Use and Built Environment Industrial/commercial land uses to east of Highway 27. Primarily residential on the south side from east of Highway 27 to Islington Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	1,220	990	0.76	0.62
2041 Proposed Network	1,450	1,330	0.60	0.55

2116 - Steeles Avenue - Highway 50 to Islington Avenue (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. 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 for general purpose capacity improvements.

Justification Boundary road under the jurisdiction of the City of Toronto. Widening provides a continuous 6-lane corridor on Steeles Avenue. Potential for implementing HOV lanes jointly with City of Toronto. Improvements at the intersection of Highway 50 will require coordination with Peel Region.

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	\$ 54,205,700
Incremental Annual Road Operating Cost	\$ 211,400
Incremental Road Maintenance and Rehabilitation Cost	\$ 79,700

Related Projects

Name
Steeles Avenue - Pine Valley Drive to Jane Street - Steeles (Widen to 6 lanes)

Project ID
2117

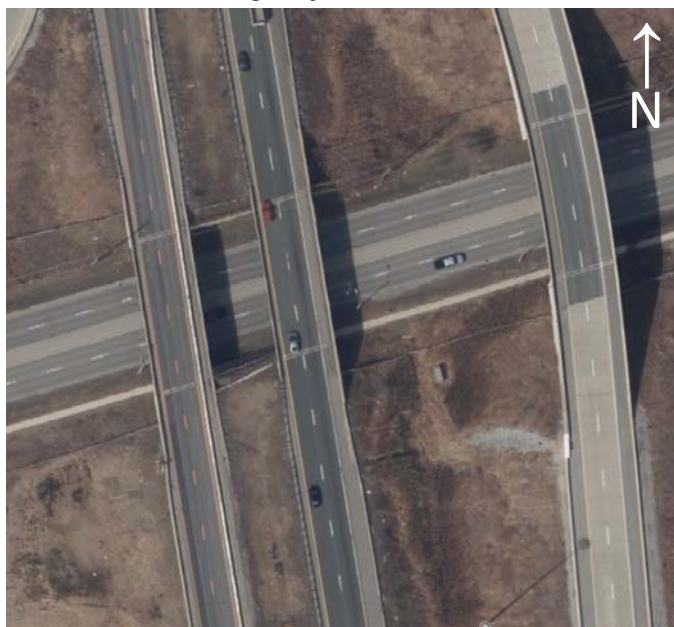
2116 - Steeles Avenue - Highway 50 to Islington Avenue (continued)

Key Intersections and Constraints

Steeles Avenue at Highway 50



Steeles Avenue at Highway 427



Steeles Avenue at Highway 27



Steeles Avenue at Islington Avenue

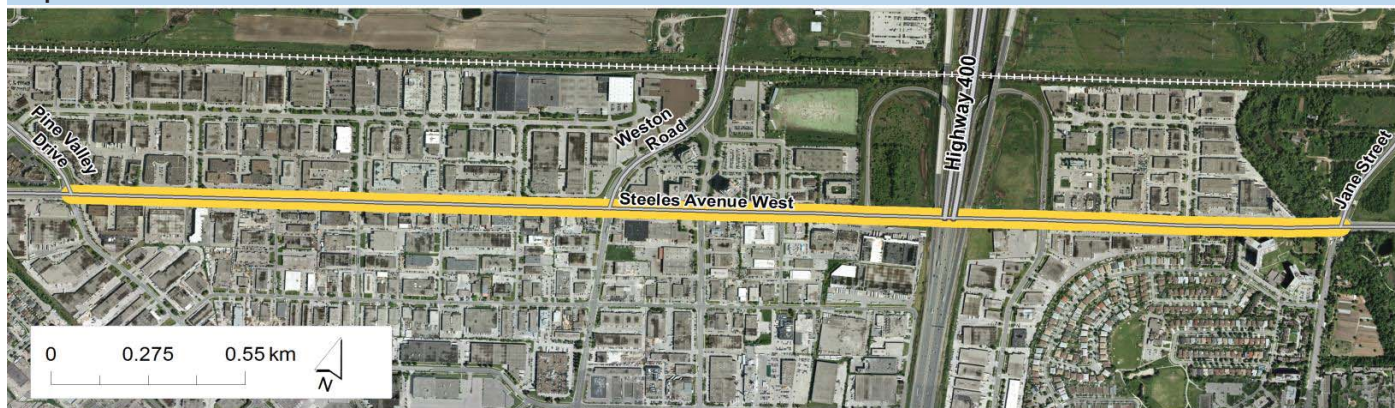


2117 - Steeles Avenue - Pine Valley Drive to Jane Street

Project Description

Location	Steeles Avenue	Project ID	2117
Municipality	Vaughan	Road Segment ID	95-14 to 95-16
Project Limits	Pine Valley Drive to Jane Street	Length	3,610 m
Project Type	Steeles (Widen to 6 lanes)		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW 45 metres

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	1,590	1,400	0.99	0.87
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Widens to 6 lanes at the intersection of Pine Valley Drive/Steeles Avenue. Continuous sidewalk on south side. Sidewalk on north side, with a disconnect at the overpass of Highway 400. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Small pocket of Regional Greenlands System and forest at the northwest quadrant of Jane Street at Steeles Avenue.

Land Use and Built Environment Large employment area with industrial land uses on both sides of Steeles Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	1,970	1,600	1.23	1.00
2041 Proposed Network	2,240	2,200	0.93	0.92

2117 - Steeles Avenue - Pine Valley Drive to Jane Street (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. 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 for general purpose capacity improvements.

Justification Boundary road under the jurisdiction of the City of Toronto. Forecast demand meets threshold for widening to 6 lanes and provides a continuous 6-lane corridor on Steeles Avenue. Potential for implementing HOV lanes jointly with City of Toronto

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	\$ 28,905,900
Incremental Annual Road Operating Cost	\$ 180,400
Incremental Road Maintenance and Rehabilitation Cost	\$ 68,000

Related Projects

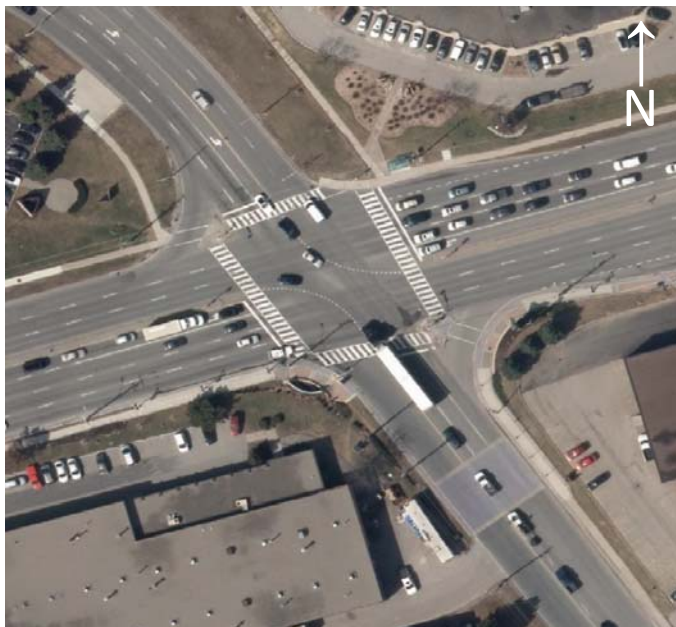
Name
Steeles Avenue - Highway 50 to Islington Avenue - Steeles (Widen to 6 lanes)

Project ID
2116

2117 - Steeles Avenue - Pine Valley Drive to Jane Street (continued)

Key Intersections and Constraints

Steeles Avenue at Pine Valley Drive



Steeles Avenue at Weston Road



Steeles Avenue at Jane Street

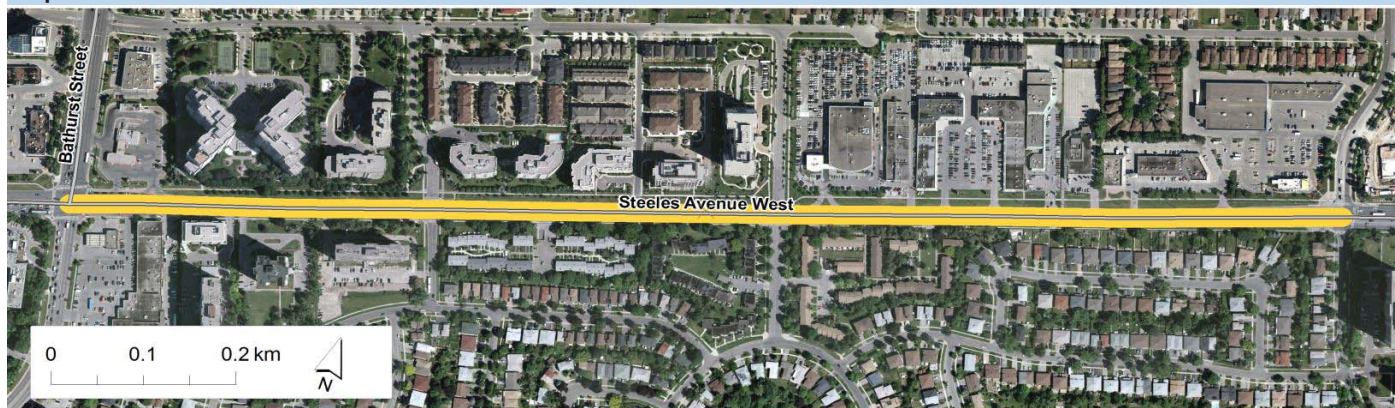


2118 - Steeles Avenue - Bathurst Street to Hilda Avenue

Project Description

Location	Steeles Avenue	Project ID	2118
Municipality	Vaughan, Toronto	Road Segment ID	95-24
Project Limits	Bathurst Street to Hilda Avenue	Length	1,380 m
Project Type	Steeles (Widen to 6 lanes)		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW 36 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	1,400	1,400	0.87	0.87
Daily truck volume	N/A	N/A		

Description

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

Natural and Built Environment

Natural Environment Observations: Existing development on both sides.

Land Use and Built Environment Mostly tower residential from Bathurst Street to Pam Gate Boulevard, commercial on the north side and residential on the south side to Hilda Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	1,550	1,550	0.96	0.96
2041 Proposed Network	1,300	1,300	0.81	0.81

2118 - Steeles Avenue - Bathurst Street to Hilda Avenue (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. 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.

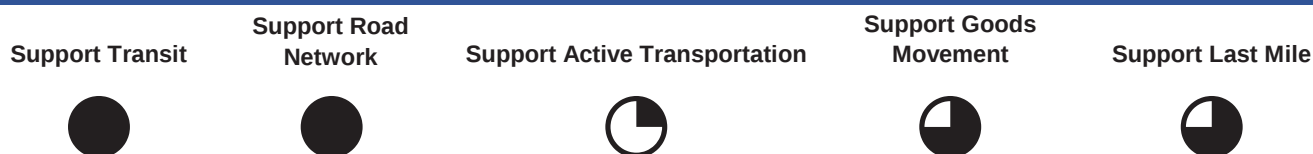
Recommended Improvement and Justification

Recommendation Interim widening to 6 general purpose lanes.

Justification Boundary road under the jurisdiction of the City of Toronto. Forecast demand meets threshold for widening to 6 lanes and provides a continuous 6-lane corridor on Steeles Avenue. Potential for implementing HOV lanes jointly with City of Toronto. Potential for conversion to Rapid Transit as per Metrolinx plans.

TMP Phase 2022 to 2026

Alignment with TMP Objectives



Costs

Capital Cost	\$	15,458,400
Incremental Annual Road Operating Cost	\$	69,000
Incremental Road Maintenance and Rehabilitation Cost	\$	26,000

Related Projects

Name
Steeles Avenue - Spadina Subway to Milliken GO - RT Corridor

Project ID
1024

2118 - Steeles Avenue - Bathurst Street to Hilda Avenue (continued)

Key Intersections and Constraints

Steeles Avenue at Bathurst Street

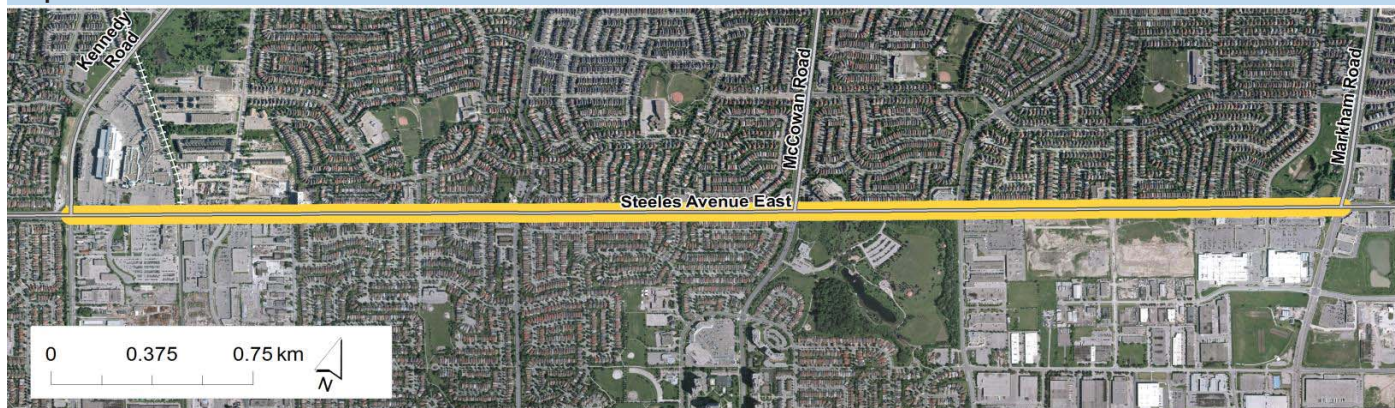


2121 - Steeles Avenue - Kennedy Road to Markham Road

Project Description

Location	Steeles Avenue	Project ID	2121
Municipality	Markham	Road Segment ID	95-36 to 95-38
Project Limits	Kennedy Road to Markham Road	Length	4,740 m
Project Type	Steeles (Widen to 6 lanes)		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW 36 metres

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	1,400	1,250	0.87	0.78
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Continuous sidewalks on the north side. Sidewalk on south side is disconnected at one point, with a multi-use path (as a potential alternative for pedestrians) on south side between McCowan Road and Middlefield Road connecting sidewalks. Bike lane between McCowan Road and Markham Road. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Milliken Park on south side between McCowan Road and Middlefield Road.

Land Use and Built Environment Primarily residential north of Steeles Avenue. Regional shopping centre and commercial/industrial area at Kennedy Road and Steeles Avenue. Big box commercial on southwest quadrant of Markham Road and Steeles Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	1,910	1,730	1.19	1.08
2041 Proposed Network	1,950	1,810	1.21	1.13

2121 - Steeles Avenue - Kennedy Road to Markham 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. 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.

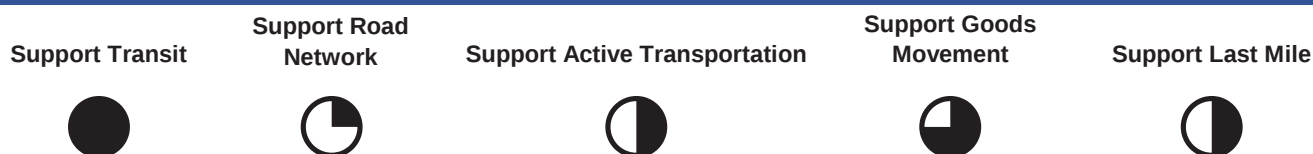
Recommended Improvement and Justification

Recommendation Widening to 6 general purpose lanes. The potential for lane conversion to transit or HOV use will depend on City of Toronto and Metrolinx plans for the corridor.

Justification Boundary road under the jurisdiction of the City of Toronto. Forecast demand meets threshold for widening to 6 lanes and provides a continuous 6-lane corridor on Steeles Avenue. Opportunity to improve cycling facilities. Potential for implementing HOV lanes jointly with City of Toronto. Potential for conversion to Rapid Transit as per City of Toronto and Metrolinx plans.

TMP Phase 2027 to 2031

Alignment with TMP Objectives



Costs

Capital Cost	\$ 37,981,200
Incremental Annual Road Operating Cost	\$ 236,900
Incremental Road Maintenance and Rehabilitation Cost	\$ 89,300

Related Projects

Name	Project ID
Steeles Avenue - Spadina Subway to Milliken GO - RT Corridor	1024
Steeles Avenue - Markham Road to 11th Concession - Steeles (Widen to 6 lanes)	2122
Stouffville GO Grade Separation - Steeles Avenue east of Kennedy Road - Rail grade separation	2133

2121 - Steeles Avenue - Kennedy Road to Markham Road (continued)

Key Intersections and Constraints

Steeles Avenue at Kennedy Road



Steeles Avenue at McCowan Road



Steeles Avenue at Markham Road



Stouffville GO at Steeles Avenue

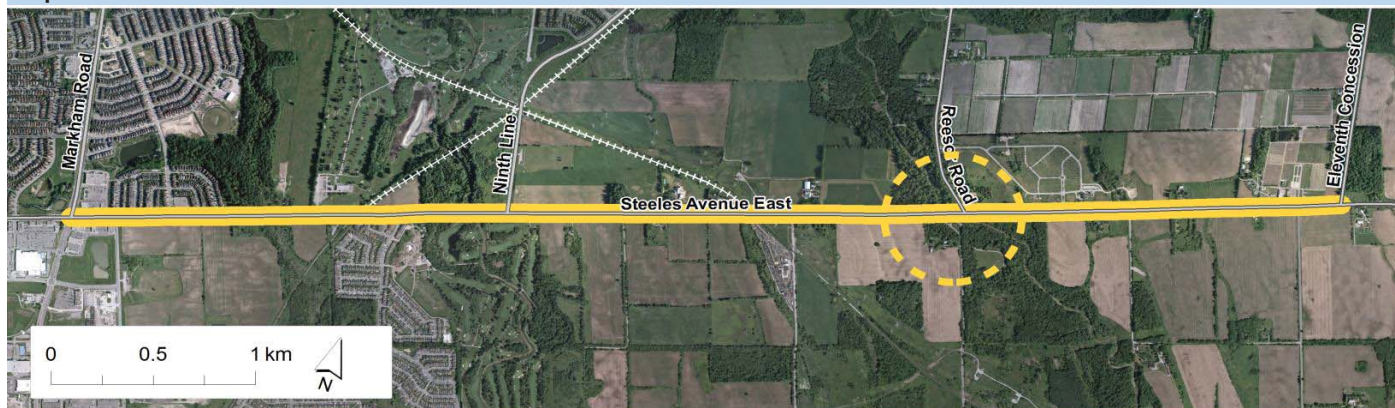


2122 - Steeles Avenue - Markham Road to 11th Concession

Project Description

Location	Steeles Avenue	Project ID	2122
Municipality	Markham	Road Segment ID	95-40 to 95-44
Project Limits	Markham Road to 11th Concession	Length	6,140 m
Project Type	Steeles (Widen to 6 lanes)		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW 36 metres

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	Maximum	Average	Maximum	Average
Model Forecast				
2011 Existing	830	680	1.03	0.84
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 intersections of Markham Road/Steeles Avenue, Staines Road/Steeles Avenue, and Beare Road/Steeles Avenue. No continuous sidewalk from Markham Road to Beare Road. No dedicated cycling facilities, but a potential north-south Rouge National Urban Park trail crossing of Steeles Avenue at Reesor Road / Little Rouge Creek. Curbside transit service from Markham Road to Staines Road. At-grade rail crossing for CP Havelock Rail Line located east of Markham Road. CN York Subdivision railway underpass located east of Ninth Line. A potential north-south Rouge National Urban Park trail crossing of Steeles Avenue at Reesor Road / Little Rouge Creek.

Natural and Built Environment

Natural Environment Observations: Several crossings of Regional Greenlands System and forested areas. Crossing of Rouge River west of Ninth Line. Crossing of Little Rouge Creek at Reesor Road. Corridor traverses Rouge National Urban Park east of Ninth Line.

Land Use and Built Environment Mix of agricultural and parklands. Small pockets of residential development between Markham Road and Ninth Line. Cemetery on north side east of Reesor Road. Corridor traverses Rouge National Urban Park east of Ninth Line.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	970	830	1.21	1.04
2041 Proposed Network	2,080	1,580	1.30	0.98

2122 - Steeles Avenue - Markham Road to 11th Concession (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. 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.

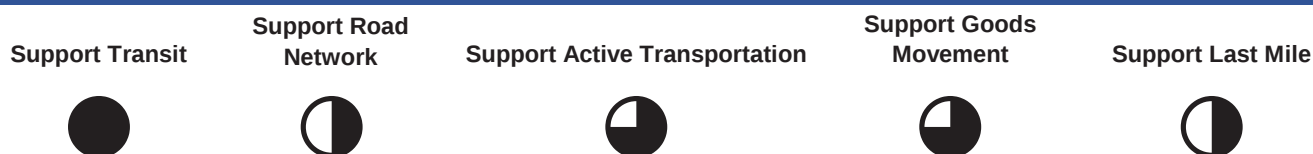
Recommended Improvement and Justification

Recommendation Widening to 6 general purpose lanes and potential jog elimination at Reesor Road. The potential for lane conversion to transit or HOV use will depend on City of Toronto and Metrolinx plans for the corridor.

Justification Boundary road under the jurisdiction of the City of Toronto. Forecast demand meets threshold for widening to 6 lanes and provides a continuous 6-lane corridor on Steeles Avenue. Opportunity to improve walking and cycling facilities. Potential for implementing HOV lanes jointly with City of Toronto. Potential for conversion to Rapid Transit as per Metrolinx plans. Intersection improvements at Reesor Road can improve traffic flow; further study is required to assess the need for this jog elimination.

TMP Phase 2017 to 2021: Markham Road to Ninth Line
2027 to 2031: Ninth Line to 11th Concession

Alignment with TMP Objectives



Costs

Capital Cost	\$	80,819,300
Incremental Annual Road Operating Cost	\$	509,400
Incremental Road Maintenance and Rehabilitation Cost	\$	231,500

Related Projects

Name	Project ID
Steeles Avenue - Spadina Subway to Milliken GO - RT Corridor	1024
Steeles Avenue - Kennedy Road to Markham Road - Steeles (Widen to 6 lanes)	2121
Steeles Avenue - 11th Concession to York/Durham Line - Steeles (Widen to 6 lanes)	2123
CP Havelock Grade Separation - Steeles Avenue east of Tapscott Road - Rail grade separation	2161

2122 - Steeles Avenue - Markham Road to 11th Concession (continued)

Key Intersections and Constraints

Steeles Avenue at Markham Road



Steeles Avenue at Ninth Line



Railway underpass east of Ninth Line (Image capture: 2015, ©2016 Google)



2123 - Steeles Avenue - 11th Concession to York/Durham Line

Project Description

Location	Steeles Avenue	Project ID	2123
Municipality	Markham	Road Segment ID	95-46
Project Limits	11th Concession to York/Durham Line	Length	620 m
Project Type	Steeles (Widen to 6 lanes)		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW 36 metres

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	690	690	0.43	0.43
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes. No sidewalks on either side. No dedicated cycling facilities. No transit services.

Natural and Built Environment

Natural Environment Observations: Regional Greenlands System on the north side. Corridor traverses Rouge National Urban Park.

Land Use and Built Environment Woodlots and agricultural fields. Corridor is traverses Rouge National Urban Park.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	1,340	1,340	0.83	0.83
2041 Proposed Network	1,450	1,450	0.90	0.90

2123 - Steeles Avenue - 11th Concession to York/Durham Line (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. 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.

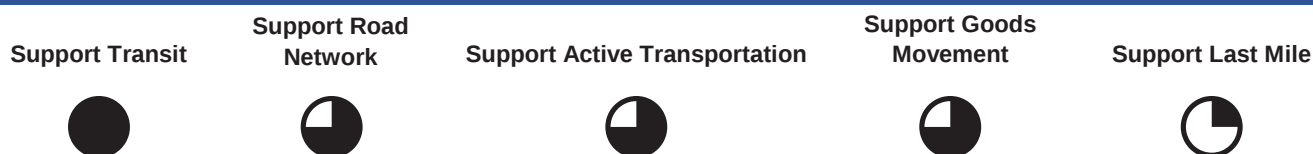
Recommended Improvement and Justification

Recommendation Widening to 6 general purpose lanes. The potential for lane conversion to transit or HOV use will depend on City of Toronto and Metrolinx plans for the corridor.

Justification Boundary road under the jurisdiction of the City of Toronto. Forecast demand meets threshold for widening to 6 lanes and provides a continuous 6-lane corridor on Steeles Avenue. Opportunity to improve walking and cycling facilities. Potential for implementing HOV lanes jointly with City of Toronto. Potential for conversion to Rapid Transit as per Metrolinx plans.

TMP Phase 2027 to 2031

Alignment with TMP Objectives



Costs

Capital Cost	\$	4,787,000
Incremental Annual Road Operating Cost	\$	31,000
Incremental Road Maintenance and Rehabilitation Cost	\$	11,700

Related Projects

Name	Project ID
Steeles Avenue - Spadina Subway to Milliken GO - RT Corridor	1024
Steeles Avenue - Markham Road to 11th Concession - Steeles (Widen to 6 lanes)	2122

2123 - Steeles Avenue - 11th Concession to York/Durham Line (continued)

Key Intersections and Constraints

Steeles Avenue at York/Durham Line



2124 - Yonge Street - Davis Drive to Green Lane

Project Description

Location	Yonge Street	Project ID	2124
Municipality	Newmarket	Road Segment ID	01-30
Project Limits	Davis Drive to Green Lane	Length	2,040 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 VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	1,320	1,320	0.66	0.66
Daily truck volume	1,200 /day	1,200 /day		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Continuous sidewalk on east side. Sidewalk on west side from Green Lane to Upper Canada Mall entrance. Shared roadway (unsigned route) Green Lane to the border of East Gwillimbury/Newmarket.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides of corridor.
Source Water Protection Areas: Corridor is within a source water protection area.

Land Use and Built Environment Primarily retail commercial with some residential backing onto Yonge Street on the east side. Regional shopping centre in the northwest quadrant of Yonge Street and Davis Road. Stormwater management ponds on west side.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	2,570	2,570	1.28	1.28
2041 Proposed Network	2,600	2,600	1.30	1.30

2124 - Yonge Street - Davis Drive to Green Lane (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 Interim widening to 6 lanes to implement transit/HOV lanes.

Justification Road widening to 6 lanes with transit/HOV lanes and improved cycling facilities included in 10-year Capital Plan. Corridor will accommodate increasing transit frequencies prior to evolving to a rapid transit corridor with 4 general purpose lanes and median rapidway.

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	\$ 18,137,200
Incremental Annual Road Operating Cost	\$ 102,000
Incremental Road Maintenance and Rehabilitation Cost	\$ 38,500

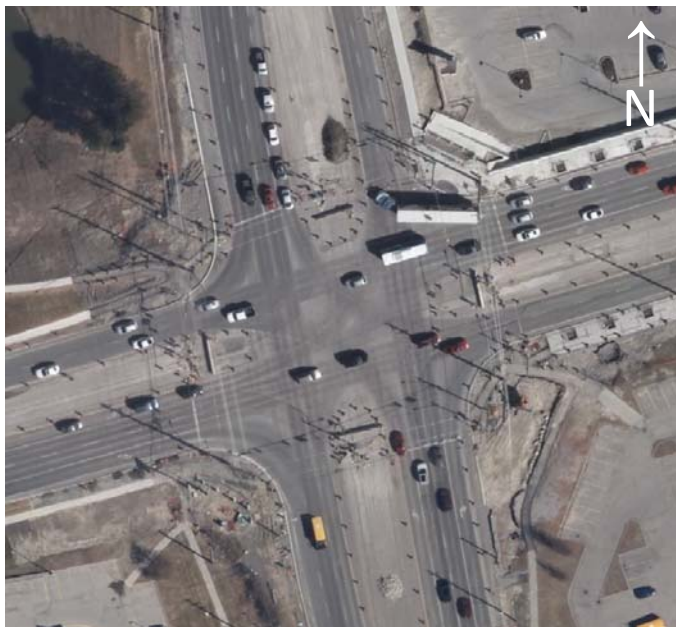
Related Projects

Name	Project ID
Yonge Street - Davis Drive to Green Lane - RT Corridor	1005
Yonge Street - Mulock Drive to Davis Drive - RT Corridor	1004

2124 - Yonge Street - Davis Drive to Green Lane (continued)

Key Intersections and Constraints

Yonge Street at Davis Drive



Yonge Street at Green Lane

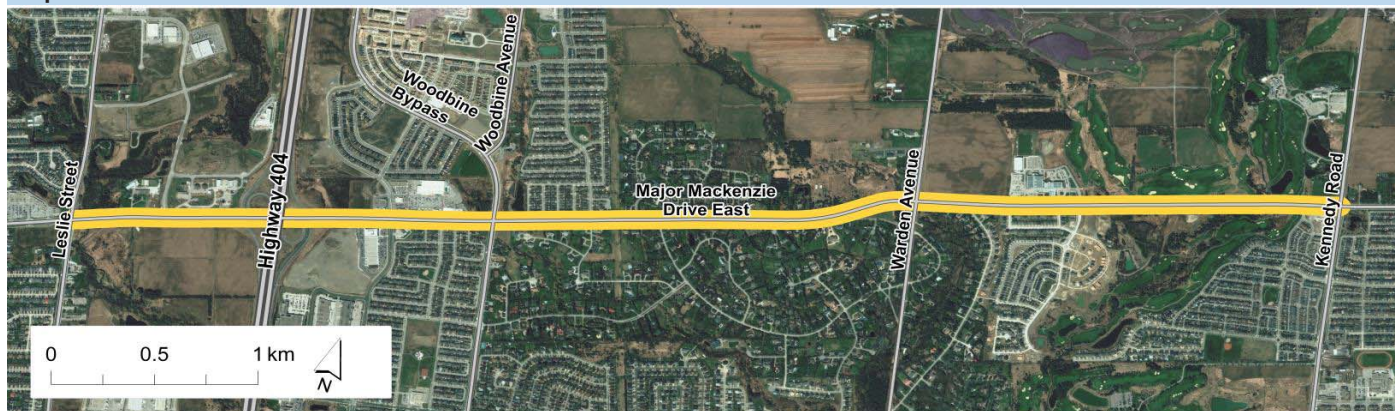


2125 - Major Mackenzie Drive - Leslie Street to Kennedy Road

Project Description

Location	Major Mackenzie Drive	Project ID	2125
Municipality	Richmond Hill, Markham	Road Segment ID	25-29 to 25-40
Project Limits	Leslie Street to Kennedy Road	Length	6,170 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 VIC Ratio	
	Maximum	Average	Maximum	Average
Model Forecast				
2011 Existing	1,800	1,450	1.00	0.81
Daily truck volume	1,360 /day	910 /day		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Sidewalk on north side. Shared pathway (in-boulevard) between Woodbine Avenue and Kennedy Road on south side. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Several crossings of Regional Greenlands System and watercourses at Leslie Street, Woodbine Avenue, Warden Avenue, west of Kennedy Road and west of McCowan Road.

Land Use and Built Environment Range of residential developments from medium density to estate residential on the south side. Primarily agricultural uses and golf course on the north side. Community centre located east of Warden Avenue.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	Maximum	Average	Maximum	Average
2041 Do Nothing	2,930	2,360	1.63	1.32
2041 Proposed Network	2,670	2,070	1.48	1.12

2125 - Major Mackenzie Drive - Leslie Street to Kennedy 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 Interim widening to 6 lanes to implement transit/HOV lanes.

Justification Meets volume threshold for 6 lanes. Meets criteria for HOV lane. Interim widening to 6 lanes with transit/HOV lane prior to implementation of rapidway. Provides continuous 6-lane corridor with transit/HOV lane. Opportunity to improve walking and cycling facilities.

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

Alignment with TMP Objectives

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

Costs

Capital Cost	\$	64,925,500
Incremental Annual Road Operating Cost	\$	308,400
Incremental Road Maintenance and Rehabilitation Cost	\$	116,300

Related Projects

Name	Project ID
Major Mackenzie Drive - Jane Street to Leslie Street - RT Corridor	1013
Major Mackenzie Drive - Leslie Street to Donald Cousens Parkway - RT Corridor	1014
Major Mackenzie Drive - Donald Cousens Parkway to Delray Drive - Widen to 4 lanes	2128

2125 - Major Mackenzie Drive - Leslie Street to Kennedy Road (continued)

Key Intersections and Constraints

Major Mackenzie Drive at Leslie Street



Major Mackenzie Drive at Highway 404



Major Mackenzie Drive at Woodbine Avenue



Major Mackenzie Drive at Warden Avenue



2125 - Major Mackenzie Drive - Leslie Street to Kennedy Road (continued)

Key Intersections and Constraints

Major Mackenzie Drive at Kennedy Road



2126 - Green Lane - Yonge Street to 2nd Concession

Project Description

Location	Green Lane	Project ID	2126
Municipality	East Gwillimbury	Road Segment ID	19-26
Project Limits	Yonge Street to 2nd Concession	Length	2,050 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 VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	1,450	1,450	0.72	0.72
Daily truck volume	1,530 /day	1,530 /day		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Sidewalk on north side only from Yonge Street to east of the commercial plaza at the intersection of Yonge Street/Green Lane. Shared roadway (unsigned route). Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Forested areas to the north and south.
Source Water Protection Areas: Protection area located north of Green Lane at 2nd Concession.

Land Use and Built Environment Retail commercial at Yonge Street. Primarily agricultural lands easterly to 2nd Concession.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	2,390	2,390	1.19	1.19
2041 Proposed Network	2,120	2,120	1.06	1.06

2126 - Green Lane - Yonge Street to 2nd Concession (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 Interim widening to 6 lanes to implement transit/HOV lanes.

Justification Interim road widening to 6 lanes with transit/HOV lanes and improved cycling facilities. Corridor will accommodate increasing transit frequencies prior to evolving to a rapid transit corridor with 4 general purpose lanes and median rapidway.

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	\$ 16,708,000
Incremental Annual Road Operating Cost	\$ 102,500
Incremental Road Maintenance and Rehabilitation Cost	\$ 38,600

Related Projects

Name	Project ID
Green Lane - 2nd Concession to Highway 404 - Widen to 6 lanes	2023
Green Lane - Yonge Street to GO Station - RT Corridor	1021

2126 - Green Lane - Yonge Street to 2nd Concession (continued)

Key Intersections and Constraints

Green Lane at Yonge Street



Green Lane at 2nd Concession

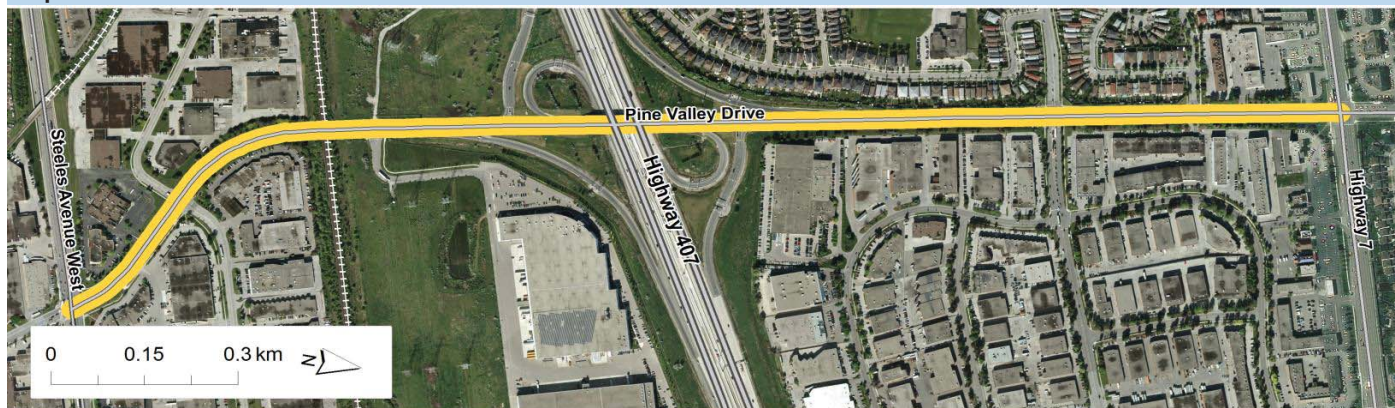


2127 - Pine Valley Drive - Steeles Avenue to Highway 7

Project Description

Location	Pine Valley Drive	Project ID	2127
Municipality	Vaughan	Road Segment ID	57-01 to 57-02
Project Limits	Steeles Avenue to Highway 7	Length	2,200 m
Project Type	Widen to 6 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
Model Forecast				
2011 Existing	1,610	1,520	1.00	0.95
Daily truck volume	N/A	N/A		

Description

Existing 4 general purpose lanes with turning lanes at intersections. Crossing over Highway 407 is 6 lanes. Continuous sidewalks on west side. Sidewalk on east side south of Hanlan Road only. No dedicated cycling facilities. Curbside transit service. CP Havelock railway underpass south of Highway 407; structural walls abuts travel lanes and sidewalk.

Natural and Built Environment

Natural Environment Observations: Existing development on both sides.

Land Use and Built Environment Industrial land uses between Steeles and rail corridor and on the east side of Pine Valley Drive north of Highway 407. Residential backlotting onto the west side north of Highway 407. Parallel hydro corridor on the north side of rail corridor.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	2,030	1,980	1.27	1.24
2041 Proposed Network	2,540	2,510	1.06	1.04

2127 - Pine Valley Drive - Steeles Avenue to Highway 7 (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 Need identified in Western Vaughan IEA. Widening from Hwy 407 to Hwy 7 is in the 10-year capital program.

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	\$ 52,331,800
Incremental Annual Road Operating Cost	\$ 110,000
Incremental Road Maintenance and Rehabilitation Cost	\$ 41,500

Related Projects

Name **Project ID**

2127 - Pine Valley Drive - Steeles Avenue to Highway 7 (continued)

Key Intersections and Constraints

Pine Valley Drive at Steeles Avenue



Pine Valley Drive at Highway 7

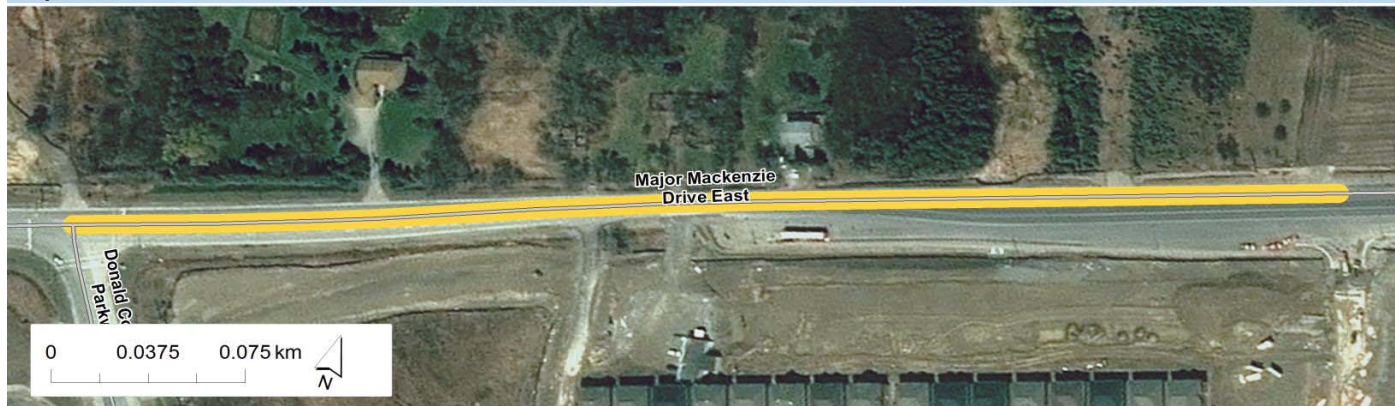


2128 - Major Mackenzie Drive - Donald Cousens Parkway to Delray Drive

Project Description

Location	Major Mackenzie Drive	Project ID	2128
Municipality	Markham	Road Segment ID	25-41
Project Limits	Donald Cousens Parkway to Delray Drive	Length	400 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 VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	450	450	0.56	0.56
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with turning lanes at intersections. Widens to 3 general purpose lanes at the intersections of Donald Cousens Parkway/Major Mackenzie Drive and Delray Drive/Major Mackenzie Drive. Major Mackenzie Drive corridor to the east and west is 4 lanes. No sidewalks on either side. No dedicated cycling facilities. No transit services.

Natural and Built Environment

Natural Environment Observations: Adjacent to Regional Greenlands System and forested area on the north side.

Land Use and Built Environment Forested area on the north side. Residential development on the south side.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	590	590	0.73	0.73
2041 Proposed Network	1,040	1,040	0.65	0.65

2128 - Major Mackenzie Drive - Donald Cousens Parkway to Delray Drive (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 to 4 lanes and construct to urban arterial standard.

Justification Road section approaching Ninth Line has already been widened to 4 lanes. Approx 400 m section from Donald Cousens Parkway to Delray Drive needs to be widened from 2 lanes to 4 lanes. Included in 10-year capital plan. Volumes do not meet thresholds for widening beyond 4 lanes. 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	\$	4,613,700
Incremental Annual Road Operating Cost	\$	20,000
Incremental Road Maintenance and Rehabilitation Cost	\$	7,500

Related Projects

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

2128 - Major Mackenzie Drive - Donald Cousens Parkway to Delray Drive (continued)

Key Intersections and Constraints

Major Mackenzie Drive at Donald Cousens Parkway

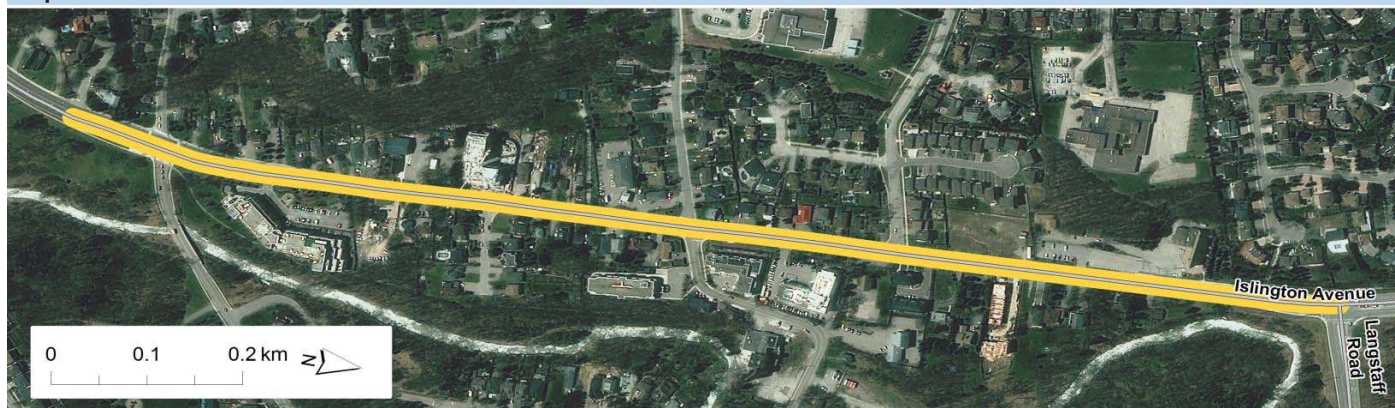


2130 - Islington Avenue - Willis Road to Langstaff Road

Project Description

Location	Islington Avenue	Project ID	2130
Municipality	Vaughan	Road Segment ID	17-04
Project Limits	Willis Road to Langstaff Road	Length	1,100 m
Project Type	Widen to 4 lanes		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 30 metres

Model Forecast	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2011 Existing	800	800	0.50	0.50
Daily truck volume	N/A	N/A		

Description

Existing 2 general purpose lanes with continuous two-way left turn lane. Widens to 4 general purpose lane at Langstaff Road and at Willis Road. Sidewalks on both sides. No cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Conservation area to the northeast. Regional Greenlands System parallel to Islington Ave on the east side.
Environmentally Sensitive Areas: Designated ESA in the southeast quadrant of Islington Avenue and Langstaff Road.

Land Use and Built Environment Mix of single-family and multi-family residential buildings, churches and park lands.

Future Transportation Conditions

	Peak Hour Auto Volume		Peak Hour VIC Ratio	
	<u>Maximum</u>	<u>Average</u>	<u>Maximum</u>	<u>Average</u>
2041 Do Nothing	1,190	1,190	0.74	0.74
2041 Proposed Network	1,210	1,210	0.75	0.75

2130 - Islington Avenue - Willis Road to Langstaff 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 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. Widen corridor to 4 lanes - Addresses traffic capacity. Opportunity to improve 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 cycling facilities.

Recommended Improvement and Justification

Recommendation Widen corridor to 4 lanes.

Justification Volumes meet threshold for widening. Widening accommodates existing and future demand and provides for a continuous 4-lane cross-section. Opportunity to improve 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
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Costs

Capital Cost	\$	8,683,200
Incremental Annual Road Operating Cost	\$	55,000
Incremental Road Maintenance and Rehabilitation Cost	\$	20,700

Related Projects

Name	Project ID
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2130 - Islington Avenue - Willis Road to Langstaff Road (continued)

Key Intersections and Constraints

Islington Avenue at Langstaff Road

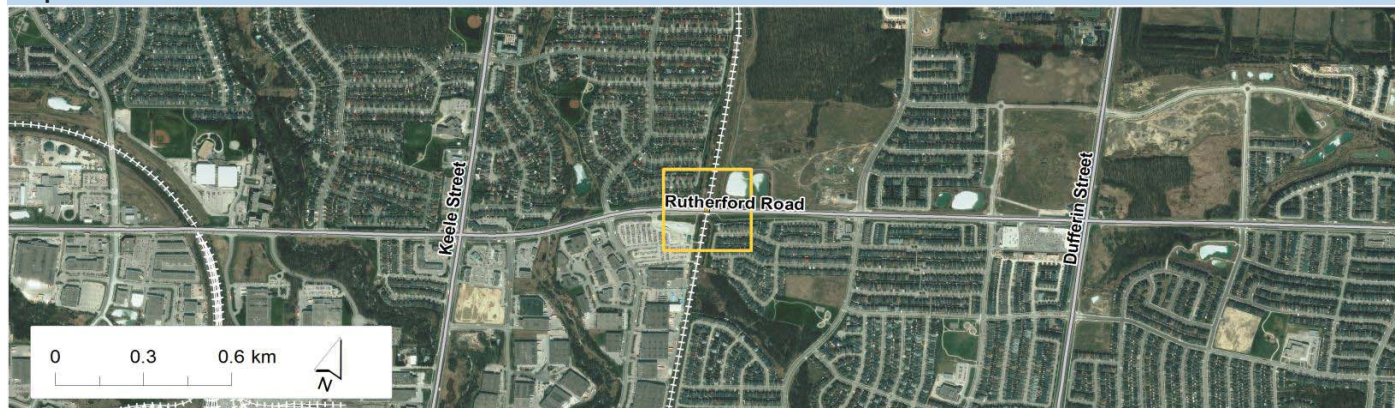


2131 - Barrie GO Grade Separation - Rutherford Road east of Keele Street

Project Description

Location	Barrie GO Grade Separation	Project ID	2131
Municipality	Vaughan	Road Segment ID	73-20
Project Limits	Rutherford Road east of Keele Street		
Project Type	Rail grade separation		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Description

Existing 4 general purpose lanes. Sidewalk on south side. Railway crossing warning system with gates. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Pond and trail system in the northeast quadrant

Land Use and Built Environment Rutherford GO station located in southwest quadrant. Residential to the northwest and southeast.

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, cycling and transit.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Improve grade crossing safety - Potential to improve walking and cycling facilities and address any safety concerns.
3. Transportation improvements to adjacent/parallel corridor - Potential to divert travel demand to other corridor. No improvement to walking and cycling. No improvement to transit.
4. Construct rail grade separation structure - Addresses travel demand within corridor. Opportunity to improve walking and cycling infrastructure. Opportunity to improve transit service.

2131 - Barrie GO Grade Separation - Rutherford Road east of Keele Street (continued)

Recommended Improvement and Justification

Recommendation Construct rail grade separation structure.

Justification Existing traffic and train volumes exceed exposure warrants for grade separation. Grade separation improves pedestrian and cyclist safety and reduces delay to transit and traffic along the corridor. Grade separation needed to support planned RER service improvements.

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	\$	48,151,900
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
Rutherford Road - Jane Street to Bathurst Street - Widen to 6 lanes

Project ID
2084

Key Intersections and Constraints

Barrie GO at Rutherford Road



2132 - Barrie GO Grade Separation - Wellington Street west of Industrial Parkway

Project Description

Location	Barrie GO Grade Separation	Project ID	2132
Municipality	Aurora	Road Segment ID	15-26
Project Limits	Wellington Street west of Industrial Parkway		
Project Type	Rail grade separation		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 20 metres

Description

Existing 2 general purpose lanes with median lane. Sidewalks on both side. Railway crossing warning system with gates. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Existing development in the immediate area.
Source Water Protection Areas: Located within SWP zone.

Land Use and Built Environment Aurora GO station located in the southeast quadrant. GO station parking located in the south west quadrant. Retail commercial on the north side.

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, cycling and transit.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Improve grade crossing safety - Potential to improve walking and cycling facilities and address any safety concerns.
3. Transportation improvements to adjacent/parallel corridor - Potential to divert travel demand to other corridor. No improvement to walking and cycling. No improvement to transit.
4. Construct rail grade separation structure - Addresses travel demand within corridor. Opportunity to improve walking and cycling infrastructure. Opportunity to improve transit service.

2132 - Barrie GO Grade Separation - Wellington Street west of Industrial Parkway (continued)

Recommended Improvement and Justification

Recommendation Construct rail grade separation structure.

Justification Existing traffic and train volumes exceed exposure warrants for grade separation. Grade separation improves pedestrian and cyclist safety and reduces delay to transit and traffic along the corridor. Grade separation needed to support planned RER service improvements.

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	\$	44,394,900
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
Wellington Street - Yonge Street to Industrial Parkway - Widen to 4 lanes

Project ID
2021

Key Intersections and Constraints

Barrie GO at Wellington Street

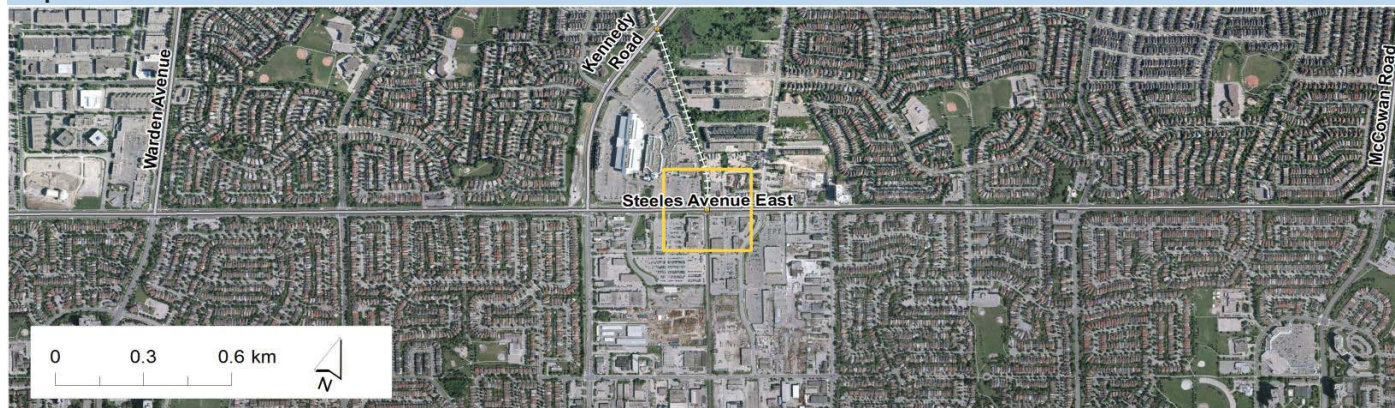


2133 - Stouffville GO Grade Separation - Steeles Avenue east of Kennedy Road

Project Description

Location	Stouffville GO Grade Separation	Project ID	2133
Municipality	Markham	Road Segment ID	95-34
Project Limits	Steeles Avenue east of Kennedy Road		
Project Type	Rail grade separation		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 36 metres

Description

Existing 4 general purpose lanes. Sidewalks on both sides. Railway crossing warning system with gates. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Existing development in the immediate area.

Land Use and Built Environment Retail commercial located on all 4 quadrants. Milliken GO Station to the southwest.

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, cycling and transit.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Improve grade crossing safety - Potential to improve walking and cycling facilities and address any safety concerns.
3. Transportation improvements to adjacent/parallel corridor - Potential to divert travel demand to other corridor. No improvement to walking and cycling. No improvement to transit.
4. Construct rail grade separation structure - Addresses travel demand within corridor. Opportunity to improve walking and cycling infrastructure. Opportunity to improve transit service.

2133 - Stouffville GO Grade Separation - Steeles Avenue east of Kennedy Road (continued)

Recommended Improvement and Justification

Recommendation Construct rail grade separation structure.

Justification Existing traffic and train volumes exceed exposure warrants for grade separation. Grade separation improves pedestrian and cyclist safety and reduces delay to transit and traffic along the corridor. Grade separation needed to support planned RER service improvements.

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	\$	46,576,900
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
Steeles Avenue - Kennedy Road to Markham Road - Steeles (Widen to 6 lanes)

Project ID
2121

Key Intersections and Constraints

Stouffville GO at Steeles Avenue

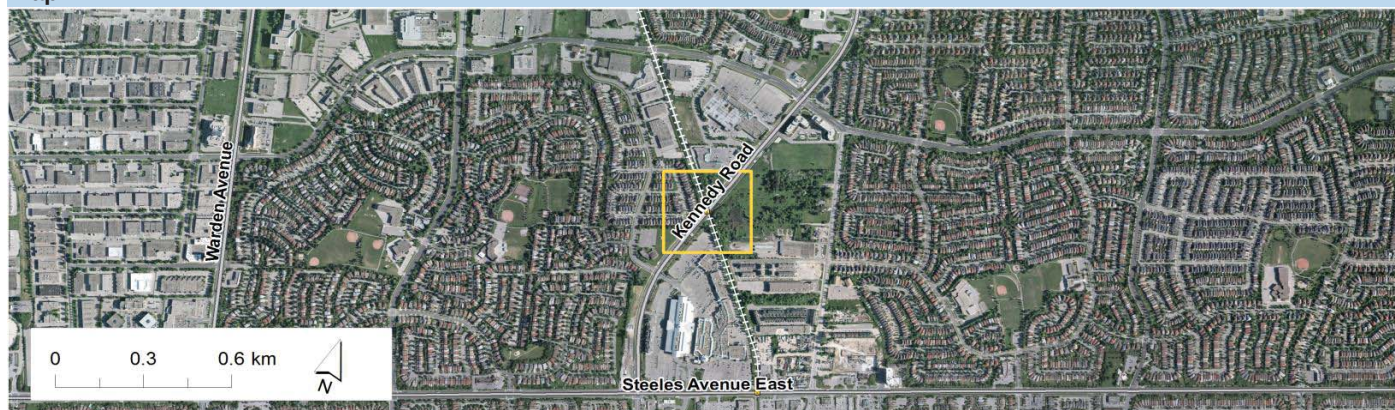


2134 - Stouffville GO Grade Separation - Kennedy Road north of Steeles Avenue

Project Description

Location	Stouffville GO Grade Separation	Project ID	2134
Municipality	Markham	Road Segment ID	03-01
Project Limits	Kennedy Road north of Steeles Avenue		
Project Type	Rail grade separation		

Map



Existing Conditions

Physical and Transportation Conditions

OP Designated ROW Up to 43 metres

Description

Existing 4 general purpose lanes. Sidewalks on both sides. Railway crossing warning system with gates. No dedicated cycling facilities. Curbside transit service.

Natural and Built Environment

Natural Environment Observations: Existing development in the immediate area.

Land Use and Built Environment Residential to the southwest. Retail commercial to the southeast. Treed areas the north.

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, cycling and transit.

Alternatives Considered

1. Do Nothing - Does not address Problem or Opportunity Statement.
2. Improve grade crossing safety - Potential to improve walking and cycling facilities and address any safety concerns.
3. Transportation improvements to adjacent/parallel corridor - Potential to divert travel demand to other corridor. No improvement to walking and cycling. No improvement to transit.
4. Construct rail grade separation structure - Addresses travel demand within corridor. Opportunity to improve walking and cycling infrastructure. Opportunity to improve transit service.

2134 - Stouffville GO Grade Separation - Kennedy Road north of Steeles Avenue (continued)

Recommended Improvement and Justification

Recommendation Construct rail grade separation structure.

Justification Existing traffic and train volumes exceed exposure warrants for grade separation. Grade separation improves pedestrian and cyclist safety and reduces delay to transit and traffic along the corridor. Grade separation needed to support planned RER service improvements.

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	\$	46,206,900
Incremental Annual Road Operating Cost	\$	-
Incremental Road Maintenance and Rehabilitation Cost	\$	-

Related Projects

Name
Kennedy Road - Steeles Avenue to Highway 407 - Widen to 6 lanes

Project ID
2001

Key Intersections and Constraints

Stouffville GO at Kennedy Road (north of Steeles Avenue)

