

City of Barrie - Hewitt's Secondary Plan Class Environmental Assessment (Phase 3 and 4) Study Environmental Study Report

Appendix I Evaluation of Alternative Design Concepts

Mapleview Drive Huronia Road to Country Lane Evaluation Criteria	How Criteria is Being Assessed		Do Nothing	Alternative 1: 7 lanes, 4.2m median, 2m bike lanes, 2m sidewalks	Alternative 2: 7 Ianes, 4.2m median, 2m bike Ianes, 2m sidewalks, LID features		ernative 3: 7 lanes, 4.2m an, 3m MUT, 1.6m sidewalk
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network; (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)						
তিcycling Operations	Adequacy to accommodate cyclists						
Transit Operations/Services	Adequacy for transit operations/services						
Pedestrian Operations	Adequacy to accommodate pedestrians					Ŏ	
Driveway Impacts	Impacts on driveway accessibility and operations					Ŏ	
Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs						
Operations and Maintenance	Ease and cost of O & M requirements						
Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)						
Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)	Ŏ					
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern						
Species at Risk	Potential impact on Species at Risk						
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)	Ŏ		Ŏ		Ŏ	
Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands						
Land Use	Compatibility with land use (existing and future)						
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features			Deer wintering areas	Deer wintering areas		Deer wintering areas
Property Acquisition	Degree of property required and households/business affected						
Aesthetics	Ability to improve visual aesthetics of roadway and community						
Noise Impacts	Number of noise walls or mitigations measured required						
Accessibility	Compliance with AODA						
Public Safety	Elimination of conflict points; improved infrastructure for all users						
Local Businesses	Disruption/permanent impact to businesses						
Archaeological Impacts	Potential impact to archaeological resources						
Cultural Heritage Impacts First Nations Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes						
First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights	Ŏ					
Project Capital Costs	Total projects costs for capital improvements			Ŏ			
Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs	Ŏ			Ŏ		
Land Acquisition Costs	Total costs for property acquisition						
	SUMMARY	Althoughthe natu	NOT PREFERRED gh it has minimal impact on ral heritage and cost, it does it address the need for improvements.	PREFERRED Addresses need for improvements. Some opportunity for improvement to transit, cycling and pedestrian access.	PREFERRED Addresses need for improvements. Some opportunity for improvement to transit, cycling and pedestrian access.	impro	MOST PREFERRED Best addresses need for ovements, and provides safer tunities for cyclists. Impacts on and social environment can be mitigated.

Mapleview Drive Country Lane to Madelaine Drive Evaluation Criteria	How Criteria is Being Assessed	Do Nothing	Alternative 1: 7 lanes, 4.2m median, 2m bike lanes, 2m sidewalks	Alternative 2: 7 lanes, 4.2m median, 2m bike lanes, 2m sidewalks, LID features	Alternative 3: 7 Ianes, 4.2m median, 3m MUT, 1.6m sidewalk
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)				
Cycling Operations	Adequacy to accommodate cyclists				
Transit Operations/Services	Adequacy for transit operations/services				
Pedestrian Operations	Adequacy to accommodate pedestrians		Ŏ	Ŏ	Ŏ
O Driveway Impacts	Impacts on driveway accessibility and operations				
Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs				
Operations and Maintenance requirements	Ease and cost of O & M requirements				
Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)				
Water courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)	Ŏ	Ŏ	Ŏ	
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern		Ŏ		
Species at Risk	Potential impact on Species at Risk	Ŏ	Ŏ	Ŏ	
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)	Ŏ			
Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands				
Land Use	Compatibility with land use (existing and future)				
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features				
Property Acquisition	Degree of property required and households/business affected				
Aesthetics	Ability to improve visual aesthetics of roadway and community				
Noise Impacts	Number of noise walls or mitigations measured required				
Accessibility	Compliance with AODA	Ŏ			
Public Safety	Elimination of conflict points; improved infrastructure for all users				
Local Businesses	Disruption/permanent impact to businesses				
Archaeological Impacts	Potential impact to archaeological resources	Ŏ			
Cultural Heritage Impacts First Nations Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes				
First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights	3			
Project Capital Costs	Total projects costs for capital improvements				
Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs				
Land Acquisition Costs	Total costs for property acquisition				
_	SUMMARY	Although it has minimal impact on the natural heritage and cost,		for improvement to transit, cycling and	MOST PREFERRED Best addresses need for improvements, and provides safe opportunities for cyclists. Impacts to natural and social environment can be mitigated.

Madela	eview Drive ine Drive to Yonge Street ion Criteria	How Criteria is Being Assessed	Do Nothing	Alternative 1: 5 lanes, 4.2m median, 2m bike lanes, 2m sidewalks,	Alternative 2: 5 lanes, 4.2m median, 2m bike lanes, 2m sidewalks, LID features	Alternative 3: 5 lanes, 4m TWLTL, 3m MUT, 1.6m sidewalk
onment	Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)				
Envir	Cycling Operations	Adequacy to accommodate cyclists				
onal	Transit Operations/Services	Adequacy for transit operations/services				
erati	Pedestrian Operations	Adequacy to accommodate pedestrians				
0 / 6	Driveway Impacts	Impacts on driveway accessibility and operations				
eering	Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs				
ngine	Operations and Maintenance Requirements	Ease and cost of O & M requirements				
Ш	Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)				
	Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)				
ŧ	Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern				
nme	Species at Risk	Potential impact on Species at Risk				
inviro	Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)	Ŏ		Ŏ	
ural E	Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands				
Nat	Land Use	Compatibility with land use (existing and future)				
	Environmental Improvements	Opportunities to enhance aquatic/terrestrial features				
	Property Acquisition	Degree of property required and households/business affected				
	Aesthetics	Ability to improve visual aesthetics of roadway and community				
прасі	Noise Impacts	Number of noise walls or mitigations measured required				
cial Ir	Accessibility	Compliance with AODA				
So	Public Safety	Elimination of conflict points; improved infrastructure for all users				
	Local Businesses	Disruption/permanent impact to businesses				
	Archaeological Impacts	Potential impact to archaeological resources				
ulturalı eritage ronme	Cultural Heritage Impacts First Nations Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes	Ö			
Envi	First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights				
o t	Project Capital Costs	Total projects costs for capital improvements				
nomi onme	Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs				
Eco	Land Acquisition Costs	Total costs for property acquisition	Ŏ	Ŏ	Ŏ	Ŏ
		SUMMARY	NOT PREFERRED Although it has minimal impact on the natural heritage and cost, it does not address the need for improvements	PREFERRED Addresses need for improvements. Some opportunity for improvement to transit, cycling and pedestrian access.	PREFERRED Addresses need for improvements. Some opportunity for improvement to transit, cycling and pedestrian access.	MOST PREFERRED Best addresses need for improvements, and provides safe opportunities for cyclists. Impacts to natural and social environment can be mitigated.

Mapleview Drive Yonge Street to Prince William Way Evaluation Criteria	How Criteria is Being Assessed		Do Nothing	Alternative 1: 5 lanes, 4.2m median, 2m bike lanes, 2m sidewalks,		Alternative 3: 4 lanes, 3m MUT, 1.6m sidewalk, turning lanes at intersections
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)					
Cycling Operations	Adequacy to accommodate cyclists					
Transit Operations/Services	Adequacy for transit operations/services					
Pedestrian Operations	Adequacy to accommodate pedestrians					
Oriveway Impacts	Impacts on driveway accessibility and operations					
Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs					
ច្ចាOperations and Maintenance ជា Requirements	Ease and cost of O & M requirements					
Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)					
Water Courses/Fisheries/Aquatic Impact	s Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)					
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation					
Species at Risk	Concern Potential impact on Species at Risk					
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural					
আ আ Impacts to Wetlands/PSW	vegetation communities (excluding wetlands) Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands					
Land Use	Compatibility with land use (existing and future)					
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features					
Property Acquisition	Degree of property required and households/business affected					
Aesthetics	Ability to improve visual aesthetics of roadway and community					
Noise Impacts	Number of noise walls or mitigations measured required					
ह्न Accessibility	Compliance with AODA					
Public Safety	Elimination of conflict points; improved infrastructure for all users					
Local Businesses	Disruption/permanent impact to businesses					
Archaeological Impacts	Potential impact to archaeological resources					
Septimental Peritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage					
First Nations Impacts	landscapes					
Project Capital Costs	rights Total projects costs for capital improvements					
Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs					
Land Acquisition Costs	Total costs for property acquisition					
<u>"</u>	SUMMARY		OT PREFERRED	PREFERRED	PREFERRED	MOST PREFERRED
	Command	Althoug	gh it has minimal impact natural heritage and cost,	Addresses need for	Addresses need for improvements. Some opportunity for improvement to transit, cycling	Best addresses need for improvements, and provides safe opportunities for cyclists. Impacts to natural and social environment can be mitigated.

Mapleview Drive Prince William Way to 20 th Sideroad Evaluation Criteria	How Criteria is Being Assessed	Do Nothing	Alternative 1: 3 lanes, 4.2m median, 2m bike lanes, 2m sidewalks,	Alternative 2: 3 lanes, 4.2m median, 2m bike lanes, 2m sidewalks, LID features	Alternative 3: 3 lanes, 4m TWLTL, 3m MUT 1.6m sidewalk
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)				
Cycling Operations	Adequacy to accommodate cyclists				
Transit Operations/Services	Adequacy for transit operations/services				
Pedestrian Operations	Adequacy to accommodate pedestrians				
Driveway Impacts	Impacts on driveway accessibility and operations				
Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs				
Operations and Maintenance	Ease and cost of O & M requirements				
Requirements Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)				
Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)		Ŏ		
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern				
Species at Risk	Potential impact on Species at Risk				
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural				
ण	vegetation communities (excluding wetlands) Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands				
Land Use	Compatibility with land use (existing and future)				
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features				
Property Acquisition	Degree of property required and households/business affected				
Aesthetics	Ability to improve visual aesthetics of roadway and community				
Noise Impacts	Number of noise walls or mitigations measured required				
Accessibility	Compliance with AODA				
Public Safety	Elimination of conflict points; improved infrastructure for all users				
Local Businesses	Disruption/permanent impact to businesses				
Archaeological Impacts	Potential impact to archaeological resources	Ŏ	Ŏ	Ŏ	Ŏ
Cultural Heritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage				
First Nations Impacts	landscapes Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights				
Project Capital Costs	Total projects costs for capital improvements				
Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs				
Land Acquisition Costs	Total costs for property acquisition				
 	SUMMARY	NOT PREFERRED Although it has minimal important on the natural heritage and could it does not address the need improvements	ost, improvements. Some	PREFERRED Addresses need for improvements. Some opportunity for improvement to transit, cycling and pedestrian access.	MOST PREFERRED Best addresses need for improvements, and provides s opportunities for cyclists. Impacts to natural and social environment can be mitigated.

	on Criteria	How Criteria is Being Assessed	Do Nothing	5 lanes, 4.2m median, bike lanes, 2m sidewa	2m lks, 5 lanes, 4.2m median, 2n bike lanes, 2m sidewalks LID features	Alternative 3: 4 lanes, 3m MUT, south side ditch, turning lanes at intersections
ironme	Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)				
Env	Cycling Operations	Adequacy to accommodate cyclists				
iona	Transit Operations/Services	Adequacy for transit operations/services				
nera	Pedestrian Operations	Adequacy to accommodate pedestrians				
0/0/	Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs				
ω	Operations and Maintenance Requirements	Ease and cost of O & M requirements				
Eng	Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)				
	Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)				
*	Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern				
n mei	Species at Risk	Potential impact on Species at Risk	Ŏ			
Enviro	Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)	Ŏ			
tural tural	Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands				
Z	Land Use	Compatibility with land use (existing and future)				
	Environmental Improvements	Opportunities to enhance aquatic/terrestrial features				
	Property Acquisition	Degree of property required and households/business affected				
	Aesthetics	Ability to improve visual aesthetics of roadway and community				
mbac	Noise Impacts	Number of noise walls or mitigations measured required				
cial	Accessibility	Compliance with AODA				
S	Public Safety	Elimination of conflict points; improved infrastructure for all users				
	Local Businesses	Disruption/permanent impact to businesses				
	Archaeological Impacts	Potential impact to archaeological resources	Ŏ			
Cultural/ Heritage	Cultural Heritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes				
Cu Favi	First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights	Ŏ			
	Project Capital Costs	Total projects costs for capital improvements				
onomic	Life - Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs				
Envi	Land Acquisition Costs	Total costs for property acquisition				
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Lockhart Road 600m East of Huronia Road to Yonge Street Evaluation Criteria	How Criteria is Being Assessed		Do Nothing		Alternative 2: 5 lanes, 4.2m median, 2m bike lanes, 2m sidewalks	Alternative 3: 4 lanes, 3m MUT, south ditch, turning lanes at intersections
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)					
Cycling Operations	Adequacy to accommodate cyclists	•				
प्प Transit Operations/Services	Adequacy for transit operations/service					
Pedestrian Operations	Adequacy to accommodate pedestrians			Ŏ	Ŏ	Ŏ
Driveway Impacts	Impacts on driveway accessibility and operations					
Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs					
Operations and Maintenance Requirements	Ease and cost of O & M requirements					
Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)					
Water Courses/Fisheries/Aquatic	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)					
Impacts Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern					
Species at Risk	Potential impact on Species at Risk	\mathbb{R}^{-1}				
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation					
ह्याmpacts to Wetlands/PSW	communities (excluding wetlands) Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant					
<u>\$</u> `	wetlands and unevaluated wetlands					
Land Use	Compatibility with land use (existing and future)					
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features					
Property Acquisition	Degree of property required and households/business affected					
Aesthetics	Ability to improve visual aesthetics of roadway and community					
Noise Impacts	Number of noise walls or mitigations measured required					
Accessibility	Compliance with AODA					
Public Safety	Elimination of conflict points; improved infrastructure for all users					
Local Businesses	Disruption/permanent impact to businesses					
Archaeological Impacts	Potential impact to archaeological resources					
Cultural Heritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes	s				
First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights					
Project Capital Costs	Total projects costs for capital improvements					
Land Acquisition Costs	Net Present Value of 25-year life cycle costs					
Land Acquisition Costs	Total costs for property acquisition					
— ш	SUMMAR)	Y N	OT PREFERRED	PREFERRED	PREFERRED	MOST PREFERRED
	JONIMAR	Alth impac ar	nough it has minimal t on the natural, social	Addresses need for improvements. Some opportunity for improvemen	Addresses need for improvements. Some	Best addresses need for improvements and provides safer opportunities for cyclists. Impacts

Lockhart Road 800m East of Yonge Street to Prince William Way	How Criteria is Being Assessed		Do Nothing	Alternative 1: 5 lanes, 4.2m median, 2m hike lanes, 2m sidewalks	Alternative 2: 5 lanes, 4.2m median, 2m bike lanes, 2m sidewalks,	Alternative 3: 4 lanes, 3m MUT, south ditch, turning lanes at intersections
Evaluation Criteria				bine lunes, 2m sidewans	LID features	turning furies at intersections
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)					
Cycling Operations	Adequacy to accommodate cyclists					
Transit Operations/Services	Adequacy for transit operations/services					
Pedestrian Operations	Adequacy to accommodate pedestrians					
Driveway Impacts	Impacts on driveway accessibility and operations					
Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs					
Operations and Maintenance Requirements	Ease and cost of O & M requirements					
Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)					
Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)					
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern					
Species at Risk	Potential impact on Species at Risk					
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)					
Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands			•		
Land Use	Compatibility with land use (existing and future)					
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features					
Property Acquisition	Degree of property required and households/business affected					
Aesthetics	Ability to improve visual aesthetics of roadway and community					
Noise Impacts	Number of noise walls or mitigations measured required					
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Public Safety	Elimination of conflict points; improved infrastructure for all users					
Local Businesses	Disruption/permanent impact to businesses					
Archaeological Impacts	Potential impact to archaeological resources					
Cultural Heritage Impacts First Nations Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes					
ші постчалоно шіравів	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights					
Project Capital Costs	Total projects costs for capital improvements					
Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs					
Land Acquisition Costs	Total costs for property acquisition					
	SUMMAR	Altho	OT PREFERRED bugh it has minimal	PREFERRED Addresses need for	PREFERRED Addresses need for	MOST PREFERRED Best addresses need for
		and	on the natural, socia d cost, it does not dress the need for improvements.		improvements. Some opportunity for improvement to transit, cycling and transit access.	improvements and provides safer opportunities for cyclists. Impacts natural and social environment which can be mitigated.

Prince Wi	art Road illiam Way to Phase 1 Boundary on Criteria	How Criteria is Being Assessed		Do Nothing	3 lane bike l	Alternative 1: s, 4.2m median, 2m anes, 2m sidewalks	Alternative 2: 3 lanes, 4.2m median, 2m bike lanes, 2m sidewalks, LID features	Alternative 3: 3 lanes, 4m TWLTL, 3m MUT south side, 1.6m sidewalk
	Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)			0			
l viro	Cycling Operations	Adequacy to accommodate cyclists						
nalE	Transit Operations/Services	Adequacy for transit operations/services						
ratio	Pedestrian Operations	Adequacy to accommodate pedestrians			Ŏ			Ŏ
/ Ope	Oriveway Impacts	Impacts on driveway accessibility and operations						
ering	Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs					Ŏ	
	Operations and Maintenance Requirements	Ease and cost of O & M requirements						
111	mpacts to Structures	Impact on structures and other infrastructure (i.e. railways)						
	Water Courses/Fisheries/Aquatic mpacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)						
	Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern						
nmen	Species at Risk	Potential impact on Species at Risk	$\overline{\bigcirc}$					
inviro	Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)						
ural E	mpacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands						
Nat	_and Use	Compatibility with land use (existing and future)						
E	Environmental Improvements	Opportunities to enhance aquatic/terrestrial features						
F	Property Acquisition	Degree of property required and households/business affected						
	Aesthetics	Ability to improve visual aesthetics of roadway and community						
npact	Noise Impacts	Number of noise walls or mitigations measured required						
cial Ir	Accessibility	Compliance with AODA						
လို	Public Safety	Elimination of conflict points; improved infrastructure for all users						
Ī	_ocal Businesses	Disruption/permanent impact to businesses						
	Archaeological Impacts	Potential impact to archaeological resources						
ultural/ leritage /ironme	Cultural Heritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes						
Cul Her Envire	First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights						
	Project Capital Costs	Total projects costs for capital improvements						
nomic onmer	Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs						
Ecor	and Acquisition Costs	Total costs for property acquisition						
		SUMMARY	Alth impac an	OT PREFERRED ough it has minimal t on the natural, social d cost, it does not dress the need for	l imp	PREFERRED Idresses need for provements. Some unity for improvementsit, cycling and transit	PREFERRED Addresses need for improvements. Some topportunity for improvement to transit, cycling and transit	MOST PREFERRED Best addresses need for improvements and provides safer opportunities for cyclists. Impacts natural and social environment

Yonge S Lockhart R Evaluation	oad to Mapleview Drive East	How Criteria is Being Assessed	Do Nothing	Alternative 1: 5 lanes, 4.2m median, 2m bike lanes, 2m sidewalks	Alternative 2: 5 lanes, 4.2m median, 2m bike lanes, 2m sidewalks, LID features
	capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)			
inviir	Cycling Operations	Adequacy to accommodate cyclists			
nal E	Transit Operations/Services	Adequacy for transit operations/services			
eratic	Pedestrian Operations	Adequacy to accommodate pedestrians	•		
do /	Driveway Impacts	Impacts on driveway accessibility and operations			
ering	Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs			
gine	Operations and Maintenance Requirements	Ease and cost of O & M requirements			
ם	Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)			
	Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)			
	Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern			
in and	Species at Risk	Potential impact on Species at Risk			
iviror	Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation			
<u> </u>	Impacts to Wetlands/PSW	communities (excluding wetlands) Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant			
Aatur		wetlands and unevaluated wetlands Compatibility with land use (existing and future)			
		Opportunities to enhance aquatic/terrestrial features			
		Degree of property required and households/business affected			
 	Aesthetics	Ability to improve visual aesthetics of roadway and community			
mpa	Noise Impacts	Number of noise walls or mitigations measured required			
cial	Accessibility	Compliance with AODA			
S	Public Safety	Elimination of conflict points; improved infrastructure for all users			
	Local Businesses	Disruption/permanent impact to businesses			
	Archaeological Impacts	Potential impact to archaeological resources			
Cultural/ Heritage nvironmel	Cultural Heritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes			
Cu Hei	First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights			
	Project Capital Costs	Total projects costs for capital improvements			
nomic	Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs			
5.≦	Land Acquisition Costs	Total costs for property acquisition			
		SUMMARY	NOT PREFERRED Although it has minimal impact on the natural heritage and cost, it does not address the need for improvements.	PREFERRED Addresses need for improvements, however more impact on the natural, social, cultural and economic environments. Some opportunity for improvements to transit, cycling and pedestrian access.	MOST PREFERRED Addresses the need for improvements, and provides safer opportunities for cyclists and pedestrians, however impacts the natural, social, cultural and economic environments. There is an opportunity to mitigate the impacts.

Big Bay Point Road City Boundary to Collector 11 Evaluation Criteria	How Criteria is Being Assessed		Do Nothing	Alternative 1: 5 lanes; 2 bike lanes, 2m sidewalks, 4.2m median	Alternative 2: 5 lanes, 2m bike lanes, 2m sidewalks, 4.2m median, LID features	MUT south side, fixed	Alternative 4: 4 lanes, 2 bike lanes, 1.5m sidewalk south side (Interim)
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)						Some improvement over existing
Cycling Operations	Adequacy to accommodate cyclists						Some improvement over existing
Transit Operations/Services	Adequacy for transit operations/services						Some improvement over existing
Pedestrian Operations	Adequacy to accommodate pedestrians	4					Some improvement over existing
Driveway Impacts	Impacts on driveway accessibility and operations						Some improvement over existing
Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs						Some improvement over existing
Operations and Maintenance Requirements	Ease and cost of O & M requirements					Ŏ	O NICLING
Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)						
Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)						
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern						
Species at Risk	Potential impact on Species at Risk						
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)	Č					
Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands	Č				Ŏ	Ŏ
Land Use	Compatibility with land use (existing and future)						Some improvement over existing
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features	Ū					Some improvement over existing
Property Acquisition	Degree of property required and households/business affected			Ŏ		Ŏ	Interim solution
Aesthetics	Ability to improve visual aesthetics of roadway and community						Some improvement over existing
Noise Impacts	Number of noise walls or mitigations measured required						
Accessibility	Compliance with AODA						Some improvement over existing
Public Safety	Elimination of conflict points; improved infrastructure for all users						
Local Businesses	Disruption/permanent impact to businesses						Some improvement over existing
Archaeological Impacts	Potential impact to archaeological resources						
Cultural Heritage Impacts First Nations Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes						
First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights						
Project Capital Costs	Total projects costs for capital improvements						Interim solution
Land Acquisition Costs	Net Present Value of 25-year life cycle costs						Interim Solution - high potential for throw-away costs
Land Acquisition Costs	Total costs for property acquisition					•	
	SUMMAR	Alth im herit	hough it has minimal npact on the natural tage and cost, it does address the need for improvements.	PREFERRED Addresses need for improvements. Some opportunity for improvements to transit, cycling and pedestrian access.	PREFERRED Addresses need for improvements. Some opportunity for improvements to transit, cycling and pedestrian access.	MOST PREFERRED Best addresses need for improvements, and provides safer opportunities for cyclists.	NOT PREFERRED

Big E Collecto Evaluati	Bay Point Road r 11 to Phase 1 Boundary on Criteria	How Criteria is Being Assessed	Do Nothing	Alternative 1: 3 lanes, 2m bike lanes, 2m sidewalks, 4.2m TWLTL	Alternative 2: 3 lanes, 2m bike lanes, 2m sidewalks, 4.2m TWLTL, 2m LID features	Alternative 3: 3 lanes, 4m TWLTL, 3m MUT south side	Alternative 4: 4 lanes, 2 bike lanes, 1.5m sidewalk south side
ta em	Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)					Some improvement over existing
Viron	Cycling Operations	Adequacy to accommodate cyclists					Some improvement over existing
F	Transit Operations/Services	Adequacy for transit operations/services					Some improvement over existing
i to	Pedestrian Operations	Adequacy to accommodate pedestrians		Ŏ			Some improvement over existing
O O	Driveway Impacts	Impacts on driveway accessibility and operations					Some improvement over existing
ring /	Stormwater Management	Ability to accommodate drainage and stormwater management. Use of LIDs					Some improvement over existing
	Operations and Maintenance Requirements	Ease and cost of O & M requirements					Over existing
Į ū	Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)					
	Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)					
,	Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern					
	Species at Risk	Potential impact on Species at Risk					
- nviro	Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)	Ŏ				
	Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands				Ŏ	Ŏ
Z	Land Use	Compatibility with land use (existing and future)					Some improvement over existing
	Environmental Improvements	Opportunities to enhance aquatic/terrestrial features					Some improvement over existing
	Property Acquisition	Degree of property required and households/business affected		Ŏ			Interim solution
	Aesthetics	Ability to improve visual aesthetics of roadway and community	Ŏ				Some improvement over existing
	Noise Impacts	Number of noise walls or mitigations measured required					
	Accessibility	Compliance with AODA					Some improvement over existing
Ų v	Public Safety	Elimination of conflict points; improved infrastructure for all users					
	Local Businesses	Disruption/permanent impact to businesses					Some improvement over existing
e len	Archaeological Impacts	Potential impact to archaeological resources					
Cultural/ Heritage Environmen	Cultural Heritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes		Ŏ			
S E E	First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights					
, <u>t</u>	Project Capital Costs	Total projects costs for capital improvements					Interim solution
Economic	Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs					Interim Solution high potential for throwaway costs
Į E	Land Acquisition Costs	Total costs for property acquisition				4	
			NOT PREFERRED Although it has minimal impact on the natural heritage and cost, it does not address the need for improvements.	PREFERRED Addresses need for improvements. Some opportunity for improvements to transit, cycling and pedestrian access.	PREFERRED Addresses need for improvements. Some opportunity for improvements to transit, cycling and pedestrian access.	MOST PREFERRED Best addresses need for improvements, and provides safer opportunities for cyclists.	NOT PREFERRED

Mapleview Rail Crossing				Alternative 2: Underpass, 4 lanes,	
Evaluation Criteria	How Criteria is Being Assessed	Do Nothing	centre median, 2.5m sidewalks, 2m side clearance, 1.5m bike lanes	centre pier, 2.5m sidewalks, 2m side clearance, 1.5m bike lanes	
Traffic Operations (MMATMP, safety, capacity, congestion, etc.)	Ability to (i) improve connectivity to existing road network (ii) to meet Barrie's MMATMP (iii) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)				
Cycling Operations	Adequacy to accommodate cyclists				
Transit Operations/Services	Adequacy for transit operations/services				
Pedestrian Operations	Adequacy to accommodate pedestrians				
Driveway Impacts	Impacts on driveway accessibility and operations				
Constructability	Feasibility and ease of construction	Ŏ			
Operations and Maintenance requirements	Ease and cost of O & M requirements				
Impacts to Structures	Impact on structures and other infrastructure (i.e. railways)				
Water Courses/Fisheries/Aquatic Impacts	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)	Ŏ			
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern	Ŏ			
Species at Risk	Potential impact on Species at Risk	Ŏ			
	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)	Ö			
লূ Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant wetlands and unevaluated wetlands				
	Compatibility with land use (existing and future)				
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features				
Property Acquisition	Degree of property required and households/business affected				
Aesthetics	Ability to improve visual aesthetics of roadway and community				
Noise Impacts	Number of noise walls or mitigations measured required				
Accessibility	Compliance with AODA				
Public Safety	Elimination of conflict points; improved infrastructure for all users			Ŏ	
Local Businesses	Disruption/permanent impact to businesses				
E .	Potential impact to archaeological resources	Ŏ			
e និ	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes				
ਹੱ ਤੋਂ ਵਿੱਚ First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights				
Project Capital Costs	Total projects costs for capital improvements				
Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs				
Land Acquisition Costs	Total costs for property acquisition	Ö			
	SUMMARY	NOT PREFERRED Does not address need and justification for improved access, or provide improved safety for pedestrians and cyclists. Increased rail traffic along the GC Transit corridor requires a grade separation	PREFERRED Addresses need and justification for improved connectivity, including provision for improved safety for pedestrians and cyclists, however impacts the natural and social environment, all of which can be mitigated. Amount of property is greater for an overpass at this location. Negative impacts on adjacent development applications and heritage property	MOST PREFERRED Addresses need and justification for improved connectivity, including provision for improved safety for pedestrians and cyclists, however impacts the natural and social environment, which can be mitigated, although has a higher cost.	

ockhart Rail Crossing	How Criteria is Being Assessed		Do Nothing		Alternative 1: Overpass, alignment shift to north, 4 lanes, shift to north, 4 lanes, median, 2.5r sidewalks, 2m side clearance and		
Evaluation Criteria					learance, 1.5m bike lanes	1.5m bike lanes	
Traffic Operations (MMATMP, safety,	Ability to						
capacity, congestion, etc.)	(i) improve connectivity to existing road network						
<u>n</u>	(ii) to meet Barrie's MMATMP (iii) to improve traffic safety				1		
i i	(iv) to improve traffic safety (iv) to improve traffic operations (increase capacity, reduce congestion and delays)						
Cycling Operations	Adequacy to accommodate cyclists						
	racquacy to accommodate cyclicits						
দু Transit Operations/Services	Adequacy for transit operations/service				A .		
<u> </u>				\searrow	/		
Pedestrian Operations	Adequacy to accommodate pedestrians						
Driveway Impacts	Impacts on driveway accessibility and operations						
50	impacts on univeway accessibility and operations)		
Constructability	Feasibility and ease of construction						
96							
Öperations and Maintenance	Ease and cost of O & M requirements						
Requirements	I was to set a standard and the state of the standard and						
Impacts to structures	Impact on structures and other infrastructure (i.e. railways))		
Water Courses/Fisheries/Aquatic	Potential impact on existing watercourses/impact on fish/fish habitat (Brook Trout)						
Impacts	Total impact on oxiding materood/open pact on not when had tak (5100 it 110 at)	$ \bigcirc $					
Wildlife and Wildlife Habitat	Potential impact on Significant Wildlife Habitat, including Species of Conservation Concern						
e pr					7		
Species at Risk	Potential impact on Species at Risk						
O Vogatation	Detential impact on Cignificant Woodlands, other woodled gross and gross of natural vegetation	$H \times H$					
Vegetation	Potential impact on Significant Woodlands, other wooded areas and areas of natural vegetation communities (excluding wetlands)						
লু Impacts to Wetlands/PSW	Potential impact on Lover's Creek, Provincially Significant Wetland Complex, locally significant						
בוווים מולים וליים ביים ביים ביים ביים ביים ביים ביים	wetlands and unevaluated wetlands	$ \cup $					
Land Use	Compatibility with land use (existing and future)						
Environmental Improvements	Opportunities to enhance aquatic/terrestrial features						
Property Acquisition	Degree of property required and households/business affected						
Property Acquisition	Degree of property required and nouseholds/business affected)		
Aesthetics	Ability to improve visual aesthetics of roadway and community						
<u> </u>							
ន្តNoise Impacts	Number of noise walls or mitigations measured required						
ভূ Accessibility	Compliance with AODA						
in Accessibility	Compilance with AODA						
Public Safety	Elimination of conflict points; improved infrastructure for all users						
					'		
Local Businesses	Disruption/permanent impact to businesses						
	Potential impact to archaeological resources						
	i oternal impact to archaeological resources						
Cultural Heritage Impacts	Potential for direct or indirect impacts to built heritage resources and cultural heritage landscapes						
ri o ri ri							
ਹੱ = First Nations Impacts	Potential impact to First Nations interests, traditional land use and aboriginal or treaty rights						
B 1 10 110 1	Total and a sector for a sector	\square					
Project Capital Costs	Total projects costs for capital improvements						
E Life – Cycle Costs (25 year)	Net Present Value of 25-year life cycle costs						
0 <u>10</u>	Total Colonia						
Land Acquisition Costs	Total costs for property acquisition						
ш							
		1	NOT PREFERRED		MOST PREFERRED	PREFERRED	
			es not address need and		Iresses need and justification proved connectivity, including	Addresses need and justification in improved connectivity, including	
			tion for improved access, or vide improved safety for		vision for improved safety for	provision for improved safety fo	
			ians and cyclists. Increased		estrians and cyclists, however	pedestrians and cyclists, however	
			affic requires the use of a		pacts the natural and social	impacts the natural and social	
			grade separation		ironment, all of which can be	environment, all of which can be	
		1	-	I	mitigated.	mitigated, however with a higher co	