

Section 1-1: Evaluation Criteria and Evaluation Results

To assist in understanding how the evaluation was conducted, Table 1-1 details the evaluation scale used. Each alternative was evaluated based on how it performs in meeting each individual indicator ranging from performing very well to failure assuming best management practices and standard mitigation measures would be applied. An accessible format is used. A green happy face indicates the best performing alternative, whereas a sad red face indicates failure. Criteria that are not differentiating are also indicated as shown below.

Table 1-1: Evaluation Scale






Assessment Scale	Definition
Performs Very Well 	The alternative is evaluated by subject matter experts to have a highly favorable result in regards to fulfillment of the indicator. The design is expected to result in the achievement of best design practices, benchmarks, regulatory standards, or values expressed by stakeholders and, in policy and guidelines, with the performance often exceeding benchmarks.
Performs Well 	The alternative is evaluated by subject matter experts to have a favorable result in regards to fulfillment of the indicator. The design is expected to result in the achievement of best design practices, benchmarks, regulatory standards, or values expressed by the stakeholders and in policy and guidelines
Performs Adequately 	The alternative is evaluated by subject matter experts to have an acceptable result in regards to fulfillment of the indicator. The design is expected to result in the achievement of best design practices, benchmarks, regulatory standards, or values expressed by stakeholders and in policy and guidelines, with the performance just meeting or approaching benchmarks.
Performs Poorly 	The alternative is evaluated by subject matter experts to have an undesirable result in regards to fulfillment of the indicator. There is a risk that the design may fall short of best design practices, benchmarks, regulatory standards, or values expressed by stakeholders and in policy and guidelines.
Fails 	The alternative is evaluated by subject matter experts to have an unacceptable result in regards to fulfillment of the indicator. The design is expected to fall short of best design practices, benchmarks, regulatory standards, or values expressed by stakeholders and in policy and guidelines with the performance often below benchmarks.
-	No difference is expected between alternatives

Table 1-2 provides results of the focused evaluation for the six alternatives selected for the extension of LRT from Baseline Station to Nepean Sportsplex.

Table 1-3 provides results of the focused evaluation for the six alternatives selected for the Train Storage and Servicing Facility.

Table 1-4 provides results of the focused evaluation for the three alternatives selected for rail grade-separation of Woodroffe Avenue and Southwest Transitway.

Table 1-5 provides results of the focused evaluation for the three alternatives selected for rail grade-separation of Fallowfield Road.

Table 1-2: Evaluation Results for LRT Extension (Baseline Station to Nepean Sportsplex)

Number	Criteria	Indicator	Alternative Number						Qualifier
			Cut & Cover Tunnel in Woodroffe Ave. Corridor	Trench in Woodroffe Ave. Corridor	Elevated in Woodroffe Ave. Corridor (median)	Elevated in Woodroffe Ave. Corridor (west side)	Trench west of Woodroffe Ave.	Elevated west of Woodroffe Ave.	
			1	2	3	4	5	6	
I. Transportation System Sustainability									
1	TRANSIT NETWORK	Provides optimal LRT geometry (horizontal and vertical) to meet design requirements	☹️	☹️	☹️	☹️	😊	😊	Alternatives that provide the best LRT geometry for operating speed perform better for this indicator.
2		Maximizes opportunity for convenient and accessible light rail transit stations	☹️	☹️	😊	☹️	😊	😊	Alternatives that provide for flexibility in station location perform better for this indicator.
3		Supports an enjoyable transit user experience, including ride comfort, riders views and integrated station opportunities	☹️	☹️	😊	😊	😊	😊	Alternatives that maximize visibility by providing long-range views, or an enjoyable transit experience by providing a smooth ride
4		Maximizes opportunity to provide convenient and accessible connections to existing and future local and rapid transit routes via LRT	😊	😊	😊	😊	😊	😊	Alternatives that provide the most flexibility and opportunity for a range of bus transit routes serving neighbouring communities will perform better for this indicator.
5	ACTIVE TRANSPORTATION	Provides the opportunity to connect to pedestrian and cycling facilities within the Study Area	😊	☹️	😊	😊	😊	😊	Alternatives that provide more flexibility and are more centrally located to land uses to existing or planned facilities will perform better for this indicator.
6		Provides a direct and efficient north-south pedestrian and cycling travel route through the study area	😊	☹️	😊	😊	😊	😊	Alternatives that provide a continuous and easy to navigate pedestrian and cycling route will perform better for this indicator.
7	MAJOR ROAD NETWORK	Provides opportunities to optimize functionality of the existing and future road network	😊	☹️	😊	😊	😊	😊	Alternatives that maintain existing road capacity and infrastructure will perform better for this indicator.
8		Provides/Supports Complete Streets design objective	😊	☹️	😊	😊	😊	😊	Alternatives that maintain or improve complete street functionality will perform better for this indicator.
II. Ecological and Physical Sustainability									
9	NATURAL HERITAGE FEATURES	Minimizes stormwater management complexity and maintenance	☹️	☹️	😊	😊	😊	😊	Alternatives that minimize stormwater management complexity and maintenance during operation will perform better for this indicator.
10		Minimizes impact on surface water features including shoreline vegetation zones, or loss of or degradation of existing aquatic habitat	☹️	☹️	😊	😊	☹️	😊	Alternatives that involve the fewest number or length of watercourse crossings will perform better for this indicator. Alternatives that minimize impacts to surface water features will perform better for this indicator.
11		Minimizes or reduces the amount of natural habitat loss, maximizes protection of urban trees	😊	😊	😊	😊	☹️	☹️	Alternatives that preserve urban trees and maximizes the ability to maintain natural habitats will perform better for this indicator.
12	PHYSICAL ENVIRONMENT	Minimizes risk to human health on areas of known contaminated soils and/or groundwater	☹️	☹️	☹️	☹️	😊	😊	Alternatives that minimize the footprint on areas of potential or known contamination will perform better for this indicator.
13		Minimizes risks associated with groundwater and/or sensitive soils	☹️	☹️	😊	😊	☹️	😊	Alternatives that minimize or avoid areas within the Study Area known for having a high groundwater table and/or contain sensitive soils (i.e. clays) will perform better for this indicator.
14	CLIMATE CHANGE MITIGATION	Minimizes the impact from the project on contributing to climate change	☹️	☹️	😊	😊	☹️	😊	Alternatives that reuse and upgrade existing facilities will minimize the amount of waste and therefore will perform better for this indicator.
15	CLIMATE CHANGE ADAPTION	Minimizes the impact of extreme weather events on the infrastructure	😊	☹️	😊	😊	😊	😊	Alternatives that are more resilient to extreme heat and weather events including extreme rainfall, extreme snowfall, freezing rain, freeze/thaw cycles, wind gusts will score better for this indicator.
16		Maximizes the safety and comfort of corridor users exposed to the environment	😊	☹️	☹️	☹️	😊	☹️	Alternatives that provide the best shading, sheltering, visibility and are located central to land uses will perform better for this indicator.
III. NCC Greenbelt Sustainability									
17	GREENBELT ENVIRONMENT	Minimizes impacts to designated NCC Greenbelt lands	😊	😊	😊	😊	😊	😊	Alternatives that minimize or avoid designated NCC Greenbelt lands will perform better for this indicator.
18		Maximizes opportunity to improve views and vistas within the Study Area	😊	😊	☹️	☹️	😊	☹️	Alternatives that maintain, enhance or provide new views or vistas will perform better for this indicator.

Number	Criteria	Indicator	Alternative Number						Qualifier
			Cut & Cover Tunnel in Woodroffe Ave. Corridor	Trench in Woodroffe Ave. Corridor	Elevated in Woodroffe Ave. Corridor (median)	Elevated in Woodroffe Ave. Corridor (west side)	Trench west of Woodroffe Ave.	Elevated west of Woodroffe Ave.	
			1	2	3	4	5	6	
IV. Land Use and Community Sustainability									
19	COMMUNITY PLANNING & DESIGN	Minimizes impacts to existing land uses including existing buildings and residences	☺	☺	☺	☺	☹	☹	Alternatives that minimize or avoid acquisition or relocation of built assets will perform better for this indicator. As well, major infrastructure in close proximity to residences or sensitive land uses will result in a reduced performance for this indicator.
20		Minimizes or avoids disruption to essential municipal services (utilities, potable water and sanitary services)	☺	☺	☺	☺	☺	☺	Alternatives that minimize or avoid interaction and/or disruption to existing infrastructure will perform better for this indicator.
21		Maximizes opportunities to improve community health and well-being through creation or access to recreation areas/facilities	☺	☺	☺	☺	☺	☺	Alternatives that maximize the opportunity to provide the integration of parks and recreation spaces will perform better for this indicator.
22		Maximizes opportunities to improve the public realm	☺	☺	☺	☺	☺	☺	Alternatives that maximize the opportunity to provide public art, improve visual environments and incorporate streetscaping within the road corridor will perform better for this indicator.
23		Maximizes opportunity to provide a safe facility and implement CPTED principles	☺	☺	☺	☺	☺	☺	Alternatives that are safer or provide more perceived added safety through location will perform better for this indicator.
24		Maximizes accessibility design standards	☺	☺	☺	☺	☺	☺	Alternatives that allow community connectivity to be maintained. Alternatives that provide the best opportunity to include accessible design standards will perform better for this indicator.
25		Minimizes impacts from winter conditions from a safety, snow removal, accessibility and cost perspective	☺	☺	☺	☺	☺	☺	Alternatives that minimize risk to people, provide efficient and effective snow removal/storage and can be designed in consideration of accessibility perspectives will perform better for this indicator.
26	CULTURAL HERITAGE RESOURCES	Avoids or minimizes impact on designated or potential cultural heritage landscapes	☺	☺	☺	☺	☺	☺	Alternatives that maintain or enhance the cultural heritage value or interest for cultural heritage landscapes (including cemeteries and farms) as defined under the Ontario Heritage Act will perform better for this indicator.
27	NOISE AND VIBRATION	Maximizes separation between the [LRT] facility (a potential noise and vibration source) and sensitive receivers	☺	☺	☺	☺	☺	☺	Alternatives that maximize their separation from existing and planned sensitive land uses and minimizes the need to provide noise mitigation will perform better for this indicator.
28		Maximizes opportunities to reduce noise and vibration by utilizing best practices and design for LRT	☺	☺	☺	☺	☺	☺	Alternatives that minimize curves or elevation changes will perform better for this indicator.
V. Economic Sustainability									
29	PHASING AND IMPLEMENTATION	Maximizes the ability to phase and incrementally implement the project	☺	☺	☺	☺	☺	☺	Alternatives that utilize existing infrastructure and/or can be implemented as part of adjacent land development will perform better for this indicator. Alternatives that provide the opportunity to be phased in as BRT will perform better for this indicator.
30		Minimizes the disruption or diversion for all modes (transit and vehicular traffic, sidewalks, cycling facilities, pathways etc.) during construction	☹	☹	☺	☺	☺	☺	Alternatives that avoid disruption to existing roadways and/or pathways or construction of new intersections in the Study Area will perform better for this indicator.
31		Minimizes overall construction impacts (noise, dust, vibration)	☺	☺	☺	☺	☺	☺	Alternatives that reduce community impacts during construction will perform better for this indicator
32	LIFE CYCLE COST	Minimizes the capital infrastructure cost including minimizing the need to alter or abandon existing infrastructure	☺	☺	☺	☺	☺	☺	Alternatives that avoid unnecessary or temporary reconstruction of existing infrastructure (municipal services, hydro, corridor facilities) will perform better for this indicator.
33		Minimizes construction duration and complexity	☺	☺	☺	☺	☺	☺	Alternatives with the shortest time and least complex construction duration will perform better for this indicator.
34		Minimizes infrastructure maintenance and operation cost	☺	☺	☺	☺	☺	☺	Alternatives with the shortest length, maintenance requirements for stormwater management systems and pedestrian and cycling facilities will perform better for this indicator. Alternatives that implement facilities that require the least amount of on-going maintenance checks will perform better for this indicator.
35		Minimizes property acquisition cost	☺	☺	☺	☺	☺	☺	Alternatives with the least amount of land acquisition will perform better for this indicator.

Table 1-3: Results of Focused Evaluation for the Location of the TSSF

Number	Criteria	Indicator	Alternative Number						Qualifier
			Baseline Station	Woodroffe Open Space	Slack Road	Fallowfield	Greenbank	Barrhaven Centre	
			1	2	3	4	5	6	
I. Transportation System Sustainability									
1	TRANSPORTATION NETWORK	Provides opportunity to maintain or optimize functionality of existing and planned networks for all modes	☺	☺	☺	☹	☺	☹	Alternatives that provide the best flexibility to LRT operations and minimize deadhead time will perform better for this indicator.
2	FACILITY OPERATIONS	Maximizes LRT operation reliability	☺	☹	☺	☺	☺	☺	Alternatives that provide the best flexibility to LRT operations and minimize deadhead time will perform better for this indicator.
3		Maximizes the opportunity to connect to utilities and infrastructure	☺	☹	☹	☺	☺	☺	Alternatives that provide the best flexibility to connect to necessary utilities and infrastructure will perform better for this indicator.
4		Maximizes the opportunity to provide a safe and secure access to the facility from the surrounding road network	☺	☺	☹	☺	☺	☺	Alternatives that provide safe and efficient site access for service vehicles and staff.
5		Maximizes ability to provide contained access to the facility	☺	☺	☺	☺	☺	☺	Alternatives that provide the best ability to restrict/control unauthorized access to the site will perform better for this indicator.
II. Ecological and Physical Sustainability									
6	NATURAL HERITAGE FEATURES	Minimizes or avoids impacts on designated features of the City's natural heritage system or other identified natural areas	☺	☹	☹	☺	☺	☺	Alternatives that minimize or avoid impacts (including limiting fragmentation) to areas designated in the City's natural heritage system or other identified natural areas will perform better for this indicator.
7		Minimizes stormwater management complexity and maintenance	☺	☺	☺	☺	☺	☺	Alternatives that minimize stormwater management complexity and maintenance during operation will perform better for this indicator.
8		Minimizes or reduces the amount of natural habitat loss, maximizes protection of urban trees	☺	☺	☺	☺	☺	☺	Alternatives that preserve urban trees and maximizes the ability to maintain natural habitats will perform better for this indicator.
9	PHYSICAL ENVIRONMENT	Minimizes risks associated with groundwater and/or sensitive soils	☹	☺	☺	☺	☺	☺	Alternatives that minimize or avoid areas within the Study Area known for having a high groundwater table and/or contain sensitive soils (i.e. clays) will perform better for this indicator.
10	CLIMATE CHANGE MITIGATION	Minimizes the impact from the project on contributing to climate change	☺	☹	☺	☺	☺	☹	Alternatives that reuse and upgrade existing facilities will minimize the amount of waste and therefore will perform better for this indicator.
11	CLIMATE CHANGE ADAPTION	Minimizes the impact of extreme weather events on the infrastructure	☺	☺	☺	☺	☺	☹	Alternatives that are more resilient to extreme heat and weather events including extreme rainfall, extreme snowfall, freezing rain, freeze/thaw cycles, wind gusts will score better for this indicator.
III. NCC Greenbelt Sustainability									
12	AGRICULTURAL RESOURCES	Minimizes impact to designated prime agricultural lands	☺	☺	☹	☺	☺	☺	Alternatives that minimize or avoid impacts to designated prime agricultural lands will perform better for this indicator.
13		Minimizes impacts on existing farm infrastructure including buildings and tile drainage systems	☺	☺	☹	☺	☺	☺	Alternatives that minimize or avoid decommissioning of farm-related infrastructure will perform better for this indicator.
14	GREENBELT ENVIRONMENT	Minimizes impacts to designated NCC Greenbelt lands	☺	☺	☹	☺	☺	☺	Alternatives that minimize or avoid designated NCC Greenbelt lands will perform better for this indicator.
IV. Land Use and Community Sustainability									
15	COMMUNITY PLANNING & DESIGN	Minimizes impacts to existing land uses including existing buildings and residences	☺	☺	☺	☹	☺	☹	Alternatives that minimize or avoid acquisition or relocation of built assets will perform better for this indicator. As well, major infrastructure in close proximity to residences or sensitive land uses will result in a reduced performance for this indicator.
16		Minimizes or avoids disruption to essential municipal services (utilities, potable water and sanitary services)	☺	☹	☺	☹	☺	☹	Alternatives that minimize or avoid interaction and/or disruption to existing infrastructure will perform better for this indicator.
17	CULTURAL HERITAGE RESOURCES	Avoids or minimizes impact on designated or potential built heritage resources	☺	☺	☹	☺	☺	☺	Alternatives that maintain or enhance the cultural heritage value or interest for a built heritage resource as defined under the Ontario Heritage Act will perform better for this indicator.
18		Avoids or minimizes impact on designated or potential cultural heritage landscapes	☺	☺	☹	☺	☺	☺	Alternatives that maintain or enhance the cultural heritage value or interest for cultural heritage landscapes (including cemeteries and farms) as defined under the Ontario Heritage Act will perform better for this indicator.

Number	Criteria	Indicator	Alternative Number						Qualifier
			Baseline Station	Woodroffe Open Space	Slack Road	Fallowfield	Greenbank	Barrhaven Centre	
			1	2	3	4	5	6	
19	NOISE AND VIBRATION	Maximizes separation between the [LRT] facility (a potential noise and vibration source) and sensitive receivers							Alternatives that maximize their separation from existing and planned sensitive land uses and minimizes the need to provide noise mitigation will perform better for this indicator.
V. Economic Sustainability									
20	LIFE CYCLE COST	Minimizes the capital infrastructure cost including minimizing the need to alter or abandon existing infrastructure							Alternatives that avoid unnecessary or temporary reconstruction of existing infrastructure (municipal services, hydro, corridor facilities) will perform better for this indicator.
21		Minimizes construction duration and complexity							Alternatives with the shortest time and least complex construction duration will perform better for this indicator.
22		Minimizes property acquisition cost							Alternatives with the least amount of land acquisition will perform better for this indicator.

Table 1-4: Evaluation Results for Grade-Separation of Woodroffe Avenue and Southwest Transitway

Number	Criteria	Indicator	Alternative Number			Qualifier
			Overpass Road over Rail	Underpass Road under Rail	Combination Raise Rail and Lower Road	
			1	2	3	
I. Transportation System Sustainability						
1	TRANSIT NETWORK	Supports an enjoyable transit user experience, including ride comfort, riders views and integrated station opportunities	☺	☺	☺	Alternatives that maximize visibility by providing long-range views, or an enjoyable transit experience by providing a smooth ride
2		Minimizes impacts to transit operations	☺	☺	☺	Alternatives that avoid reconstruction or minimize impacts to the operation of the VIA Rail station and tracks, City Park n' Ride and OC Transpo will perform better for this indicator.
3	ACTIVE TRANSPORTATION	Provides the opportunity to connect to pedestrian and cycling facilities within the Study Area	☺	☺	☺	Alternatives that provide more flexibility and are more centrally located to land uses to existing or planned facilities will perform better for this indicator. Alternatives that maintain connection with the existing NCC multi-use pathway network will perform better for this indicator.
4	RAIL NETWORK	Minimizes or avoids impacts to Rail network	☺	☺	☺	Alternatives that avoid the requirement for rail detours or disruption will perform better for this indicator.
5		Maximizes safe operation of the Rail network	☺	☺	☺	Alternatives that maximize sight-lines, minimize incoming speeds and geometry to Fallowfield Station will perform better for this alternative.
II. Ecological and Physical Sustainability						
6	NATURAL HERITAGE FEATURES	Minimizes or avoids impacts on designated features of the City's natural heritage system or other identified natural areas	☺	☺	☺	Alternatives that minimize or avoid impacts (including limiting fragmentation) to areas designated in the City's natural heritage system or other identified natural areas will perform better for this indicator.
7		Minimizes stormwater management complexity and maintenance	☺	☺	☺	Alternatives that minimize stormwater management complexity and maintenance during operation will perform better for this indicator.
8		Minimizes impact on surface water features including shoreline vegetation zones, or loss of or degradation of existing aquatic habitat	☺	☺	☺	Alternatives that involve the fewest number or length of watercourse crossings will perform better for this indicator. Alternatives that minimize impacts to surface water features will perform better for this indicator.
9		Minimizes or reduces the amount of natural habitat loss, maximizes protection of urban trees	☺	☺	☺	Alternatives that preserve urban trees and maximizes the ability to maintain natural habitats will perform better for this indicator.
10		Minimizes the disruption to ecosystem connectivity and natural habitats	☺	☺	☺	Alternatives that minimize impacts on or avoid Black Rapids Creek corridor will perform better for this indicator.
11		Maximizes the opportunity to reduce/avoid wildlife collisions	☺	☺	☺	Alternatives that do not create new barriers to core natural areas or links, create fragmentation of natural environments or impact watercourses will perform better for this indicator.
12	PHYSICAL ENVIRONMENT	Minimizes risk to human health on areas of known contaminated soils and/or groundwater	☺	☺	☺	Alternatives that minimize the footprint on areas of potential or known contamination will perform better for this indicator.
13		Minimizes risks associated with groundwater and/or sensitive soils	☺	☺	☺	Alternatives that minimize or avoid areas within the Study Area known for having a high groundwater table and/or contain sensitive soils (i.e. clays, sensitive slopes) will perform better for this indicator.
14		Maximizes the opportunity to adopt enhanced stormwater management techniques to reduce impacts on water quality and quantity	☺	☺	☺	Alternatives that provide the opportunity to implement low impact design (LID) methods or utilize natural systems such as wetlands will perform better for this indicator.
15	CLIMATE CHANGE MITIGATION	Minimizes the impact from the project on contributing to climate change	☺	☺	☺	Alternatives that reuse and upgrade existing facilities will minimize the amount of waste and therefore will perform better for this indicator.
16	CLIMATE CHANGE ADAPTATION	Minimizes the impact of extreme weather events on the infrastructure	☺	☺	☺	Alternatives that are more resilient to extreme heat and weather events including extreme rainfall, extreme snowfall, freezing rain, freeze/thaw cycles, wind gusts will score better for this indicator.
17		Maximizes the safety and comfort of corridor users exposed to the environment	☺	☺	☺	Alternatives that provide the best shading, sheltering, visibility and are located central to land uses will perform better for this indicator.
III. NCC Greenbelt Sustainability						
18	AGRICULTURAL RESOURCES	Minimizes impact to designated prime agricultural lands	☺	☺	☺	Alternatives that minimize or avoid impacts to designated prime agricultural lands will perform better for this indicator.
19	GREENBELT ENVIRONMENT	Minimizes impacts to designated NCC Greenbelt lands	☺	☺	☺	Alternatives that minimize or avoid designated NCC Greenbelt lands will perform better for this indicator.

Number	Criteria	Indicator	Alternative Number			Qualifier
			Overpass Road over Rail	Underpass Road under Rail	Combination Raise Rail and Lower Road	
			1	2	3	
20		Maximizes opportunity to improve views and vistas within the Study Area	☺	☹	☹	Alternatives that maintain, enhance or provide new views or vistas will perform better for this indicator.
IV. Land Use and Community Sustainability						
21	COMMUNITY PLANNING & DESIGN	Supports the orderly arrangement and organization of land uses/diminishes fragmentation of land uses	☺	☹	☹	Alternatives that do not result in the fragmentation of land or create awkward development parcels will perform better for this indicator.
22		Minimizes impacts to existing land uses including existing buildings and residences	☹	☺	☹	Alternatives that minimize or avoid acquisition or relocation of built assets will perform better for this indicator. As well, major infrastructure in close proximity to residences or sensitive land uses will result in a reduced performance for this indicator.
23		Minimizes or avoids disruption to essential municipal services (utilities, potable water and sanitary services)	☹	☹	☹	Alternatives that minimize or avoid interaction and/or disruption to existing infrastructure will perform better for this indicator.
24		Maximizes opportunities to improve community health and well-being through creation or access to recreation areas/facilities	☺	☹	☹	Alternatives that maximize the opportunity to provide the integration of parks and recreation spaces will perform better for this indicator.
25		Maximizes opportunity to provide a safe facility and implement CPTED principles	☺	☹	☹	Alternatives that are more safe or provide more perceived added safety through location will perform better for this indicator.
26		Maximizes accessibility design standards	☺	☹	☹	Alternatives that allow community connectivity to be maintained. Alternatives that provide the best opportunity to include accessible design standards will perform better for this indicator.
27		Minimizes impacts from winter conditions from a safety, snow removal, accessibility and cost perspective	☹	☺	☺	Alternatives that minimize risk to people, provide efficient and effective snow removal/storage and can be designed in consideration of accessibility perspectives will perform better for this indicator.
28	CULTURAL HERITAGE RESOURCES	Avoids or minimizes impact on existing archaeological resources or areas with potential	☺	☹	☹	Alternatives that minimize impacts on or avoid areas of archaeological potential will perform better for this indicator.
29		Avoids or minimizes impact on designated or potential built heritage resources	☹	☺	☹	Alternatives that maintain or enhance the cultural heritage value or interest for a built heritage resource as defined under the Ontario Heritage Act will perform better for this indicator.
30		Avoids or minimizes impact on designated or potential cultural heritage landscapes	☹	☺	☹	Alternatives that maintain or enhance the cultural heritage value or interest for cultural heritage landscapes (including cemeteries and farms) as defined under the Ontario Heritage Act will perform better for this indicator.
31	NOISE AND VIBRATION	Maximizes separation between the facility (a potential noise and vibration source) and sensitive receivers	☹	☺	☺	Alternatives that maximize their separation from existing and planned sensitive land uses and minimizes the need to provide noise mitigation will perform better for this indicator.
V. Economic Sustainability						
32	PHASING AND IMPLEMENTATION	Maximizes the ability to phase and incrementally implement the project	☺	☹	☹	Alternatives that utilize existing infrastructure and/or can be implemented as part of adjacent land development will perform better for this indicator. Alternatives that provide the opportunity to be phased in as BRT will perform better for this indicator.
33		Minimizes the disruption or diversion for all modes (transit and vehicular traffic, sidewalks, cycling facilities, pathways etc.) during construction	☺	☹	☹	Alternatives that avoid disruption to existing roadways and/or pathways or construction of new intersections in the Study Area will perform better for this indicator.
34		Minimizes overall construction impacts (noise, dust, vibration)	☺	☹	☹	Alternatives that reduce community impacts during construction will perform better for this indicator
35	LIFE CYCLE COST	Minimizes the capital infrastructure cost including minimizing the need to alter or abandon existing infrastructure	☹	☹	☹	Alternatives that avoid unnecessary or temporary reconstruction of existing infrastructure (municipal services, hydro, corridor facilities) will perform better for this indicator.
36		Minimizes construction duration and complexity	☹	☹	☹	Alternatives with the shortest time and least complex construction duration will perform better for this indicator.
37		Minimizes infrastructure maintenance and operation cost	☺	☹	☹	Alternatives with the shortest length, maintenance requirements for stormwater management systems and pedestrian and cycling facilities will perform better for this indicator. Alternatives that implement facilities that require the least amount of on-going maintenance checks will perform better for this indicator.
38		Minimizes property acquisition cost	☺	☹	☹	Alternatives with the least amount of land acquisition will perform better for this indicator.

Table 1-5: Evaluation Results for Grade-Separation of Fallowfield Road

Number	Criteria	Indicator	Alternative Number			Qualifier
			Overpass Road over Rail	Underpass Road under Rail	Combination Raise Rail and Lower Road	
			1	2	3	
I. Transportation System Sustainability						
1	TRANSIT NETWORK	Supports an enjoyable transit user experience, including ride comfort, riders views and integrated station opportunities	☺	☺	☹	Alternatives that maximize visibility by providing long-range views, or an enjoyable transit experience by providing a smooth ride
2		Minimizes impacts to transit operations	☹	☹	☹	Alternatives that avoid reconstruction or minimize impacts to the operation of the VIA Rail station and tracks, City Park n' Ride and OC Transpo will perform better for this indicator.
3	RAIL NETWORK	Minimizes or avoids impacts to Rail network	☺	☹	☹	Alternatives that avoid the requirement for rail detours or disruption will perform better for this indicator.
4		Maximizes safe operation of the Rail network	☺	☹	☹	Alternatives that maximize sight-lines, minimize incoming speeds and geometry to Fallowfield Station will perform better for this alternative.
II. Ecological and Physical Sustainability						
5	NATURAL HERITAGE FEATURES	Minimizes stormwater management complexity and maintenance	☺	☹	☹	Alternatives that minimize stormwater management complexity and maintenance during operation will perform better for this indicator.
6	PHYSICAL ENVIRONMENT	Minimizes risk to human health on areas of known contaminated soils and/or groundwater	☺	☹	☹	Alternatives that minimize the footprint on areas of potential or known contamination will perform better for this indicator.
7		Minimizes risks associated with groundwater and/or sensitive soils	☹	☹	☹	Alternatives that minimize or avoid areas within the Study Area known for having a high groundwater table and/or contain sensitive soils (i.e. clays, sensitive slopes) will perform better for this indicator.
8		Maximizes the opportunity to adopt enhanced stormwater management techniques to reduce impacts on water quality and quantity	☺	☹	☹	Alternatives that provide the opportunity to implement low impact design (LID) methods or utilize natural systems such as wetlands will perform better for this indicator.
9	CLIMATE CHANGE MITIGATION	Minimizes the impact from the project on contributing to climate change	☺	☹	☹	Alternatives that reuse and upgrade existing facilities will minimize the amount of waste and therefore will perform better for this indicator.
10	CLIMATE CHANGE ADAPTATION	Minimizes the impact of extreme weather events on the infrastructure	☺	☹	☹	Alternatives that are more resilient to extreme heat and weather events including extreme rainfall, extreme snowfall, freezing rain, freeze/thaw cycles, wind gusts will score better for this indicator.
11		Maximizes the safety and comfort of corridor users exposed to the environment	☹	☺	☺	Alternatives that provide the best shading, sheltering, visibility and are located central to land uses will perform better for this indicator.
III. NCC Greenbelt Sustainability						
12	AGRICULTURAL RESOURCES	Minimizes impact to designated prime agricultural lands	☹	☺	☺	Alternatives that minimize or avoid impacts to designated prime agricultural lands will perform better for this indicator.
13		Minimizes impacts on existing farm infrastructure including buildings and tile drainage systems	☹	☺	☺	Alternatives that minimize or avoid decommissioning of farm-related infrastructure will perform better for this indicator.
14	GREENBELT ENVIRONMENT	Minimizes impacts to designated NCC Greenbelt lands	☹	☺	☺	Alternatives that minimize or avoid designated NCC Greenbelt lands will perform better for this indicator.
15		Maximizes opportunity to improve views and vistas within the Study Area	☺	☹	☹	Alternatives that maintain, enhance or provide new views or vistas will perform better for this indicator.
IV. Land Use and Community Sustainability						
16	COMMUNITY PLANNING & DESIGN	Supports the orderly arrangement and organization of land uses/diminishes fragmentation of land uses	☹	☺	☺	Alternatives that do not result in the fragmentation of land or create awkward development parcels will perform better for this indicator.

Number	Criteria	Indicator	Alternative Number			Qualifier
			Overpass Road over Rail	Underpass Road under Rail	Combination Raise Rail and Lower Road	
			1	2	3	
17		Minimizes impacts to existing land uses including existing buildings and residences	☹️	😊	☹️	Alternatives that minimize or avoid acquisition or relocation of built assets will perform better for this indicator. As well, major infrastructure in close proximity to residences or sensitive land uses will result in a reduced performance for this indicator.
18		Minimizes or avoids disruption to essential municipal services (utilities, potable water and sanitary services)	😊	☹️	☹️	Alternatives that minimize or avoid interaction and/or disruption to existing infrastructure will perform better for this indicator.
19		Maximizes opportunities to improve community health and well-being through creation or access to recreation areas/facilities	😊	😊	😊	Alternatives that maximize the opportunity to provide the integration of parks and recreation spaces will perform better for this indicator.
20		Maximizes opportunities to improve the public realm	😊	😊	😊	Alternatives that maximize the opportunity to provide public art, improve visual environments and incorporate streetscaping within the road corridor will perform better for this indicator.
21		Maximizes opportunity to provide a safe facility and implement CPTED principles	😊	☹️	😊	Alternatives that are more safe or provide more perceived added safety through location will perform better for this indicator.
22		Minimizes impacts from winter conditions from a safety, snow removal, accessibility and cost perspective	😊	😊	😊	Alternatives that minimize risk to people, provide efficient and effective snow removal/storage and can be designed in consideration of accessibility perspectives will perform better for this indicator.
23	CULTURAL HERITAGE RESOURCES	Avoids or minimizes impact on existing archaeological resources or areas with potential	😊	☹️	😊	Alternatives that minimize impacts on or avoid areas of archaeological potential will perform better for this indicator.
24		Avoids or minimizes impact on designated or potential cultural heritage landscapes	☹️	😊	😊	Alternatives that maintain or enhance the cultural heritage value or interest for cultural heritage landscapes (including cemeteries and farms) as defined under the Ontario Heritage Act will perform better for this indicator.
25	NOISE AND VIBRATION	Maximizes separation between the facility (a potential noise and vibration source) and sensitive receivers	☹️	😊	😊	Alternatives that maximize their separation from existing and planned sensitive land uses and minimizes the need to provide noise mitigation will perform better for this indicator.
V. Economic Sustainability						
26	PHASING AND IMPLEMENTATION	Maximizes the ability to phase and incrementally implement the project	😊	☹️	☹️	Alternatives that utilize existing infrastructure and/or can be implemented as part of adjacent land development will perform better for this indicator.
27		Minimizes the disruption or diversion for all modes (transit and vehicular traffic, sidewalks, cycling facilities, pathways etc.) during construction	😊	☹️	☹️	Alternatives that avoid disruption to existing roadways and/or pathways or construction of new intersections in the Study Area will perform better for this indicator.
28		Minimizes overall construction impacts (noise, dust, vibration)	😊	☹️	☹️	Alternatives that reduce community impacts during construction will perform better for this indicator
29	LIFE CYCLE COST	Minimizes the capital infrastructure cost including minimizing the need to alter or abandon existing infrastructure	😊	☹️	☹️	Alternatives that avoid unnecessary or temporary reconstruction of existing infrastructure (municipal services, hydro, corridor facilities) will perform better for this indicator.
30		Minimizes construction duration and complexity	😊	☹️	☹️	Alternatives with the shortest time and least complex construction duration will perform better for this indicator.
31		Minimizes infrastructure maintenance and operation cost	😊	☹️	☹️	Alternatives with the shortest length, maintenance requirements for stormwater management systems and pedestrian and cycling facilities will perform better for this indicator. Alternatives that implement facilities that require the least amount of on-going maintenance checks will perform better for this indicator.
32		Minimizes property acquisition cost	☹️	😊	😊	Alternatives with the least amount of land acquisition will perform better for this indicator.