APPENDIX F - WEST HILL AREA EVALUATIONS

Analysis of Route Options in the West Hill Area

The existing Morningside Avenue from 90 m north of Kingston Road to Fairwood Crescent passes residential areas on both sides and West Hill Collegiate Institute on the west side 140 m north of Warnsworth Street. The existing right-of-way is generally 26 m wide whereas the City of Toronto Official Plan designates this section as 30m. The City is planning to process an Official Plan amendment in early 2010 to widen the designated right-of-way to 36 m. Given the constrained right-of-way, an assessment was undertaken to determine the preferred alternative to minimize property impacts while providing a reasonable level of services for both LRT and vehicular traffic.

In considering the functional plan for both LRT and vehicular traffic movements and minimize the property impacts in the area, over 165 alternatives were developed considering different location and the type (i.e. far side, road side or centre) of the LRT platforms, LRT alignment alternative, bicycle lane locations and traffic operation arrangements on Tefft Road, Beath Street, Warnsworth Street and West Hill Collegiate.

The alternatives were developed by varying a number of elements. Each option has a three digit code. The first digit is the family of the option (1 through 6); the second letter indicates the configuration of intersections at Beath Street and West Hill and the third digit shows the variations in platform locations and configuration. The definition of the families is as shown below:

Option Family	LRT Alignment	Bike Lanes	Intersection at Tefft Road
1	Central	On Morningside	Signalized
2	Central	On Morningside	Unsignalized
3	Central	On local streets	Unsignalized
4	East side	On Morningside	Signalized
5	East side	On Morningside	Unsignalized
6	East side	On local streets	Signalized

Relevant factors that were considered in the evaluation include:

- Community Impacts;
- Property Impacts;
- Transit Services (LRT Operations and Platform Accessibility);
- Safety (Pedestrians/Vehicular – Roadway, Driveway);
- Bicycle Operations; and
- Traffic Accessibility Impacts (Pedestrians / Vehicular).

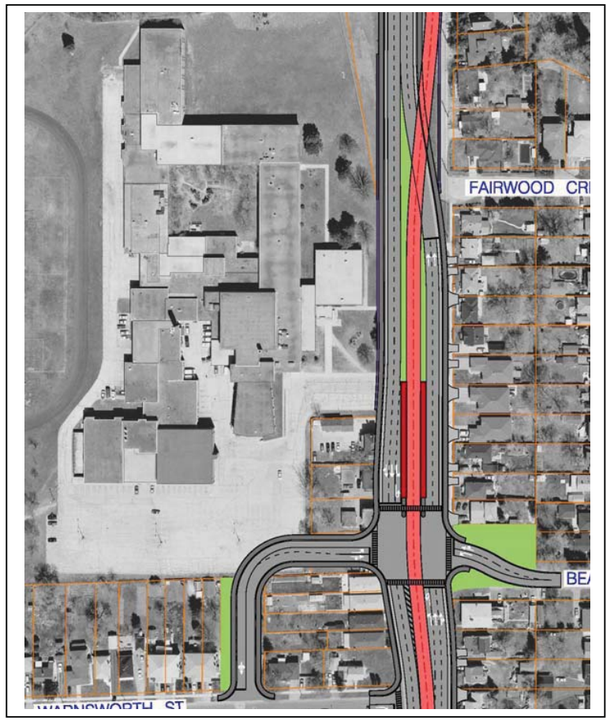
The results of the evaluation are appended. In fact, the solution finally adopted was a hybrid of these alternatives. This hybrid includes the following features:

- Location of the LRT on the east side of Morningside Avenue north of West Hill Collegiate;
- Two side platforms of the north side of Warnsworth Street to serve the neighbourhood and the Collegiate;
- Provide traffic signals at Tefft Road;
- Construction of bike lanes on either side of Morningside Avenue; and
- Construction of a new connection from Beath Street through some properties linking to Warnsworth Street on the west.

The preferred alternative is shown below. It was found that most options would require at least approximately 10 property takings in the area. Widening on the west side with provision of split-side platform north of Beath Street is preferred. A new access road from Beath Street to Warnsworth Street is provided to ensure the linkage, from Morningside Avenue to both sides of road and between the areas on either side of Morningside Avenue, is maintained. The preferred design alternative is shown below.

A signal on the northbound lanes of Morningside Avenue north of the new intersection is required to permit the Light Rail Vehicle (LRV) to transition from side running to centre running.

Preferred Design Alternative at West Hill C.I. Area on Morningside Avenue



TTC - SCARBOROUGH MALVERN LRT - WEST HILL C.I. AREA OPTION MATRIX

BRIEF DESCRIPTION	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	
	1A - 1	X		X		RIRO			X		X			both sides
	1A - 2	X		X		RIRO			X		X			west side only
	1A - 3	X		X		RIRO			X		X			east side only
	1B - 1	X		X		RIRO			X			X		both sides
	1B - 2	X		X		RIRO			X			X		west side only
	1B - 3	X		X		RIRO			X			X		east side only
	1C - 1	X		X		RIRO			X				X	both sides
	1C - 2	X		X		RIRO			X				X	west side only
	1C - 3	X		X		RIRO			X				X	east side only
	1D - 1	X		X			X	< offset >	X		X			both sides
	1D - 2	X		X			X	< offset >	X		X			west side only
	1D - 3	X		X			X	< offset >	X		X			east side only
	1E - 1	X		X			X	< offset >	X			X		both sides
	1E - 2	X		X			X	< offset >	X			X		west side only
	1E - 3	X		X			X	< offset >	X			X		east side only
	1F - 1	X		X			X	< offset >	X				X	both sides
	1F - 2	X		X			X	< offset >	X				X	west side only
	1F - 3	X		X			X	< offset >	X				X	east side only
	1G - 1	X		X			X	< 70 skew >		X	X			both sides
	1G - 2	X		X			X	< 70 skew >		X	X			west side only
	1G - 3	X		X			X	< 70 skew >		X	X			east side only
	1H - 1	X		X			X	< 70 skew >		X		X		both sides
	1H - 2	X		X			X	< 70 skew >		X		X		west side only
	1H - 3	X		X			X	< 70 skew >		X		X		east side only
	1I - 1	X		X			X	< 70 skew >		X			X	both sides
	1I - 2	X		X			X	< 70 skew >		X			X	west side only
	1I - 3	X		X			X	< 70 skew >		X			X	east side only
	1J - 1	X		X				X		X	X			both sides
	1J - 2	X		X				X		X	X			west side only
	1J - 3	X		X				X		X	X			east side only
	1K - 1	X		X				X		X		X		both sides
	1K - 2	X		X				X		X		X		west side only
	1K - 3	X		X				X		X		X		east side only
	1L - 1	X		X				X		X			X	both sides
	1L - 2	X		X				X		X			X	west side only
	1L - 3	X		X				X		X			X	east side only
	2A - 1	X			X	RIRO			X		X			both sides
	2A - 2	X			X	RIRO			X		X			west side only
	2A - 3	X			X	RIRO			X		X			east side only
	2B - 1	X			X	RIRO			X			X		both sides
	2B - 2	X			X	RIRO			X			X		west side only
	2B - 3	X			X	RIRO			X			X		east side only
	2C - 1	X			X	RIRO			X				X	both sides
	2C - 2	X			X	RIRO			X				X	west side only
	2C - 3	X			X	RIRO			X				X	east side only
	2D - 1	X			X		X	< offset >	X		X			both sides
	2D - 2	X			X		X	< offset >	X		X			west side only
	2D - 3	X			X		X	< offset >	X		X			east side only

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	
	2E - 1	X			X		X	< offset >	X			X		both sides
	2E - 2	X			X		X	< offset >	X			X		west side only
	2E - 3	X			X		X	< offset >	X			X		east side only
	2F - 1	X			X		X	< offset >	X				X	both sides
	2F - 2	X			X		X	< offset >	X				X	west side only
	2F - 3	X			X		X	< offset >	X				X	east side only
	2G - 1	X			X		X	< 70 skew >		X	X			both sides
	2G - 2	X			X		X	< 70 skew >		X	X			west side only
	2G - 3	X			X		X	< 70 skew >		X	X			east side only
	2H - 1	X			X		X	< 70 skew >		X		X		both sides
	2H - 2	X			X		X	< 70 skew >		X		X		west side only
	2H - 3	X			X		X	< 70 skew >		X		X		east side only
	2I - 1	X			X		X	< 70 skew >		X			X	both sides
	2I - 2	X			X		X	< 70 skew >		X			X	west side only
	2I - 3	X			X		X	< 70 skew >		X			X	east side only
	2J - 1	X			X			X		X	X			both sides
	2J - 2	X			X			X		X	X			west side only
	2J - 3	X			X			X		X	X			east side only
	2K - 1	X			X			X		X		X		both sides
	2K - 2	X			X			X		X		X		west side only
	2K - 3	X			X			X		X		X		east side only
	2L - 1	X			X			X		X			X	both sides
	2L - 2	X			X			X		X			X	west side only
	2L - 3	X			X			X		X			X	east side only
with bike lanes along local roads, will require signalized Beath intersectiion, and wouls not have signals at Tefft	3A - 1		X		X		X	< offset >	X		X			both sides
	3A - 2		X		X		X	< offset >	X		X			west side only
	3A - 3		X		X		X	< offset >	X		X			east side only
	3B - 1		X		X		X	< offset >	X			X		both sides
	3B - 2		X		X		X	< offset >	X			X		west side only
	3B - 3		X		X		X	< offset >	X			X		east side only
	3C - 1		X		X		X	< offset >	X				X	both sides
	3C - 2		X		X		X	< offset >	X				X	west side only
	3C - 3		X		X		X	< offset >	X				X	east side only
	3D - 1		X		X		X	< 70 skew >		X	X			both sides
	3D - 2		X		X		X	< 70 skew >		X	X			west side only
	3D - 3		X		X		X	< 70 skew >		X	X			east side only
	3E - 1		X		X		X	< 70 skew >		X		X		both sides
	3E - 2		X		X		X	< 70 skew >		X		X		west side only
	3E - 3		X		X		X	< 70 skew >		X		X		east side only
	3F - 1		X		X		X	< 70 skew >		X			X	both sides
	3F - 2		X		X		X	< 70 skew >		X			X	west side only
	3F - 3		X		X		X	< 70 skew >		X			X	east side only
	3G - 1		X		X			X		X	X			both sides
	3G - 2		X		X			X		X	X			west side only
	3G - 3		X		X			X		X	X			east side only
	3H - 1		X		X			X		X		X		both sides
	3H - 2		X		X			X		X		X		west side only
	3H - 3		X		X			X		X		X		east side only
	3I - 1		X		X			X		X			X	both sides
	3I - 2		X		X			X		X			X	west side only

Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments
	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	
3I - 3		X		X			X		X			X	east side only
4A - 1	X		X		RIRO			X			X		both sides
4A - 2	X		X		RIRO			X			X		west side only
4A - 3	X		X		RIRO			X			X		east side only
4B - 1	X		X		RIRO			X				X	both sides
4B - 2	X		X		RIRO			X				X	west side only
4B - 3	X		X		RIRO			X				X	east side only
4C - 1	X		X			X	< offset >	X			X		both sides
4C - 2	X		X			X	< offset >	X			X		west side only
4C - 3	X		X			X	< offset >	X			X		east side only
4D - 1	X		X			X	< offset >	X				X	both sides
4D - 2	X		X			X	< offset >	X				X	west side only
4D - 3	X		X			X	< offset >	X				X	east side only
4E - 1	X		X			X	< 70 skew >		X		X		both sides
4E - 2	X		X			X	< 70 skew >		X		X		west side only
4E - 3	X		X			X	< 70 skew >		X		X		east side only
4F - 1	X		X			X	< 70 skew >		X			X	both sides
4F - 2	X		X			X	< 70 skew >		X			X	west side only
4F - 3	X		X			X	< 70 skew >		X			X	east side only
4G - 1	X		X				X		X		X		both sides
4G - 2	X		X				X		X		X		west side only
4G - 3	X		X				X		X		X		east side only
4H - 1	X		X				X		X			X	both sides
4H - 2	X		X				X		X			X	west side only
4H - 3	X		X				X		X			X	east side only
5A - 1	X			X	RIRO			X			X		both sides
5A - 2	X			X	RIRO			X			X		west side only
5A - 3	X			X	RIRO			X			X		east side only
5B - 1	X			X	RIRO			X				X	both sides
5B - 2	X			X	RIRO			X				X	west side only
5B - 3	X			X	RIRO			X				X	east side only
5C - 1	X			X		X	< offset >	X			X		both sides
5C - 2	X			X		X	< offset >	X			X		west side only
5C - 3	X			X		X	< offset >	X			X		east side only
5D - 1	X			X		X	< offset >	X				X	both sides
5D - 2	X			X		X	< offset >	X				X	west side only
5D - 3	X			X		X	< offset >	X				X	east side only
5E - 1	X			X		X	< 70 skew >		X		X		both sides
5E - 2	X			X		X	< 70 skew >		X		X		west side only
5E - 3	X			X		X	< 70 skew >		X		X		east side only
5F - 1	X			X		X	< 70 skew >		X			X	both sides
5F - 2	X			X		X	< 70 skew >		X			X	west side only
5F - 3	X			X		X	< 70 skew >		X			X	east side only
5G - 1	X			X			X		X		X		both sides
5G - 2	X			X			X		X		X		west side only
5G - 3	X			X			X		X		X		east side only
5H - 1	X			X			X		X			X	both sides
5H - 2	X			X			X		X			X	west side only
5H - 3	X			X			X		X			X	east side only
6A - 1		X		X		X	< offset >	X			X		both sides

TTC - SCARBOROUGH MALVERN LRT - WEST HILL C.I. AREA SUMMARY EVALUATION MATRIX

Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																LRT Operations									
	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
1A - 1	X		X		RIRO			X		X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. **West Side** - 2m frontage along 6 residential buildings (assume partial takings, however 1 is a potential full taking), 6 full property takings, 6 - 0m frontage along West Hill C.I.; **East Side** - 2m along 15 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 4 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Poor		Very Good	Good	Good	Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a number of acquired frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Beath and Warnsworth and the availability of reasonable alternative routes (alternative routes: Beath to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
1B - 1	X		X		RIRO			X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. **West Side** - 2m frontage along 9 residential buildings (assume partial takings), 4 full property takings, 11 - 0m frontage along West Hill C.I.; **East Side** - 2m along 11 residential buildings (assume partial takings, however 3 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor		Very Good	Good	Good	
1C - 1	X		X		RIRO			X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. **West Side** - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 10 - 0m frontage along West Hill C.I.; **East Side** - 2m along 14 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor		Very Good	Good	Good	
1D - 1	X		X			X	< offset >	X		X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 15 residential buildings (assume partial takings).		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, far side platforms where TSP can be used in both directions, but no transversing of NB lanes).	Good		Good	Good	Poor		Very Good	Very Good	Very Good	
1E - 1	X		X			X	< offset >	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 9 residential buildings (assume partial takings), 4 full property takings, 11 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 3 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP can potentially be used in NB direction only, but no transversing of NB lanes).	Fair		Good	Good	Poor		Very Good	Very Good	Very Good	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations										
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
BRIEF DESCRIPTION	1F - 1	X		X			X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 12 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks), 8 full property taking.	Maintenance of signalized intersection at Tefft will impact speed and reliability (although potentially mitigated with TSP).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Very Good		Good	Good	Poor	Very Good	Very Good	Very Good		
	1G - 1	X		X			X	< 70 skew >		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Fair	Very Good	Good	Good		
	1H - 1	X		X			X	< 70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Good	Good		
	1I - 1	X		X			X	< 70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Good	Good		Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
	1J - 1	X		X				X		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Fair	Very Good	Good	Good		

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations										
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	1K - 1	X		X				X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Good	Good	
	1L - 1	X		X				X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Good	Good	
	2A - 1	X			X	RIRO			X		X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings, however 1 is a potential full taking), 6 full property takings, 6 - 0m frontage along West Hill C.I.; East Side - 2m along 15 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 4 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Poor	Very Good	Poor	Poor	Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a number of acquired frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Beath and Warnsworth and the availability of reasonable alternative routes (alternative routes: Beath to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	2B - 1	X			X	RIRO			X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 10 residential buildings (assume partial takings), 3 full property takings, 11 - 0m frontage along West Hill C.I.; East Side - 2m along 8 residential buildings (assume partial takings), 4 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Poor	
	2C - 1	X			X	RIRO			X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 14 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Poor	

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations										
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	2D - 1	X			X		X	< offset >	X		X			both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along apartment complex (assume partial taking), 2m frontage along 8 residential buildings (assume partial takings); East Side - 2m frontage along commercial mall with loss of parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage along commercial building (assume full taking given minimal remaining setback), 2m along 4 residential buildings (assume partial takings).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings) 9 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 15 residential buildings (assume partial takings, however 1 is a potential full taking due to reduced frontage setbacks).	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, far side platforms where TSP can be used in both directions, but no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Fair	Good	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	2E - 1	X			X		X	< offset >	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings), 4 full property takings, 11 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 1 is a potential full taking due to reduced frontage setbacks).		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP can potentially be used in NB direction only, but no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Fair	Good	
	2F - 1	X			X		X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 12 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks), 8 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Very Good		Good	Good	Poor	Very Good	Fair	Good	
	2G - 1	X			X		X	< 70 skew >		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Poor	Very Good	Poor	Fair	
	2H - 1	X			X		X	< 70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	
	2I - 1	X			X		X	< 70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations										
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	2J - 1	X			X			X		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Poor	Very Good	Poor	Fair	
	2K - 1	X			X			X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	
	2L - 1	X			X			X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	
	3A - 1		X		X		X	< offset >	X		X			both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 26m. West Side - no property requirements (potential for frontage requirements along apartment complex, depending on left turn lane length); East Side - no property requirements	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings) 8 full property takings, 10 - 0m frontage along West Hill C.I., 2 partial takings; East Side - 2m along 6 residential buildings (assume partial takings).		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, far side platforms where TSP can be used in both directions, but no transversing of NB lanes).	Good	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Good	Good	Poor	Fair	Fair	Good	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	3B - 1		X		X		X	< offset >	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings), 1 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Fair		Good	Good	Poor	Fair	Fair	Good	
	3C - 1		X		X		X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings, however 1 is a potential full taking), 8 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 8 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Very Good		Good	Good	Poor	Fair	Fair	Good	

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations										
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
with bike lanes along local roads, will require signalized Beath intersection, and wouds not have signals at Tefft	3D - 1		X		X		X	< 70 skew >		X	X			both sides	(potential for daylighting triangle requirement at NE quadrant with Tefft).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 12 full property takings.	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Poor		Fair	Poor	Fair	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	3E - 1		X		X		X	< 70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 2m along 3 residential buildings (assume partial takings), 9 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Fair		Good	Good	Poor		Fair	Poor	Fair	
	3F - 1		X		X		X	< 70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 2 residential buildings (assume partial takings), 9 full property taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Fair		Good	Good	Poor		Fair	Poor	Fair	
	3G - 1		X		X		X			X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 12 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Good		Good	Good	Poor		Fair	Poor	Fair	
	3H - 1		X		X		X			X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 14 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 3 full property taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Fair		Good	Good	Poor		Fair	Poor	Fair	
	3I - 1		X		X		X			X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 2 residential buildings (assume partial takings), 9 full property taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Fair		Good	Good	Poor		Fair	Poor	Fair	

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations											
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	4A - 1	X		X		RIRO			X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takings), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 9 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Fair		Good	Good	Poor	**Very Good**	**Good**	**Good**	Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a number of acquired frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Beath and Warnsworth and the availability of reasonable alternative routes (alternative routes: Beath to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via via per existing left turn at Tefft).
	4B - 1	X		X		RIRO			X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 5 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings), 12 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Fair		Good	Good	Poor	**Very Good**	**Good**	**Good**	
	4C - 1	X		X			X	< offset >	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 7 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 10 full property takings.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	**Very Good**	**Very Good**	**Very Good**	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
	4D - 1	X		X			X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takingsassume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 11 full property takings.	Maintenance of signalized intersection at Tefft will impact speed and reliability (although potentially mitigated with TSP).	Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Very Good		Good	Good	Poor	**Very Good**	**Very Good**	**Very Good**	
	4E - 1	X		X			X	< 70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	**Very Good**	**Good**	**Good**	

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations										
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	4F - 1	X		X			X	< 70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Good	Good	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
	4G - 1	X		X				X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Good	Good	
	4H - 1	X		X				X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Good	Good	
	5A - 1	X			X	RIRO			X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takings), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 9 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Fair		Good	Good	Poor	Very Good	Poor	Fair	Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a number of acquired frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Beath and Warnsworth and the availability of reasonable alternative routes (alternative routes: Beath to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	5B - 1	X			X	RIRO			X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 5 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings), 12 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Fair		Good	Good	Poor	Very Good	Poor	Fair	

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																	LRT Operations										
		along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	5C - 1	X			X		X	< offset >	X			X		both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along apartment complex (assume partial taking), 2m frontage along 8 residential buildings (assume partial takings); East Side - 2m frontage along commercial mall with loss of parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage along commercial building (assume full taking given minimal remaining setback), 2m along 4 residential buildings (assume partial takings).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 7 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 10 full property takings.	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Fair	Good	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	5D - 1	X			X		X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takingsassume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 11 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Very Good		Good	Good	Poor	Very Good	Fair	Good	
	5E - 1	X			X		X	< 70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	
	5F - 1	X			X		X	< 70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	5G - 1	X			X			X	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	
	5H - 1	X			X			X	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Fair		Good	Good	Poor	Very Good	Poor	Fair	

Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts		Community Impacts
																LRT Operations										
	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility		Pede-strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.		Pede-strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES IMPACTS	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
6A - 1		X		X		X	< offset >	X			X		both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 26m. West Side - no property requirements (potential for frontage requirements along apartment complex, depending on left turn lane length); East Side - no property requirements (potential for daylighting triangle requirement at NE quadrant with Tefft).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings), 1 full property taking.	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Fair	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Good	Good	Poor	Fair	Fair	Good	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
6B - 1		X		X		X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 7 full property takings, 6 - 0m frontage along West Hill C.I.; East Side - 2m along 5 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 10 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Very Good	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Good	Good	Poor	Fair	Fair	Good	
6C - 1		X		X		X	< 70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m along 1 residential building (assume partial taking), 8 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however potential for 2 full property takings due to reduced frontage setbacks).		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does nort work as effectively in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Poor	Meets 70 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms. Provides limited horizontal sight distance (NB) due to potential retaining wall requirement.	Poor	Good	Poor	Fair	Poor	Fair	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads); east side driveways across from West Hill C.I. are provided right-in and right-out access via Service Road provided.
6D - 1		X		X		X	< 70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 7 full property takings, 6 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 11 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Very Good	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Good	Good	Poor	Fair	Poor	Fair	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
6E - 1		X		X			X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m along 1 residential building (assume partial taking), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 3 residential buildings (assume partial takings), 1 full taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does nort work as effectively in order to transverse NB lanes). **Note: Roadway DS=60 kph, which marginally improves the distance between the platforms and the intersection.**	Poor	Meets 60 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms. Provides limited horizontal sight distance (NB) due to potential retaining wall requirement.	Poor	Good	Poor	Fair	Poor	Fair	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads); east side driveways across from West Hill C.I. are provided right-in and right-out access via Service Road provided.
6F - 1		X		X			X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m along 1 residential building (assume partial taking), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 3 residential buildings (assume partial takings), 1 full taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does nort work as effectively in order to transverse NB lanes). **Note: Roadway DS=60 kph, which improves the distance between the platforms and the intersection.**	Poor	Meets 60 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms. Provides limited horizontal sight distance (NB) due to potential retaining wall requirement.	Poor	Good	Poor	Fair	Poor	Fair	

Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments
	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	
6A - 2		X		X		X	< offset >	X			X		west side only
6A - 3		X		X		X	< offset >	X			X		east side only
6B - 1		X		X		X	< offset >	X				X	both sides
6B - 2		X		X		X	< offset >	X				X	west side only
6B - 3		X		X		X	< offset >	X				X	east side only
6C - 1		X		X		X	< 70 skew >		X		X		both sides
6C - 2		X		X		X	< 70 skew >		X		X		west side only
6C - 3		X		X		X	< 70 skew >		X		X		east side only
6D - 1		X		X		X	< 70 skew >		X			X	both sides
6D - 2		X		X		X	< 70 skew >		X			X	west side only
6D - 3		X		X		X	< 70 skew >		X			X	east side only
6E - 1		X		X			X		X		X		both sides
6E - 2		X		X			X		X		X		west side only
6E - 3		X		X			X		X		X		east side only
6F - 1		X		X			X		X			X	both sides
6F - 2		X		X			X		X			X	west side only
6F - 3		X		X			X		X			X	east side only

TTC - SCARBOROUGH MALVERN LRT - WEST HILL C.I. AREA DETAILED EVALUATION MATRIX

TH / WEST HILL AND PLATFORM CONFIGURATIONS

Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
	along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
1A - 1	X		X		RIRO			X		X			both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along apartment complex (assume partial taking), 2m frontage along 10 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks); East Side - 2m frontage along commercial mall with loss of parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage along commercial building (assume full taking given minimal remaining setback), 2m along 5 residential buildings (assume partial takings).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings, however 1 is a potential full taking), 6 full property takings, 6 - 0m frontage along West Hill C.I.; East Side - 2m along 15 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 4 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection provides for safe manoeuvres of NB left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.						
1A - 2	X		X		RIRO			X		X			west side only		Overall impacts would be less (could eliminate 6 partial takings and 4 full takings on the east side, but need 2 more full takings on the wset side).													
1A - 3	X		X		RIRO			X		X			east side only		Overall impacts would be significantly worse (would require more full property takings).													
1B - 1	X		X		RIRO			X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 9 residential buildings (assume partial takings), 4 full property takings, 11 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 3 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
1B - 2	X		X		RIRO			X			X		west side only		Overall impacts would be similar (could eliminate 5 partial takings and 1 full taking on the east side, but need 5 more full takings on the west side).													
1B - 3	X		X		RIRO			X			X		east side only		Overall impacts would be worse (would require more full property takings).													
1C - 1	X		X		RIRO			X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 14 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
1C - 2	X		X		RIRO			X				X	west side only		Overall impacts would be less (could eliminate 6 partial and 1 full takings on the east side, but need 1 more full taking on the west side).													
1C - 3	X		X		RIRO			X				X	east side only		Overall impacts would be worse (would require more full property takings).													
1D - 1	X		X			X	< offset >	X		X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 15 residential buildings (assume partial takings).		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, far side platforms where TSP can be used in both directions, but no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can potentially be provided at both ends of the SB platform, at one end of the NB platform where ramps can be accommodated to	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of NB and SB left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.						
1D - 2	X		X			X	< offset >	X		X			west side only		Overall impacts would be less (could eliminate 10 partial takings on the east side, but need 1 more partial taking on the west side).													
1D - 3	X		X			X	< offset >	X		X			east side only		Overall impacts would be worse (would require more full property takings).													
1E - 1	X		X			X	< offset >	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 9 residential buildings (assume partial takings), 4 full property takings, 11 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 3 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP can potentially be used in NB direction only, but no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
1E - 2	X		X			X	< offset >	X			X		west side only		Overall impacts would be similar (could eliminate 5 partial takings and 1 full taking on the east side, but need 5 more full takings on the west side).													
1E - 3	X		X			X	< offset >	X			X		east side only		Overall impacts would be worse (would require more full property takings).													

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																	LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
		along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
LRT RIGHT-OF-WAY IN CENTRE OF ROADWAY, BIKE LANES ALONG MORNINGSIDE, TEFFT REMAINS SIGNALIZED, VARIOUS BEA	1F - 1	X		X			X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 12 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks), 8 full property taking.	Maintenance of signalized intersection at Tefft will impact speed and reliability (although potentially mitigated with TSP).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Centre platform; provides very good access via at-grade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.			Bike lanes along Morningside Avenue are consistent with the City's Bike Plan (most direct route).	Maintenance of signalized intersection at Tefft maintains all existing pedestrian movements (Note: West Hill P.S. at SE quadrant of Morningside / Tefft).		Maintenance of signalized intersection at Tefft maintains all existing vehicular movements.		
	1F - 2	X		X			X	< offset >	X				X	west side only		Overall impacts would be less (could eliminate 9 partial and 8 full takings on the east side).													
	1F - 3	X		X			X	< offset >	X				X	east side only		Overall impacts would be worse (would require more full property takings).													
	1G - 1	X		X			X	70 skew >		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; location of a signalized intersection south of the driveways may minimize risky manoevres for SB vehicles to use intersection.			Maintenance of a signalized intersection at West Hill C.I. maintains existing pedestrian movements (Note: West Hill C.I. on the west side).		Provision of joint signalized intersection at Beath / West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
	1G - 2	X		X			X	70 skew >		X	X			west side only		Overall impacts would be less (could eliminate 2 partial takings, and 12 full takings).													
	1G - 3	X		X			X	70 skew >		X	X			east side only		Overall impacts would be worse (would require more full property takings).													
	1H - 1	X		X			X	70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential building (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.								
	1H - 2	X		X			X	70 skew >		X		X		west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).													
	1H - 3	X		X			X	70 skew >		X		X		east side only		Overall impacts would be worse (would require more full property takings).													
	1I - 1	X		X			X	70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.								
	1I - 2	X		X			X	70 skew >		X			X	west side only		Overall impacts would be less (could eliminate 11 full takings on the east side, but need 7 more full takings on the west side).													
	1I - 3	X		X			X	70 skew >		X			X	east side only		Overall impacts would be worse (would require more full property takings).													
	1J - 1	X		X				X		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.								
	1J - 2	X		X				X		X	X			west side only		Overall impacts would be less (could eliminate 2 partial takings, and 12 full takings).													
	1J - 3	X		X				X		X	X			east side only		Overall impacts would be worse (would require more full property takings).													
	1K - 1	X		X				X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Provision of NB and SB left trun lanes at West Hill (relocated) and Beath intersection provides for safe manoeuvres of left and u-turning vehicles.								
	1K - 2	X		X				X		X		X		west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).													
	1K - 3	X		X				X		X		X		east side only		Overall impacts would be worse (would require more full property takings).													

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																	LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
		along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	1L - 1	X		X				X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	1L - 2	X		X				X		X			X	west side only		Overall impacts would be less (could eliminate 11 full takings on the east side, but need 7 more full takings on the west side).													
	1L - 3	X		X				X		X			X	east side only		Overall impacts would be worse (would require more full property takings).													
WEST HILL AND PLATFORM CONFIGURATIONS	2A - 1	X			X	RIRO			X		X			both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along apartment complex (assume partial taking), 2m frontage along 8 residential buildings (assume partial takings); East Side - 2m frontage along commercial mall with loss of parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage along commercial building (assume full taking given minimal remaining setback), 2m along 5 residential buildings (assume partial takings).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings, however 1 is a potential full taking), 6 full property takings, 6 - 0m frontage along West Hill C.I.; East Side - 2m along 15 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 4 full property takings.	Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection provides for safe manoeuvres of NB left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. intersection may encourage unsafe manoeuvres to use intersection.						Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a number of acquired frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Beath and Warnsworth and the availability of reasonable alternative routes (alternative routes: Beath to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	2A - 2	X			X	RIRO			X		X			west side only		Overall impacts would be less (could eliminate 6 partial takings and 4 full takings on the east side, but need 2 more full takings on the west side).													
	2A - 3	X			X	RIRO			X		X			east side only		Overall impacts would be significantly worse (would require more full property takings).													
	2B - 1	X			X	RIRO			X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 10 residential buildings (assume partial takings), 3 full property takings, 11 - 0m frontage along West Hill C.I.; East Side - 2m along 8 residential buildings (assume partial takings), 4 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	2B - 2	X			X	RIRO			X			X		west side only		Overall impacts would be less (could eliminate 3 partial takings and 4 full takings on the east side, but need 6 more full takings on the west side).													
	2B - 3	X			X	RIRO			X			X		east side only		Overall impacts would be worse (would require more full property takings).													
	2C - 1	X			X	RIRO			X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 14 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	2C - 2	X			X	RIRO			X				X	west side only		Overall impacts would be less (could eliminate 6 partial and 1 full takings on the east side, but need 1 more full taking on the west side).													
	2C - 3	X			X	RIRO			X				X	east side only		Overall impacts would be worse (would require more full property takings).													
	2D - 1	X			X		X	< offset >	X		X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings) 9 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 15 residential buildings (assume partial takings, however 1 is a potential full taking due to reduced frontage setbacks).		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, far side platforms where TSP can be used in both directions, but no transversing of NB lanes).	Far side platforms; provide fair access via separate at-grade crosswalks at a signalized intersection (access can potentially be provided at both ends of the SB platform, at one end of the NB platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.			Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. improves pedestrian movements, although 1 or 2 crosswalks potentially eliminated for traffic operational issues (Note: West Hill C.I. on the west side).		Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	2D - 2	X			X		X	< offset >	X		X			west side only		Overall impacts would be less (could eliminate 6 partial takings on the east side).													
	2D - 3	X			X		X	< offset >	X		X			east side only		Overall impacts would be significantly worse (would require more full property takings).													
	2E - 1	X			X		X	< offset >	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings), 4 full property takings, 11 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 1 is a potential full taking due to reduced frontage setbacks).		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP can potentially be used in NB direction only, but no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	2E - 2	X			X		X	< offset >	X			X		west side only		Overall impacts would be similar (could eliminate 3 partial takings, but need 2 more full takings).													
	2E - 3	X			X		X	< offset >	X			X		east side only		Overall impacts would be worse (would require more full property takings).													

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																	LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
		along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
LRT RIGHT-OF-WAY IN CENTRE OF ROADWAY, BIKE LANES ALONG MORNINGSIDE, TEFFT IS UNSIGNALIZED, VARIOUS BEATH /	2F - 1	X			X		X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 12 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks), 8 full property taking.	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Centre platform; provides very good access via at-grade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.			Bike lanes along Morningside Avenue are consistent with the City's Bike Plan (most direct route).	Elimination of signalized intersection at Tefft removes all existing pedestrian movements between Kingston and Beath / West Hill C.I. signalized intersections (Note: West Hill P.S. at SE quadrant of Morningside / Tefft).					
	2F - 2	X			X		X	< offset >	X				X	west side only		Overall impacts would be less (could eliminate 9 partial and 8 full takings on the east side).													
	2F - 3	X			X		X	< offset >	X				X	east side only		Overall impacts would be worse (would require more full property takings).													
	2G - 1	X			X		X	70 skew >		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; location of a signalized intersection south of the driveways may minimize risky manoevres for SB vehicles to use intersection.		Maintenance of a signalized intersection at West Hill C.I. maintains existing pedestrian movements (Note: West Hill C.I. on the west side).	Elimination of signalized intersection at Tefft restricts vehicular movements to right-ins and right-outs. Alternative access is provided from Kingston Road and Beath Street.	Provision of joint signalized intersection at Beath / West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	2G - 2	X			X		X	70 skew >		X	X			west side only		Overall impacts would be less (could eliminate 2 partial takings, and 12 full takings).													
	2G - 3	X			X		X	70 skew >		X	X			east side only		Overall impacts would be worse (would require more full property takings).													
	2H - 1	X			X		X	70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
	2H - 2	X			X		X	70 skew >		X		X		west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).													
	2H - 3	X			X		X	70 skew >		X		X		east side only		Overall impacts would be worse (would require more full property takings).													
	2I - 1	X			X		X	70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
	2I - 2	X			X		X	70 skew >		X			X	west side only		Overall impacts would be less (could eliminate 11 full takings on the east side, but need 7 more full takings on the west side).													
	2I - 3	X			X		X	70 skew >		X			X	east side only		Overall impacts would be worse (would require more full property takings).													
	2J - 1	X			X			X		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings), 10 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
	2J - 2	X			X			X		X	X			west side only		Overall impacts would be less (could eliminate 2 partial takings, and 12 full takings).													
	2J - 3	X			X			X		X	X			east side only		Overall impacts would be worse (would require more full property takings).													
	2K - 1	X			X			X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
	2K - 2	X			X			X		X		X		west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).													
	2K - 3	X			X			X		X		X		east side only		Overall impacts would be worse (would require more full property takings).													

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																	LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
		along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
	2L - 1	X			X			X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m frontage along 8 residential buildings (assume partial takings) 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be used in NB direction only, no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	2L - 2	X			X			X		X			X	west side only		Overall impacts would be less (could eliminate 11 full takings on the east side, but need 7 more full takings on the west side).												
	2L - 3	X			X			X		X			X	east side only		Overall impacts would be worse (would require more full property takings).												
PLATFORM CONFIGURATIONS	3A - 1		X		X		X	< offset >	X		X			both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 26m. West Side - no property requirements (potential for frontage requirements along apartment complex, depending on left turn lane length); East Side - no property requirements (potential for daylighting triangle requirement at NE quadrant with Tefft).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 2 residential buildings (assume partial takings) 8 full property takings, 10 - 0m frontage along West Hill C.I., 2 partial takings; East Side - 2m along 6 residential buildings (assume partial takings).	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, far side platforms where TSP can be used in both directions, but no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can potentially be provided at both ends of the SB platform, at one end of the NB platform where ramps can be accommodated to	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.	Bike lanes provided through the local community, via Fairwood Crescent and Beath Street, to a new signalized intersection at Morningside / Beath (most circuitous route through the local community).	Elimination of signalized intersection at Tefft removes all existing pedestrian movements between Kingston and Beath / West Hill C.I. signalized intersections (Note: West Hill P.S. at SE quadrant of Morningside / Tefft).	Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. improves pedestrian movements, although 1 or 2 crosswalks potentially eliminated for traffic operational issues (Note: West Hill C.I. on the west side).	Elimination of signalized intersection at Tefft restricts vehicular movements to right-ins and right-outs. Alternative access is provided from Kingston Road and Beath Street.	Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	3A - 2		X		X		X	< offset >	X		X			west side only		Overall impacts would be less (could eliminate 6 partial takings on the east side).												
	3A - 3		X		X		X	< offset >	X		X			east side only		Overall impacts would be significantly worse (would require more full property takings).												
	3B - 1		X		X		X	< offset >	X			X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings), 1 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	3B - 2		X		X		X	< offset >	X			X		west side only		Overall impacts would be worse (could eliminate 4 partial takings on the east side, but need 4 more full takings and 3 partial takings).												
	3B - 3		X		X		X	< offset >	X			X		east side only		Overall impacts would be significantly worse (would require more full property takings).												
	3C - 1		X		X		X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings, however 1 is a potential full taking), 8 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 8 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, centre platform where TSP can be used in SB direction only, no transversing of NB lanes).	Centre platform; provides very good access via at-grade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	3C - 2		X		X		X	< offset >	X				X	west side only		Overall impacts would be less (could eliminate 4 partial and 8 full takings on the east side).												
	3C - 3		X		X		X	< offset >	X				X	east side only		Overall impacts would be worse (would require more full property takings).												
	3D - 1		X		X		X	70 skew >		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 12 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	3D - 2		X		X		X	70 skew >		X	X			west side only		Overall impacts would be less (could eliminate 5 partial takings, and 12 full takings on the east side).												
	3D - 3		X		X		X	70 skew >		X	X			east side only		Overall impacts would be worse (would require more full property takings).												
	3E - 1		X		X		X	70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 2m along 3 residential buildings (assume partial takings), 9 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings), 1 full property taking.		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB direction only, no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.						
	3E - 2		X		X		X	70 skew >		X	X			west side only		Overall impacts would be worse (could eliminate 4 partial takings on the east side, but need 4 more full takings and 3 partial takings).												
	3E - 3		X		X		X	70 skew >		X	X			east side only		Overall impacts would be significantly worse (would require more full property takings).												

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																	LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
		along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
LRT RIGHT-OF-WAY IN CENTRE OF ROADWAY, BIKE LANES ALONG LOCAL ROADS TO BEATH INTERSECTION CONFIGURATIONS	3F - 1		X		X		X	70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 2 residential buildings (assume partial takings), 9 full property taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.		LRT right-of-way limits access to right-in and right-out only; location of a signalized intersection south of the driveways may minimize risky manoevres for SB vehicles to use intersection.		Maintenance of a signalized intersection at West Hill C.I. maintains existing pedestrian movements (Note: West Hill C.I. on the west side).		Provision of joint signalized intersection at Beath / West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	3F - 2		X		X		X	70 skew >		X			X	west side only		Overall impacts would be similar (could eliminate 2 partial takings and 8 full takings on the east side, but need 5 more full takings and 4 partial takings).													
	3F - 3		X		X		X	70 skew >		X			X	east side only		Overall impacts would be worse (would require more full property takings).													
	3G - 1		X		X			X		X	X			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 9 full property takings, 2 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however 1 is potential full taking due to reduced frontage setback), 12 full property takings.		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.					
	3G - 2		X		X			X		X	X			west side only		Overall impacts would be less (could eliminate 5 partial takings, and 12 full takings on the east side).													
	3G - 3		X		X			X		X	X			east side only		Overall impacts would be worse (would require more full property takings).													
	3H - 1		X		X			X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 14 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings), 3 full property taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
	3H - 2		X		X			X		X		X		west side only		Overall impacts would be worse (could eliminate 4 partial takings and 2 full takings on the east side, but need 4 more full takings and 3 partial takings).													
	3H - 3		X		X			X		X		X		east side only		Overall impacts would be significantly worse (would require more full property takings).													
	3I - 1		X		X			X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 2 residential buildings (assume partial takings), 9 full property taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP can be potentially used in NB direction only, but no transversing of NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
	3I - 2		X		X			X		X			X	west side only		Overall impacts would be similar (could eliminate 2 partial takings and 8 full takings on the east side, but need 5 more full takings and 4 partial takings).													
	3I - 3		X		X			X		X			X	east side only		Overall impacts would be similar.													
	4A - 1	X		X		RIRO			X			X		both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along apartment complex (assume partial taking), 2m frontage along 10 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks); East Side - 2m frontage along commercial mall with loss of parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage along commercial building	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takings), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 9 full property takings.	Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection provides for safe manoeuvres of NB left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. intersection may encourage unsafe manoeuvres to use intersection.		Maintenance of signalized intersection at West Hill C.I. maintains all existing pedestrian movements (Note: West Hill C.I. on the west side).		Maintenance of signalized intersection at Beath will maintain existing vehicular movements at West Hill C.I., but restricts vehicular movements to right-ins and right-outs at Beath and Warnsworth.	Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a number of acquired frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Beath and Warnsworth and the availability of reasonable alternative routes (alternative routes: Beath to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via via per existing left turn at Tefft).
	4A - 2	X		X		RIRO			X			X		west side only		Overall impacts would be less (could eliminate 5 partial takings, and 9 full takings on the east side but need 4 more full takings on the west side).													
	4A - 3	X		X		RIRO			X			X		east side only		Overall impacts would be worse (would require more full property takings).													
	4B - 1	X		X		RIRO			X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 5 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings), 12 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
	4B - 2	X		X		RIRO			X				X	west side only		Overall impacts would be less (could eliminate 5 partial takings and 12 full takings, but need 3 more full takings on the west side).													
	4B - 3	X		X		RIRO			X				X	east side only		Overall impacts would be worse (would require more full property takings).													

LRT RIGHT-OF-WAY IN CENTRE OF ROADWAY TO WEST HILL THEN TRAVERSES TO THE EAST SIDE, BIKE LANES ALONG MORNINGSIDE, TEFFT REMAINS SIGNALIZED, VARIOUS BEATH / WEST HILL AND PLA

Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
	along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
4C - 1	X		X			X	< offset >	X			X		both sides	(assume full taking given minimal remainining setback), 2m along 5 residential buildings (assume partial takings).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 7 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 10 full property takings.	Maintenance of signalized intersection at Tefft will impact speed and reliability (although potentially mitigated with TSP).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.	Bike lanes along Morningside Avenue are consistent with the City's Bike Plan (most direct route).	Maintenance of signalized intersection at Tefft maintains all existing pedestrian movements (Note: West Hill P.S. at SE quadrant of Morningside / Tefft).	Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. improves pedestrian movements, although 1 or 2 crosswalks potentially eliminated for traffic operational issues (Note: West Hill C.I. on the west side).	Maintenance of signalized intersection at Tefft maintains all existing vehicular movements.	Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
4C - 2	X		X			X	< offset >	X			X		west side only		Overall impacts would be less (could eliminate 3 partial takings, and 10 full takings on the east side but need 4 more full takings on the west side).														
4C - 3	X		X			X	< offset >	X			X		east side only		Overall impacts would be worse (would require more full property takings).														
4D - 1	X		X			X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takingsassume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 11 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides very good access via at-grade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
4D - 2	X		X			X	< offset >	X				X	west side only		Overall impacts would be less (could eliminate 11 full takings on the east side but need 4 more full takings on the west side).														
4D - 3	X		X			X	< offset >	X				X	east side only		Overall impacts would be worse (would require more full property takings).														
4E - 1	X		X			X	70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
4E - 2	X		X			X	70 skew >		X		X		west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).														
4E - 3	X		X			X	70 skew >		X		X		east side only		Overall impacts would be worse (would require more full property takings).														
4F - 1	X		X			X	70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
4F - 2	X		X			X	70 skew >		X			X	west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).														
4F - 3	X		X			X	70 skew >		X			X	east side only		Overall impacts would be worse (would require more full property takings).														
4G - 1	X		X				X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.							
4G - 2	X		X				X		X		X		west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).														
4G - 3	X		X				X		X		X		east side only		Overall impacts would be worse (would require more full property takings).														
4H - 1	X		X				X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.							
4H - 2	X		X				X		X			X	west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).														
4H - 3	X		X				X		X			X	east side only		Overall impacts would be worse (would require more full property takings).														

AY IN CENTRE OF ROADWAY TO WEST HILL THEN TRAVERSES TO THE EAST SIDE, BIKE LANES ALONG MORNINGSIDE, TEFFT IS UNSIGNALIZED, VARIOUS BEATH / WEST HILL AND PLATFORM CONFIGURATIONS

Option	Bike Lanes: along Morningside	Bike Lanes: along local roads	Tefft: signalized	Tefft: signalized with SBLT restrictions	Beath: unchanged (unsignalized)	Beath: signalized	Beath: signalized + realignment	West Hill: unchanged (signalized)	West Hill: relocated	Platform: side - far side	Platform: side - one side only	Platform: centre	Comments
5A - 1	X			X	RIRO			X			X		both sides
5A - 2	X			X	RIRO			X			X		west side only
5A - 3	X			X	RIRO			X			X		east side only
5B - 1	X			X	RIRO			X				X	both sides
5B - 2	X			X	RIRO			X				X	west side only
5B - 3	X			X	RIRO			X				X	east side only
5C - 1	X			X		X	< offset >	X			X		both sides
5C - 2	X			X		X	< offset >	X			X		west side only
5C - 3	X			X		X	< offset >	X			X		east side only
5D - 1	X			X		X	< offset >	X				X	both sides
5D - 2	X			X		X	< offset >	X				X	west side only
5D - 3	X			X		X	< offset >	X				X	east side only
5E - 1	X			X		X	70 skew >		X		X		both sides
5E - 2	X			X		X	70 skew >		X		X		west side only
5E - 3	X			X		X	70 skew >		X		X		east side only
5F - 1	X			X		X	70 skew >		X			X	both sides
5F - 2	X			X		X	70 skew >		X			X	west side only
5F - 3	X			X		X	70 skew >		X			X	east side only

Option	Property Requirements: Kingston to South of Warnsworth	Property Requirements: South of Warnsworth to Highland Creek
5A - 1	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along apartment complex (assume partial taking), 2m frontage along 8 residential buildings (assume partial takings); East Side - 2m frontage along commercial mall with loss of parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage along commercial building (assume full taking given minimal remaining setback), 2m along 5 residential buildings (assume partial takings).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takings), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 9 full property takings.
5A - 2		Overall impacts would be less (could eliminate 5 partial takings, and 9 full takings on the east side but need 4 more full takings on the west side).
5A - 3		Overall impacts would be worse (would require more full property takings).
5B - 1		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings), 8 full property takings, 5 - 0m frontage along West Hill C.I.; East Side - 2m along 6 residential buildings (assume partial takings), 12 full property taking.
5B - 2		Overall impacts would be less (could eliminate 5 partial takings and 12 full takings, but need 3 more full takings on the west side).
5B - 3		Overall impacts would be worse (would require more full property takings).
5C - 1		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 7 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 10 full property takings.
5C - 2		Overall impacts would be less (could eliminate 3 partial takings, and 10 full takings on the east side but need 4 more full takings on the west side).
5C - 3		Overall impacts would be worse (would require more full property takings).
5D - 1		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takingsassume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 5 full property takings, 4 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 11 full property takings.
5D - 2		Overall impacts would be less (could eliminate 11 full takings on the east side but need 4 more full takings on the west side).
5D - 3		Overall impacts would be worse (would require more full property takings).
5E - 1		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.
5E - 2		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).
5E - 3		Overall impacts would be worse (would require more full property takings).
5F - 1		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.
5F - 2		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).
5F - 3		Overall impacts would be worse (would require more full property takings).

Option	Transit Service: LRT Operations: Kingston to South of Warnsworth	Transit Service: LRT Operations: North of Warnsworth to Highland Creek	Transit Service: Platform Accessibility	Roadway Geometrics
5A - 1	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.
5A - 2				
5A - 3				
5B - 1		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.
5B - 2				
5B - 3				
5C - 1		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.
5C - 2				
5C - 3				
5D - 1		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides very good access via at-grade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.
5D - 2				
5D - 3				
5E - 1		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.
5E - 2				
5E - 3				
5F - 1		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.
5F - 2				
5F - 3				

Option	Safety: Pedestrians	Safety: Vehicular / Roadways	Safety: East Side Driveways Across from West Hill C.I.	Bike Operations
5A - 1	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection provides for safe manoeuvres of NB left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. intersection may encourage unsafe manoeuvres to use intersection.	Bike lanes along Morningside Avenue are consistent with the City's Bike Plan (most direct route).
5A - 2				
5A - 3				
5B - 1	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.			
5B - 2				
5B - 3				
5C - 1	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.		LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.	
5C - 2				
5C - 3				
5D - 1	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.		
5D - 2				
5D - 3				
5E - 1	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.		LRT right-of-way limits access to right-in and right-out only; location of a signalized intersection south of the driveways may minimize risky manoevres for SB vehicles to use intersection.	
5E - 2				
5E - 3				
5F - 1	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.			
5F - 2				
5F - 3				

Option	Traffic / Accessibility Impacts: Pedestrians: Kingston to South of Warnsworth	Traffic / Accessibility Impacts: Pedestrians: South of Warnsworth to Highland Creek	Traffic / Accessibility Impacts: Vehicular: Kingston to South of Warnsworth	Traffic / Accessibility Impacts: Vehicular: South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Community Impacts: Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
5A - 1	Elimination of signalized intersection at Tefft removes all existing pedestrian movements between Kingston and Beath / West Hill C.I. signalized intersections (Note: West Hill P.S. at SE quadrant of Morningside / Tefft).	Maintenance of signalized intersection at West Hill C.I. maintains all existing pedestrian movements (Note: West Hill C.I. on the west side).	Elimination of signalized intersection at Tefft restricts vehicular movements to right-ins and right-outs. Alternative access is provided from Kingston Road and Beath Street.	Maintenance of signalized intersection at West Hill C.I. and unsignalized intersection at Beath will maintain existing vehicular movements at West Hill C.I., but restricts vehicular movements to right-ins and right-outs at Beath and warnsworth.	Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a number of acquired frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Beath and Warnsworth and the availability of reasonable alternative routes (alternative routes: Beath to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
5A - 2					
5A - 3					
5B - 1					
5B - 2					
5B - 3					
5C - 1		Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. improves pedestrian movements, although 1 or 2 crosswalks potentially eliminated for traffic operational issues (Note: West Hill C.I. on the west side).		Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. maintains existing vehicular movements.	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
5C - 2					
5C - 3					
5D - 1					
5D - 2					
5D - 3					
5E - 1		Maintenance of a signalized intersection at West Hill C.I. maintains existing pedestrian movements (Note: West Hill C.I. on the west side).		Provision of joint signalized intersection at Beath / West Hill C.I. maintains existing vehicular movements. Warnsworth will be	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston
5E - 2					
5E - 3					
5F - 1					
5F - 2					
5F - 3					

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																	LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
		along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
LRT RIGHT-OF-W	5G - 1	X			X			X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.					restricted to right-ins and right-outs.	and local roads).
	5G - 2	X			X			X		X		X		west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).													
	5G - 3	X			X			X		X		X		east side only		Overall impacts would be worse (would require more full property takings).													
	5H - 1	X			X			X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks, provides safe pedestrian crossing of LRT tracks.						
	5H - 2	X			X			X		X			X	west side only		Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east side, but need 4 more full takings on the west side).													
	5H - 3	X			X			X		X			X	east side only		Overall impacts would be worse (would require more full property takings).													
	6A - 1		X		X		X	< offset >	X			X		both sides	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m. Typical mid-block cross-section requirement is 26m. West Side - no property requirements (potential for frontage requirements along apartment complex, depending on left turn lane length); East Side - no property requirements (potential for daylighting triangle requirement at NE quadrant with Tefft).	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 9 residential buildings (assume partial takings), 1 full property taking.	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning movements potentially mitigated with new signalized intersection at Beath).	Provides poor LRT operations in terms of speed and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB vehicles, the next intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.						Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads).
	6A - 2		X		X		X	< offset >	X			X		west side only		Overall impacts would be worse (could eliminate 4 partial takings on the east side, but need 4 more full takings and 3 partial takings).													
	6A - 3		X		X		X	< offset >	X			X		east side only		Overall impacts would be significantly worse (would require more full property takings).													
	6B - 1		X		X		X	< offset >	X				X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 7 full property takings, 6 - 0m frontage along West Hill C.I.; East Side - 2m along 5 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 10 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides very good access via at-grade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	6B - 2		X		X		X	< offset >	X				X	west side only		Overall impacts would be less (could eliminate 5 partial takings, and 10 full takings on the east side but need 1 more full taking on the west side).													
	6B - 3		X		X		X	< offset >	X				X	east side only		Overall impacts would be worse (would require more full property takings).													
	6C - 1		X		X		X	70 skew >		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m along 1 residential building (assume partial taking), 8 full property takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 7 residential buildings (assume partial takings, however potential for 2 full property takings due to reduced frontage setbacks).		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does nort work as effectively in order to transverse NB lanes). **Note: LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.**	Side platforms (one side only); provide poor access due to its distant location from the intersection.	Meets 70 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms. Provides limited horizontal sight distance (NB) due to potential retaining wall requirement.	Pedestrians to cross uncontrolled LRT/sidewalk crossing to access LRT platforms; uncontrolled intersection does not provide safe pedestrian crossing of LRT tracks.		Provision of Service Road improves safety for right-in and right-out access of driveways.	Bike lanes provided through the local community, via Fairwood Crescent and Beath Street, to a new signalized intersection at Morningside / Beath (most circuitous route through the local community).	Elimination of signalized intersection at Tefft removes all existing pedestrian movements between Kingston and Beath / West Hill C.I. signalized intersections (Note: West Hill P.S. at SE quadrant of Morningside / Tefft).	Maintenance of a signalized intersection at West Hill C.I. maintains existing pedestrian movements (Note: West Hill C.I. on the west side).	Elimination of signalized intersection at Tefft restricts vehicular movements to right-ins and right-outs. Alternative access is provided from Kingston Road and Beath Street.	Provision of joint signalized intersection at Beath / West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads); east side driveways across from West Hill C.I. are provided right-in and right-out access via Service Road provided.
	6C - 2		X		X		X	70 skew >		X		X		west side only		Overall impacts would be similar (could eliminate 7 partial takings on the east side, but need 2 more full takings and 2 partial takings).													
	6C - 3		X		X		X	70 skew >		X		X		east side only		Overall impacts would be significantly worse (would require more full property takings).													
	6D - 1		X		X		X	70 skew >		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 4 residential buildings (assume partial takings), 7 full property takings, 6 - 0m frontage along West Hill C.I.; East Side - 2m along 4 residential buildings (assume partial takings, however 2 are potential full takings due to reduced frontage setbacks), 11 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).	Centre platform; provides very good access via at-grade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for mobility impaired passengers).	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks.						
	6D - 2		X		X		X	70 skew >		X			X	west side only		Overall impacts would be less (could eliminate 2 partial takings, and 11 full takings on the east side but need 1 more full taking on the west side).													
	6D - 3		X		X		X	70 skew >		X			X	east side only		Overall impacts would be worse (would require more full property takings).													

LRT RIGHT-OF-WAY TRAVERSES TO THE EAST SIDE, BIKE LANES ALONG LOCAL ROADS, TEFFT IS UNSIGNALIZED, VARIOUS BEATH / WEST HILL AND PLATFORM CONFIGURATIONS

	Option	Bike Lanes		Tefft		Beath			West Hill		Platform			Comments	Property Requirements		Transit Service			Roadway Geometrics	Safety			Bike Operations	Traffic / Accessibility Impacts				Community Impacts
																	LRT Operations		Platform Accessibility						Pedestrians		Vehicular		
		along Morningside	along local roads	signalized	signalized with SBLT restrictions	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.		Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	Considers net property impacts, barrier effects (pedestrian , vehicular) of West Hill community (i.e. between east and west side of Morningside), and traffic / noise / safety impacts on adjacent local roads.
LRT RIGHT-OF-WAY IN CENTRE OF ROADWAY TO WEST HILL THE	6E - 1		X		X			X		X		X		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m along 1 residential building (assume partial taking), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 3 residential buildings (assume partial takings), 1 full taking.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does nort work as effectively in order to transverse NB lanes). **Note: Roadway DS=60 kph, which marginally improves the distance between the platforms and the intersection.**	Side platforms (one side only); provide poor access due to its distant location from the intersection.	Meets 60 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms. Provides limited horizontal sight distance (NB) due to potential retaining wall requirement.	Pedestrians to cross uncontrolled LRT/sidewalk crossing to access LRT platforms; uncontrolled intersection does not provide safe pedestrian crossing of LRT tracks.		Provision of Service Road improves safety for right-in and right-out access of driveways.					Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingston and local roads); east side driveways across from West Hill C.I. are provided right-in and right-out access via Service Road provided.
	6E - 2		X		X			X		X		X		west side only		Overall impacts would be worse (could eliminate 3 partial takings on the east side, but need 4 more full takings and 2 partial takings).													
	6E - 3		X		X			X		X		X		east side only		Overall impacts would be significantly worse (would require more full property takings).													
	6F - 1		X		X			X		X			X	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 2m along 1 residential building (assume partial taking), 4 full property takings, 15 - 0m frontage along West Hill C.I.; East Side - 2m along 3 residential buildings (assume partial takings), 1 full taking.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does nort work as effectively in order to transverse NB lanes). **Note: Roadway DS=60 kph, which improves the distance between the platforms and the intersection.**	Centre platform; provides poor access due to its distant location from the intersection.	Meets 60 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms. Provides limited horizontal sight distance (NB) due to potential retaining wall requirement.	Pedestrians to cross uncontrolled LRT/sidewalk intersection to access LRT platforms; uncontrolled intersection does not provide safe pedestrian crossing of LRT tracks.								
	6F - 2		X		X			X		X			X	west side only		Overall impacts would be worse (could eliminate 3 partial takings on the east side, but need 4 more full takings and 2 partial takings).													
	6F - 3		X		X			X		X			X	east side only		Overall impacts would be significantly worse (would require more full property takings).													