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:

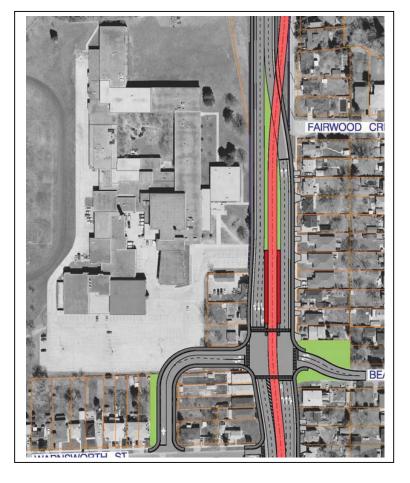
- Location of the LRT on the east side of Morningside Avenue north of West Hill Collegiate;
- Two side platforms of the north side of Warnsworth Street to serve the neighbourhood and the Collegiate;

- 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.





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

	Option	Bike	Lanes	Te	efft		Beath		Wes	st Hill		Platform		Comments
	σριιστι	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	Х		Х		RIRO			Х		X			both sides
	1A - 2	X		Χ		RIRO			Χ		Х			west side only
	1A - 3	Х		Х		RIRO			Х		Х			east side only
	1B - 1	X		Х		RIRO			X			Х		both sides
	1B - 2	X		Х		RIRO			X			Х		west side only
	1B - 3	X		Х		RIRO			Χ			Х		east side only
	1C - 1	X		X		RIRO			X				Х	both sides
	1C - 2	X		X		RIRO			X				Х	west side only
	1C - 3	X		X		RIRO			X				X	east side only
	1D - 1	X		Χ			X	< offset >	X		Х			both sides
	1D - 2	X		X			X	< offset >	X		Х			west side only
	1D - 3	X		Χ			X	< offset >	X		Х			east side only
	1E - 1	X		Х			X	< offset >	X			Х		both sides
z	1E - 2	X		X			X	< offset >	X			Х		west side only
Ō	1E - 3	X		Х			X	< offset >	X			Х		east side only
CRIPTION	1F - 1	Х		Х			X	< offset >	X				X	both sides
₹	1F - 2	X		Х			X	< offset >	X				X	west side only
ပ္တ	1F - 3	Х		Х			X	< offset >	X				Х	east side only
)ES	1G - 1	Х		Х			X	< 70 skew >		Х	Х			both sides
	1G - 2	X		Х			X	< 70 skew >		Х	Х			west side only
BRIEF	1G - 3	X		Х			X	< 70 skew >		Х	Х			east side only
l &	1H - 1	X		Х			X	< 70 skew >		Х		Х		both sides
_	1H - 2	X		Х			X	< 70 skew >		Х		Х		west side only
	1H - 3	X		Х			X	< 70 skew >		Х		Х		east side only
	11 - 1	X		Х			X	< 70 skew >		Х			X	both sides
	11 - 2	X		Х			X	< 70 skew >		Х			X	west side only
	11 - 3	X		X			Х	< 70 skew >		Х			Х	east side only
	1J - 1	X		Х				X		Х	X			both sides
	1J - 2	Х		Х				Х		Х	X			west side only
	1J - 3	X		X				X		X	Х			east side only
	1K - 1	X		X				X		X		X		both sides
	1K - 2	X		X				Х		X		X		west side only
	1K - 3	X		X				X		X		Х		east side only
1	1L - 1	Х		Х				Х		X			X	both sides
	1L - 2	Х		Х				Х		X			X	west side only
	1L - 3	X		Х	7.5	DIEG		Х		Х			Х	east side only
	2A - 1	Х			X	RIRO			X		X			both sides
	2A - 2	Х			X	RIRO			X		X			west side only
	2A - 3	Х			X	RIRO			X		Х	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		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			Х	RIRO			X			Х		east side only
	2C - 1	X			Х	RIRO			X				X	both sides
	2C - 2	X			Х	RIRO			X				X	west side only
	2C - 3	X			Х	RIRO		-#	X		v		Х	east side only
	2D - 1	X			Х		X	< offset >	X		X			both sides
	2D - 2	X			Х		Х	< offset >	X		Х			west side only
I	2D - 3	Х			Х		Х	< offset >	Х		Х			east side only

	Option	Bike	Lanes	Te	efft		Beath		Wes	st Hill		Platform		Comments
	Оршон	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	Commone
	2E - 1	Х			Х		Х	< offset >	Х			Х		both sides
	2E - 2	Х			Х		Χ	< offset >	Χ			Х		west side only
	2E - 3	Х			Х		Χ	< offset >	Χ			Х		east side only
	2F - 1	Х			Х		Χ	< offset >	Χ				Х	both sides
	2F - 2	X			X		X	< offset >	X				Х	west side only
	2F - 3	X			X		X	< offset >	X				Х	east side only
	2G - 1	X			X		X	< 70 skew >		X	Х			both sides
	2G - 2	Х			Х		Χ	< 70 skew >		Х	Х			west side only
	2G - 3	Х			Х		Χ	< 70 skew >		X	Х			east side only
	2H - 1	Х			Х		Χ	< 70 skew >		X		Х		both sides
	2H - 2	Х			Х		Χ	< 70 skew >		X		Х		west side only
	2H - 3	Х			Х		Χ	< 70 skew >		Х		Х		east side only
	2l - 1	Х			Х		Χ	< 70 skew >		Х			Х	both sides
	2l - 2	X			Х		Χ	< 70 skew >		Х			Х	west side only
	2I - 3	X			Х		Χ	< 70 skew >		X			Χ	east side only
	2J - 1	X			Х			Х		Х	Х			both sides
	2J - 2	Х			Х			X		X	Х			west side only
	2J - 3	X			Х			X		X	Х			east side only
	2K - 1	Х			Х			X		X		Х		both sides
	2K - 2	X			Х			X		Х		Х		west side only
	2K - 3	X			Х			X		X		Х		east side only
	2L - 1	Х			Х			X		X			Χ	both sides
	2L - 2	Х			Х			X		X			Χ	west side only
	2L - 3	X			Х			Х		Х			Χ	east side only
	3A - 1		Χ		Х		Х	< offset >	Х		Х			both sides
_	3A - 2		X		X		Х	< offset >	Х		Х			west side only
Beath	3A - 3		X		X		X	< offset >	X		Х			east side only
Be	3B - 1		X		X		Χ	< offset >	X			Х		both sides
₽ ₩	3B - 2		Х		X		Χ	< offset >	Χ			Х		west side only
signalized als at Tefft	3B - 3		Х		X		Χ	< offset >	Χ			Х		east side only
at,	3C - 1		Х		X		Χ	< offset >	X				Х	both sides
sig als	3C - 2		X		X		X	< offset >	X				Χ	west side only
re	3C - 3		X		X		Χ	< offset >	Χ				Х	east side only
l sic	3D - 1		Х		X		Χ	< 70 skew >		Х	Х			both sides
Ve re	3D - 2		X		X		Χ	< 70 skew >		Х	Х			west side only
with bike lanes along local roads, will require signals intersectiion, and wouls not have signals	3D - 3		X		X		Χ	< 70 skew >		X	Х			east side only
s, v	3E - 1		X		X		Χ	< 70 skew >		Х		Х		both sides
ad;	3E - 2		X		X		Χ	< 70 skew >		X		Х		west side only
ja či	3E - 3		X		X		Χ	< 70 skew >		X		Х		east side only
	3F - 1		X		X		Χ	< 70 skew >		X			Х	both sides
일	3F - 2		Х		Х		Χ	< 70 skew >		Х	ļ		Х	west side only
ng i, a	3F - 3		Х		X		X	< 70 skew >		Х	ļ		Χ	east side only
l ole loi	3G - 1		X		X			X		Х	Х			both sides
SS (3G - 2		X		X			X		Х	Х			west side only
ane	3G - 3		X		X			Х		Х	Х			east side only
e le e lte	3H - 1		X		X			Х		Х		Х		both sides
××	3H - 2		Х		Х			Х		Х		Х		west side only
) h	3H - 3		X		X			Х		Х	ļ	Х		east side only
wit	3I - 1		X		X			Х		Х	ļ		Χ	both sides
	3I - 2		X		Х			Х		Х			Х	west side only

	Option	Bike	Lanes	Te	efft		Beath		Wes	st Hill		Platform		Comments
	Ориоп	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	Comments
	3I - 3		Х		Х			Х		Х			Х	east side only
	4A - 1	Х		Х		RIRO			Х			Х		both sides
	4A - 2	Х		Х		RIRO			Х			Х		west side only
	4A - 3	Х		Х		RIRO			Х			Х		east side only
	4B - 1	Х		Х		RIRO			Х				Х	both sides
	4B - 2	Х		Х		RIRO			Х				Х	west side only
	4B - 3	Х		Х		RIRO			Х				Х	east side only
	4C - 1	Х		Х			Х	< offset >	Х			Х		both sides
	4C - 2	Х		Х			Х	< offset >	Х			Х		west side only
	4C - 3	Х		Х			Х	< offset >	Х			Х		east side only
	4D - 1	Х		Х			Х	< offset >	Х				Х	both sides
	4D - 2	Х		Х			Х	< offset >	Х				Х	west side only
	4D - 3	Х		Х			Х	< offset >	Х				Х	east side only
	4E - 1	X		X			X	< 70 skew >		Х		Х		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
Ī	4F - 1	X		X			X	< 70 skew >		X			Х	both sides
Ī	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		Х		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		^	Х	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			Х	RIRO			Y	l A		Х	Λ	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				Х	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	TUITO	Х	< offset >	X			Х	Х	both sides
	5C - 2	X			X		X	< offset >	X			X		west side only
	5C - 3	X			X		X	"	X			X		4 2 1 1
	5D - 1	X			X	 	X	< offset >	X			^	Х	east side only 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 >	^	Х		Х	^	both sides
	5E - 2	X			X		X	< 70 skew >		X		X		west side only
-	5E - 3	X			X		X	< 70 skew >		X		X		
	5F - 1	X			X		X	< 70 skew >		X		^	Х	east side only both sides
	5F - 1 5F - 2	X			X		X			X			X	west side only
	5F - 2 5F - 3	X			X	—	X	< 70 skew > < 70 skew >					<u>х</u> Х	
						 	Λ			X			Λ	east side only
	5G - 1	X			X	—		X		X		X		both sides
	5G - 2	X			Х	——		X		Х		X		west side only
	5G - 3	X			Х			X		X		Х	V	east side only
	5H - 1	X			Х			X		Х			X	both sides
	5H - 2	X			X			X		X			Х	west side only
	5H - 3	Х	7.5		Х			X		Х		\ <u>'</u>	Х	east side only
1 L	6A - 1		X		Х		X	< offset >	X	1	l	Х		both sides

						1	1						1		TTC - SCARBOROUGH MAL	/ERN LRT - WEST HILL C.I.	AREA SUMMARY EVALUATION MATRIX									
	Bike L	Lanes	Teff	ft		Beath			West H	ill	Platfo	orm		Prope	erty Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
Option	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment		unchanged (signalized)	relocated		centre	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	:	(both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1). OP designation for 30m. Typica 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.1; 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 tanes along Morningside
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. Typica 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	has a moderate impact: net properly 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; Teffit to Warnsworth, via U-turn at West Hill C.I. or Kingston Road; Warnsworth to Beath, via left turn at Teff thand local
1C - 1	x		x		RIRO				x			x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). OP designation for 30m. Typica mid-block cross-section requirement is 30m. West Side - 2m frontage along 5 residential buildings (assume partial takings, 10 - 40m frontage along West Hill C.1; 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	roads; Warnsworth to Tefft, via per existing left turn at Tefft).
1D-1	x		x			x	< offset	t> .	x		•		both sides	_	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typica 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	t>	x		x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typica 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, bnowever 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).			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, via per

		Bike Lanes	Tefft		Beath	Wes	st Hill		Platform		Property Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
	Option	along Morningside	signalized unsignalized	unchanged (unsignalized)	signalized signalized	unchanged (signalized)	relocated	side - far side	side - one side only	Comments	Kingston to South of South of Warnsworth to Highland Creek		LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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.
DESCRIPTION	1F-1	х	x		X < offs	et> X				X both sides	Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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 4 validential takings), 4 - 0m frontage along 12 residential buildings (assume partial takings, 4 - 0m frontage along 12 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks), 8 full property taking.	1	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).			Good	Good	Poor	Very Good	Very Good	Very Good	
BRIEF	1G-1	x	x		X < 70 sk	(ew >	x	x		both sides	Existing right-of way width varies (28m - 30m except north of West Hill C.1.). 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.	1	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 sk	(ew >	х		x	both sides	Existing right-of way width varies (26m - 30m except north of West Hill C.1.) 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.1; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property takings.	Maintenance of signalized intersection at Tefft will	ly	Fair		Good	Good	Poor	Very Good	Good	Good	
	11-1	x	x		X < 70 sk	(ew >	х			X both sides	Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings, 15 - 0m frontage along West Hill C.1.; 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		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
	1J - 1	x	x		x		х	х		both sides	Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; East Side - 2m along 6 residential buildings (assume partial takings, however 1 is potential full taking, however 1 is potential full taking due to reduced frontage setback), 14 full property takings.	1	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		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).

	Bike	Lanes	Tel	fft		Beath	ı	Wes	t Hill	PI	atform			Proper	ty Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
 _	•						nent	(pe;			<u>></u>		_			ı	RT Operations								ipacis	Considers and account immedia
Option	along Morningsid	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignn	unchanged (signaliz	relocated	side - far side	side - one side on	centre	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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 I noise / safety impacts on adjacent local roads.
1K-1	х		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 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	Good	Good	
1L-1	х		x				x		x			х	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.1,). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 6 residential bulkings (assume partial takings, however 1 is a potential full taking), 6 full property takings, 6 - 0m frontage along West Hill C.1; 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		Implementation of the LRT right-of- way and bike lanes along Morningside has a moderate impact: net property impacts will be moderate but a
2B - 1	х			х	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	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 Warnsworth, via U-turn at West Hill
2C - 1	х			х	RIRO			x				х	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		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).

	Bike Lane	es Tefft			Beath	w	/est Hil	ı	Platfo	m		Property	y Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
Option	along Morningside	signalized	unsignalized	unchanged (unsignalized)	signalized gnalized + realignment	nchanged (signalized)		relocated side - far side	side - one side only	centre	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek		LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	х		x		X <offsi< td=""><td>et > X</td><td></td><td>x</td><td></td><td></td><td>both sides</td><td></td><td>Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics 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).</td><td>al e.</td><td>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).</td><td>f Fair</td><td></td><td>Good</td><td>Good</td><td>Poor</td><td>Very Good</td><td>Fair</td><td>Good</td><td></td></offsi<>	et > X		x			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics 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).	al e.	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).	f Fair		Good	Good	Poor	Very Good	Fair	Good	
2E - 1	х		x		X < offsi	et> X			x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics 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).	al e	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).	3		Good	Good	Poor	Very Good	Fair	Good	Implementation of the LRT right-of- way and bike lanes along Morningside has a minor impacts: 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).
2F - 1	x		x		X < offs	et > X				x		Existing right-of way width varie (26m - 30m except at Kingston approaches). OP designation fo 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along apartment complex (assume partial taking), 2m frontage along tesidential buildings (assume partial takings); East Side - 2m frontage along commercial mall with loss of parking (assume	is 30m. West Side - 2m frontage of 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.	al	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).			Good	Good	Poor	Very Good	Fair	Good	, c
2G - 1	х		x		X < 70 sk	xew>		x x			both sides	partial taking), 2m frontage alon commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage alon commercial building (assume fu taking given minimal remaining	19 Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics mid-block cross-section requirement gi s30m. West Side - 2m frontage ill along 2 residential buildings (assume partial takings), 10 full property I 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.	al Beath).	Provides very good LRT operations in terms of speed and reliability (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 sk	(ew >		x	x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics 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.	al e	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	
21 - 1	x		x		X < 70 sk	xew >		x		x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics 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.	al	Provides good LRT operations in terms of speed and reliability of 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).

	В	Bike Lanes	Tefft			Beath		Wes	t Hill		Platfor	n		Propert	ry Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
Option	Morain	along Morningside	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	1 >	x		x			x		х	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 takings, however 1 is potential full takings 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	1)	x		x			x		x		х		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; 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	1 >	x		x			X		х			x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; East Side - 2m along 4 residential buildings (assume partial takings), 11 full property takings, 15 - 0m frontage along West Hill C.1.; 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	1	x		x		Х <	< offset >	x		х			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) 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	
3B - 1	1	x		x		Х <	< 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).	1		Good	Good	Poor	Fair	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
3C - 1	1	x		x		Х <	< offset >	x				х	both sides	/26m - 20m except at Kingston	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).			Good	Good	Poor	Fair	Fair	Good	to Tefft, via left turn at Kingston and local roads).

		Bike Lanes	Tefft		Beath	We	est Hill		Platform			Propert	y Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
	Option	along Morningside	signalized	unchanged (unsignalized)	signalized	signalized + realignment unchanged (signalized)	relocated	side - far side	side - one side only	centre	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek		LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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.
ath intersectiion,	3D - 1	x	х		X <70 s	skew >	x	x				(potential for daylighting triangle requirement at NE quadrant witl Tefft).	Existing right-of way width varies h (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typica 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	
ng local roads, will require signalized Bo		x	x		X <70:	skew >	х		x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). OP designation for 30m. Typica 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 om frontage along West Hill C.1.; 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	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	
with bike lanes ald	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. Typica 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	· uii	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
	3G - 1	x	х			x	x	x			both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typica 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 takings, however 1 is potential full takings 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		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).
	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. Typica 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	
	31 - 1	x	x		:	x	х			x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typica 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 bluidings (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	

	Bike	Lanes	Те	fft		Beath	1	Wes	st Hill	Platfo	orm		Property	/ Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
Option	along Morningside	along local roads	signalized	unsignalized	unchanged (unsignalized)	signalized	ignalized + realignment	ınchanged (signalized)	relocated	side - far side	cent	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	х		x		RIRO		un u	x		х		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.	÷		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
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 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	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).
4C - 1	x		x			x	< offset >	x		x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; 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		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
4D - 1	х		x			x	< offset >	x			x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 8 residential buildings (assume partial takingsassume partial takingsassume partial takingsassume partial takings due to reduced frontage setbacks), 5 full property takings, 4 - 0m frontage along West Hill C.1.; 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.			Very Good		Good	Good	Poor	Very Good	Very Good		associated with the turning restrictions at Warnsworth and the availability of reasonable alternative routes (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).
4E - 1	x		x			x	< 70 skew	>	x	х		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).			Good	Good	Poor	Very Good	Good	Good	

		Bike L	anes.	Tef	ft		Beatl	h	We	st Hill		Platform			Proper	ty Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
		e	s					ment	(pez			γl					ı	_RT Operations									Considers net property impacts,
Ор		along Morningsic	along local road	signalized	unsignalized	unchanged (unsignalized)	signalized	signalized + realign	unchanged (signali	relocated	side - far side	side - one side or	centre	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	Pede- strians	Vehicular NOTE: NEED TO INCLUDE WEST HILL HOUSES 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	х		х			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		Implementation of the LRT right-of- way and bike lanes along Morningside has a minor impacts: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions
4 G	i - 1	x		x				х		x		x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West 36d - 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	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).
4Н	1-1	x		х				x		x			х	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 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).	Fair		Good	Good	Poor	Very Good	Good	Good	
5A	\-1	х			x	RIRO			x			x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1). 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.1; 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
5B	1-1	х			х	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		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; Warnsworth to Tefft, via left turn at Kingston and local roads).

	1	Bike La	anes	Tefft		Beat	h	West	Hill	ı	Platform			Property	Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
Optio	on :	along Morningside	along local roads	signalized	unchanged	(unsignalized) signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	side - one side only	centre	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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 north of West Hill C.1.). 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.1.; 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).			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
5D	1	x		x		x	< offset >	х				x	both sides	(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 a residential buildings (assume partial takings); East Side - 2m frontage along commercial mid with loss of parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lds with loss of parking (assume partial taking), 2m frontage along commercial building and	potential full takings due to reduced frontage setbacks), 11 full property takings.	Elimination of signalized	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		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).
5E - ^	1	x		х		x	< 70 skew	>	x		x		both sides	partial taking), 2m frontage along commercial building (assume ful taking given minimal remaining	Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; East Side - 2m along 11 residential buildings (assume partial takings), 4 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).			Good	Good	Poor	Very Good	Poor	Fair	
5F - 1	1	x		x		х	< 70 skew	>	х			x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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 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).	Fair		Good	Good	Poor	Very Good	Poor		Implementation of the LRT right-of- way and bike lanes along Morningsidhas a minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts
5G - ⁻	1	x		х			x		x		x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; East Side - 2m along 11 residential buildings (assume partial takings), 4 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).			Good	Good	Poor	Very Good	Poor		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).
5H - ^	1	x		х			x		x			x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). 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.1.; East Side - 2m along 11 residential buildings (assume partial takings), 4 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).	Fair		Good	Good	Poor	Very Good	Poor	Fair	

	Bike Lanes	Tefft		Beath	ı	West	Hill	Platf	form		Property	/ Requirements		Transit Service				Safety				Accessibility npacts	Community Impacts
Option	along Morningside	signalized	unchanged (unsignalized)	signalized	signalized + realignment	unchanged (signalized)	relocated	side - far side	Side - One Side Only	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	LRT Operations South of Warnsworth to Highland Creek	Platform Accessibility	Roadway Geometrics	Pede- strians	Vehicular/ Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	х	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. Typics mid-block cross-section requirement is 30m. West Side - potential for daylighting triangle requirement at SW quadrant with Warnsworth), 4 ful 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 o 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).		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		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
6B - 1	x	x		x	< offset >	x			х	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics 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.	1	Provides poor LRT operations in terms o speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).		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		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).
6C-1	x	x		х	< 70 skew >		x	,	×	both sides	(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	Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typics 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 r takings due to reduced frontage setbacks).	Elimination of signalized intersection at Tefft will improve LRT speed and reliability (loss of turning	Provides poor LRT operations in terms o speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does not 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.		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	х	x		x	< 70 skew >		x		x	both sides	ffrontage 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).	mid-block cross-section requirement	Beath).	Provides poor LRT operations in terms o speed and reliability (1 signalized intersection, centre platform where TSP must be used in SB direction in order to transverse NB lanes).		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	х	x			x		x	3	x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.). OP designation for 30m. Typics 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 C1.; East Side - 2m along 3 residential buildings (assume partial taking), 1 full taking.	I	Provides poor LRT operations in terms o speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does not 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.		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		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
6F - 1	х	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. Typica 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 taking), 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.		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		allemative 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.1. are provided right-in and right-out access via Service Road provided.

Option	Bike	Lanes	Тє	efft		Beath		Wes	st 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		Х		Х		Χ	< offset >	Χ			Х		west side only
6A - 3		X		Х		Χ	< offset >	Χ			Х		east side only
6B - 1		X		Х		Χ	< offset >	Χ				X	both sides
6B - 2		X		Х		Χ	< offset >	Χ				X	west side only
6B - 3		X		Х		Χ	< offset >	Χ				X	east side only
6C - 1		X		Х		Χ	< 70 skew >		X		Х		both sides
6C - 2		X		Х		Χ	< 70 skew >		X		Х		west side only
6C - 3		X		Х		Χ	< 70 skew >		Х		Х		east side only
6D - 1		X		Х		Χ	< 70 skew >		Х			X	both sides
6D - 2		X		Х		Χ	< 70 skew >		Х			X	west side only
6D - 3		X		Х		Χ	< 70 skew >		Х			X	east side only
6E - 1		X		Х			X		Х		Х		both sides
6E - 2		Х		Х			Х		Х		Х		west side only
6E - 3		Х		Х			Х	•	Х		Х		east side only
6F - 1		Х		Х			Х	•	Х			Х	both sides
6F - 2		Х		Х			Х	•	Х			Х	west side only
6F - 3		Х		Х			Х		Х			Х	east side only

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

		Bike La	nes T	Tefft	Bea	th	West	Hill	Platform		F	Property Requirements		Transit Service				Safety				Traffic / Acces	ssibility Impacts		Community Impacts
				5	ized)	nent	(pa:		<u> </u>				L	RT Operations	Platform Accessibility						Pe	edestrians		Vehicular	
	Option	9	along local roads signalized	signalized with SBI restrictions	unchanged (unsignali signalized	signalized + realignm	unchanged (signaliz	relocated side - far side	side - one side onl	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	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 comple (assume partial taking), 2m frontage along 10 residential buldings (assume partial	Existing right-of way width varies (26m - 30m except north of West Hill C.1). 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.1. 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. Overall impacts would be less (could eliminate 6 partial takings and 4 full takings on the need 2 more		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	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	crosswalks provides safe pedestrian crossing	3							
	1A - 3	x	х		RIRO		x	x		east side only	partial takings, however 5 are potential full takings	full takings on the wset side). Overall impacts would be significantly worse (would require more full property			mobility impaired passengers).										
	1B-1	x	x		RIRO		x	*	x	both sides	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 (assume partial taking), 2m frontage along commercial building (assume full taking dispution of taking along commercial building (assume full taking diven minimal	worse would require infore full properly taskings). Existing right-of way width varies (26m - 30m except north of West Hill C.1). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Side - 2m frontage along 9 residential buildings (assume partial taskings). 4 full property taskings. 11 - 0m frontage along West Hill C.1; East Side - 2m along 11 residential buildings (assume partial taskings, however 3 are potential full taskings due to reduced frontage setbacks). 1 full property tasking. Overall impacts would be similar (could eliminate 5 partial taskings and 1 full tasking on the east side, but need 5 more full taskings on the west side).		on one side where TSP can potentially be used in NB direction only, no	intersection (access can be	neets by kpr 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	crosswalks provides safe	Maintenance of NB left turn lane at signalized West Hill C.I. lintersection provides for safe manoeuvres of NB left and uturning vehicles.	LRT right-of-way limits access to right-in and right-out only; for SB wehicles, 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).		intersection at West Hill C.I. and unsignalized	Implementation of the LRT right-of-way and bike lanes along Morningside has a moderate impact: net properly 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) Easth 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;
	1B - 3	х	х		RIRO		х		х	east side only	remaining setback), 2m along 5 residential				passengers).										turn at Tefft).
	1C-1	x	х		RIRO		x		K	(both sides	buildings (assume partial takings).	Existing right-of way width varies (28m - 30m except north of West Hill C.1). 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 properly takings, 10 - 0m frontage along West Hill C.1; East Side - 2m along 14 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks), 1 full properly 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	grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can	5% grade north of the	crosswalks provides safe pedestrian crossing	3							
	1C - 2	х	x		RIRO		х		х	(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).		transversing of NB lanes).	to provide access for mobility impaired	intersection may not be suitable for locating platforms.									
	1C - 3	х	х		RIRO		х		Х	(east side only	,	Overall impacts would be worse (would require more full property takings).			passengers).										
	1D-1	х	х		х	< offset	> X	х		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1), 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 properly takings, 10 - 0m frontage along West Hill C.1.; 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	(access can potentially be provided at both	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	crosswalks provides safe	1	LRT right-of-way						
	1D - 2	х	x		х	< 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		no transversing of NB lanes).	ends of the SB platform, at one end of the NB platform where	5% grade north of the intersection may not be suitable for locating platforms.	of LRT tracks.		limits access to right-in and right- out only; for SB vehicles, the next						
SNC	1D - 3	х	х		х	< offset	> X	х		east side only	/	west side). Overall impacts would be worse (would require more full property takings).			ramps can be accommodated to			Maintenance of NB left turn lane	intersection where a u-turn can be			Addition of signalized			
L AND PLATFORM CONFIGURATION	1E - 1	x	x		x	< offset	> X		x	both sides		Existing right-of way width varies (28m - 30m except north of West Hill C.1). 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.1; 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	crosswalk at a signalized intersection (access can be	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	crosswalks	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.	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.			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).		intersection at Beath and	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;
WEST HILL	1E - 2	x	x		x	< offset	> X		x	west side only	/	eliminate 5 partial takings and 1 full taking on the east side, but need 5 more full takings on the west side).		anoronality of 14D idites).	accommodated to provide access for mobility impaired	suitable for locating								right-outs.	via left turn at 1 efft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
TH / WE	1E - 3	х	х		х	< offset	> X		х	east side only	/	Overall impacts would be worse (would require more full property takings).			passengers).										

	Е	Bike Lanes	s Tef	fft	Bea	ıth	West	Hill	Plat	form			Property Requirements		Transit Service				Safety				Traffic / Ac	cessibility Impacts	Community Impacts
		de de		3.T	alized)	tuen.	(pezi		2	á l	w			L	RT Operations	Platform Accessibility						Pe	edestrians	Vehicular	O-maldam mai
Optic	on	along Morningsic along local road		signalized with SB restrictions	unchanged (unsigna	ninalized + paslina	unchanged (signali		side - far side	e les	Comment	Kingston to South o Warnsworth	f South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	Kingston to South of Warnsworth	South of Warnswort to Highland Creek		west side of Morningside), and traffic noise / safety impacts on adjacent local
1F-:		x	x			< offs	eet > X			x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1). 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 properly takings, 4 - 0m frontage along West Hill C.1.; East Side - 2m along 12 residential buildings (assume partial takings, however 5 are potential full takings due to reduced frontage setbacks), 8 full properly taking. Overall impacts would be less (could eliminate 9 partial and 8 full takings on the east side).	Maintenance of signalized intersection at Tefft will impact	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).	(access can potentially be provided at both ends of the platform where ramps can be accommodated to provide access for	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.	crosswalks provides safe pedestrian crossing			Bike lanes along Morningside Avenue are	Maintenance of signalized intersection at Tefft maintains all existing		Maintenance of signalized intersection at	
1F -	. 3	х	х		х	< offs	et > X			х	east side on	ly	Overall impacts would be worse (would require more full property takings).	speed and reliability		mobility impaired passengers).					consistent with the	pedestrian movements		Tefft maintains all existing	
1G -	- 2	x x x	x x		x	70 s	(ew >	x	x x		both sides west side onleast side on	ly	Existing right-of way width varies (26m - 30m except north of West Hilli C.1). 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.1.; 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. Overall impacts would be less (could eliminate 2 partial takings, and 12 full takings). Overall impacts would be worse (would require more full property takings).	(although potentially mitigated with TSP).	Provides very good LRT operations in terms of speed and reliability of signalized intersection, far side platforms where TSP can be used in both directions, no transversing of NB lanes).	(access can be	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.	crosswalks			City's Bike	(Note: West Hill P.S. at SE quadrant of Morningside / Teftt).		vehicular movements.	
1H-	. 2	x	x		x	70 s	xew >	x)	x	both sides	ly	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 trontage 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. Overall impacts would be less (could eliminate 4 full takings and 3 partial takings) or the east side, but need 4 more full takings on the west side). Overall impacts would be worse (would		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).	intersection (access can be	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.	crosswalks provides safe pedestrian crossing	signalized intersection, provide for safe manoeuvres of left and u-turning						
1H -	- 3	х	x		х	70 s	(ew >	х)	x	east side on	ly	Overall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block	_		passengers). Centre platform;			vehicles.						
11-1	1	x	x		x	70 s	Kew>	x		x	(both sides		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).	provides fair access via one atgrade crosswalk at a signalized dintersection (access can be provided at one end of the platform where a ramp can be accommodated		crosswalks, provides safe pedestrian crossing							
11 - 2	2	x	х		х	70 s	(ew >	x		х	west side onl	ly	Overall impacts would be less (could eliminate 11 full takings on the east side, but need 7 more full takings on the west			to provide access for mobility impaired	suitable for locating platforms.			LRT right-of-way limits access to				Description of Joint	Implementation of the LRT right-of-way a bike lanes along Morningside has a mino
41 /	3	v	· ·		J	70 s	/OW >	х			(east side on	h	side). Overall impacts would be worse (would			passengers).				right-in and right- out only; location			Maintenance of a signalized intersection	signalized intersection at	impact: no pedestrian movement impact minimal traffic accessibility and local roa
1J-:	-1	x	x		X	70 s			x	X	both sides	_	require more full property 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 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. Overall impacts would be less (could eliminate 2 partial takings, and 12 full		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).	(access can be	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.	crosswalks		of a signalized intersection south of the driveways may minimize risky manoevres for SB vehicles to use intersection.			at West Hill C.I. maintains existing pedestrian movement (Note: West Hill C.I. or the west side).	maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative route (alternative routes: Warnsworth to Beath, via left turn at Tefft and local roads; Warnsworth to Tefft, via per existing left turn at Tefft).
1J -		x	x		+)			х		east side on		takings). Overall impacts would be worse (would			mobility impaired passengers).									
1K-	-1	x	x			,	:	x	,		both sides		require more full property 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 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. Overall impacts would be less (could eliminate 4 full takings and 3 partial		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	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	crosswalks provides safe pedestrian crossing	manoeuvres of						
1K -		х	х)		х	,		east side on	_	takings on the east side, but need 4 more full takings on the west side). Overall impacts would be worse (would require more full property takings).			accommodated to provide access for mobility impaired passengers).	platforms.		left and u-turning vehicles.						

	Bike I	Lanes	Tefft	Bea	ath	West	Hill	Platform			Property Requirements		Transit Service			Safety				Traffic / Acc	essibility Impacts	<u> </u>	Community Impacts
			-	(pe;	ant	ĝ						L	RT Operations Pl	Platform				-	Pe	edestrians		Vehicular	,,
Optio	along Morningside	along local roads	signalized signalized with SBL' restrictions	unchanged (unsignaliz	signalized + realignmo	unchanged (signalize	relocated side - far side	side - one side only	Comments	Kingston to South o Warnsworth	South of warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek	Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	2	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). be acco	s via one at- crosswalk at prosswalk at prosswalk at speed, however may not provide the required stopping sig distance for the ed at one intersection (north approach). The exist sommodated intersection may not	ht Signalized intersection with crosswalks provides safe	g							
1L-			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). Overall impacts would be worse (would		to prov for mot impaire passer	platforms.									
2A -	1 X		x	RIRO	X	x	x		east side on!	Existing right-of way width varies (26m - 30m except 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	require more full property 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. Overall impacts would be less (could eliminate 6 partial takings and 4 full		Provides very good LRT operations in terms of speed and reliability (1 signalized intersection, far side platforms where TSP can bused in both directions, no transversing of NB lanes).	ate at-grade walks at a value at	ht Signalized intersection with crosswalks,	9							
2A -	2 X 3 X		x	RIRO		x	x			y buildings (assume partial takings); East Side - 2m frontage along commercial mall with loss of	takings on the east side, but need 2 more full takings on the west side). Overall impacts would be significantly worse (would require more full property		provide mobility	platforms. platforms. platforms.									Implementation of the LRT right-of-way and
2B -	1 X		x	RIRO		x		x	both sides	parking (assume partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m frontage along (assume full taking			Provides good LRT provides good LRT crossed and reliability (1 signalized intersection, side platforms on one side where TSP can potentially be used in NB end of	distance for the intersection (north approach). The exist 5% grade north of th	Signalized intersection with crosswalks provides safe pedestrian crossing of LRT tracks	NB left and u-	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 Wes Hill C.I.			Maintenance of signalized intersection at West Hill C.I. maintains all existing pedestrian movements west side).	Elimination of signalized intersection at Tefft restricts vehicular movements to right-ins and right-outs. Alternative access is	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	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 CI. or Kingston Road; Tefft to
2B -			х	RIRO		x		x	west side only	given minimal y remaining setback), 2m along 5 residential buildings (assume y partial takings).	eliminate 3 partial takings and 4 full		transversing of NB lanes). ramps accomprovide mobility	can be immodated to e access for ty impaired	be of Erri tradito.	turning vehicles.	intersection may encourage unsafe manoeuvres to use intersection.				provided from Kingston Road.	and right-outs at Beath.	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
2B - 2C -			x	RIRO		x		x .	east side on!	y pourui cum gey.	require more full property 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 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.		passer Centre provide access grade (a signal per a signal intersection, centre platform where TSP can be used in end of	a platform; es fair ses fair ses fair Meets 80 kph design crosswalk at speed, however may not provide the required stopping sig distance for the det at one	Signalized intersection with crosswalks provides safe pedestrian crossing	9							and local roads).
2C -	2 X		x	RIRO		x			west side only	у	Overall impacts would be less (could eliminate 6 partial and 1 full takings on the east side, but need 1 more full taking on		to prov for mot impaire	bility platforms.									
2C -	3 X		х	RIRO		х		:	K east side only	у	the west side). Overall impacts would be worse (would require more full property takings).		passer	ngers).									
2D -	1 X		х	x	< offset	> X	x		both sides		Existing right-of way width varies (28m - 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 platform	is can required stopping significant both of the SB required stopping significant for the specific stopping	ht Signalized intersection with	g	LRT right-of-way limits access to						
2D -	2 X		х	x	< offset	> x	x	:	west side only	у	Overall impacts would be less (could eliminate 6 partial takings on the east side).		lanes). platforr ramps	intersection may not suitable for locating platforms.	De l		right-in and right- out only; for SB vehicles, the next						
RATIONS - D2	3 X		x	x	< offset	> x	x		east side only	у	Overall impacts would be significantly worse (would require more full property takings). Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP		provide mobility passer Side pl	imodated to e access for ty impaired ngers).		Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB	intersection where a u-turn can be made is at Ellesmere, so the proximity of some driveways to Wes						
ND PLATFORM CONFIGU	1 X		x	x	< offset	> X		x	both sides		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 end of platforr	e fair access a at-grade yalk at a zed zed ss can be ed at one feach m where e fair access Meets 80 kph design speed, however may not provide the required stopping sig distance for the approach). The exist switch approach, The exist switch approach appr	Signalized intersection with crosswalks provides safe	left turn lane at the new Beath signalized intersection, provide for safe manoeuvres of left and u-turning	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		intersection at West Hill C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and	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;
HILL AN	2 X		х	x	< offset	> x		х	west side only	у	Overall impacts would be similar (could eliminate 3 partial takings, but need 2		accomi	can be suitable for locating platforms.						issues (Note: West Hill C.I. on the west side).		right-outs.	Warnsworth to Tefft, via left turn at Kingston and local roads).
MEST 2E -	3 X		х	х	< offset	> X		х	east side only	у	more full takings). Overall impacts would be worse (would require more full property takings).		mobility	ty impaired ngers).									

	Ві	Bike Lar	nes Tefft		Beath		West I	4iII	Platform		Property	ty Requirements		Transit Service				Safety				Traffic / Acce	ssibility Impacts		Community Impacts
	4	e e	SLT IS	lized)		ment	(pezi		Ą	s			LI	RT Operations	Platform Accessibility						Pe	edestrians		Vehicular	
	ption .	along Morningsi	along local road signalized signalized with SE	unchanged (unsigna	signalized	signalized + realign	unchanged (signali	relocated side - far side	side - one side or	Comment		th of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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.
T IS UNSIGNALIZED, VA	F-1 ::		x x x		x <	offset >	x		x	both sides west side only	30m et design cross-t side	all impacts would be less (could nate 9 partial and 8 full takings on the side). all impacts would be worse (would	Elimination of signalized intersection at Tefft will miprove LRT speed and reliability (loss of unnine).	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 12 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.	crosswalks, provides safe pedestrian crossing	1		Bike lanes along Morningside Avenue are consistent	Elimination of signalized intersection at Tefft removes all existing pedestrian movements between Klingston and				
E LANES ALONG MORNINGSIDE, TE		x	x		x 7	70 skew >		x x x x		both sides	Existin 30m et design cross-s- Side - buildin proper West I resider taking due to proper Overal elimina taking	- 2m frontage along 2 residential ings (assume partial takings), 10 full erty takings, 2 - 0m frontage along It-IIII C.I.; East Side - 2m along 6 ential buildings (assume partial gs, however 1 is potential full taking or reduced frontage setback), 14 full erty takings. all impacts would be less (could nate 2 partial takings, and 12 full gs).	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).	Far side platforms; provide good access via separate at-grade crosswalks at a signalized intersection (access can be	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 leaftorms	crosswalks	3		with the City's Bike Plan (most direct route).	Beath / West Hill C.I. signalized intersections (Note: West Hill P.S. at SE Quadrant of Morningside / Tefft).				
RE OF ROADV	G-3	x	x			70 skew >		x x	x	east side only	require Existin 30m e: design cross-: Side - buildin proper West I resides takings	all impacts would be worse (would ire more full property takings). Ire more full property takings). Ing right-of way width varies (26m - except north of West Hill C.I.). OP pration for 30m. Typical mid-block section requirement is 30m. West - 2m frontage along 7 residential ings (assume partial takings), 6 full erty takings, 10 - 0m frontage along 1 Hill C.I.; East Side - 2m along 11 ential buildings (assume partial gs), 4 full property taking. all impacts would be less (could		Provides good LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can	intersection (access can be	Meets 80 kpn design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the	crosswalks provides safe pedestrian crossing	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					Elimination of signalized intersection at Tefft restricts vehicular movements to right-ins and right-outs.		
RIGH	H-2	x	x			70 skew >		x x	x	west side only	elimina takings full tak Overal	all impacts would be less (could nate 4 full takings and 3 partial gs on the east side, but need 4 more akings on the west side). all impacts would be worse (would ire more full property takings).		transversing of NB lanes).	ramps can be accommodated to provide access for mobility impaired passengers).	intersection may not be suitable for locating platforms.	or Erri tracks.	intersection, provide for safe manoeuvres of left and u-turning vehicles.					access is provided from Kingston Road and Beath Street		
1	N-1	x	x		x 7	70 skew >		x	х	both sides	Existin 30m et design cross-s Side - require Wams reside takings frontag 2 m alo	ing right-of way width varies (26m- except north of West Hill C.I.). OP paration for 30m. Typical mid-block s-section requirement is 30m. West - potential for daylighting triangle irement at SW quadrant with isworth), 2m frontage along 8 ential buildings (assume partial gs) 4 full property takings, 15 - 0m age along West Hill C.I.; East Side- long 4 residential buildings (assume al 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	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	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	crosswalks								
	21 - 2		х			70 skew >		x		west side only	elimina but ner side).	all impacts would be less (could nate 11 full takings on the east side, eed 7 more full takings on the west			to provide access for mobility impaired passengers).	suitable for locating platforms.			LRT right-of-way limits access to right-in and right- out only; location			Maintenance of a signalized intersection		Provision of joint signalized intersection at Beath / West Hill C.I.	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
	IJ-1		x		*	70 skew >		x x x		east side only both sides	require Existin 30m et design cross-s Side - buildin proper West t residet takings due to proper	ire more full property takings), ing right-of way width varies (26m-except north of West Hill C.1.). OP passes of the property of the West Hill C.1.), or the section requirement is 30m. West section requirement is 30m. West - 2m frontage along 2 residential ings (assume partial takings), 10 full erty takings, 2 - 0m frontage along the takings, 2 - 0m frontage along 6 ential buildings (assume partial gs, however 1 is potential full taking to reduced frontage setback), 14 full erty 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	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 location	crosswalks	3	of a signalized intersection south of the driveways may minimize risky manoevres for SB vehicles to use intersection.			at West Hill C.I. maintains existing pedestrian movements (Note: West Hill C.I. on the west side).		maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	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).
	J-2	x	х			х		х		west side only	elimina takings	nate 2 partial takings, and 12 full gs).			accommodated to provide access for mobility impaired	platforme									
	J-3		x			x		x x	x	east side only	Overal require Existin 30m et design cross-s-Side - buildin proper West residen takings	all impacts would be worse (would ire more full property takings), ing right-of way width varies (26m - except north of West Hill C.I.). OP paration for 30m. Typical mid-block is-section requirement is 30m. West - 2m frontage along 7 residential ings (assume partial takings), 6 full etry takings, 10 - 0m frontage along It-Hill C.I. East Side - 2m along 11 ential b. wildings (assume partial gs), 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	passengers). 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	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	crosswalks provides safe	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							
	K-2		x			x		x	x	west side only	elimina takings full tak Overal	all impacts would be less (could nate 4 full takings and 3 partial gs on the east side, but need 4 more akings on the west side). all impacts would be worse (would ire more full property takings).		transversing of NB lanes).	platform where ramps can be accommodated to provide access for mobility impaired passengers).	suitable for locating	of LRT tracks.	manoeuvres of left and u-turning vehicles.							

	Bil	ke Lanes	s 1	Tefft	В	eath	West H	till	Platf	form			Property Requirements		Transit Service				Safety				Traffic / Acce	ssibility Impacts	3	Community Impacts
	4	2 0		5	lized)	nent	(pez		2	•				L	RT Operations	Platform Accessibility						P	edestrians		Vehicular	
Optio	along Morningsic		signalized	signalized with SB restrictions	unchanged (unsigna	signalized signalized + realign	unchanged (signali	relocated	side - one side on	centre	Comments	Kingston to South o Warnsworth	of South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	west side of Morningside), and traffic / noise / safety impacts on adjacent local
2L -	1 X	¢ .		х		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, other transversing of NB lanes).	grade crosswalk at a signalized intersection (access can be provided at one end of the platform where a ramp can be accommodated	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		3							
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).			to provide access for mobility impaired passengers).	suitable for locating platforms.									
2L -	3 X	(х		х		х		х	east side only		Overall impacts would be worse (would require more full property takings).													
3A -	1	х		x		X < offset	> X	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	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 properly 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	intersection (access can potentially be	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	crosswalks provides safe	3							
3A -	2	х		х		X < offset	> X	×	ĸ		west side only	requirements along	Overall impacts would be less (could eliminate 6 partial takings on the east side).		no transversing of NB lanes).	platform, at one end of the NB	intersection may not be suitable for locating platforms.	of LRT tracks.								
3A -	3	х		х		X < offset	> X	х	ĸ		east side only	lane length); East	Overall impacts would be significantly worse (would require more full property takings).			platform where ramps can be accommodated to	plationns.									
3B -	1	x		х		X < offset	> X		x	ζ	both sides	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.		Provides poor LRT operations in terms of speec and reliability (2 signalized intersections, side platforms on one side where TSP can be potentially used in NB	intersection (access can be	speed, however may not provide the required stopping sight distance for the intersection (north	Signalized intersection with crosswalks provides safe pedestrian crossion	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at I the new Beath	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			Addition of signalized intersection at Beath and maintenance of signalized intersection at West Hill C.I. improves pedestrian movements, although 1		maintenance of signalized intersection at West Hill C.I. maintains existing	local road impacts associated with the turning restrictions at Warnsworth and the
SN 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,	-	direction only, but no transversing of NB lanes).	platform where ramps can be	5% grade north of the intersection may not be suitable for locating	of LRT tracks	signalized intersection,	proximity of some driveways to Wes			or 2 crosswalks potentially eliminated		vehicular movements. Warnsworth will be restricted to right-ins and	availability of reasonable alternative routes (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads;
3B -		x		х		X < offset			x		east side only		but need 4 more full takings and 3 partial takings). Overall impacts would be significantly worse (would require more full property	-		accommodated to provide access for mobility impaired passengers).	platforms.		provide for safe manoeuvres of left and u-turning vehicles.	Hill C.I. and Beath intersections may encourage unsafe manoeuvres to			for traffic operational issues (Note: West Hill C.I. on the west side).		right-outs.	Warnsworth to Tefft, via left turn at Kingston and local roads).
/ WEST HILL AND PLATFORM CONF	1	x		x		X < offset	> X			x	. both sides		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 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).	(access can potentially be provided at both ends of the platform where ramps can be	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection froorth approach). The existing 5% grade north of the intersection may not be suitable for locating	crosswalks provides safe pedestrian crossing	3	use intersection.						
3C -	2	x		х		X < offset	> X			х	west side only		Overall impacts would be less (could eliminate 4 partial and 8 full takings on the east side).			accommodated to provide access for mobility impaired	platforms.									
3C -	3	х		х		X < offset	> X			х	east side only		Overall impacts would be worse (would require more full property takings).			passengers).										
NCE BEATH IS SIGNALIZED), VA	.1	х		x		X 70 skew	V >	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).	(access can be provided at one end of each platform where ramps can be	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	crosswalks	3							
3D -	2	x		х		X 70 skew	v >	x x	ĸ		west side only		eliminate 5 partial takings, and 12 full takings on the east side).			accommodated to provide access for mobility impaired	platforms									
3D -	3	х		Х		X 70 skew	v >	x x	K		east side only		Overall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m -			passengers).					Bike lanes provided					
SIGNALIZED), TEFFT IS UNSIG	1	x		х		X 70 skew	v >	x	x	(both sides		30m except north of West Hill C.1.). 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.1.; East Side - 2m along 9 residential buildings (assume partial takings), 1 full property taking.	LRT speed and	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	intersection (access can be	speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing 5% grade north of the	crosswalks, provides safe pedestrian crossing	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,		local community, via Fairwood Crescent	Elimination of signalized intersection at Tefft removes all existing pedestrian movements between Kingston and Beath / West Hill C.I. signalized intersections		Elimination of signalized intersection at Tefft restricts vehicular movements to right-ins and right-outs. Alternative access is		
3E -	2	x		x		X 70 skew	V >	x	х	(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).	new signalized intersection at Beath).	transversing of NB lanes).	ramps can be accommodated to provide access for mobility impaired	suitable for locating		provide for safe manoeuvres of left and u-turning vehicles.		/ Beath (most circuitous	(Note: West Hill P.S. at SE quadrant of Morningside /		provided from Kingston Road and Beath Street.		
SE -	3	х		х		X 70 skev	V >	х	х	(east side only		Overall impacts would be significantly worse (would require more full property takings).			passengers).					through the local community).	Tefft).				

		Bike L	anes	Tefft	В	eath	Wes	st Hill	Platform		F	Property Requirements		Transit Service				Safety				Traffic / Acce	essibility Impacts	•	Community Impacts
		e	S	3LT	lized)	ment	(pez		уlг	8			L	RT Operations	Platform Accessibility						P	edestrians		Vehicular	
	Option	along Morningsi	along local road	signalized signalized with SE restrictions	unchanged (unsigna	signalized signalized + realign	unchanged (signal)	relocated side - far side	side - one side or	Comment	Kingston to South o Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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.
L ROADS TO BEATH INTER	3F - 1		x	х		X 70 ske	€W >	x	k	S both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.J.). 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 properly 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	grade crosswalk at a signalized intersection (access can be provided at one	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	crosswalks provides safe	g							
NG LOCA	3F - 2		х	х		X 70 ske	ew >	x	х	west side on	у	Overall impacts would be similar (could eliminate 2 partial takings and 8 full takings on the east side, but need 5 more		direction only, but no transversing of NB lanes).	Do accommodated	5% grade north of the intersection may not be suitable for locating platforms.	of LRT tracks.		LRT right-of-way limits access to right-in and right-			Maintenance of a		Provision of joint signalized intersection at	Implementation of the LRT right-of-way and bike lanes along local roads to Beath has a minor impact: no pedestrian movement
S ALOI	3F - 3		х	х		X 70 ske	ew >	х	х	east side on	ly	full takings and 4 partial takings). Overall impacts would be worse (would require more full property takings).			impaired passengers).				out only; location of a signalized intersection south			signalized intersection at West Hill C.I. maintains existing		Beath / West Hill C.I. maintains existing	impacts; minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the
IN CENTRE OF ROADWAY, BIKE LANE	3G - 1		x	x		x		x x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1). 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.1; 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. Overall impacts would be less (could eliminate 5 partial takings, and 12 full		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).	(access can be	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.	crosswalks	g	of the driveways may minimize risky manoevres for SB vehicles to use intersection.			pedestrian movements (Note: West Hill C.I. on the west side).		vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	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).
WAYI	3G - 3		х	x		х		хх		east side on	ly l	takings on the east side). Overall impacts would be worse (would			mobility impaired passengers).										
LRT RIGHT-OF-	3H - 1		х	х		x		x	x	both sides		require more full property 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 - 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 takings.		Provides fair LRT operations in terms of speed and reliability (1 signalized intersection, side platforms on one side where TSP can	signalized intersection (access can be	Meets 80 kpn design speed, however may not provide the required stopping sight distance for the intersection (north	crosswalks provides safe	Maintenance of NB left turn lane at signalized West Hill C.I. Intersection and provision of SB left turn lane at the new Beath							
	3H - 2	:	х	x		х		х	x	west side on	у	Overall impacts would be worse (could eliminate 4 partial takings and 2 full takings on the east side, but need 4 more		be potentially used in NB direction only, but no transversing of NB lanes).	end of each platform where ramps can be accommodated to	5% grade north of the intersection may not be suitable for locating platforms.	of LPT tracks	g signalized intersection, provide for safe manoeuvres of left and u-turning							
	3H - 3		_			x		x	x	east side on	h.	full takings and 3 partial takings). Overall impacts would be significantly worse (would require more full property			provide access for mobility impaired passengers).			vehicles.							
	31 - 1		X	x		x		x	k	s both sides	_	worse would require more run properly 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 - potential for daylighting triangle requirement at 5W 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. Overall impacts would be similar (could eliminate 2 partial takings and 8 full		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	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	crosswalks provides safe pedestrian crossing	9							
	31 - 2		Х	Х		х		Х		west side on		takings on the east side, but need 5 more full takings and 4 partial takings).			for mobility impaired passengers).	platforms.									
	3I - 3 4A - 1		X	x	RIRO	X	x	X	x	east side on	Existing right-of way width varies (26m - 30m except at Kingston approaches). OP designation for 30m.	Overall impacts would be similar. Existing right-of way width varies (28m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-blook 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	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	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	crosswalks provides safe pedestrian crossing	g	LRT right-of-way limits access to right-in and right-						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
	4A - 2	x		x	RIRO		x		x	west side on	taking), 2m frontage y along 10 residential	Overall impacts would be less (could eliminate 5 partial takings, and 9 full takings on the east side but need 4 more		the NB lanes is reduced, which requires a roadway		suitable for locating		Maintenance of NB left turn lane	out only; for SB vehicles, the next intersection where			Maintenance of		Maintenance of signalized intersection at West Hill C.I. and unsignalized	frontages will reduce the "quality of life" for those owners; no pedestrian movement impacts; minimal traffic accessibility and
	4A - 3	X		x	RIRO		x		х		buildings (assume partial takings, ly however 5 are potential full takings due to reduced	full takings on the west side). Overall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP		DS=60 kph.	mobility impaired passengers). Centre platform;			at signalized West Hill C.I. Intersection provides for safe manoeuvres of NB left and u-	a u-turn can be made is at Ellesmere, so the proximity of some driveways to West			signalized intersection at West Hill C.I. maintains all existing pedestrian movements (Note: West Hill C.I. on the west side).		intersection at Beath will maintain existing vehicular movements at West Hill C.I., but restricts vehicular movements to right-ins	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
GURATIONS	4B - 1	x		х	RIRO		x		X	both sides	frontage setbacks); East Side - 2m frontage along commercial mall with loss of parking (assume partial taking), 2m frontage along commercial building and	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	grade crosswalk at a signalized intersection (access can be provided at one end of the platform		crosswalks provides safe pedestrian crossing	turning vehicles.	Hill C.I. intersection may encourage unsafe manoeuvres to use intersection.			ure west sidej.		and right-outs at Beath and Warnsworth.	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).
RM CONFI	4B - 2	x		x	RIRO		x				associated parcel / parking lot with loss of parking (assume partial taking), 2m	Overall impacts would be less (could eliminate 5 partial takings and 12 full takings, but need 3 more full takings on the west side). Overall impacts would be worse (would		where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.	be accommodated to provide access for mobility impaired	intersection may not be suitable for locating platforms.									
E E	4B - 3	Х		Х	RIRO		х		Х	east side on	frontage along commercial building	require more full property takings).			passengers).					_					

		Bike La	anes Tef	fft	Beatl	h	West Hil	ı	Platform		P	roperty Requirements		Transit Service				Safety				Traffic / Acc	essibility Impacts	·	Community Impacts
		ø		5 .	ized)	nent	(pe:		2				LI	RT Operations	Platform Accessibility	_					Р	edestrians		Vehicular	
	Option	along Morningsid		signalized with SBI restrictions	unchanged (unsignal	signalized + realignn	unchanged (signaliz	side - far side	side - one side on	Comments	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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.
RIOUS BEATH / WEST HILL AND PLA	4C - 1	х	x		x	< offset >	. x		x	both sides	(assume full taking given minimal 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.1). 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.1, 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	intersection (access can be provided at one end of each platform where ramps can be	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	crosswalks provides safe pedestrian crossing	3	LRT right-of-way						
LIZED, VA	4C - 2	х	x		x	< offset >	×		х	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).			accommodated to provide access for mobility impaired passengers).	platforms.			limits access to right-in and right- out only; for SB vehicles, the next intersection where			Addition of signalized intersection at Beath and maintenance of signalized intersection			Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts;
/NSIGN/	4C - 3	х	х		х	< offset >	. х		x	east side only		Overall impacts would be worse (would require more full property takings).							a u-turn can be made is at			at West Hill C.I. improves pedestrian		maintenance of signalized intersection at West Hill	impacts associated with the turning
ONG MORNINGSIDE, TEFFT REMAINS S	4D - 1	х	x		x	< offset >	· x		x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1). 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 (assume partial takingsassume partial takings due to reduced frontage setbacks), 5 full property takings, 4 - 0m frontage along West Hill C.1.; 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	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	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	crosswalks provides safe	ı	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	Maintenance of signalized intersection at Tefft maintains all existing 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	C.I. maintains existing vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	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).
INES ALC	4D - 2	х	х		х	< offset >	. х		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	reliability (although potentially		provide access for mobility impaired passengers).	platforms.				consistent with the City's Bike	movements (Note: West Hill P.S. at SE		Tefft maintains all existing vehicular		
KE LA	4D - 3	х	х		х	< offset >	. х		x	east side only		side). Overall impacts would be worse (would require more full property takings).	mitigated with TSP).							Plan (most direct route).	quadrant of Morningside /		movements.		
TRAVERSES TO THE EAST SIDE, BI	4E - 1	x	x			70 skew			x	both sides		Esquier indie füll projecti yaknıgsi. 25m - 30m except north of West Hill C.I.). OP designation for 30m. Typical mid-block cross-section requirement is 30m. West Slide - 2m frontage along 7 residential buildings (assume partial takings), 6 full property takings, 10 - 0m frontage along West Hill C.I.; East Slide - 2m along 11 residential buildings (assume partial takings), 4 full property taking. Overall impacts would be less (could eliminate 4 full takings and 3 partial takings on the east slide, but need 4 more full takings on the west side).		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).		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.	crosswalks provides safe pedestrian crossing	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			Tefft).				
ŦE	4E - 3	х	х		х	70 skew	> X		х	east side only		Overall impacts would be worse (would require more full property takings).			mobility impaired passengers).			intersection, provide for safe							
OADWAY TO WEST HILL	4F - 1	x	x			70 skew			x			require moter buil property taxings, Existing right-of way width varies (26m - 30m except north of West Hill C.1), 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.1; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in	Centre platform; provides fair access via one at- grade crosswalk at a signalized intersection (access can be provided at one end of the platform	required stopping sight distance for the intersection (north approach). The existing	crosswalks provides safe	manoeuvres of left and u-turning vehicles.	3						
ENTRE OF R	4F - 2	х	х		х	70 skew	> X		х	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).		transverse NB lanes).	where a ramp can be accommodated to provide access for mobility	5% grade north of the intersection may not be suitable for locating platforms.	of LRT tracks.		LRT right-of-way limits access to right-in and right-			Maintenance of a		Provision of joint signalized intersection at	Implementation of the LRT right-of-way and bike lanes along Morningside has a minor impact: no pedestrian movement impacts;
IN CEN.	4F - 3	х	х		х	70 skew	> X		х	east side only		Overall impacts would be worse (would require more full property takings).			impaired passengers).				out only; location of a signalized			signalized intersection at West Hill C.I.		Beath / West Hill C.I. maintains existing	minimal traffic accessibility and local road impacts associated with the turning
LRT RIGHT-OF-WAY	4G - 1	x	x			x	х		x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1). 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.1; 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	intersection (access can be provided at one end of each	speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	crosswalks, provides safe	1	intersection south of the driveways may minimize risky manoevres for SB vehicles to use intersection.			maintains existing pedestrian movements (Note: West Hill C.I. on the west side).		vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	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 - 2	х	х			х	x		х	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).		transverse NB lanes).	platform where ramps can be accommodated to provide access for	intersection may not be suitable for locating	of LRT tracks.								
	4G - 3	х	х			х	х		х	east side only		Overall impacts would be worse (would require more full property takings).			mobility impaired passengers).										
	4H - 1	х	x			х	x		х	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1), 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.1; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform	Centre platform; provides fair access via one at- grade crosswalk at a signalized intersection (access can be provided at one	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	crosswalks								
	4H - 2	х	x			х				west side only		takings), a full property taking. 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). Overall impacts would be worse (would		SB direction in order to transverse NB lanes).	where a ramp can be accommodated to provide access for mobility impaired	approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	pedestrian crossing of LRT tracks.								
	4H - 3	Х	х			Х	Х		Х	east side only		require more full property takings).			passengers).										

	Е	Bike Lanes	s Te	efft	Е	Beath	V	Vest Hill	F	Platform			Р	roperty Requirements		Transit Service				Safety				Traffic / Acc	essibility Impact	3	Community Impacts
Optio	on	ningside al roads	ized	vith SBLT tions	nsignalized)	ized	ealignment	signalized) ated	ır side	side only	e.	nments	Kingston to South of		LI	RT Operations	Platform Accessibility	Roadway Geometrics			East Side Driveways	Bike Operations	P	edestrians		Vehicular South of Warnsworth to	Considers net property impacts, barrie effects (pedestrian , vehicular) of West Hill community (i.e. between east and
		along Mori	signal	signalized v restrict	unchanged (u	signal	signalized + r	uncnanged (3	side - far	side - one	cent	Con	Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek			Pedestrians	Vehicular / Roadways	Across from West Hill C.I.	,	Kingston to South of Warnsworth	South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	Highland Creek NOTE: NEED TO ADD IMPACTS AT WEST HILL HOUSES	west side of Morningside), and traffic noise / safety impacts on adjacent loc
5A - 1	1	х		х	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	Existing right-of way width varies (28m - 30m except north of West Hill C.1.). 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.1. East Side - 2m along 11 residential buildings (assume partial takings, however 4 are potential full takings due to reduced frontage setbacks),		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:	via one at-grade crosswalk at a signalized intersection (access can be provided at one	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	Signalized intersection with crosswalks, provides safe		LRT right-of-way						Implementation of the LRT right-of-way a bike lanes along Morningside has a
5A - 2	2	х		х	RIRO		:	x		х	v	vest side only	apartment complex (assume partial taking), 2m frontage along 8 residential buildings (assume	9 full property takings. Overall impacts would be less (could eliminate 5 partial takings, and 9 full takings on the east side but need 4 more		LRT operations can be improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway		5% grade north of the intersection may not be suitable for locating platforms.		Maintenance of NB left turn lane at signalized	limits access to right-in and right- out only; for SB vehicles, the next intersection where	,		Maintenance of signalized intersection		intersection at West Hill C.I. and unsignalized	moderate impact: net property impacts w be moderate but a number of acquired frontages will reduce the "quality of life" if those owners; no pedestrian movement impacts; minimal traffic accessibility and
5A - 3	3	х		х	RIRO		:	x		х	•	east side only	partial takings); East Side - 2m frontage along commercial mall with loss of parking (assume	full takings on the west side). Overall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m - 30m except north of West Hill C.I.). OP		DS=60 kph. Provides poor LRT	mobility impaired passengers). Centre platform; provides fair			West Hill C.I. Intersection provides for safe manoeuvres of NB left and u-	a u-turn can be made is at Ellesmere, so the proximity of some driveways to West			at West Hill C.I. maintains all existing pedestrian movements (Note: West Hill C.I. on the west side).		maintain existing vehicular movements at West Hill C.I., but restricts vehicular movements to right-ins	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
5B - 1	1	x		x	RIRO		1	x			x	both sides	partial taking), 2m frontage along commercial building and associated parcel / parking lot with loss of parking (assume partial taking), 2m	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.		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	access via one at- grade crosswalk at a signalized intersection (access can be provided at one	speed, however may not provide the required stopping sight distance for the intersection (north	Signalized intersection with crosswalks, provides safe pedestrian crossing	turning vehicles.	Hill C.I. intersection may encourage unsafe manoeuvres to use intersection.			,		and right-outs at Beath and warnsworth.	West Hill C.I. or Kingston Road; Tefft to Warnsworth, via U-turn at West Hill C.I. Kingston Road; Warnsworth to Beath, vi. left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kings and local roads).
5B - 2	2	x		x	RIRO		:	x					frontage along commercial building (assume full taking given minimal remaining setback),	Overall impacts would be less (could eliminate 5 partial takings and 12 full takings, but need 3 more full takings on the west side).		improved if the distance where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.	be accommodated	5% grade north of the intersection may not be suitable for locating platforms.	of LRT tracks.								
5B - 3		x		x	RIRO	X <0	offset > 2	x		x	X	east side only	2m along 5 residential buildings (assume partial takings).	Overall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m - 30m except north of West Hill C.1), 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 setdacks), 7 full property takings,		Provides poor LRT operations in terms of speed	passengers). Side platforms (one side only); provide fair access via one at-grade crosswalk at a signalized	Meets 80 kph design speed, however may not provide the	Signalized						_		
														4 - Om frontage along West Hill Č.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. Overall impacts would be less (could eliminate 3 partial takings, and 10 full		and reliability (2 signalized intersections, side platforms on one side where TSP must be used in SB direction in order to transverse NB lanes).	intersection (access can be provided at one end of each platform where ramps can be accommodated to provide access for	required stopping sight distance for the intersection (north approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	intersection with crosswalks provides safe pedestrian crossing	3	LRT right-of-way limits access to right-in and right-			Addition of signalized			Implementation of the LRT right-of-way a
5C - 2		X		X			offset > 2			X		vest side only	-	takings on the east side but need 4 more full takings on the west side). Overall impacts would be worse (would			mobility impaired passengers).				out only; for SB vehicles, the next intersection where			intersection at Beath and maintenance of signalized intersection		Addition of signalized	bike lanes along Morningside has a mino impact: no pedestrian movement impacts minimal traffic accessibility and local road
5D - 4		x		x			offset > 1			х		east side only		require more full property 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 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.	LRT speed and reliability (loss of	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 atgrade crosswalks at 2 signalized intersections (access can potentially be provided at both ends of the 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	of LRT tracks		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	between	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	intersection at Beath and maintenance of signalized intersection at West Hill C.I. maintains existing vehicular movements.	impacts associated with the turning
5D - 2	2	х		х			offset > 2				X v	vest 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). Overall impacts would be worse (would	turning movements potentially mitigated with new signalized		provide access for mobility impaired passengers).	platforms.				Plan (most	Kingston and Beath / West Hill C.I. signalized intersections (Note: West Hill		right-outs. Alternative access is provided from		
5D - 3		x		x			offset > 2	x		x		east side only both sides		require more full property takings). Existing right-of way width varies (26m - 30m except north of West Hill C.J.). 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 Typoperty takings, 10 - 0m frontage along West Hill C.I.; East Side - 2m along 11 residential buildings (assume partial takings), 4 full property taking.	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	intersection (access can be provided at one	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	crosswalks provides safe	3			P.S. at SE quadrant of Morningside / Tefft).		Kingston Road – and Beath Street.		
5E - 2	2	х		х		X 70	0 skew >	х		х	v	vest 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).		direction in order to transverse NB lanes).	platform where ramps can be accommodated to provide access for	5% grade north of the intersection may not be suitable for locating platforms.	of LRT tracks.								
5E - 3		x		x			0 skew >	x		х		east side only		Coverall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m - 30m except north of West Hill C.1). 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.1, East Side - 2m along 11 residential buildings (assume partial takings), 4 full property takings.		Provides poor LRT operations in terms of speed and reliability (1 signalized intersection, centre platform where TSP must be used in	mobility impaired passengers). Centre platform; provides fair access via one atgrade crosswalk at a signalized intersection (access can be provided at one	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	crosswalks provides safe	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	right-in and right- out only; location						Implementation of the LRT right-of-way a bike lanes along Morningside has a mind impact: no pedestrian movement impact
5F - 2		x		x x			0 skew >	x				vest 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). Overall impacts would be worse (would require more full property takings).		SB direction in order to transverse NB lanes).	where a ramp can be accommodated to provide access for mobility impaired passengers).	approach). The existing 5% grade north of the intersection may not be suitable for locating platforms.	of LRT tracks.	manoeuvres of left and u-turning vehicles.	1			Maintenance of a signalized intersection at West Hill C.I. maintains existing pedestrian movements (Note: West Hill C.I. on		Provision of joint signalized intersection at Beath / West Hill C.I. maintains existing vehicular movements.	minimal traffic accessibility and local road impacts associated with the turning restrictions at Warnsworth and the availability of reasonable alternative route (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads;

		Bike	e Lanes	Teff	t	Bea	ath	West I	Hill	Platfo	orm		F	Property Requirements	Transit Service					Safety			Traffic / Accessibility Impacts			Community Impacts	
		gside	oads	P E	us us	ignalized)		ngnmenn nalized)		ide e only		ents			L	RT Operations	Platform Accessibility	Roadway			East Side	Bike	Pe	destrians		Vehicular	Considers net property impacts, barrier effects (pedestrian , vehicular) of West
Op	Option	along Mornin	along local r		restriction	unchanged (unsi signalize		signalized + real	0	side - far sic side - one side	l es	Сошт	Kingston to South of Warnsworth	f South of Warnsworth to Highland Creek	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	Driveways Across from West Hill C.I.	Operations	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	Hill community (i.e. between east and west side of Morningside), and traffic noise / safety impacts on adjacent loca
LRT RIGHT-0F-W	5G - 1	x			х			x	x	x		both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.) 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.1.; 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	intersection (access can be provided at one end of each	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	crosswalks provides safe							restricted to right-ins and right-outs.	and local roads).
	5G - 2	х			х		2	x	x	х	:	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).		direction in order to transverse NB lanes).	platform where ramps can be accommodated to provide access for	intersection may not be suitable for locating platforms.	of LRT tracks.								
	5G - 3	х			x			x	х	х		east side only	-	Overall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m -	-		mobility impaired passengers).			-							
	5Н - 1	х			x			x	x		x	both sides		30m except north of West Hill C.1). 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.1. East Side - 2m along 11 residential buildings (assume partial takings), 4 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	grade crosswalk at a signalized intersection (access can be provided at one end of the platform	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	crosswalks, provides safe pedestrian crossing								
	5H - 2	х			х		1	x	x		х	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).		transverse NB lanes).	be accommodated	intersection may not be suitable for locating platforms.	of LRT tracks								
	5H - 3	х			х			x	x		х	east side only	Existing right-of way	Tull takings on the west side). Overall impacts would be worse (would require more full property takings). Existing right-of way width varies (26m -			impaired passengers).										
	6 A - 1		x		x	x	< off	set > X		x	:	both sides	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	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 must be used in SB	intersection	Meets 80 kph design speed, however may not provide the required stopping sight distance for the intersection (north approach). The existing	crosswalks provides safe		LRT right-of-way						
TIONS	6A - 2		х		x	х	< off	set > X		х		west side only	(potential for frontage requirements along apartment complex, depending on left turn	Overall impacts would be worse (could eliminate 4 partial takings on the east side, but need 4 more full takings and 3 partial	-	direction in order to transverse NB lanes).	platform where ramps can be accommodated to	5% grade north of the intersection may not be suitable for locating platforms.	of LRT tracks.		limits access to right-in and right- out only; for SB			Addition of signalized intersection at Beath		Addition of signalized	Implementation of the LRT right-of-way ar bike lanes along local roads to Beath has
NFIGUR/	6A - 3		х		x	x	< off	set > X		х	:	east side only	lane length); East	Overall impacts would be significantly worse (would require more full property			provide access for mobility impaired passengers).				vehicles, the next intersection where a u-turn can be made is at			and maintenance of signalized intersection at West Hill C.I.		intersection at Beath and maintenance of signalized intersection at West Hill	minor impact: no pedestrian movement impacts; minimal traffic accessibility and local road impacts associated with the
TH / WEST HILL AN	6B - 1		x		x		< off				x		(potential for daylighting triangle requirement at NE quadrant with Tefft).	takings). Existing right-of way width varies (28m - 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). 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. Overall impacts would be less (could eliminate 5 partial takings, and 10 full		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).	potentially be provided at both	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	crosswalks provides safe		Ellesmere, so the proximity of some driveways to West Hill C.I. and Beath intersections may encourage unsafe manoeuvres to use intersection.			improves pedestrian movements, although 1 or 2 crosswalks potentially eliminated for traffic operational issues (Note: West Hill C.I. on the west side).		vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	turning restrictions at Warnsworth and the availability of reasonable alternative route (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads; Warnsworth to Tefft, via left turn at Kingst and local roads).
US BI	6B - 2 6B - 3		X		x		< off	set > X				west side only east side only		takings on the east side but need 1 more full taking on the west side). Overall impacts would be worse (would	-		provide access for mobility impaired passengers).	platforms.									
NSIGNALIZED, VAR	6C - 1		x		x				x	х		both sides		require more full property 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 - potential for daylighting triangle requirement at SW quadrant with Warmsworth). 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).		the TSP does nort work as effectively in order to transverse NB lanes). Note: LRT operations can be improved if the distance	Side platforms (one side only); provide poor access due to its	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	LRT/sidewalk crossing to access LRT platforms;	Maintenan	Provision of Service Road improves safety for right-in and right-out access of driveways.	local	Elimination of signalized		Eliminativ		Implementation of the LRT right-of-way an 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.
LOCAL	6C - 2		х		x	х	70 s	skew >	х	х		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).	Elimination of signalized intersection at Tefft will improve	where the LRT traverses the NB lanes is reduced, which requires a roadway DS=60 kph.		limited horizontal sight distance (NB) due to potential retaining wall requirement.	of LRT tracks.	NB left turn lane at signalized West Hill C.I.		community, via Fairwood Crescent	intersection at Tefft removes all existing pedestrian		Elimination of signalized intersection at Tefft restricts		and local roads); east side driveways acro from West Hill C.I. are provided right-in an right-out access via Service Road provider
S ALONG	6C - 3		х		x	х	70 s	skew >	x	х		east side only		Overall impacts would be significantly worse (would require more full property takings).	LRT speed and reliability (loss of turning			,		Intersection and provision of SB left turn lane at the new Beath		Street, to a new signalized	movements between Kingston and		vehicular movements to right-ins and right-outs.		
TO THE EAST SIDE, BIKE LANE	6D - 1		x		×	x	70 s	ikew >	x		x	both sides		Existing right-of way width varies (26m - 30m except north of West Hill C.1.) 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.1; 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.	movements potentially mitigated with new signalized intersection at Beath).	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	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	crosswalks provides safe pedestrian crossing	signalized intersection, provide for safe manoeuvres of	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	intersection at Morningside / Beath (most circuitous route through the	Beath / West Hill C.I. signalized intersections (Note: West Hill P.S. at SE quadrant of Morningside /	Maintenance of a signalized intersection at West Hill C.I. maintains existing pedestrian movements	rignt-outs. Alternative access is provided from Kingston Road and Beath Street.	Provision of joint signalized intersection at Beath / West Hill C.I. maintains existing	Implementation of the LRT right-of-way ar bike lanes along local roads to Beath has 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 route (alternative routes: Warnsworth to Beath, via left turn at Kingston and local roads;
SAVE	6D - 2		х		x	x			x			west side only east 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). Overall impacts would be worse (would			accommodated to provide access for mobility impaired passengers).	suitable for locating platforms.			for SB vehicles to use intersection.			(Note: West Hill C.I. on the west side).		vehicular movements. Warnsworth will be restricted to right-ins and right-outs.	Warnsworth to Tefft, via left turn at Kingst and local roads).

ſ		Bike Lan	es	Tefft	Beath	West Hill	PI	latform		Property Requirements	Transit Service					Safety			Traffic / Accessibility Impacts				Community Impacts
	-			-	ized)	(p _e		>			LRT Operations Platform Accessibility							Pe	destrians		Vehicular		
	Option	along Morningsid	signalized	signalized with SBI restrictions	signalized with SBI restrictions signalized signalized trealignmunchanged (signalized realignmunchanged (signalized - realigner) side - far side side - far side onlesside onlesside onlesside onlesside onlesside onlesside side side side side side side sid	토 등	Kingston to South of Warnsworth to Highland Cree	Kingston to South of Warnsworth	North of Warnsworth to Highland Creek		Roadway Geometrics	Pedestrians	Vehicular / Roadways	East Side Driveways Across from West Hill C.I.	Bike Operations	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	west side of Morningside), and traffic / noise / safety impacts on adjacent local			
ROADWAY TO WEST HILL THE	6E - 1	3	· ·	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 takings.		from the intersection so as the TSP does nort work as effectively in order to transverse NB lanes). Note:	Side platforms (one side only); provide poor access due to its distant location from the	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	LRT platforms;	ss							
IN CENTRE OF I	6E - 2	2	(x	x	x		x x	west side only			Roadway DS=60 kph, which marginally improves the distance between the platforms and the intersection.	n marginally eves the distance een the platforms	platforms. Provides limited horizontal sight distance (NB) due to potential retaining wall requirement.	pedestrian crossin of LRT tracks.		Provision of Service Road						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
LRT RIGHT-OF-WAY	6F - 1	3	(x	x	х			X both sides	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 - 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. Overall impacts would be worse (could		Provides fair LRT operation in terms of speed and reliability (1 signalized intersection, side platforms located a distance away from the intersection so as the TSP does not work as effectively in order to transverse NB lanes). Note Roadway DS=60 kph,	Centre platform; provides poor access due to its distant location	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	platforms;		improves safety for right-in and right-out access of driveways.						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-2	2	(x	х	х			X west side only	eliminate 3 partial takings on the east side but need 4 more full takings and 2 partial takings).		which improves the distance between the platforms and the intersection.			pedestrian crossing of LRT tracks.	rossing							
	6F - 3	,	ĸ	x	×	x			X east side only	Overall impacts would be significantly worse (would require more full property takings).				requirement.									