5A-150 Pinebush Road
Cambridge ON N1R 8J8
p: 519.896.3163
905.381.2229
416.479.9684

www.ptsl.com

07 November 2022
Project: 210233

Ben McCauley
Old Oak Properties
c/o Casey Kulchycki
Zelinka Priamo Ltd.
318 Wellington Road
London ON N6C 4P4

RE: 850 HIGHBURY AVENUE NORTH, LONDON – LEGACY VILLAGE DEVELOPMENT TRANSPORTATION IMPACT ASSESSMENT ADDENDUM

In March 2022, **Paradigm Transportation Solutions Limited** (Paradigm) completed the Transportation Impact Assessment (TIA) for the proposed redevelopment of the London Psychiatric Hospital lands located at 850 Highbury Avenue North in the City of London.

Since the completion of the March 2022 TIA, changes have been made to the proposed Draft Plan of Subdivision, and the City of London has provided comments through Official Plan Amendment and the Secondary Plan processes. This letter addendum addresses draft plan changes and comments provided by City staff.

Updated Draft Plan

The March 2022 TIA was based on the initial Draft Plan comprising 126 single-family units, 1,174 medium density units, 3,014 high density units and total equivalent block area of 12.177 ha allocated for commercial uses.

Vehicle access was proposed via two connections to Oxford Street East, two connections to Highbury Avenue, and the westerly extension of Howland Avenue and Rushland Avenue.

The Draft Plan has since been changed and it now accommodates 30 single-family units, 2,290 medium density units, 2,739 high density units and 393,000 square feet GFA allocated for commercial uses. It is noted that commercial uses are expected to be included as mixed-use development on the ground floor of apartment buildings within medium density and high-density blocks in the subdivision, totalling approximately 393,000 square feet GFA.

The updated Draft Plan also changes the distribution of residential units within the subdivision resulting in the reassignment of traffic on internal roads and access points, which are reviewed herein.

Block 55 is assumed to include a future school, however, in the absence of specific information about the school no external vehicular trip generation is assumed in the traffic analysis. It is also noted that the proposed subdivision could potentially satisfy the catchment requirements for a new school.

A potential westerly extension of Spanner Street is also identified in the Draft Plan along with a one-foot reserve at the subdivision boundary. It is noted that the extension of Spanner Street into the subdivision will involve the crossing of the existing rail spur line independent of the subject development.

The external access points on Oxford Street and on Highbury Avenue are the same as in the earlier draft plan version and the March TIA.

Figure 1 (attached) illustrates the updated Draft Plan.

The implications of the above changes for the TIA are reviewed herein.

Development Traffic Impacts

Trip Generation and Assignment

In the March 2022 TIA, it was estimated that the development would generate 1,352 AM peak hour trips and 1,669 PM peak hour trips.

As summarized in **Table 1**, the development, based on the updated Draft Plan, is forecast to generate 1,441 AM peak hour trips and 1,715 PM peak hour trips.

TABLE 1: UPDATED TRIP GENERATION

Land Use		Number of Units	AM Peak Hour				PM Peak Hour			
Blocks	ITE Land Use Code		Rate	In	Out	Total	Rate	In	Out	Total
1-30	210 - Single Family Detached Housing	30	Eq	7	19	**26**	Eq	20	12	**32**
31-38	220 - Multifamily Housing (Low-Rise)	2,035	Eq	199	665	**864**	Eq	587	344	**931**
39-40	220 - Multifamily Housing (Low-Rise)	255	Eq	27	89	**116**	Eq	86	50	**136**
	820 - Shopping Centre (1,000 ft^2 GFA)	56.03	0.94	33	20	**53**	3.81	102	111	**213**
41-48	221 - Multifamily Housing (Mid-Rise)	2,739	Eq	231	655	**886**	Eq	661	422	**1083**
	820 - Shopping Centre (1,000 ft^2 GFA)	337	0.94	197	120	**317**	3.81	616	668	**1284**
Total Trip Generation				**694**	**1568**	**2262**		**2072**	**1607**	**3679**
Residential Internal Capture Reductions			*1%*	*9*	*14*	*23*	*7%*	*203*	*72*	*275*
Commerical Internal Capture Reductions			*1%*	*14*	*9*	*23*	*7%*	*72*	*203*	*275*
Mode Share Reductions			*35%*	*234*	*541*	*775*	*35%*	*665*	*479*	*1144*
LUC 820 Pass-by Reductions			*0%*	*0*	*0*	*0*	*34%*	*135*	*135*	*270*
Net Trip Generation				**437**	**1004**	**1441**		**997**	**718**	**1715**

LUC 210 - AM: T = 0.71(X)+4.80 | PM: Ln(T) = 0.96Ln(X)+0.20

LUC 220 - AM: Ln(T) = 0.95Ln(X)-0.51 | PM: Ln(T) = 0.89Ln(X)-0.02

LUC 221 - AM: Ln(T) = 0.98Ln(X)-0.98 | PM: Ln(T) = 0.96Ln(X)-0.63

The total peak hour trip generation based on the updated Draft Plan is higher than the March 2022 TIA trip generation estimates by 89 AM peak hour trips and 46 PM peak hour trips. However, the redistribution of residential units within the subdivision has altered the traffic volumes on internal roadways and at the external access points.

Appendix A contains the detailed trip generation tables and internal capture worksheets.

The trip distribution along cardinal directions is the same as in the March 2022 TIA. However, traffic assignments on internal roadways are different due to the new distribution of residential units within the subdivision. Changes in traffic volumes at the external access points are not significant. Approximately 5% of the trips generated by the development could potentially use a future Spanner Street connection.

Figure 2 and **Figure 3** (attached) illustrate the site-generated traffic volumes for the AM and PM peak hours, respectively, based on the updated Draft Plan.

Figure 4 and **Figure 5** (attached) illustrate the 2031 total traffic volumes, including the updated site-generated traffic volumes and background traffic volumes presented in the March 2022 TIA.

Intersection operational analysis was undertaken for the updated total traffic volumes under 2031 future conditions, as in the March TIA.

Table 2 summarizes the results of the analysis, which indicate that the study area intersections are forecast to operate with similar levels of service as in the March 2022 TIA.

Appendix B contains the detailed synchro reports.

TABLE 2: 2031 TOTAL TRAFFIC OPERATIONS – AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																	
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Highbury Avenue North & Oxford Street East	TCS	LOS	F	F	C	**F**	F	F	>	**F**	F	F	D	**F**	E	F	B	**F**	**F**
			Delay	221	267	25	**216**	360	262	>	**276**	182	110	39	**106**	61	221	20	**170**	**183**
			V/C	1.31	1.50	0.69		1.64	1.49	>		1.26	1.12	0.89		0.76	1.40	0.53		
			Q	116	293	73		115	254	>		206	211	143		110	320	57		
			Stor.	115	-	-		170	-	>		190	-	50		300	-	75		
			Avail.	-1	-	-		55	-	>		-16	-	-93		190	-	18		
	Highbury Avenue North & Canada Post Access/Rushland Avenue	TCS	LOS	C	A	>	**A**	E	C	>	**D**	F	C	>	**C**	E	C	>	**C**	**C**
			Delay	34	0	>	**10**	69	21	>	**50**	83	29	>	**29**	79	23	>	**25**	**29**
			V/C	0.03	0.04	>		0.85	0.40	>		0.23	1.00	>		0.58	0.85	>		
			Q	4	0	>		90	34	>		0	330	>		38	275	>		
			Stor.	-	-	>		-	-	>		45	-	>		45	-	>		
			Avail.	-	-	>		-	-	>		45	-	>		7	-	>		
	Highbury Avenue North & Street B	TCS	LOS	<	D	A	**B**	E	C	>	**D**	E	C	>	**C**	D	C	>	**C**	**C**
			Delay	<	45	1	**19**	66	29	>	**46**	59	26	>	**27**	43	31	>	**31**	**30**
			V/C	<	0.13	0.09		0.68	0.55	>		0.42	0.88	>		0.42	0.95	>		
			Q	<	9	0		49	36	>		30	283	>		17	312	>		
			Stor.	<	-	-		-	-	>		50	-	>		50	-	>		
			Avail.	<	-	-		-	-	>		20	-	>		33	-	>		
	Highbury Avenue North & Dundas Street	TCS	LOS	F	F	>	**F**	F	F	B	**F**	D	F	>	**F**	F	F	C	**F**	**F**
			Delay	876	153	>	**365**	163	282	15	**212**	52	175	>	**163**	86	227	23	**177**	**209**
			V/C	2.84	1.23	>		1.01	1.54	0.47		0.59	1.30	>		0.92	1.42	0.62		
			Q	147	237	>		46	310	39		54	256	>		97	278	69		
			Stor.	130	-	>		130	-	-		45	-	>		140	-	20		
			Avail.	-17	-	>		84	-	-		-9	-	>		43	-	-49		
	Street E/School Access & Oxford Street East	TCS	LOS	F	D	>	**D**	E	C	>	**C**	C	A	>	**C**	C	A	>	**A**	**D**
			Delay	86	45	>	**48**	62	21	>	**22**	34	0	>	**23**	30	0	>	**9**	**37**
			V/C	0.86	1.01	>		0.38	0.79	>		0.30	0.10	>		0.05	0.08	>		
			Q	62	280	>		15	72	>		30	0	>		8	0	>		
			Stor.	90	-	>		45	-	>		-	-	>		-	-	>		
			Avail.	28	-	>		30	-	>		-	-	>		-	-	>		
	First Street & Oxford Street East	TCS	LOS		B	>	**B**	D	A		**A**	F		B	**F**	D	D	A	**C**	**C**
			Delay		13	>	**13**	48	6		**8**	163		11	**124**	49	42	2	**23**	**22**
			V/C		0.73	>		0.27	0.39			1.19		0.30		0.25	0.03	0.17		
			Q		70	>		15	53			87		11		12	4	0		
			Stor.		-	>		65	-			60	-	-		-	-	-		
			Avail.		-	>		50	-			-27		-		-	-	-		
	Dundas Street & First Street	TCS	LOS	D	A	>	**B**	A	A	>	**A**	C	B	>	**C**	D	C	>	**C**	**B**
			Delay	41	10	>	**16**	5	6	>	**6**	32	18	>	**24**	49	20	>	**31**	**13**
			V/C	0.82	0.40	>		0.04	0.48	>		0.06	0.06	>		0.57	0.56	>		
			Q	61	105	>		3	60	>		5	5	>		27	24	>		
			Stor.	65	-	>		30	-	>		-	-	>		55	-	>		
			Avail.	4	-	>		27	-	>		-	-	>		28	-	>		
	Hale Street & Dundas Street	TCS	LOS		C	>	**C**	B	A		**A**	D		B	**C**					**B**
			Delay		23	>	**23**	10	10		**10**	45		17	**29**					**18**
			V/C		0.69	>		0.41	0.55			0.67		0.72						
			Q		128	>		10	92			51		28						
			Stor.		-	>		60	-			20		-						
			Avail.		-	>		50	-			-31		-						
	Street F & Oxford Street East	TWSC	LOS		A	>	**A**		A		**A**	D			**D**					
			Delay		0	>	**0**		0		**0**	27			**27**					
			V/C		0.00	>			0.00			0.23								
			Q		0	>			0			7								

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
< / > - Shared with through movement

TABLE 3: 2031 TOTAL TRAFFIC OPERATIONS – PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Highbury Avenue North & Oxford Street East	TCS	LOS	F	F	C	F	F	F	>	F	F	F	B	F	F	F	B	F	F
			Delay	304	234	33	202	423	508	>	492	249	205	16	195	119	172	19	138	260
			V/C	1.54	1.42	0.81		1.83	2.06	>		1.43	1.36	0.40		1.03	1.28	0.59		
			Q	179	261	102		214	411	>		218	321	38		126	267	57		
			Stor.	115	-	-		170	-	>		190	-	50		300	-	75		
			Avail.	-64	-	-		-44	-	>		-28	-	12		174	-	18		
	Highbury Avenue North & Canada Post Access/Rushland Avenue	TCS	LOS	D	A	>	A	E	B	>	D	E	F	>	F	E	C	>	C	E
			Delay	35	0	>	8	65	20	>	48	79	119	>	119	79	29	>	32	75
			V/C	0.02	0.04	>		0.78	0.37	>		0.32	1.23	>		0.77	0.92	>		
			Q	4	0	>		70	27	>		6	288	>		94	324	>		
			Stor.	-	-	>		-	-	>		45	-	>		45	-	>		
			Avail.	-	-	>		-	-	>		39	-	>		-49	-	>		
	Highbury Avenue North & Street B	TCS	LOS	<	D	A	B	E	C	>	D	E	F	>	F	C	B	>	B	E
			Delay	<	49	1	19	66	24	>	43	59	120	>	120	33	18	>	19	69
			V/C	<	0.14	0.11		0.60	0.47	>		0.17	1.20	>		0.46	0.80	>		
			Q	<	10	0		37	24	>		9	399	>		37	300	>		
			Stor.	<	-	-		-	-	>		50	-	>		50	-	>		
			Avail.	<	-	-		-	-	>		41	-	>		13	-	>		
	Highbury Avenue North & Dundas Street	TCS	LOS	F	F	>	F	F	F	C	F	E	F	>	F	F	E	B	E	F
			Delay	1478	682	>	869	516	335	26	269	64	168	>	160	156	70	17	76	301
			V/C	4.19	2.45	>		1.97	1.65	0.65		0.61	1.29	>		1.18	1.04	0.45		
			Q	215	543	>		94	341	68		60	352	>		160	265	57		
			Stor.	130	-	>		130	-	-		45	-	>		140	-	20		
			Avail.	-85	-	>		36	-	-		-15	-	>		-20	-	-37		
	Street E/School Access & Oxford Street East	TCS	LOS	D	C	>	C	E	B	>	B	D	A	>	C	C	A	>	B	C
			Delay	53	29	>	29	77	16	>	20	42	1	>	29	34	0	>	12	24
			V/C	0.10	0.88	>		0.79	0.86	>		0.44	0.13	>		0.01	0.02	>		
			Q	7	191	>		54	149	>		45	0	>		4	0	>		
			Stor.	90	-	>		45	-	>		-	-	>		-	-	>		
			Avail.	83	-	>		-9	-	>		-	-	>		-	-	>		
	First Street & Oxford Street East	TCS	LOS		A	>	A	D	B		B	F		B	F	E	D	A	C	B
			Delay		8	>	8	54	10		12	130		10	104	55	50	8	30	20
			V/C		0.76	>		0.39	0.63			1.11		0.26		0.32	0.22	0.36		
			Q		43	>		23	122			110		12		16	16	4		
			Stor.		-	>		65	-			60	-	-		-	-	-		
			Avail.		-	>		42	-			-50		-		-	-	-		
	Dundas Street & First Street	TCS	LOS	F	A	>	C	B	B	>	B	D	B	>	C	D	E	>	E	C
			Delay	245	5	>	28	12	15	>	14	51	14	>	30	52	59	>	57	26
			V/C	1.46	0.61	>		0.18	0.69	>		0.44	0.17	>		0.66	0.85	>		
			Q	57	31	>		8	164	>		21	14	>		62	92	>		
			Stor.	65	-	>		30	-	>		-	-	>		55	-	>		
			Avail.	8	-	>		22	-	>		-	-	>		-7	-	>		
	Hale Street & Dundas Street	TCS	LOS		D	>	D	D	B		B	E		C	D					C
			Delay		54	>	54	43	12		17	63		22	38					35
			V/C		1.01	>		0.75	0.63			0.64		0.71						
			Q		262	>		105	138			48		28						
			Stor.		-	>		60	-			20		-						
			Avail.		-	>		-45	-			-28		-						
	Street E & Oxford Street East	TWSC	LOS		A	>	A		A		A	C			C					
			Delay		0	>	0		0		0	19			19					
			V/C		0.00	>			0.00			0.19								
			Q		0	>			0			5								

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
< / > - Shared with through movement

Intersection Modifications

The main study area roadways and intersections are to be reconstructed as part of the implementation of London's Bus Rapid Transit (BRT) system, anticipated to commence in 2024. The analyses of intersection operations undertaken in the TIA and the Addendum for the subject development, indicate capacity issues, delays and queuing problems especially for left-turn movements at the study area intersections including the already existing development access intersections on Oxford Street and on Highbury Avenue.

The above analyses were undertaken corresponding to existing (2021) and future (2031) background and total traffic volumes. The analysis of existing traffic conditions was based on the existing auxiliary-lane storage lengths at the study area intersections and inadequate storage lengths based on 95th percentile queuing were identified.

For the 2031 background and total traffic conditions, the analysis assumed the modified storage lengths identified in the preliminary design BRT related road modifications[1]. Inadequate storage lengths to accommodate 95th percentile queuing, were identified as under existing traffic conditions.

Table 4 summarizes the existing storage lengths, the BRT-proposed storage lengths and 95th percentile maximum queue lengths under existing (2021) and future (2031) background and total traffic conditions, at the study area intersections.

[1] City of London, Environmental Project Report Corridor Design Booklet, March 2019.

TABLE 4: EXTERNAL BRT TURN LANE REQUIREMENTS

Intersection	Scenario	Storage / Queue Length (m)							
		EB		WB		NB		SB	
		Left	Right	Left	Right	Left	Right	Left	Right
Highbury Avenue North and Oxford Street East	Existing	115	-	250	300	95	65	300	75
	BRT Improvements			170	-	190	50		
	Existing (2021) Queue Length	97	52	96	60	116	48	63	25
	2031 Background Queue Length	179	69	177	-	167	109	96	55
	2031 Total Queue Length	179	102	214		218	143	126	57
Highbury Avenue North and Canada Post Access/Rushland Avenue	Existing	-	-	-	-	-	-	-	-
	BRT Improvements					45		45	
	Existing (2021) Queue Length	7	2			2	-	-	
	2031 Background Queue Length	5	7			8			
	2031 Total Queue Length	4	-	90		6		94	
Highbury Avenue North and Street B	Existing	-	-	-	-	60	60	50	-
	BRT Improvements					50	-		
	Existing (2021) Queue Length		6	2		8	0	0	
	2031 Background Queue Length		0	0		29	-	0	
	2031 Total Queue Length		0	49		30		37	
Dundas Street and Highbury Avenue North	Existing	30	45	50	-	45	-	30	20
	BRT Improvements	130	-	130				140	20
	Existing (2021) Queue Length	64	19	46		33	-	96	34
	2031 Background Queue Length	126	-	83	55	60		135	29
	2031 Total Queue Length	215		94	68	60		160	69
Oxford Street East and Street E/School Access	Existing	85	-	-	-	-	-	-	-
	BRT Improvements	90		45					
	Existing (2021) Queue Length	7		-				13	
	2031 Background Queue Length	62						8	8
	2031 Total Queue Length	62		54		45		8	-
Oxford Street East and First Street	Existing	-	-	-	-	60	-	-	-
	BRT Improvements			65					
	Existing (2021) Queue Length			-		62	10	14	9
	2031 Background Queue Length			18		88	11	16	4
	2031 Total Queue Length			23		110	12	16	4

The following are noted based on the storage length/queuing assessment summary included in **Table 4**:

- Under existing (2021) traffic conditions, 95th percentile queue lengths exceed the existing turn lane storage lengths for five turning movements at three intersections.
- Under future (2031) background and total traffic conditions, 95th percentile queue lengths similarly exceed the proposed turn lane storage lengths for six turning movements at three intersections.
- 95th percentile queue lengths under 2031 total traffic conditions are indicative of the turning lane storage lengths that could be provided as part of BRT road modifications.

- The above (2031) storage requirements are based on a 10 second hold at the intersections of Highbury Avenue North at Dundas Street and at Oxford Street East to account for a protected transit priority phase. In addition, protected phases have been assumed at intersections where the BRT is anticipated to introduce conflicts for left-turning vehicles.

Subdivision Road System

Road Classification

Table 5 summarizes the updated road classification and right-of-way widths, corresponding to Schedule 5 of the proposed London Psychiatric Hospital Secondary Plan[2], the City Official Plan[3] and Complete Streets Manual[4]. The projected daily traffic volumes in **Table 5** are based on the updated Draft Plan and the distribution of dwelling units in the subdivision.

As shown in **Table 5**, the internal subdivision roads fall under two classifications, namely, Neighbourhood Connector and Neighbourhood Street. The proposed right-of-way widths are consistent with the City's design standards[5].

It is noted that given the heritage characteristic of the site and the utilization of the existing internal street layout as the template for the new subdivision road system, there could be occasional deviations from the City's design standards and requirements. However, such deviations could be kept to a minimum and addressed, where necessary, through appropriate speed limits and/or traffic calming measures.

[2] City of London London Psychiatric Hospital Lands Secondary Plan, Amended June 2022.
[3] City of London The London Plan, Consolidated May 2022.
[4] London Complete Streets Design Manual. Prepared by WSP, August 2018.
[5] City of London Design Specifications and Requirements Manual, Updated March 2022.

TABLE 5: ROAD CLASSIFICATION

Roadway	Section	Forecast Traffic Volumes (vpd)	Classification	Right-of-Way (m)	
				Design Standard	Proposed
Rushland Ave	Highbury Ave to Howland Ave	7,310	Neighbourhood Connector	23	23
	Howland Ave to First St	810	Neighbourhood Street	20	20
Howland Ave	Rushland Ave to Street A	1,570 - 3,620	Neighbourhood Connector	23	23
	Street A to First St	810	Neighbourhood Street	20	20
Street A	Rushland Ave to Street B	3,690	Neighbourhood Connector	23	23
	Immediately south of Street B	2,070	Neighbourhood Connector	23	23
	Block 48 to Howland Ave	< 1,000	Neighbourhood Connector	23	23
Street B	Highbury Ave to Street A	4,540	Neighbourhood Connector	23	23
	Street A to Street D	280	Neighbourhood Street	20	20
	Street D to Street A	170	Neighbourhood Street	20	20
Street C	Howland Ave to Street G	130	Neighbourhood Connector	23	23-33.5
Street D	-	< 500	Neighbourhood Street	20	20
Street E	Oxford St to Howland Ave	4,120	Neighbourhood Connector	23	23
Street F	Oxford St to Howland Ave	1,570	Neighbourhood Connector	23	23
Street G	Street A to Street A	1,284	Neighbourhood Connector	23	23
Street H	-	345	Neighbourhood Street	20	20

Specific internal road alignment issues are addressed below:

Howland Avenue

The road alignment for Howland Avenue in the Northwest quadrant of Subdivision Plan includes a sharp turn from the east-west to north-south direction. City staff have indicated concern that the horizontal alignment is not in conformity with City design standards. Given the site constraints for providing the required radius at this location, the two (east-west and north-south) legs of Howland Avenue could be turned into a T intersection by extending the east-west leg of Howland Avenue as an access stub into Block 45, with appropriate stop sign control.

As summarized in **Table 5**, Howland Avenue is classified as a Neighbourhood Connector west of Street A and Neighbourhood Street to the east. Bike lanes will be provided on the Neighbourhood Connector portion of Howland Avenue as identified in the Secondary Plan.

Street D

Street D is classified as a neighbourhood street with a 20-metre right-of-way and is identified in Schedule 5 as an “Enhanced Design Street.” The Street D cross-section is proposed to include angled parking on one side of the roadway. Designated bicycle lanes will not be required along Street D as a multi-use trail is proposed within the designated Heritage Area of the subdivision. The Street D road cross-section can include two-way vehicular traffic with angled parking and without including bicycle lanes.

Street A

The southerly portion of Street A is classified as a neighbourhood connector and the alignment includes two horizontal curves with a circular/splitter island in between. It is noted that the splitter island is an existing feature that is being retained as part of the road system. The

westerly curve has a radius of 110 metres which is consistent with the City's updated design standards requiring a 110-metre radius for a neighbourhood connector; the easterly curve has a slightly deficient radius of 108 metres. The Street A alignment with curves on either side of the splitter island could provide some measure of traffic calming at the south end of the subdivision.

Other Roadways

All other roadways including Rushland Avenue, Street B, Street C, Street E, Street F, and Street G are classified as shown in **Table 5**. Bike lanes will be provided on Street C, Street E, Street F and Street G. Bike lanes will be provided on the Neighbourhood Connector sections of Street B and Rushland Avenue, with sharrows provided on the Neighborhood Street sections.

Conclusions

In conclusion, the review undertaken in this letter addendum confirms the findings and conclusions of the Transportation Impact Assessment completed for subject development in the March 2022 TIA.

The addendum also includes an assessment of the queuing issues and storage length requirements for auxiliary turn lanes for consideration in finalizing road and intersection modifications on Oxford Street, Highbury Avenue and Dundas Street as part of the City's BRT implementation.

Lastly, the addendum provides the traffic and transportation rationale for the proposed subdivision road system that is based on an existing street pattern in a heritage environment. Additional input will be provided through the subdivision design process involving sightline assessment, speed limits, AutoTurn reviews and traffic calming measures, as appropriate.

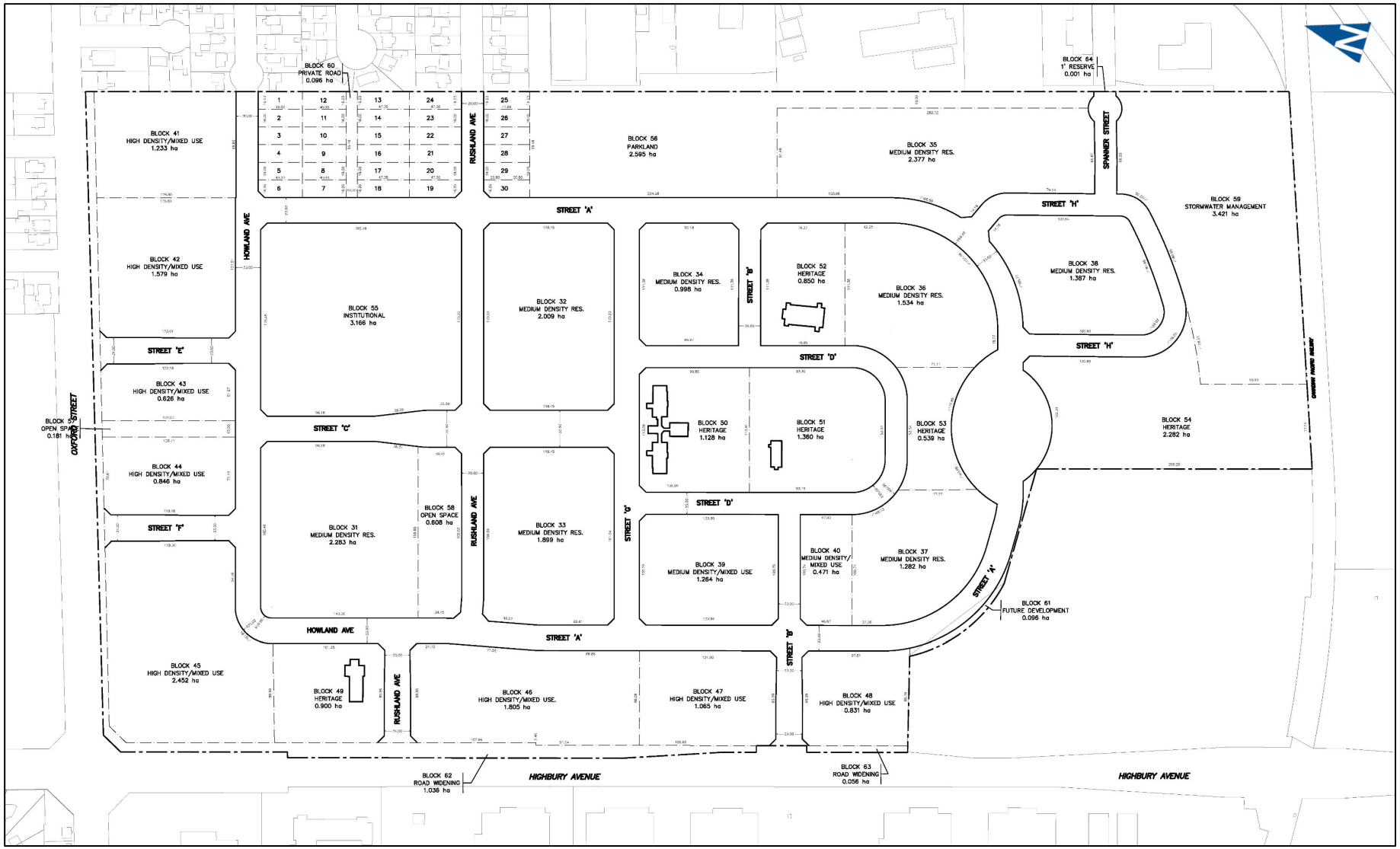
We trust that this letter addresses the addendum requirements based on the comments provided by the City and the changes to the earlier Draft Plan of Subdivision. Please let us know if you need any further information or clarification.

Yours very truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED

Rajan Philips
M.SC, P.Eng.
Senior Transportation Consultant

Attachments

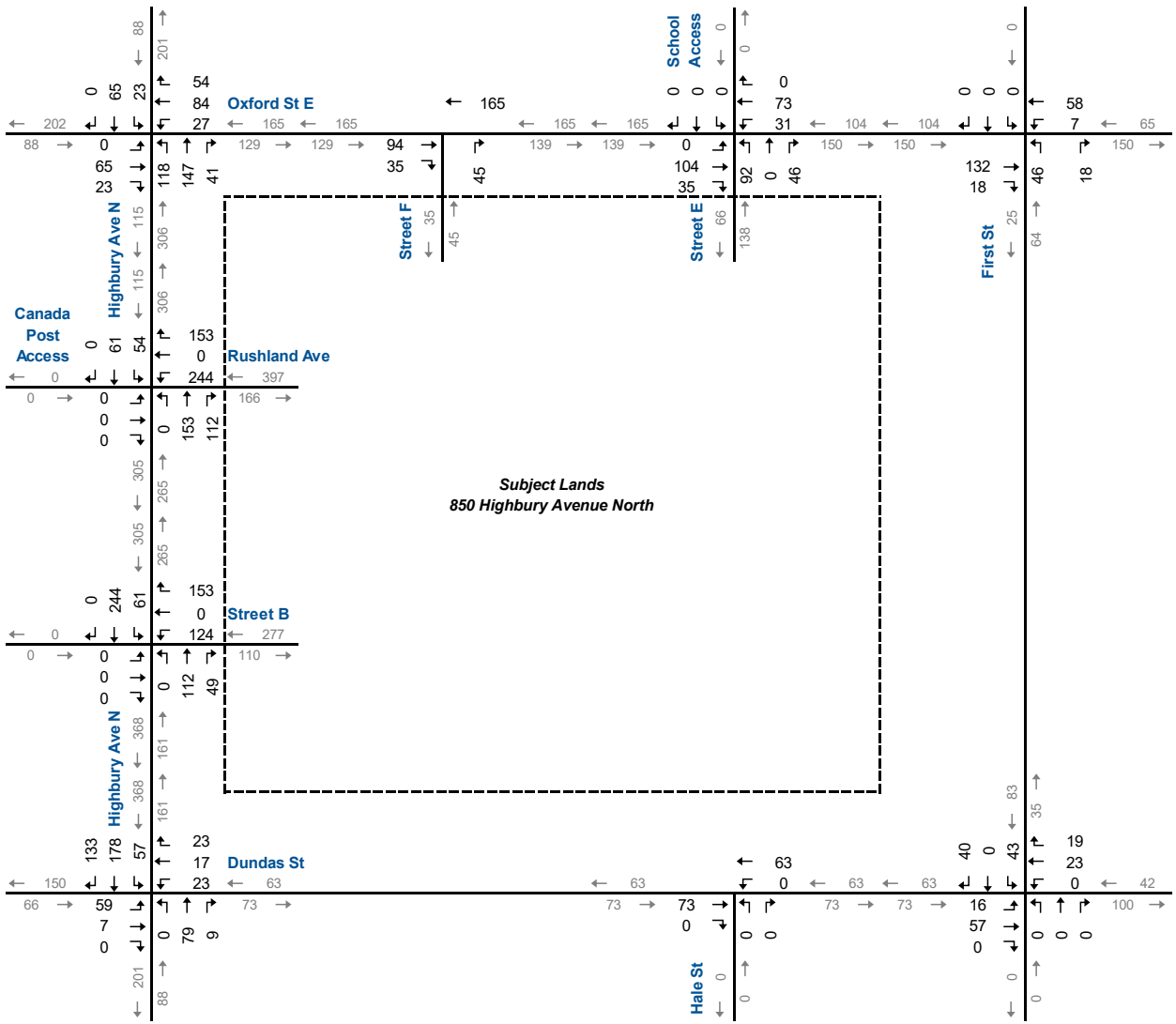


paradigm TRANSPORTATION SOLUTIONS LIMITED

Draft Plan of Subdivision

850 Highbury Avenue North, London TIA
210233

Figure 1

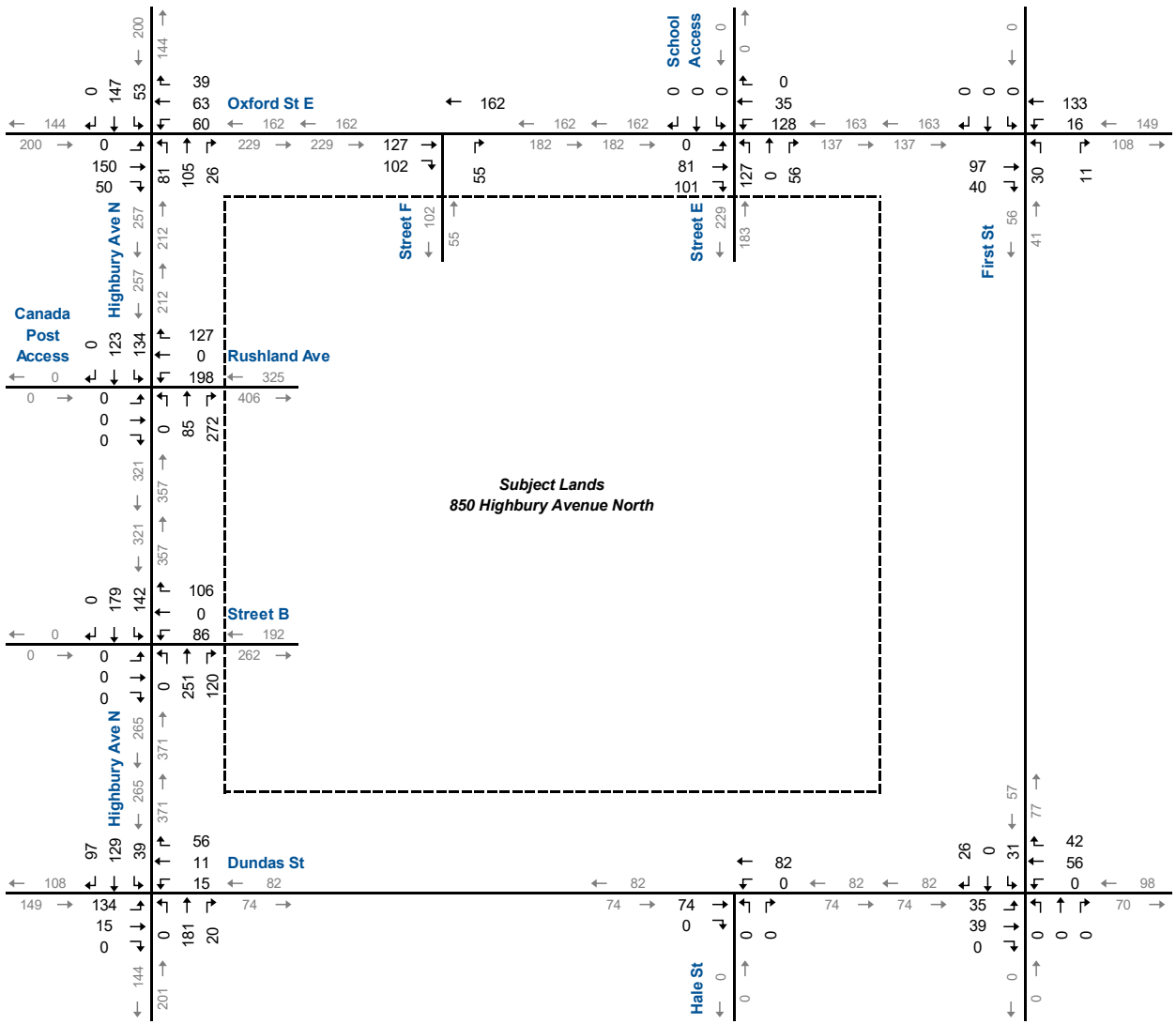


NTS

Site Generated Traffic Volumes
AM Peak Hour

850 Highbury Avenue North, London TIA
210233

Figure 2

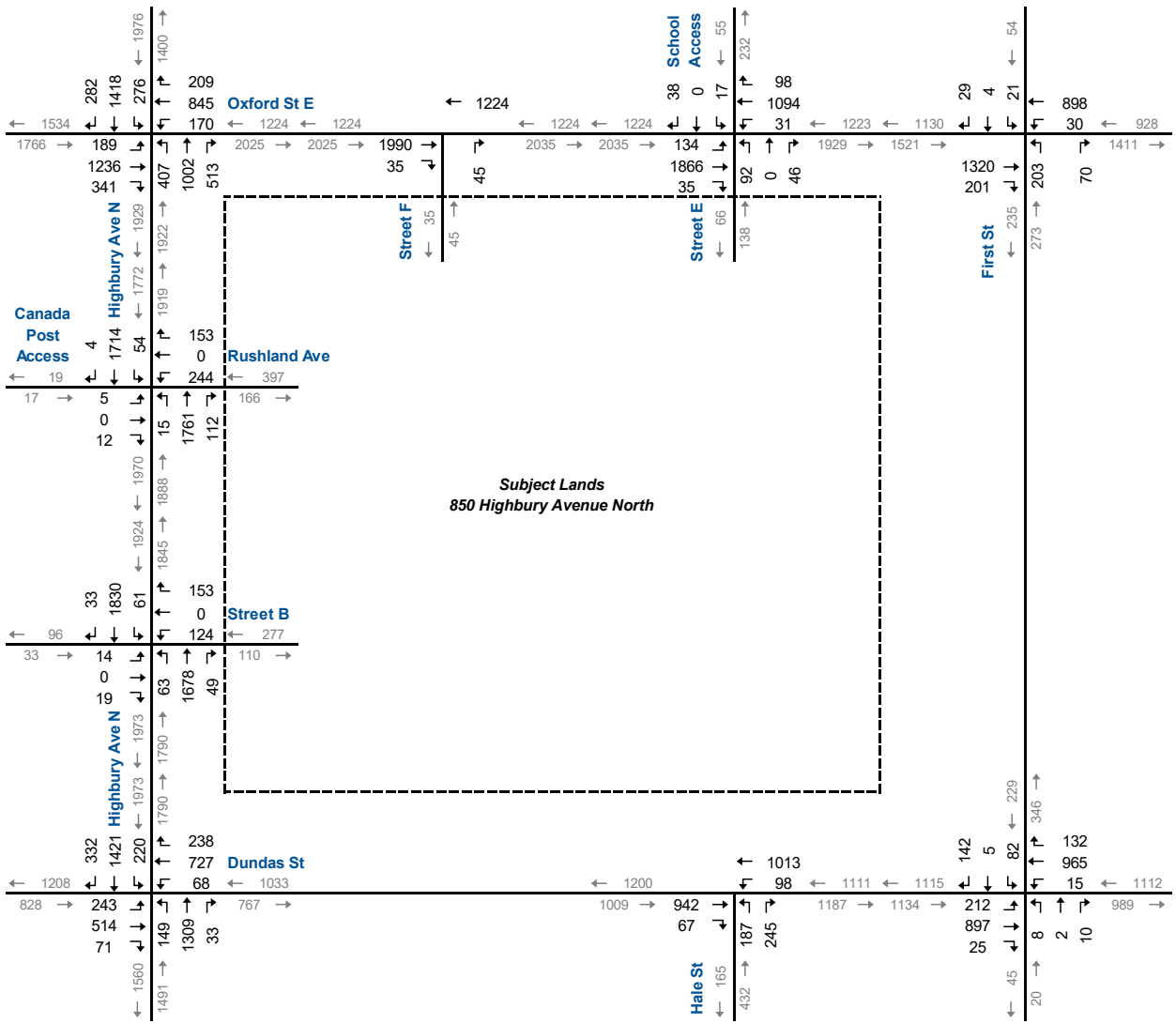


NTS

Site Generated Traffic Volumes
PM Peak Hour

850 Highbury Avenue North, London TIA
210233

Figure 3

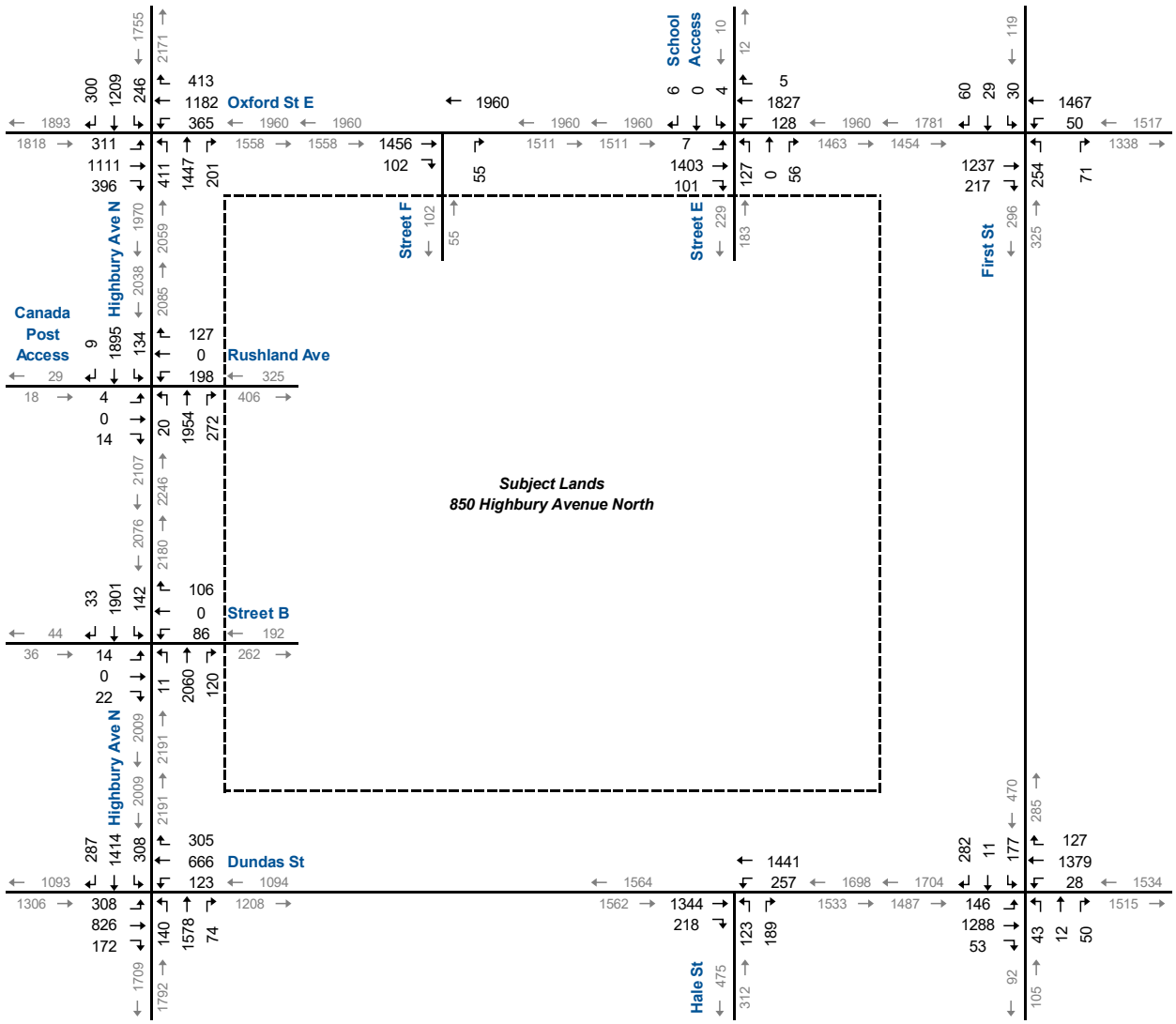


NTS

2031 Total Traffic Volumes
AM Peak Hour

850 Highbury Avenue North, London TIA
210233

Figure 4



NTS

2031 Total Traffic Volumes
PM Peak Hour

850 Highbury Avenue North, London TIA
210233

Figure 5

Appendix A

Trip Generation Tables & Internal Capture Worksheets

Appendix B

2031 Total Traffic Operations Reports