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Transportation Report

Bloor-Dundas 'Avenue' Study

City of Toronto

Transportation Analysis

September 2009

Bloor-Dundas ‘Avenue’ Study

City of Toronto

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1.0 Introduction

This transportation analysis has been completed in support of the Bloor-Dundas 'Avenue' study.

2.0 Proposed Development Addition

Please refer to Figures 1 and 2 for locations of opportunity sites. Table A-1 in the appendix displays detailed information about each opportunity site.

3.0 Existing Traffic Flows

Figure 3 shows existing traffic flows along Bloor Street West. The traffic flows were gathered by Dillon Consulting with data from the City of Toronto.

4.0 Analysis Methodology

4.1 Existing Vehicle Trip Generation Characteristics

The City of Toronto conducted traffic surveys on a building and proposed building in the Study Area. The findings of the survey can be found in Table 1. The upper part of the table includes the vehicle count and the lower part of the table is the trip generation rates. The lower half was calculated by dividing each count (e.g. "a.m. in") by the total number of units for each building.

4.2 New Development Vehicle Trip Generation statistics

Table 2 shows the number of trips generated by the new development. Trip generation rates for residential and retail uses were estimated using the trip generation rates in table 1 and the new development statistics in table A-1.

4.3 Vehicle Trip Distribution and Assignment

The destinations of vehicular trips originating from the planning district of the Study Area were determined using "Transportation Tomorrow Survey" (TTS) data. It was assumed that the zones in which the Study Area is located also had the same origin-destination distribution. It was observed that the planning district had a significant quantity of origin-destinations terminating within it. Thus, the distribution of origin-destinations among the traffic zones within the planning district was also determined. Figure 4 shows the percentage make-up of the trip destinations from the Study Area.

The same general trip distribution and assignment was used for all trip types (e.g. work, retail, residential.).

For destinations west of the Study Area and within the city, it was assumed that they departed the Study Area via the west end of Bloor Street West. For destinations north of the Study Area, it was assumed that the vehicles would depart the Study Area via Keele Street unless the origin was very close to, or on Dundas Street West, in which case they would depart via Dundas Street West. For destinations just east

of the Study Area, or in the central part of the city, it was assumed that they departed via the east end of Bloor Street West. For downtown destinations, it was assumed that they departed southbound on Dundas Street West.

For destinations that were of a significant distance (eastbound or westbound) from the Study Area, it was assumed that they headed south towards the Gardiner Expressway. Vehicles travelled to the Gardiner Expressway in one of two ways, the first is southbound on Parkside Drive. The second is southbound on Roncesvalles Avenue to Howard Park Avenue and west to Parkside Drive. Figures 5 and 6 show the final total assignments of all traffic to be generated from the new development.

4.4 Vehicle Totals

The new vehicle flow totals were calculated by adding the vehicle flow generated from the new development and the current vehicle flows. Figure 7 shows the new total vehicle flows for the two main intersections – Bloor Street West & Dundas Street West and Bloor Street West and Keele Street/Parkside Drive. As expected, the traffic flows for both through and turning movements increased, although none of the new turning lane vehicle demands appear excessive.

5.0 Transit Modal Split

The trip generation rates in Table 1 were compared to the Institute of Traffic Engineers (ITE) rates for that type of development. The results of that comparison are presented in Table 3. Table 3 shows that the trip generation rates in the area are significantly less than those suggested by ITE. The vehicle trip generation rates in the area are only 25%-45% of typical ITE vehicle trip generation rates. The difference is attributed to the strong transit presence in the area. In addition, the availability of numerous retail activities within the study area are likely to attract a significant amount of persons (who live in the area) to walk instead of taking an automobile. The live/shop opportunity is such that a fairly high proportion of trips would be by walking. A further analysis examining trip generation based on population also suggested a strong transit presence in the area. Figures A-1 and A-2 in the appendix show this further analysis.

6.0 Conclusions

The existing trip generation rates in the area are significantly lower than ITE values. Using these we have determined that the proposed development will not significantly affect the operation of the surrounding roadway network. This is attributed to the strong transit presence in the area as well as the many live/shop opportunities.

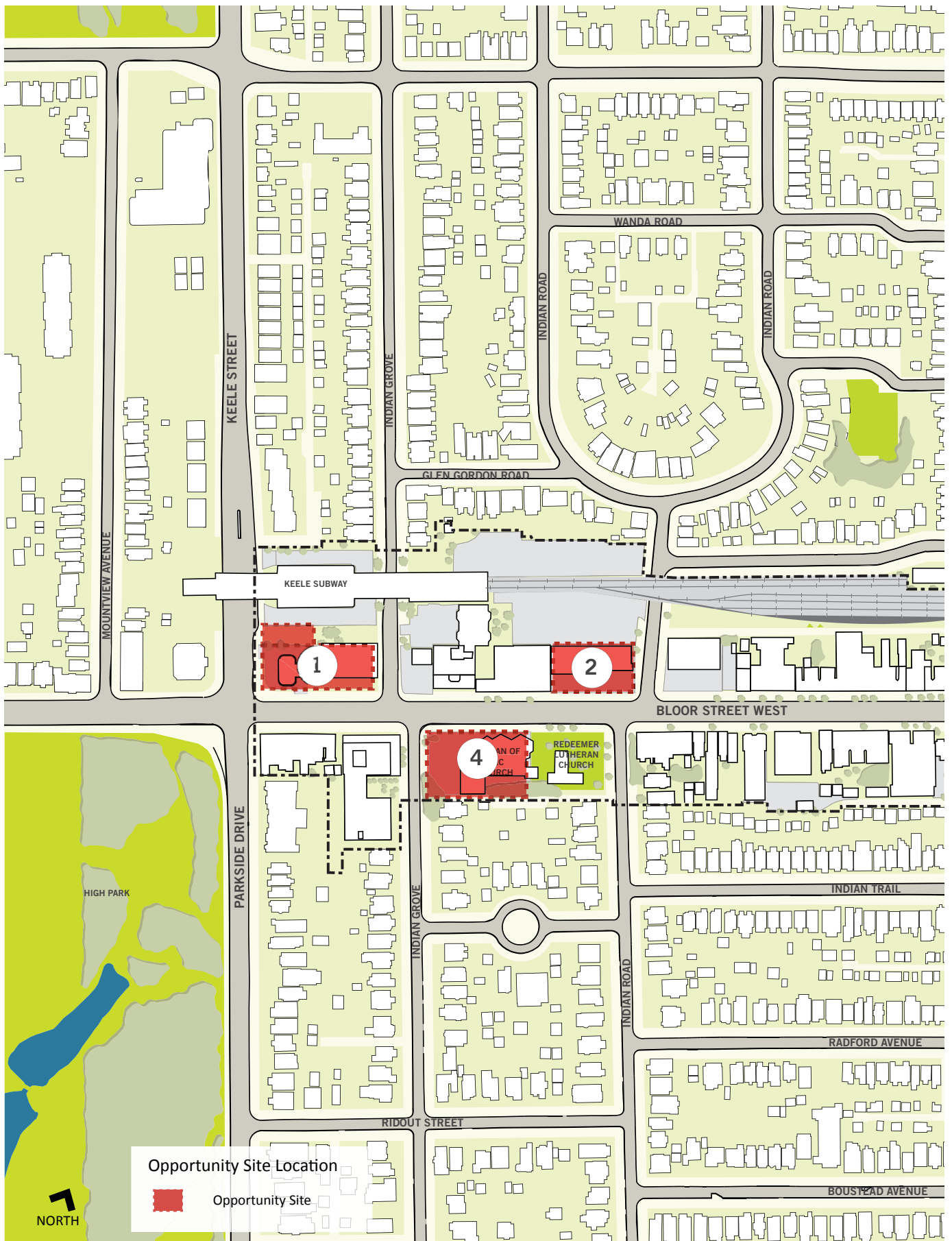


Figure 1 - The proposed opportunity sites for the western half of the study area (BMI/Pace, 2009).

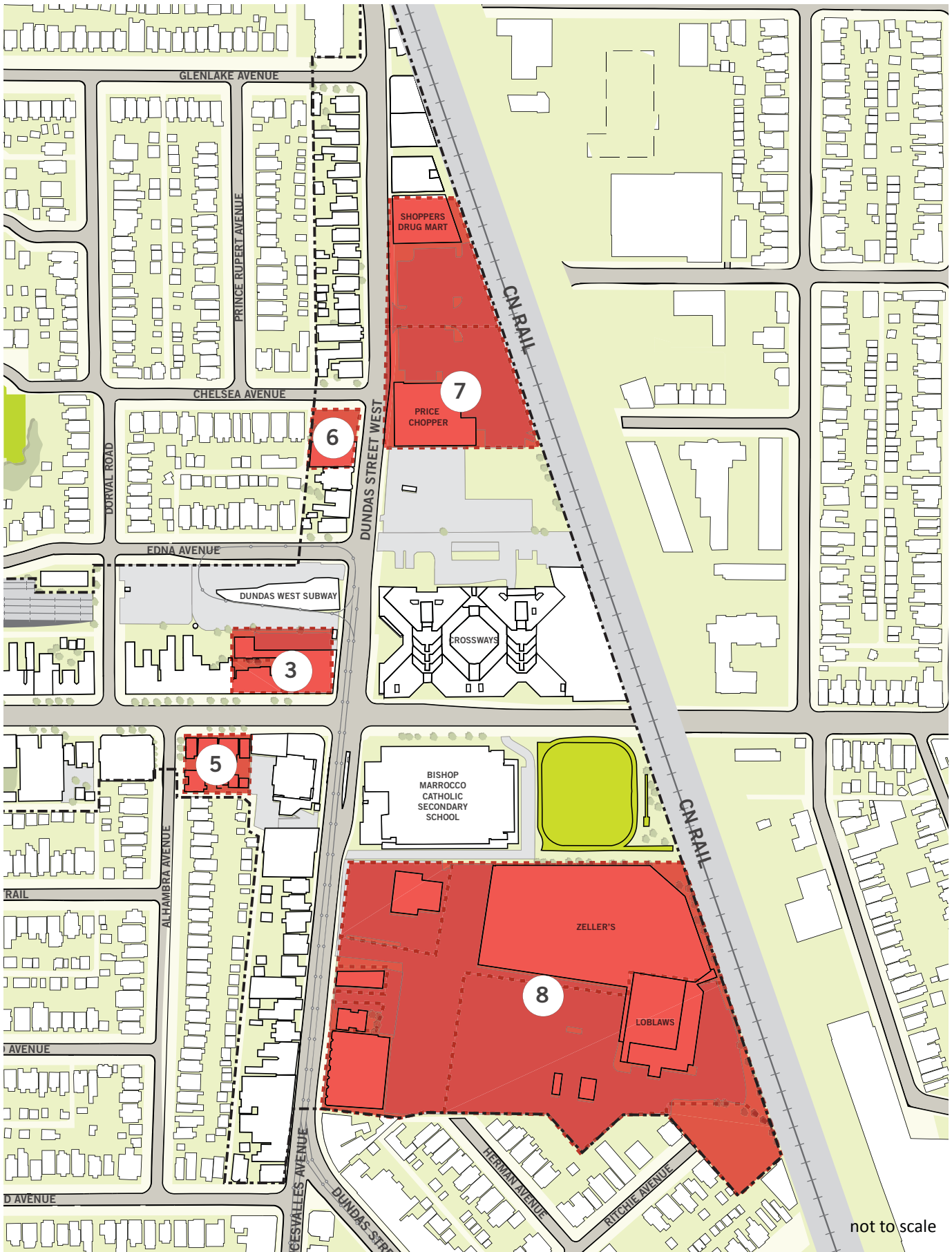


Figure 2 - The proposed opportunity sites for the eastern half of the study area (BMI/Pace, 2009).

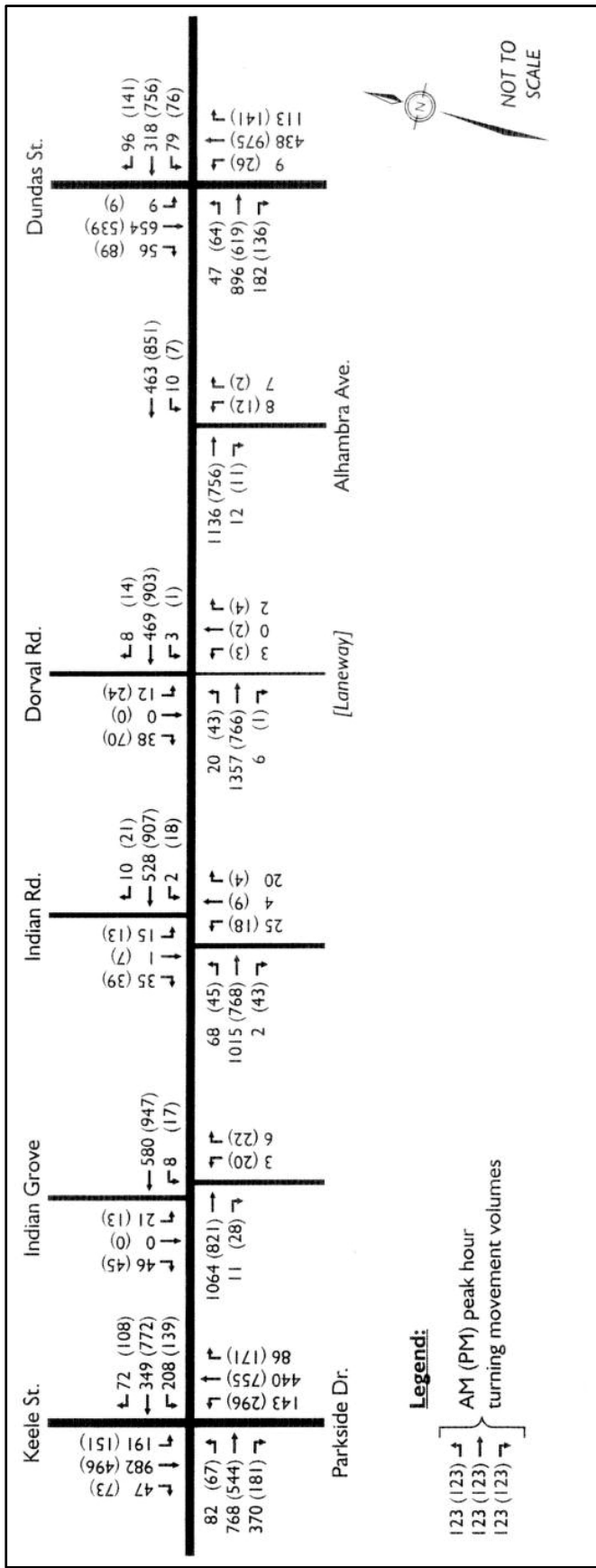


Figure 3- Existing traffic flow along Bloor St. W. (Dillon Consulting, 2007)

Table 1- Current trip generation rates (city of Toronto, 2008)

Address	# of Units	Vehicle Counts									
		a.m.		p.m.		total					
		in	out	in	out	in	total				
Residential											
2495 Dundas St. W.	126	5	22	20	8	27	28				
1638 Bloor St. W.	293	14	60	46	28	74	74				
Total	419										
Retail	Area (100 m ²)										
1638 Bloor St. W.	8.95	1	1	4	4	2	8				
181 Richmond St. W.	6.04	1	1	3	3	2	6				

Vehicle Trip Generation Rates

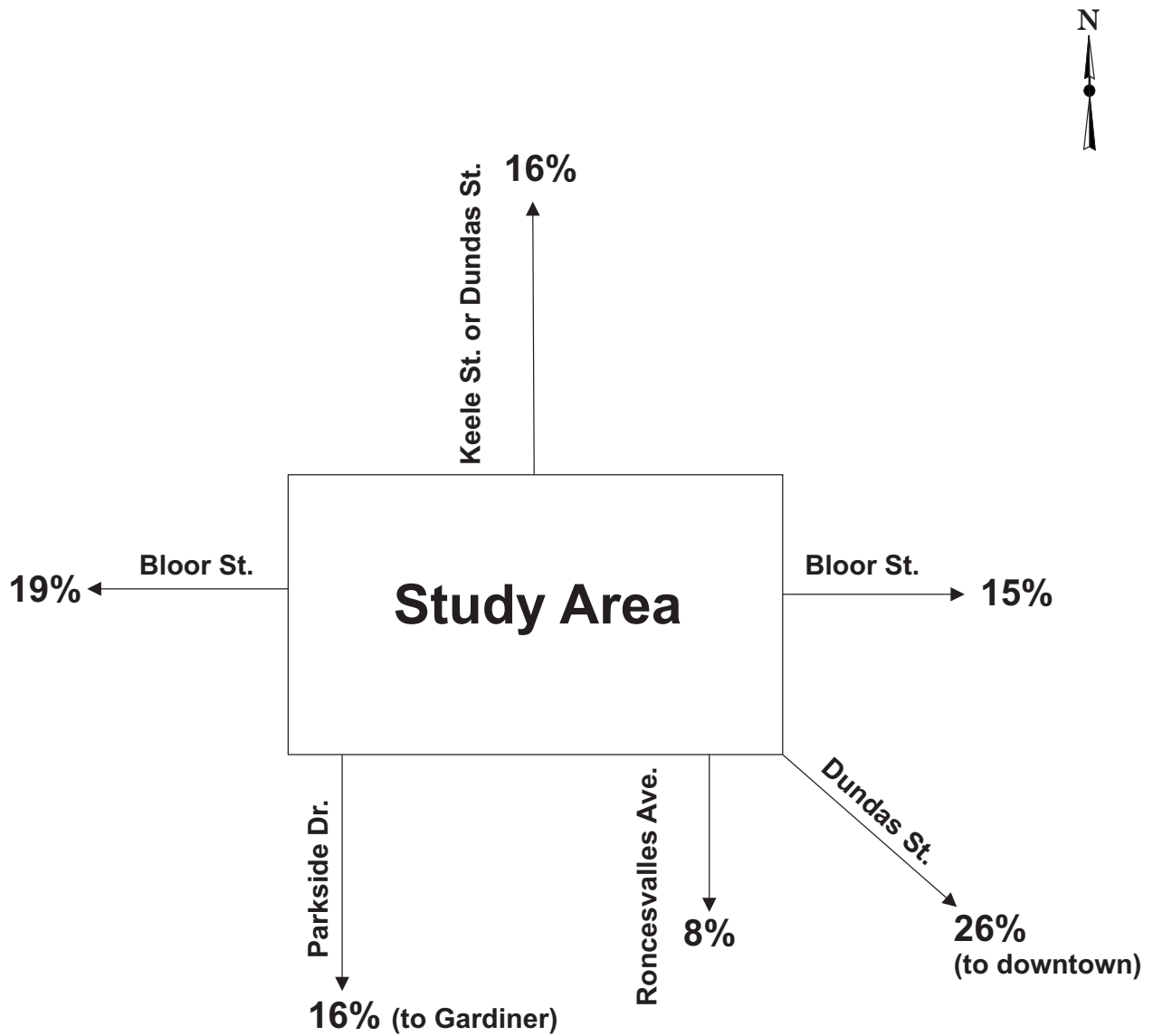
Address	Units	Vehicle Trip Generation Rates									
		a.m.		p.m.		total					
		in	out	in	out	in	total				
Residential											
2495 Dundas St. W.		0.040	0.175	0.159	0.063	0.214	0.222				
1638 Bloor St. W.		0.048	0.205	0.157	0.096	0.253	0.253				
Residential total (Trips/Dwelling)		0.044	0.190	0.158	0.080	0.233	0.237				
Retail											
1638 Bloor St. W.		0.112	0.112	0.447	0.447	0.223	0.894				
181 Richmond St. W.		0.166	0.166	0.497	0.497	0.331	0.993				
Retail total (Trips/100 m ²)		0.139	0.139	0.472	0.472	0.277	0.944				
Retail total (Trips/1000 ft ²)		0.125	0.125	0.425	0.425	0.250	0.849				

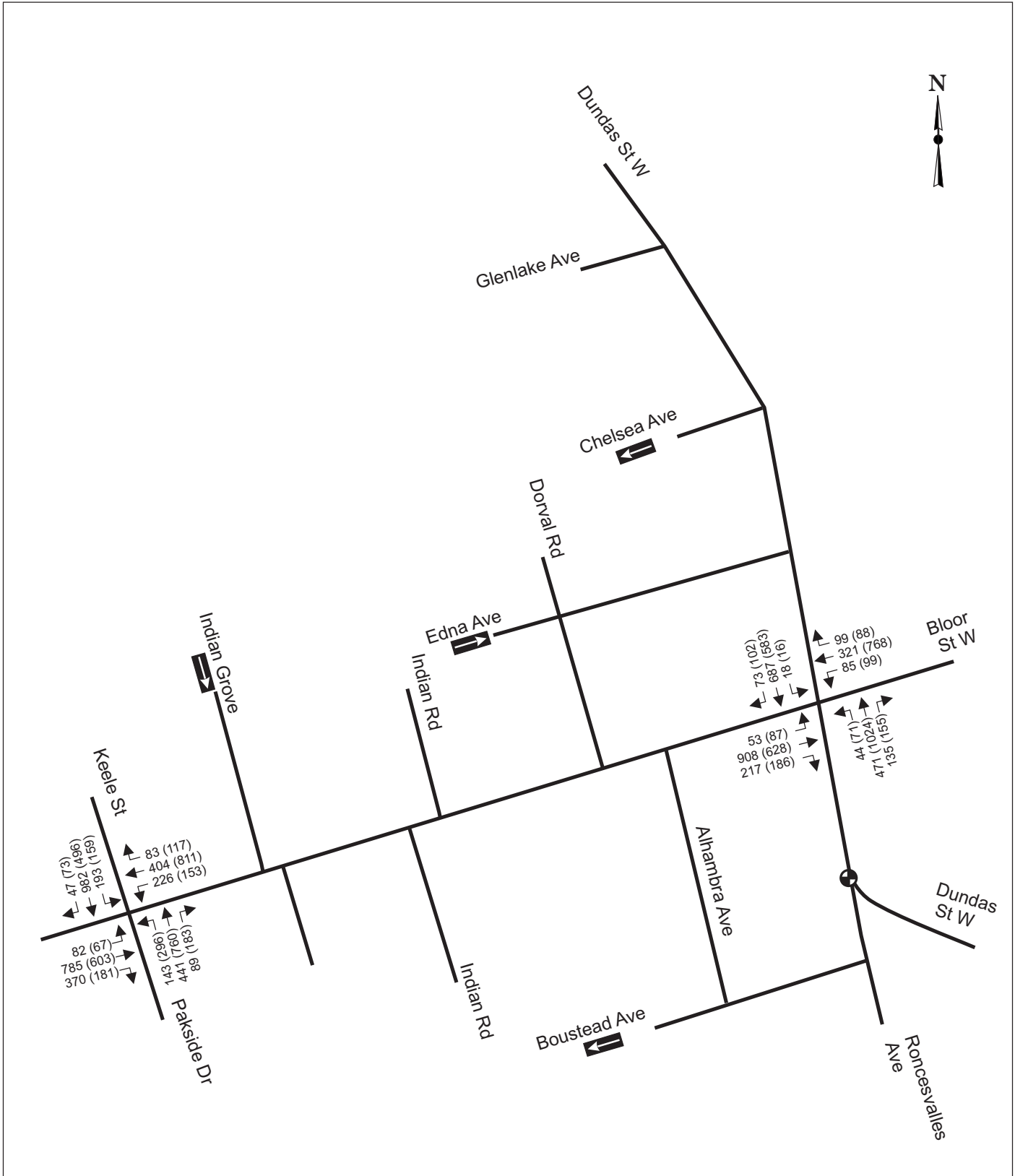
Table 2- Trips generated by new development.

Trip Generation Rates							
Land Use	Units	a.m.			p.m.		
		In	Out	Total	In	Out	Total
Residential	Dwelling	0.044	0.190	0.233	0.158	0.080	0.237
Retail*	100 m ²	0.139	0.139	0.277	0.472	0.472	0.944

Vehicle Trips							
Land Use	Units	a.m.			p.m.		
		In	Out	Total	In	Out	Total
Area: 1A							
Residential	145	6	28	34	23	12	34
Retail	19.5	3	3	5	9	9	18
Subtotal		9	30	39	32	21	53
Area: 2							
Residential	69	3	13	16	11	5	16
Retail	12.5	2	2	3	6	6	12
Subtotal		5	15	20	17	11	28
Area: 3							
Residential	142	6	27	33	22	11	34
Retail	19	3	3	5	9	9	18
Subtotal		9	30	38	31	20	52
Area: 4							
Residential	68	3	13	16	11	5	16
Retail	15	2	2	4	7	7	14
Subtotal		5	15	20	18	12	30
Area: 5							
Residential	48	2	9	11	8	4	11
Retail	12.3	2	2	3	6	6	12
Subtotal		4	11	15	13	10	23
Area: 6							
Residential	42	2	8	10	7	3	10
Retail	9.47	1	1	3	4	4	9
Subtotal		3	9	12	11	8	19
Area: 7							
Residential	147	6	28	34	23	12	35
Retail	33.9	5	5	9	16	16	32
Subtotal		11	33	44	39	28	67
Area: 8							
Residential	704	31	134	164	111	56	167
Retail*	84.4	12	12	23	40	40	80
Subtotal		42	145	188	151	96	247
Total		88	287	376	313	206	518

***The vehicle generation rates will vary and depend on the size and form of retail brought forward in Opportunity Site 8.**





Not To Scale



Total Future Volumes

AM (PM) Traffic Volumes
 Figure 7

Table 3- Comparison of Actual trip rates with ITE rates.

Vehicle Rates	a.m.			p.m.		
	in	out	total	in	out	total
	Residential total (Trips/Dwelling)					
Bloor-Dundas Data	0.044	0.190	0.233	0.158	0.080	0.237
ITE values	0.102	0.408	0.510	0.403	0.217	0.620
Difference	-0.058	-0.218	-0.277	-0.245	-0.137	-0.383
Bloor-Dundas Data/ITE values	43%	46%	46%	39%	37%	38%

Appendix

Note:

Figures A-1 and A-2 compare the vehicle generation rates per a person between what exists (rates based on city counts) and what is expected (ITE rates). This differs from the report text which compared the city based rates and the ITE rates on a per a dwelling basis. The building populations are based on assumed unit occupancies as shown.

Table A-1- New Development statistics (BMI/Pace, 2008)

Opportunity Site	Total Building Area (m ²)	Total Residential Area	Total Retail Area	Total Office Area	Units	Residential Population	Retail Population	Office Population
1 Bloor & Keele	16,474	14,520	1,954	Assumes floors 2 & 3	Assumes 100 (m ²) per unit	2.11 people/unit	500 square foot/employee (retail)	250 square foot/employee (retail)
2 Bloor & Indian Road	8,157	6,907	1,250		69	146	27	
3 Bloor & Dundas	16,066	14,166	1,900		142	300	41	
4 Bloor & Indian Grove	8,257	6,757	1,500		68	143	32	
5 Bloor & Alhambra	6,016	4,787	1,229		48	101	26	
6 Dundas & Chelsea	5,100	4,153	947		42	89	20	
7 Shopper's Drug Mart	18,132	14,741	3,391		147	310	73	
8 Loblaws	79,133	70,698	8,435	14,768	704	1,485	182	636
Totals	78,202	66,031	12,171	14,768	661	1,395	262	636

Figure A-1: Comparison of Person Trips
Information from the City of Toronto

Address: 2495 Dundas Street West (Glenlake condos)

Type	Quantity	People
1 bedroom	95	190
2 bedroom	31	93
Total people		283

Assuming 2 people per 1 bedroom unit and 3 people per 2 bedroom unit.

Total # of a.m. trips = 27

Total # of p.m. trips = 28

a.m. trips / person = $27/283 = 0.095$

p.m. trips / person = $28/283 = 0.099$

ITE Values (from pages 316-317 volume 2 - 7th edition)

a.m. trips / person = 0.28

p.m. trips / person = 0.40

Address: 1540 Bloor Street West (application site)

Type	Quantity	People
Studio	17	17
1 bedroom	153	306
2 bedroom	108	324
3 bedroom	15	60
Total people		707

Assuming 1 person per Studio unit, 2 people per 1 bedroom unit, 3 people per 2 bedroom unit, and 4 people per 3 bedroom unit

Total # of a.m. trips = 74

Total # of p.m. trips = 74

a.m. trips / person = $74/707 = 0.105$

p.m. trips / person = $74/707 = 0.105$

ITE Values (from pages 316-317 volume 2 - 7th edition)

a.m. trips / person = 0.28

p.m. trips / person = 0.40

Figure A-2: Comparison of Person Trips
Information from the City of Toronto

Address: 2495 Dundas Street West (Glenlake condos)

	a.m. trips / person	a.m. trips / person
Toronto Data	0.095	0.099
ITE Rates	0.28	0.4
Absolute difference	0.185	0.301
Toronto/ITE	34%	25%

Address: 1540 Bloor Street West (application site)

	a.m. trips / person	a.m. trips / person
Toronto Data	0.105	0.105
ITE Rates	0.28	0.4
Absolute difference	0.175	0.295
Toronto/ITE	38%	26%