To: Kyle Munro, Town of Caledon
Genevieve Scott, Cuesta

From: Michael Dowdall, TYLin

Date: October 31, 2025

Re: Caledon Pit/Quarry Transportation Impact Study and Haul Route Assessment
Proposed Official Plan Amendment (POPA 2022-0006) and Zoning By-law Amendment (RZ 2022-0010)
Transportation Technical Meeting

MEMORANDUM

TYLin prepared a Revised Caledon Pit/Quarry Transportation Impact Study and Haul Route Assessment (TIS) dated March 2025. It is TYLin's understanding HDR was retained by the Town of Caledon to undertake peer review of the March 2025 TIS.

TYLin and members of the Caledon Pit/Quarry project team met with the Peer Review (HDR), Peel Region and Town of Caledon September 26th, 2025, for the Transportation Technical meeting to review the recent CAART Responses.

Prior to HDR and Peel Region providing formal comments to the CAART Responses and March 2025 TIS, Peel Region requested additional technical information related to the Charleston Sideroad site access signal warrant analysis. Additionally, HDR requested further clarification to the monthly material shipping estimates proxy data utilized to determine the estimated truck peak-hour trip generation. The objective of this memorandum is to reassess the signal warrant based on the latest Ontario Traffic Manual (OTM) Book 12 (2024) methodology and to provide additional information on the proxy data used in the TIS.

Revised Signal Warrant Analysis

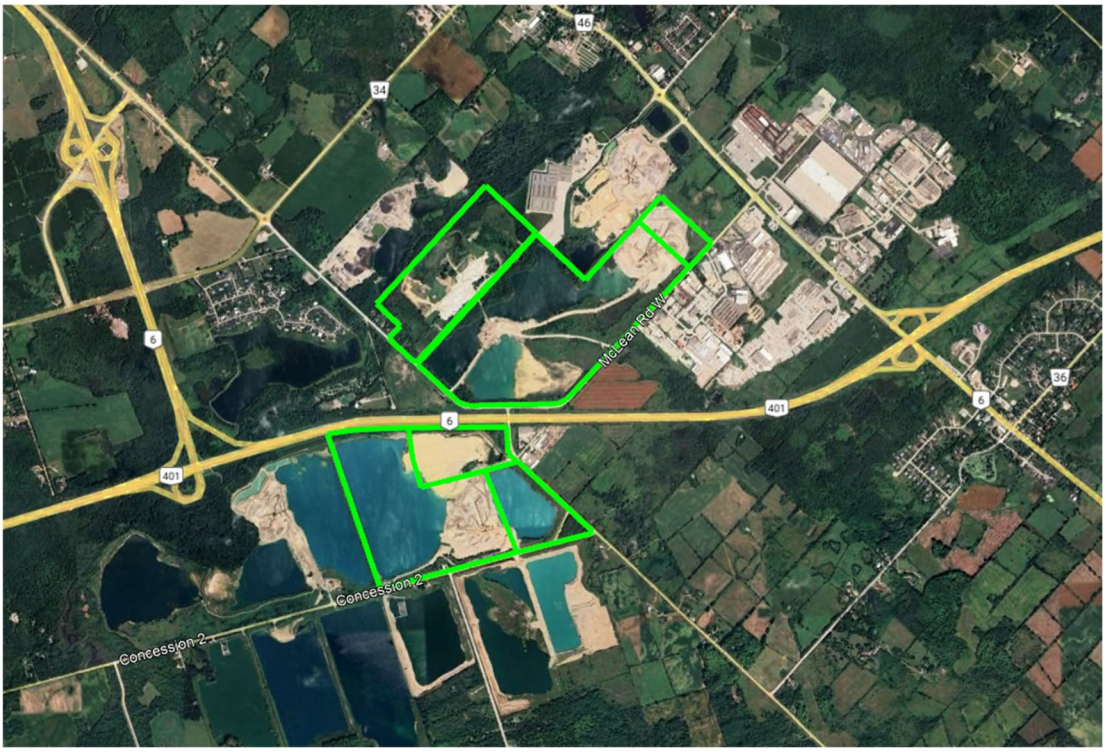
TYLin updated the signal warrant analysis in accordance with the latest OTM Book 12 (2024) methodology. As part of this update, a 2x multiplier was applied to trucks entering the site and a 3x multiplier to trucks exiting. These adjustments were used to calculate the Passenger Car Unit (PCU) values, which were then applied to determine the projected 2037 total volumes which formed the basis for the updated signal warrant analysis. We have included the OTM Book 12 Justification 7 summary sheet, along with the relevant figures for ease of review. The signal warrant can be found in **Attachment A**. Traffic volume figures can be found in **Attachment B** for ease of review. Based on TYLin's review, the updated signal warrant is not satisfied.

Notwithstanding the update signal warrant results, TYLin's opinion is still valid that although the requirement for a traffic signal was not explicitly warranted at the proposed Charleston Sideroad site access under future total conditions based on a traffic volume, signalization of the access is recommended to improve the operation of the intersection by providing suitable gaps for trucks to enter and exit the site and accelerate safely without posing risk to other vehicles using Charleston Sideroad.

Monthly Material Shipping Estimates Proxy Data

As part of the TIS, Aberfoyle Pit proxy data was obtained from CBM and utilized to determine the monthly material shipping estimates to inform the aggregate truck peak-hour trip generation for Caledon Pit/Quarry. The Aberfoyle Pit, located within the Township of Puslinch, Wellington County, Ontario, consists of two operational areas (North and South Pit), as seen in **Figure 1**. The site is bounded by Highway 401 to the north, Concession Road 7 to the east, Concession 2 to the south, and open green space to the west. Although the operating permit allows for unlimited annual tonnage, the pit typically ships an average of approximately 2,000,000 tonnes of aggregate per year. As such, it is TYLin's opinion that Aberfolye Pit is considered an appropriate existing Pit/Quarry site as a direct proxy for Caledon Pit/Quarry, which similarly proposes to ship approximately 2,000,000 tonnes of aggregate per year.

Figure 1 – Aberfoyle Pit Boundary



Based on historical shipping data records, peak shipping generally occurs during the 'construction season' between the months of May and October. **Table 1** summarizes the average monthly breakdown of material extraction based on archived historical data from Aberfoyle Pit shipped per month for 2019, 2020, and 2024. Based on the 2019 and 2020 data received at the time the TIS was prepared, it was determined that the month of July had the highest percentage of the total haulage activity and therefore would generate the largest volume of new truck trips. Due to potential operational impacts associated with the COVID-19 pandemic, TYLin utilized an average of 2019 and 2020 shipping data. Through recent discussions with CBM Aggregates, 2024 data was received and compared to the average of 2019 and 2020 used in the analysis. The result of this comparison confirms that the most recent traffic assessment represents a conservative estimate of trip generation during the monthly peak operating period.

Table 1 - Monthly Material Shipping Estimates

Month	2019	2020	2019 & 2020 (AVG)	2024
January	4%	6%	5%	6%
February	4%	5%	5%	7%
March	7%	5%	6%	8%
April	8%	5%	7%	8%
May	10%	6%	8%	10%
June	9%	12%	10%	9%
July	11%	12%	11%	10%
August	10%	10%	10%	9%
September	11%	11%	11%	10%
October	11%	11%	11%	10%
November	9%	11%	10%	7%
December	6%	7%	6%	5%
Total	**100%**	**100%**	**100%**	**100%**

Should you have any questions or concerns, please do not hesitate to contact the undersigned.

Sincerely,

TYLin

Michael Dowdall, C.E.T
Director, Traffic
Michael.dowdall@tylin.com

ATTACHMENT A

OTM Book 12 Signal Warrant – Justification 7

Justification 7 - Projected Volumes

Return to Justifications 1 - 6

Intersection: Charleston SR & Site Access Count Date: 2025-10-10

INPUT

PRIOR TO START - FILL OUT GEOMETRY INPUTS IN THE INPUT DATA SPREADSHEET - STEPS A to D

a.- Both Intersection Roads Exist? No

b.- What kind of count estimate available? AM PM Peak Hour **Proceed to c2**

c1.- 8-Hour Count Estimate

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18:00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

c2.- Peak Hour Estimate

Peak Hour	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM Peak Hour	6	471	0	0	0	0	0	390	69	139	0	11	0
PM Peak Hour	11	531	0	0	0	0	0	505	358	116		9	0
AHV	4	251	0	0	0	0	0	224	107	64	0	5	0
	Main Street AHV Sum			**Minor Street AHV Sum**									
	585			**69**									

c3.- AADT Estimate - can leave movements without data blank. If midblock reading, can assign demand to through movement.

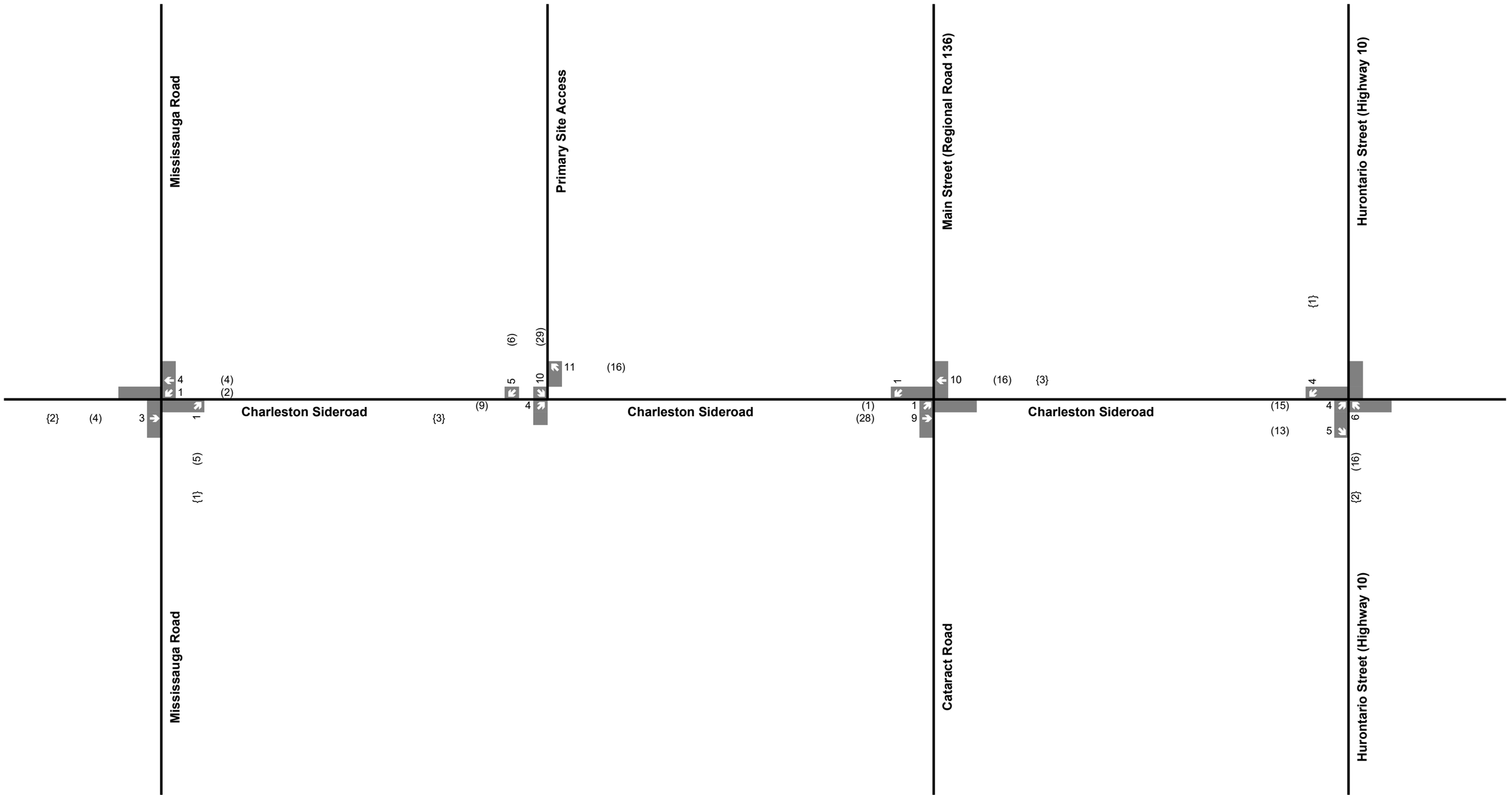
AADT	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AHV	0	0	0	0	0	0	0	0	0	0	0	0	0
	Main Street AHV Sum			**Minor Street AHV Sum**									
	0			**0**									

d. Justification 7 Result

Justification	Description	Minimum Requirement 1 Lane Highways		Minimum Requirement 2 or more lanes		Compliance		Case?
		Free Flow	Restr. Flow	Free Flow	Restr. Flow	Numerical	%	
1. Minimum Vehicular Volume	A. Vehicle volume, all approaches (average hour)	-	720	-	-	654	90.8	**Case 3 - Warrant is Unlikely**
	B. Vehicle volume, along minor streets (average hour)	-	255	-	-	69	27.0	
2. Delay to cross Traffic	A. Vehicle volume, major street (average hour)	-	720	-	-	585	81.3	
	B. Combined vehicle and pedestrian volume crossing	-	75	-	-	64	85.0	

ATTACHMENT B

Traffic Volume Figures

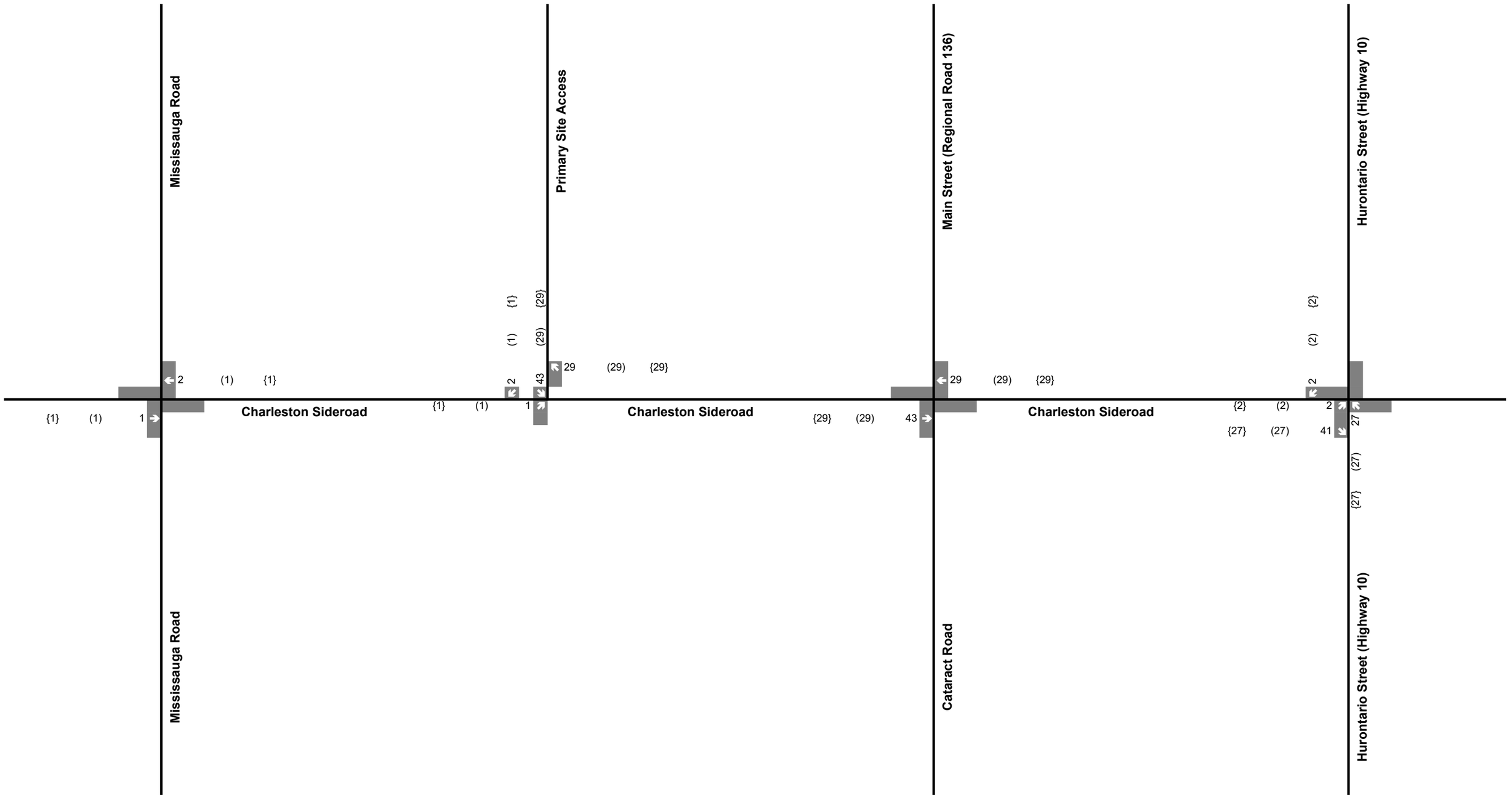


TYLin

Legend

xx A.M. Peak Hour Traffic
(xx) P.M. Peak Hour Traffic
{xx} Saturday Peak Hour Traffic

Figure 6-2
Caledon Quarry Site
Generated Traffic Volumes
(Passenger Cars)

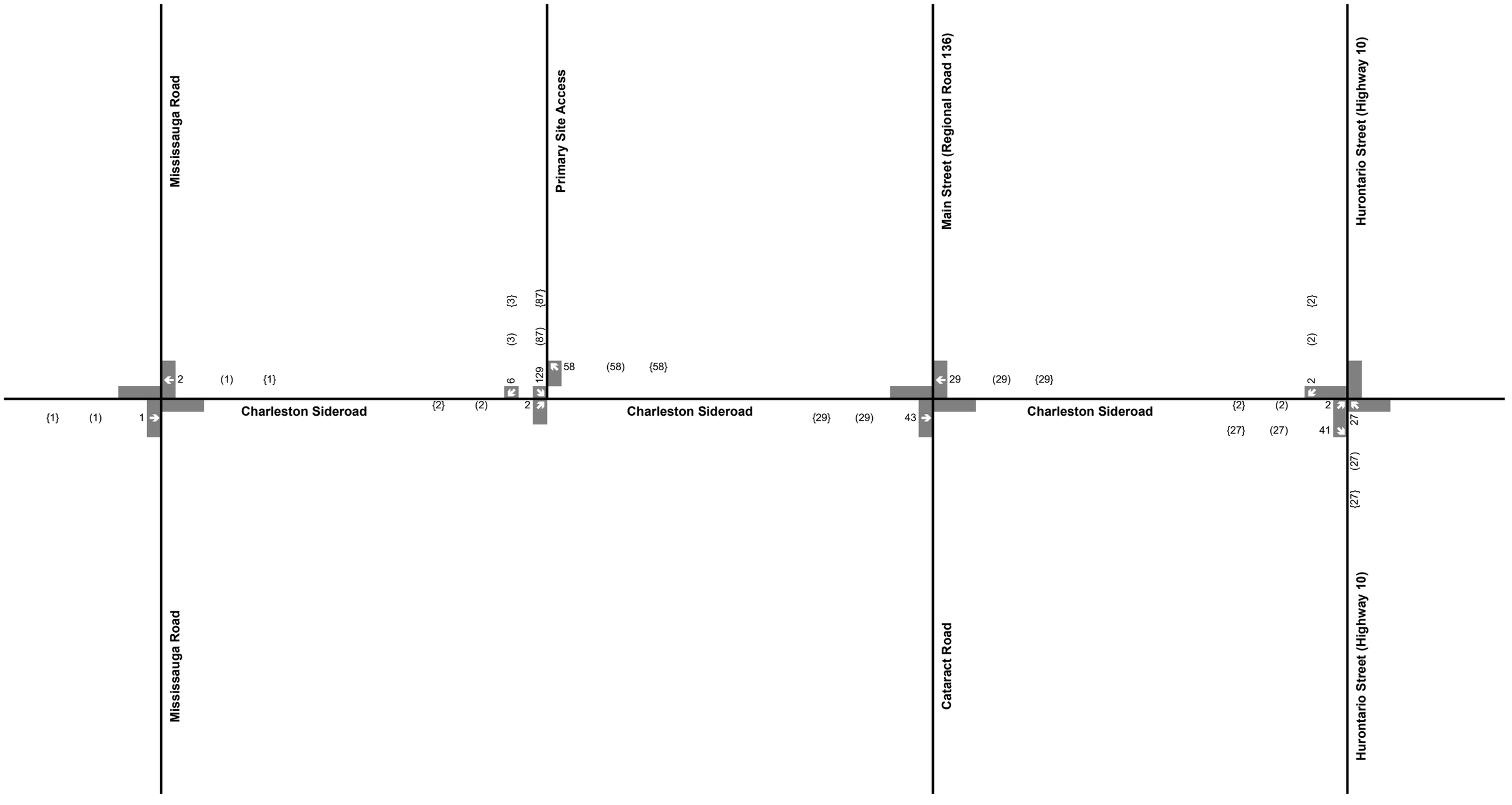


TYLin

Legend

xx A.M. Peak Hour Traffic
(xx) P.M. Peak Hour Traffic
{xx} Saturday Peak Hour Traffic

Figure 6-3
Caledon Quarry Site
Generated Traffic Volumes
(Trucks)

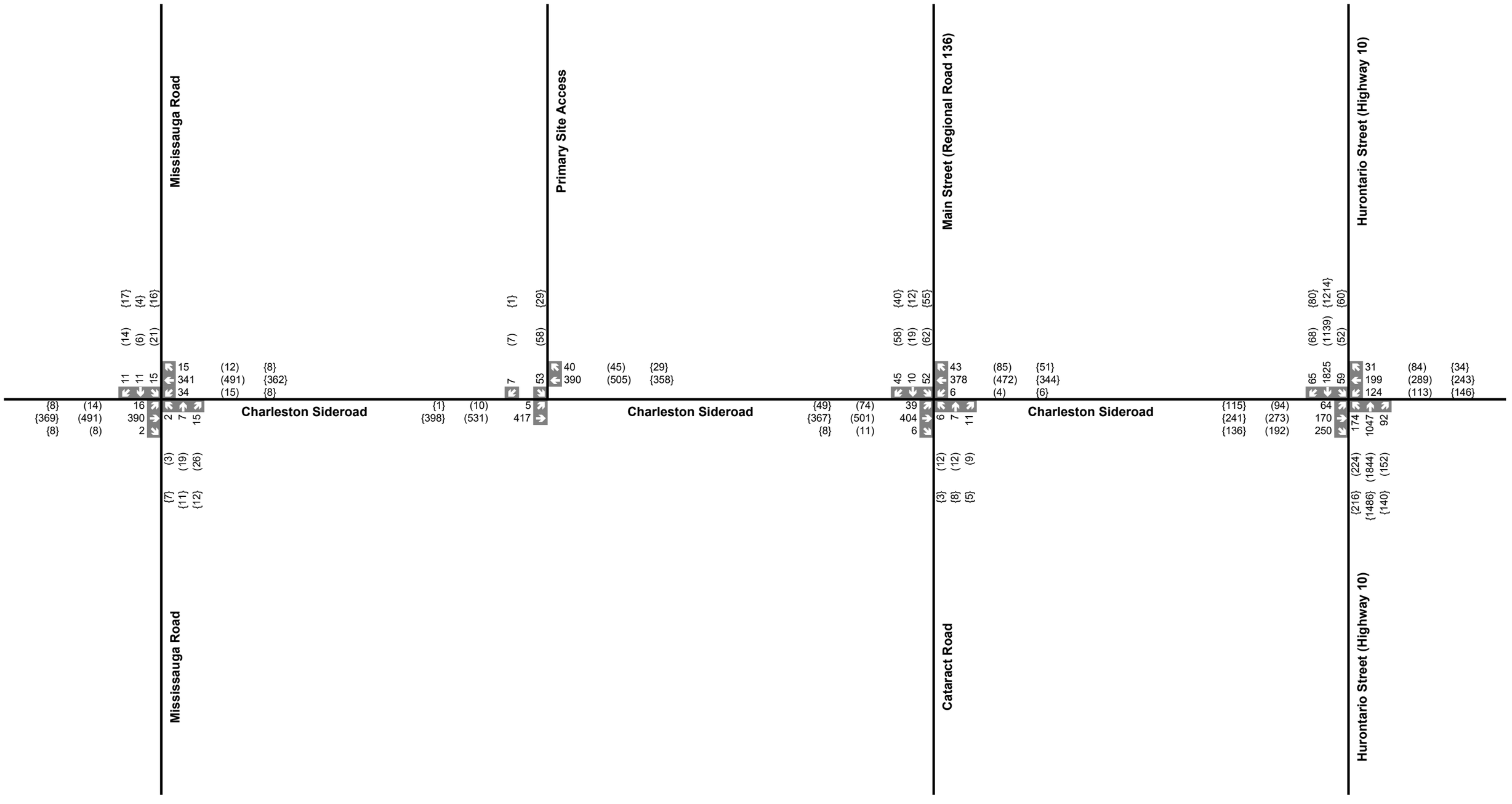


Legend

xx A.M. Peak Hour Traffic
(xx) P.M. Peak Hour Traffic
{xx} Saturday Peak Hour Traffic

TYLin

Figure 6-3 (PCU)
Caledon Quarry Site
Generated Traffic Volumes
(Trucks)



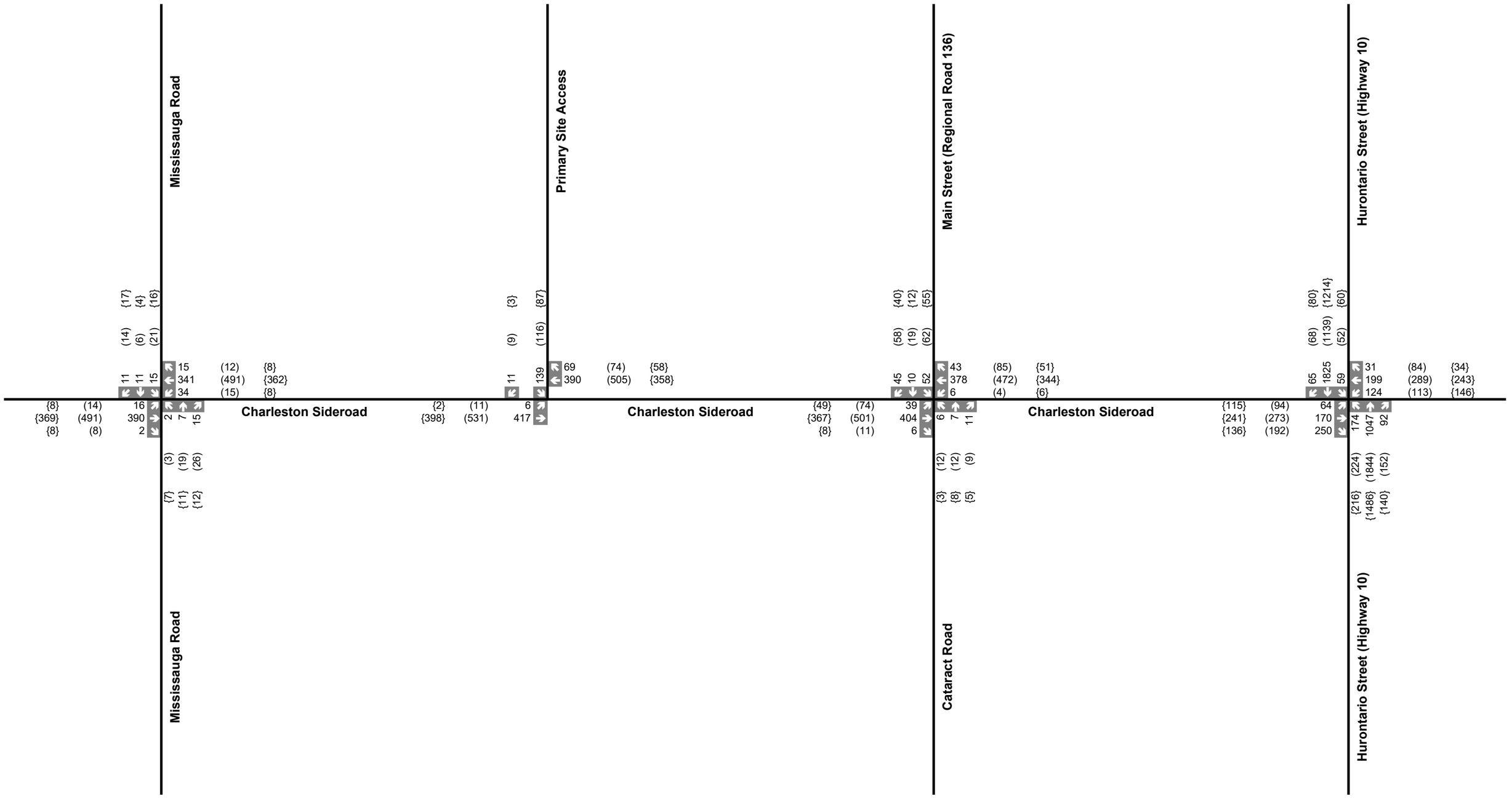
TYLin

Legend

xx A.M. Peak Hour Traffic
(xx) P.M. Peak Hour Traffic
{xx} Saturday Peak Hour Traffic

Figure 7-1

Future Total 2037 Traffic Volumes



Legend

xx A.M. Peak Hour Traffic
(xx) P.M. Peak Hour Traffic
{xx} Saturday Peak Hour Traffic

TYLin

Figure 7-1 (PCU)

Future Total 2037 Traffic Volumes