



**STRATHCONA
COUNTY**

Hawkins Crescent Traffic Study Project Report

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Prepared by

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Executive Summary

- About 20% of residents living near the school reported major nuisance and safety concerns with traffic in the school area. The majority of these concerns related to poor road user behaviour and general traffic volumes.
- Traffic generated by the New Horizons School (NHS) site is higher than anticipated in the TIA.
- While there is undoubtedly congestion during peak times, the level of service at intersections near the school remain at an acceptable level for all but a few moments twice a day on school days. However, in almost all observed cases, the greatest impact of this delay was borne by parents. Change in traffic control would cause greater inconvenience to residents in off peak times than is warranted by peak conditions.
- The biggest threats to traffic safety are jaywalking and U-turns. Both these behaviours would be eliminated with compliance to the traffic management plan. There is no significant crash history and low speeds in the area offer some protection from serious and fatal collisions for all road users.
- Both resident survey results and engineering review indicate that compliance with the current traffic management plan has the potential to manage the majority of traffic concerns in the area.
- Based on review, the following actions are recommended to be implemented in September 2018:
 - Relocate the crosswalk on Strathcona Drive at Wilson Crescent to Hawkins Crescent. Eliminate peak time drop off/pick up and parking on the north side of Strathcona Drive.
 - Parents will be encouraged to use alternative pick up locations. Otherwise, the traffic management plan for ÉCDT will remain unchanged. For NHS, the bus zone will move to Strathcona Drive, and the drop off/pick up zone will be extended through the school parking lot.
 - Mail letters to all residents in the study area to inform them of the outcomes of the engagement process.
- In January 2019, the success of these changes to the traffic management plans will be evaluated. Should these measures be unsuccessful in managing traffic concerns, more aggressive solutions will be explored.
- Other than crossing upgrades and the provision of parking signs, no design plan or budgets are recommended at this time.

Introduction

A traffic study was initiated following the Council motion: "THAT Administration prepare a report on a traffic study of Hawkins Crescent that includes options for improvement to residential traffic flow by the end of the third quarter of 2018".

This report provides information collected during a background review of the study project area, public engagement, engineering review, and a stakeholder meeting conducted to address the Council motion. The report outlines a course of action and recommendations to address traffic concerns in the area.

Project Purpose and Goals:

Purpose:

The purpose of the Hawkins Crescent Traffic Study Project was to fully understand the traffic environment in the area, including resident traffic concerns, in order to recommend a course of action on Hawkins Crescent.

Goals:

- Understand the magnitude of resident concern in the area and the nature of resident concerns.
- Confirm the traffic volume experienced in the area is consistent with the numbers projected in the Traffic Impact Assessment (TIA), completed at the time of development.
- Undertake an operational review of the road network at the schools
- Establish the extent of compliance to the recommended traffic management plan and assess its effectiveness
- Explore options to alternative traffic management in the area
- Produce detailed traffic information that Planning and Development Services can consider in their evaluation of applications for development permits at the schools or daycare going forward.

Background:

Both New Horizons School (NHS) and École Claudette et Denis Tardif (ÉCDT) offer educational programs of choice for Strathcona County and other communities in the Edmonton Metro Region. NHS is a K-9 public charter school that serves the needs of gifted learners. Established in 1995, it is Alberta's oldest charter school. ÉCDT is a K-6 school offering Francophone families the opportunity for their children to be educated in French and to build and live their Francophone identity within the community.

There was no notification conducted by Strathcona County for the development of either school because "education, public" is a permitted use in the zoning district and the schools were not seeking any variances to the regulations. However, prior to the development of ÉCDT, the County encouraged all involved parties

(Francophone School Board, Alberta Education, Alberta Infrastructure) to conduct public engagement, which was completed in advance of the permit being issued. It is also important to note ÉCDT site is intended to be a temporary location as they wait for provincial funding for a permanent school site.

As part of the development process a Traffic Impact Assessment (TIA) was submitted. The TIA concluded a school population of 336 at NHS and 225 at ÉCDT are within the operational capacity of the road network. Staggered start times for the schools was recommended and is implemented.

In addition, both schools operate before/after school programs. ÉCDT's facility also includes a daycare and pre-school programs, primarily for younger siblings of attending students and care of upcoming students. "Care centre, major" is a discretionary use in the zoning district, and therefore involved a notification process to adjacent landowners which included advising them of their right-of-appeal. The ÉCDT care centre was appealed and the decision of the Development Officer (approval with conditions) was upheld by the Subdivision and Development Appeal Board.

With NHS and ÉCDT now operating on Hawkins Crescent, some residents have expressed concerns regarding traffic on this street. Both ÉCDT and NHS are active members of the Strathcona County School Traffic Safety Partnership. Prior to the opening of each school, a traffic management plan was developed and promoted to parents to proactively manage expected traffic volumes at the schools (see Appendix One).

Public Engagement

Public Engagement was undertaken for this project at the input level (Obtain feedback from citizens and stakeholders to test ideas or concepts, clarify issues and identify possible solutions).

In May 2018, nearby residents were surveyed regarding school-related traffic. The results of this survey are available in the companion document, Hawkins Crescent Survey: Resident Feedback Report.

The public engagement with residents was undertaken with the following goals:

- To understand the magnitude and nature of resident concerns at the NHS/ÉCDT school site;
- Increase resident understanding of the current traffic management plan; and
- Gather suggestions for improved traffic flow and safety at the site.

Ninety-two homes on Hawkins Crescent, Wilson Crescent and Strathcona Drive were invited to participate in the survey regarding school-related traffic. Thirty-six

responses representing thirty-five homes were received (overall response rate of 38%).

Based on response rate and survey results, approximately 20% of residents living in the study area had major concerns about traffic nuisance or safety caused by the school site.

These concerns related mainly to poor road user behaviour (blocking driveways, parking too close to corners, U-turns, jaywalking), overall congestion and lack of compliance with the current traffic management plan. About half of those who responded felt the current traffic plan would be successful if there was compliance. Residents living closer to the school were less optimistic about the potential of the plan to manage traffic, simply due to the large volume of traffic in the area. Generally, concerns were greater after school than in the morning.

The most common resident suggestions to improve traffic at the school were to educate parents (courtesy, wait in cars, desired traffic plan), increased enforcement, encourage busing and/or alternate drop off/pick up locations (ie. Kinsmen Park), infrastructure changes on the school grounds (create more parking, layby for buses), stagger start times and shorten the red light time at Broadmoor Boulevard/Strathcona Drive intersection.

Engineering Review

Collision History Review

The collision history at the school site was reviewed as a starting point. Since 2014, there have only been two minor collisions that have been reported near the school site. In 2015, the back end of a school bus clipped a vehicle parked on the west side of Hawkins Drive as it turned into the NHS parking lot. In 2018, there was a rear-end collision on Strathcona Drive near Hawkins Crescent. Winter road conditions were noted. There have been no reported collisions involving pedestrians or cyclists.

Video Study

A video study was conducted on Hawkins Crescent in front of the school site over a three day period in March 2018 to provide objective observation of peak traffic times.

The following general observations were noted on the video:

- The majority of the parents do not follow the traffic flow depicted in the Traffic Management Plan.
- Parents are picking up and dropping off students on both sides of the road, which creates a narrow travel way considering the width of the road is 11m and only one vehicle can pass by at a time.

- The majority of parents are picking up/dropping off students from NHS.
- Some parents make U-turns to go back to Strathcona Drive.
- Afternoon pick up time is more congested than morning rush.
- Schools have staggered start and end times.
- Parents start arriving as early as 2:30pm for pick-up activity, reducing the effectiveness of different school end times to reduce congestion.
- Congestion is very effective in keeping speeds on Hawkins Crescent well below 30 km/h.

Operational Review/TIA Comparison

Comparison was made between the actual traffic volumes observed on Strathcona Drive, including turning movements, and those estimated at enrollment capacity for the schools. The results of these studies are detailed in Appendix Three.

AM Peak

Site generated traffic is about 60% higher than anticipated on the TIA during the AM peak time. There are about 50% more vehicles making the left turn onto Hawkins Crescent (east) than projected. This confirms the video and resident observations that the majority of parents are not following the traffic management plan. The high number of left turns at this location contributes significantly to congestion and safety issues at the school site.

PM Peak

Site generated traffic is slightly lower than anticipated on the TIA during the PM peak time. There are about 30% fewer vehicles making the left turn onto Hawkins Crescent (east) than anticipated, and quadruple the number of vehicles turning left onto Hawkins Crescent (west). This suggests about 50% compliance with the traffic management plan during the PM peak. Again, the high number of left turns at Hawkins Crescent east contributes significantly to congestion and safety issues at the school site.

Level of Service (LOS) is the metric used to measure intersection capacity and delay for drivers. For approximately 15 minutes at each peak, drivers experienced some increased delay at the eastern intersections of Hawkins Crescent and Wilson Crescent. However, in almost all observed cases, the greatest impact of this delay was borne by parents.

Even with the higher than anticipated volumes experienced at the school site, the LOS remained well within an acceptable range at the intersections of Strathcona Drive with Hawkins Crescent West and Wilson Crescent West during the entire peak times observed.

Traffic Signal Timing Review- Broadmoor Boulevard/Strathcona Drive (south)

As part of the study, the signal timings at Broadmoor Boulevard/Strathcona Drive (south) were reviewed to establish if they were appropriate to traffic volumes being experienced in the area.

By way of background, in 2015, the wait on Strathcona Drive at Broadmoor Boulevard was increased by 40 seconds per cycle in order to facilitate better traffic flow on Broadmoor Boulevard (from 100 to 140 seconds). Some residents were unhappy with this change. The signal was adjusted to “half cycle” during the School AM peak (8:15-9:00 am) and school PM peak (3:00-4:00 pm), meaning it changes twice as often. Engineers are continuing to monitor this site, but have not observed traffic backup even during the school hours.

During this study, the option to extend the half cycle time to include the 8-8:15 am time period was evaluated. Traffic queues on Strathcona Drive were never observed during this time to be longer than seven vehicles, and in all instances all traffic was cleared during one signal cycle. This change is not recommended at this time.

There are 415 southbound and 735 northbound vehicles per hour on Broadmoor Boulevard during the AM Peak hour. Implementing a half cycle scenario from 8-8:15 am would create two additional stops for northbound traffic at the adjacent intersections during this time. The traffic queues observed on Strathcona Drive during our study do not justify this disruption to the traffic flow on the main corridor. Transportation Planning and Engineering will continue to monitor this intersection and will make adjustments to the signal timings if necessary.

School Traffic Safety Partnership (STSP) Meeting

A meeting was held with the administrators of NHS and ÉCDT and representatives from Strathcona County’s Planning and Development Services and Transportation Planning and Engineering. During the meeting, all partners shared data collected for the project. Both schools are highly committed to being good community members and to solving nuisance and safety issues at the school site.

The schools shared current statistics regarding their populations and bus usage. This allowed for further comparisons to be made to the TIA.

Table 1 outlines the school population and bus usage numbers used as the basis for the TIA. In the TIA, the projected bus usage at NHS was 70% and ÉCDT was 90%. Table 2 outlines the actual student population and bus usage numbers at the schools this year. Based on this information, the actual 2017/18 bus usage at NHS is 55% and ÉCDT is 83%¹.

¹ Factoring in students who utilize the daycare and teachers’ children, traffic generated by the school at peak time is likely less than projected on the TIA.

Both ÉCDT and NHS offer specialized educational opportunities that serve a large population base extending beyond Strathcona County. All students at ÉCDT have access to free busing, and student ridership is very high. Conversely, NHS partners with Elk Island Public Schools (EIPS) to provide busing, so students attending from outside the EIPS region do not have access to busing. This results in lower levels of ridership at NHS.

Both NHS and ÉCDT hope to grow their populations. NHS submitted a development application in 2018 to add a modular unit and increase their student population from 300 to 340 in the 2018/19 school year. This application, which also included the provision of eight new on-site parking stalls, was approved by Strathcona County. ÉCDT continues to grow but remains well below their approved development population limits (126 students projected for 2018/19).

Table 1: Projected Population Numbers and Bus Usage (from TIA completed prior to development of ÉCDT)

	Ecole Francophone	New Horizons	TOTAL
Scenario 1 - Current Conditions			
Students	0	250	250
Employees	0	26	26
# Students Not Using Bus	0	73	73
Buses	0	2	2
Scenario 2 - Conditions at Capacity			
Students	225	336	561
Employees	16	35	51
# Students Not Using Bus	23	101	124
Buses	5	3	8

Table 2: Actual School Populations and Bus Usage 2017/18

	ÉCDT	New Horizons	Total
Students	111	319	430
Employees	12	25	37
#Students Not Using Bus	19*	144**	163
Buses	4	2	6

* 5 are teachers children, 10 stay at the before or after care, 1 walks to school

**69 students reside out of busing area

Engineering data and engagement results were discussed.

There are many “soft” solutions that have the potential to alleviate driver behavior and volume concerns at the schools, including:

- Staff education- small changes in staff behaviour such as refraining from left turns into their parking lot and avoiding street parking will relieve some resident concerns.
- Parent/student education/engagement- while volumes are high, it is poor driver and pedestrian behaviour that are the source of most resident complaints.
 - Way to Be program provides a great tool for this
 - Compliance with the traffic plan map has the potential to alleviate most concerns
 - Discourage parents from coming too early and from leaving their vehicles as much as possible.
 - Encourage busing as much as possible
 - Participate in Clean Air Responsible Schools program to discourage idling if available
- Revise traffic plan maps to show alternative drop off locations.
 - Many driving parents are not from the neighbourhood and may be unaware of other potential locations to drop off children
- Implement programs to encourage use of alternate drop off zones, such as crossing guards or “walking school buses”.
- Discontinue use of A-frame sign on Hawkins Crescent to discourage student drop off/parking on the west side of the road.
- Place pylons to block No stopping zones on inside corner of Hawkins Crescent at peak times.
- Bus Driver education: Stage buses at Kinsmen so they are not idling in front of homes.

While an enforcement presence can be useful in managing road user behaviour, it is unlikely to be a significant part of the solution. The problem of U-turns would be eliminated with compliance to traffic management plan. Other congestion related concerns are not generally enforceable.

Engineering and infrastructure changes to manage traffic were also discussed.

- Eliminate parking on the north side of Strathcona Drive during peak times. This parking impairs sightlines for drivers exiting Wilson Crescent and adjacent driveways, and many parents/students utilizing this area jaywalk. With the higher speeds and volumes on Strathcona Drive these are significant safety concerns.
- Allow for bus parking on the south side of Strathcona Drive during school peak times. This will open the school parking lot to be fully utilized for parent pick up/drop off activities.
- Relocate the crosswalk on Strathcona Drive at Wilson Crescent to Hawkins Crescent. Currently, it is too close to the Broadmoor Boulevard intersection. Further, an appropriate crossing will be needed to encourage the use of Kinsmen parking lot. With the next scheduled rehabilitation of Strathcona Drive (tentatively 2019) this crosswalk will be upgraded as part of the Neighbourhood Traffic Safety Action Plan.
- Changing the current No Parking zone on the east side of Hawkins Crescent to the west side would potentially help with traffic management. Strathcona County has been reluctant to do this in the past as it would significantly inconvenience residents. Should other initiatives fail, it could be considered.
- There is the potential to build a layby for buses or student drop off on Hawkins Crescent or Strathcona Drive. In the past, Strathcona County has entered into cost sharing agreements with schools for this kind of construction.

Action Plan

The STSP has developed the following course of action to be implemented in September 2018:

- Relocate the crosswalk on Strathcona Drive at Wilson Crescent to Hawkins Crescent. Eliminate peak time drop off/pick up and parking on the north side of Strathcona Drive.
- Parents will be encouraged to use alternative pick up locations. Otherwise, the traffic management plan for ÉCDT will remain unchanged. For NHS, the bus zone will move to Strathcona Drive, and the drop off/pick up zone will be extended through the school parking lot. (See Appendix Two)

Strathcona County will:

- Update traffic plan maps to illustrate desired traffic management.
- Implement a No Stopping/No Parking zone on the north side of Strathcona Drive from Wilson Crescent (west) to Wilson Crescent (east) in effect September to June, Monday to Friday, 8:00-9:00 a.m. and 2:00-4:00 p.m.²
- Implement Buses Only Parking zone on the south side of Strathcona Drive from Hawkins Crescent to Wilson Crescent (east).
- Relocate the crosswalk on Strathcona Drive at Wilson Crescent to Hawkins Crescent.
- Mail letters to all residents in the study area to inform them of the outcome of the engagement process.

ÉCDT will:

- Promote compliance with traffic plan maps. Engage their parents to implement traffic education for parents/students as appropriate.
- Queue buses in the Kinsmen Park parking lot in the PM peak to avoid idling in front of homes on Hawkins Crescent.
- Educate staff to avoid on-street parking.
- Encourage parents not to come early for PM student pick up.

NHS will:

- Promote compliance with traffic plan maps. Engage their parents to implement traffic education and safety initiatives for parents/students as appropriate.
- Discontinue use of A-frame sign on Hawkins Crescent to discourage student drop off/parking on the west side of the road.

Elk Island Public School Student Transportation will:

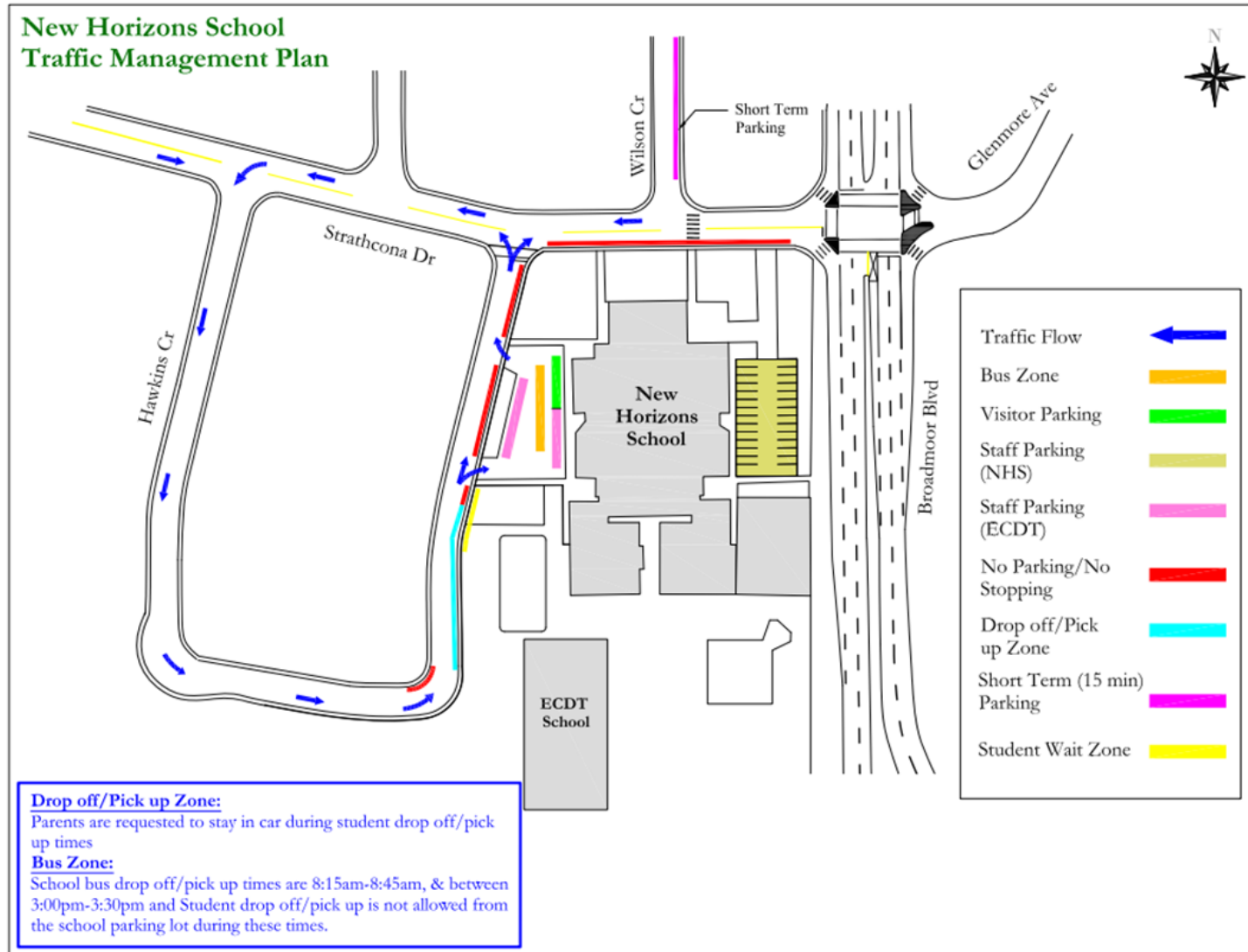
- Pick up NHS students on Strathcona Drive (eastbound). Buses will use the Kinsmen Park parking lot for turnaround if necessary.

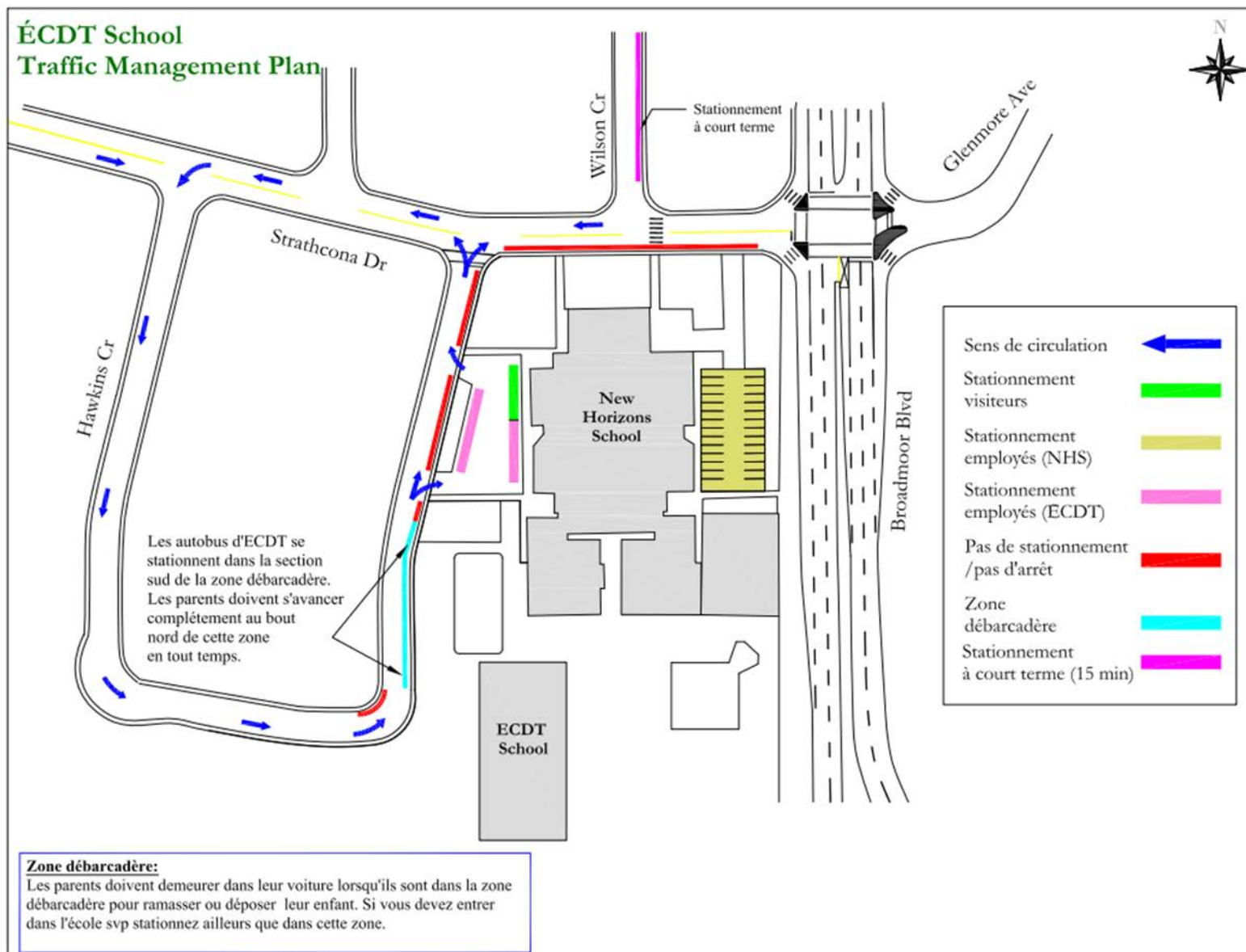
In January 2019, the STSP will evaluate the success of these changes to the traffic management plans. Should these measures be unsuccessful in managing traffic concerns, more aggressive solutions will be explored. Rehabilitation of Strathcona Drive is planned within the next three years. Construction of a layby could be considered at that time if these changes are unsuccessful and NHS is willing to enter a cost sharing arrangement.

² Note the adjacent residents were engaged in the development of the parameters for these parking restrictions, which were refined to minimize the impact to these residents.

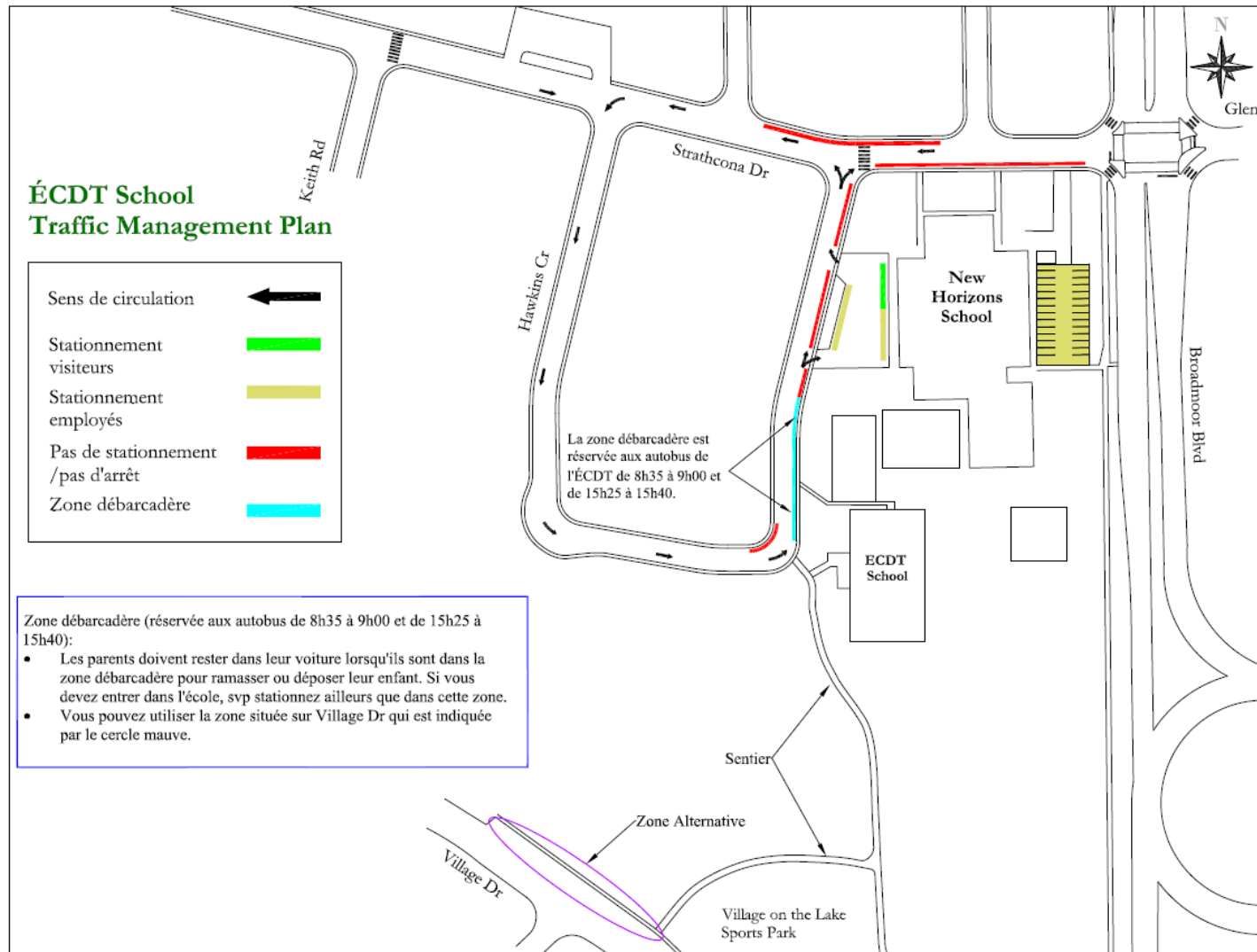
Other than crossing upgrades and the provision of parking signs, no design plan or budgets are recommended at this time.

Appendix One: Current Traffic Management Maps

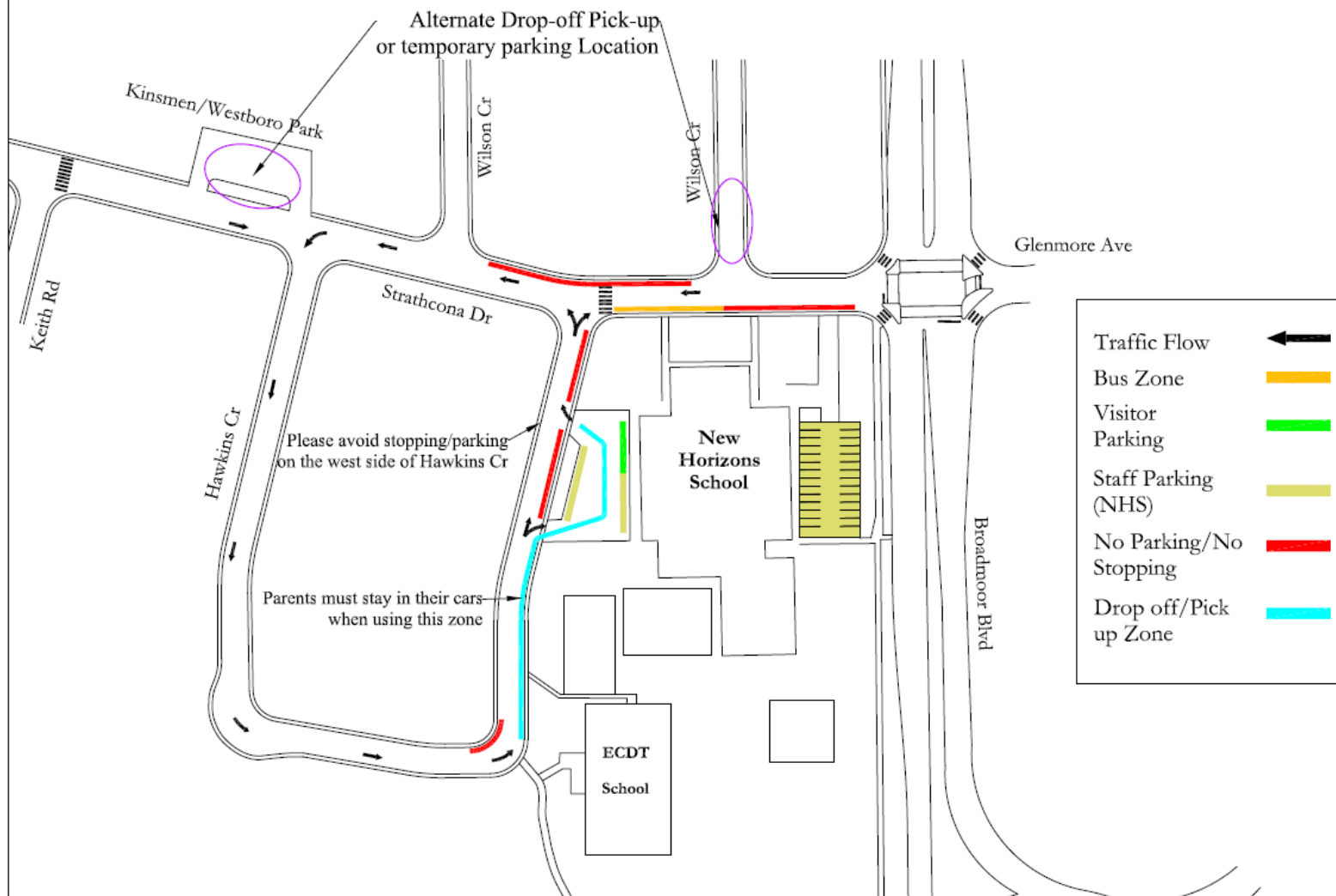




Appendix Two: Updated Traffic Management Maps



New Horizons School Traffic Management Plan



Appendix Three: Traffic Counts: TIA vs Actual

Figure 1: Projected Maximum Background plus Site Generated Traffic at Capacity (from TIA) - AM Peak

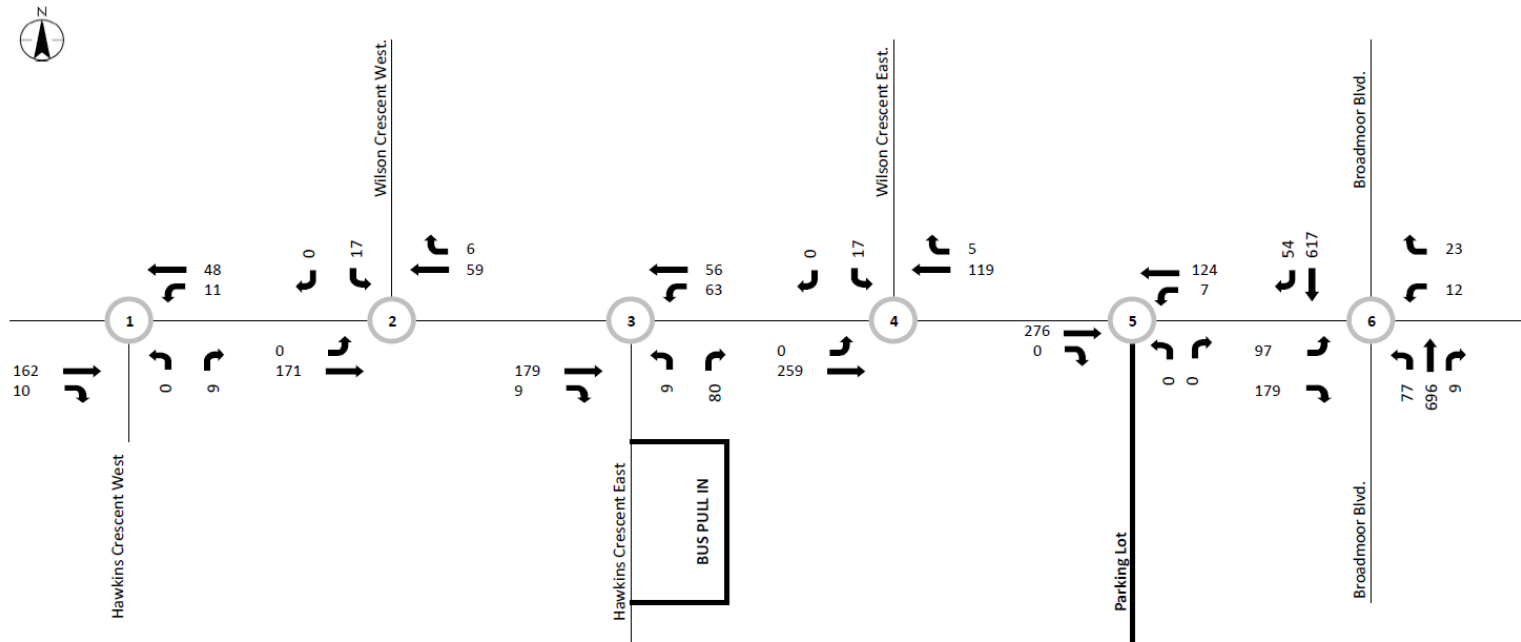


Figure 2: Actual Current Traffic Counts (from observation March 2018) - AM Peak

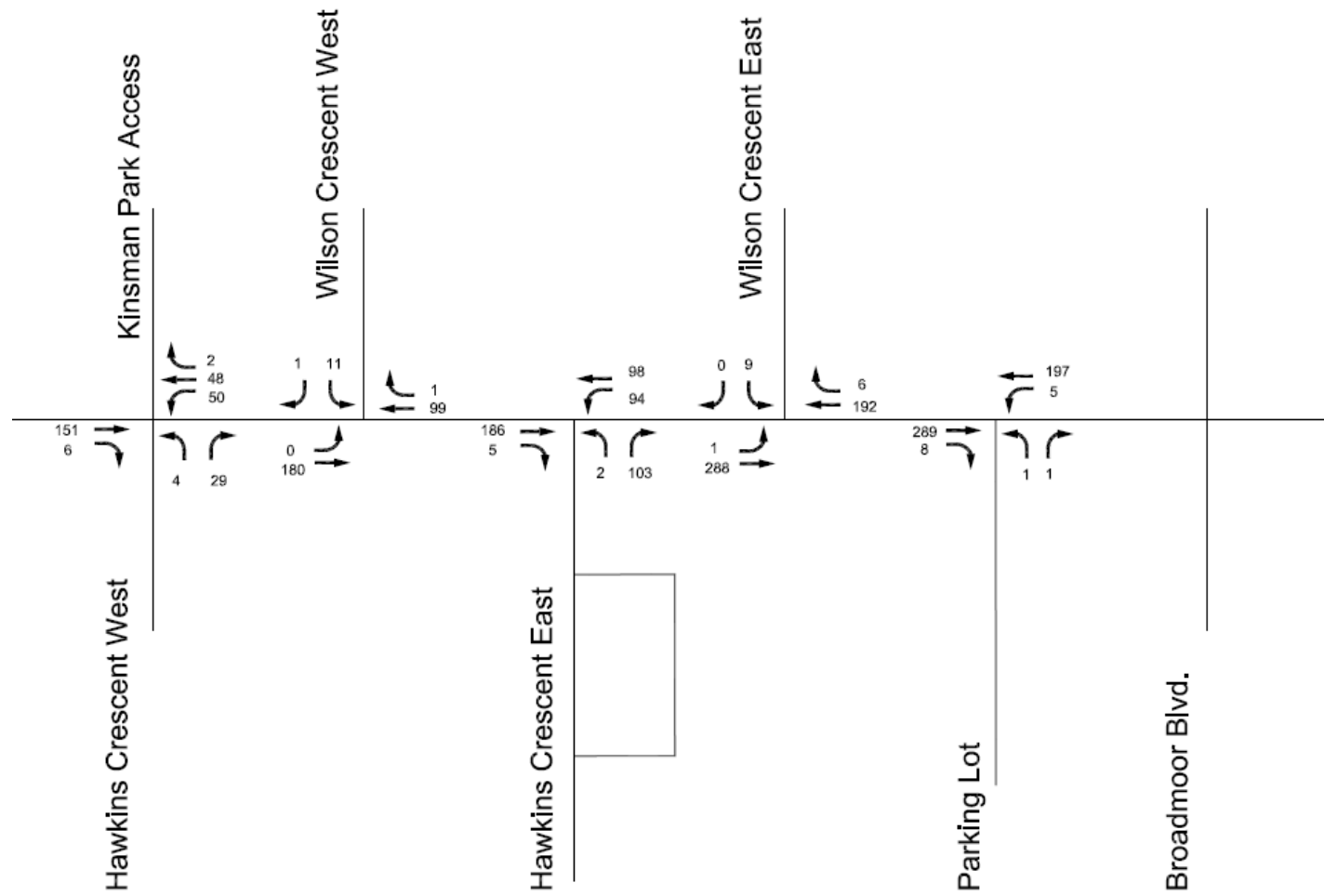


Figure 3: Projected Maximum Background plus Site Generated Traffic at Capacity (from TIA) - PM Peak

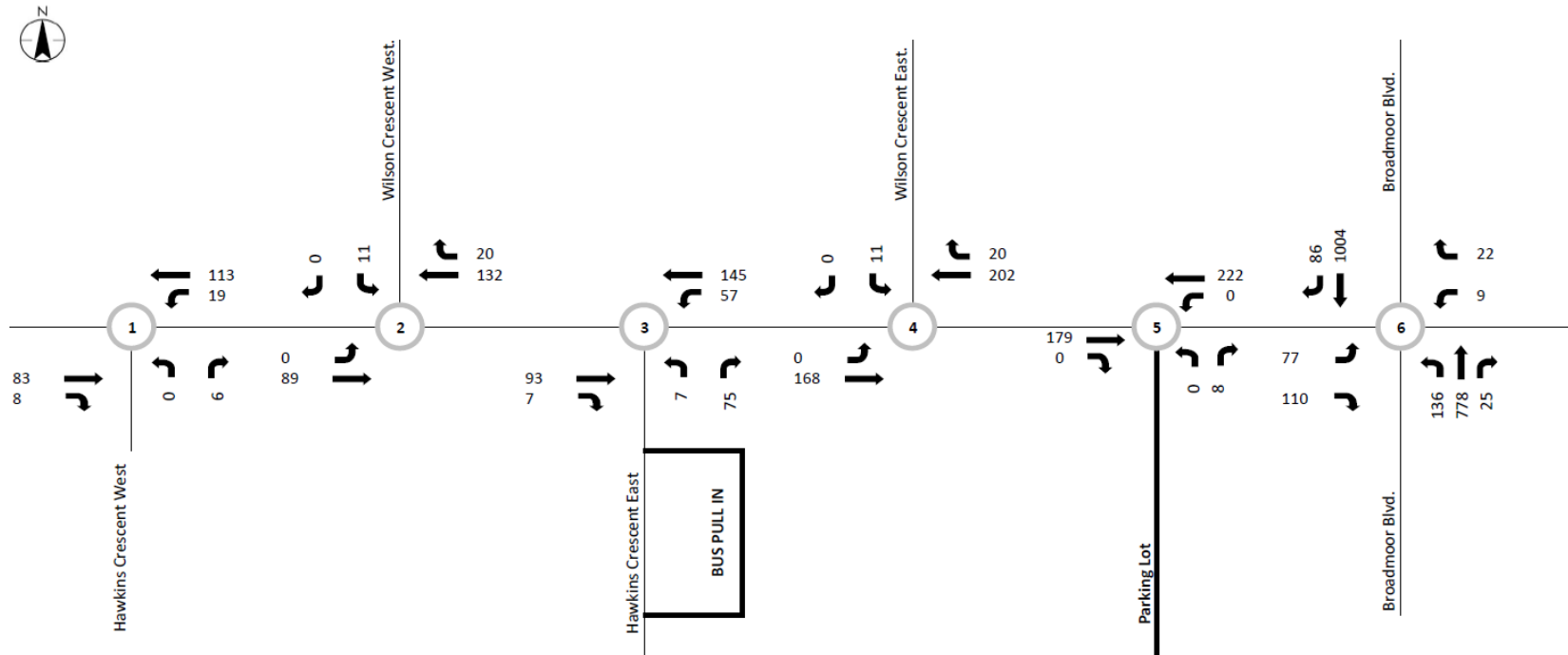


Figure 4: Actual Current Traffic Counts (from observation March 2018) - PM Peak

