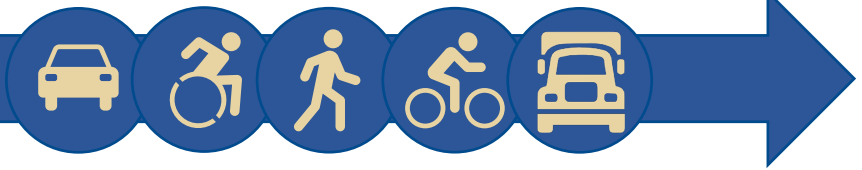


# North Perth Transportation Master Plan

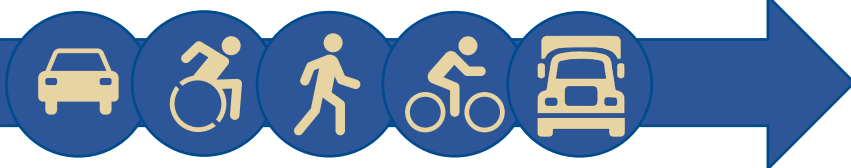


Appendices  
May 2024



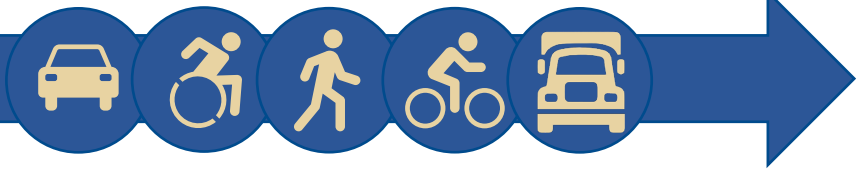
# Appendix A

## Engagement Summary Report



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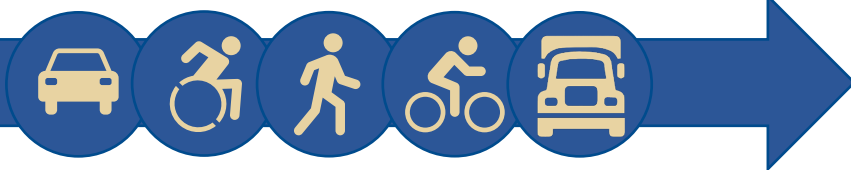
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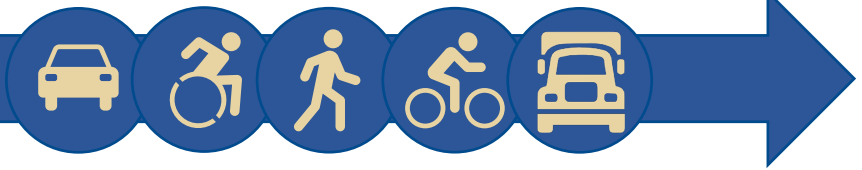


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# 1 Introduction

This appendix summarizes the community and stakeholder engagement program carried out for the **North Perth Transportation Master Plan** study. The **Engagement Summary Report** is organized as follows:

- **Chapter 2** provides an overview of the program;
- **Chapter 3** lists the engagement methods used in the study;
- **Chapters 4, 5, and 6** summarize the consultation, outreach, and communication activities completed for Engagement Round #1, Engagement Round #2, and Engagement Round #3, which was specific to the Listowel Truck Route Assessment, respectively; and
- **Chapter 7** documents the review period for the proposed Transportation Master Plan (TMP).

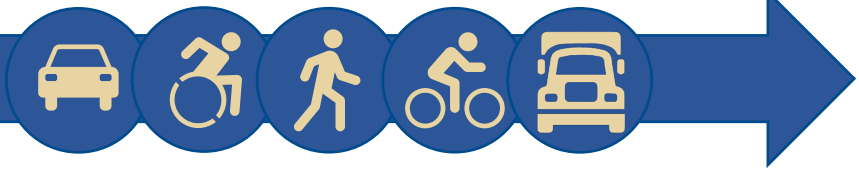
Twelve attachments supplement this report. The attachments contain the detailed engagement materials produced and information assembled through the study.

# 2 Program Overview

The Engagement Program for the project offered the public, First Nations, agencies, and participating stakeholders a variety of opportunities to learn about the TMP and provide input into the plan development. The program aimed to:

- **INFORM:** get the word out regarding the project, schedule, events, milestones, and availability of information.
- **EDUCATE:** provide a common level of understanding about the purpose, contents, and role of the TMP and transportation needs in North Perth.
- **CONVERSE:** engage community stakeholders in a discussion of key transportation challenges and opportunities.
- **REFINE:** revise policies and plans to better reflect what was heard and capture new and additional thoughts, opportunities, and directions.
- **SUPPORT:** build consensus within the community for the TMP recommendations, ultimately leading to support for the approval of the plan.

Designed to satisfy Municipal Class Environmental Assessment (MCEA) requirements for future infrastructure projects, the program focused on the following key messages:



- The Municipality is planning for population and employment growth in the community;
- The Municipality aims to offer a range of safe, efficient, and accessible mobility choices to users; and
- Involving the community and stakeholders in the study helps to ensure the final plan is pragmatic and meets needs now and into the future.

The program featured the following three rounds of engagement with the community, stakeholders, and Municipal Council:

- **Engagement Round #1** was held during the preliminary stages of the study, with activities focused on gathering information and conducting conversations with participants to establish a foundation for the plan policies and strategies.
- **Engagement Round #2** was carried out midway through the study, with activities focused on presenting the proposed plan directions and gathering feedback to ensure alignment with the community's vision for transportation.
- **Engagement Round #3 – Listowel Truck Route Assessment** was held later in the study, with activities focused on presenting potential truck routes and gathering feedback on the options.

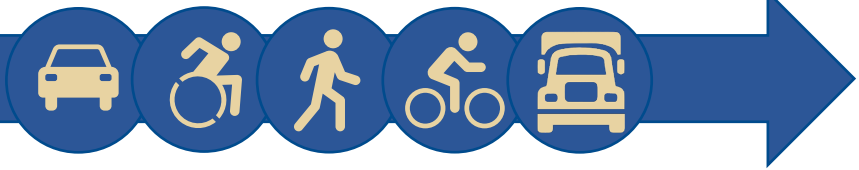
The program concluded with the **release of the proposed TMP** to public, First Nations, agencies, and participating stakeholders for comment prior to Municipal Council considering the plan for approval.

## 3 Engagement Methods

The Engagement Program featured a range of consultation, outreach, and communication initiatives to involve a broad spectrum of participants in the TMP Study, recognizing the unique challenges presented by the global COVID-19 pandemic ongoing for part of the project. The subsequent chapters provide further detail on the specific activities.

### 3.1 Online Techniques

Given the challenges of attracting representative audiences to face-to-face engagement events and availability of internet access in most communities, the use of online outreach tools is becoming more common for long-range planning studies like the TMP. Conducted properly with regard for the quality of experience and inclusiveness of community representation, online techniques can significantly enhance the reach and value of stakeholder engagement. Virtual consultation,



outreach, and communication were also necessary due to the COVID-19 pandemic ongoing for part of the study.

The project team used several online techniques to raise awareness and invite participation in the study including:

- A project site on **Your Say North Perth** (<https://yoursaynorthperth.ca/tmpstudy>) to serve as the primary digital communication portal for the study;
- **Email addresses** to share information with and respond to inquiries from participants about the project;
- **Social media posts** to publicize upcoming engagement events and raise awareness about transportation issues in North Perth;
- **Online surveys** hosted on **Your Say North Perth** to gather public input and feedback; and
- An **interactive map** to collect location-specific feedback on the transportation system serving the Municipality.

## 3.2 Contact List

The project team compiled a list of contact names from the public, First Nations, agencies, and participating stakeholders and updated the information as the study progressed.

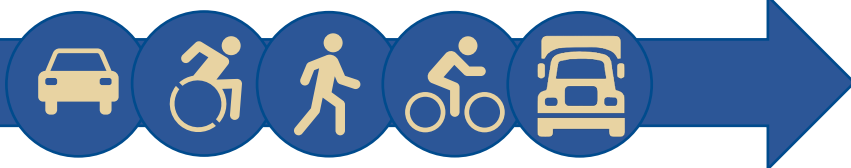
**Attachment A** provides the Contact List.

## 3.3 Study Notices

Consistent with MCEA provisions, the Municipality issued the following notices during the study:

- Study Commencement (June 2020)
- Public Information Centre (November 2021)
- Public Information Centres – Listowel Truck Route Assessment (June/July 2022)
- Study Completion (Notice of Master Plan) (December 2023)

**Attachment B** provides the study notices. All notices were posted to **Your Say North Perth** and on the Municipality's website, published in The Listowel Banner, and sent to First Nations, agencies, and participating stakeholders on the Contact List per the



MCEA. Individuals were also informed of the notices through the Municipality's social media accounts (Facebook and Twitter).

### 3.4 Stakeholder Interviews

The project team met with key stakeholders in October 2020 to gather feedback on transportation opportunities and challenges in North Perth.

### 3.5 Public Information Centres

The Municipality held two series of Public Information Centres (PIC) – the first in November 2021 during Round #2 and the second in June and July 2022 during Round #3 – to present information and gather feedback for the study.

### 3.6 Review Period

The Municipality released the proposed TMP in December 2023 for comment prior to Municipal Council considering the plan for approval.

## 4 Engagement Round #1

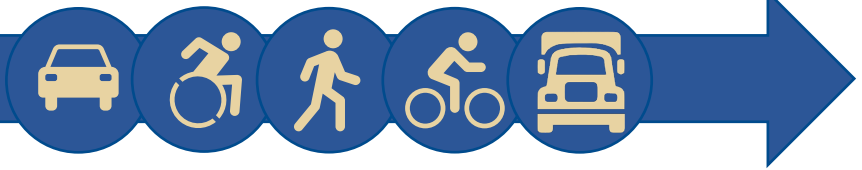
The first round of engagement took place from June 2020 to August 2020. **Table 4.1** summarizes the activities carried out and the approximate number of participants for each event.

**Table 4.1: Engagement Round #1 Summary**

Engagement Activity	Date	Participants
Engagement Platform and Social Media	June 1, 2020	Not Applicable
Notice of Study Commencement	June 1, 2020	Not Applicable
Council Presentation	June 1, 2020	21 <sup>1</sup>
Online Survey	June 1, 2020 to August 16, 2020	162
Interactive Map	June 1, 2020 to August 16, 2020	99
Stakeholder Interviews	October 1 and 6, 2020	20

Notes:

1. Number of participants reflects official attendance published in the meeting minutes. It does not include participants who may have witnessed or otherwise attended the Council meeting.



## 4.1 Engagement Platform and Social Media

The Municipality established a project site on **Your Say North Perth** to share background information and updates on the study. The project team updated the site as work progressed to keep the community informed of upcoming events and provide access to draft documents. Emails sent to the project email address [tmpstudy@northperth.ca](mailto:tmpstudy@northperth.ca) and Municipality staff were addressed and incorporated into the project record.

As work progressed, the Municipality communicated information about the study through its social media feeds (Facebook and Twitter). During Round #1, the feeds informed recipients about study initiation activities, provided links to **Your Say North Perth**, and invited community input and feedback on the study.

## 4.2 Notice of Study Commencement

The TMP Study formally launched on June 1, 2020 with the issuance of the Notice of Study Commencement. The notice summarized the study purpose, outlined the MCEA planning process, and provided contact information.

## 4.3 Council Presentation

The project team kicked-off the study with an introductory presentation to Municipal Council on June 1, 2020, outlining the study goals and objectives, work plan, and engagement program. The team responded to questions from members of Council.

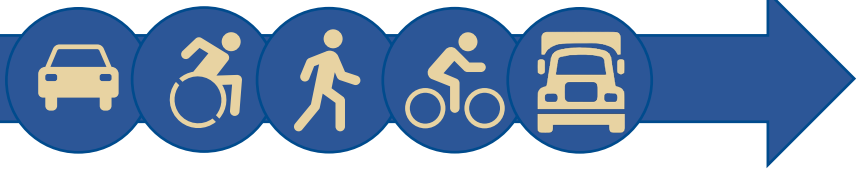
**Attachment C** provides the initial presentation to Council.

## 4.4 Online Survey

Between June 1, 2020 and August 16, 2020, the Municipality conducted a survey through YSNP to gather public opinion on transportation in North Perth. The survey asked respondents to cite current transportation conditions, concerns, needs, and expectations in the Municipality. Barriers and motivators to the use of active transportation facilities and services were also queried.

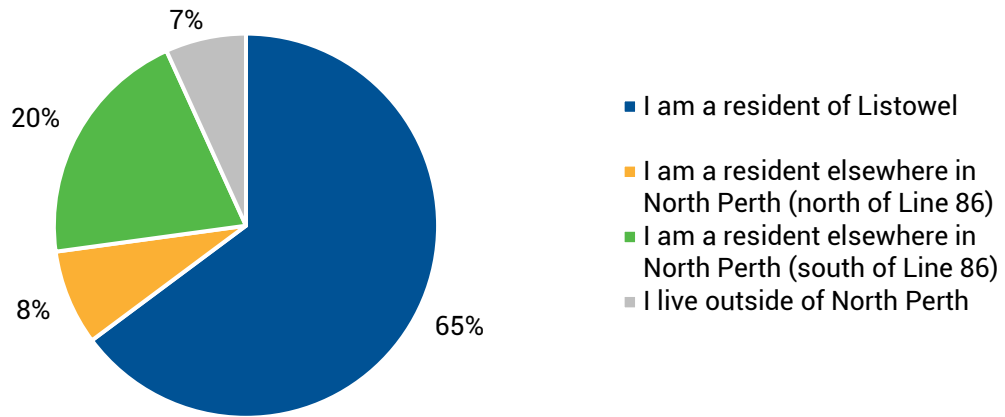
**Attachment D** provides the survey questionnaire and responses. In total, 162 individuals completed the 14-question survey. While the results are not statistically representative (accounting for only about 1% of the Municipal population), they provide valuable insight on local transportation opportunities and challenges. The following summarizes the findings by question:





**Question 1 – Place of Residence**

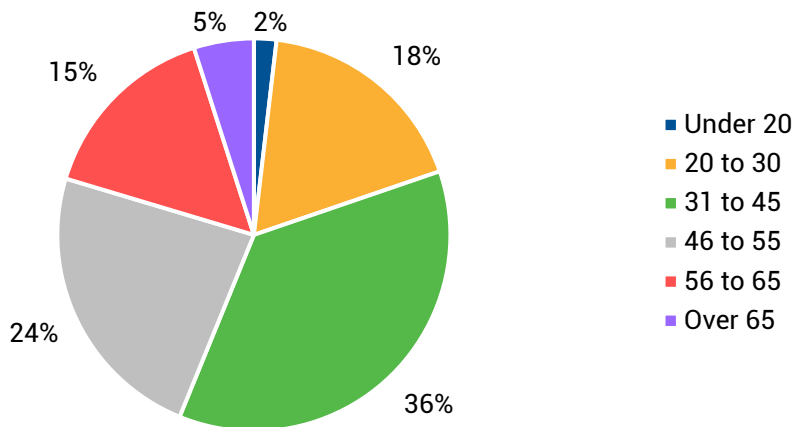
**Figure 4.1** shows that most respondents (65%) were residents of Listowel. Another 28% resided elsewhere in North Perth. The remainder (7%) lived outside the Municipality.



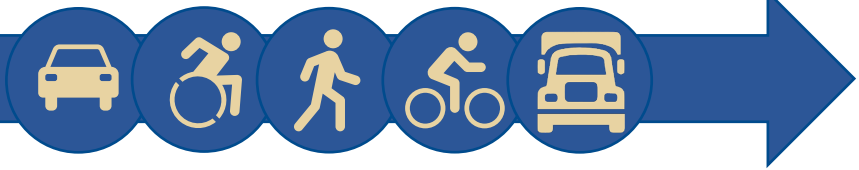
**Figure 4.1: Respondent Place of Residence**

**Question 2 – Age**

**Figure 4.2** shows that half of respondents were between 31 and 55 years of age. Another 33% were either 20 to 30 years of age or 56 to 65 years of age. The survey captured few individuals under 20 years of age and older than 65 years of age.



**Figure 4.2: Age of Respondent**



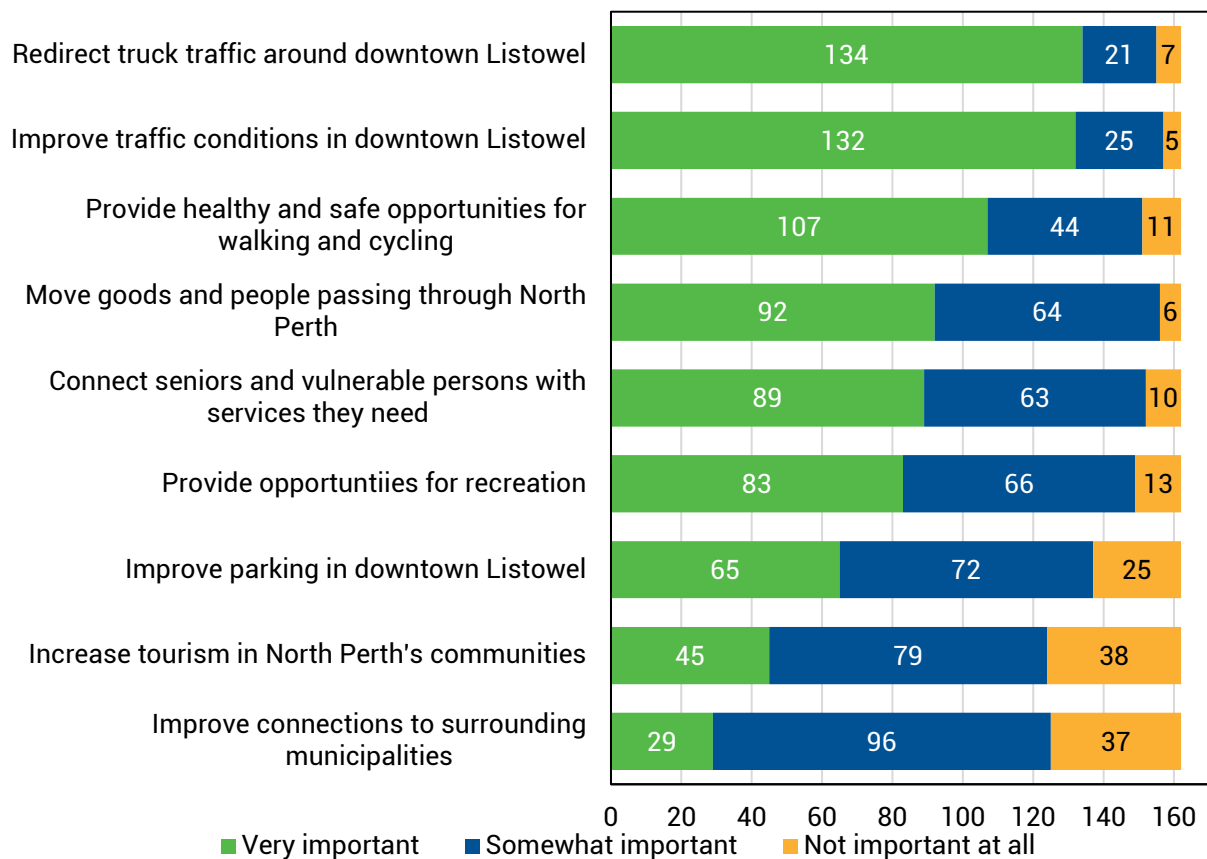
**Question 3 – Most Important Improvements to Transportation System**

Figure 4.3 shows that respondents view the most important transportation network improvements for North Perth to be:

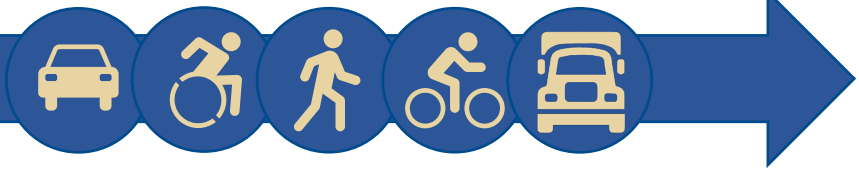
- Improving traffic conditions in downtown Listowel (83% of respondents (134 of 162) indicated this was very important); and
- Redirecting truck traffic around Listowel (81% of respondents (132) indicated this was very important).

The least important improvements were:

- Improving connections to surrounding municipalities (18% of respondents (29) indicated this was very important); and
- Increasing tourism in North Perth's communities (28% of respondents (45) indicated this was very important).

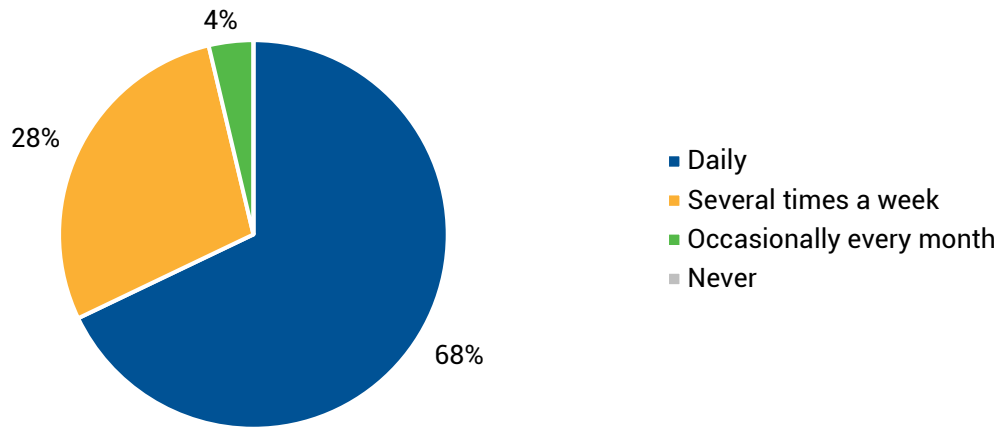


**Figure 4.3: Most Important Improvements to Transportation Network**



**Question 4 – Driving Frequency**

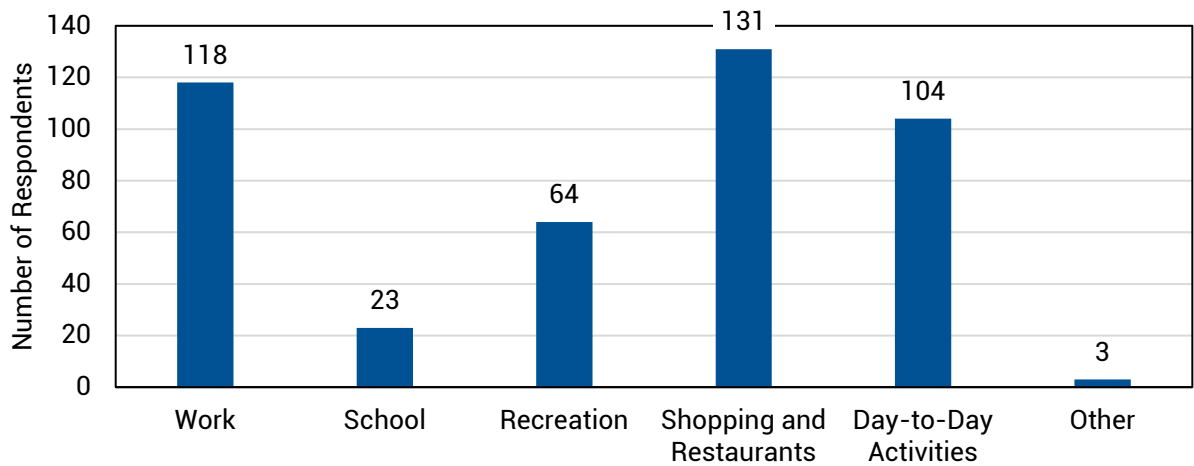
**Figure 4.4** shows that all respondents indicated they drive at least occasionally every month. Nearly 70% of respondents indicated that driving is a daily occurrence, with approximately 30% indicating less than daily driving.



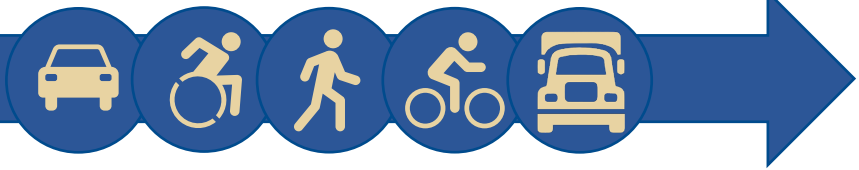
**Figure 4.4: Frequency of Driving**

**Question 5 – Driving Trip Purpose**

**Figure 4.5** shows that respondents drive most frequently for shopping and restaurants (81%), work (73%), and other non-work/non-school day-to-day activities (64%). Fewer respondents indicated they drive for recreational (40%) or school (14%) purposes. The modest number of school trips is likely attributable to the relatively low representation of 20-year-old and under respondents.

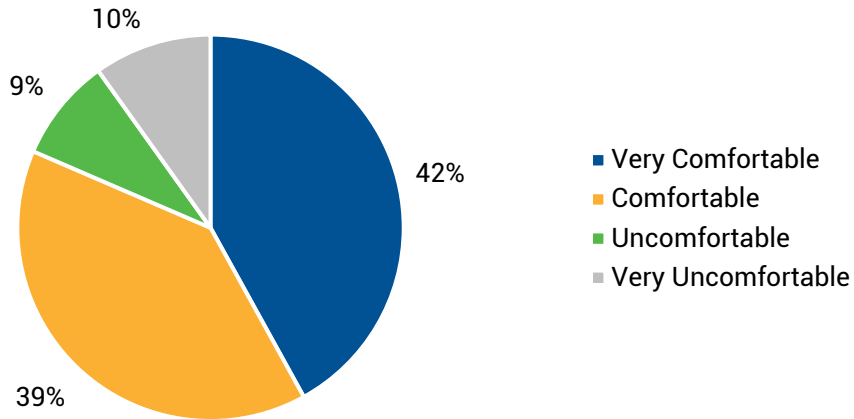


**Figure 4.5: Trip Purpose(s) – Driving**



**Question 6 – Level of Comfort – Driving**

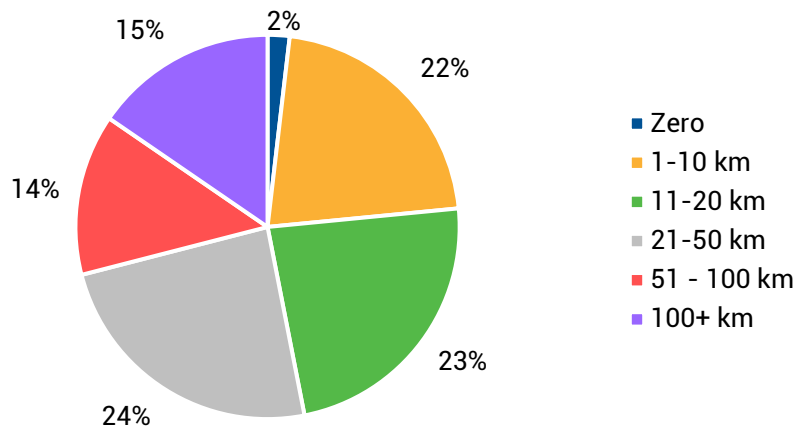
**Figure 4.6** shows that approximately 80% of respondents are very comfortable or comfortable driving in the Municipality. Remaining respondents indicated they are either uncomfortable (9%) or very uncomfortable (10%). The survey did not request specific locations of uncomfortable driving; however, some comments on the interactive map pinpointed certain sites. See **Section 4.5** for further information.



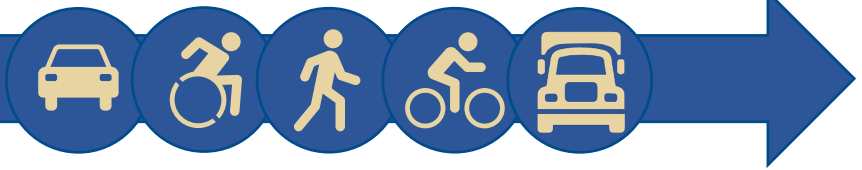
**Figure 4.6: Level of Comfort – Driving**

**Question 7 – Typical Driving Habits (Prior to March 2020)**

**Figure 4.7** shows the typical daily driving distances of respondents (prior to March 2020). Relatively equal distributions drive between 1 and 10 kilometres, 11 and 20 kilometres, and 21 and 50 kilometres (approximately 23% each), and between 51 and 100 kilometres and more than 100 kilometres (approximately 15% each). Three respondents (2%) indicated a daily drive of zero kilometres.

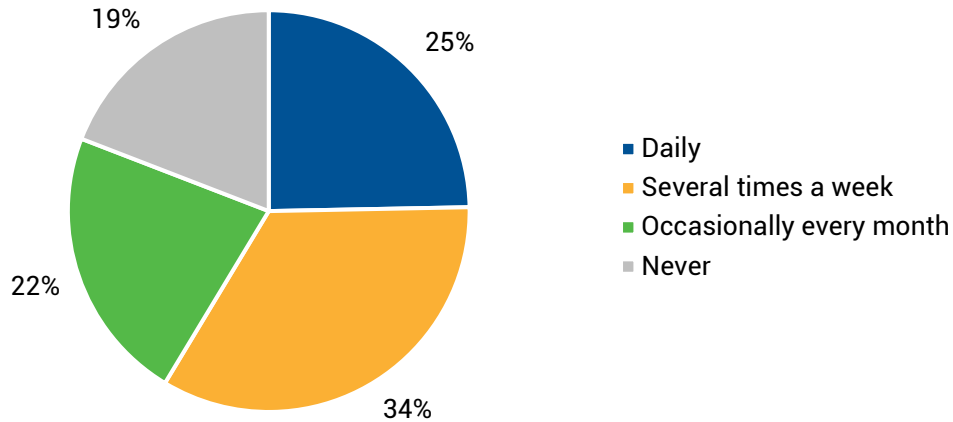


**Figure 4.7: Daily Kilometres by Driving (Prior to March 2020)**



**Question 8 – Walking Frequency**

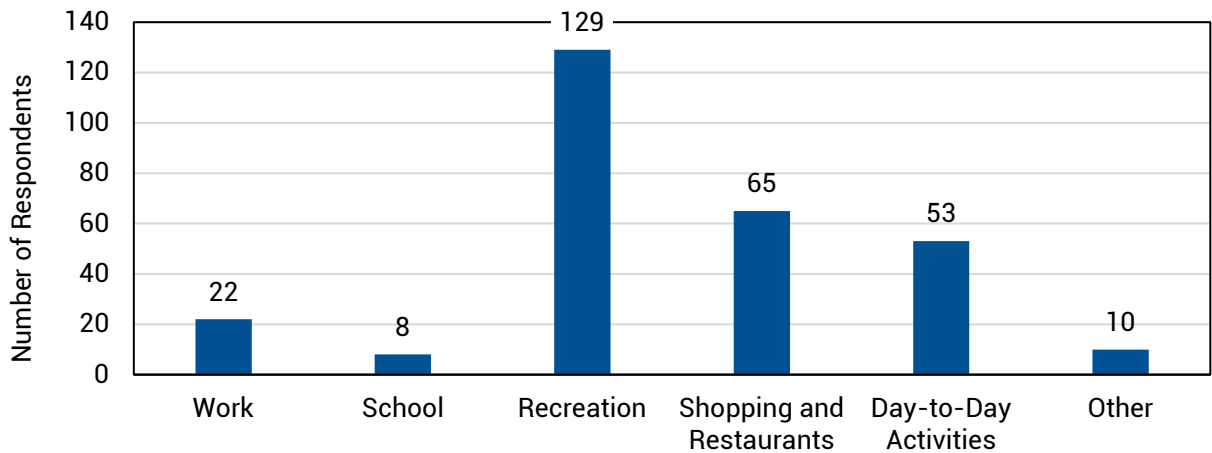
Figure 4.8 shows that nearly 80% of respondents walk either daily, several times a week, or occasionally per month. The remaining 20% indicated they never walk.



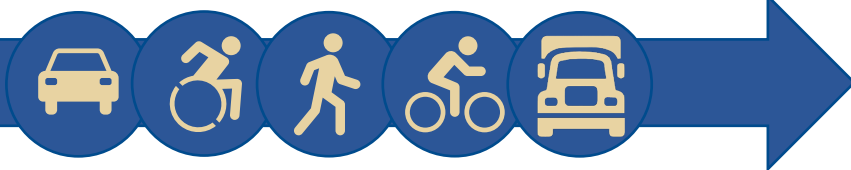
**Figure 4.8: Frequency of Walking**

**Question 9 – Walking Trip Purpose**

Figure 4.9 shows that respondents walk most frequently for recreational purposes (80%), followed by shopping and restaurants (40%) and other non-work/non-school day-to-day activities (33%). Walking for work (14%) or school (5%) was less common. The modest number of school trips is likely attributable to the relatively low representation of 20-year-old and under respondents, who may walk to schools in Listowel.

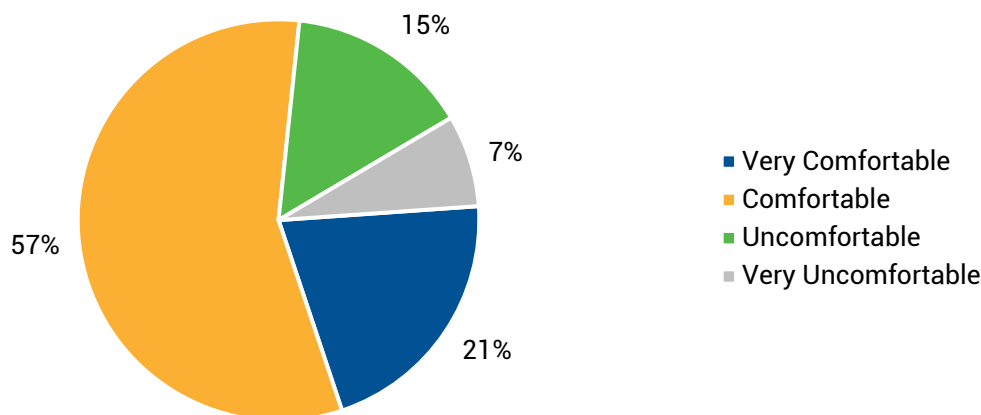


**Figure 4.9: Trip Purpose(s) – Walking**



**Question 10 – Level of Comfort – Walking**

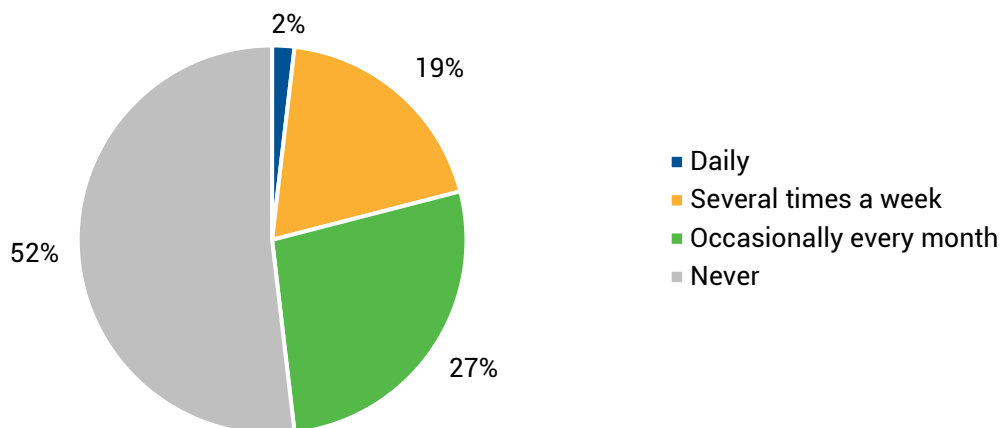
Figure 4.10 shows that approximately 78% of respondents are very comfortable or comfortable walking in the Municipality. Remaining respondents indicated they were either uncomfortable (15%) or very uncomfortable (7%). The survey did not request specific locations of uncomfortable walking; however, some comments on the interactive map pinpointed certain sites. The survey also did not ask users where they walked or their proximity to pedestrian facilities. See Section 4.5 for further information.



**Figure 4.10: Level of Comfort – Walking**

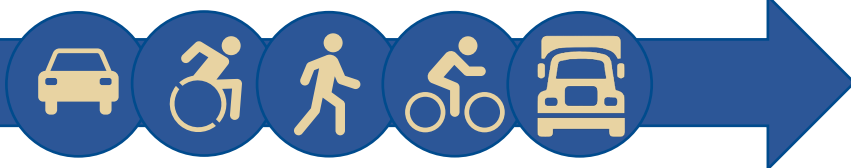
**Question 11 – Cycling Frequency**

Figure 4.11 shows that over 50% of respondents never ride a bike in the Municipality, whereas 46% cycle either several times per week or occasionally every month. Very few respondents (3) cycle daily, which may align with the same respondents who indicated they travel zero kilometres per day by car (see Figure 4.7).



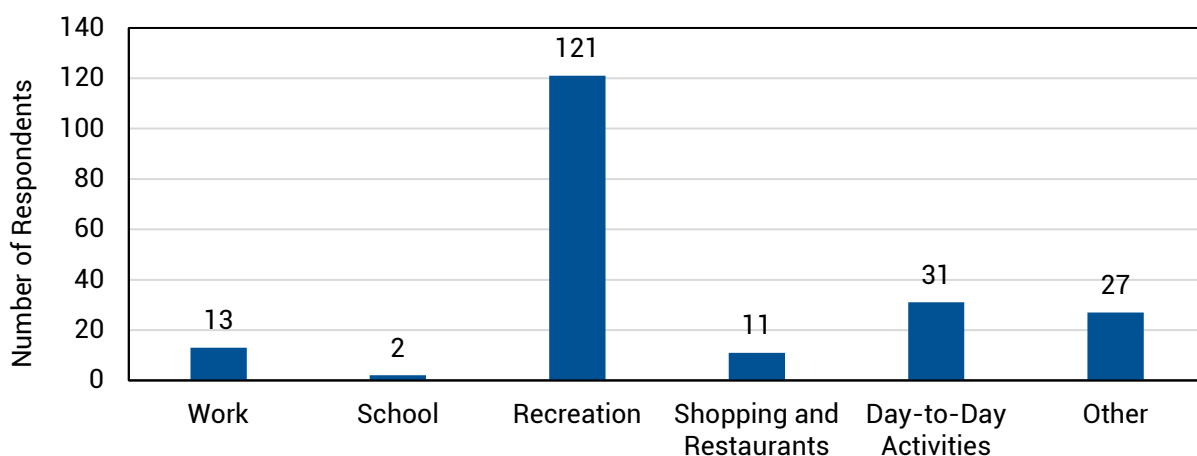
**Figure 4.11: Frequency of Cycling**





### Question 12 – Cycling Trip Purpose

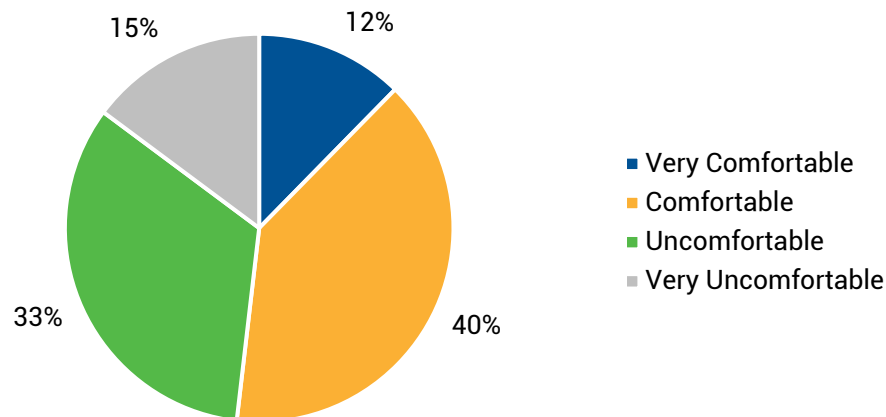
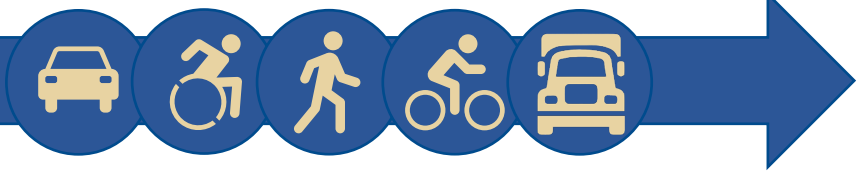
**Figure 4.12** shows that respondents cycle mostly for recreational purposes (75%), followed by other non-work/non-school day-to-day activities (19%) and shopping and restaurants (7%). Very few individuals ride to work (8%) or school (1%), again likely attributable to the relatively low representation of 20-year-old and under respondents. The results are somewhat consistent with the findings for walking trips (see **Figure 4.9**), although the range of trip purposes tends to be broader for walkers.



**Figure 4.12: Trip Purpose(s) – Cycling**

### Question 13 – Level of Comfort – Cycling

**Figure 4.13** shows that just over half of respondents are very comfortable (12%) or comfortable (40%) cycling in the Municipality. Remaining respondents indicated they were either uncomfortable (33%) or very comfortable (15%). The survey did not request specific locations of uncomfortable cycling; however, some comments on the interactive map pinpointed certain sites. The survey also did not ask users where they cycled or their proximity to cycling facilities. See **Section 4.5** for further information.



**Figure 4.13: Level of Comfort – Cycling**

## 4.5 Interactive Map

Concurrent with online survey, the Municipality invited location-specific feedback on the transportation system through an interactive mapping tool accessed via **Your Say North Perth**. Respondents placed “pins” on the map to denote the location of their concern(s), with comments assigned to one of three categories (driving, cycling, or walking-related) for summary purposes. Thirty-nine (39) unique respondents provided 99 comments.

**Figure 4.14** and **Figure 4.15** show the pinned locations in the Municipality and specifically in Listowel, respectively. **Attachment E** provides the detailed comments related to the points. Specific feedback received through the interactive map included:

- Road surface conditions need improvement, notably in more rural areas of the Municipality;
- Traffic congestion remains an ongoing concern at Wallace Avenue North (Highway 23) and Main Street (Perth Line 86);
- Lack of trail amenities in Atwood (e.g., parking, washrooms, signage) and pedestrian connectivity in Listowel (e.g., lack of sidewalks on streets, or missing connections to the trail network) presents barriers to walking;
- Lack of trail connectivity between Listowel and Palmerston presents a barrier to active travel between these communities;
- Absence of cycling facilities on Highway 23, Perth Line 87 (Main Street), and Elma Street presents barriers to cycling in Listowel;

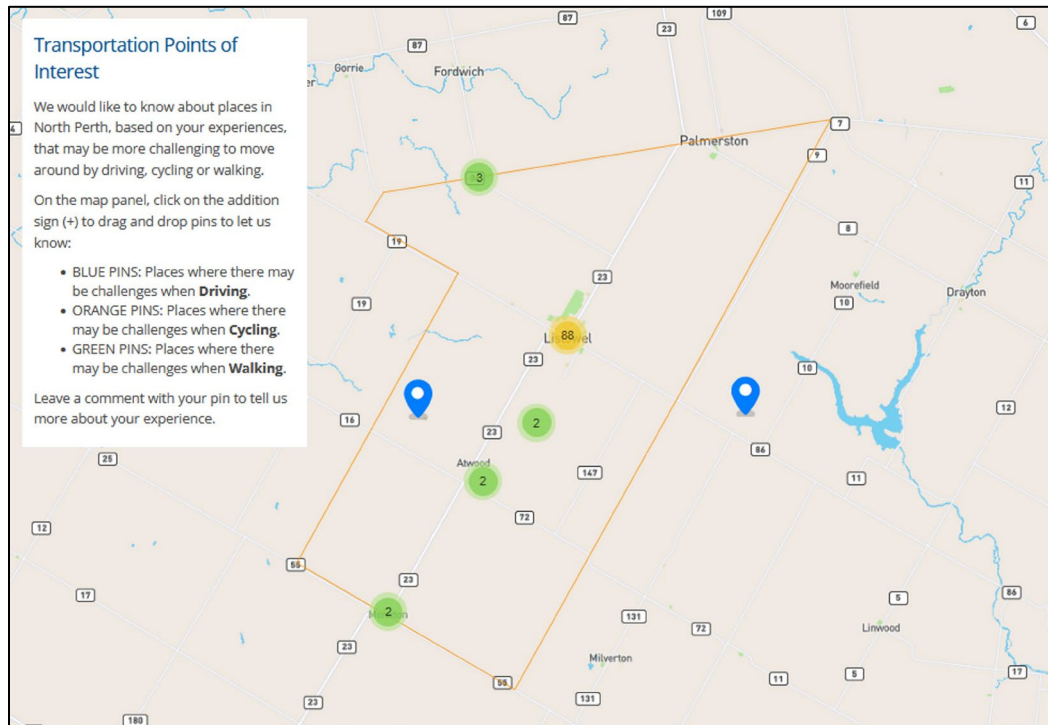
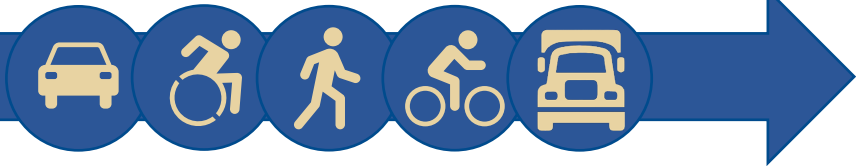


Figure 4.14: Pinned Locations in North Perth

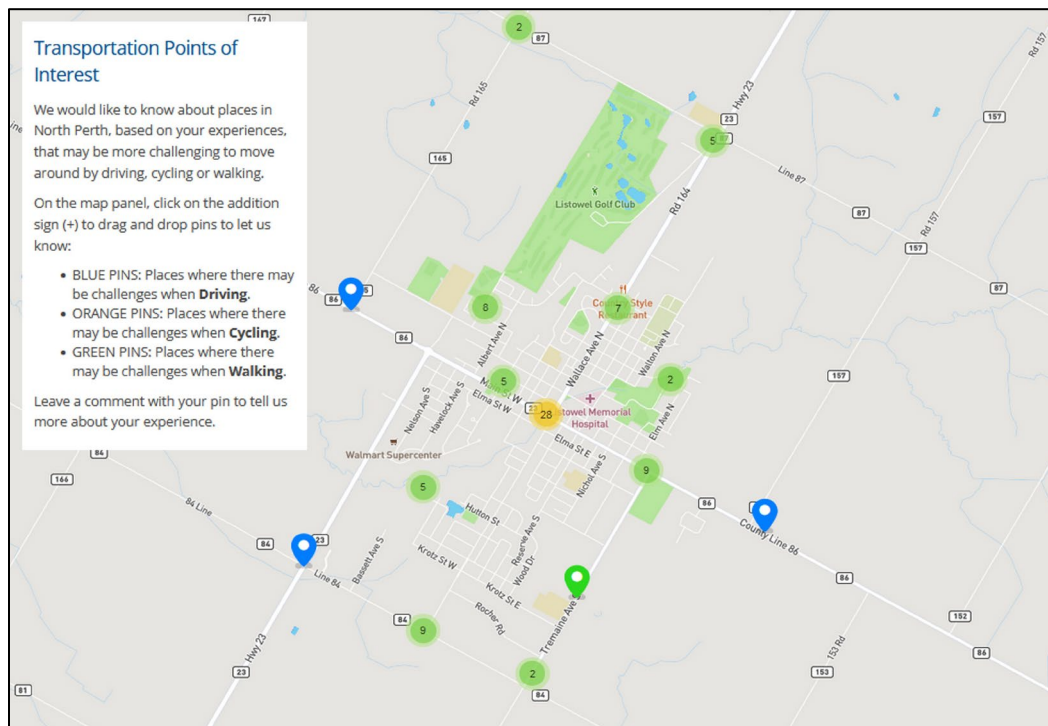
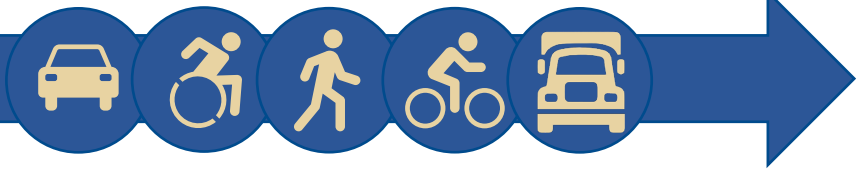


Figure 4.15: Pinned Locations in Listowel



- A general desire for improved pedestrian crossings in Listowel to support safer walking and cycling;
- Concerns about speeding on Perth Line 88 in Gowanstown; and
- Requests for traffic control modifications at:
  - Perth Road 178 and Perth Line 88;
  - Highway 23 and Perth Line 87;
  - Elizabeth Street West and Argyle Avenue North;
  - Tremaine Avenue and Perth Line 86;
  - Highway 23 and Perth Line 84; and
  - Havelock Avenue South and Elma Street West

### 4.6 Stakeholder Interviews

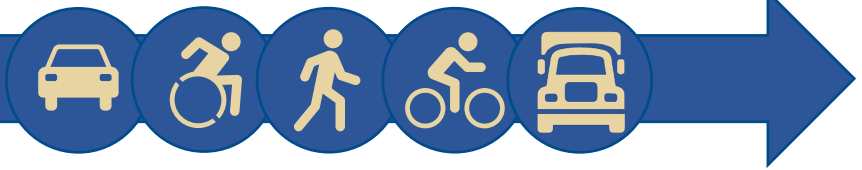
On October 1 and 6, 2020, the project team held individual meetings with key stakeholders to obtain their views on transportation in North Perth. Participants included resident and business associations, active transportation groups, Perth County staff, Municipality staff, and Council representatives.

**Attachment F** summarizes the key messages received through the interviews.

### 4.7 Summary of Feedback Received

The following summarizes the feedback received during Round #1:

- A by-pass remains crucial to divert truck traffic not intending to visit downtown Listowel and relieve pressure on an already congested road network. The assessment of potential by-pass route(s) needs to consider a multitude of factors, including route attractiveness, connectivity to local truck destinations and industries, impact on existing rural roads, and impact to adjacent rural residential and agricultural properties.
- The entire length of Wallace Avenue presents challenges to movements across this principal road corridor. For the north segment concerns relate to traffic signals and vehicular movement, while for the south segment issues pertain to vehicle speeds and pedestrian crossings.
- Local trails attract visitors and residents, but the network needs further connections to “finish” the system, particularly new linkages in the rural areas to connect those residents to existing trails.



- Public parking lots at strategic trailhead locations are needed to provide access to the trail system for residents coming from a distance and for visitors from outside North Perth.
- The sidewalk network in Listowel needs to be expanded to provide convenient and safe access to key destinations, particularly schools and core area businesses. Expansion should be in a coordinated manner together with operational considerations for safe crossings and signalization.
- The incorporation of new cycling routes, complementing existing on-road facilities and the trail system, is needed to provide safe, continuous options for all ages and abilities.
- Public parking is key infrastructure in the Listowel core. While the supply of available spaces is generally adequate (although loss of existing parking is a concern of business owners) more effective wayfinding to parking areas is needed.
- Transportation planning for the broader system in North Perth needs to consider opportunities for alternate travel methods in the future, including public transit options and newer technologies like e-bikes.

## 5 Engagement Round #2

The second round of engagement took place in November 2021.

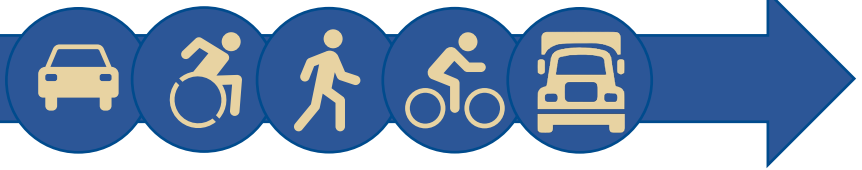
### 5.1 Engagement Platform and Social Media

The project team updated the study status on **Your Say North Perth** and posted interim draft reports, online survey links, and consultation notices to the communication portal. Feedback received through the engagement platform and emails sent to the Municipality were addressed and incorporated into the project record.

The Municipality continued to communicate information about the study through its social media feeds (Facebook and Twitter). The feeds updated recipients on study progress updates, provided links to **Your Say North Perth**, shared notices for the virtual Public Information Centre (see below), and invited community input and feedback on the study.

### 5.2 Public Information Centre

The Municipality held a virtual PIC on November 10, 2021 to present the proposed plan directions and gather feedback on the work to date. The PIC featured a PowerPoint presentation summarizing the study goals and objectives, Round #1 engagement



activities and feedback, preliminary recommendations, and next steps. The recommendations included:

- An active transportation strategy comprising a network of urban and rural trails and supporting policies and programs;
- Future road network needs;
- Traffic safety policies; and
- Truck route considerations.

**Attachment G** provides the PIC materials.

Following the presentation, the project team responded to questions and offered comments.

## 5.3 Summary of Feedback Received

Most feedback for Round #2 centred around the potential truck route(s) presented at the virtual PIC. Respondents suggested the Municipality should:

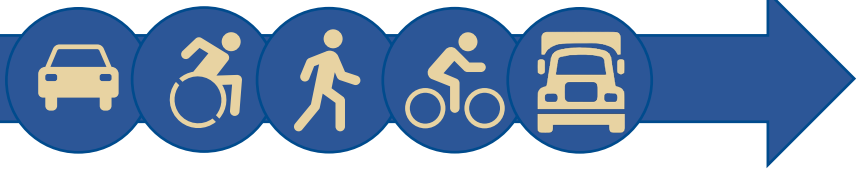
- Avoid directing truck traffic onto Tremaine Road South;
- Gain a better understanding of truck travel patterns in Listowel, such as their origins and destinations; and
- Consider and evaluate alternate routes to direct trucks around Listowel.

## 6 Engagement Round #3 – Listowel Truck Route Assessment

The third round of engagement took place in June and July 2022 and focused solely on the Listowel Truck Route Assessment.

Partially in response to comments raised at the virtual PIC during Round #2, the Municipality expanded the TMP Study scope to include a more comprehensive examination of potential truck routes around Listowel (initially described as the “commercial (truck) bypass”). **Appendix D** of the TMP documents the findings of the **Listowel Truck Route Assessment**, with the engagement activities carried out to support the investigation summarized below.





## 6.1 Public Information Centres

The Municipality held three in-person PICs at Kin Station– one on June 15, 2022 from 5:00 PM to 7:00 PM and two on July 12, 2022 from 1:30 PM to 3:30 PM and from 7:00 PM to 9:00 PM –specific to the Listowel Truck Route Assessment. Approximately 40 people in total attended the three sessions.

The PICs featured a series of display boards summarizing the work completed to date, proposed evaluation criteria, potential route options, and next steps. Members of the project team attended the meetings to explain the assessment process and respond to questions.

**Attachment H** provides the PIC materials (same for all three PICs).

## 6.2 Comment Form/Participant Survey

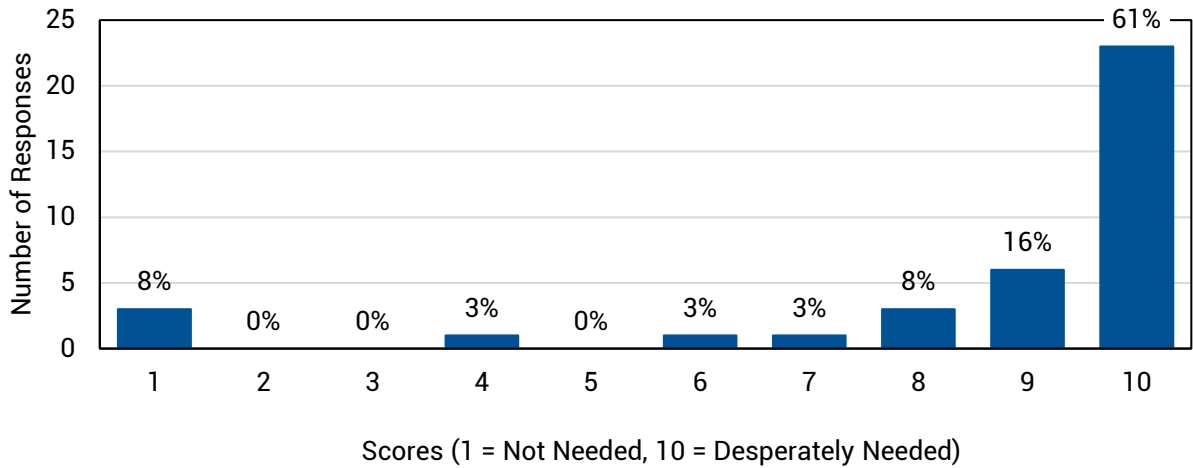
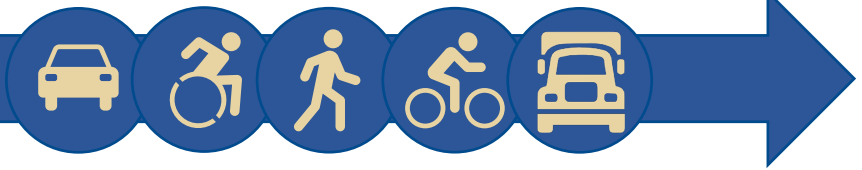
At the PICs, the project team provided attendees a comment form to solicit written feedback on the material presented. The form also included a brief three-question survey to gauge participant opinions on the need for a truck by-pass, the route options presented, and the proposed evaluation criteria. After the meetings, the Municipality posted the PIC display panels and comment form on **Your Say North Perth** to allow individuals unable to attend in person to view the information and offer input through an online version of the comment form.

In total, 38 individuals submitted comment forms. The following summarizes their responses to the three survey questions:

### Question 1: Need for Listowel Truck Route

*Do you feel a commercial (truck) bypass plan is needed for Listowel? (on a scale of 1 to 10, where 10 is strongly supported/desperately needed.)*

About 85% of respondents expressed strong support (i.e., scores of 8, 9 or 10) for the potential truck route as **Figure 6.1** illustrates. The remainder felt the route was not needed or offered only limited benefit.

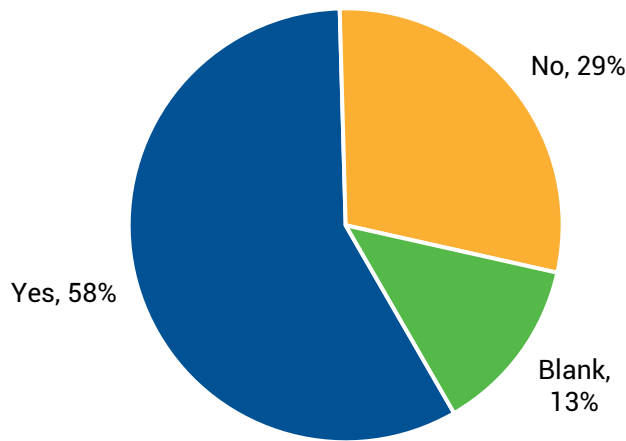


**Figure 6.1: Participant Views on Need for Listowel Truck Route**

**Question 2: Concern About Potential Truck Route**

*Do you have any concerns about any of the potential routes for the proposed commercial (truck) bypass plan?*

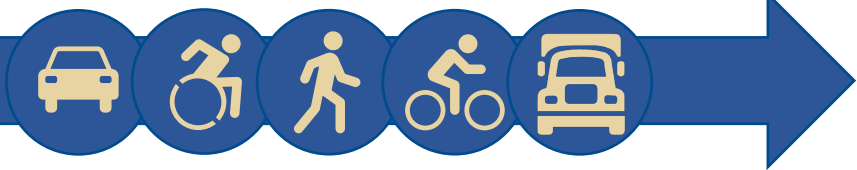
About 58% of respondents expressed some concern about a potential truck route as **Figure 6.2** shows. Most concerns focused on the possible location of the route and its impacts as noted below.



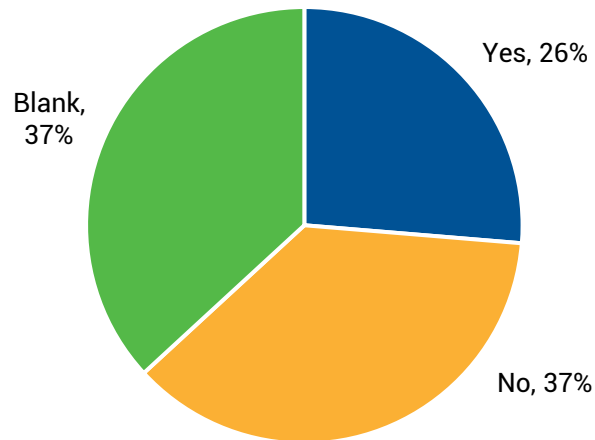
**Figure 6.2: Participants Concerned About Potential Truck Route**

**Question 3: Concerns About Assessment Criteria**

*Do you have any concerns about the assessment criteria for the proposed commercial (truck) bypass plan?*



About 74% of respondents expressed no concern or left the question blank when asked about the evaluation criteria proposed to assess potential truck routes, as **Figure 6.3** shows. Only 26% expressed concerns, which are discussed below.



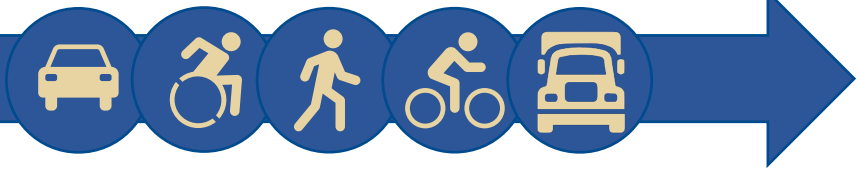
**Figure 6.3: Participants Concerned About Assessment Criteria**

**Table 6.1** summarizes the additional comments received from participants regarding a potential truck route around downtown Listowel. The most frequently cited concern related to designating Tremaine Avenue South as part of the route. Improvements to traffic conditions in Listowel and concerns about safety and conflicts with pedestrians were the next most common responses.

### 6.3 Summary of Feedback Received

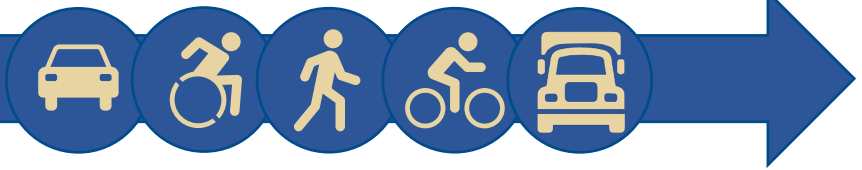
The following summarizes the feedback received through the comment forms and survey specific to the truck route assessment:

- About 85% of respondents expressed strong support (i.e., scores of 8, 9, or 10) for a truck route. The remainder felt a route was not needed or offered only limited benefit.
- About 58% of respondents have some concern about a potential truck route. The concerns focused on the possible location of the route and its impacts on adjacent property owners. Specifically, participants noted:
  - Tremaine Avenue South would not be a suitable truck route because of nearby schools and residential areas; and
  - Trucks should not be completely banned from making local deliveries and routes should be convenient for trucks.



**Table 6.1: Participant Feedback on Potential Truck Route**

Theme	Description	Number of Mentions
Tremaine Not Suitable	Tremaine Avenue South would not be a suitable truck route because of nearby schools and residential areas.	8
Improving Traffic	Truck Route will improve traffic in Listowel.	6
Safety Issues/ Conflicts with Other Modes	Safety Issues from trucks interacting with other users on route (pedestrian, cyclists, tractors, farm equipment)	6
Soft Ban/ Convenience Routes	Trucks should not be completely banned from local deliveries. Routes should also be convenient for trucks.	5
Roundabouts	Support for roundabouts at various intersections along the route	4
Speed	Concern about speed of trucks using designated route	3
Cost	Concerns about the cost to implement the truck route	3
Noise	Concerns about truck noise along the route	3
Road Condition/ Maintenance	Concerns about the suitability of current road conditions/geometry and maintenance for truck traffic	3



## 7 Proposed Plan Review Period

The Municipality released the proposed TMP for comment prior to Municipal Council considering the plan for approval on May 6, 2024. The review period took place between December 2023 and February 2024, following a presentation of the proposed plan to Municipal Council. Comments received through this period were incorporated into the final version of the TMP.

### 7.1 Council Presentation

The project team presented the proposed TMP to Municipal Council on December 11, 2023. The team responded to questions from members of Council. After receiving the presentation, Council authorized release of the proposed plan for comment.

**Attachment I** provides the presentation to Council.

### 7.2 Engagement Platform and Social Media

The project team updated the study status on **Your Say North Perth** and posted the proposed TMP and consultation notices to the communication portal. Feedback received through the engagement platform and emails sent to the Municipality were addressed in preparing the final plan.

The Municipality communicated the review period through its social media feeds (Facebook and Twitter). The feeds informed recipients of the report availability and invited community feedback.

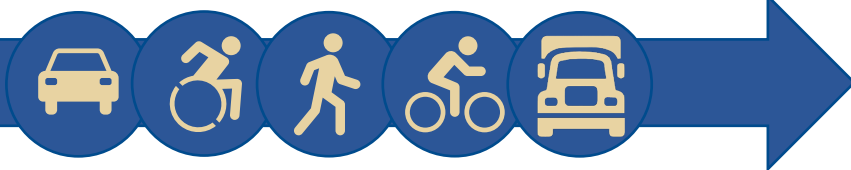
### 7.3 Notice of Master Plan

Per the MCEA, the Municipality issued the final public notice for the TMP (Notice of Master Plan) on December 12, 2023, informing the document was available for public comment until February 12, 2024.

### 7.4 Comment Submissions

During the review period, the Municipality received comment submissions from:

- Ministry of Citizenship and Multiculturalism
- Ministry of Transportation
- Perth County Planning Department



A formal submission was also received from a resident. As well, the Municipality received a petition from residents expressing opposition to the proposed truck route along Mitchell Road S/Highway 23 between Perth Line 86 and Line 84.

**Attachment J** summarizes the comment submissions received, the Municipality's responses, and any actions taken to modify the TMP to address concerns cited.

Between December 26, 2023 and February 12, 2024, the Municipality invited feedback on the proposed TMP through an online comment form hosted on **Your Say North Perth**. **Attachment K** provides the comment form and responses. In total, the site received 343 visits, with 54 individuals completing the form.

## 7.5 Online Truck and Transport Operator Survey

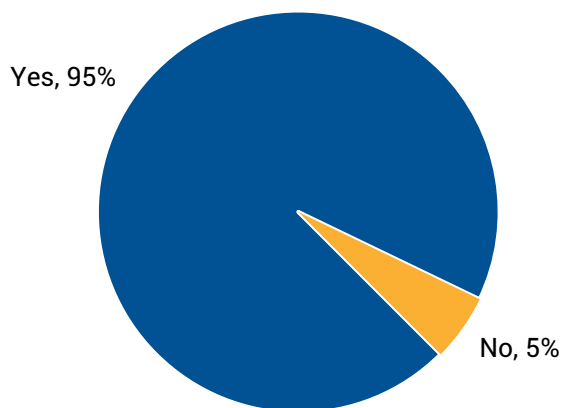
Between January 1, 2024 and February 12, 2024, the Municipality invited input from local truck and transport operators on the recommended heavy vehicle provisions in the proposed TMP through an online survey hosted on **Your Say North Perth**. The questionnaire sought stakeholder feedback on the proposed truck routes and their potential implications.

**Attachment L** provides the survey questionnaire and responses. In total, 56 individuals participated in the survey. The following summarizes their responses to the four "yes/no" questions:

### Question 1: Trucks Travelling Through Downtown Listowel

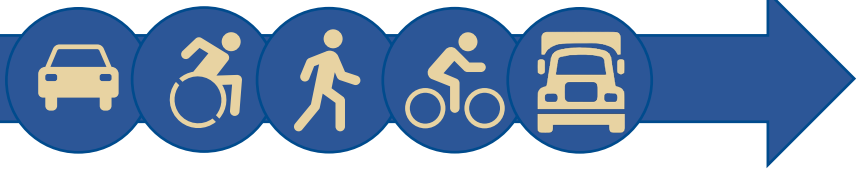
*Do you (or your drivers) drive through the core of Listowel?*

About 95% of respondents indicated they (or their drivers) drive through the core of Listowel as **Figure 7.1** illustrates.



**Figure 7.1: Trucks Travelling Through Downtown Listowel**

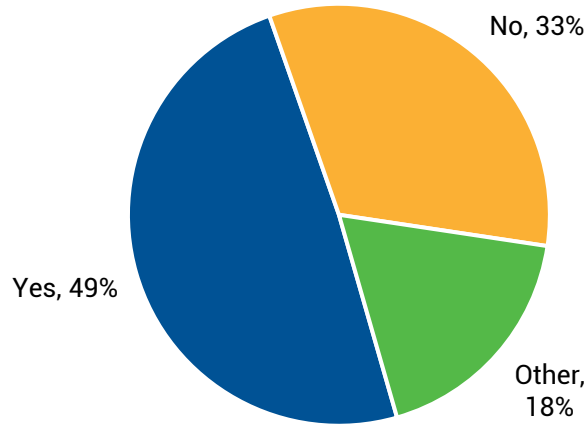




### Question 2: Local Destinations

*Do you have local destinations that you are driving to?*

About half (49%) of respondents noted they were driving to local destinations, while 33% stated the location was not within Listowel as **Figure 7.2** shows. The remainder (18%) indicated their destination as “other”.

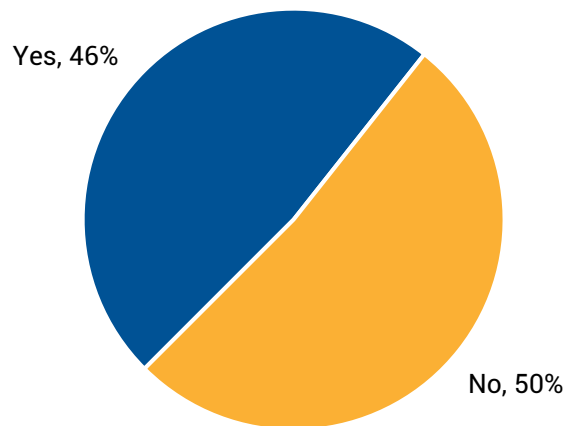


**Figure 7.2: Local Destinations**

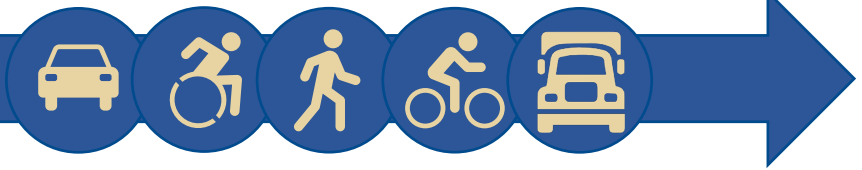
### Question 3: Intersection Improvements

*If intersections were improved (through a combination of either roundabouts, signalization, widening and turning lanes) along the proposed truck by-pass, would the proposed route help your daily drive?*

About half (48%) of respondents indicated the proposed truck routes, with intersection improvements along the by-pass, would help their daily drive as **Figure 7.3** shows.



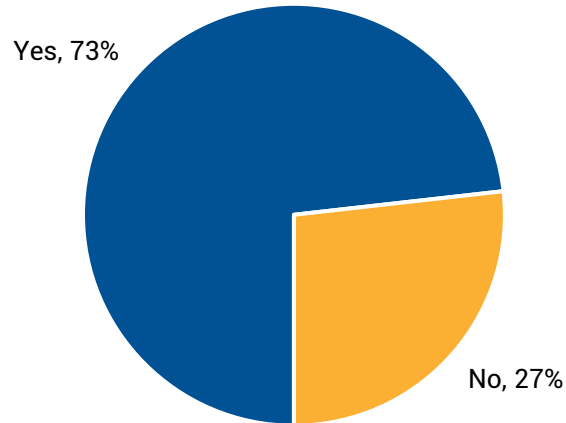
**Figure 7.3: Intersection Improvements**



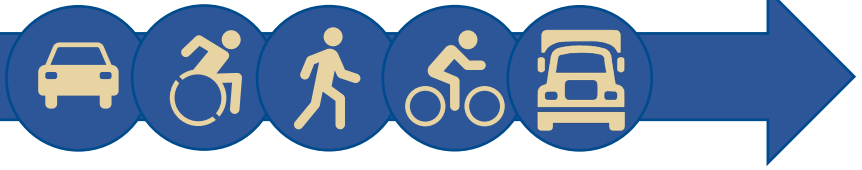
#### Question 4: Still Need to Drive Through Listowel

*If the by-pass was implemented with improved intersections would there still be a need for you to drive into or through Listowel?*

About 73% of respondents would still need to drive into or through Listowel if the by-pass was implemented with improved intersections as **Figure 7.4** shows.



**Figure 7.4: Still Need to Drive Through Listowel**



# Attachment A

## Contact List

**Municipality of North Perth Transportation Master Plan  
Attachment A - Project Contact List**

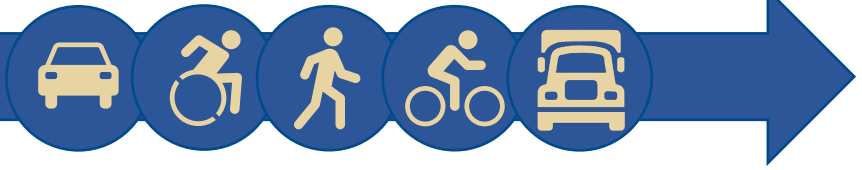
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<b>MUNICIPALITY</b>						
Municipality of North Perth	Mayor	Todd Kasenberg	<a href="mailto:toddkasenberg@northperth.ca">toddkasenberg@northperth.ca</a>		330 Wallace Avenue North	Listowel, ON N4W 1L3
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Municipality of North Perth	Elma Ward Councillor	Dave Johnston	<a href="mailto:davejohnston@northperth.ca">davejohnston@northperth.ca</a>		330 Wallace Avenue North	Listowel, ON N4W 1L3
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Municipality of North Perth	Wallace Ward Councillor	Julie Behrns	<a href="mailto:juliebehrns@northperth.ca">juliebehrns@northperth.ca</a>		330 Wallace Avenue North	Listowel, ON N4W 1L3
Municipality of North Perth	Fire Chief	Janny Pape	<a href="mailto:jpape@northperth.ca">jpape@northperth.ca</a>		620 Wallace Street South	Listowel, ON N4W 1Y4
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Ministry of Indigenous Relations and Reconciliation	Manager, Indigenous Relations Unit	Michael Macpherson	<a href="mailto:michael.macpherson@ontario.ca">michael.macpherson@ontario.ca</a>	778-362-4487	9th Floor, 160 Bloor Street East	Toronto, ON M7A 2E6
Ministry of Indigenous Relations and Reconciliation	Executive Assistant	Ayn Cooney	<a href="mailto:ayn.cooney@ontario.ca">ayn.cooney@ontario.ca</a>	250-419-8805	4th Floor, 160 Bloor Street East	Toronto, ON M7A 2E6
Ministry of Natural Resources and Forestry	Management Biologist	Anne Marie Laurence	<a href="mailto:annemarie.laurence@ontario.ca">annemarie.laurence@ontario.ca</a>	289-552-1525	1st Floor, 1 Stone Road West	Guelph, ON N1G 4Y2
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Ministry of Agriculture, Food and Rural Affairs	Director, Rural Programs Branch	David Marriot	<a href="mailto:david.marriott@ontario.ca">david.marriott@ontario.ca</a>		Ontario Government Building 3rd Floor 1 Stone Road West	Guelph, ON N1G 4Y2
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Ministry of Tourism, Culture and Sport	Archaeology Review Officer - London	Shari Prowse	<a href="mailto:shari.prowse@ontario.ca">shari.prowse@ontario.ca</a>	519-671-7742	900 Highbury Avenue North	London, ON N5Y 1A4
Ministry of Tourism, Culture and Sport	Business & Financial Planning Coordinator	Nancy Fallis	<a href="mailto:nancy.fallis@ontario.ca">nancy.fallis@ontario.ca</a>	416-314-7744	659 Exeter Road, 2nd Floor	London, ON N6E 1L3
Ministry of Transportation	Corridor Management Planner	Martin Leyten	<a href="mailto:martin.leyten@ontario.ca">martin.leyten@ontario.ca</a>		659 Exeter Road, 1st Floor	London, ON N6E 1L3
Ministry of Transportation	Program Specialist	Kirstie Houston	<a href="mailto:kirstie.houston@ontario.ca">kirstie.houston@ontario.ca</a>		659 Exeter Road, 1st Floor	London, ON N6E 1L3
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Fisheries and Oceans Canada	Senior Fisheries Protection Biologist	Sara Eddy	<a href="mailto:Sara.Eddy@dfo-mpo.gc.ca">Sara.Eddy@dfo-mpo.gc.ca</a>		867 Lakeshore Road, P.O. Box 5050	Burlington, ON L7R 4A6
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Indigenous Services Canada	Sr. Claims Analyst	Allison Berman	<a href="mailto:allison.berman@rcaanc-cirnac.gc.ca">allison.berman@rcaanc-cirnac.gc.ca</a>	343-887-3908	10 rue Wellington, Room 1310	Gatineau, QC J8X 4J4
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House of Commons, Canada	MP, Perth-Wellington	John Nater	<a href="mailto:John.Nater@parl.gc.ca">John.Nater@parl.gc.ca</a>		59 Lorne Avenue East, Unit A	Stratford, ON N5A 6S4
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Perth County	Manager of Planning	Andrea Hachler	<a href="mailto:ahachler@perthcounty.ca">ahachler@perthcounty.ca</a>	519-271-0531 x 412	1 Huron Street	Stratford, ON N5A 5S4
Perth County	Emergency Management Coordinator	Adam McGaw	<a href="mailto:amcgaw@perthcounty.ca">amcgaw@perthcounty.ca</a>	519-271-0531 x 540	480 Douro Street	Stratford, ON N5A 0E6
Huron County	County Clerk	Susan Cronin	<a href="mailto:scronin@huroncounty.ca">scronin@huroncounty.ca</a>	519-524-8394 x 3257	1 Courthouse Square	Goderich, ON N7A 1M2
Municipality of West Perth	Municipal Clerk	Daniel Hobson	<a href="mailto:dhobson@westperth.com">dhobson@westperth.com</a>		169 David Street, P.O. Box 609	Mitchell, ON N0K 1N0
Township of Perth East	Municipal Clerk	Ashley Carter	<a href="mailto:acarter@pertheast.ca">acarter@pertheast.ca</a>	519-595-2800 x 223	25 Mill Street East, P.O. Box 455	Milverton, ON N0K 1M0

**Municipality of North Perth Transportation Master Plan  
Attachment A - Project Contact List**

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Township of Mapleton	Municipal Clerk	Larry Wheeler	<a href="mailto:lwheeler@mapleton.ca">lwheeler@mapleton.ca</a>	519-638-3313 x 045	7275 Sideroad 16	Drayton, ON N0G 1P0
Municipality of Huron East	Clerk	Jessica Rudy	<a href="mailto:jrudy@huroneast.com">jrudy@huroneast.com</a>	519-527-0160 x 37	72 Main Street South, P.O. Box 610	Seaforth, On N0K 1W0
Town of Minto	Clerk	Annilene McRobb	<a href="mailto:annilene@town.minto.on.ca">annilene@town.minto.on.ca</a>	519-338-2511 x 230	5641 Highway 89	Harriston, ON N0G 1Z0
<b>FIRST NATIONS</b>						
Saugeen First Nation	Band Administrator	Cheree Urscheler	<a href="mailto:sfn@saugeen.org">sfn@saugeen.org</a>	519-534-5507 x 226	6493 Highway 21	Southampton, ON N0H 2L0
Chippewas of Nawash Unceded First Nation	Chief	Greg Nadjwion	<a href="mailto:chiefsdesk@nawash.ca">chiefsdesk@nawash.ca</a>		135 Lakeshore Boulevard	Neyaashiinigmiing, ON N0H 2T0
Aamjiwnaang First Nation	Environment Coordinator	Sharilyn Johnston	<a href="mailto:sjohnston@aamjiwnaang.ca">sjohnston@aamjiwnaang.ca</a>		978 Tashmoo Avenue	Sarnia, ON N7T 7H5
Aamjiwnaang First Nation	Chief	Chris Plain	<a href="mailto:cplain@aamjiwnaang.ca">cplain@aamjiwnaang.ca</a>	519-336-8410 x 236	978 Tashmoo Avenue	Sarnia, ON N7T 7H5
Saugeen Ojibway Nation - Environment Office	Executive Assistant	Connor Chapman	<a href="mailto:execassistant@saugeenojibwaynation.ca">execassistant@saugeenojibwaynation.ca</a>		1972 Virgil Avenue	Neyaashiinigmiing, ON N0H 2T0
Six Nations of the Grand River	Chief	Tammy Martin	<a href="mailto:tammymartin@sixnations.ca">tammymartin@sixnations.ca</a>		1695 Chiefswood Road, PO Box 5000	Ohsweken, ON N0A 1M0
Haudenosaunee Confederacy Chiefs' Council			<a href="mailto:info@hdi.land">info@hdi.land</a>		16 Sunrise Court, Suite 600, PO Box 714	Ohsweken, ON N0A 1M0
Métis Nation of Ontario	President	Margaret Froh	<a href="mailto:margaretf@metisnation.org">margaretf@metisnation.org</a>		Suite 1100 – 66 Slater Street	Ottawa, ON K1P 5H1
Great Lakes Metis Council	President	Peter Cature	<a href="mailto:thegreatlakemetis@gmail.com">thegreatlakemetis@gmail.com</a>		380 9th Street East, Lower Level	Owen Sound, ON N4K 1P1
Oneida Nation of the Thames	Chief	Todd Cornelius	<a href="mailto:jessica.hill@oneida.on.ca">jessica.hill@oneida.on.ca</a>	519-318-4605	2212 Elm Avenue	Southwold, ON N0L 2G0
Oneida Nation of the Thames	Chief's Assistant	Barb Cornelius	<a href="mailto:barb.cornelius@oneida.on.ca">barb.cornelius@oneida.on.ca</a>		2212 Elm Avenue	Southwold, ON N0L 2G0
Oneida Nation of the Thames	Environmental Coordinator	Rosalind Antone	<a href="mailto:environment@oneida.on.ca">environment@oneida.on.ca</a>	519-317-6443	2212 Elm Avenue	Southwold, ON N0L 2G0
Oneida Nation of the Thames	Councillor	Brandon Doxtator	<a href="mailto:councillor.brandon@oneida.on.ca">councillor.brandon@oneida.on.ca</a>	226-378-4725	2212 Elm Avenue	Southwold, ON N0L 2G0
Walpole Island First Nation (Bkejwanong Territory)	Governance Manager	Dean Jacobs	<a href="mailto:dean.jacobs@wfn.org">dean.jacobs@wfn.org</a>	519-627-1481 x 264	2185 River Road, RR#3	Wallaceburg, ON N8A 4K9
Walpole Island First Nation (Bkejwanong Territory)	Chief	Dan Miskokomon	<a href="mailto:dan.miskokomon@wfn.org">dan.miskokomon@wfn.org</a>	519-627-1481 x 320	117 Tahgahoning Rd, RR#3	Wallaceburg, ON N8A 4K9
Walpole Island First Nation (Bkejwanong Territory)	Political Office & Community Planning Assistant	Janet Macbeth	<a href="mailto:janet.macbeth@wfn.org">janet.macbeth@wfn.org</a>	519-627-1481 x 280	2185 River Road, RR#3	Wallaceburg, ON N8A 4K9
Chippewas of Kettle and Stony Point First Nation	Chief	Jason Henry	<a href="mailto:jason.henry@kettlepoint.org">jason.henry@kettlepoint.org</a>		6247 Indian Lane	Lambton Shores, N0N 1J1
Chippewas of Kettle and Stony Point First Nation	Community Consultation Officer	Valeria George	<a href="mailto:fdesk@kettlepoint.org">fdesk@kettlepoint.org</a>	519-786-2125	6247 Indian Lane	Lambton Shores, N0N 1J1
Chippewas of the Thames First Nation	Chief	Jacqueline French	<a href="mailto:jfrench@cottfn.com">jfrench@cottfn.com</a>		320 Chippewa Road	Muncey, N0L 1Y0
Chippewas of the Thames First Nation	Executive Administrator	Seila Jaggard	<a href="mailto:consultation@cottfn.com">consultation@cottfn.com</a>		320 Chippewa Road	Muncey, N0L 1Y0
Chippewas of the Thames First Nation	Administration Officer	Tammy Deleary	<a href="mailto:tdeleary@solttfn.com">tdeleary@solttfn.com</a>		320 Chippewa Road	Muncey, N0L 1Y0
Historic Saugeen Metis	Assistant Coordinator, Lands Resources & Consultation	Chris Hachey	<a href="mailto:hsmasstrcc@mnts.com">hsmasstrcc@mnts.com</a>	519-483-4000	204 High Street	Southampton, ON N0H 2L0
<b>STAKEHOLDERS</b>						
North Perth Chamber of Commerce	President	Virginia Dunbar	<a href="mailto:info@npchamber.com">info@npchamber.com</a>		580 Main Street West	Listowel, ON N4W 1A8
Listowel Business Improvement Area	BIA Coordinator	Alyssa Kuepfer	<a href="mailto:akuepfer@northperth.ca">akuepfer@northperth.ca</a>	519-444-8233	580 Main Street West	Listowel, ON N4W 1A8
Listowel Agricultural Society	President	Elizabeth Johnston	<a href="mailto:listowelfair@gmail.com">listowelfair@gmail.com</a>			
<b>CONSERVATION AUTHORITIES</b>						
Maitland Valley Conservation Authority	Clerk	Cheryl Dobbyn	<a href="mailto:cdobbyn@mvca.on.ca">cdobbyn@mvca.on.ca</a>		1093 Marietta Street, Box 127	Wroxeter, ON N0G 2X0
Maitland Valley Conservation Authority	Planning and Regulations Supervisor	Patrick Huber-Kidby	<a href="mailto:phuber-kidby@mvca.on.ca">phuber-kidby@mvca.on.ca</a>		1093 Marietta Street, Box 127	Wroxeter, ON N0G 2X0
Ausable-Maitland Drinking Water Source Protection, c/o Ausable-Bayfield Conservation Authority (ABCA)	Co-Program Supervisor	Donna Clarkson	<a href="mailto:dclarkson@abca.ca">dclarkson@abca.ca</a>	519-335-3557 x 224	71108 Morrison Line R.R. 3	Exter, ON N0M 1S5
<b>UTILITIES</b>						
Union Gas		Amanda Zocco	<a href="mailto:azocco@uniongas.com">azocco@uniongas.com</a>		P.O. Box 5353 Station A	London, ON N6A 4P1
Hydro One Networks Inc.	Manager - Transmission Lines - Sustainable Investment Planning	Mark Cartwright	<a href="mailto:mark.cartwright@hydroone.com">mark.cartwright@hydroone.com</a>		483 Bay Street, 15th Floor North Tower	Toronto, ON M5G 2P5
Bell Canada	Implementation Manager	Jared Hudder	<a href="mailto:jared.hudder@bell.ca">jared.hudder@bell.ca</a>		870 4th Avenue East, P.O. Box 400	Owen Sound, ON N4K 2N7
Eastlink Communications	Project Manager - Engineering	Dan Oswald	<a href="mailto:dan.oswald@corp.eastlink.ca">dan.oswald@corp.eastlink.ca</a>		1 David Street	Listowel, ON N4W 3S7
Wightman Telecom Ltd.	Supervisor of Contracting	Paul Rhody	<a href="mailto:prhody@wightman.ca">prhody@wightman.ca</a>		100 Elora Street North, P.O. Box 70	Clifford, ON N0G 1M0

**Municipality of North Perth Transportation Master Plan  
Attachment A - Project Contact List**

Company	Title	Contact Name	Email	Phone	Address	City, PR, PC
Mornington Communications Co-Operative	Outside Plant Supervisor	Greg Fries	<a href="mailto:hello@mornington.ca">hello@mornington.ca</a>	519-595-8331	16 Mill Street East, P.O. Box 70	Milverton, ON N0K 1M0
<b>RAILWAY AUTHORITIES</b>						
<b>INSTITUTIONS</b>						
Avon Maitland District School Board	Superintendent of Corporate Services	Cheri Carter	<a href="mailto:cheri.carter@ed.amdsb.ca">cheri.carter@ed.amdsb.ca</a>		62 Chalk Street North	Seaford, On N0K 1W0
Huron-Perth Catholic District School Board	Director of Education	Chris Roehrig	<a href="mailto:croehrig@hpcdsb.ca">croehrig@hpcdsb.ca</a>		87 Mill Street (3927 Perth Road 180), P.O. Box 70	Dublin, ON N0K 1E0
<b>PRIVATE TRANSPORTATION SERVICES</b>						
Regional Rideshare						
Active Switch						



# Attachment B

## Study Notices



## Notice of Study Commencement

### Municipality of North Perth Transportation Master Plan

The Municipality of North Perth is developing a long-term strategy to strengthen and support the transportation network within the community. The **North Perth Transportation Master Plan** will provide a vision and policy framework for a complete transportation system that will meet travel demands to 2041 in a manner that is sustainable and compatible with future growth.

The study will follow the requirements of the Municipal Class Environmental Assessment (an approved process under the Ontario *Environmental Assessment Act*) and align with the Municipality's Corporate Strategic Plan, land use plans, and other policies.

#### **Your input is important to us!**

Engaging the community is a vital component of this study. The Municipality plans to involve residents, stakeholders, and members of the public as the study progresses and will issue notices through a variety of channels to advise of upcoming events. Visit the project portal at [www.yoursaynorthperth.ca/tmpstudy](http://www.yoursaynorthperth.ca/tmpstudy) to follow and learn more about the study, complete our online survey, and offer comments through the interactive map.

If you (or your agency or group) are interested in participating in the study or would like to be added to the contact list to receive future updates, please contact:

Lyndon Kowch  
Manager of Operations  
Municipality of North Perth  
Tel: (519) 292-2068  
E-mail: [tmpstudy@northperth.ca](mailto:tmpstudy@northperth.ca)

This notice was first issued on June 1, 2020.

Except for personal information, all comments received will become part of the public record, in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*.





## Notice of Public Information Centre: North Perth Transportation Master Plan

North Perth residents are invited to attend the virtual Public Information Centre on the **North Perth Transportation Master Plan** to learn more about the project, ask questions and provide comments.

**Date:** Wednesday, November 10, 2021

**Time:** 5:00-6:30 p.m.

**Location:** Virtual Meeting using the Webex Online Meeting Platform

**Remote Attendance:** Those interested in viewing the meeting but not directly participating are asked to view the webcast via the Municipality of North Perth YouTube channel:  
<https://www.youtube.com/user/NorthPerthOntario/>

**Remote Participation:** The Municipality of North Perth will utilize WebEx, an online meeting and video conferencing tool, to host this public information centre. This allows for participation by either computer/smart mobile devices or a telephone. A WebEx link and password or WebEx telephone number will be issued prior to the meeting to all those registered to participate.

To register by email: Please email [pberfelz@northperth.ca](mailto:pberfelz@northperth.ca) using the subject line "PIC Transportation Master Plan Speaker Request" prior to 12:30 PM on the day of the meeting.

To register by phone: Please call (519) 292-2062 and express your interest in speaking at an upcoming public meeting. Please call by 12:30 PM on the day of the meeting.

### What will be Discussed:

The Consultant Team will be presenting an overview of the Transportation Master Plan (TMP) study, an update of the recent steps, an overview of the general recommendations from the study, and an outline of the next steps in the study process. As the transportation "blueprint" for North Perth, the recommendations presented in the TMP will be a set of broad actions for the Municipality of North Perth to implement. They will include such actions as updating planning policy and zoning tools; setting directions for a future truck by-pass; setting directions for exploring operational improvements in certain locations; and establishing other supporting policies, strategies and programs regarding moving people (driving, cycling and walking).

### How to provide input:

The Public Information Centre will include time for Q & A with the Consultant Team on broader questions about the TMP and its process. An opportunity for more detailed input into the TMP will be provided after the PIC through the study's Your Say North Perth portal by way of the survey and comment sections.

For more information please contact:

Lyndon Kowch

Manager of Operations, Municipality of North Perth

[lkowch@northperth.ca](mailto:lkowch@northperth.ca)

(519) 292-2068



## Notice of Public Information Centre:

North Perth residents are invited to attend a Joint Public Information Centre on the Commercial Bypass Plan and the One-Way Block Trial to learn more about the projects, ask questions and provide comments.

**Date:** Wednesday, June 15, 2022

**Time:** 5:00-7:00 p.m.

**Location:** Kin Station, 555 Binning Street West, Listowel

### PIC Topics Include:

- Transportation Master Plan – Commercial (Truck) Bypass Plan
- Downtown One-Way Block Trial on Wallace Avenue South

### What will be Discussed:

The information shared will be regarding potential long-term solutions for a commercial (truck) bypass of Listowel. Gene Chartier from Paradigm Transportation Solutions Limited will be in attendance to provide information and answer questions on the proposed bypass assessment process.

The One-Way Block Trial on Wallace Avenue South will also have final information available for the public to review and discuss. Julia Salvini from Salvini Consulting will be in attendance to provide updated information on the trial.

For more information please contact:

Lyndon Kowch, Manager of Operations

Municipality of North Perth

[lkowch@northperth.ca](mailto:lkowch@northperth.ca)

519-292-2068



## **Notice of Master Plan**

### **Municipality of North Perth Transportation Master Plan**

#### **Study Overview**

The Municipality of North Perth has prepared a Transportation Master Plan outlining the long-term strategy to strengthen and support the transportation network serving the community. Aligned with local, Perth County and provincial plans and policies, the Transportation Master Plan provides a vision and policy framework for a complete transportation system in a manner that is sustainable and compatible with future growth. The plan details facility improvements and supporting policies and programs to meet transportation needs to 2041, including recommendations on:

- Roadway classification changes and design guidelines;
- Truck routes to divert non-local heavy vehicle traffic around Listowel;
- A Traffic Management Protocol and related policies for responding to traffic-related queries and concerns; and
- Improvements to the Municipality's pedestrian and cycling networks.

The Municipality has completed the study following Master Plan Approach #1 of the Municipal Class Environmental Assessment, with preparation of the plan at the conclusion of Phase 1 (opportunity statement) and Phase 2 (alternatives assessment) of this approved process under the Ontario Environmental Assessment Act. The plan does not recommend any new Schedule B or C projects for future implementation.

#### **Engagement and Consultation**

The study has included a public consultation and stakeholder engagement program designed to obtain feedback from North Perth residents, Indigenous Communities, key stakeholders, and public agencies. The program has featured three rounds of outreach, with opportunities to participate in online and in-person (where permitted) consultation events promoted through Your Say North Perth (the Municipality's online engagement platform), newspaper

advertisements, social media, and mailed/emailed notices. Input received has informed and directly shaped the recommendations of the Transportation Master Plan.

## Public Review Period

The Municipality of North Perth Council received the draft Transportation Master Plan on December 11, 2023 and directed release of the document for public review. Visit <https://yoursaynorthperth.ca/tmpstudy> to view and download the report. The draft Transportation Master Plan is also available for review at the Municipal Administrative Office (330 Wallace Avenue South, Listowel).

The Municipality is receiving comments on the draft Transportation Master Plan until February 12, 2024. You can submit your comments online on Your Say North Perth at: [www.yoursaynorthperth.ca/tmpstudy](http://www.yoursaynorthperth.ca/tmpstudy) or by email to: [tmpstudy@northperth.ca](mailto:tmpstudy@northperth.ca)

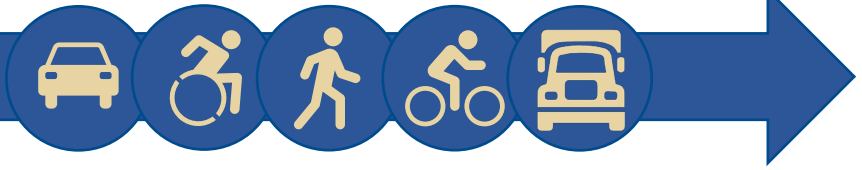
Following the Public Review Period, the Municipality will review and revise the Transportation Master Plan taking into consideration comments received. The recommended plan will then be presented to Council for approval.

Information is collected in accordance with the Environmental Assessment Act, RSO 1990 Chapter E.18 Part II Section 5.1. Information will be used to inform the project team in the development of the Transportation Master Plan. All submissions received become part of the public record and disclosed in full in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA).

This notice was first published on Your Say North Perth on December 12, 2023.

For more information please contact:

Lyndon Kowch, Manager of Operations  
Municipality of North Perth  
[lkowch@northperth.ca](mailto:lkowch@northperth.ca)  
(519) 292-2068



# Attachment C

## Initial Presentation to Council





MUNICIPALITY OF  
**North Perth**

# North Perth Transportation Master Plan

Presentation to Council  
1 June 2020





# Presentation Outline

- ▶ Transportation Master Plan Goals and Objectives
- ▶ Project Approach and Schedule
- ▶ Engagement Strategy and Activities
- ▶ Next Steps



# What is a Transportation Master Plan?

- ▶ Strategic planning document
- ▶ Vision for multimodal transportation system to 2041
- ▶ Policies, programs and infrastructure to meet needs for roads, parking and active transportation
- ▶ Sustainable and compatible with future growth plans for Municipality, Perth County and Province
- ▶ Municipal Class Environmental Assessment

# What the TMP will not address

- ▶ Minor projects, detailed operational issues or items not affecting long-term direction:
  - Road rehabilitation works
  - Site-specific traffic control device changes
  - Specific on-street parking regulations
- ▶ Services Municipality not responsible for:
  - Provincial highways and Perth County roads

# Identified Concerns

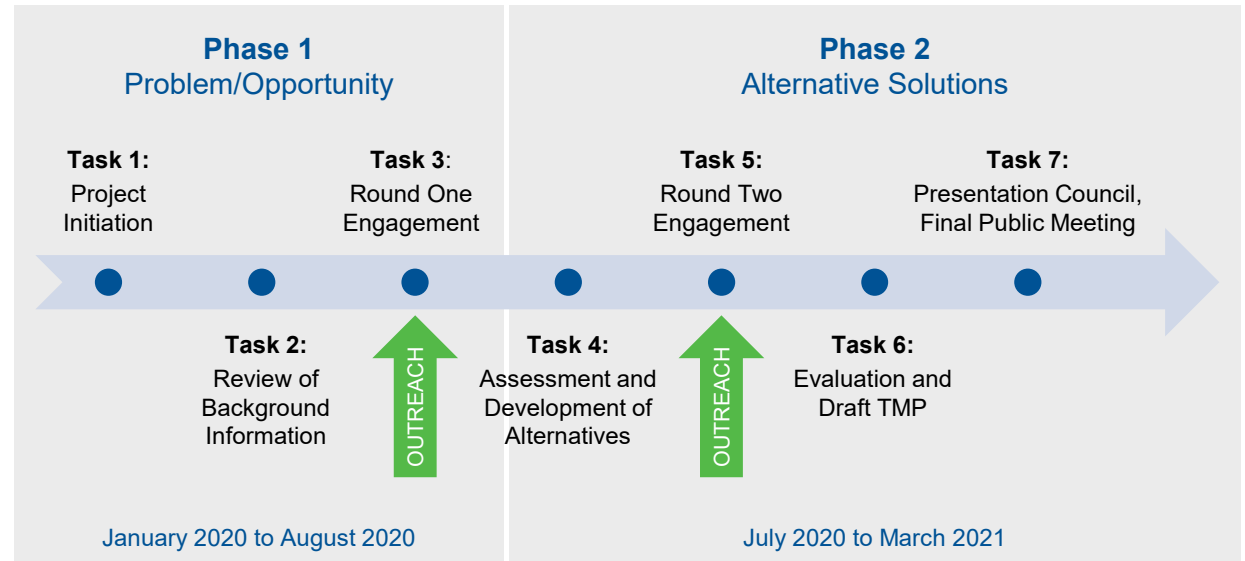
- ▶ Speeding and requests for traffic calming
- ▶ Excessive delay in Listowel
- ▶ Truck traffic in Listowel
- ▶ Inappropriate speed limits
- ▶ Limited rights of way in Listowel
- ▶ Safety in school zones
- ▶ Sidewalks linking schools
- ▶ Requests for stop signs, traffic calming and/or traffic signals
- ▶ Location of pedestrian crossovers

# Desired Outcomes

- ▶ Road classification system, streetscape design and parking policy
- ▶ Impact of development and access management
- ▶ Integrated pedestrian and cycling network
- ▶ On and off-street parking guidance
- ▶ Stop sign, traffic signal and turning lane warrants
- ▶ Traffic calming policy
- ▶ Truck route map with by-pass

# Project Approach and Schedule

- ▶ Municipal Class EA Master Planning Process (Approach #1)



# Engagement Strategy

## ► Objectives:

- Inform
- Educate
- Converse
- Refine
- Support



## ► How do we achieve this?

- Early engagement
- Information sharing
- Multiple strategies
- **Digital techniques**





# Engagement Activities



## Round One: Building an Understanding

Your Say North Perth  
Social Media  
Pop-Up Information Sessions  
Targeted Stakeholder Sessions

## Round Two: Formulating the Plan

Community Open House  
Your Say North Perth



## Next Steps

- ▶ Launch study (formally)
- ▶ Complete review of background information
- ▶ Conduct Round One engagement
- ▶ Prepare Phase 1 report

WHAT'S  
NEXT?



people. planet.

TESLA

# Thank you! Questions?



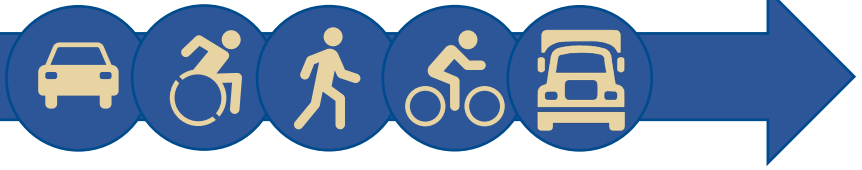
**paradigm**  
TRANSPORTATION SOLUTIONS LIMITED



**GSP**  
group

productivity.

premier. partners.



# Attachment D

## Online Survey Questionnaire and Responses

Municipality of North Perth – Transportation Master Plan  
Appendix A – Engagement Summary Report  
Attachment D – Online Survey Questionnaire

## **A. TELL US ABOUT YOU**

### **1. Where do you live?**

- a) I am a resident of Listowel
- b) I am a resident elsewhere in North Perth (north of Line 86)
- c) I am a resident elsewhere in North Perth (south of Line 86)
- d) I live outside of North Perth

### **2. What is your age group?**

- a) Under 20
- b) 21 to 30
- c) 31 to 45
- d) 46 to 55
- e) 56 to 65
- f) Over 65

### **3. What is most important to you in considering improvements to North Perth's transportation system (pick one choice for each)?**

- To make it easier to get around North Perth
- To improve traffic conditions in downtown Listowel
- To improve connections to surrounding municipalities
- To provide healthy and safe opportunities for walking and cycling
- To provide for opportunities for recreation
- To increase tourism in North Perth's communities
- To improve parking in downtown Listowel
- To connect seniors and vulnerable persons with the services they need
- To move goods and people passing through North Perth
- To redirect truck traffic around downtown Listowel

**CHOICES:** Very Important, Somewhat Important, or Not Important at all

## **B. TELL US ABOUT DRIVING**

### **4. How often do you DRIVE to get around your community?**

- a) Daily
- b) Several times a week
- c) Occasionally every month
- d) Rarely/Never

Municipality of North Perth – Transportation Master Plan  
Appendix A – Engagement Summary Report  
Attachment D – Online Survey Questionnaire

**5. What are your main purposes for DRIVING trips (check all that apply)?**

- a) Work
- b) School
- c) Recreation
- d) Shopping and Restaurants
- e) Day-to-Day Activities
- f) Other

**6. What is your level of comfort DRIVING within your community?**

- a) Very Uncomfortable
- b) Uncomfortable
- c) Comfortable
- d) Very Comfortable

**7. Prior to mid-March 2020, how many kilometres did you DRIVE on a normal day (enter approximate number of kilometres for a typical weekday)?**

- a) Zero
- b) 1-10
- c) 11-20
- d) 21-50
- e) 51-100
- f) 100+

**C. TELL US ABOUT WALKING**

**8. How often do you WALK to get around your community?**

- a) Daily
- b) Several times a week
- c) Occasionally every month
- d) Rarely/Never

**9. What are your main purposes for WALKING trips (check all that apply)?**

- a) Work
- b) School
- c) Recreation
- d) Shopping or Restaurants
- e) Day-to-Day Activities
- f) Other

Municipality of North Perth – Transportation Master Plan  
Appendix A – Engagement Summary Report  
Attachment D – Online Survey Questionnaire

**10. What is your level of comfort WALKING within your community?**

- a) Very Uncomfortable
- b) Uncomfortable
- c) Comfortable
- d) Very Comfortable

**D. TELL US ABOUT CYCLING**

**11. How often do you CYCLE to get around your community?**

- a) Daily
- b) Several times a week
- c) Occasionally every month
- d) Rarely/Never

**12. What are your main purposes for CYCLING trips (check all that apply)?**

- a) Work
- b) School
- c) Recreation
- d) Shopping or Restaurants
- e) Day-to-Day Activities
- f) Other

**13. What is your level of comfort CYCLING within your community?**

- a) Very Uncomfortable
- b) Uncomfortable
- c) Comfortable
- d) Very Comfortable

**E. TELL US ABOUT SOME DESIRABLE IMPROVEMENTS**

**14. Suggest up to three (3) improvements to the North Perth transportation system that would help you get around as you currently do or that would allow you/make it comfortable for you to take a different travel mode?**

# Transportation Habits and Thoughts

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## SURVEY RESPONSE REPORT

01 June 2020 - 16 August 2020

### PROJECT NAME:

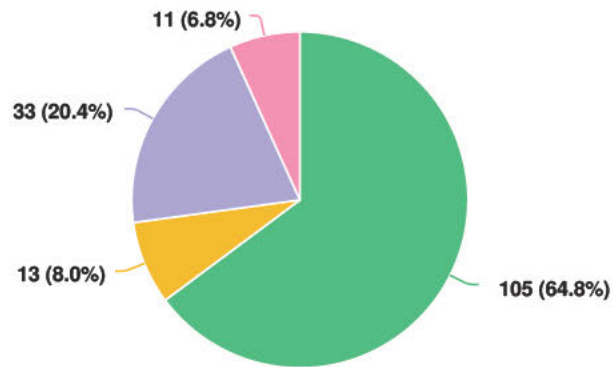
Transportation Master Plan



SURVEY QUESTIONS



**Q1** | Where do you live?

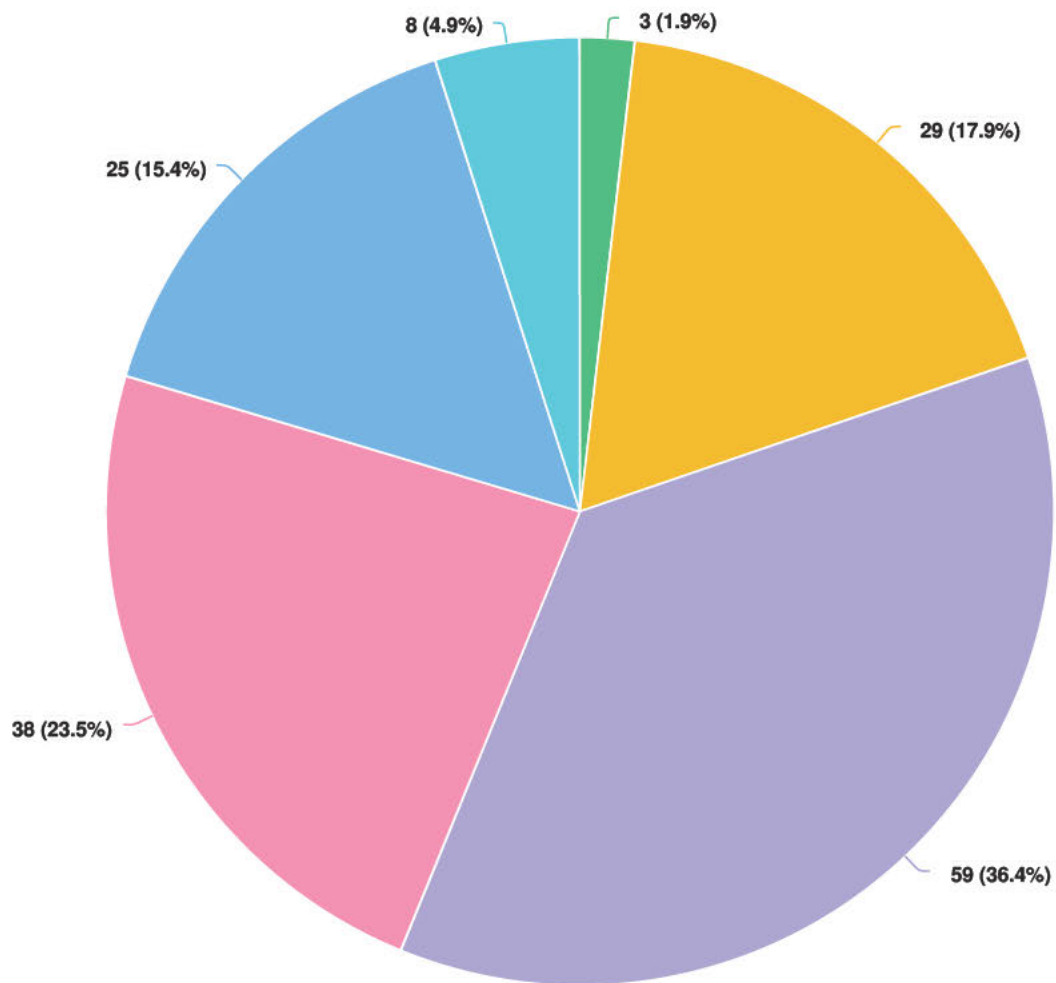


**Question options**

- I am a resident of Listowel
- I am a resident elsewhere in North Perth (north of Line 86)
- I am a resident elsewhere in North Perth (south of Line 86)
- I live outside of North Perth

*Mandatory Question (162 response(s))*  
*Question type: Radio Button Question*

**Q2** What is your age group?



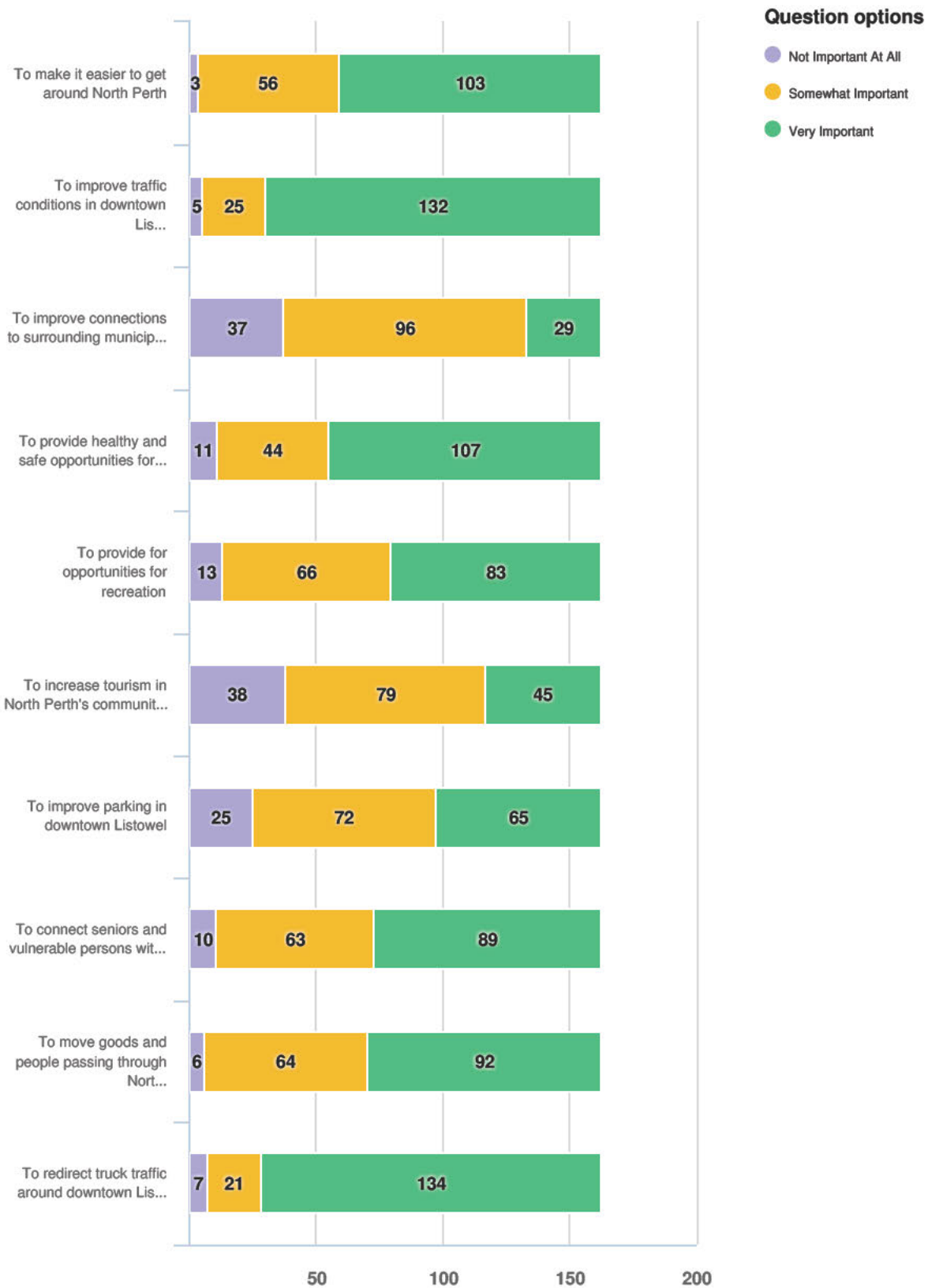
**Question options**

- Under 20
- 20 to 30
- 31 to 45
- 46 to 55
- 56 to 65
- Over 65

Mandatory Question (162 response(s))

Question type: Radio Button Question

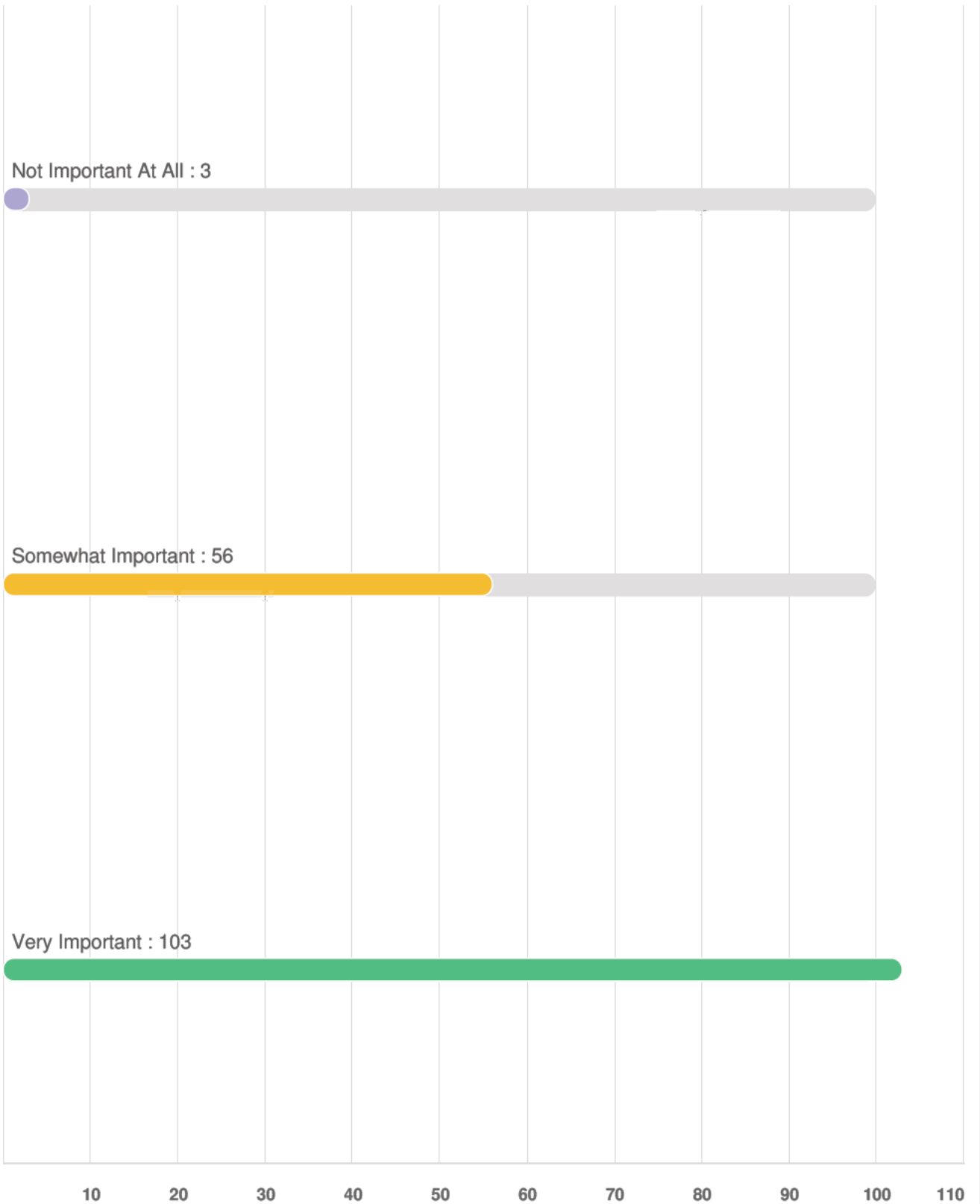
**Q3** What is most important to you in considering improvements to North Perth's transportation system? (Pick one choice for each)



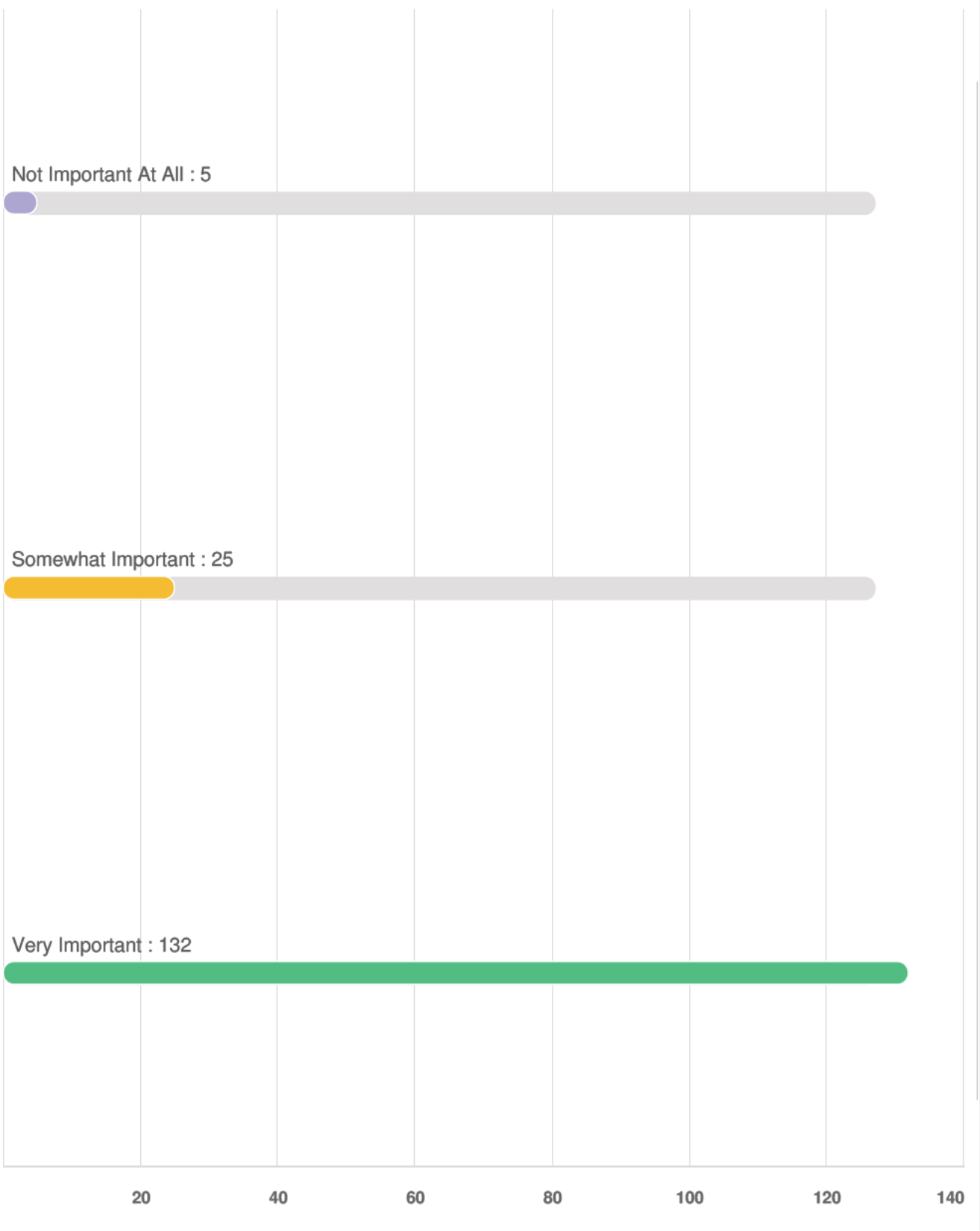
Mandatory Question (162 response(s))  
Question type: Likert Question

**Q3 | What is most important to you in considering improvements to North Perth's transportation system? (Pick one choice for each)**

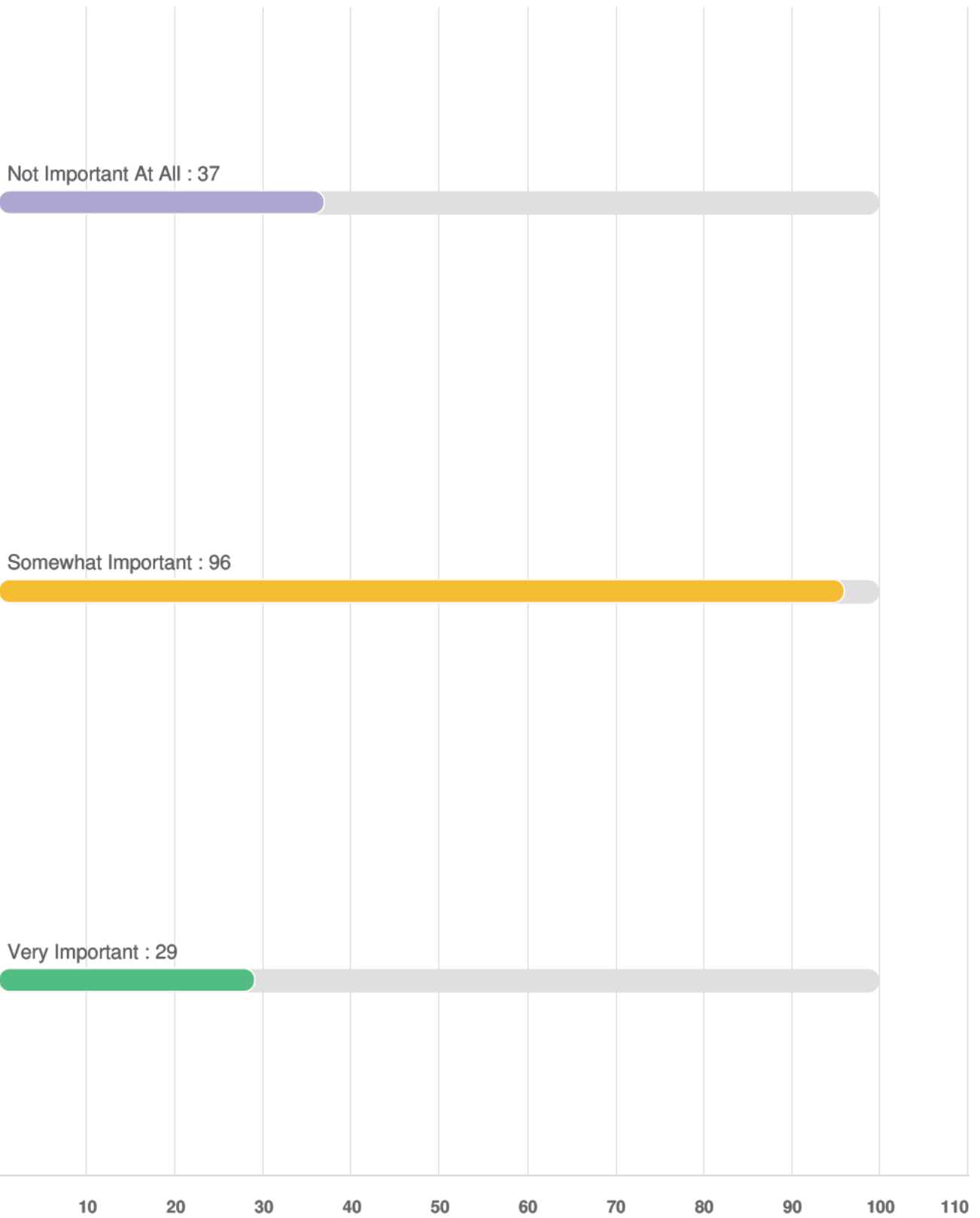
**To make it easier to get around North Perth**



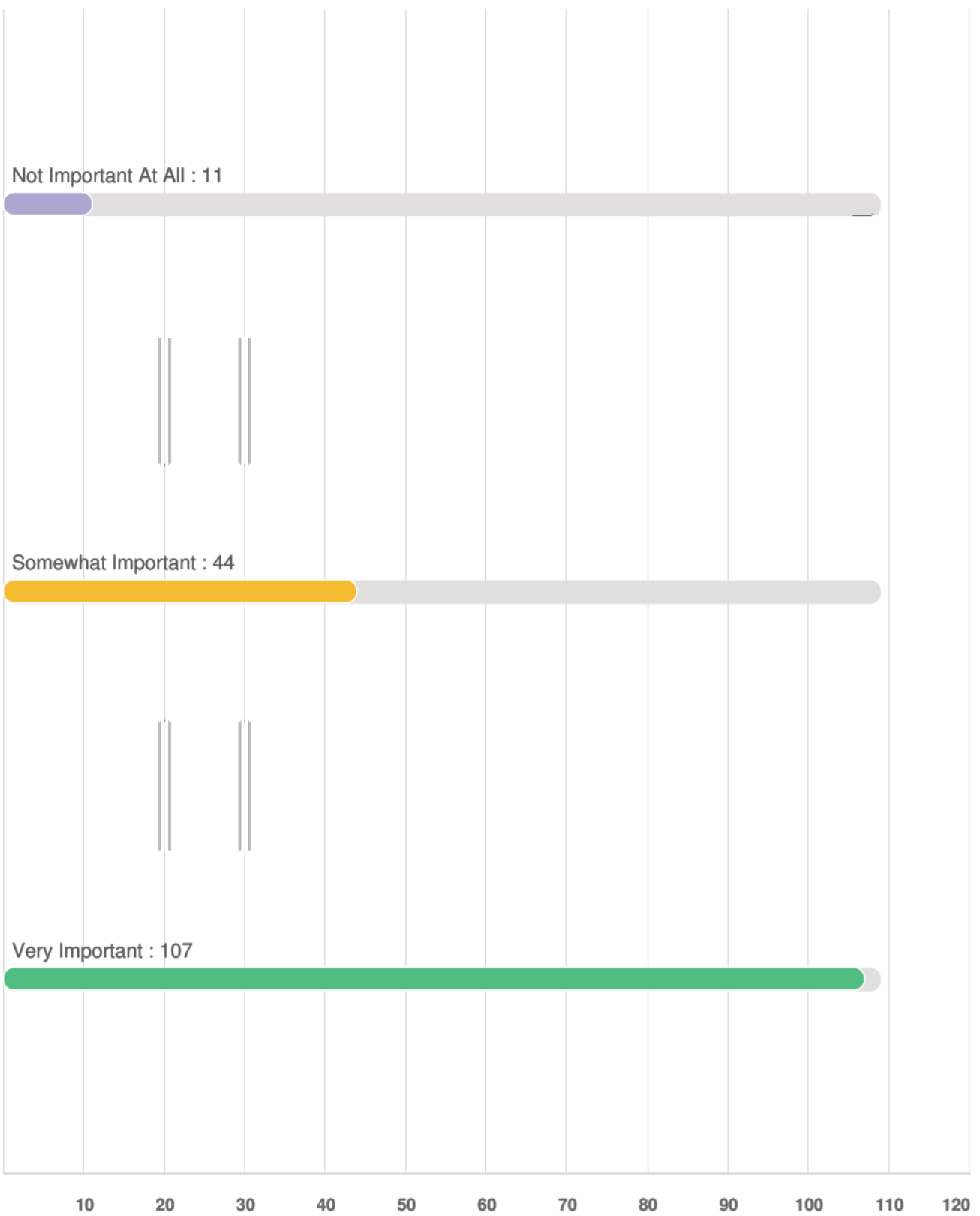
### To improve traffic conditions in downtown Listowel



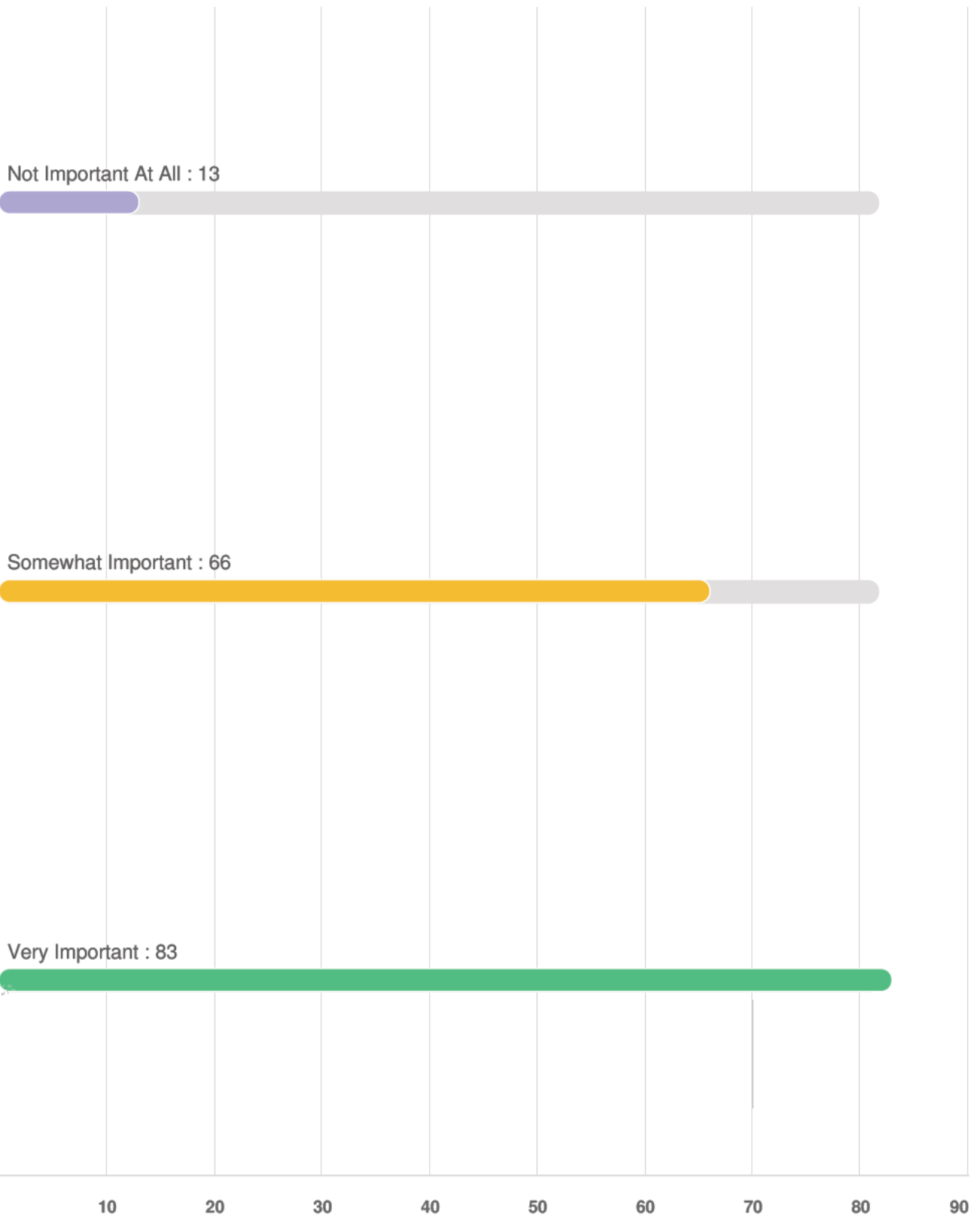
### To improve connections to surrounding municipalities



### To provide healthy and safe opportunities for walking and cycling



### To provide for opportunities for recreation





### To increase tourism in North Perth's communities

Not Important At All : 38



Somewhat Important : 79

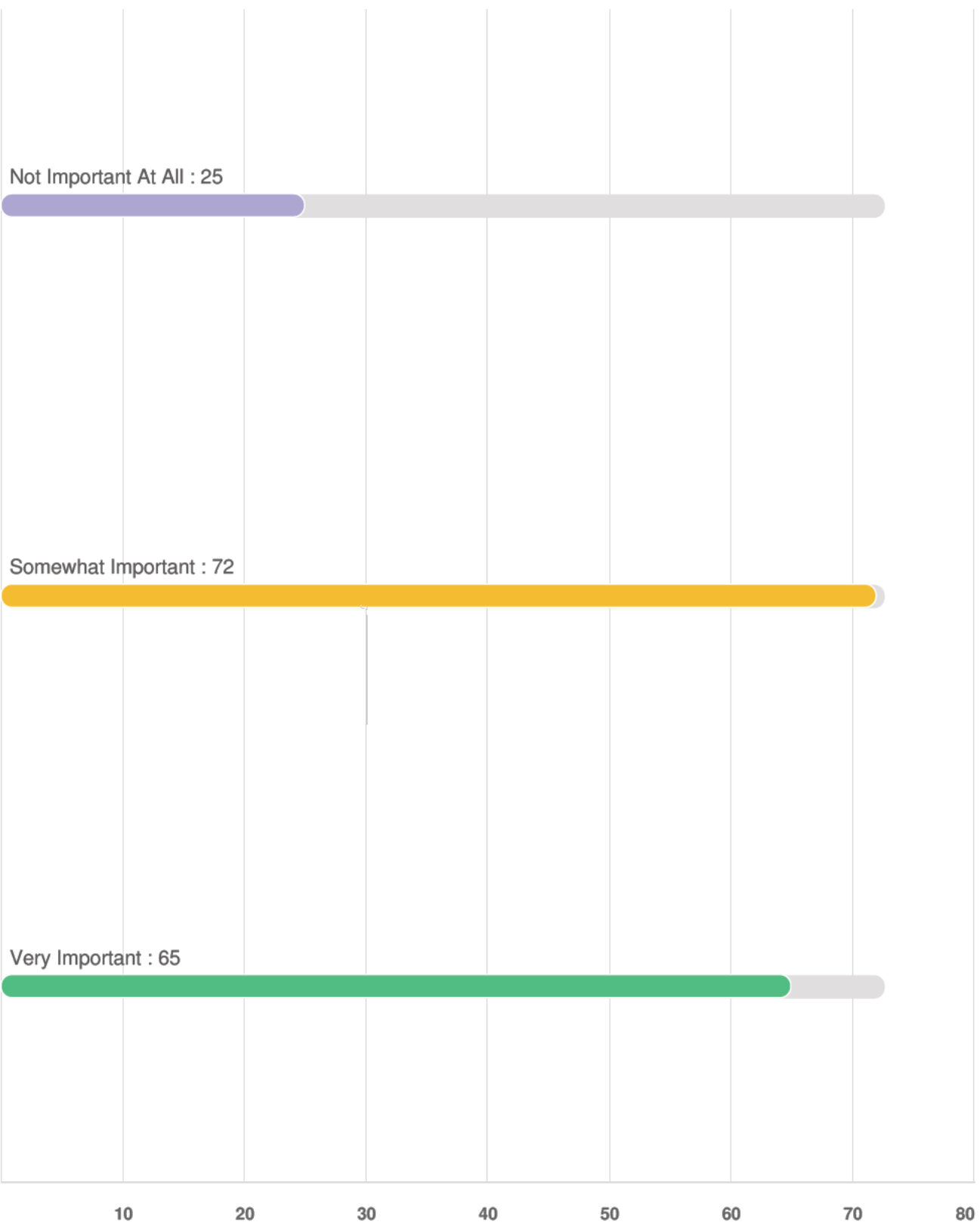


Very Important : 45

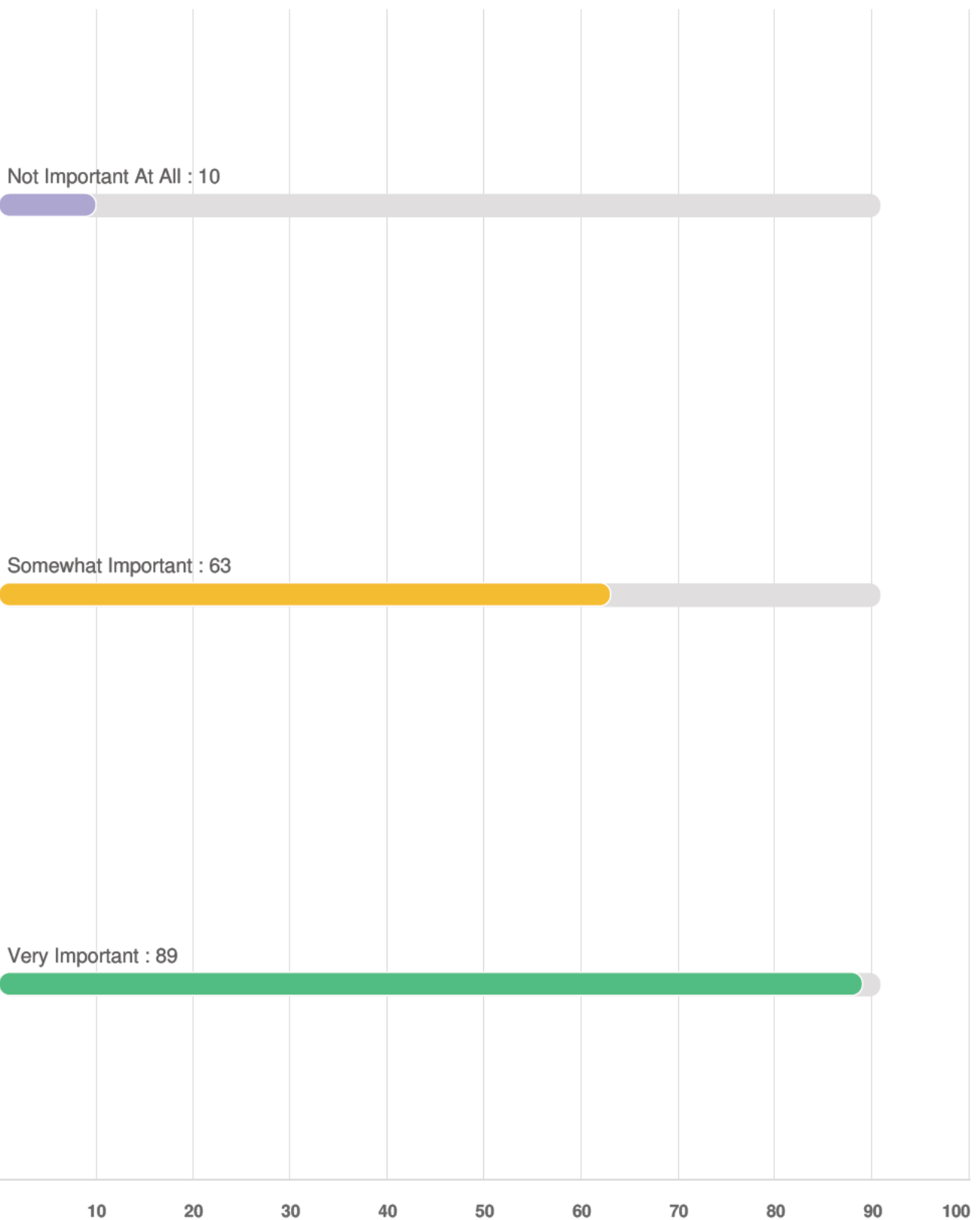


10 20 30 40 50 60 70 80 90

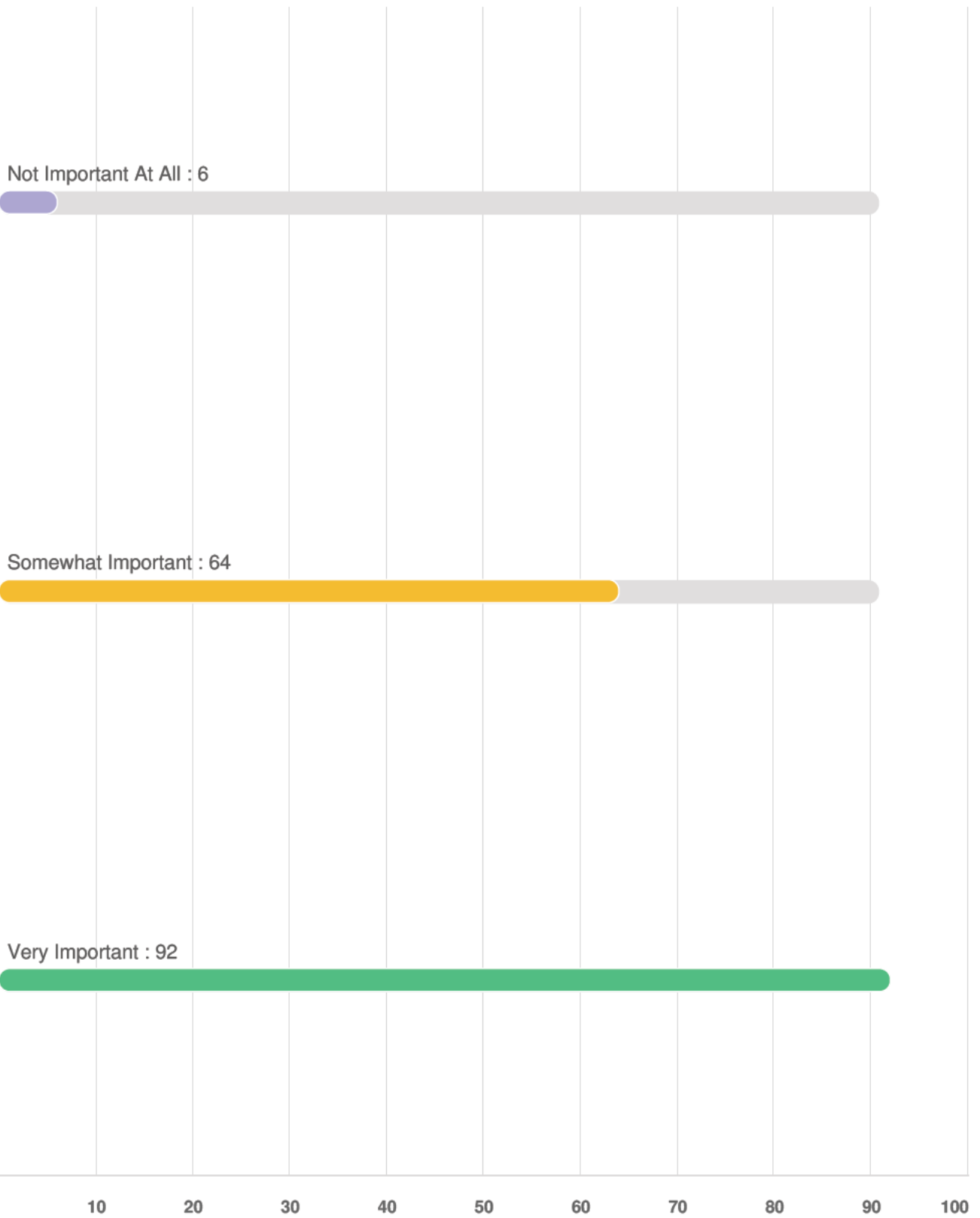
### To improve parking in downtown Listowel



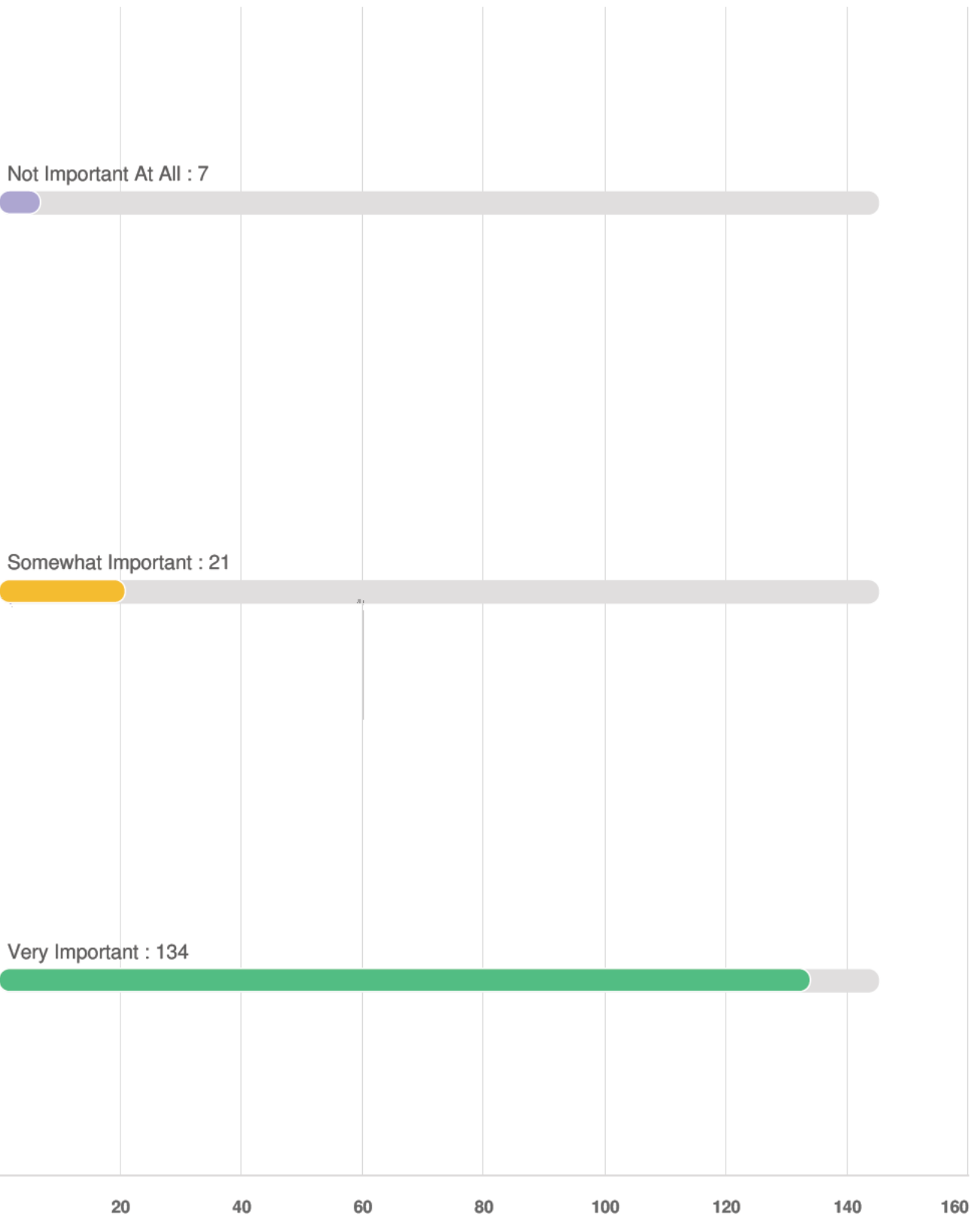
### To connect seniors and vulnerable persons with the services they need



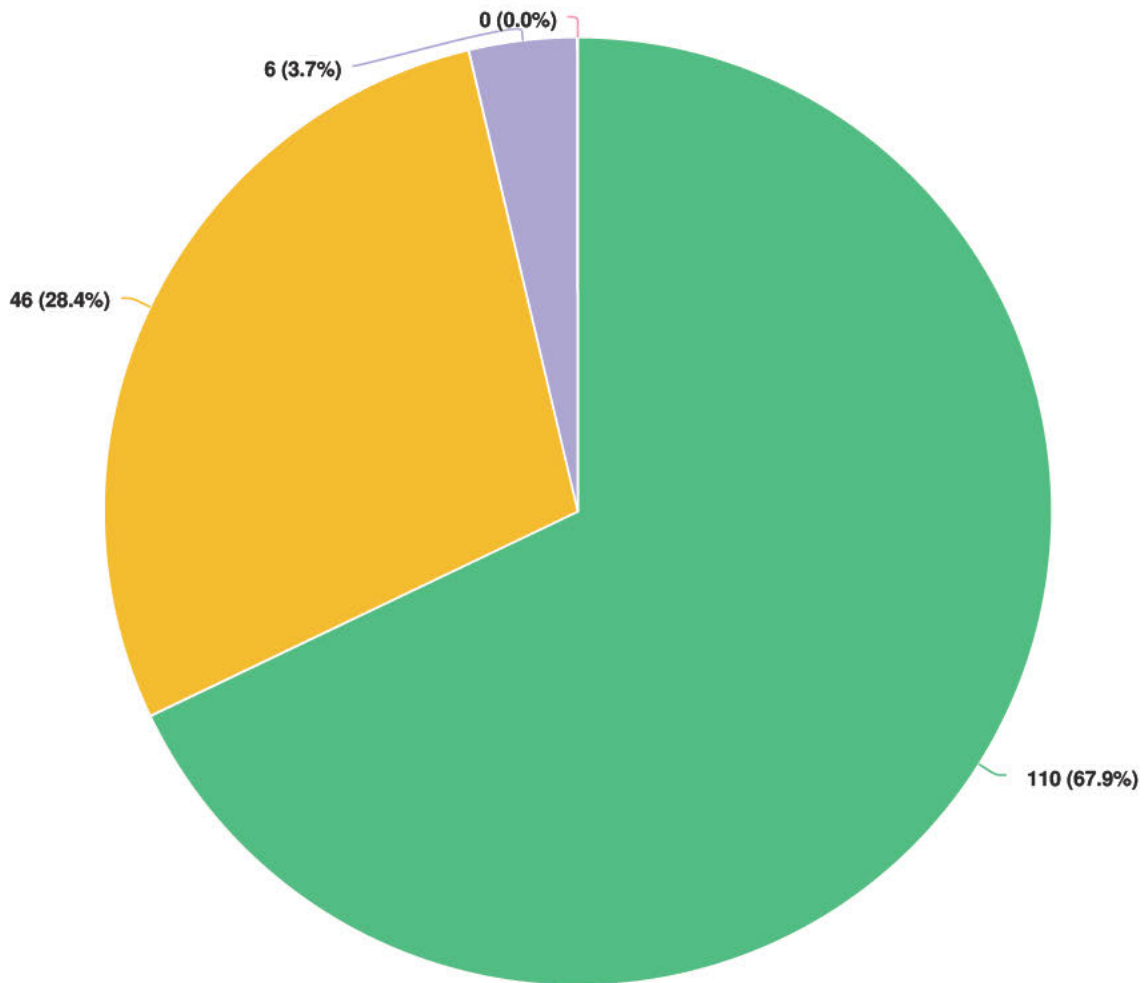
### To move goods and people passing through North Perth



### To redirect truck traffic around downtown Listowel



**Q4** How often to do DRIVE to get around your community?



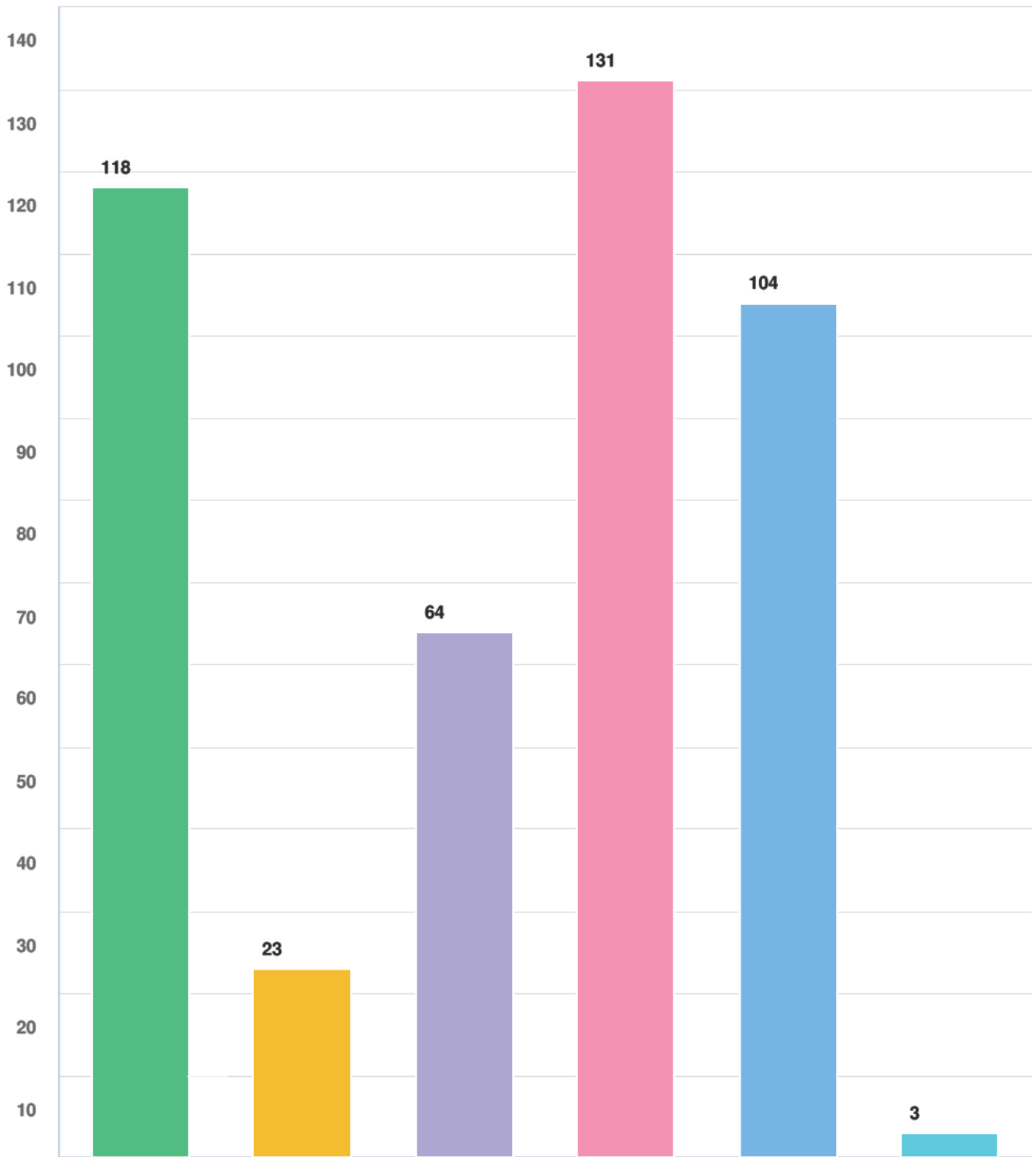
**Question options**

- Never
- Occasionally every month
- Several times a week
- Daily

Mandatory Question (162 response(s))

Question type: Radio Button Question

**Q5** What are your main purposes for DRIVING trips? (check all that apply)



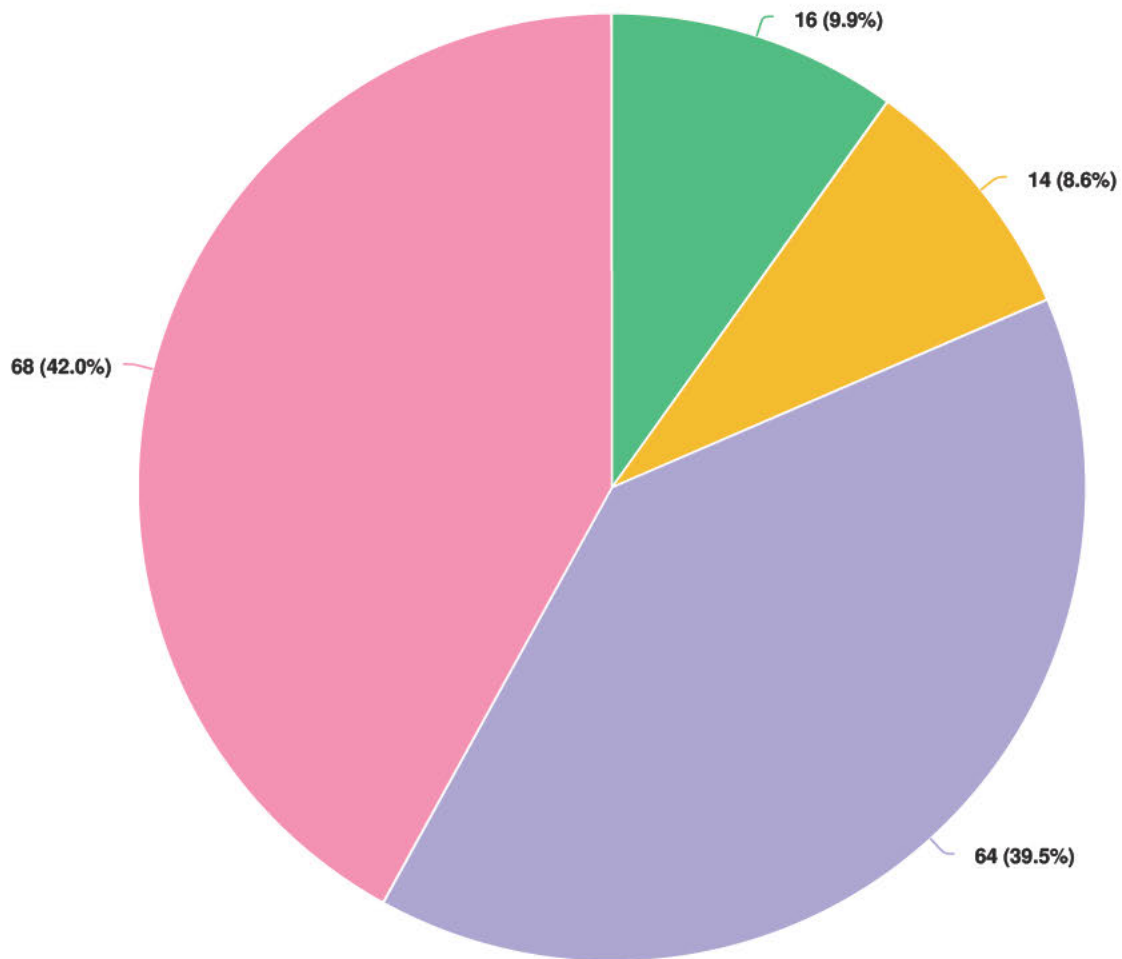
**Question options**

- Other (please specify)
- Day-to-Day Activities
- Shopping and Restaurants
- Recreation
- School
- Work

Mandatory Question (162 response(s))

Question type: Checkbox Question

**Q6** What is your level of comfort DRIVING within your community?



**Question options**

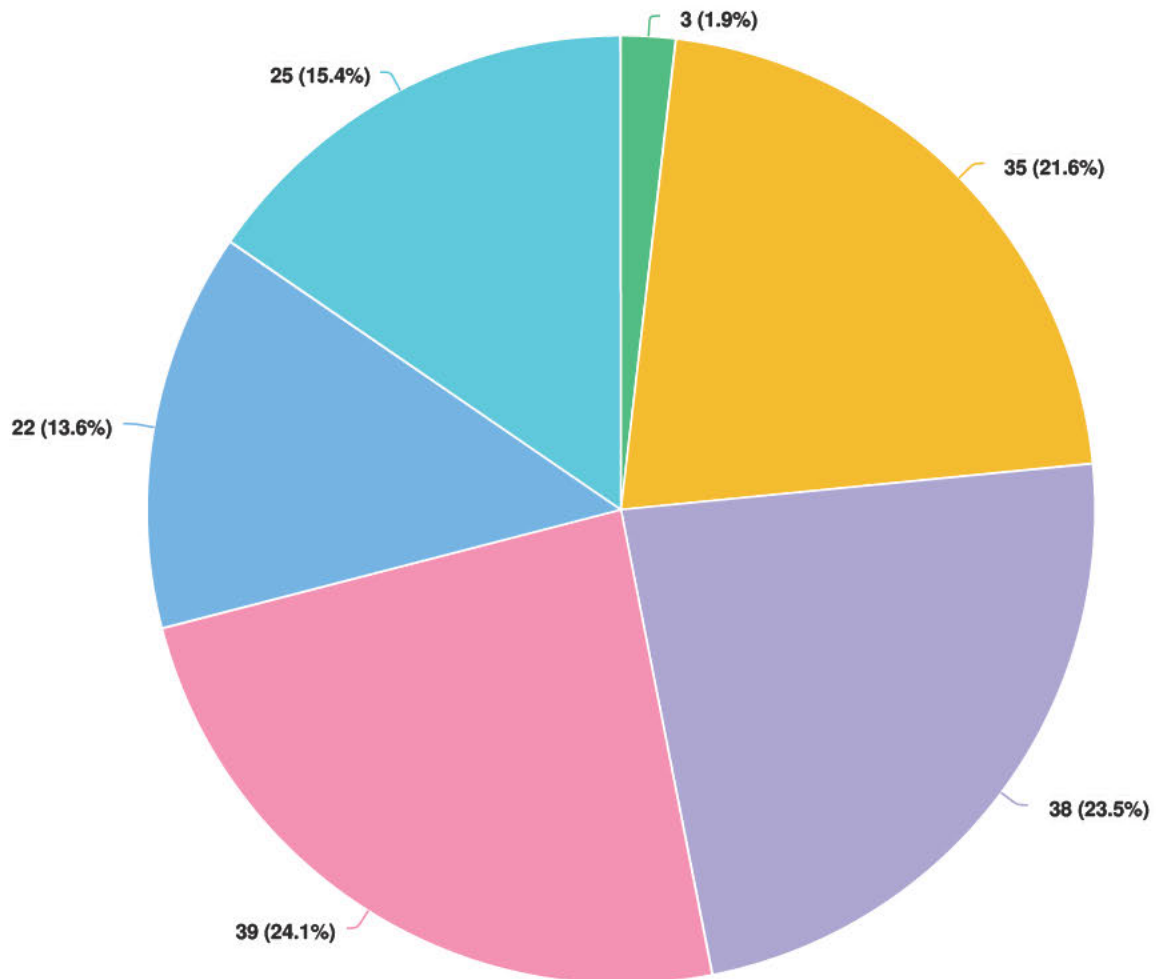
- Very Comfortable
- Comfortable
- Uncomfortable
- Very Uncomfortable

Mandatory Question (162 response(s))

Question type: Radio Button Question



**Q7** Prior to mid-March 2020, how many kilometres did you DRIVE on a normal day (select approximate number of kilometres for a typical weekday)?

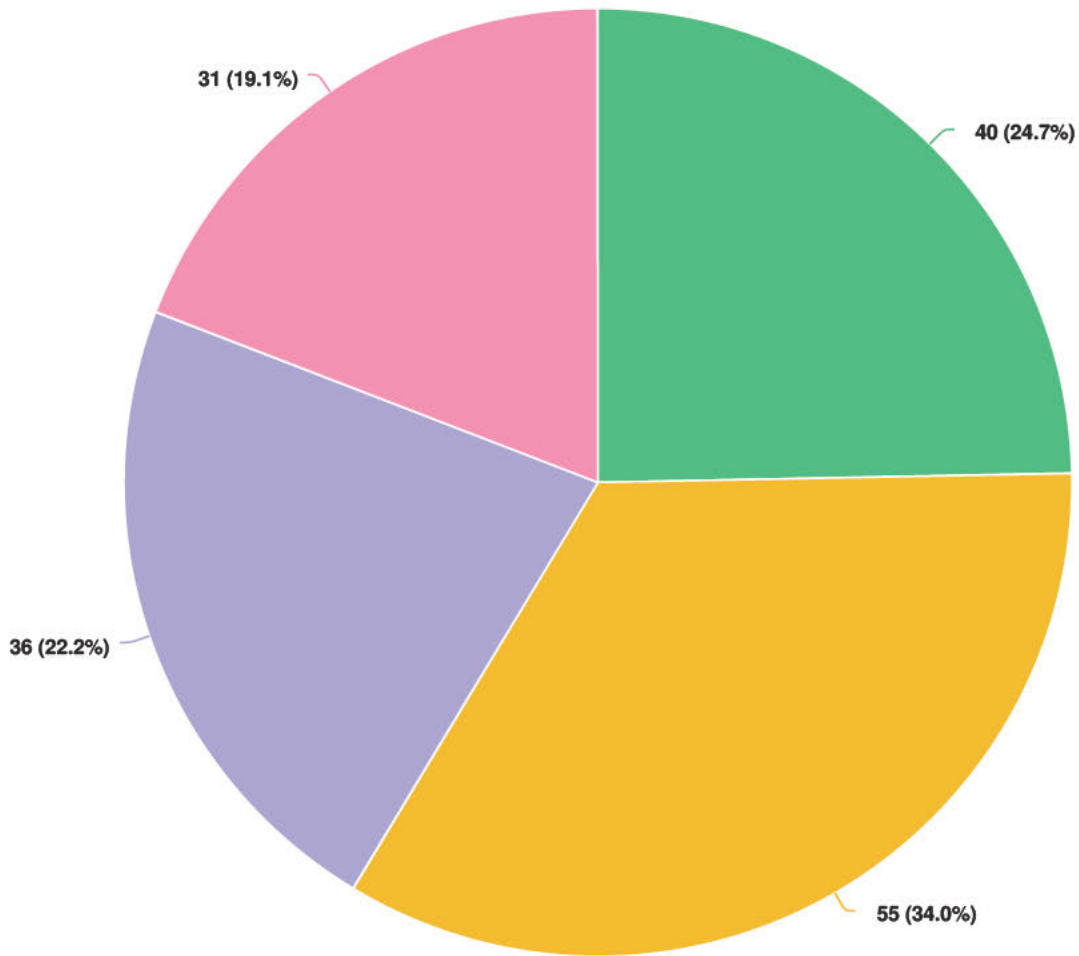


**Question options**

- 100+
- 51-100
- 21-50
- 11-20
- 1-10
- Zero

Mandatory Question (162 response(s))  
Question type: Radio Button Question

**Q8** How often do you WALK to get around your community?



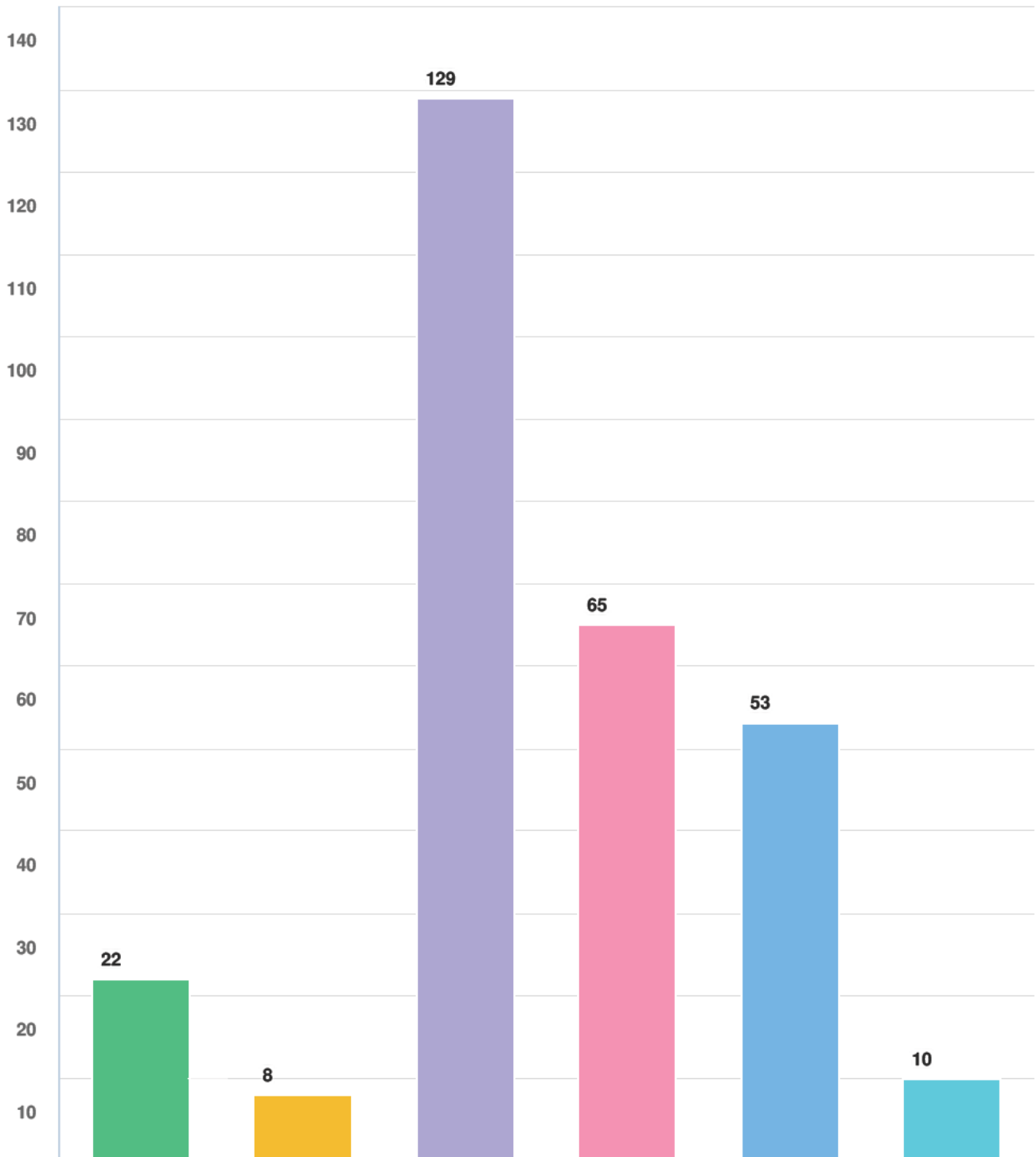
**Question options**

- Rarely/never
- Occasionally every month
- Several times a week
- Daily

Mandatory Question (162 response(s))

Question type: Radio Button Question

**Q9** What are your main purposes for WALKING trips (check all that apply)?



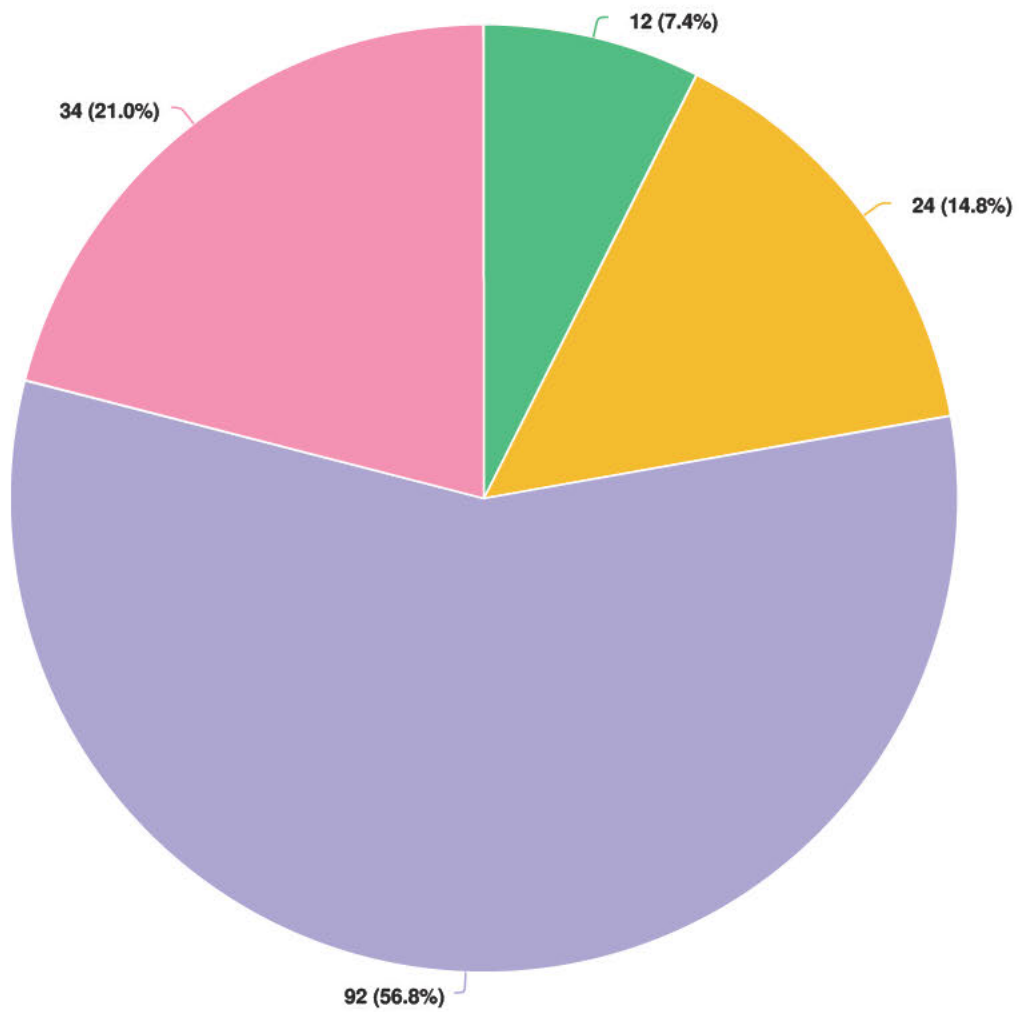
**Question options**

- Other (please specify)
- Day-to-Day Activities
- Shopping or Restaurants
- Recreation
- School
- Work

Mandatory Question (162 response(s))

Question type: Checkbox Question

**Q10** What is your level of comfort WALKING within your community?



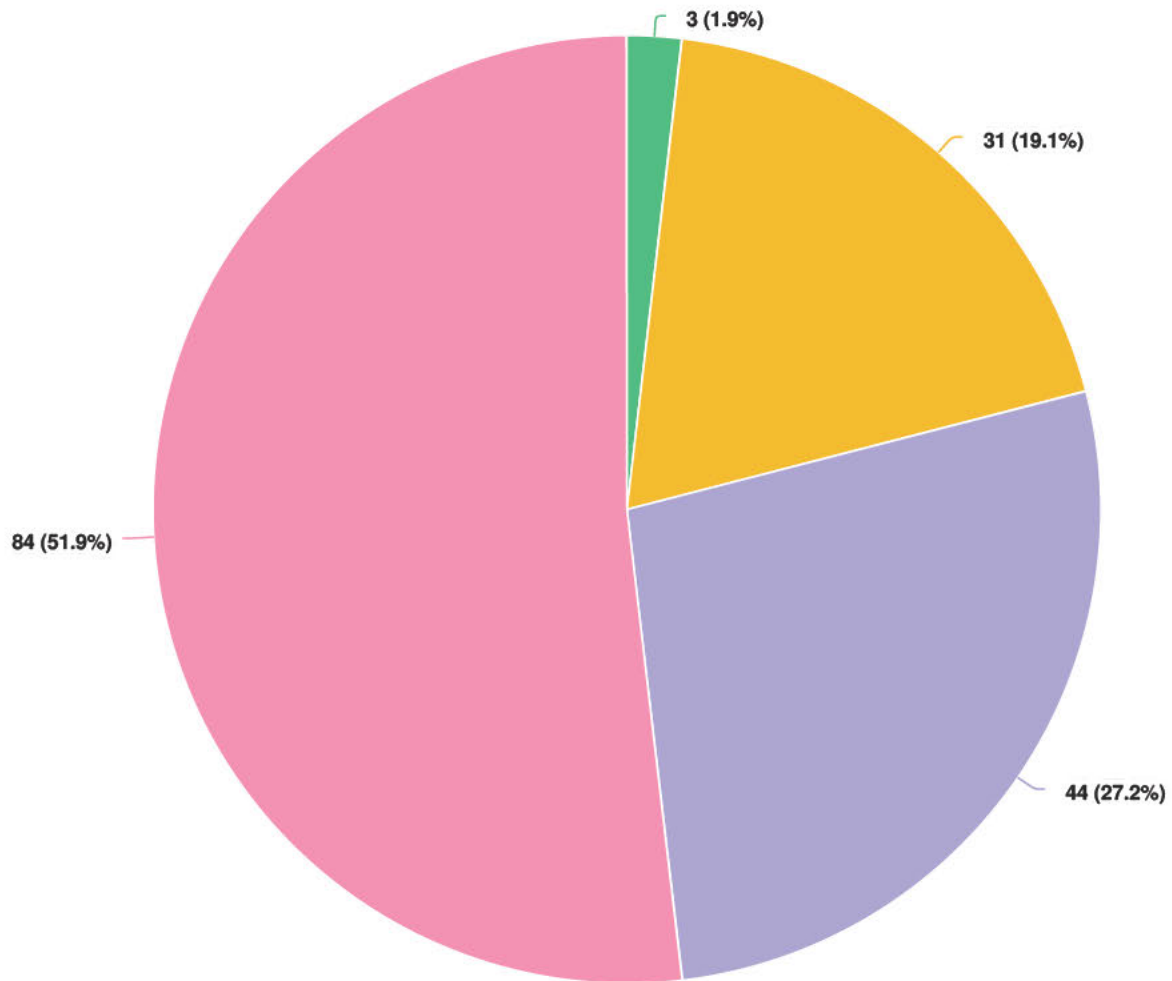
**Question options**

- Very Comfortable
- Comfortable
- Uncomfortable
- Very Uncomfortable

Mandatory Question (162 response(s))

Question type: Radio Button Question

**Q11** How often do you CYCLE to get around your community?



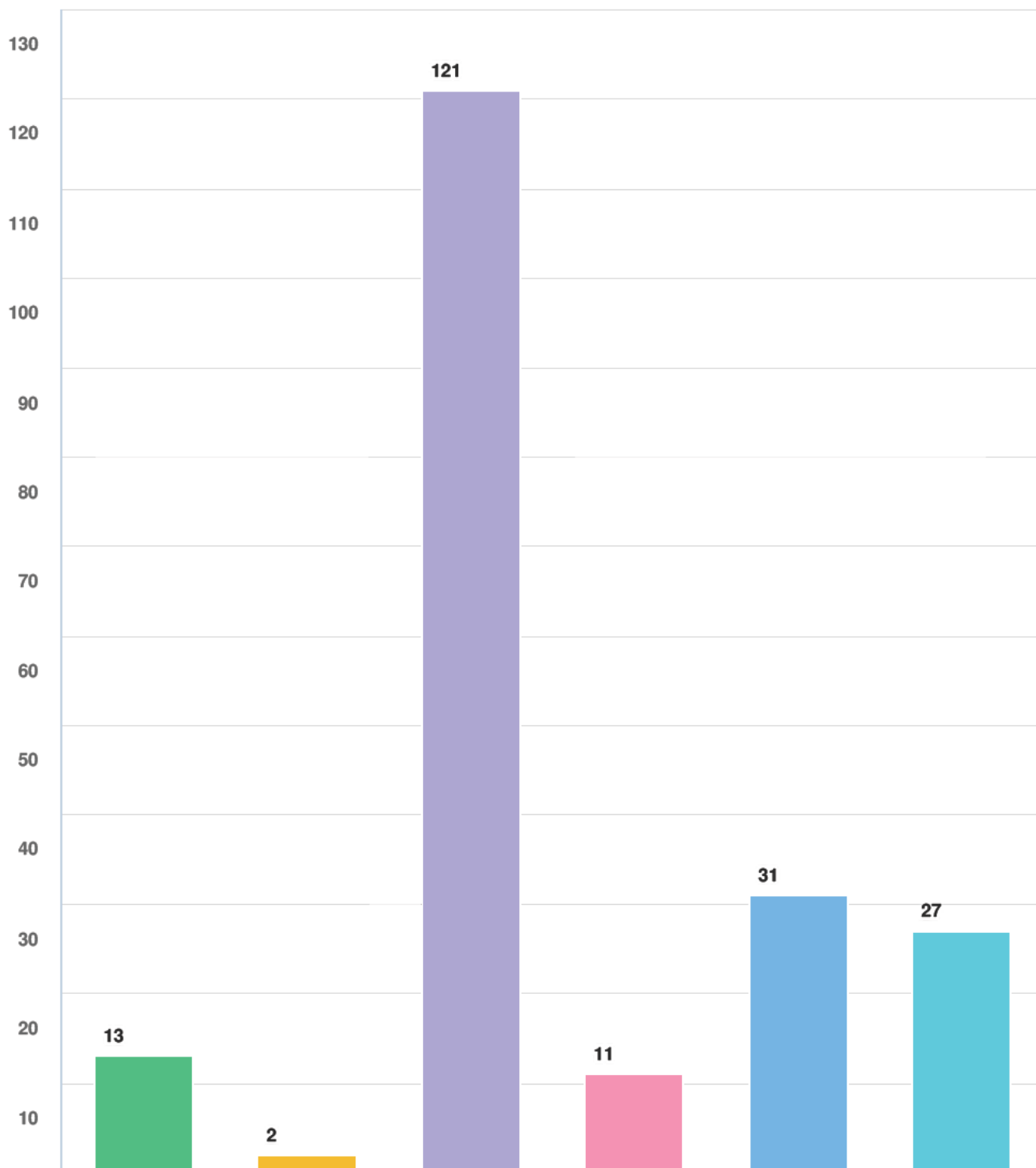
**Question options**

- Rarely/never
- Occasionally every month
- Several times a week
- Daily

Mandatory Question (162 response(s))

Question type: Radio Button Question

**Q12 What are your main purposes for CYCLING trips (check all that apply)?**



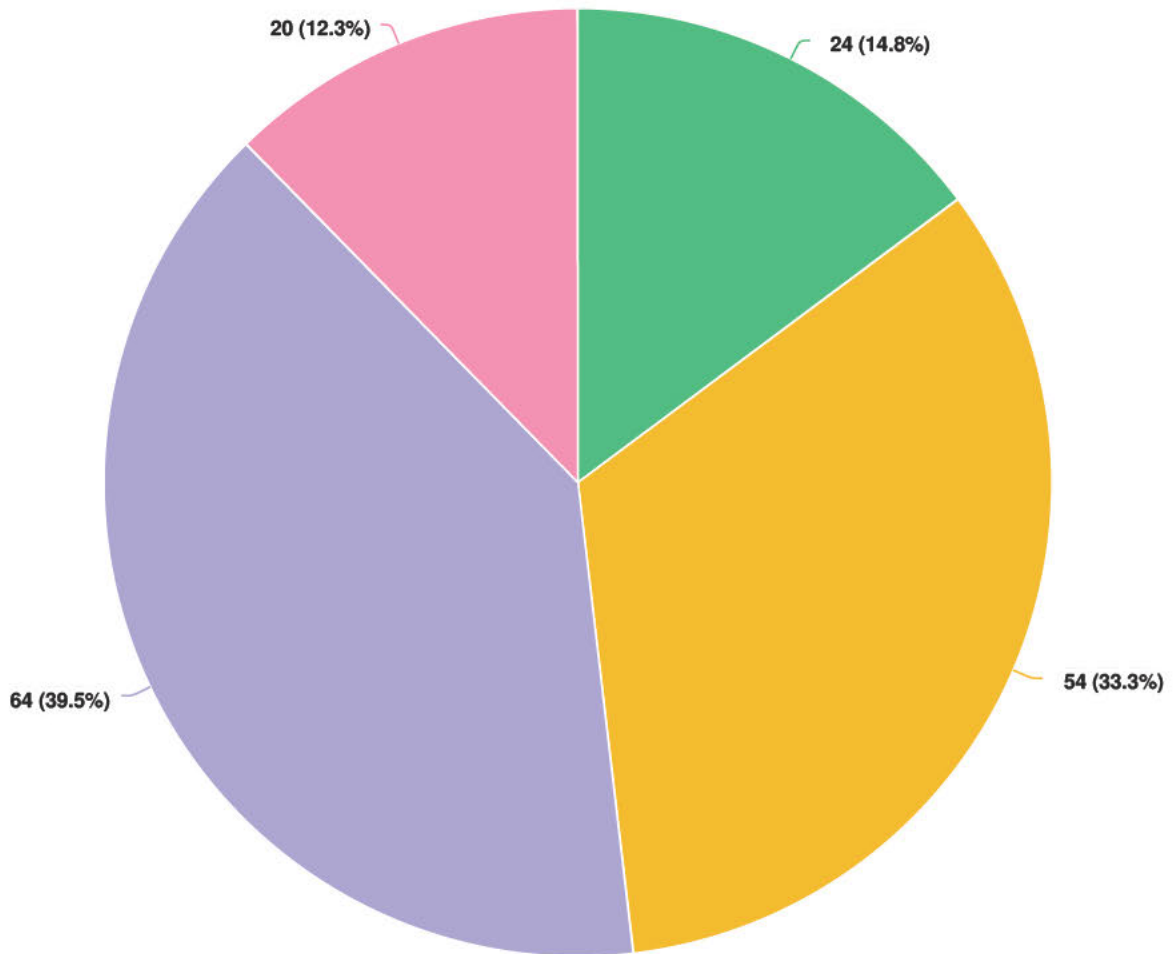
**Question options**

- Other (please specify)
- Day-to-Day Activities
- Shopping or Restaurants
- Recreation
- School
- Work

Mandatory Question (162 response(s))

Question type: Checkbox Question

**Q13** What is your level of comfort CYCLING within your community?



**Question options**

- Very Comfortable
- Comfortable
- Uncomfortable
- Very Uncomfortable

Mandatory Question (162 response(s))

Question type: Radio Button Question

**Q14 | Suggest up to three (3) improvements to the North Perth transportation system that would help you get around as you currently do or that would allow you/make it comfortable for you to take a different travel mode?**

[REDACTED]  
6/01/2020 10:57 AM

Downtown lights and traffic congestion is a problem. It take several times before I make it through a light. Trucks downtown is a problem. A bypass would be helpful. Biking lanes for safety of those who prefer to cycle would also be great.

[REDACTED]  
6/03/2020 02:01 AM

Pedestrian crossing needed on Wallace N near McDonald St (or McDonald's or Tim Horton's)

[REDACTED]  
6/03/2020 07:10 PM

Truck bypass More sidewalks- connecting areas of town together, has been great progression lately Trail maintenance

11Amanda  
6/03/2020 07:19 PM

Improve the intersection at Wallace & Main. It's too congested!

[REDACTED]  
6/03/2020 07:23 PM

1.) Removing every intersection Having four way stop. Create primary and secondary arteries through town outside of Main St and Wallace St N. 2.) focus on creating connecting walking/biking trails In North Perth. It is an unsung feature. 3.) Create a trail network in all future large residential developments.

Imjulie  
6/03/2020 08:13 PM

Develop a truck route sooner than later. The longer we wait the more it's going to cost us tax payers.

JasonV  
6/04/2020 02:03 AM

1. Truck by-pass to divert traffic from down town. 2. Sidewalks. Many streets in town do not have any sidewalks. In the north west corner of Listowel the majority of streets have no sidewalks. With the increase of traffic on Rogers Road and Louise Ave N it is becoming more dangerous for walking. 3. Slow down traffic on back streets. Increase four way stops. Many of the streets off of Main or Wallace have vehicles parked on the street and in winter the snow banks are high. This causing issues seeing vehicles speeding on back streets.

Space29  
6/03/2020 09:55 PM

Better access to restaurants by snowmobile

rebevers  
6/03/2020 10:48 PM

Complete sidewalks on all streets.

Matt  
6/03/2020 11:14 PM

1. Improve traffic flow around listowel (Tremaine/165/87)- ideally get as much 23 through-traffic to stay out of downtown Listowel. 2. Facilitate easier left turns from 87 east to 23N, and from 165S(gun club) to 86E. A roundabout at



87/23 would be awesome! 3. Keeping 23 through-traffic out of downtown will cut down on the backlog on Main Street east and west of the lights, and keep dangerous drivers from taking shortcuts in the neighbourhoods around downtown (NE in particular)

[REDACTED]  
6/03/2020 11:20 PM

Make a truck by-pass totally around town. Orangeville is the perfect template. It could be between line 86 and line 84. But don't use Tremaine, it's hard enough to get back on 86. A round about at highway 23 and line 87 is starting to become necessary. A bridge would work well too over 23 would work well too. There is room for that there too. Finally, making highway 86 4 lanes between KW and Listowel is extremely necessary. I can't even count how many times I have been caught behind traffic going under the speed limit. I realize it might be impossible to do it the whole way, but stretches of passing lanes would be a huge start.

Greg

6/03/2020 11:20 PM

Do NOT ban trucks downtown. Maybe have optional truck routes but let trucks come through downtown if they want to

[REDACTED]  
6/07/2020 01:31 PM

Rerouting large trucks through out downtown core as well as not through our school areas Improved parking downtown and at all parks eg Jean oke park and access to trail Set areas for garbage as well as poop bag disposals

[REDACTED]  
6/07/2020 01:40 PM

Traffic lights at Wallace North and McDonald Street East

[REDACTED]  
6/07/2020 01:55 PM

- less trucks in the downtown core - easier access from Wallace N to Zehrs area - maintain access from Wallace N to downtown core through main lights

151515

6/07/2020 02:36 PM

Make a truck route Widen the intersection at line 84 so there is a left hand turn lane heading east and west so more vehicles can access highway 23 faster.

CanLan

6/07/2020 03:56 PM

I think a better truck route could help with downtown traffic flow. I hate to say it, but honestly, maybe paid parking in the downtown core would help motivate people to only park for a reasonable duration rather than half the day, freeing up spaces for people who need to find parking.

[REDACTED]  
6/07/2020 04:44 PM

Locally-run Convenience shops within suburban-style neighbourhoods (the old fashioned 'corner store'), less traffic thru the middle of town. More traffic control at key intersections. A few more bike paths.

bus driver

6/07/2020 04:51 PM

A walking, and bike trail from Newry to Atwood, as there are many children living in Newry, and go into Atwood for activities, and hwy 23 is very busy with traffic not safe

[REDACTED]  
6/07/2020 05:22 PM

More sidewalks... specifically Victoria Ave

[REDACTED]  
6/07/2020 09:46 PM

Stop truck traffic thru downtown.

Kal

6/07/2020 10:04 PM

Bypass for traffic to avoid downtown

Someone

6/08/2020 05:43 PM

Sidewalks on EVERY street with Better lighting at night Snow removal mandatory from sidewalks business & residential Truck by-pass ... it's time!!!

[REDACTED]  
6/08/2020 08:37 PM

Trucks not to be going through downtown. Lower speed limit through downtown. Lighted trails in town perimeter for cycling, and walking. Police trails with cycling for safety. In all 4 seasons.

[REDACTED]  
6/09/2020 01:38 PM

Truck by pass

Rmills

6/10/2020 07:04 AM

Reroute trucks Speed on outer parts of town

Derek

6/11/2020 02:04 AM

We really need a sidewalk on Louise Ave. there's lots of young families, children, people traveling to and from the school who have to compete with the dump trucks on their way to construction projects. I would walk in cycle more if our trails were better. Compared to towns similar to our size, our trails seem very limited. We will often drive out of town to find somewhere different to walk or bike with the family.

Ambess18

6/11/2020 08:55 AM

Downtown traffic is awful. I want to shop there but avoid it due to back up of traffic. I want a bypass to keep downtown local or for cars passing through. Transport Trucks makes it worse. The lights downtown need improvement to be a two way. Two traffic areas of concern are Wallace and elma because people are avoiding downtown. It's quite dangerous. And also Davidson and Main Street. Ppl try to avoid downtown and cut across and it's hard to see around parked cars and stuff. Also Inkerman or Elizabeth and Wallace intersections. We need more roundabouts or lights on by 23 by Walmart

[REDACTED]  
6/12/2020 06:21 PM

1. divert large trucks away from down town area

[REDACTED]  
6/13/2020 02:54 PM

Transport trucks being redirected through downtown - I walk to work everyday using a crosswalk (4 times a day). Many times transport trucks are blocking it, can't stop in time for it, don't see it. Making them still very dangerous. Not to mention they slow the downtown traffic down immensely. I try to avoid crossing the Main Street at all if I can avoid it. I'll visit certain grocery stores/stores in general on my side of town just to avoid driving through the mayhem. Especially around 5pm

60

6/14/2020 12:45 AM

A truck route around town is in no way an answer to solving the problems downtown. There needs to be a left turn lane or no left turn when traveling west on main and making a left (south) on Wallace. I've sat behind 1 car and the whole light cycled and no one got threw light till the next change. That didn't happen just once.. Cross walks should be timed in sequence that when

a light is green the cross walks stop as they hinder the flow of traffic threw town and stop traffic from getting threw green lights. Another help would be to bring awareness to residents to find alternative routes such as if travelling home from k-w and you live on south end why not turn on race course and go in off the side road? However I bet that would get slack from residents, yet if I'm driving a truck straight threw on 86 Im expected to follow a "truck route"? Who pays me the extra time, fuel, and maintenance of a detour that would add at least 10 minutes to a trip? And the cost associated with that? All corners will need widening, lights installed and 86 and race course as at 23 and line 84.. also 86 and gun club rd and also 23 and line 87. The secondary roads are not built to handle truck traffic and accommodate turning.. will be at a great cost to taxpayers which I'm in no way supporting of! We pay enough as it is!

[REDACTED]

6/16/2020 09:13 AM

Divert trucks around Listowel. Enforce the minimum speed limit in town (creates traffic congestion and brings on aggressive driving and unsafe conditions. I see it about 30% of the time when out in town). Widen highway 86 towards Waterloo- 2 lanes each way. A significant amount of Listowel residences drive that way for work. My drive has increased 20 mins one way (from 10 years ago) due to volume alone. It causes aggressive driving and unsafe passing because of bad congestion. Doing this would create less congested groups coming into Listowel, helping with the traffic flow in town as well.

Ridger

6/23/2020 12:27 PM

truck bypass, one way streets , less parking on side and residential streets

Gandr

6/23/2020 07:44 PM

Truck bypass of Listowel. Possible truck bypass for Newry Atwood area because of frequent school bus stops. Enforcement of oversize load permits traveling down road 164 and 86 especially have seen numerous oversize without proper safety precautions in place and sometimes pushing traffic off road. Another reason why the truck bypass is necessary.

sandl87.sw

6/23/2020 09:20 PM

Truck bypass around town / More walking and bike trails in new subdivisions to tie into existing trail system to encourage a walking biking environment / addition of more roundabouts to create a better bypass traffic flow and changing several stop sign orientations to also help facilitate that end

[REDACTED]

6/25/2020 10:42 AM

Rogers Rd speed limit. Now that MacDonald street and Rogers are being used to by pass town lights, it has become a speeding zone. Speed limit, children playing signs, increased police patrol , and speed limit clockers (with video surveillance) to catch speeders. Many kids are biking , playing , and I've clocked folks doing 70 down Rogers. It makes me want to move!!!

harley1

6/25/2020 11:31 AM

Making people stay over from bikes and people to obey crosswall sign had a whitmans work drive threw crosswall whem light flashing and we were almost halfway across 2 weeks ago.

Dannemann33

6/25/2020 07:53 PM

more crosswalks, less construction

?

6/26/2020 11:39 AM

Please put in a bypass. We live on Wallace north and have seen dump trucks and transports speeding at alarming speeds. Also, make all 2 way stops 4 way stops. We were hit at one and have since seen multiple vehicles go through stop signs at these dangerous intersections (Argyle and Elizabeth for example). I am very concerned for my children's safety in this neighbourhood.

[REDACTED]

6/29/2020 09:19 AM

Truck bypass would be great

Elizabeth16

7/04/2020 05:07 PM

need bike lanes need truck route so not as many trucks have to navigate downtown truck route could also help with weekend traffic going to the lake

Bartmann

7/04/2020 10:31 PM

Have transports drive around listowel not downtown Longer left turning light More parking at the banks

[REDACTED]

7/05/2020 01:20 PM

I am comfortable and for the most part satisfied with our current situation. A truck bypass is maybe the most significant improvement we can make, but I don't think it is urgent, and would like to know the cost of this option and how it would affect our tax bill, estimated reduction in accidents if any, estimated improvement to downtown shopping volume if any, or any improvements, or is it just a nice to do idea. Any studies and recommendations from within or outside contractor should be published. Was this studied in the past and if so when , and the results.

Larmar

7/05/2020 04:13 PM

More trails

Larmar

7/05/2020 04:13 PM

More trails

Larmar

7/05/2020 04:16 PM

More trails

[REDACTED]

7/05/2020 10:10 PM

Bike/walking trails paved for recreational use for roller bladers and kids. And maybe some more lighting. And more paths connecting to different areas of town Traffic light or round about by McDonald's/food basic and/or ideal supply Larry Hudson's area to improve traffic flow coming in and out of business Alternative road to going from Wallace south to Wallace north - south end of town much business now

K

7/06/2020 11:22 PM

I would love cyclists to have a safer option. I don't think all drivers respect that they have a right to a piece of the road. I know paving the shoulders would be expensive but I think it would prevent more accidents.

Bacon21@@

7/07/2020 01:18 PM

Improved bike and pedestrian facilities. Better recreation links. Truck bypass away from downtown Listowel.

  
7/07/2020 03:11 PM

1 Truck by-pass 2. Safe path from Wallace South to trail behind LTI for walking abs biking 3 Speed bumps in some residential sections where there is a high traffic flow.

caleb19  
7/07/2020 04:09 PM

Trail access to Wallace south residents, have to walk to the next sideroad or into town more to access the trail. Downtown traffic, make improvements to eliminate long line ups at the lights Parking downtown

cleerox  
7/08/2020 01:22 PM

ATV access to some roads and trails,

johnjohn  
7/08/2020 01:29 PM

Truck by pass! Or a complete by pass, those who want to shop here will shop here those passing through take the by pass better parking, better sidewalks

Agree  
7/08/2020 08:27 PM

Fix the sidewalks the farmers should use side roads as much as possible reduce the speed limits in all towns of north Perth and trucks not allowed to use engine brakes

Sarahshawn  
7/08/2020 08:36 PM

Cross walks in Atwood! Caring about the small towns around Listowel!

?  
7/08/2020 09:01 PM

Training courses for people who have electric scooterz and e-bikes. Have police do their jobs in town and in force traffic laws. Have bylaw officers in force parking bylaws proactively not reactively.

Fritter4me  
7/08/2020 09:18 PM

1) Have trucks use a bypass to relieve downtown congestion and noise. 2) Have trucks use a bypass to relieve downtown congestion and noise. 3) Have trucks use a bypass to relieve downtown congestion and noise. Anyone who lives on Main Street or Wallace Avenue will agree that our roads have gotten busier and noisier. Regular cars recognize this and use alternate routes, which of course are residential streets that used to be safe and quiet. Now it seems busy everywhere, especially on the weekends. I regularly see cars racing through these side streets to get where they're going, so I worry about my kids walking or cycling. I suspect the businesses downtown are worried that less traffic may mean fewer customers, but there's nowhere for them to park anyway.

Marlie204  
7/08/2020 10:34 PM

One way streets away from Downtown core at main and wallace (inkerman, Argyle, Wellington) to eliminate traffic bottlenecks with traffic attempting to make left hand turns Line 84 bypass for east/west traffic Extending east past Tremaine to alleviate huge lineups at ag hall corner Enforcement of proper crosswalk use by pedestrians rather than jay walking

Carla1234  
7/09/2020 07:21 AM

Why are Main St and Wallace Ave the only major roads in our community. Development has been given more priority then transportation needs. Stop building out without expanding on the major road network. Need another way of getting through or around town. Consider cycle trail along the river. It is a great resource that is left unused. Not a huge believer that every road needs sidewalks on both sides but they should be on the same side for each road.

northperthinfo

7/12/2020 09:46 PM

Davidson for examples you have to switch from side to side.

Re route large trucks with a bypass More sidewalks on busy streets Bike lanes in town and going to the trail

[REDACTED]

7/14/2020 08:51 PM

Continous walking /biking trails! There are too many places where vehicle traffic interrupts trails

LB

7/17/2020 09:51 AM

Reroute heavy trucks to circumvent town. They are constant on main street and can be intimidating to novice cyclists like me.

Teresa

7/17/2020 10:15 AM

1. No parking signs on one side of every street. Most neighbourhoods in town do not have wide enough streets to park cars on both side. This creates hazards for other drivers, cyclists, walkers & motorcycles. This is especially dangerous close to intersections and curves. This is an ongoing issue in lots of places in town. It also needs to be enforced regularly. 2. The corner of Elma & Wallace with HH stockyards is a huge hazards. 3. Re-route large transports around the town would help ease congestion at Wallace & Main.

Michelle2781

7/17/2020 10:10 AM

-Truck bypass -better signs downtown, there is no sign indicating that the left lane at the downtown lights coming past the library is a left turn only. I am used to it as I am from here but with friends out of town they do not know this. - make it easier from going one side of the town to the other without getting stuck downtown.

Nichole

7/17/2020 04:31 PM

Living on Wallace N would be much more pleasurable with a truck bypass. Crossing the street and turning left are near impossible. All side streets should have 4 way stops. Better marked cross walks would make walking much safer

Tracey

7/21/2020 08:45 PM

Truck by pass

[REDACTED]

7/21/2020 09:30 PM

Marked crosswalk at Stop 23.

[REDACTED]

7/21/2020 10:50 PM

1)Re route truck traffic away from downtown Listowel. 2) Better larger more visible signage at the stoplight heading East on Main St. There Should be hanging signs for left turn only and straight away. Rather than just painted ones on the road way. There have been many close calls because people think they can go straight when in the left turn only area. If some of these questions are not applicable to someone then they should be able to leave an answer BLANK.

Jkidnie

7/21/2020 11:21 PM

Importance to me is diverting some traffic away from downtown. I would shop downtown more but do not feel safe walking as I have almost been hit crossing at the designated lights multiple times. Traffic gets so backed up that I won't drive downtown either so me stopping into a business won't happen.

Michael

7/22/2020 12:20 AM

Making a truck route around town to clear up downtown. Get the lights working at the intersection on how 23 South by the Pioneer and Canadian Tire!!! It is extremely dangerous having all those lanes and no lights

Erin

7/22/2020 04:46 AM

Bypass around Listowel to decrease downtown traffic

rsdlmough

7/22/2020 06:15 AM

More crosswalks A way for the trucks to not got through downtown Lower speed limit on main st e in front of High school

Joe

7/22/2020 06:55 AM

We need more passing and turning lanes to keep traffic flowing. Donegans loaded trucks need to use truck routes .

Amanda S

7/22/2020 07:16 AM

Truck re route for downtown core. Still allowing trucks in town - just not downtown

[REDACTED]

7/22/2020 02:12 PM

\*to bypass truck traffic around the downtown area, from all directions.

hello

7/22/2020 11:23 PM

truck route,

[REDACTED]

7/22/2020 11:31 PM

1) I would like to see a truck bypass. Evening traffic is getting ridiculous volume-wise in Listowel. 2) I feel the Zehrs intersection going in at Kincaid would be better suited as a roundabout than a traffic light. On fridays and weekends, the traffic light is going to cause huge congestion.

Amy. S

7/24/2020 10:26 AM

1. Re-direct transport trucks away from Main Street, Listowel. 2. More roundabouts, to help the flow of traffic. 3. Bicycle lanes, on main streets of Lisotwel. 3.

SR

7/24/2020 11:55 AM

Downtown traffic has gotten worse in the last few years. I spend a good ten minutes idling in Listowel on a daily basis (before covid). Maybe a truck route around listowel?

Jenny

7/24/2020 03:00 PM

Reduce congestion downtown Make crosswalks at the main intersection safer (have seen people get hit or almost get hit)

Emily

7/24/2020 10:46 PM

Less truck traffic through town would improve moving around the down town and be safer for kids walking/biking. The lights at wallace and main can be difficult for larger trucks to manoeuvre. I think a truck bypass would benefit downtown traffic and safety. ... I actually avoid downtown currently and use "gun club side road" to get to the south side of town because of how busy downtown is. This causes me to do less spontaneous downtown shopping.

Erin

7/25/2020 10:28 AM

Add bike lanes or multipurpose lanes throughout town to make alternate forms of transportation safer Improve traffic congestion downtown

Ruth

7/25/2020 12:53 PM

A By-pass especially for the truck traffic passing town More downtown parking Improve Elma St between Victoria and Wallace (road and sidewalks)for safer cycling and walking

Doug

7/27/2020 01:56 PM

1. The AmAddition of more traffic lights in busier intersections to help regulate traffic and protect pedestrian crossings. 2. Expand the current snow removal and winter road care system and efforts. 3. Install additional speed limit signage within areas of higher residential volume.

Other

7/27/2020 02:38 PM

Redirect ALL vehicular thru traffic (transport trucks & other not stopping to support our community) At least 1 sidewalk on ALL streets & through ALL neighborhoods Night lighting checks to ensure well lit streets

Robjo

7/27/2020 05:15 PM

Truck route around town. No left tuns from main lights to Wallace south.

emartin99

7/27/2020 07:29 PM

Truck by pass Better marked cross walks Public transportation available to rural north Perth

Yoursaynorthperth.ca

7/28/2020 08:43 AM

Route for trucks around Listowel - improved vision area at Wallace and Elma (Spinrite lot) - clearly marked bike lanes

ernie

7/28/2020 08:52 AM

1-more sidewalks, noticed alot of people walking on the road Wallace south as there are no sidewalks to connect to the trail system. 2-Have noticed alot of cars parking on road where there really is no parking spot to access the rail trail (near wallace south)....should be a small parking lot to get cars off road. 3-noticed alot of vehicles parking on side walks...really need more by law enforcement to allow people to walk on side walk and not be forced onto street...on my walks this happens daily. (safety issue) not sure how people with mobility issues handle this issue.

Kezzy

7/28/2020 08:58 AM

Certain areas need a round about or stop light. For example on highway 23 going to Palmerston where the Mennonite school is. It's hard to cross from the 3rd concession.

Shrigs

7/28/2020 09:07 AM

More stop lights— I see we are getting them at Zehrs corner ,that is great! A by-pass for truckers as the Main Street corner at Wallace is a tight turn

Anonymous

7/28/2020 10:15 AM

More sidewalks. (SO glad to see sidewalks put in on Binning, finally). More lighted crosswalks on Main and Wallace. (Downtown as well as further up each road). A 4-way stop at Barber Ave. N and Elizabeth St. (Too many accidents there, and way too many close calls. Plus it will slow traffic coming down Barber).

HOJ

7/28/2020 10:15 AM

More bike and walking trails. As the community grows, more interconnecting trails so people can take alternative transportation to work or get a coffee etc. In direct and convenient ways. More parks or green spaces, encouraging people to get into nature by alternative means even if still in town. Along the existing rivers and ponds are excellent spots that could have better access



and really add to aesthetic and value of things to do/enjoy in town. Truck bypass could be a good start to reducing downtown traffic and overall noise.

[REDACTED]  
7/28/2020 10:30 AM

Too much traffic downtown..truck bypass Roundabout by ag hall

[REDACTED]  
7/28/2020 11:52 AM

We asked for a slow children at play sign for our street and were told no.

ToddK  
7/28/2020 12:29 PM

We need a bypass that brings big trucking around the downtown, keeping it to the periphery of the Municipality. I suggest improvements to Line 87 heading west from 23 (to facilitate westbound movements to Gun Club Road), extending Line 84 to the Teviotdale road, and paving the Teviotdale road south of Hwy 86 right to Line 55. Consider a possible connection between the trail between Henfryn and Gowanstown to connect to the G2G trail Consider realigning the Wallace/Main intersection - buy adjacent buildings to either straighten the intersection or install a rotary traffic circle

Christine  
7/29/2020 08:28 AM

Truck bypass

Debbie  
7/29/2020 03:02 PM

bypass...better crosswalk lighting ....used trail lights all the time

Morgan  
7/29/2020 06:09 PM

Downtown area is hard to see crosswalks with the amount of parking that occurs. Way to divert traffic around the downtown area. More walking paths in scenic areas

Greg  
7/29/2020 07:14 PM

Do not ban trucks from downtown. Trucks are very important and should not be forced around town. We need more no left turn signs and less 4 way stops to keep traffic moving

[REDACTED]  
7/29/2020 07:36 PM

Fewer trucks on the main roads, wider road ways or separate bike lanes

Shannon  
7/29/2020 08:01 PM

1. line 87 and road 164 intersection needs to be addressed. 2. Big trucks should be rerouted from downtown. If you park to shop downtown and use the lights to cross, many trucks barely make it around the corner sidewalk. Its concerning. Altho i will say they are better than most passenger vehicles at stopping at the crosswalks!

Marie  
7/29/2020 08:16 PM

1. Getting from east side of town to west side is difficult, especially Thursday and Friday. If someone coming from east turns south at Wallace during busy times, it may cause only 1-3 cars to get through a green light. Often traffic is backed up to Veky's. A Friday afternoon during cottage season can have traffic backed up much further. No south turns from the east would help at the lights (main/Wallace). 2. The lack of clear sidewalks in the winter makes it difficult to walk anywhere in North Perth. It is impossible for the average person, let alone seniors or persons with strollers, to walk for exercise or day-

to-day errands without the dangers of walking on the road. This is also extremely dangerous for children who are expected to go to school but have no clear sidewalks until they reach a main route to the school. Property owners should be expected to properly clean their sidewalks.

Sydney

7/29/2020 08:27 PM

Crosswalk in Atwood; Improved/refurbished sidewalks in all towns, especially on secondary roads; rerouting of truck traffic around Listowel

[REDACTED]

7/29/2020 08:34 PM

4 wheeler trails 2 roundabouts on hwy 23 and 2 on hwy 86

John

7/29/2020 09:08 PM

Follow through with past North Perth ideas of a ring road/ truck route around Listowel. If you remove the traffic you will have more people shopping downtown and in turn revitalize the downtown the way it should be by preserving the history and architecture of the beautiful town

Kelly

7/29/2020 09:24 PM

Widen the second concession (by Wallace Ave S and LTI- a very busy road with many cyclists and walkers. Offer a crosswalk around Stop 23 on Wallace Ave N (we often try to cross on bikes and it is challenging). Put the road through beside the fire hall- this will stop people from using the fire hall driveway - which they are only using because the road was never put through in the first place.

SBL

7/29/2020 09:25 PM

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Itsmeb

7/29/2020 09:34 PM

No comments

Candice

7/29/2020 10:35 PM

flower pot on Wallace that was placed there is hard to see to the left right in front of the relations

Ruth

7/29/2020 10:37 PM

Bypass traffic around the Town Longer green light heading east at main intersection on Main St.

ter

7/29/2020 10:46 PM

1. More walking paths and bike lanes around the park and around downtown would be lovely! There is nowhere interesting to walk around after eating dinner in downtown Listowel. 2. No more transport trucks in the intersection of 86 and 23 downtown. It makes it crazy to walk and they could go around town if they were forced to. 3. pipe dream....but pave more gravel roads outside of town so we can drive/walk/ and stroller more easily and safely!

RS

7/29/2020 10:59 PM

1)A truck bypass to free up congestion and leave the core accessible to those of us who wish to stop downtown 2) overhead signage for the left hand turn from Main onto Wallace north. So many people go straight while in the turning lane and almost cause accidents 3) reposition the crosswalk lights by giant tiger. It seems people have difficulty seeing the flashing light when pedestrians try to cross the road

[REDACTED]  
7/29/2020 10:59 PM

Faster stop lights

MVB  
7/29/2020 11:04 PM

I would love to see biking trails going through listowel. It is very unsafe biking through downtown listowel

[REDACTED]  
7/29/2020 11:21 PM

Truck route, so large tractor trailers don't need to go through down town listowel.

EK  
7/29/2020 11:35 PM

For myself I don't need any changes but for those in town without transportation or seniors that can't drive anymore I think it would be nice to either have a regular bus making the rounds through town or some kind of pick up/drop off system where people have to book a time to get picked up and dropped off. Kind off like a taxi but then a bigger vehicle that could pick up more people. Like a mini school bus or so. But to be honest I have no idea if something like that exists already. And it doesn't have to be free. Could be subsidized but ask people to pay a few dollars every time they use the service.

Ajkjak  
7/30/2020 12:09 AM

Sidewalks in good repair Some way to deal with the Friday drive through town vehicles

Laidlaw1  
7/30/2020 12:11 AM

Truck bypass, road repaving and better planning when it comes to construction and housing. Too many housing projects are getting signed off on for more tax income without actual growth planning

[REDACTED]  
7/30/2020 12:13 AM

Truck route

John  
7/30/2020 12:16 AM

No left turns off of main st. or Wallace N. unless there is a dedicated left turn lane.

Mom  
7/30/2020 12:27 AM

My #1 would have been lights to get back onto 23 from zehrs/Walmart but those are going up now. Except for thursday-Saturday the traffic flows nicely through Listowel but it would be nice to have a nicer bypass to get from one end of town to the other.

Joshm  
7/30/2020 01:00 AM

-More controlled crossings for cyclists and pedestrians. -Proper passing lanes on Line 86. -Discourage heavy through traffic downtown Listowel.

Warren H.  
7/30/2020 01:05 AM

Additional/improved trails, decongestion of downtown traffic, and trail connections to other municipalities to north of town

Me  
7/30/2020 04:11 AM

Truck bypass route for some trucks Better light time management Better pedestrian crosswalk lights to stop cars

AnneLaidlaw

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7/30/2020 06:00 AM

fattony

Truck route,

7/30/2020 06:34 AM

FJV

Better and more trails for walking and cycling. More cross walk lights

7/30/2020 06:47 AM

inge

route for trucks more roundabouts better traffic flow downtown

7/30/2020 07:07 AM

[REDACTED]

Truck route, passing lanes on 86 Listowel to kw, better winter maintenance on 86 listowel to kw

7/30/2020 08:28 AM

Madison D

Redirect large transport trucks around downtown, improve flow of traffic at 86/23 intersection especially during summer and busy season, allow more road parking back towards the library on 86 to help keep the eastbound 86 from lining up extremely far (take away a few parking spots that cut off the lane going straight east on 86)

7/30/2020 08:29 AM

KB467!

Rerouting traffic away from the town. A bypass around the town.

7/30/2020 08:47 AM

Coghlin

Redirect truck traffic around downtown Listowel. Best if done in a way to encourage visits to our downtown core by people passing through our community.

7/30/2020 09:29 AM

Lisa

More sidewalks so people aren't waking on the roads Enforce NO Parking on or over sidewalks by residents (ie park your vehicles in your garages!) Fix trail access going toward Gowanstown/Palmerston so that people don't have to ride in highway.

7/30/2020 09:40 AM

Cody

Round about at the 3 of Wallace to divert tractor trailers around Listowel for the 23 bound or West 86 bound drivers. This will also slow traffic entering Listowel. Alternate tractor trailer route from 86 North to hw 23. Round about/lights at line 84 & he 23. This will also help reduce the speed of traffic coming into Listowel on hw23. Do not make Wallace Ave South a one-way. This becomes the alternate path when 87 east is congested. Alternative methods should be introduced such as a tractor trailer bi-pass to resolve that issue. Current issues causes driver that do not wish to wait to whip down residential streets putting children/walker/cyclists/etc... at risk

7/30/2020 10:15 AM

[REDACTED]


I think things are pretty good. Downtown can get congested but if u reroute around town that would take business away from your downtown.

7/30/2020 11:56 AM

Steph

Make cycling safer! More room on the sides and sweep the sides as my small tires don't like stones, and when making those lines across the roads just before stop signs leave a space on the side for us to use, those bumps

7/30/2020 12:02 PM

	are horrible on a road bike and its not always safe to cross into the other lane.
Woolham 7/30/2020 01:20 PM	Shorter delay at the downtown lights travelling from Wallace South. Lucky to get 5 vehicles through as the traffic on Main street turning North goes after the light has changed.
Josh 7/30/2020 02:14 PM	- truck bypass would help - improve other cross walks
Martha 7/31/2020 07:45 AM	Crossing busy Wallace Street walking and cycling is a Challenge unless you are downtown at the crosswalk, getting across town at the north end is very difficult while walking or cycling.
L Koersen 7/31/2020 10:10 AM	Truck bypass for downtown listowel, more parking downtown listowel, roundabouts instead of traffic lights where possible
 7/31/2020 10:17 AM	A truck by pass is essential . The truck traffic has increased tremendously and makes it difficult to cross roads. It would make our downtown core much more pleasurable. The fumes are strong from the trucks while walking on Main Street.
no chickens in my back yard 7/31/2020 03:15 PM	Better road conditions. Wallace Ave from Main to Anger is narrow and very rough. More stop signs to slow traffic. Cars race up and down Wallace like it's a highway. Cars race across Krotz St as well. Krotz is open from Racecourse sideroad to Wallace with no stop signs.
Laura 8/02/2020 03:16 PM	Less traffic on Main Street, especially trucks Roundabout on east end to slow traffic coming into town
Pieter 8/02/2020 03:19 PM	1. The main traffic corridors of highway 23 and road 86 have to be changed so that through traffic is routed around the town of Listowel. 2. Wallace Avenue and Main Street need to be narrowed to two lanes of traffic only, no parking, to slow traffic. The reduction in width will allow room for cyclist path and pedestrian walkways, especially in the downtown core. 3. Traffic lights in the downtown area need to be replaced with low-speed traffic circles. they do not need to be big as large trucks are routed around the town.
sylviabehrns 8/03/2020 11:33 AM	Wider backroads that are commonly used by local residents to bypass town. Use of traffic circles. We shouldn't be putting up street lights at intersections anymore. The one by zehrs should have been planned to be a traffic circle. There is lots of space for one.
Student who wants to go to school :) 8/03/2020 01:15 PM	More roundabouts I like way better than stoplights in any scenario.
pharrington 8/04/2020 01:13 PM	More bike trails, all sidewalks cleared in the winter not just some (reason for uncomfortable with walking) have to walk on the roads to get to a sidewalk that is cleared, alternate route for transport trucks than downtown.

Brian

8/05/2020 10:17 PM

Truck bypass that has been talked about for 40 years More paved roads in rural North Perth Grass and weeds cut for visibility

[REDACTED]

8/06/2020 10:46 PM

I would like to bike more around town for day-to-day activities, including taking my kids on errands or to school but I am not very comfortable biking with them down town or on Elma St. It is also tricky to cross Hwy 23 towards Stop 23/McDonalds, again especially with kids.

Cdietzy67

8/07/2020 10:26 AM

Get the trucks out of downtown.

Krabbe

8/07/2020 03:03 PM

Please reduce the speed limit on Tremaine Ave S. From line 86 to line 84. Truck route around town.

Jill F

8/07/2020 03:15 PM

1 Less truck traffic through the downtown. I live on Main Street and getting out of my driveway, especially on a Friday is crazy! 2 Taking away some parking spaces that make it especially difficult to make a turn. At corner of Main Street east and Davidson, in front of Hemingway chiropractic and linklaters insurance, those spots make it very difficult to turn onto Main Street. I've seen many near misses and an accident or two.

JohndandBeth

8/07/2020 03:30 PM

Make all crosswalks with activated lights for crossing. This will assist both walkers and cyclists.

Mike

8/07/2020 03:38 PM

Truck bypass More inforcement of traffic turning into Tim hortons Speeding on elma needs to be monitored more closely

CW

8/07/2020 03:58 PM

cross walks on the main streets to get my family safely across the road...not downtown. no transport trucks downtown unless they're delivering, there are many other options to go around the town. lower the in town speed limit on 85/23

Carolyn

8/07/2020 07:22 PM

Alot of time and money was spent on road 165 and it is very busy. Not safe to walk or bike on. Crosswalks are still difficult to see in Town with people standing behind traffic and and parked vehicles. you have to have eyes everywhere at all Corners because pedestrians and bikes just step or ride out. I would walk or bike to arena and town but it is unsafe on road 165.

Brad

8/07/2020 08:23 PM

Down town is extremely hard to maneuver both when biking or driving and trying to find parking as always lots of vehicles around pressuring you when moving to a spot as they want to go around. The light is already a pain given the the three different sections to go green and so if less traffic would ease some if that / especially with large trucks that make difficult to get through lights efficiently.

Kate

8/08/2020 08:38 AM

Definitely need a truck bypass for downtown Listowel!

[REDACTED]

Put stop signs and post a 40 KPH along Krotz Street East. Photo radar /

8/08/2020 05:15 PM

better enforcement of speeds along Krotz Street East and Wallace Av. West .

laso

8/13/2020 07:25 PM

Better bus parking at schools Wider round about Flashing overhead cross walk

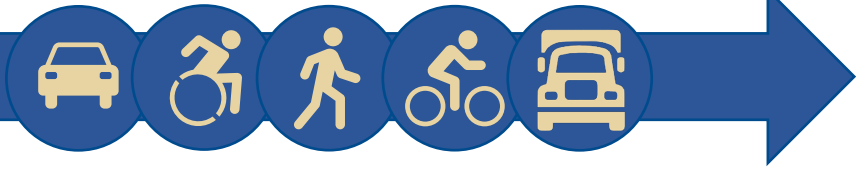
Tsd

8/14/2020 11:49 PM

More crosswalks that are visible with flashing lights A truck bypass to lower congestion downtown

**Mandatory Question** (162 response(s))

**Question type:** Essay Question



# Attachment E

## Interactive Map Comments



**Municipality of North Perth Transportation Master Plan  
Attachment E - Interactive Map Participant Comments**

Category	Comment	Link
Walking Challenges	Crosswalk needed somewhere across Wallace Ave N at or near McDonald St (near McDonald's / Stop23 and Food Basics) &/or near Tim Horton's	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30279#marker-30279">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30279#marker-30279</a>
Driving Challenges	Very poor sight line when approaching this intersection from west Elma Street; it is difficult and dangerous to advance past the fence which seems to encroach on the road allowance. Too much traffic. It would be wise to put a stop at the corner of Clayton St E and Wallace Ave S or Union St W and Wallace Ave S to break up the long line of traffic that now impedes the flow from Elma St W to the east end of town. If you want vehicles to be routed off the busy Main Street, you need to have better flow on Elma St and Inkerman St.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30548#marker-30548">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30548#marker-30548</a>
Driving Challenges	This intersection is an absolute joke, almost as though it were designed by Scott Brooks himself. The wait times at the lights are beyond pathetic. Heavy revision required.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30550#marker-30550">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30550#marker-30550</a>
Driving Challenges	The main problem with transportation in Listowel is right here	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30551#marker-30551">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30551#marker-30551</a>
Driving Challenges	Should be four way stop for a better flow of traffic heading west on Elizabeth Street. Usually difficult seeing traffic coming from the north due to vehicles parked on Argyle Ave N	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30552#marker-30552">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30552#marker-30552</a>
Driving Challenges	Difficult to see do to house and porch on the corner.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30553#marker-30553">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30553#marker-30553</a>
Driving Challenges	House on corner has large hedge blocking view. In winter difficult to see do to snow. It is normal for traffic getting up to 60 km / hr on the stretch from Main Street to the next four way stop.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30554#marker-30554">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30554#marker-30554</a>
Walking Challenges	All of Louise Ave no sidewalks. Traffic is speeding from Rogers Rd to Binning St. Lots of heavy truck traffic to dump area. Very dangerous.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30555#marker-30555">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30555#marker-30555</a>
Walking Challenges	All of Albert Ave N has no sidewalks. Also a dangerous for walking. Traffic has increased due to increase of home in area.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30556#marker-30556">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30556#marker-30556</a>
Cycling Challenges	If , please, line 84 is to be resurfaced, allow a couple of extra feet of width for bicycle lanes! The extra width will also extend the life of the roadway as heavier vehicles will not be eroding the edges of the street. I, as a newer resident have noticed that there is not a very active cycling community in these parts due to the lack of safe roadways.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30557#marker-30557">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30557#marker-30557</a>
Driving Challenges	Should be no left turns at the corner and should be a median so it's not even an option	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30558#marker-30558">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30558#marker-30558</a>
Driving Challenges	This should be a roundabout. A lot of accidents happen at this corner and nothing done so far has helped.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30559#marker-30559">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30559#marker-30559</a>
Driving Challenges	Very hard to turn left at this corner does to restaurants and many commercial	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30561#marker-30561">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30561#marker-30561</a>
Walking Challenges	Need a cross walk here, long way to walk to downtown for kids to cross safely, very busy and fast street. People are driving 60+ km	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30562#marker-30562">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30562#marker-30562</a>
Driving Challenges	Just make inkerman one way leaving Wallace north either way	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30564#marker-30564">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30564#marker-30564</a>

**Municipality of North Perth Transportation Master Plan  
Attachment E - Interactive Map Participant Comments**

Category	Comment	Link
Driving Challenges	Put in roundabout as it it hard to turn on to 23	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30565#marker-30565">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30565#marker-30565</a>
Walking Challenges	Please add in truck bypasses to reduce truck traffic on Wallace and main,	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30566#marker-30566">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30566#marker-30566</a>
Driving Challenges	Add round about to allow traffic of of tremaine to be able to turn left onto main	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30567#marker-30567">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30567#marker-30567</a>
Cycling Challenges	I agree with Doug Reid. Wider road for cycle lane	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30699#marker-30699">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30699#marker-30699</a>
Cycling Challenges	I would love to see a trail between Hutton and the old train track trail. it would connect the area to the large stores.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30700#marker-30700">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30700#marker-30700</a>
Driving Challenges	I do not have a fix, but this intersection is the main issue with Listowel traffic	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30701#marker-30701">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30701#marker-30701</a>
Driving Challenges	Agree with JasonV. Four way stop	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30702#marker-30702">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30702#marker-30702</a>
Walking Challenges	Strongly agree with J Kerr. Cross walk is needed around Mc D and Food Basics	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30703#marker-30703">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30703#marker-30703</a>
Driving Challenges	Signs around Listowel for truck bypass if trucks are going to 23 South bound to turn south on Tremaine Ave, reconnect with 23 via 84 Line. Could help a little for traffic at th e lights.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30704#marker-30704">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30704#marker-30704</a>
Driving Challenges	Signs for Truck bypass for North bound trucks. could help a little for traffic at the lights.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30705#marker-30705">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30705#marker-30705</a>
Driving Challenges	Add Round about, will slow traffic and increase flow. the one at 23 and line 86 was huge success!	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30706#marker-30706">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30706#marker-30706</a>
Driving Challenges	Add Round about, will slow traffic and increase flow. the one at 23 and line 86 was huge success!	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30707#marker-30707">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30707#marker-30707</a>
Driving Challenges	Put a proper truck route around town! Traffic is backed up to the water tower far to often	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30808#marker-30808">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30808#marker-30808</a>
Driving Challenges	Should have a round about with a change to keep the limit at 60 for those leaving Kurtzville with the summer the corn grows and you cannot see if cars are coming to the stop sign. There has been times where I am nearly completely around on my way to Fordwhich where drivers would hit the gas to cross the road.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30853#marker-30853">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30853#marker-30853</a>
Cycling Challenges	Agreed, need wider road for a safer cycling .	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30854#marker-30854">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30854#marker-30854</a>
Cycling Challenges	Connect the old train track with the new road.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30855#marker-30855">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30855#marker-30855</a>

**Municipality of North Perth Transportation Master Plan  
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Category	Comment	Link
Walking Challenges	Hard to walk from LTI to the neighborhood safely	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30856#marker-30856">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30856#marker-30856</a>
Walking Challenges	Needs sidewalks	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30867#marker-30867">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30867#marker-30867</a>
Walking Challenges	Needs sidewalks	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30868#marker-30868">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30868#marker-30868</a>
Driving Challenges	Crosswalk should be on East side of intersection. With more businesses down Argyle pedestrians might not be seen by traffic turning right onto Main when trying to see past parked cars and trying keep an eye out for other autos and pedestrians coming from downtown core. This crosswalk should be similar to Wallace and Inkerman and on the downtown side of the intersection.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30871#marker-30871">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30871#marker-30871</a>
Driving Challenges	Crosswalk should be on Wet side of intersection. With more businesses down than on the East side of this intersection, pedestrians might not be seen by traffic turning right onto Main when trying to see past parked cars and trying keep an eye out for other autos and pedestrians coming from downtown core	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30874#marker-30874">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30874#marker-30874</a>
Walking Challenges	With the crosswalk being BETWEEN 2 side streets so many cars stop but then other vehicles see a break in traffic and do not see the pedestrian crossing. This crosswalk walk should be on the downtown side of both side streets and not between.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30876#marker-30876">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30876#marker-30876</a>
Driving Challenges	Wallace Ave S should be setup similar to the other 3 intersections with 2 lanes being either straight and right turn or left turn and straight. With the amount of traffic coming from Wallace South and having a lane and a half for each direction just confuses people or impedes flow of anyone wanting to turn right and first car sitting in intersection with 6 feet on each side	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30877#marker-30877">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30877#marker-30877</a>
Driving Challenges	Traffic congestion attempting to turn onto hwy 23 from 84. A round about would be great. Especially at shift change at LTI and as 84 has been getting busier with Wallace South development	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30904#marker-30904">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-30904#marker-30904</a>
Walking Challenges	there is no sidewalk and the shoulder is very narrow	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31050#marker-31050">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31050#marker-31050</a>
Cycling Challenges	road is quite rough - will be reconstructed this year	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31051#marker-31051">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31051#marker-31051</a>
Walking Challenges	there is no sidewalk on Tremaine Ave S - can be quite dangerous for those walking along the road	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31052#marker-31052">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31052#marker-31052</a>
Walking Challenges	We really need sidewalks here, really. Lots of truck traffic, especially with the construction going on. Unsafe walking around with children, to and from the school and daycare.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31123#marker-31123">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31123#marker-31123</a>
Driving Challenges	Move 4-way stop from Hay to this intersection. Northbound traffic on Havelock has difficulty seeing traffic on Elma	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31126#marker-31126">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31126#marker-31126</a>
Cycling Challenges	Extend cycle trail to Palmerston using dedicated trail where possible and signed road route where rail land is not available. Would provide link to network of trails leading from Palmerston.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31127#marker-31127">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31127#marker-31127</a>
Driving Challenges	Extend Haverkamp Road north to Line 87 as truck by-pass.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31129#marker-31129">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31129#marker-31129</a>

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Category	Comment	Link
Driving Challenges	Add signage identifying Rd 165 as a by-pass to Highway 23 South. Lighting at night would also help. Already being used that way - signage would divert more traffic from Listowel core.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31130#marker-31130">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31130#marker-31130</a>
Driving Challenges	Add signage identifying Rd 158 as an alternate route to Listowel. Lighting at night would also be good.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31131#marker-31131">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31131#marker-31131</a>
Driving Challenges	Line 81 is a better location for a 4-way stop than Line 78. Both visibility at corner and traffic.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31132#marker-31132">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31132#marker-31132</a>
Driving Challenges	Not sure why 4-way stop needed. Should only be a stop for Line 78.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31133#marker-31133">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31133#marker-31133</a>
Cycling Challenges	Develop signage, parking and if possible washroom amenities for use by people using cycling trail.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31134#marker-31134">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31134#marker-31134</a>
Cycling Challenges	Develop signage, parking and if possible washrooms for use by cyclists on Guelph to Goderich trail. Encourage people to stop and use retail in Monkton.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31135#marker-31135">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31135#marker-31135</a>
Walking Challenges	Walking here has become dangerous with the heavy construction trucks going to the yard at the end of the dead-end street. We need sidewalks here to keep kids off the road with this construction traffic. It gets worse when people are parked on the street because the road is much narrower for the large trucks. This is also a school route to Westfield.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31140#marker-31140">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31140#marker-31140</a>
Walking Challenges	Needs to be a side walk on Tremaine	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31166#marker-31166">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-31166#marker-31166</a>
Driving Challenges	hard time turning left on to main st	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32402#marker-32402">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32402#marker-32402</a>
Driving Challenges	This corner is the hardest for trucks to turn and traffic jamming.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32622#marker-32622">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32622#marker-32622</a>
Driving Challenges	Congestion	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32702#marker-32702">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32702#marker-32702</a>
Driving Challenges	Congestion	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32703#marker-32703">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32703#marker-32703</a>
Cycling Challenges	This footpath "trail" is used by so many people/families, to access the actual trail. I know I see many people take this route as their easiest access to to their workplaces. A permanent access point would be nice.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32821#marker-32821">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32821#marker-32821</a>
Driving Challenges	Pre-covid 19, with McDonalds running at 100% capacity, and even now with not 100%, there is times when the line up is outside on the road. This can cause issues with people attempting to pass in the turning lane, not to mention anyone trying to cross the road by foot here. Something has to be done about increased traffic requirements on old planned roads. Heavy equipment can cause even worse delays and safety concerns.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32822#marker-32822">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32822#marker-32822</a>
Driving Challenges	Pre-covid 19, with Timmies running at 100% capacity, and even now with not 100%, there is times when the line up is outside on the road. This can cause issues with people attempting to pass in the turning lane, not to mention anyone trying to cross the road by foot here. Something has to be done about increased traffic requirements on old planned roads. Heavy equipment can cause even worse delays and safety concerns.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32823#marker-32823">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32823#marker-32823</a>

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Category	Comment	Link
Driving Challenges	As someone who lives in the south end of town, and needs to travel north to leave the other side, I sit at this intersection at least twice a day. As others have mentioned, this is the worst bottleneck location inside the town, in my opinoin. Something has to be done about the old setup. Large trucks should not have to travel through this intersection, just to continue down 23 (for example), there needs to be some sort of truck bypass. . When the power is out, this intersection is very dangerous to treat as the propper yield requirements state, as you cannot easily see all vehicles (blindspots).	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32824#marker-32824">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32824#marker-32824</a>
Driving Challenges	Very difficult to see oncoming traffic going East on 86, when turning right (or left) off Tremaine Ave S. You have to be very far out into the interesection, past the stop sign, to see past the Dodge Dealership.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32825#marker-32825">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32825#marker-32825</a>
Walking Challenges	There is no sidewalk coming off the trail onto Tremaine Ave S, so you have to walk on the shoulder of the road. This road is very busy, and many large trucks use this to bypass the downtown. Sidewalks should be connected to Krotz to the South, and attached to the existing on Tremaine to the north.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32826#marker-32826">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32826#marker-32826</a>
Cycling Challenges	Agree fully with all these comment about this being widened/resurfaced! My Wife and I run constantly down this road, and the current condition you have to be careful not to roll your ankel, or get too close to someone going 80km+.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32827#marker-32827">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32827#marker-32827</a>
Cycling Challenges	This one is a little bit of a stretch here, but it would be nice to somehow connect these nice paths and services to the other bike trail system in town. As it is, there is no convenient way for someone not on the NE side of town to access this.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32828#marker-32828">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32828#marker-32828</a>
Driving Challenges	Intersection of Line 87 and Hwy 23	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32954#marker-32954">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32954#marker-32954</a>
Driving Challenges	corner of Line 86 and Tremaine Ave. S.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32955#marker-32955">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32955#marker-32955</a>
Driving Challenges	Too much traffic and hard to cross road without getting hit.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32975#marker-32975">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32975#marker-32975</a>
Driving Challenges	This road is very unsafe.It is losing pavement every year and is the worst road in the area.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32994#marker-32994">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-32994#marker-32994</a>
Driving Challenges	No speed limit signs. Should be 80 km/h but frequently cars go 50 km/h	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33399#marker-33399">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33399#marker-33399</a>
Driving Challenges	Poor sight line at Elma & Wallace. Dangerous for drivers & cyclists.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33485#marker-33485">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33485#marker-33485</a>
Driving Challenges	Victoria Avenue South is a race course to quite a few people. Even with the constructi on some people think its an off road course.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33486#marker-33486">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33486#marker-33486</a>
Driving Challenges	This intersection really needs to be resurfaced, especially on the corner coming from Wallance North. The temporary solution there currently is very wore down considering how much traffic goes through this intersection.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33494#marker-33494">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33494#marker-33494</a>
Driving Challenges	The gravel portion of Line 75 becomes very dangerous with the awful conditions of the road and the speed of traffic going down it. Would be nice to see an improvement here, even though it is not a Listowel road.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33506#marker-33506">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33506#marker-33506</a>
Driving Challenges	This area should be 50km/hr. Currently 80km/hr in the residential area. Kids get on the school bus here. Its like a race to get up to 100km/hr here. East of 23 on line 88 is 50km/hr and hwy 23 is 70km through gowanstown.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33620#marker-33620">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33620#marker-33620</a>

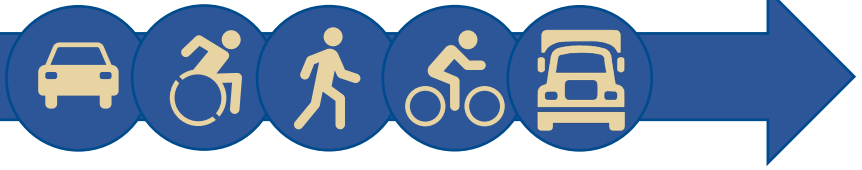


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Category	Comment	Link
Driving Challenges	The car dealership should be restricted from parking vehicles so close to the intersection. If they would keep vehicles back 15-20' from the sidewalk, the visibility of eastbound traffic would be greatly improved.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33792#marker-33792">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-33792#marker-33792</a>
Driving Challenges	There should be a non residential bypass to avoid the main intersection. Going from the roundabout to around the tsc location	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34301#marker-34301">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34301#marker-34301</a>
Walking Challenges	A trail connecting Salisbury Ave to the bridge near Riverside drive would be fantastic. People could walk in a loop. It could even be an interpretive walk with town and nature facts.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34308#marker-34308">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34308#marker-34308</a>
Cycling Challenges	A proper bike pump track for all the kids in the neighborhood on bikes. The subdivision is only getting bigger and this is a fun activity for kids from when they start riding a bike to teens. Check out Riverside park in Kitchener and Gage park in Hamilton for inspiration.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34309#marker-34309">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34309#marker-34309</a>
Driving Challenges	There should be a 4-way stop on Barber and Elizabeth. Many accidents and "close calls" happen here.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34353#marker-34353">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34353#marker-34353</a>
Walking Challenges	Road many take to get to railway trail, be really good to have a trail to connect over there over walking the tight shoulder	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34354#marker-34354">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34354#marker-34354</a>
Driving Challenges	Long lights and often long lineups.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34355#marker-34355">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34355#marker-34355</a>
Cycling Challenges	Not a very safe road to bike on. Many people leave very little space when passing, especially on this road.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34356#marker-34356">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34356#marker-34356</a>
Driving Challenges	100% agree with Dave. This is a busy residential area and also home to very popular Fresh Start Bakery. Drivers do not need to be racing to get up to 80km/h+ as soon as they turn onto Line 88 from Hwy 23.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34517#marker-34517">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34517#marker-34517</a>
Driving Challenges	Same as other comments. Too much tractor trailer congestion. This needs to be fixed.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34568#marker-34568">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34568#marker-34568</a>
Driving Challenges	Agree to the others. A round about would be very beneficial here. Slows traffic, can be a bi-pass for large vehicles, and easier to get into town.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34569#marker-34569">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34569#marker-34569</a>
Driving Challenges	Make continuation of bypass. Make a 4 way stop to slow the traffic. I have had a few close calls there.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34570#marker-34570">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34570#marker-34570</a>
Driving Challenges	Make as a bypass for hw 23 N bound drivers. Will need to be made into a round about or there will become congestion when turning left	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34571#marker-34571">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34571#marker-34571</a>
Driving Challenges	Something needs to be done here. Too make accidents despite the lights. Round about seems to be a safe options as it would slow traffic down	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34572#marker-34572">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34572#marker-34572</a>
Driving Challenges	Hard to turn into LDSS here. :(	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34773#marker-34773">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34773#marker-34773</a>
Walking Challenges	Nowhere to walk in the fall time you always keep you eyes peeled for everything it feels unsafe walking a balking on this street	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34774#marker-34774">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34774#marker-34774</a>

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Category	Comment	Link
Walking Challenges	No path to follow here in this part of the park.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34775#marker-34775">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-34775#marker-34775</a>
Driving Challenges	Trail is dark at night.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35219#marker-35219">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35219#marker-35219</a>
Driving Challenges	Difficult to make turns, especially left hand turns anywhere downtown onto 86 and 23	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35220#marker-35220">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35220#marker-35220</a>
Cycling Challenges	Difficult to bike, especially with kids, anywhere along 86 and 23	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35221#marker-35221">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35221#marker-35221</a>
Cycling Challenges	Difficulty biking with kids along sections of Elma, especially where there is no sidewalk.	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35222#marker-35222">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35222#marker-35222</a>
Driving Challenges	This intersection is always busy, some solution must be available like diverting the transport truck traffic around Listowel, instead of threw it	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35586#marker-35586">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35586#marker-35586</a>
Walking Challenges	The side walk near the salvation army floods and freezes over on main St all the way to the corner of Elm , making it to a sheet of ice in the winter time Drainage issues	<a href="https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35587#marker-35587">https://yoursaynorthperth.ca/tmpstudy/maps/transportation-points-of-interest?reporting=true&amp;marker-35587#marker-35587</a>



# Attachment F

## Stakeholder Interview Key Messages





# North Perth TRANSPORTATION MASTER PLAN



## BACKGROUND

A transportation master plan (TMP) establishes a municipality's long-range transportation vision. It is one of several strategic policy documents that direct how a municipality will grow and develop over the long term. It works together with a municipality's Official Plan, which directs land use and development patterns, as well as other master plans such as those concerning municipal servicing, parks and recreation, and economic development. A TMP examines current transportation issues within a community, assesses existing and future growth patterns, determines the need for transportation improvements, and establishes policies to develop and maintain the required transportation network.

The North Perth TMP will be used by the Municipality of North Perth as a blueprint to guide future planning, design, operation and maintenance of the Municipality's transportation network until the year 2041. The ultimate transportation goals of North's Perth TMP are:

1. To identify ways to mitigate current and future road capacity issues and identify preferred routing for commercial and residential traffic;
2. To accommodate different travel options for getting around, in a safe manner and sharing roads;
3. To accommodate and encourage more environmentally sustainable forms of travel; and
4. To build a stronger sense of place and vibrant local economy in communities.

## QUESTIONS FOR DISCUSSION

The Municipality and consultant team are looking to engage groups and associations within the community regarding transportation planning matters. Before we meet virtually to discuss, please consider the following questions that we be exploring.

**Question 1:** Tell us about yourself or your group/committee/association:

- Does it represent a specific group of individuals (if yes, please describe this group)?
- What is the mandate?
- Do your comments reflect the whole of North Perth or a specific area (please describe)?

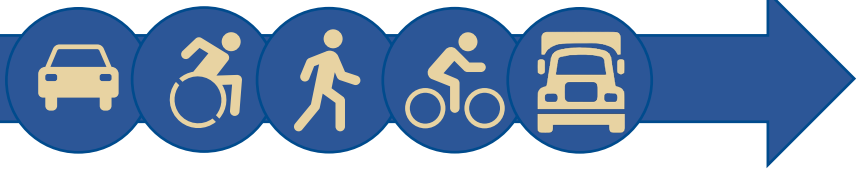
**Question 2:** Tell us about your interests on this study:

- What is important to you about Transportation Planning?
- What can this plan do to help meet the goals of your group/committee/association?
- What do you see as critical to consider in development Policies when it comes to Transportation, and how would it benefit the community and your committee's work?

**Question 3:** Tell us about the current Transportation environment in North Perth:

- What do you feel are the key challenges for moving around North Perth (driving, biking, walking)?
- What do you feel are the key opportunities for moving around North Perth (driving, biking, walking)?
- What is currently working well or not well with respect to Municipality policies or procedures when it comes to Transportation in relation to your group/committee/association's work and values?

1. A by-pass of the Listowel core remains crucial to divert truck traffic and car traffic not intending to visit the core, relieving pressures on an already congested traffic network in Listowel.
2. Assessment of a potential by-pass route needs to comprehensively consider a multitude of factors, including locating an effective route that by-passing traffic will use, providing for efficient connections to truck destinations and industries in North Perth, and minimizing impacts on existing rural roads and agricultural activity.
3. The entire length of Wallace Road (and the intersection itself) presents transportation challenges to movements across this principal road corridor, the North segment presenting challenges associated with traffic signals and vehicular movement and the South segment presenting challenges of traffic speeds and pedestrian crossings.
4. Trails are a big draw for visitors and residents but the system needs further connections to “finish” a linked system, particularly with new linkages in the rural area to connect rural residents to existing trails.
5. Public parking lots at strategic trailhead locations throughout North Perth are needed to provide easy access to the trail system for residents coming from a distance and visitors coming from outside of North Perth, the latter particularly important given the tourist potential of trails.
6. The infrastructure of sidewalks in Listowel needs to be expanded to provide convenient and safe access to key destinations, particularly schools and core area businesses, in a coordinated manner together with operational consideration of safe crossings and efficient signalization.
7. The incorporation of new cycling routes, complementing existing on-road facilities and the trail system, is warranted to provide safe, continuous options for all ages and abilities.
8. Public parking is key infrastructure in the Listowel core and while the supply of available is generally good (loss of any existing parking is a concern of business owners) more effective direction and wayfinding to parking areas is needed.
9. Transportation planning for the broader system in North Perth needs to keep an eye to opportunities for alternative ways to travel in the future, whether that includes public transit options or newer technologies such as e-bikes.



# Attachment G

## Engagement Round #2

### Public Information Centre Material (November 2021)



MUNICIPALITY OF  
**North Perth**

# North Perth Transportation Master Plan

Public Information Centre  
10 November 2021



**GSP**  
group

# Presentation Outline

- ▶ Transportation Master Plan Overview
- ▶ Phase 1 Community Engagement
- ▶ Main Recommendations:
  - Active Transportation
  - Road Network
  - Truck By-pass
  - Monitoring
- ▶ Next Steps



# What is a Transportation Master Plan?

- ▶ Strategic planning document
- ▶ Vision for multimodal transportation system to 2041
- ▶ Policies, programs and infrastructure to meet needs for roads, parking and active transportation
- ▶ Sustainable and compatible with future growth plans for Municipality, Perth County and Province



# What is not in the Municipality's TMP?

- ▶ Minor projects, detailed operational issues or items not affecting long-term direction:
  - Road rehabilitation works
  - Site-specific traffic control device changes
  - Site-specific operational changes
  - Specific on-street parking regulations
- ▶ Services Municipality not responsible for:
  - Provincial highways and Perth County roads

# Study Goals

- ▶ Establish a clear vision for the transportation network that will accommodate planned growth
- ▶ Articulate a “Made in North Perth” approach to transportation that aligns with unique community features
- ▶ Provide a policy framework to support sustainable transportation and livable communities
- ▶ Establish consistent roadway design practice that meet user expectations
- ▶ Conform to master planning process of Municipal Class Environmental Assessment



# Study Objectives

- ▶ Network accessible for all ages and abilities
- ▶ Alignment with Municipality's Strategic Plan and provides support for Master Growth Plan
- ▶ Expanded pedestrian and cycling network
- ▶ Truck by-pass route option(s)
- ▶ Identify policies required to support TMP recommendations
- ▶ Provide clear direction for next steps in planning, building and maintaining the transportation network

# Phase 1 Community Engagement

Engagement Tool	Reached	Participated
Your Say North Perth	1,200	187
Points of Interest	238	39
Transportation Survey	328	158
<b>TOTAL</b>	<b>1,700+</b>	<b>384</b>

Also consulted:

- ▶ Municipal Council
- ▶ External Agencies



# What We Heard

Redirect truck traffic around Downtown Listowel

Move goods and people through North Perth

To provide opportunities for recreation

Provide safe opportunities for walking and cycling

Connect seniors and vulnerable persons with required services

Improve parking in Downtown Listowel

Make it easier to get around North Perth

Improve traffic conditions in Downtown Listowel

Increase tourism

# Alternative Planning Strategies

## Capacity Focused Strategy

- Provide additional capacity in response to traffic demands
- Primarily accommodate motorized vehicles

## Demand Focused Strategy

- Concentrate on changing travel behaviour
- Strategically limit road expansion to create shifts in travel mode choice

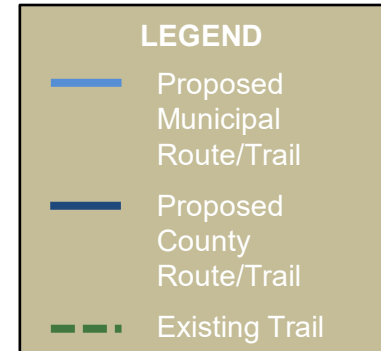
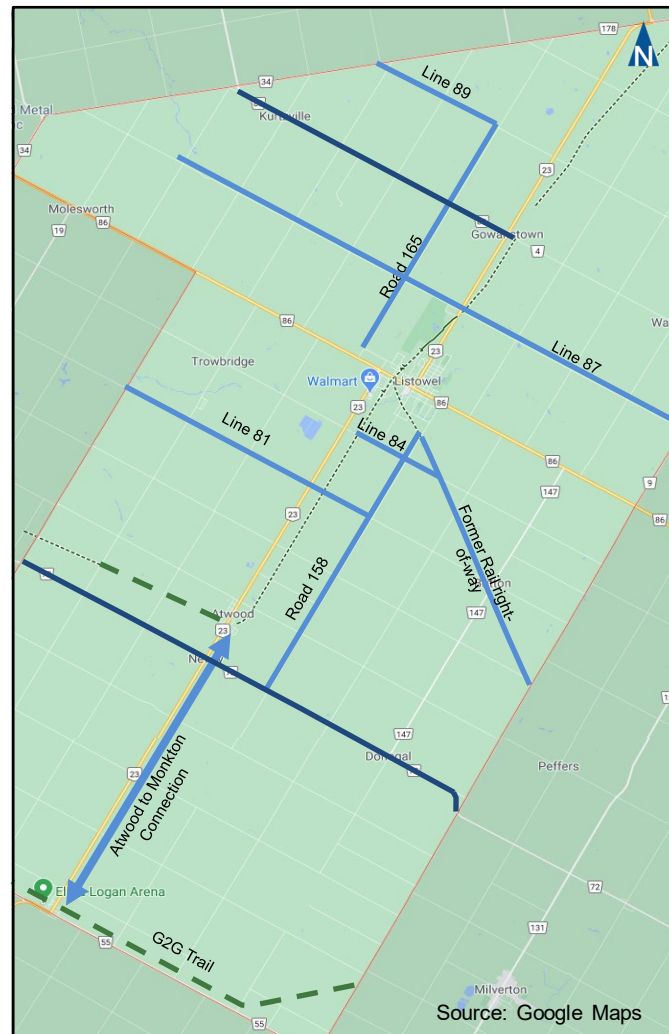
## A Complete Transportation Strategy

- Limit road expansion to few locations
- Optimize existing road capacity
- Adjust auto capacity towards active transportation

# Active Transportation and Future Mobility

- ▶ Interconnected system of cycling and walking routes
- ▶ Expanded system of off-road trails, on-road bike lanes, signed bike routes and sidewalks
- ▶ Updated Zoning By-law that includes bicycle parking rates
- ▶ Emerging technology recognition

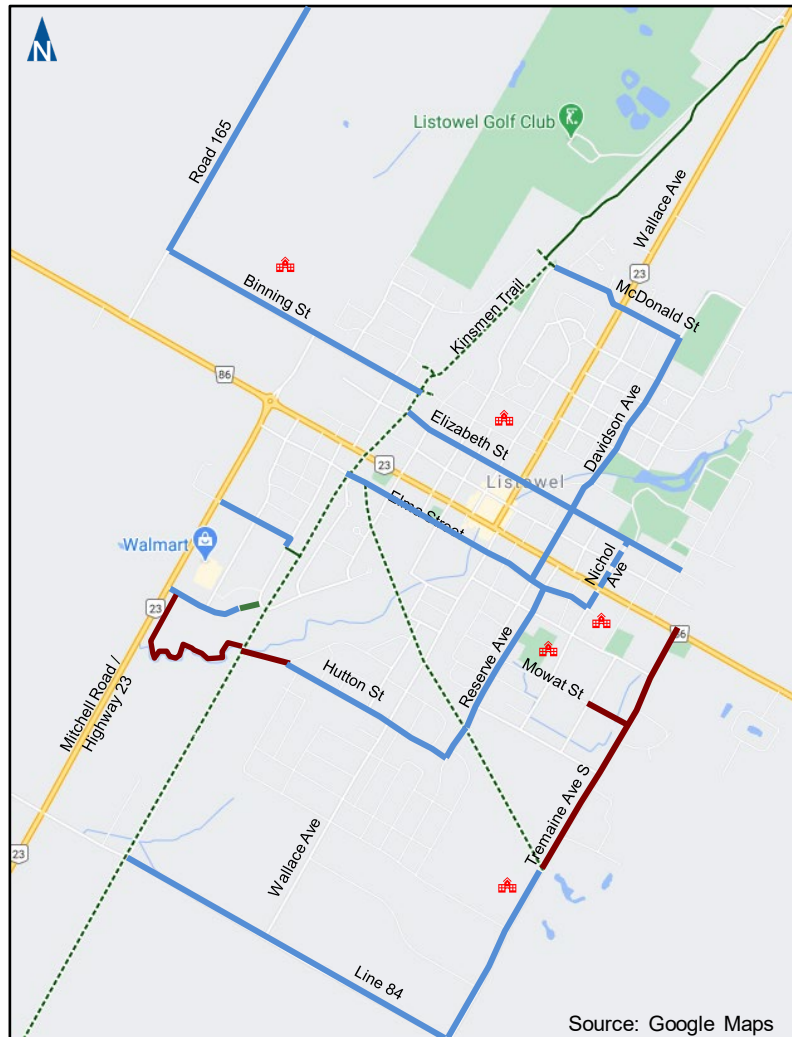
# Recommended Spine Cycling Network – Rural North Perth



MUNICIPALITY OF  
**North Perth**



# Recommended AT Network – Listowel



Source: Google Maps

**LEGEND**

- Proposed Municipal Trail
- Proposed Municipal Route
- Existing Trail

# Supporting AT Policies, Programs and Strategies

- ▶ Active Transportation Master Plan
- ▶ Transportation Demand Management Guidelines
  - Bicycle parking guidelines and rates (By-law)
  - End of trip amenities
  - Electric vehicles
- ▶ Vehicle parking location selection guidelines
- ▶ Community outreach



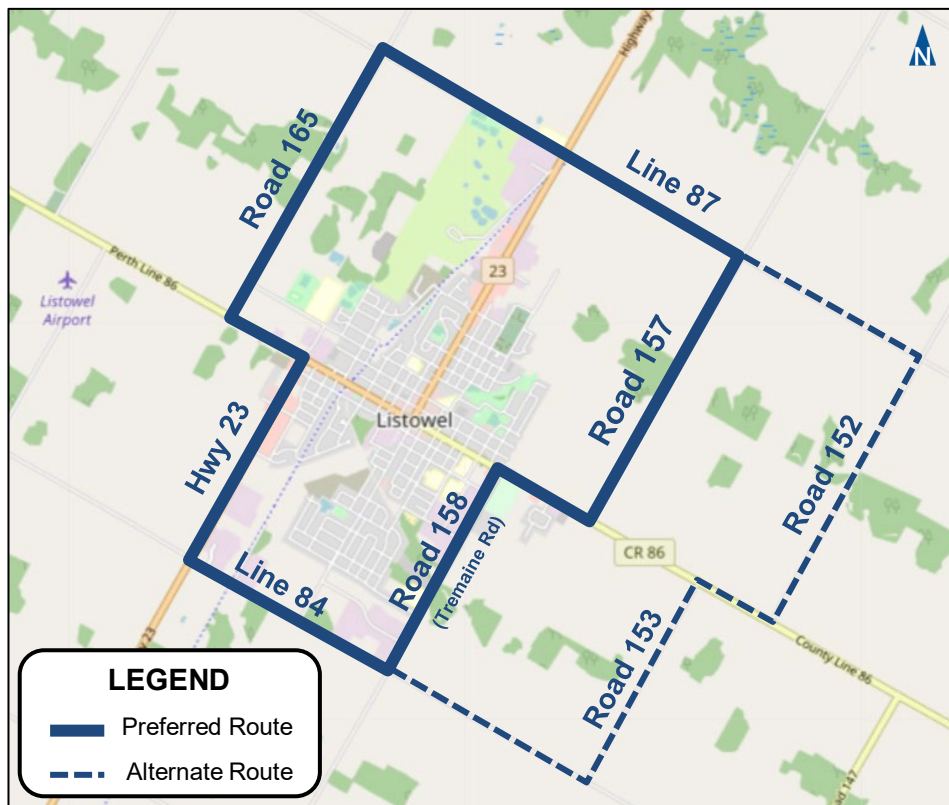
# Road Network

- ▶ Complete Streets Implementation
- ▶ Road Network Hierarchy
- ▶ Future Road Needs
- ▶ Access Management Guidelines
- ▶ Recommended Improvements

# Traffic Safety Policies

- ▶ Traffic Calming
- ▶ All-Way Stop Control
- ▶ Speed Limits
- ▶ Pedestrian Crossings
- ▶ School Zones and Community Safety Zones
- ▶ Roundabouts

# Recommended Truck By-Pass Routes



# Monitoring

- ▶ Develop and implement an ongoing transportation monitoring program
- ▶ Set performance measures and targets to track progress
  - E.g.: Bike parking at 100% of all municipal facilities by 20XX
  - Stakeholder consultation
- ▶ Explore data sources to help with monitoring

## Next Steps

- ▶ Address feedback received
- ▶ Finalize Draft TMP report
- ▶ Present report to Municipal Council

WHAT'S  
NEXT?



# Feedback Submission

Questions?

Contact Us:

**Lyndon Kowch**

Manager of Operations

519-295-2068 or

519-295-2067

[tmpstudy@northperth.ca](mailto:tmpstudy@northperth.ca)

General feedback and  
follow-up survey:





people. planet.

TESLA

# Thank you! Questions?



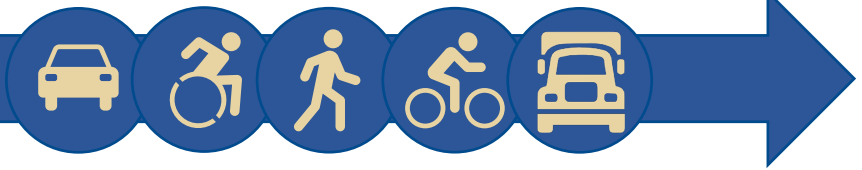
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TRANSPORTATION SOLUTIONS LIMITED



**GSP**  
group

productivity.

premier. partners.



# Attachment H

## Engagement Round #3 (Listowel Truck Route Assessment) Public Information Centre Material (June/July 2022)



## Municipality of North Perth Transportation Master Plan

# Commercial Truck Bypass Plan

## PUBLIC INFORMATION CENTRE

Kin Station  
555 Binning Street West, Listowel  
Wednesday, June 15, 2022  
5:00 pm to 7:00 pm



# Welcome

The purpose of our Public Information Centre (PIC) today is to:

- Review the work completed on the Commercial Truck Bypass Plan
- Present the proposed assessment criteria and potential route options
- Explain the next steps in the process
- Invite and receive your feedback

Please fill in a comment sheet!

We encourage you to record any comments on the sheet provided.

Questions?

Feel free to ask any member of our project team in attendance. We are happy to assist!

# Study Overview

## Why is North Perth developing the Commercial Truck Bypass Plan?

Longstanding concerns about traffic congestion on Main Street in downtown Listowel have led the Municipality to develop the **Commercial Truck Bypass Plan**. Excessive truck volumes, particularly heavy vehicles passing through town on Perth Line 86 and Highway 23, contribute to this bottleneck, posing safety, environmental, human health, and economic impacts on the community.

## How is the Plan being developed?

The Commercial Truck Bypass Plan is being developed as part of the ongoing **North Perth Transportation Master Plan (TMP) Study**. The TMP will define the policies, programs and infrastructure to meet the Municipality's needs for roads, parking and active transportation to the year 2041. This strategic planning document will set out a sustainable, multimodal transportation vision for North Perth compatible with growth plans for the Municipality, Perth County and the Province of Ontario.

The TMP study is following the requirements of the **Municipal Class Environmental Assessment** and will address the first two phases of this approved planning process.



# What is the Commercial Truck Bypass Plan?

The **Commercial Truck Bypass Plan** will define the roadways trucks must use to travel around downtown Listowel (bypass routes).


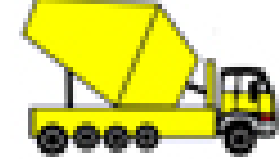

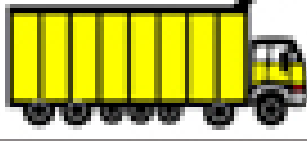

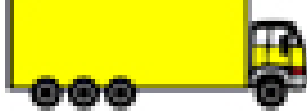











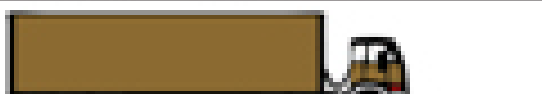


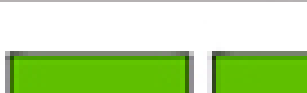










Trucks will still be permitted to travel on roads that are not part of the **Commercial Truck Bypass Plan** when making local deliveries. But they will be required to take the most direct path to/from the bypass route to their destination.



# How is a 'Truck' Defined?

Trucks come in all shapes and sizes. The U.S. Federal Highway Administration (FHWA) classification system (see right) groups heavy vehicles into categories based on configuration and number of axles.

The **Commercial Truck Bypass Plan** aims to route **Single Unit Trucks with 4 or more axles** (Category 7) and **Combination Trucks (tractor-trailers)** (Categories 8 to 13) around downtown Listowel. Trucks in these categories pose the greatest impacts to safety, road infrastructure and quality of life.

<b>Class 1</b> Motorcycles		<b>Class 7</b> Four or more axle, single unit	
<b>Class 2</b> Passenger cars		<b>Class 8</b> Four or less axle, single trailer	
			
			
			
<b>Class 3</b> Four tire, single unit		<b>Class 9</b> 5-Axle tractor semitrailer	
			
<b>Class 4</b> Buses		<b>Class 10</b> Six or more axle, single trailer	
			
			<b>Class 11</b> Five or less axle, multi trailer
<b>Class 5</b> Two axle, six tire, single unit		<b>Class 12</b> Six axle, multi-trailer	
			
		<b>Class 13</b> Seven or more axle, multi-trailer	
<b>Class 6</b> Three axle, single unit			
			
			

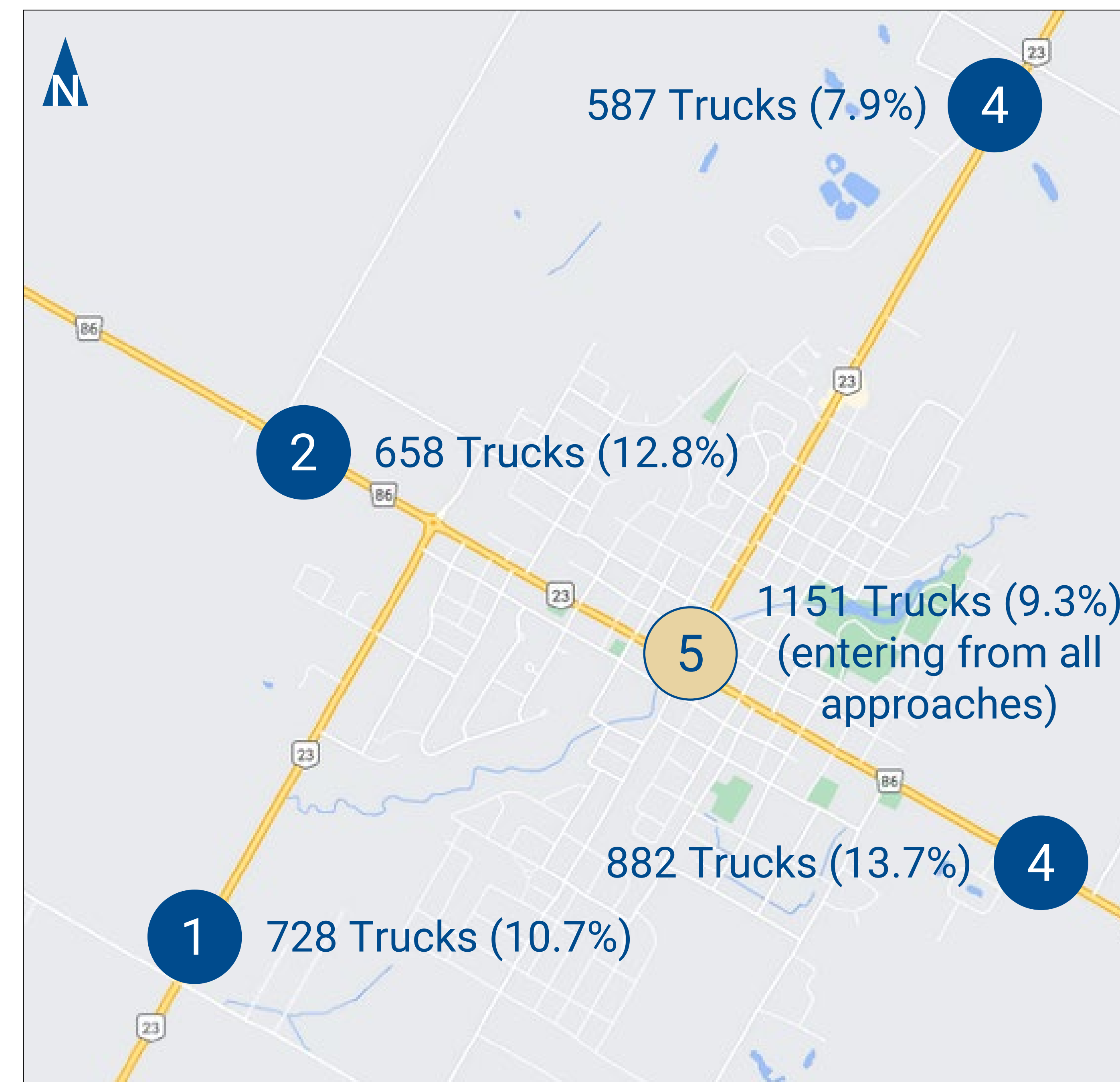


# Truck Travel Patterns

The study team conducted an origin-destination survey on May 10, 2022 to gain further insight into truck travel patterns in Listowel. The survey aimed to quantify the proportion of trucks passing through town by matching trips entering and exiting on:

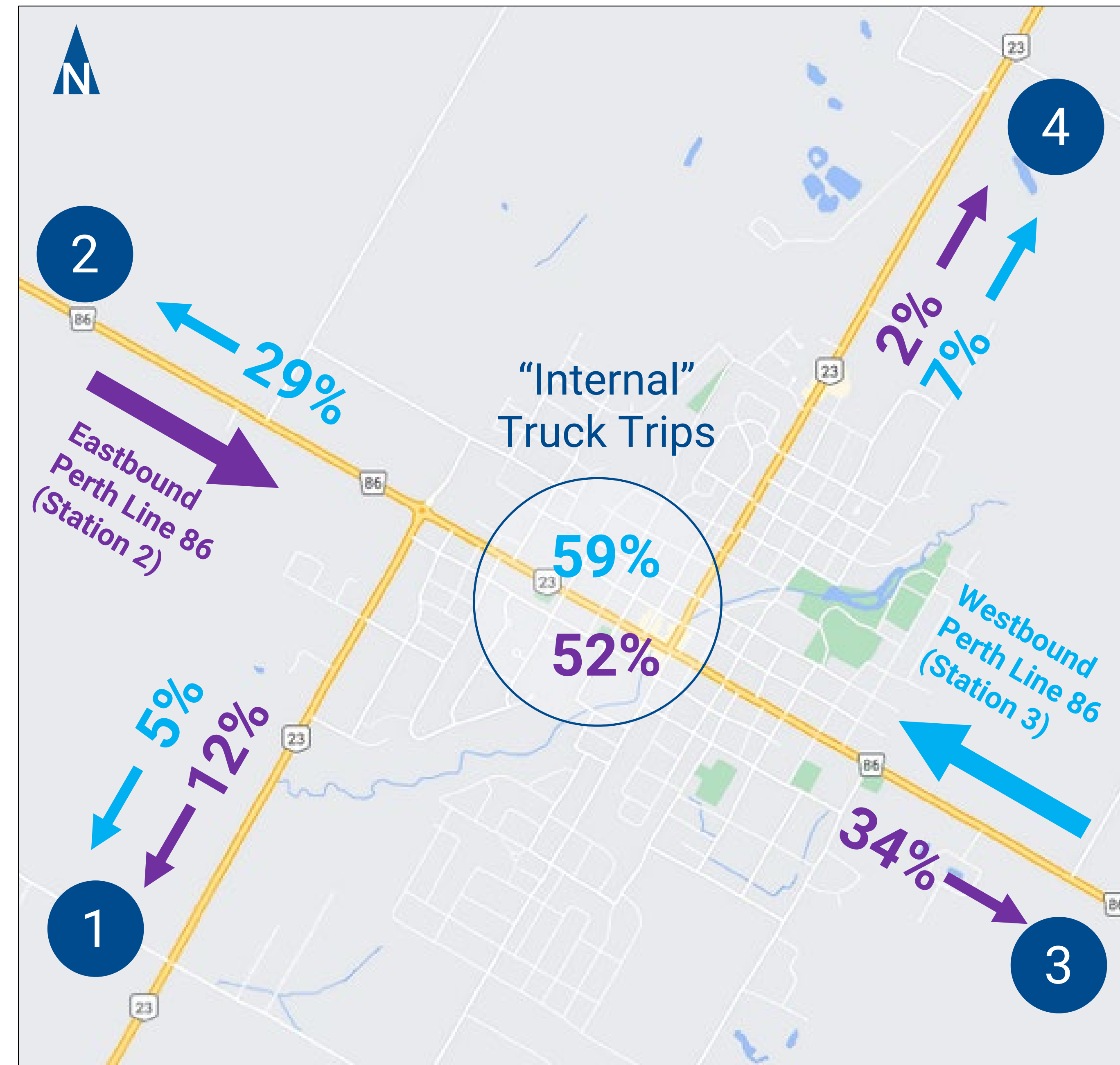
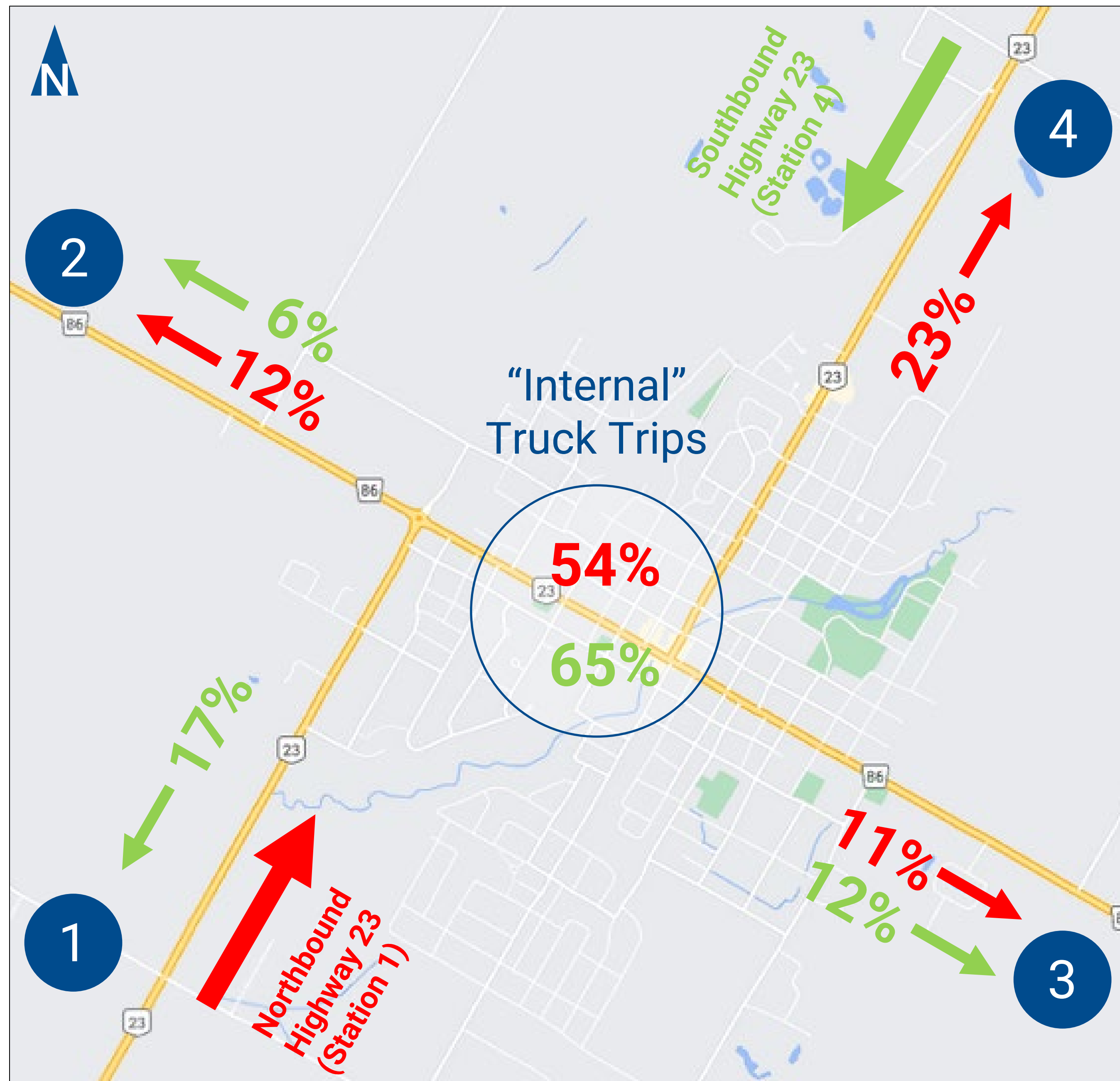
- Highway 23 (Mitchell Road South/Road 164) north of Line 84 (Station 1)
- Perth Line 86 east of Road 165 (Station 2)
- Perth Line 86 west of Road 157 (Station 3)
- Highway 23 (Wallace Avenue North/Road 164) south of Line 87 (Station 4)

Traffic counts were also collected at the Main Street and Wallace Avenue intersection (Station 5).



The map above shows the four survey locations with the total number of single unit and articulated trucks passing each station (inbound and outbound) over the 12-hour survey period (6 AM to 6 PM). The truck volume expressed as a percentage of all vehicles is also provided. The values for Station 5 (Main and Wallace) reflect trucks entering the intersection from all approaches.

# Truck Travel Patterns

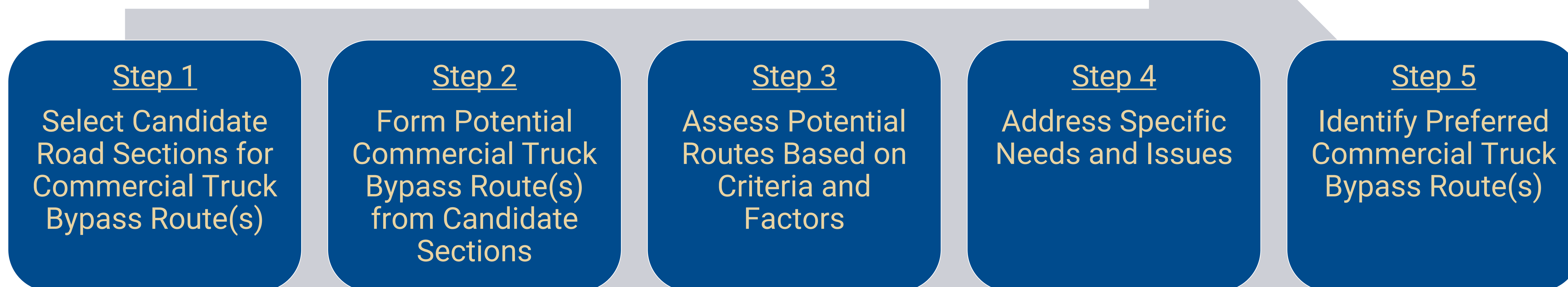


The maps above show the percentage of trucks travelling through Listowel as a proportion of the number entering, colour coded by entry station. For example, the items coloured red correspond to Station 1 (Highway 23 north of Line 84). In this case, of all trucks entering at Station 1, 12% travelled through Station 2, 11% through Station 3, and 23% through Station 4. The remaining 54% were not matched at any station and were assumed to remain internal to Listowel.



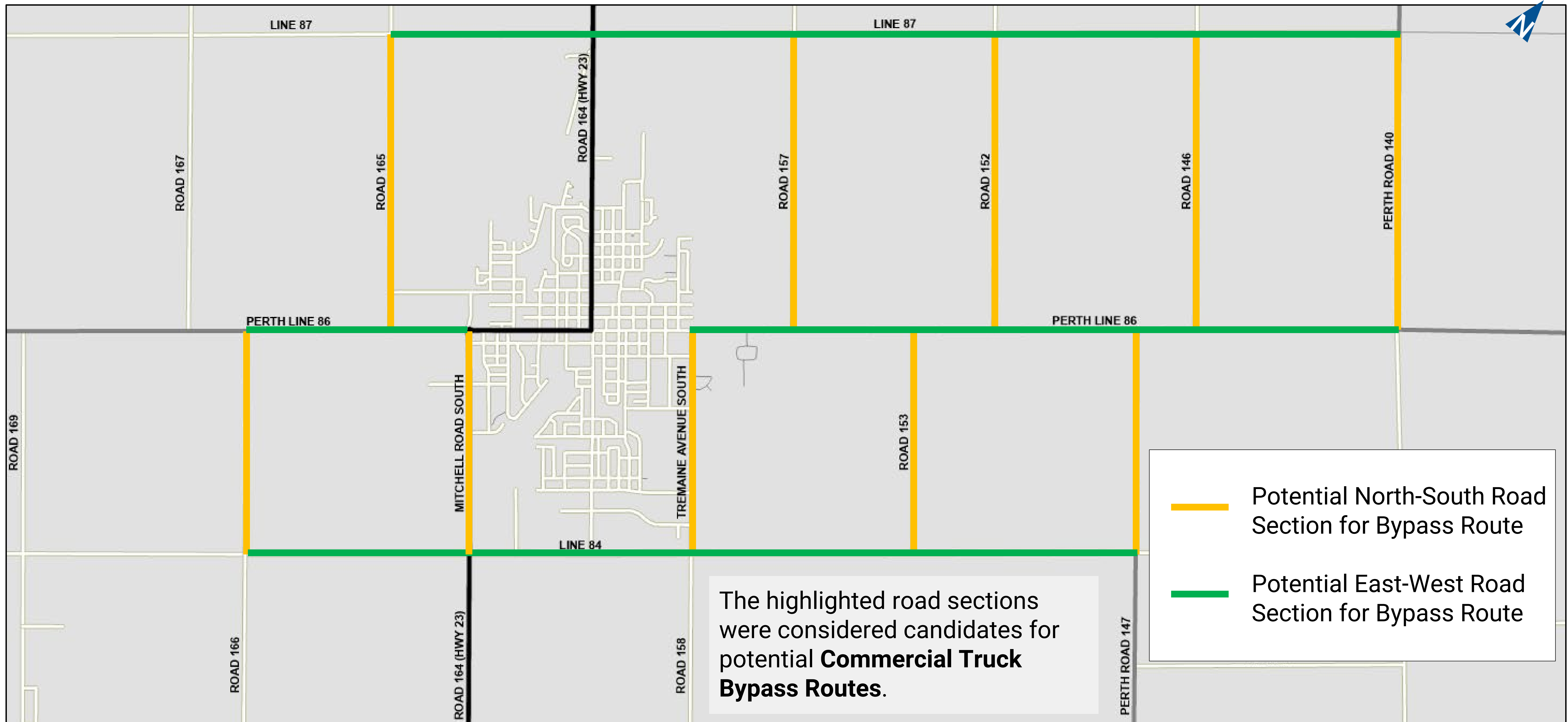
# Bypass Route Identification Process

The **Bypass Route Identification Process** (shown below) consists of a series of steps, starting with the selection of candidate roadway sections to form potential **Commercial Truck Bypass Routes**. The potential routes are then assessed based on a series of factors and criteria to determine the most suitable location(s), which may require mitigating measures to better accommodate truck traffic. This ultimately leads to the preferred **Commercial Truck Bypass Route** to be implemented after addressing any specific needs and issues identified.

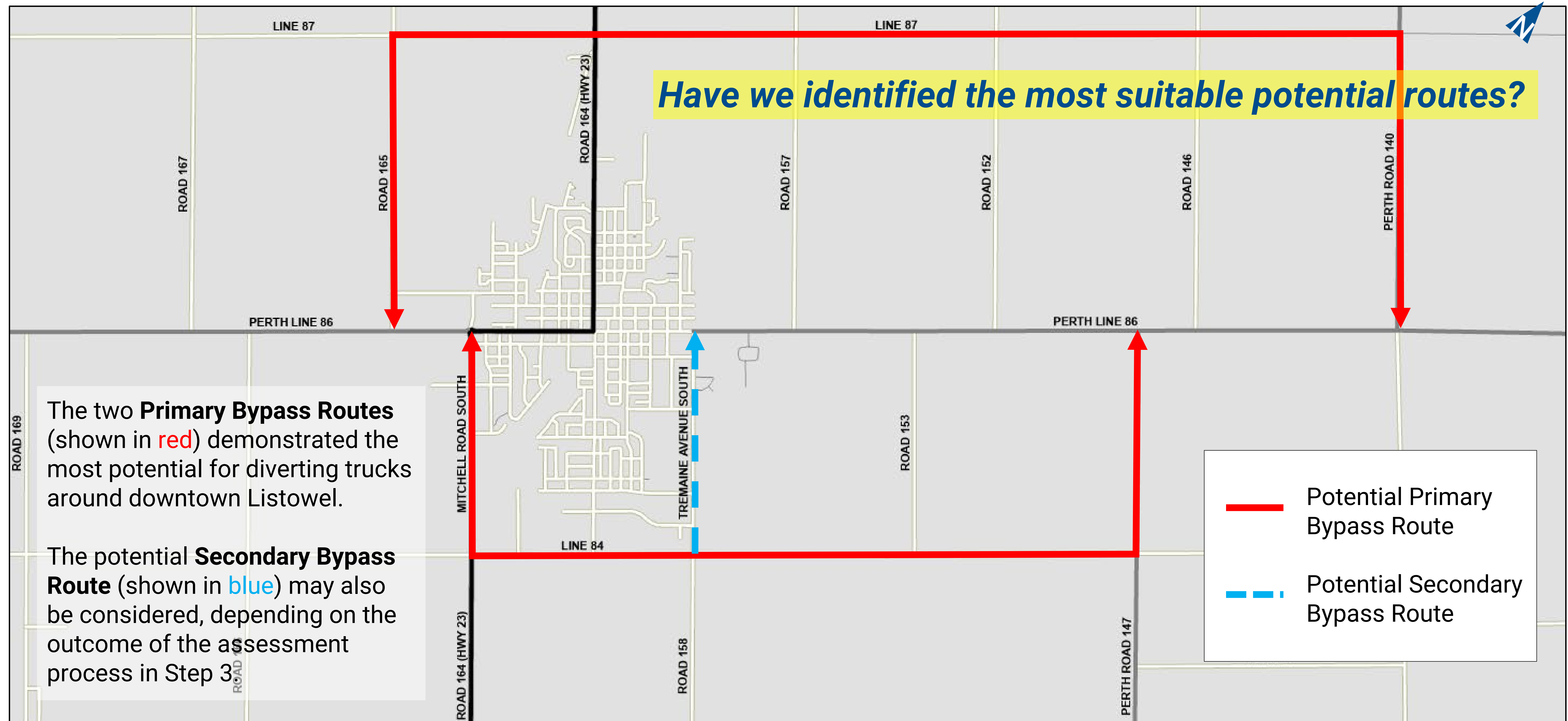




# Candidate Road Sections (Step 1)



# Potential Bypass Routes (Step 2)



# Assessment Factors and Criteria (Step 3)

Each potential **Commercial Truck Bypass Route** carried forward for assessment from Step 2 will be assessed based on a series of criteria organized into three factor groups (see list at right):

- Social and Community Impact (Factor 1)
- Engineering and Safety (Factor 2)
- Economic (Factor 3)

Each of the three factors will be quantified through the component criteria based on a scoring scheme that weights each factor group equally.

***Have we captured all relevant criteria?***

## Factor 1 – Social and Community Impact

- Abutting Residential Properties (including farms)
- Abutting Non-Residential Properties
- Access to Truck Services/Amenities (e.g., fuel, food)

## Factor 2 – Engineering and Safety

- Roadway Jurisdiction
- Road Surface
- Road Condition
- Road Width
- Shoulders
- Intersections
- Watercourse Crossings
- Traffic Conflicts
- Ease of Implementation

## Factor 3 – Economic

- Initial Capital Cost (indicative)
- Ongoing Operational and Maintenance Costs



# Specific Needs and Issues (Step 4)

The preferred **Commercial Truck Bypass Route(s)** resulting from Step 3 will be compared against the two considerations below, issues identified through stakeholder consultation, and concerns reported prior to study commencement:

- Impact on sensitive receptors (e.g., community facilities, specific properties or land uses)
- Roadway geometry (e.g., sightlines, turning radii)

Mitigating measures will be explored to address the identified needs and issues. Alternate routes may be considered if these matters cannot be adequately addressed. Input received tonight and through subsequent stages of the TMP Study will serve a critical role in this process, illuminating potential items that may have been overlooked or undervalued through previous steps.

***Are there any other specific needs or issues to consider?***



# Implementation Considerations

The **Commercial Truck Bypass Plan** will also include direction on complementary implementation measures, including:

- Strategies to facilitate goods movement while minimizing impacts to sensitive land uses and other road users, like time-of-day restrictions, needed operational improvements, and other mitigation measures
- Signage to implement the approved bypass routes, which will include a combination of permissive and restrictive signs (see right)
- Bylaw provisions to enable and enforce the bypass plan

## Permissive Truck Route Signs (Rb-61)



## Truck Prohibition Signs (Rb-62)





# Next Steps

After this meeting we will:

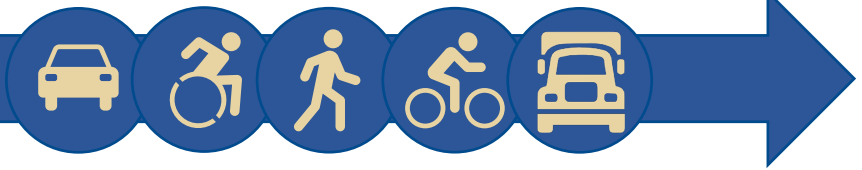
- Summarize and address the input received
- Assess and select the preferred bypass route(s)
- Identify specific needs/issues to address before implementation
- Assess implementation considerations
- Prepare TMP Report, including **Commercial Truck Bypass Plan** for Council's consideration later this summer

**THANK YOU FOR ATTENDING!** Please return your comment sheets.

If you have any questions or comments, please contact:

Lyndon Kowch  
Manager of Operations  
Municipality of North Perth  
519.291.2950, extension 2068  
[lkowch@northperth.ca](mailto:lkowch@northperth.ca)

Visit us online at <https://yoursaynorthperth.ca/tmpstudy> to learn more about the Commercial Truck Bypass Plan and the TMP Study.



# Attachment I

## Presentation of Proposed Transportation Master Plan to Council

# Municipality of North Perth Transportation Master Plan

Presentation of Draft Plan to Council  
December 11, 2023





# Presentation Outline

1. Overview of Proposed Plan
  - About the TMP
  - Engagement
  - Structure and Contents
  - Highlights
2. Review Period
3. Next Steps



## About the TMP – Overview

- Long-term strategy to strengthen and support the different elements of the transportation system serving North Perth, particularly the Municipality's road and active transportation networks
- Facility improvements and supporting policies and programs to meet transportation needs to the year 2041 (and beyond)
- Aligned with local, County and provincial plans and policies



# About the TMP – Study Objectives

- “Made in North Perth” approach
- Planned growth and development
- Travel options, reduce auto dependency
- Prior investments and initiatives
- Traffic concerns in Listowel
- Economic development and goods movement
- Implementation plan
- MCEA master planning process



# Engagement – Techniques

- Notices
- Public Information Centres
- Targeted Stakeholder Sessions and Council Presentation
- Online Survey and Interactive Map
- Your Say North Perth and Social Media



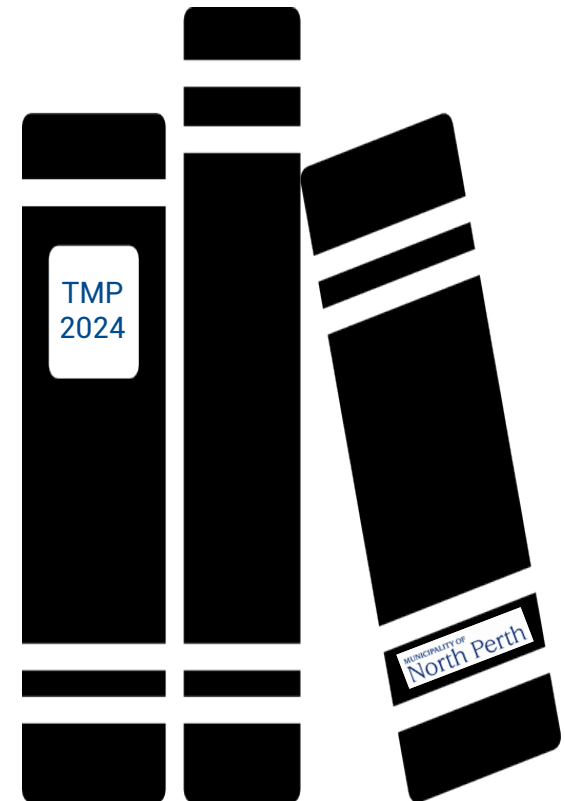
## Engagement – What We Heard

- Truck traffic in downtown Listowel
- Vehicle and pedestrian traffic safety, particularly on Wallace Avenue
- More active transportation connections and facilities
  - Trail linkages to “finish” the system
  - Public parking lots at strategic trailhead locations
  - Sidewalk network in Listowel with safe crossings
  - Cycling routes
- Public parking in Listowel core
- Alternate travel methods



# Structure and Contents

- Executive Summary
- Introduction
- Community and Stakeholder Engagement
- Plan Foundations
- Roads Strategy
- Active Transportation and Shared Mobility Strategy
- Implementation
- Appendices (6)
  - Engagement Summary Report
  - Policy Context
  - Road Network Assessment
  - Listowel Truck Route Assessment
  - Traffic Management Protocol
  - Costing of Proposed AT Improvements



# Structure and Contents – Vision and Goals

A progressive transportation system that provides safe and efficient movement of people and goods and supports diverse transportation options, connecting the community and promoting healthy living to 2041 and beyond.

- Safe Mobility
- Sense of Place
- Vibrant Local Economy
- Personal Health





# Structure and Contents – Elements

## Roads (Ch. 4)

- Complete Streets
- Road Network Hierarchy and Jurisdiction
- Role and Function of Highway 23
- Road Network Improvements
- Listowel Truck Route
- Traffic Management
- Parking
- Gravel Roads
- Automated, Connected and Electric Vehicles

## AT and Shared Mobility (Ch. 5)

- Walking
- Cycling
- Outreach Strategy
- Shared Mobility



# Structure and Contents – Elements (cont'd)

## Implementation (Ch. 6)

- Implementation Tools
- Cost Estimates and Implementation Phasing
- Potential Funding Sources
- Operations and Maintenance
- Monitoring
- Plan Review and Updates

## Comments:

- 44 recommended actions spanning policy, program and infrastructure
- Will need to consider where to begin implementation! Traffic management and Official Plan amendment potential starting points, along with preparations for AT and longer-term initiatives



# Highlights – Road Classification

- Existing classification systems consistent with recommended practice
- Additional criteria recommended to define and differentiate classes
- Classification changes recommended in Listowel to create more comprehensive network



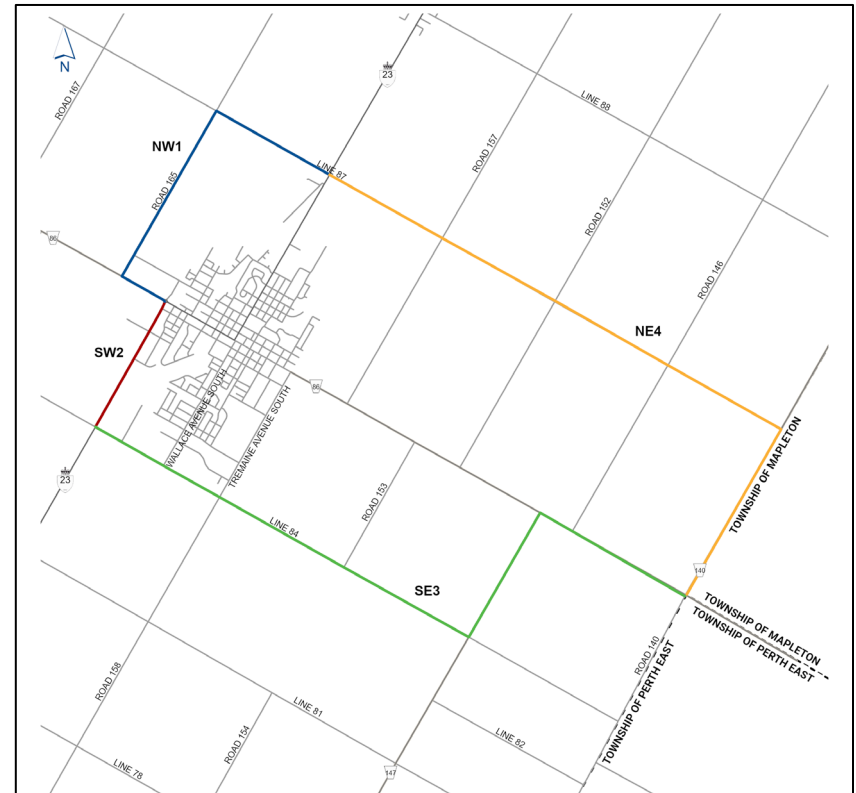
## Highlights – Future Road Needs

- No road widening/ improvement required to serve 2041 growth forecasts from 2019 DC Background Study
- Local improvements may be required for specific developments



# Highlights – Listowel Truck Route

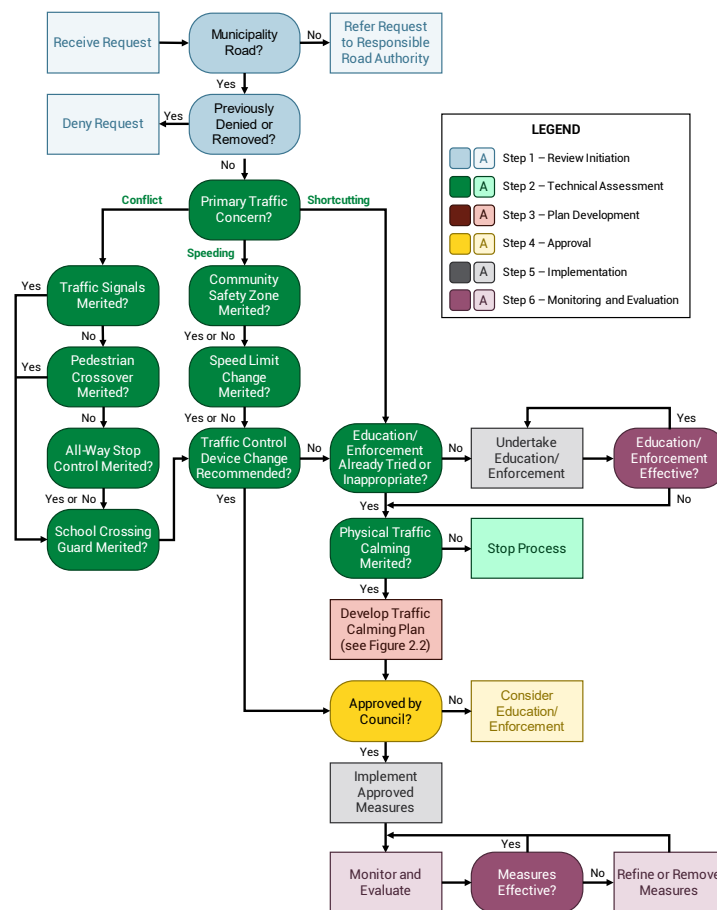
- Truck Routes Along Existing Roads recommended to address longstanding traffic concerns in downtown Listowel
- Begin with southwest and southeast routes, followed by northwest. Consider northeast if concerns remain.





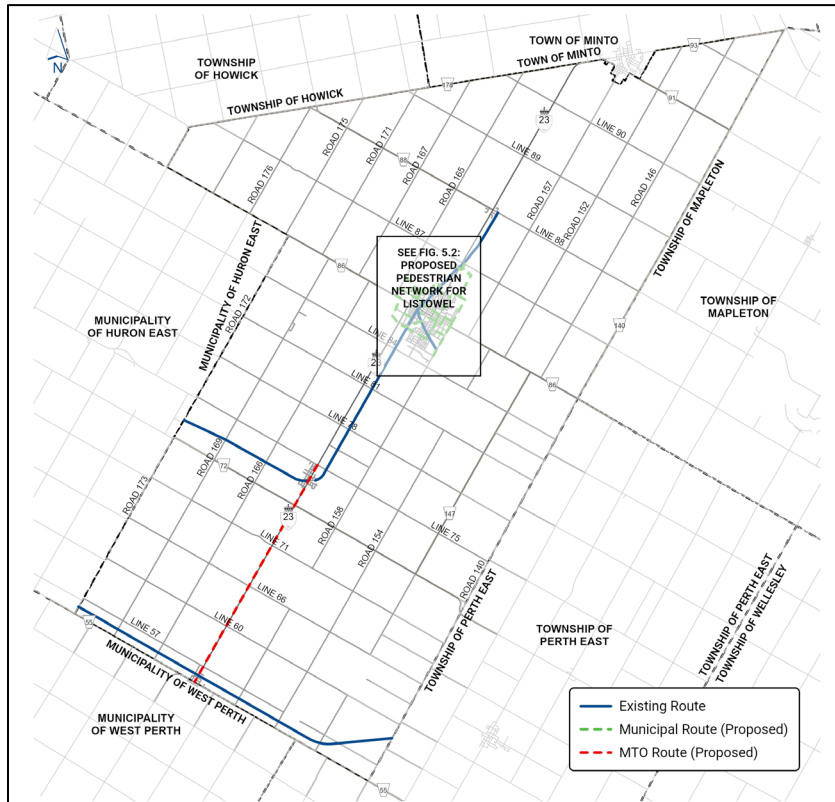
# Highlights – Traffic Management

- Process and procedures for responding to traffic-related queries and concerns
- Guidelines and criteria to assess and implement traffic management measures, largely based on Ontario Traffic Manual
- 40 km/h speed limit and Speed Management Program

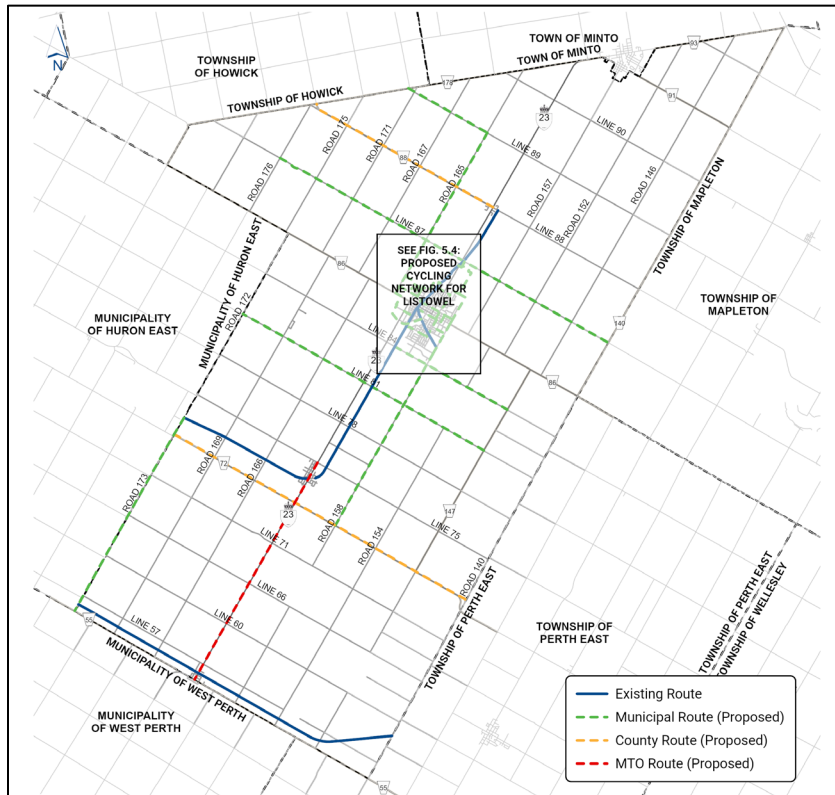




# Highlights – Proposed Pedestrian Networks



# Highlights – Proposed Cycling Networks



# Highlights – Phasing and Indicative Costs

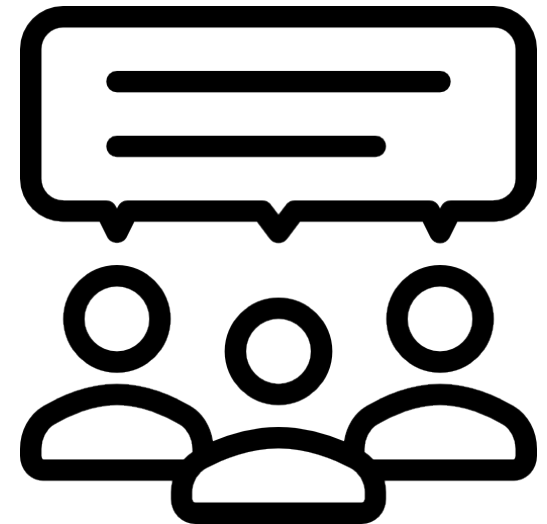
- Initial phases of truck routing around Listowel
- Proposed pedestrian and cycling facilities (sidewalks, bike lanes, multi-use paths, trails)
- Policies and studies

Component	Phasing and Indicative Costs		
	Short (0-5 Years)	Long (+5 Years)	Total
Road Network	\$10,495,000	\$6,050,000	\$16,545,000
Pedestrian Network	\$4,487,800	\$752,800	\$5,240,600
Cycling Network	\$359,400	\$1,173,400	\$1,532,800
Policies and Studies	\$50,000	\$50,000	\$100,000
<b>GRAND TOTAL</b>	<b>\$15,392,200</b>	<b>\$8,026,200</b>	<b>\$23,418,400</b>



## Review Period

- Accept comments through Your Say North Perth
- Circulate to interested stakeholders, agencies, groups, and community members
- Receive feedback until **February 5, 2024**



## Next Steps

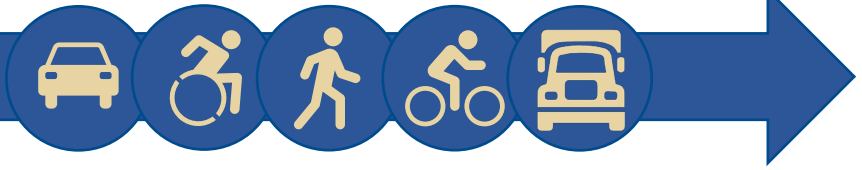
- Post and circulate proposed TMP
- Issue Notice of Master Plan per MCEA
- Review and address comments received
- Report back to Council with final plan

## THANK YOU

## Questions and comments?

WHAT'S  
NEXT?





# Attachment J

## Comments on Proposed Transportation Master Plan

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.1 – Written Submissions on Proposed Transportation Master Plan from Public Agencies**

Comment	Action/Response
<b>Ministry of Citizenship and Multiculturalism</b>	
<p>The TMP should provide an overview of the existing conditions for the cultural component of the environment within the Master Planning area. We suggest making the following revisions to TMP section 3.2.3:</p> <p><i>See suggested text in <b>bold</b> and text to be removed <del>crossed out</del>.</i></p> <p>Cultural Heritage Environment:</p> <p><b>The <i>Environmental Assessment Act</i> defines the environment to include cultural conditions that influence the life of humans or a community. Cultural heritage resources are important components of those cultural conditions. The EA will consider impacts to the cultural environment. The cultural environment consists of cultural heritage resources which include archaeological resources, built heritage resources and cultural heritage landscapes.</b></p> <p>The Municipality values the <del>preservation</del> <b>conservation</b> of cultural heritage <del>resources assets</del>. The Vision statement outlined in its 2020 Strategic Plan states that “[North Perth is] first and foremost striving to retain who we are and the feel of the community that we have”.</p> <p>The Provincial Policy Statement (PPS) encourages the conservation of cultural heritage resources by not permitting development or site alteration on lands containing archaeological resources or areas with archeological potential unless significant conservation efforts have been made and impacts have been evaluated.</p> <p>Similarly, the Perth County Official Plan emphasizes the importance of <del>preserving</del> <b>conserving cultural heritage resources</b> <del>diverse heritage features, including archaeological sites, buildings, and/or structures,</del> and maintaining a County-wide inventory of cultural heritage resources. The plan also outlines several policy recommendations aimed at addressing the directives of the PPS, including updating the County Official Plan to <del>better recognize, preserve, and protect</del> <b>conserve</b> cultural heritage.</p>	<p>Revised text in Subsection 3.2.3.</p>



**Municipality of North Perth Transportation Master Plan**  
**Attachment J.1 – Written Submissions on Proposed Transportation Master Plan from Public Agencies**

Comment	Action/Response
It is not clear how the TMP has addressed (or will address) cultural heritage resources, as a component of the environment.	Added criteria to the evaluation of Alternative Planning Strategies in Subsection 3.5.4 to address cultural heritage component.
We understand that the TMP addresses need and justification at a broad level, and that more detailed studies will be undertaken as part of future MCEA undertakings. Therefore, the Master Plan should describe the cultural heritage component of the environment and indicate which project specific undertakings (including those referred to as exempt) will need further technical cultural heritage studies.	No revision. Subsection 6.2.2 notes follow-on MCEA obligations. Also, the plan does not recommend any Schedule B or C projects outside potential works associated with the proposed truck routes, which will be subject to further investigation as noted in the plan.
Some municipalities may also elect to have a Stage 1 archaeological assessment undertaken for a master plan area.	No action. Comment noted.
<p>We recommend the following revisions to align with section 3.2.3 – table 3.4:  <u>Recommended text underlined.</u></p> <p>Criteria</p> <ul style="list-style-type: none"> <li>• Social Environment</li> </ul> <p>Indicator/Measure</p> <ul style="list-style-type: none"> <li>• Safety of all users</li> <li>• Appropriateness for the demographic</li> <li>• Support for a healthier community</li> <li>• Mobility for all users</li> <li>• <u>Impacts to archaeological resources and areas of archaeological potential</u></li> <li>• <u>Impacts to known and potential built heritage resources and cultural heritage landscapes</u></li> </ul>	Added criteria to the evaluation of Alternative Planning Strategies in Subsection 3.5.4.

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.1 – Written Submissions on Proposed Transportation Master Plan from Public Agencies**

Comment	Action/Response
<p>An additional subsection should be included to address mitigations and commitments relating to the cultural environment. We recommend the following text to align with current legislation and terminology:</p> <ul style="list-style-type: none"> <li>• Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the <i>Ontario Heritage Act</i>. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the <i>Ontario Heritage Act</i>.</li> <li>• The <i>Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33</i> requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with Ontario Regulation 30/11 the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at <a href="mailto:archaeology@ontario.ca">archaeology@ontario.ca</a>) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the <i>Ontario Heritage Act</i>.</li> </ul>	<p>Added text in Subsection 3.2.3.</p>
<p><b>Archaeological Resources:</b></p> <p>MCM's checklist <a href="#">Criteria for Evaluating Archaeological Potential</a> has indicated that there is archaeological potential within the study area of [see list of undertakings that will require an archaeological assessment]. An archaeological assessment will be undertaken by an archaeologist licensed under the <i>Ontario Heritage Act</i>. All archaeological assessment reports must be submitted for MCM review prior to the completion of the environmental assessment and prior to any ground disturbing activities.</p>	<p>No revision. Subsection 6.2.2 notes follow-on MCEA obligations. Also, the plan does not recommend any Schedule B or C projects outside potential works associated with the proposed truck routes, which will be subject to further investigation as noted in the plan.</p>

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.1 – Written Submissions on Proposed Transportation Master Plan from Public Agencies**

Comment	Action/Response
<p><b>Built Heritage Resources and Cultural Heritage Landscapes:</b></p> <p>A Cultural Heritage Report [date and consultant] was undertaken to describe the existing baseline cultural heritage conditions within the Master plan study area. The assessment for this report consisted of data collection, background historic research, and a review of secondary source material. A total of # known and (# potential) cultural heritage landscapes and built heritage resources were identified within or adjacent to the Master Plan area.</p> <p>The Cultural Heritage Report is included in Appendix X.</p>	<p>No revision. Subsection 6.2.2 notes follow-on MCEA obligations. Also, the plan does not recommend any Schedule B or C projects outside potential works associated with the proposed truck routes, which will be subject to further investigation as noted in the plan.</p>
<b>Ministry of Transportation</b>	
<p><u>Cycling Network</u></p> <p>The MTO has no operational or other concerns with the locations of the Cycling Network in the Municipality of North Perth as identified in their Transportation Master Plan (TMP). None of the proposed cycling network in on our highways and if that changes, we will need to review this again. The MTO should be informed that as their plans progress to design our office would like to be consulted.</p>	<p>No action. Comment noted.</p>
<p><u>Cycling Network</u></p> <p>The MTO supports initiatives that align with current ministry policies related to cycling infrastructure and promote sustainable and safe transportation in our community.</p>	<p>No action. Comment noted.</p>

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.1 – Written Submissions on Proposed Transportation Master Plan from Public Agencies**

Comment	Action/Response
<p><u>Pedestrian Network</u></p> <p>The MTO has some operational or other concerns with the locations of the Pedestrian Network along Highway 23 in the Municipality of North Perth as identified in their Transportation Master Plan (TMP). The MTO should be informed that as their plans progress to design our office and if the municipality proposes a pedestrian walkway along the highway corridor, MTO approval and a legal agreement will be required to proceed.</p>	No action. Comment noted.
<p>The Ministry will be rehabilitating Highway 23 from Newry to Listowel which is currently planned for construction in 2025, subject to funding and approvals. The intersection of Highway 23 and Perth Line 72 is within the limits of this project. Other projects planned in this area include Highway 23 from Monkton to Newry, planned for 2027 and Highway 23 along Listowel to Palmerston, also planned for 2027.</p>	No action. Comment noted.
<p>Highway 23 is a Provincial Highway located within the Municipality of North Perth and is under the jurisdiction of MTO. Legislation found in the <i>Public Transportation and Highway Improvement Act</i> is applicable to Provincial Highways. Any new road connection or access to a Provincial Highway shall comply with MTO policies and are subject to MTO approval.</p>	Revised text in Section 4.4 (Role and Function of Highway 23) to specifically acknowledge Provincial jurisdiction over Highway 23 outside the connecting link section.
<b>County of Perth Planning</b>	
<p><b>Section 4.7.6 Transportation System</b></p> <p>Add or modify policies to reference, where appropriate, the relationship of active transportation and roads.</p> <p>Add or modify policies to incorporate Complete Streets principles and additional road safety considerations.</p> <p>Add policies to acknowledge shared mobility and automated, connected, and electric vehicle use.</p>	Added reference to Proposed Official Plan Policy 4.7.6 in description in Table 6.1 in Subsection 6.2.1.

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.1 – Written Submissions on Proposed Transportation Master Plan from Public Agencies**

Comment	Action/Response
<p><b>Section 4.7.10.1 Municipal and Community Trails</b></p> <p>Recommend and promoting connection to Commercial and Employee areas in Industrial businesses as a means of transportation.</p> <p>Add or modify objectives to state the Municipality will apply a Complete Streets approach in the design, rehabilitation, and construction of existing and planned roads.</p>	<p>Added text to Table 6.1 in Subsection 6.2.1. Added reference to Proposed Official Plan Policy 4.7.10.1 in description in table.</p>
<p><b>Schedule C</b></p> <p>Update Schedule C (Roads Plan for Listowel Ward) to incorporate the recommended road classifications detailed in Section 4.3.</p>	<p>Changed section heading in Table 6.1 in Subsection 6.2.1 to match Proposed Official Plan.</p>
<p>Reading through part of the plan I wasn't sure where or if you'd like to insert the section below, but I've recommended it be included in TMP Section 6.2.3 Development Approval Process, and add a point:</p> <ul style="list-style-type: none"> <li>• Promote safe, accessible, well-designed trail systems for recreational and utilitarian purposes. Trail systems will be connected with natural assets including watercourses, parks, and natural features where possible.</li> </ul> <p>The comment is a Policy in the draft Official Plan so the intention is a level of constancy. The TIS speaks to policies requested by the County so it would be covered off by an EIS for future development at a County level</p>	<p>Added/revised text in Subsection 6.2.3.</p>
<p>There is a recommendation also on Table 6.1 Proposed Official Plan and Schedule Changes – 16.3.1.2 Classification and Schedules B – I've recommended the removal of the Road Classes from the Policy Section as they now just show on the Schedule C in the New Official Plan.</p>	<p>Revised text in Table 6.1 in Subsection 6.2.1.</p>

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.2 – Written Submissions on Proposed Transportation Master Plan from the Public**

Comment	Response
<b>Heather Brewer</b>	
<p>The majority of the costs to improve the pedestrian network in the TMP (Table 6.5 of report, Table 4 of Appendix F) are either to provide one or two sidewalks. <b>I agree that there should be at least one sidewalk on every street and this should be a high priority. However, the provision of two sidewalks on designated collectors should be reviewed to determine if two sidewalks are actually warranted.</b> One example of a designated collector road (i.e. requiring sidewalks on two sides) is Albert Ave N from Elizabeth Street to Rogers Road, and this sidewalk section is included as a short term improvement. In my opinion, sidewalks on both sides are not required at this time for this section, and the item should be moved to long term (and may even not be required at all). I agree with the TMP to reassess sidewalk improvement projects on an as-needed basis and in conjunction with other road works.</p>	<p>No revisions. Consistent with Section 3.7 of the Town's <i>Municipal Development and Servicing Standards</i>, which states "on arterial or collector roads, sidewalk shall be placed on both sides of the road". (<a href="#">33-2016-service-standards-policy2017.pdf (northperth.ca)</a>)</p>
<p>The TMP indicates that McDonald Street will be a designated east-west collector with offset crossing of Wallace Avenue North and requires an improved crossing facility for cycling (Table 5.3). However, I could not locate any specific infrastructure or cost associated with this crossing in the TMP, even though the pedestrian/cyclist crossing of Wallace Avenue North in this area is extremely challenging and a current safety issue. <b>Can the TMP be updated to explain how the current challenges in pedestrian/cyclist crossing of Wallace Avenue North (either at McDonald Street or elsewhere in the same vicinity) will be addressed?</b></p>	<p>Added a recommendation (#4.7) to monitor traffic conditions at several Wallace Avenue North intersections and the need for transportation network improvements in the future.</p>

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.2 – Written Submissions on Proposed Transportation Master Plan from the Public**

Comment	Response
<p>The majority of the cycling network improvements (short term) identified in the TMP consists of signage for cycling route designations and trail crossings. Given that limited funding is one of the major challenges in North Perth, the proposed cycling route signage is not warranted as I think that signage alone is not likely to have a significant impact on increasing use of active transportation. Cycling network signage is not an effective use of funds for residents. <b>I suggest that North Perth focus more on cycling safety (such as removal of vegetation and improved grading at trail crossings to improve cyclist visibility) and work to increase/improve bike parking areas at local shopping/recreation destinations as the first steps.</b></p>	<p>No revisions. Priorities will be addressed when Town staff brings forward implementation plan for policy and capital recommendations in the TMP, per Council resolution to adopt the report.</p>
<p>The TMP (Table 6.7) includes the conversion of the existing signaled pedestrian cross walk on Main Street W at the Kinsman Trail to a signalized crossride at a cost of almost \$100,000 (under short term phasing). In my opinion (as both a frequent pedestrian and cyclist at this crossing), <b>the high cost of this conversion on Main Street W is not warranted.</b> Cyclist and pedestrian traffic use the current crosswalk without conflict, and the cross walk does not present a significant barrier to cyclists (i.e. just walk bike across at crosswalk).</p>	<p>No revisions. The current crossing design does not meet the recommended practice for a crossride per Ontario Traffic Manual Book 18 (Cycling Facilities), which was the rationale for including this site. That said, its unlikely this location would be upgrade ahead of other sites given the cost and the noted comments. Priorities will be addressed when Town staff brings forward implementation plan for policy and capital recommendations in the TMP, per Council resolution to adopt the report.</p>



**Municipality of North Perth Transportation Master Plan**  
**Attachment J.2 – Written Submissions on Proposed Transportation Master Plan from the Public**

Comment	Response
<p>The Proposed Cycling Network for Listowel (Figure 5.3) shows that part of the cyclist route will be in the same location as the proposed truck route on Line 84 eastbound from Hwy 23 toward to Road 147. This does not make any sense to encourage cyclists on the same roadway as heavy truck traffic (especially without separated bike lanes). The last place I would choose to ride my bike would be on a truck route because of safety issues.</p>	<p>No action. Acknowledge that Line 84 would not be the preferred location for the primary east-west cycling route if the proposed truck route moves forward. Note that other parallel routes (e.g., Line 81) could serve this role ahead of Line 84. There may also be design treatments to better separate cyclists from vehicles if Line 84 is ultimately desired as a cycling route.</p>
<p>I support the process and procedures being introduced to provide a policy framework for traffic management. In particular, there is a need for traffic calming measures on some residential streets which are heavily used to bypass the congested downtown area. Traffic calming measures would provide a deterrent to bypass traffic and improve safety of residential areas. I understand that the extent of traffic calming measures will be determined by application of the policies. <b>However, I suggest that there should be a capital cost allowance in the TMP for implementation of some estimated number of traffic calming measures in the short term, to adequately capture all costs of the plan.</b></p>	<p>No action. Funding and priorities will be addressed when Town staff brings forward implementation plan for policy and capital recommendations in the TMP, per Council resolution to adopt the report.</p>
<p><b>Can you please confirm if the truck counts shown in Truck Travel Patterns (page 83 of Appendices pdf) is only for the types of trucks targeted by a Bypass Route (i.e. Class 7 to 13, hereafter referred to as “heavy trucks”)?</b> If not, is there actual data (or an estimate) on the number of heavy trucks currently using the Wallace/Main intersection, as it is only the heavy trucks which would be targeted to use the bypass route. This data (i.e. current number of heavy trucks) is key as the baseline for comparison to future heavy truck monitoring after the bypass route is available. It should be clear throughout TMP report when truck numbers refer to “all trucks” (which would include light duty and personal single unit trucks) or “heavy trucks” (Class 7 to 13).</p>	<p>Section is only referring to heavy trucks. Revised text in Section 4.6 to clarify definition of “truck”.</p>

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.2 – Written Submissions on Proposed Transportation Master Plan from the Public**

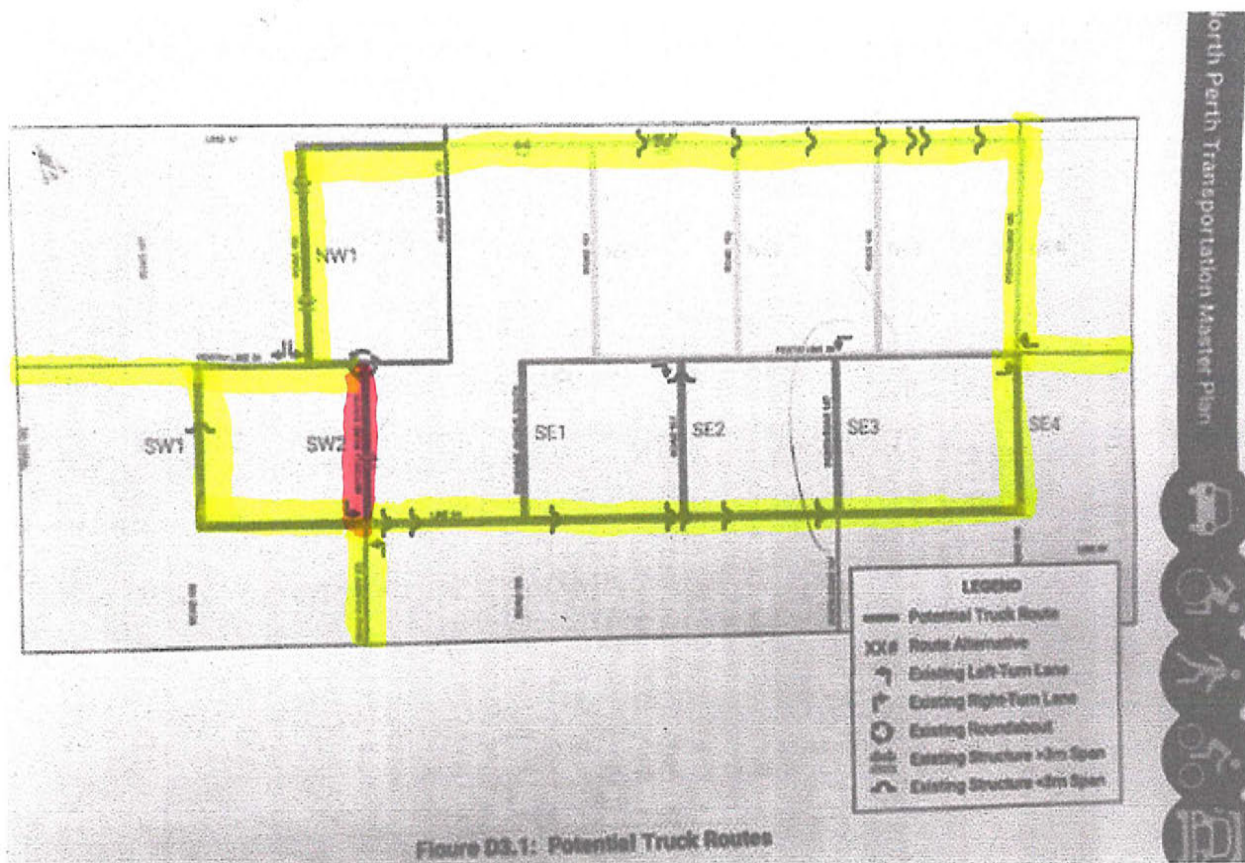
Comment	Response
<p>It is noted that truck route designation requires significant involvement of enforcement to reduce heavy truck traffic. Even so, the TMP acknowledges that the Municipality should temper expectations regarding the effectiveness of a bypass route (page 195 of Appendices pdf). The circuitous nature of the southbound to eastbound truck route (from Hwy 23 North to Line 86 East) seems like it is setting up for failure in actual use.</p>	<p>No action. Comment noted.</p>
<p>In my opinion, there are two issues with the existing evaluation of truck routes:</p> <ul style="list-style-type: none"> <li>• Weighting of the factors used in route evaluation</li> <li>• Combining the route option selection for each quadrant to arrive at proposed route, without detailed consideration of impacts of each total route.</li> </ul>	<p>Revised recommendation (#4.9, previously #4.8) to note Mitchell Road S/Highway 23 (Perth Line 86 to Line 84) segment of the proposed east-west truck route will serve as an interim solution pending further consideration of other options for the S/W quadrant. Added recommendation (#4.10) to investigate alternatives to the Mitchell Road S/ Highway 23 (Perth Line 86 to Line 84) road section for the east-west truck route after monitoring truck travel patterns.</p>
<p>On a separate but related issue, the economic factor is based only on initial capital cost. Can the TMP evaluation be updated to also include a lifecycle cost inclusive of annual operational cost estimates? Lifecycle costs (using annual operational cost estimates) are required as a representation of the total cost to North Perth residents over the life of the asset. There is a need to consider the ongoing annual costs, not just initial "purchase price".</p>	<p>No revision. Do not possess full knowledge of all operating costs to estimate lifecycle costs. In most cases, operating costs are proportionate to the length of the roadway.</p>

**Municipality of North Perth Transportation Master Plan**  
**Attachment J.2 – Written Submissions on Proposed Transportation Master Plan from the Public**

Comment	Response
<p>The proposed approach presented in the TMP uses the combination of options selected in each quadrant to identify a total route. One of the limitations of this approach is that the total truck route has not been fully evaluated for all impacts against other possible combinations. Three main impacts of the total truck route proposed in the TMP (comprised of SW2, SE3 and NW1) are:</p> <p>A. All current east/west truck traffic through downtown Listowel on Main Street will be diverted to travel Hwy 23 between Line 84 and the roundabout, which is also a main commercial destination for North Perth residents. Do we understand the magnitude of the issues (i.e. potential conflict between local and increased heavy truck traffic) that will be created by relocating all east/west heavy truck traffic to this area on Hwy 23? The TMP needs to be updated to include this potentially significant impact in the evaluation.</p> <p>B. The circuitous nature of the Hwy 23 southbound to eastbound route on Line 86 (i.e. via NW1, SW2 and SE3) is problematic, as acknowledged by the TMP.</p> <p>C. Although the proposed route can be implemented in phases, a north/south bypass route does not exist (i.e. heavy trucks still using downtown area) until the second phase has been completed.</p>	<p>Revised recommendation (#4.9, previously #4.8) to note Mitchell Road S/Highway 23 (Perth Line 86 to Line 84) segment of the proposed east-west truck route will serve as an interim solution pending further consideration of other options for the S/W quadrant. Added recommendation (#4.10) to investigate alternatives to the Mitchell Road S/ Highway 23 (Perth Line 86 to Line 84) road section for the east-west truck route after monitoring truck travel patterns.</p> <p>Note that this assessment approach is commonly used for routing studies with numerous alternative combinations.</p>
<p>I support the recommendation to request MTO to proceed expeditiously with capital projects on Hwy 23 at Line 84 and Line 87 as high priority actions. It is certain that these intersections will require operational/safety improvements.</p>	<p>No action. Comment noted.</p>

**Municipality of North Perth Transportation Master Plan  
Attachment J.2 – Written Submissions on Proposed Transportation Master Plan from the Public**

Comment	Response
<p>The total cost of a bypass truck route (either base case or alternate based on equal factor weighting) is quite significant (&gt;\$15 million), representing more than 50% of the municipality's annual capital budget. As one of the highest cost projects proposed for the municipality, it is not affordable to North Perth residents to finance a bypass truck route through property taxes alone. As suggested by the TMP (Section 6.4 Potential Funding Sources), other funding sources must be secured for a bypass truck route to be viable in Listowel.</p> <p>Before proceeding to implementation, North Perth needs a truck bypass route financing plan that clearly indicates the cost to North Perth taxpayers (i.e. the extent of property tax increase required), inclusive of any alternate funding sources that are actually secured. The commitment to develop and provide a financing plan in advance of implementation should be included in the TMP to reflect municipal government's fiscal responsibility to taxpayers. North Perth residents should be given the opportunity to accept or reject implementation of a total truck bypass route once actual financing is determined. It is not appropriate to move forward to implementation based only on public comment collected (re: support for a truck bypass route) when project costs were not yet defined. Additional public consultation is required specifically to assess the level of support for implementation of a bypass route given indicative project costs.</p>	<p>No revision. Funding and priorities will be addressed when Town staff brings forward implementation plan for policy and capital recommendations in the TMP, per Council resolution to adopt the report.</p>

ATTN: LYNDON KOWCH

TO WHOM THIS MAY CONCERN:

ATTACHED WITH THE PROPOSED TRUCK BYPASS PLAN PLEASE FIND A PETITION SIGNED BY 50 RESIDENTS IN THE MITCHELL RD. S. AREA WHO OPPOSE THE TRUCK BYPASS ROUTE AS PLANNED BY NORTH PERTH. FUNNELING COMMERCIAL TRUCKS DOWN MITCHELL RD. SOUTH IN BOTH DIRECTIONS BETWEEN LINE 84 AND THE ROUND ABOUT, IS NOT ACCEPTABLE.

PLEASE NOTE THE YELLOW HILITE ROUTE RESIDENTS PREFER.  
HAL WERNER

PREFERRED ROUTE

NOT PREFERRED



Helmut (Hal) Werner

January 6, 2024.

Subject: Proposed North Perth Truck Bypass.

To whom it may concern:

The undersigned residents of North Perth in the Mitchell Road South and Kincaid Street areas strongly oppose North Perth's Proposed Plan to divert Commercial Vehicles directly through this area, by FUNNELING large vehicles in both directions onto Highway 23, namely Mitchell Road South. A more suitable route, would be to continue traffic on Line 84, bypassing Trowbridge, and exiting onto Highway 86. Thus, bypassing the most vulnerable residential areas.

Over the last 2 years, residents have noticed a great increase in traffic on Mitchell Road South, resulting in much more noise and pollution. Heavy trucks with their large stacks, are certainly contributing to these pollutants. Add to this the following: New businesses on or adjacent to Mitchell Road South. Starbucks, Taco Bell, a new small plaza behind Taco Bell, Wild Wing, Dollarama, Mr. Sub., Wendy's at The Pioneer Gas Station. Approximately 80 new detached homes have been built on Kincaid Street, with more planned. Two 6 story apartment buildings, with more planned. Two Towne Homes, with more planned. Approval for 226 more detached homes in the area has been given for the near future. The Steven Kerr Centre area is also being developed with many more homes.

All said and done....this will be a very busy community. Do we really favour more Commercial Truck traffic on Mitchell Road South, resulting in a GRID LOCK between The Round About and the Traffic Lights at Kincaid Street?

We, the undersigned OPPOSE the Proposed Truck Route to be FUNNELED down Mitchell Road S.

I can be contacted by email: [REDACTED]

Gerry Lichty can be contacted by email: [REDACTED]

*Alison Schwen*

*Donna*

*[Signature]*

*N. Leake*

*Vicki D. Gill*

*Jasmi Vaneed*

*Judith Kervel*

*Hal Werner*

*E Boyd*

*Bruce Boyd*

*Jan Leake*

*[Signature]*

*Donna Richardson*

*Shawna Victoria Sparza*

*[Signature]*

*Lera Bauman*

*[Signature]*

*OB Mullins*

*Andrew Johnson*

*Harold Webster*

Joe Couto  
J.W. Freeman

Bob Johnson

Gene M. Duro

Cathy Gieger

Diane Fisher

Lynne Garkow

James Weaver

Judy

Eileen Horst

Paul Vander

Susan M. Woodcock

Steve Wall

Marion Vader

Edna

Cherbs-Price

Ann Kraft

Paula Laughlin

Maeie Kinson

Natividad Vizcar Garcia

Steve Moses

Nicolete Deibel

Anne Alden

Ann John

[Signature]

Jean Eliason

Rolf Eliason

Wale Carnegie  
Kistowel

Nadine Lott

Jeanne Borders

Christine Bohans

Pat Armstrong

Jean MacDonald

June Gaskin  
Lynn Gaskin

Donna

Deborah Gagnon

Bea Bishop

R. Adamson

Doris Patmore

Robert Hutson

Cathy Markie

Janice Kaye

Diane Hymers

Wanda

Donna Tumbler

L. Spogelberg

Marilyn Fischer

Ken Fischer

Robert Shuffler

Maureen Struthus

Bob Dupont

Gilby Ripart

John

[Signature]

Cherone Wright

Tilashi Sisakoti -

~~B~~

Joby George  
Marykutty Yohannan  
Priya Mary Thomas  
George Kutty Dawel  
Jimmy  
Abha  
Gaurav  
Grace Harper  
Ross Harper

~~Mary Kulk~~

Linda Russ  
James Russ  
Johnston

~~John~~

~~B~~

Abi

Guss

~~W~~

~~B~~

Mishel Thuyyil Ayyappan  
Saramon Puthuparambil

~~leaf~~

~~John~~

Keithlyn Peack

K.P.

Susan Lambert

~~A~~

Arunan

~~John~~

Ginni

Ginni  
Arpit Singh

Arpit Singh

Gene Roth

~~John~~

Nick Kelly

Jay Rowan

McGravestock

J.R. Rowan





# PROPOSED NORTH PERTH TRUCK BYPASS

Duane Schumann

David Schumann

Grita Hultinwhite

Paul Bonman

Jarothy Kelly

Janna Holmke

John Tom

Ron Ellis

Susan J

Brenda Leiby

Debra Leiby

~~June Stewart~~

Gene Budge

Dorothy Powell

Paul Stewart

Leanne Vanman Beach

M. Harrison

Paul Lane

Kim

~~Web~~ NOBIN ISSAC

Kim

Sy Golay

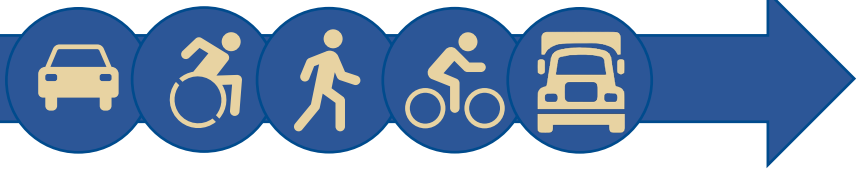
Simon P. Singh

~~Web~~ 226 622 5800

# 34 Olson Monk 823-2555

# 24 J. Foley

Cretha Jose



# Attachment K

## Online Comment Form Responses on Proposed Transportation Master Plan

# Survey Responses

01 January 2024 - 12 February 2024

## Draft Transportation Master Plan - Share your Thoughts!

# Your Say North Perth

Project: Transportation Master Plan



VISITORS

343

CONTRIBUTORS

54

RESPONSES

54

5

Registered

0

Unverified

49

Anonymous

5

Registered

0

Unverified

49

Anonymous



**Respondent No:** 1

**Login:** [REDACTED]

**Email:** [REDACTED]

**Responded At:** Jan 05, 2024 12:48:06 pm

**Last Seen:** Jan 05, 2024 16:33:52 pm

**IP Address:** 69.41.194.37

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Hi With the plans now sit ,line 84 truck route will go from highway 23 ,east to line147.The road crosses two intersections,the one is not busy but road 158 ,Tremaine ave.south is a well used route for traffic going around Listowel to Atwood( even people going to the landfill,I get some of it before it gets there).When the school buses are going to the local schools and returning the students home ,line 158 is used by the buses.Isuggest putting in around about in ,to prevent creating congestion at this corner I hope you understand my concern John Van Winden

---



**Respondent No:** 2

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 11, 2024 12:31:39 pm

**Last Seen:** Jan 11, 2024 12:31:39 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

What about Atwood? Hwy 23 a danger to pedestrians. Traffic Light need to slow speeding vehicles especially large trucks

---



**Respondent No:** 3

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 11, 2024 13:55:25 pm

**Last Seen:** Jan 11, 2024 13:55:25 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

There are a few points this report did not include. Trucks don't like to turn, and they don't like to stop. It also does not include re-assigning the county roads their proper locations. Road 140 is the county road with the exception of a short portion of road 147. If road 140 was taken over by the county as it should be, the North/South portion of the bypass from Wellington Road 123 to Perth Line 55 is assumed by the county. The East/West bypass would then be Line 84 from Road 140 to Road 169 and Line 87 with Road 165. Adding RoundABOUTS to Highway 23 at their respective intersections.

---





**Respondent No:** 4

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 12, 2024 15:00:33 pm

**Last Seen:** Jan 12, 2024 15:00:33 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Make Road 140 the County Road. Road 140 is the county road with the exception of a short portion of road 147. If road 140 was taken over by the county as it should have been in the beginning, the North/South portion of the bypass from Wellington Road 123 to Perth Line 55 is assumed by the county. The East/West bypass would then be Line 84 from Road 140 to Road 169 and Line 87 with Road 165. Adding RoundABOUTS to Highway 23 at their respective intersections. Trucks also do not need to come close to things like fuel and food, because that information is typically on board the truck, so if trucks need fuel or truckers need food, the driver will look it up on their systems. Also, the majority of Line 87 is not a satisfactory road for heavy trucks. After some thought on this, if the town purchased/expropriated the Crabby Joes and Telus building, would that solve the traffic problem without a Truck Bypass?

---



**Respondent No:** 5

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 13, 2024 13:53:24 pm

**Last Seen:** Jan 13, 2024 13:53:24 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Overall, I am in favour of the Transportation Master Plan. I can see that the Truck Bypass route may help with downtown traffic congestion/impact, but I do wonder about the cost of building the bypass so far out of town on currently gravel roads (and not using Tremaine). But I also understand that those living near Tremaine Ave do not want that extra traffic. Regarding the cycling part of the plan, I am very much in favour of it - including adding the additional dedicated gravel trails. However, as a long-term plan I would recommend focusing on dedicated gravel trails in rural areas completely separated from the roadway instead of using relying on using on-road signed routes. I do not have such concerns about the urban roads where the speeds are much lower, and am very willing to have my family share the road with lower-speed vehicles in town. As an avid bicycle (in the warmer months), I have biked on many of the rural roads surrounding Listowel and I will attest that while the majority of drivers share the road there are more than a few instances of close calls. To that point, no one else in my immediate family nor any of my personal friends bike on the identified rural routes - and instead only bike on the gravel trails when attempting to take a rural ride. At most, we have biked as a family for a short distance on Line 84 from the trail to Wallave Ave S - with the new paved shoulders quite welcome. Ideally, we should look to add additional gravel routes to connect the existing excellent trail network to both Monkton (or G2G - near Road 173) and also to Palmerston by extending north of Gowanstown. As well, the current gap in the gravel trail at Line 87 should be addressed expeditiously so that Gowanstown and Listowel are again fully connected. And finally, a gravel trail of some sort connecting to the east directly from the Listowel area would be quite helpful - but I see that as a much lesser priority. Assuming there is no immediate desire to add dedicated gravel trails on the rural routes, I would like to provide some feedback on the suggested on-road signed bike routes. Generally speaking, I think they make sense. Road 165 and Road 158 are both good routes. It is also good to not use the highway or Line 86 as part of the route. However, based on my experience I would not recommend using Line 87 east of Listowel as a signed on-road bike route. Line 87 west of Road 165 is fine to use, and I have traveled it quite extensively. But east of Line 165, Line 87 is quite a busy road with narrow shoulders - and is seemingly used by many commuters as an alternative for Line 86 congestion or summer construction. And as Line 87 is also being identified as a potential truck bypass, that would further increase traffic flow and potential impacts, making it unsuitable as part of the suggested bike route. Finally, it seems to me that the suggested truck bypass and bike routes are working at cross purposes. East of Listowel, Line 87 and Line 84 should each be identified as either a truck bypass route or as an on-road bike route. They should not be treated as both. As Line 87 already carries a larger proportion of traffic and connects to a paved road in Wellington County, it makes more sense to use Line 87+Road 165 as the single truck bypass and then leave Line 84 as the suggested bike route. This may also reduce the overall cost of the truck bypass. Thank you for providing me the opportunity for the feedback and sorry for it being so long. -Mike Fischer



**Respondent No:** 6

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 13, 2024 21:37:27 pm

**Last Seen:** Jan 13, 2024 21:37:27 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Definitely need a truck bypass. Should have done this years ago. I didn't realize we had an issue with sidewalks in our town, they are on one side of the street, isn't that enough. But we need flashing lights at all the pedestrian crosswalks (some of them don't have the lights). Why do we need our tax dollars to go towards car rentals. We have a car rental business in town (let them have their business, Town doesn't need to get involved).. Do agree with more bicycle parking downtown and at the store plazas. Municipality should look after the parking lots downtown, should not be private to the stores. That is one big problem is parking and traffic downtown but truck bypass would fix that a lot of that. One of the reasons I don't shop downtown Listowel is because the traffic is wayyyyy to busy.

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**Respondent No:** 7

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 14, 2024 12:35:08 pm

**Last Seen:** Jan 14, 2024 12:35:08 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

you are selling water that isn't potable. what you are doing is illegal. your priorities are misplaced. providing clean safe potable water should be your main priority. Giving Kriss Snell a 15% raise with zero credentials in one year should not be your priority. that money should be going to potable water and not lining the pockets of kriss snell.

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**Respondent No:** 8

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 14, 2024 21:58:23 pm

**Last Seen:** Jan 14, 2024 21:58:23 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I'm hoping you can extend sidewalks from line 86 on Tremaine avenue- all the way up to the LTI sideroad. If it must be shortened- then from highway 86 up Tremaine to the first industrial road past Krotz Street past Weberlane Trailers would be another option that would be highly logical and proactive for future growth / needs.

---



**Respondent No:** 9

**Login:** [REDACTED]

**Email:** [REDACTED]

**Responded At:** Jan 16, 2024 17:08:34 pm

**Last Seen:** Jan 16, 2024 20:59:01 pm

**IP Address:** 172.83.212.26

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I read that more sidewalks are to be added and while this may seem to be a good idea, the existing sidewalks, outside of the downtown, are hardly used. Most pedestrians I encounter are walking in the road, often next to a ploughed sidewalk. I also read that bike trails are to be extended, but not on the south side of line 72, since there is a lack of paved sideroads in that area. I would suggest that before we add more bike trails and sidewalks that more roads should be paved in the south end of the municipality.

---



**Respondent No:** 10

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 18, 2024 14:27:26 pm

**Last Seen:** Jan 18, 2024 14:27:26 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I Think a truck by-pass is really needed. I believe that the best direction to go would be North West NW1. My reasons are price is better and you can bypass traffic for both West on 86 and South on 23 with just one bypass. If you put a round-a-bout at the intersection on Hwy 23 and Line 87, truck traffic would be greatly decreased. Also, a round-a-bout would be needed (or lights) at the intersection of Hwy 86 and Road 165. Unfortunately the road improvements were poorly laid out on Road 165 in that the road is not wide enough for a proper truck by-pass so I am sure that would have to be re-done. With this option, the only traffic that would not be addressed would be traffic coming from Waterloo way. Hope this helps.

---



**Respondent No:** 11

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 18, 2024 19:15:37 pm

**Last Seen:** Jan 18, 2024 19:15:37 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

i would like to take part

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**Respondent No:** 12

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 18, 2024 21:00:52 pm

**Last Seen:** Jan 18, 2024 21:00:52 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

If you turn Wallace South into a one way for the first block again, my wife and I will be selling and moving elsewhere, guaranteed.

---



**Respondent No:** 13

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 09:35:57 am

**Last Seen:** Jan 19, 2024 09:35:57 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Turning line 87 into a truck route would result in my family moving out of North Perth completely. We purchased a home on a quite road outside of town for a reason, so we were not subject to frequent traffic and the noise and risks that come with that.

---



**Respondent No:** 14

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 14:14:06 pm

**Last Seen:** Jan 19, 2024 14:14:06 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I think that many aspects of the Transportation Master Plan will have a beneficial impact, especially a truck bypass. My belief is - if people want to shop, tour, eat, in the downtown core, they will. I don't believe putting in a bypass will take from that. With the new parkette located beside TD Bank, having semi trucks rolling through downtown while you're trying to have a conversation and/or eat would be a major distraction. All that being said, I am also the President of the North Perth and District ATV Club. I was hoping to see something regarding ATV use/tourism in the area. It's a booming hobby that many locals and beyond enjoy doing with family and friends. I've seen first hand what type of tourism it can bring to towns. For example, the HuronShores ATV Club trails - They run through Mildmay, Walkerton, Paisly, etc. They are multiuse ( old railways like ours ), we actually see more cyclists and walkers on our rides, and we all get along great. We didn't give trail use much thought when speaking to council when the bylaws were being introduced, but with the demand of trails from locals and beyond - we believe it would be incredibly beneficial to tourism and family fun, getting out and enjoying the sights of North Perth. There is also a couple landowners who are offering up their land for trails as well, one in specific has property right beside the trail heading to Atwood. We would like to see ATV use taken into consideration with this plan!

---



**Respondent No:** 15

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 16:10:46 pm

**Last Seen:** Jan 19, 2024 16:10:46 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I am surprised by the absence of information pertaining to public transportation. There is no reference to North Perth's existing public transportation service, PC Connect, and indicates no concern or intention of keeping the service beyond the pilot period. Given the continuous growth of the community, shouldn't there be a focus on expanding and/or introducing new public transit options for our residents? Especially in light of DE!!

---



**Respondent No:** 16

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 19:40:36 pm

**Last Seen:** Jan 19, 2024 19:40:36 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Would like more information on pedestrian upgrades in Atwood, particularly Parkview Crescent, a lot of money being spent, doesn't really say what is being done, table 6.5, page 128 Thank you. Bill Bray, bray3@live.ca

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**Respondent No:** 17

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 22:04:52 pm

**Last Seen:** Jan 19, 2024 22:04:52 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Why isn't there anything included in this plan for offroad motorized trail users. The world of offroad sports is growing rapidly and this community needs to be set up to handle the potential economic and tourism opportunity of multi use trails. This request is inclusive of atvs, side by sides, dirt bikes, and dual sport motorcycles. As the snowmobile season is so short, this is an opportunity for the municipality to recuperate tourism Dollars for the community. Let's make North Perth a multi use trail destination!

---



**Respondent No:** 18

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 22:32:05 pm

**Last Seen:** Jan 19, 2024 22:32:05 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Would be nice if ATV and SXS were allowed on roads. Other towns have allowed them to great benefits to local tourism and businesses.

---



**Respondent No:** 19

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 22:47:58 pm

**Last Seen:** Jan 19, 2024 22:47:58 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

You should be able to travel on the roads to get lunch or gas , brings more tourism to your area , much like the snowmobile trails do ,

---





**Respondent No:** 20

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 23:02:33 pm

**Last Seen:** Jan 19, 2024 23:02:33 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

We want locals and beyond to share their thoughts on broadening ATV use in the area, including the use of trails. You did not include ATV use, ATVs are a booming hobby and a great way to spend time with family and friends. It could also bring tourism to the area - like we've seen with HuronShores trail system. It would be nice to see the rail trail opened up for atv use.

---



**Respondent No:** 21

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 23:13:05 pm

**Last Seen:** Jan 19, 2024 23:13:05 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

We are members of an ATV Club in a neighboring county and would like to see a provision in the plan for the use of ATV's in the plan with the expansion of a trail system during the course of this plan. ATV clubs plan rides and bring tourism to businesses along trail systems and also benefit charities as rides are organized with proceeds being donated to local charities or individuals in some cases. This form of recreation is increasing in popularity (especially with climate shifts), the machines we have are equipped with turn signals and mirrors and factory made 2 person seating. With this sport growing in popularity and with the safety features on machines upgrading on new models it would be prudent to incorporate a plan for this growing sport to benefit the users and the businesses they would support. Thank you for reading my thoughts, regards  
PW

---



**Respondent No:** 22

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 19, 2024 23:40:10 pm

**Last Seen:** Jan 19, 2024 23:40:10 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Atvs should be added too as it is a great way to spend time with family and friends. A great way to enjoy the outdoors and fresh air & a great way to get the children/young away from electronics for a while.

---



**Respondent No:** 23

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 20, 2024 09:16:51 am

**Last Seen:** Jan 20, 2024 09:16:51 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

There is no allowance for ATV use. ATVs use is a major tourism draw and should be included in the plan.

---



**Respondent No:** 24

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 20, 2024 10:09:30 am

**Last Seen:** Jan 20, 2024 10:09:30 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

My ask is that there be provisions for ORVs to use side roads and there at minimum be routes planned to gas stations and restaurants so that we can encourage tourism in this sport to come to North Perth. Thank You

---



**Respondent No:** 25

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 20, 2024 10:30:34 am

**Last Seen:** Jan 20, 2024 10:30:34 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

This sport has grown tremendously over the last couple of years , any addition to the trail system , be it off road or on road is beneficial for all involved , it supports local businesses, gives more opportunities for charities to receive support , and gives riders more places to ride our machines . Hopefully more municipalities make amendments to their use of off road vehicles in their jurisdiction , allowing for further trail growth. It's a great sport to enjoy with family and friends new and old.

---



**Respondent No:** 26

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 20, 2024 13:10:33 pm

**Last Seen:** Jan 20, 2024 13:10:33 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Please don't forget to include ATV travel within the municipality. ATV groups promote safe riding and ATV'ers can contribute financially to many businesses in your communities.

---



**Respondent No:** 27

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 20, 2024 19:15:17 pm

**Last Seen:** Jan 20, 2024 19:15:17 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I didn't see anything about atvs on the plan. We need more trails and road way allowance for Atving. It helps the economy from wear the weak snowmobile season don't anymore.

---





**Respondent No:** 28

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 21, 2024 10:56:30 am

**Last Seen:** Jan 21, 2024 10:56:30 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

In regards to the Listowel area, I would do all 4 of the truck bypass routes, but if only 3 I would exclude NE4. I'd be happy with all the walking trails. I would not like a cycling network that adds bicycle lanes to any commonly used road ways. Any other bike paths would be fine though.

---



**Respondent No:** 29

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 21, 2024 22:12:12 pm

**Last Seen:** Jan 21, 2024 22:12:12 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

We would like to see a trail system dedicated to ATV's and sections of roadways to join such trails. There are many more trails being created in the Province of Ontario which is providing economic benefits to many smaller towns.

---



**Respondent No:** 30

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 22, 2024 00:16:11 am

**Last Seen:** Jan 22, 2024 00:16:11 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

We need to allow the use of fourwheeler and side by sides around town and outside of town. They need to be insured and played just like a car to be legal and follow the same rules as cars going up to 50kmh or something

---



**Respondent No:** 31

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 22, 2024 12:24:01 pm

**Last Seen:** Jan 22, 2024 12:24:01 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

A truck bypass for Listowel is something that needs to happen. The congestion downtown is substantial because of the trucks. Alternative 2 and creating a proper bypass is the optimal way to go for long term growth and expansion for Listowel.

---



**Respondent No:** 32

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 22, 2024 19:15:28 pm

**Last Seen:** Jan 22, 2024 19:15:28 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Seeing all the snowmobiles bringing revenue to many local businesses is great. Unfortunately it is just for a short time. More thought should go into the untapped economies that Atv enthusiasts can bring as well in the spring to fall season. Shame to see so many driving North to spend their money.

---



**Respondent No:** 33

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 22, 2024 21:35:27 pm

**Last Seen:** Jan 22, 2024 21:35:27 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I like it. I do not want ATVs on the walking trail. Thanks

---



**Respondent No:** 34

**Login:** [REDACTED]

**Email:** [REDACTED]

**Responded At:** Jan 24, 2024 21:35:28 pm

**Last Seen:** Jan 25, 2024 01:07:44 am

**IP Address:** 69.41.204.246

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Hi there, My name is Roxy Slotegraaf. I am a provincial/national cycling coach and own and operate a broiler breeder farm along Line 84, between tremaine and road 147 in Listowel. With the truck bypass for Line 84, and others, has the issue of biosecurity along these farm routes been discussed? With the increase of the bird flu the last few years, farms along main transportation routes have been most affected. There is 3 other large chicken operations on this road. Has OMAFRA been contacted for biosecurity issues? The cycling route looks fantastic. Although how is this affected if all the truck bypass routes are implemented? The upgrade to Line 84 between tremaine and 23 is still currently quite narrow on one side to consider it a proper road for a bypass as well as a cycling route. Will that need to be upgraded? I would worry about the safety of cyclists - recreational or employees cycling to the many factories on that route. What does the cycling route look like on the portion of Line 84 that needs to be paved if it is going to be a truck bypass? Instead of a bike lane, what about a trail off to the side of the road? Has Line 81 been considered as a bypass? If Line 84 is upgraded, is there going to be 3 stage power and natural gas also installed down Line 84? Please reach out if you would like to discuss cycling or biosecurity further. Thanks Roxy Slotegraaf 519-492-1402



**Respondent No:** 35

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 27, 2024 07:38:20 am

**Last Seen:** Jan 27, 2024 07:38:20 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Is line 84 going to be paved from Tremiane ave south to road 147? If not that road will be destroyed by truck traffic

---





**Respondent No:** 36

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 27, 2024 07:45:24 am

**Last Seen:** Jan 27, 2024 07:45:24 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

making a left hand turn from road 165 and road 140 is going to be a problem unless you make it a 4 way stop or build a round about

---



**Respondent No:** 37

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 29, 2024 12:03:26 pm

**Last Seen:** Jan 29, 2024 12:03:26 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

The Municipality of North Perth/Listowel doesn't remember but they had a truck bypass along Line 84 back I believe in the late 90's when construction was going on highway 86 east of town to cut down 3 hills. Considerable work was done on line 84 to get it in shape for the months of detour without paving it. Even for months after the 86 was reopened a large number of trucks still used 84, it was in such good shape. As a farm owner along Line 84 there are virtually no trucks using it as a bypass these days. The road has been seriously neglected for a number of years. The ridiculous cost of paving 84 now makes me think that it could have been avoided if they had only done more maintenance over the years or done what they should have done back in the 90's, Pave it ! when the road was in prime condition.It was shortsightedness back then and they will pay for it now.

---



**Respondent No:** 38

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 30, 2024 18:22:25 pm

**Last Seen:** Jan 30, 2024 18:22:25 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Don't waste money on temporary solutions Get the secondary roads paved you need on the proposed route, put as many roundabouts as possible to increase thru put. Let's stop talking about it and get it done. Think big, you're doing great. Ignore the negative people you'll never please everyone.

---



**Respondent No:** 39

**Login:** [REDACTED]

**Email:** [REDACTED]

**Responded At:** Jan 31, 2024 10:21:17 am

**Last Seen:** Jan 31, 2024 14:16:37 pm

**IP Address:** 99.79.127.177

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Looking pretty good. To keep large trucks out of town will be a great asset. Would really love to see sidewalks along Tremaine Ave South sooner than later. From Main until Rocher.



**Respondent No:** 40

**Login:** Anonymous

**Email:** n/a

**Responded At:** Jan 31, 2024 14:10:17 pm

**Last Seen:** Jan 31, 2024 14:10:17 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I agree that a truck bypass will increase the use of the major streets and downtown area of Listowel. There are many cars going above the speed limit and am wondering if this issue is being looked into as part of the transportation plan.

---



**Respondent No:** 41

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 01, 2024 02:06:23 am

**Last Seen:** Feb 01, 2024 02:06:23 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

In regards to the pedestrian and cycling routes for Listowel, I live on Hutton St W and it is currently a drag strip. There is a high percentage of cars that are driving well above 50km/hr down this road between Wallace Ave S and the Adams Ave subdivision. Are there going to be any traffic slowing measures brought in to help reduce the speed on the stretch of road? I worry that with the current speeds, it is only a matter of time before someone gets hurt. Also will the town be assuming all of Hutton St W, Keeso, Hollinger soon? Snow plowing is not great and sidewalks are not being cleared by the town yet.

---



**Respondent No:** 42

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 01, 2024 11:16:49 am

**Last Seen:** Feb 01, 2024 11:16:49 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

A street light at the end of McDonald Ave where it meets Wallace is needed. Since the expansion of McDonald ave to Rogers Rd there is a lot more traffic that use this route to get to that end of Listowel. If someone is turning left onto Wallace from McDonald it could take a long time causing traffic to backup. It would also create a safe crossing space. There currently is not one at that end of town.

---



**Respondent No:** 43

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 04, 2024 17:50:10 pm

**Last Seen:** Feb 04, 2024 17:50:10 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Please ensure you contemplate the sustainability of allowing ATVs and Side by Sides the ability to use the necessary roadways and trail systems within your communities and surrounding areas. As a mother of 3 grown children we recently purchased 2 side by sides which have become a fantastic way to bring the children home to take part in a great family experience seeing the trails and visiting the neighboring communities. I enjoy the break from everyday life to be enveloped by nature and seeing my children having fun in a quite exhilarating fun sport that does not include screens. We thoroughly enjoyed the drive up the rail trail from Hanover to Port Elgin - seeing the sights and enjoying a pizza on the patio of a local restaurant. Definitely a worthwhile hobby and fantastic that these vehicles are allowed on the roadways and trail systems so that we can have these experiences with our families. We do spend our dollars in the communities we visit - so all around a worthwhile investment for your consideration when looking at your transportation master plan.

---





**Respondent No:** 44

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 08, 2024 12:36:48 pm

**Last Seen:** Feb 08, 2024 12:36:48 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Trucks coming from Palmerston area on 23 and turning onto Line 87 need a wider area to turn - otherwise I'm good with this. However, traffic taking the north bypass to Line 87 from the gun club road/ road 165 will have a terrible time making a left onto Hwy 23 north unless a round about is installed and the road widened there. The south side of Hwy 86 looks good for traffic there although widening may be required.

---



**Respondent No:** 45

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 08, 2024 18:36:00 pm

**Last Seen:** Feb 08, 2024 18:36:00 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Maybe make more truck parking through the town so then truck drivers can actually eat lunch it's kind of sad really that everybody wants to divert trucks but yet make sure that everything's in the store that they can buy everything that they need come on people this is getting ridiculous

---



**Respondent No:** 46

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 08, 2024 19:31:15 pm

**Last Seen:** Feb 08, 2024 19:31:15 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Driving a truck that weighs 63,500 kg roundabouts are a pain to get around. If the roundabout had two lanes going around would be best.

---



**Respondent No:** 47

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 09, 2024 00:16:10 am

**Last Seen:** Feb 09, 2024 00:16:10 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I don't disagree that transportation trucks should be rerouted around the town of Listowel. However I imagine this project would be a very costly undertaking. There are other projects that would increase traffic safety far more than a bypass. Two large roundabouts should be constructed at highway 23 south and line 84 as well as highway 23 north and line 87. These are both very dangerous intersections and as traffic gets heavier it only gets worse. Both roundabouts should be made similar to the roundabouts on Ira Needles boulevard and Erb street, with a fully separate right turning lane seperated from the second and third exit lanes by an island. A long merge lane will be required for vehicles to safely merge onto highway 23. This will help large trucks from the feed mill, lagoon, and MAD merge safely when traveling south on 23. A similar right turning and merge lane must be made on the other side of the road to accommodate shift changes at LTI. This will also help manage vehicle speed as motorists enter the town. Building these two intersections is more critical than a truck bypass as it will help ensure the safety of all motorists on our communities roadways.

---



**Respondent No:** 48

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 09, 2024 07:57:13 am

**Last Seen:** Feb 09, 2024 07:57:13 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Why wouldn't you already use the roads that are already paved? Just make a few signs saying "turn here for truck by pass", rather than wasting money on paved roads, that cost should go towards roundabouts instead, like on the corner of LTI and also change the lights at Canadian Tire to a round about, than on the corner of Tremaine and the 86 put one there and than on the meeting point of the 23 and line 87 add one there so that the trucks can actually use it as a by pass. I personally don't think the answer is just paving a road, the best answer is to make the traffic flow smoothly. The best example is the current roundabout that was put in already, I remember many times the traffic backed up to the lights on the main street.

---



**Respondent No:** 49

**Login:** [REDACTED]

**Email:** [REDACTED]

**Responded At:** Feb 09, 2024 11:09:42 am

**Last Seen:** Feb 09, 2024 16:06:18 pm

**IP Address:** 172.83.215.139

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I have reviewed the draft TMP and I will share all my comments and questions that have been prepared in pdf letter format. I will submit this pdf by email directly to Lyndon Kowch (lkowch@northperth.ca) and tmpstudy@northperth.ca.



**Respondent No:** 50

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 09, 2024 17:41:08 pm

**Last Seen:** Feb 09, 2024 17:41:08 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I think putting more resources on the south by-pass would be prudent than trying to create a secondary route on the north side. If our trucks are heading northwest we would not be going into Listowel to turn north on the 23, we would already be by-passing the town using the Teviotdale road. If we were heading straight west of Listowel I would encourage using the south by-pass proposal but extending the infrastructure support out to Rd 166 and turn north back to the 86. This would hopefully allow more attention to one section of road versus the two. As part of the improvement we would like to see a light or round about at the intersection of 84 and 23, that is a tough intersection to make a left heading south on 23 certain times of the day. Good luck. Luke at Wallenstein Feed

---



**Respondent No:** 51

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 09, 2024 23:57:01 pm

**Last Seen:** Feb 09, 2024 23:57:01 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Roundabout needed at Hwy 23 & Line 87 Speed limit increase on Road 165 approaching Hwy 23 Wider shoulders to support vehicles getting off to the side of the road

---





**Respondent No:** 52

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 11, 2024 02:14:01 am

**Last Seen:** Feb 11, 2024 02:14:01 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

Road 147 is in poor shape (especially from Hwy.86 to Line 81 (Britton)) and will need to be re-done if the Truck Route Plan goes forward. Road 147 is already an unofficial truck route for trucks coming from Kitchener and wanting to go to London (and vice versa) by using Road 147 from Hwy.86 south to Line 72 at Donegal, then heading east to Road 164 at Newry. We are also concerned with how this will impact accessing farm fields on Line 84 with large farm machinery with the increase in traffic.

---



**Respondent No:** 53

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 11, 2024 18:10:46 pm

**Last Seen:** Feb 11, 2024 18:10:46 pm

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

I really hope your intentions are to put lights or roundabouts in at each of these corners. At certain times of day these corners can be tough to merge into traffic. Also will line 84 be getting paved? What if traffic gets backed up on Line 84 when there's a shift change at LTI. Then there'll be an uproar in regards to their employees!

---



**Respondent No:** 54

**Login:** Anonymous

**Email:** n/a

**Responded At:** Feb 12, 2024 01:00:07 am

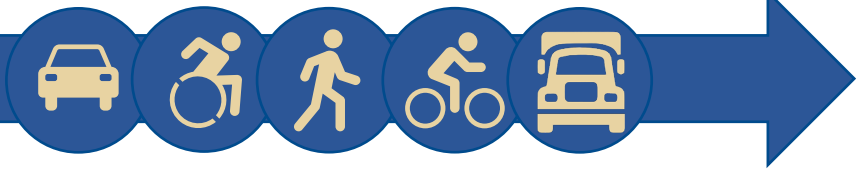
**Last Seen:** Feb 12, 2024 01:00:07 am

**IP Address:** n/a

**Q1. Please share your comments or questions about the Transportation Master Plan!**

We are deeply concerned with the proposed cycling routes that are in the Elma ward. Part of these proposed cycling routes are on the same road as the proposed Truck Route. At certain times of the year, this same road also has large farm machinery sharing the road. This is a recipe for a potential disaster and loss of life with fast moving trucks, large farm machinery and cyclists all trying to share the same space.

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# Attachment L

## Online Truck and Transport Operator Survey Questionnaire and Responses

# Truck and Transport Survey

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## **SURVEY RESPONSE REPORT**

01 January 2024 - 12 February 2024

### **PROJECT NAME:**

Transportation Master Plan



SURVEY QUESTIONS

**Q1 | What type of truck(s) do you or your company drive typically?**

Anonymous

1/29/2024 03:52 PM

Not applicable.

Anonymous

1/29/2024 03:56 PM

SUV/passenger

Anonymous

1/29/2024 04:02 PM

tractor trailer 70' and sometimes a pup

Greg

1/29/2024 04:13 PM

Tractor trailer

Anonymous

1/29/2024 04:30 PM

Highway Tractors pulling flatbed or b trains

Anonymous

1/29/2024 04:55 PM

N/a

Anonymous

1/29/2024 05:16 PM

Multi axle combination

Anonymous

1/29/2024 05:18 PM

feed trucks - triaxle straight trucks or tractor trailer units

Anonymous

1/29/2024 06:02 PM

Tractor trailer combinations

Anonymous

1/29/2024 06:03 PM

Fuel tankers

Anonymous

1/29/2024 06:13 PM

4 axle tank truck

Anonymous

1/29/2024 06:47 PM

Highway/ daycab hauling general freight, oversized and flatbed

Anonymous

1/29/2024 07:25 PM

Semi pulling trains

Anonymous 1/29/2024 08:16 PM	Heavy trucks. 5 and 6 axle
Anonymous 1/29/2024 08:42 PM	Truck and trailer
Anonymous 1/29/2024 08:50 PM	Semi tridrive with a 4 axle float
Anonymous 1/29/2024 09:32 PM	Oversize float, flatbeds
Anonymous 1/29/2024 10:39 PM	3/4 and 1 ton trucks with large trailers
Anonymous 1/30/2024 01:30 AM	Transport Truck
Anonymous 1/30/2024 07:36 AM	Not a truck driver
Anonymous 1/30/2024 08:17 AM	Semi tanker
Anonymous 1/30/2024 09:06 AM	Tractor trailer 4 axle trailers
Anonymous 1/30/2024 09:25 AM	End dumps
Anonymous 1/30/2024 09:25 AM	Service truck
Anonymous 1/30/2024 09:32 AM	Semi truck
Anonymous 1/30/2024 10:16 AM	Tractor trailer
Anonymous	Highway tractors hauling livestock trailers.



1/30/2024 11:16 AM

Anonymous

Tractor trailers with 4 axle end dumps

1/30/2024 11:22 AM

Anonymous

None, I drive a car.

1/30/2024 11:23 AM

Anonymous

Trade vehicles

1/30/2024 06:19 PM

Anonymous

Tractor trailers and concrete mixers

1/30/2024 09:19 PM

Anonymous

Highway tractor with 53 van trailer

1/31/2024 03:15 AM

Anonymous

Semi truck with b-trains

1/31/2024 07:25 AM

Anonymous

Float truck with heavy equipment

1/31/2024 09:18 AM

Anonymous

none

1/31/2024 02:08 PM

Anonymous

Large vehicles

1/31/2024 10:52 PM

Anonymous

Tractor trailers

1/31/2024 11:12 PM

Anonymous

semi truck

2/01/2024 07:13 PM

Anonymous

SUV, Pick Up Truck

2/02/2024 05:32 PM

Anonymous

Light Duty

2/02/2024 07:47 PM

Anonymous

2/02/2024 08:45 PM

Tractor trailer

Anonymous

2/02/2024 11:18 PM

Pickup trucks & Trailers

Anonymous

2/03/2024 12:44 PM

Transport (livestock)

Anonymous

2/03/2024 01:13 PM

Semi truck and trailer

Anonymous

2/03/2024 03:21 PM

Tractor trailer

Anonymous

2/03/2024 09:31 PM

Tractor trailers

Anonymous

2/08/2024 02:16 PM

Feed trucks

Anonymous

2/08/2024 03:17 PM

Tractor trailer, 53'

Anonymous

2/08/2024 04:00 PM

Commercial AZ tractor-trailer

Anonymous

2/08/2024 04:38 PM

Tractor trailers hauling livestock & bulk commodities.

Anonymous

2/08/2024 05:00 PM

Trucks that deliver your local goods to keep your local businesses going.

Anonymous

2/08/2024 07:22 PM

Large 45 ft straight tandem vehicles and up to 5 axle tractor trailers heavy sped

Anonymous

2/08/2024 07:26 PM

Feed truck 5 axle trailer

Anonymous

2/08/2024 08:40 PM

We run tractor trailer hauling livestock and grain

---

Anonymous

2/09/2024 05:46 PM

Class A

Anonymous

2/11/2024 07:05 PM

Heavy five axle tractor trailer & straight trucks

**Mandatory Question** (56 response(s))

**Question type:** Single Line Question

**Q2 | Do you find the current traffic patterns in and around Listowel to be a problem for your daily drive?**

Anonymous

1/29/2024 03:52 PM

We drive to Listowel 4 to 5 times per week. And yes, current traffic patterns present problems fairly often.

Anonymous

1/29/2024 03:56 PM

Absolutely yes. It's brutal.

Anonymous

1/29/2024 04:02 PM

yes

Greg

1/29/2024 04:13 PM

No

Anonymous

1/29/2024 04:30 PM

Not really

Anonymous

1/29/2024 04:55 PM

Yes

Anonymous

1/29/2024 05:16 PM

No the traffic has not been an issue for me.

Anonymous

1/29/2024 05:18 PM

not necessarily, however we do use the downtown core

Anonymous

1/29/2024 06:02 PM

No

Anonymous

1/29/2024 06:03 PM

The downtown can backup pretty bad sometimes.

Anonymous

1/29/2024 06:13 PM

no

Anonymous

1/29/2024 06:47 PM

Aside from the poor timing at the main lights. Trying to access Hwy 86 N/S and Hwy 23 N/S from the concession Rds can be extremely difficult.

Anonymous

1/29/2024 07:25 PM

I'm not doing left right tour around town with 44 ton

Anonymous

1/29/2024 08:16 PM

The traffic lights in town can be annoying but trying to get onto 23 or 86 from a current road around town is a nightmare.

Anonymous

1/29/2024 08:42 PM

No

Anonymous

1/29/2024 08:50 PM

It can be a little tight at 23 and 86 downtown.

Anonymous

1/29/2024 09:32 PM

No, actually, I can appreciate that you've moved the line of scrimmage back from the main intersection to allow trucks to turn. The roundabout however, has been a pain in my ass since the day it went in.

Anonymous

1/29/2024 10:39 PM

Yes

Anonymous

1/30/2024 01:30 AM

Roundabout

Anonymous

1/30/2024 07:36 AM

It is a problem to turn left or go straight through at the intersection of line 87 and Highway 23

Anonymous

1/30/2024 08:17 AM

Traffic seems fine, it's heavy but flows well

Anonymous

No

---

1/30/2024 09:06 AM

Anonymous

No it's not a problem leave it the way it is

1/30/2024 09:25 AM

Anonymous

No

1/30/2024 09:25 AM

Anonymous

Only the intersection of 23 and line 87

1/30/2024 09:32 AM

Anonymous

Yes

1/30/2024 10:16 AM

Anonymous

Not in the slightest bit.

1/30/2024 11:16 AM

Anonymous

Turning off the roads proposed for the bypass onto main roads such as highway 23 or highway 86 is near impossible especially during peak morning and evening rush hours

1/30/2024 11:22 AM

Anonymous

At times. It can be busy. I plan accordingly. The bigger issue is the j walking. Pedestrians will try crossing mid block... stand in front of stopped traffic while waiting for a break in opposing traffic. Given the number of injuries with this behaviour In recent years I'm disappointed there is no law enforcement of this.

1/30/2024 11:23 AM

Anonymous

Absolutely

1/30/2024 06:19 PM

Anonymous

No

1/30/2024 09:19 PM

Anonymous

No not what so ever and never see truck congestion as a problem ?

1/31/2024 03:15 AM

Anonymous

No

1/31/2024 07:25 AM

Anonymous

No

1/31/2024 09:18 AM

Anonymous

1/31/2024 02:08 PM

There is too much truck traffic heading into town on Wallace. Even with the bike lanes and pedestrian crossing area with lights, the truck traffic has not decreased. In addition, cars coming into town are at a very high speed for a residential area. They do not slow down until the stop sign.

Anonymous

1/31/2024 10:52 PM

Yes but not sure the amount of trucks is an issue. The amount of vehicles is higher than 10 years ago

Anonymous

1/31/2024 11:12 PM

Only turning right off of 23 south. People don't respect the white line going east!

Anonymous

2/02/2024 05:32 PM

Yes, there is too much congestion in the downtown area

Anonymous

2/02/2024 07:47 PM

No but I don't drive a transport truck.

Anonymous

2/02/2024 08:45 PM

Yes

Anonymous

2/02/2024 11:18 PM

Yes

Anonymous

2/03/2024 12:44 PM

No, it is in no way an inconvenience compared to any other community. There's way worse communities with way worse traffic

Anonymous

2/03/2024 01:13 PM

NO

Anonymous

2/03/2024 03:21 PM

No

Anonymous

2/03/2024 09:31 PM

No. Even at the busiest times of day there isn't any significant delays driving through town.

Anonymous

2/08/2024 02:16 PM

YEs

Anonymous

2/08/2024 03:17 PM

Congestion running up Wallace Ave to Main Street is the main issue.

Anonymous

2/08/2024 04:00 PM

The current setup works fine.

Anonymous

2/08/2024 04:38 PM

No we don't

Anonymous

2/08/2024 05:00 PM

No

Anonymous

2/08/2024 07:22 PM

Yes

Anonymous

2/08/2024 07:26 PM

Very busy during day with alot of traffic going through town.  
Pedestrians always crossing road ways and is a big danger.

Anonymous

2/08/2024 08:40 PM

No. They seem fairly good. There are some places some traffic lights might help. Like at the Listowel Chrysler, LTI and the concession at the north edge of Listowel. The very large volume of cars now make those corners very busy.

Anonymous

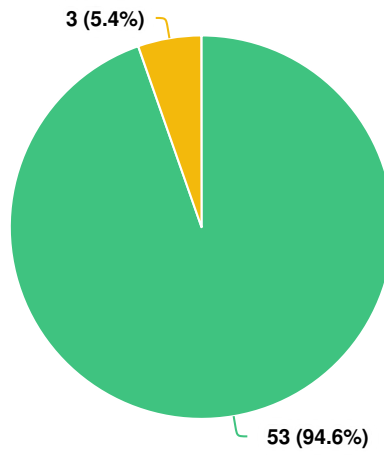
2/11/2024 07:05 PM

Not really other than long weekends which I don't think removing the trucks will accomplish anything. Plus I occasionally stop to support local businesses purchasing coffee & or food.

**Optional question** (54 response(s), 2 skipped)

**Question type:** Essay Question

**Q3** Do you (or your drivers) drive through the core of Listowel?



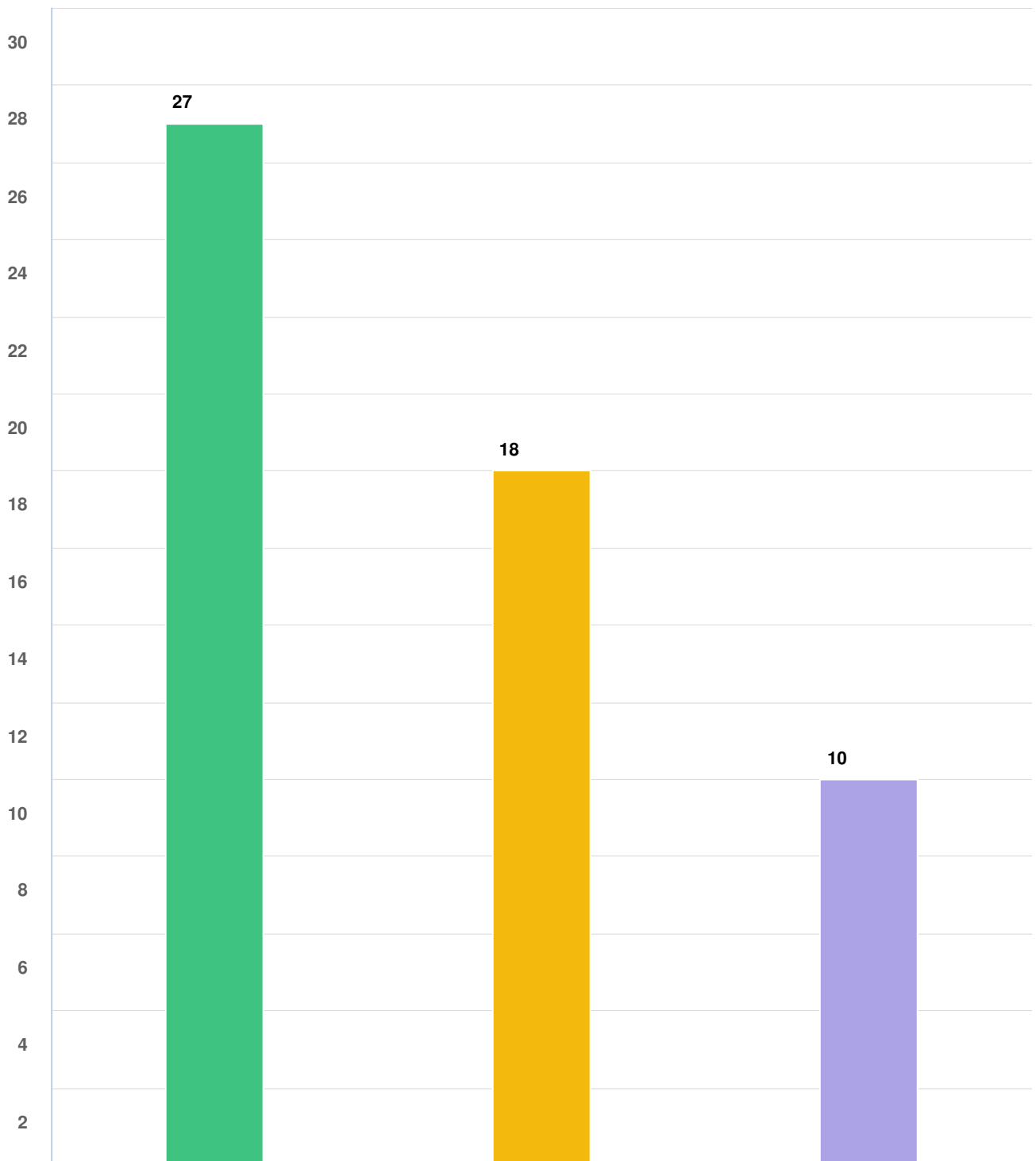
**Question options**

- Yes
- No

*Optional question (56 response(s), 0 skipped)*  
*Question type: Radio Button Question*



**Q4** If you answered yes to question #3, do you have local destinations that you are driving to?



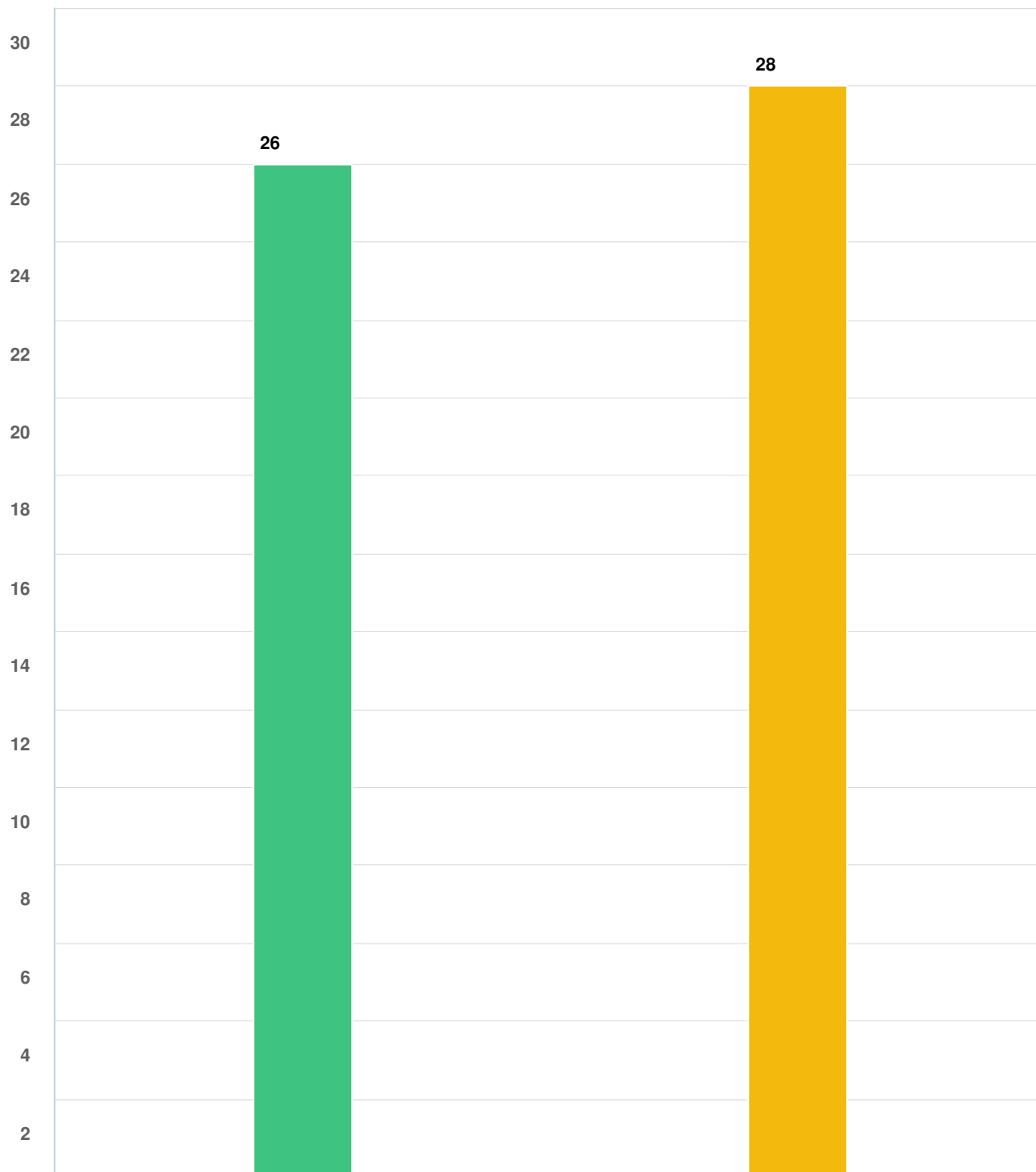
**Question options**

- Yes
- No
- Other (please specify)

Optional question (53 response(s), 3 skipped)

Question type: Checkbox Question

**Q5** If intersections were improved (through a combination of either roundabouts, signalization, widening and turning lanes) along the proposed truck by-pass, would the proposed route help your daily drive?



**Question options**

- Yes
- No (please specify)

Optional question (54 response(s), 2 skipped)

Question type: Checkbox Question

**Q6 | Are there any short-term, changes in the North Perth road network that could provide a better drive time for you?**

Anonymous

1/29/2024 03:56 PM

A truck route asap

Greg

1/29/2024 04:13 PM

Higher speed limits on line 84 and 23

Anonymous

1/29/2024 04:30 PM

Not sure

Anonymous

1/29/2024 05:16 PM

No

Anonymous

1/29/2024 05:18 PM

Not likely. Our issue as with all others will be trying to turn left in particular, but also right onto a busy road with traffic flowing at 90+.

Anonymous

1/29/2024 06:02 PM

Go back to the one way block on Wallace south. It was a huge improvement to flow of traffic

Anonymous

1/29/2024 06:13 PM

no

Anonymous

1/29/2024 06:47 PM

Turn lanes: Wb Hwy86 onto Tremaine aveS Hwy 23 S onto Line 84  
Wb Hwy86 onto Rd 165

Anonymous

1/29/2024 07:25 PM

I plan my route to the minimum time and what works with pulling Grain trains. And if you haven't seen trucks in your roundabout then I wouldn't advise for more till you make them bigger

Anonymous

1/29/2024 08:50 PM

Temporary measures lead to permanent to save a buck so no.

Anonymous

1/29/2024 09:32 PM

Removing that stupid roundabout, or widening it so I don't have to get 1ft away from the island in the middle

Anonymous

Put a round about at the corner of main street and tremaine. And put

1/29/2024 10:39 PM

one coming into the North end of listowel

Anonymous

1/30/2024 07:36 AM

Signs at corners leading to main highways would help drivers. GPS will not take them down side roads.

Anonymous

1/30/2024 08:17 AM

No

Anonymous

1/30/2024 09:06 AM

Lol no.. 86 & 23 is simple and easy

Anonymous

1/30/2024 09:25 AM

Nope

Anonymous

1/30/2024 09:25 AM

Ban cars from turning left on 86/23 unless there is a turning lane provided

Anonymous

1/30/2024 10:16 AM

If the county wouldn't half load all the county roads there would be no need for a lot of trucks to go through listowel. The only time I go right through listowel is during half load season and it's a huge pain. If you're going to make a truck by pass make a smooth road if it's a rough piece of shit like most truck by passes. No one will take it. All the best

Anonymous

1/30/2024 11:16 AM

No

Anonymous

1/30/2024 11:23 AM

No

Anonymous

1/30/2024 06:19 PM

Don't waste money on short term things. Just pave the roads that need paved and bang in roundabouts at the intersections to increase thru put. Let's get going.

Anonymous

1/31/2024 07:25 AM

Hwy 23, North at roundabout, connect back at 23 North of town

Anonymous

1/31/2024 02:08 PM

Reduce the speed on Wallace Ave. Put the one way street back as it really decreased the traffic on Wallace

Anonymous

1/31/2024 10:52 PM

Pedestrian walk ways moved back to the library and pasted the down town core. The lights down town are always being congested by these. The lights are there and people seem to cut between cars down town anyways

Anonymous

1/31/2024 11:12 PM

If the road near Donegan's was plowed better in winter and the south road to Molesworth was also that would be a better way to get around! I always went that way but roads were really crappy in winter!

Anonymous

2/02/2024 07:47 PM

Teaching car drivers respect for truckers and teach some truckers patience so they don't pull out before they are safe to do so.

Anonymous

2/02/2024 11:18 PM

Remove the parking on the west side of Wallace Ave N, which would allow more traffic proceeding west on 86 to make a RH turn and allow more traffic moving east or south through the lights at the same time.

Anonymous

2/03/2024 12:44 PM

Yes, implement a camera sensor at light to charge drivers that continue to turn left off main st towards Wallace south! That is an illegal turn which holds traffic up. Also charge the vehicles that continue to stop in intersection where it's a no stopping X that again holds up traffic flow. Close the entrance to the town parking lot off main, too many ppl want to turn left into lot and hold traffic back to lights as they wait for an opening. Change the cross walk at cibc corner that crosses main towards crabbies, that pedestrian cross should be lighted to allow pedestrians when the light turns green off Wallace south. To many times the way it is if there's traffic both cars or trucks wanting to turn right onto main from Wallace north traffic can't go as the pedestrians block flow. If the crosswalk was changed to match the traffic light off Wallace south it would disrupt the heavy flow from the north and minimize traffic disruption from south as most no north on Wallace (straight threw) it would also help to time the lights with the crosswalks on main st so pedestrians can't cross when the light is green on main which again potentially stops flow.

Anonymous

2/03/2024 01:13 PM

No

Anonymous

2/03/2024 03:21 PM

No

Anonymous

2/03/2024 09:31 PM

Yes. Leaving things alone

Anonymous

2/08/2024 02:16 PM

Figure out a better way to control the traffic at line 84 and highway 23. Long wait times to cross or turn when crossing into the other lane. Especially crucial when shift change occurs at LTI.

Anonymous

2/08/2024 03:17 PM

No, just too much volume a certain times.

Anonymous

2/08/2024 04:00 PM

Hire more snow plow operators. Snow removal this winter has been noticeably terrible compared to past years.

Anonymous

2/08/2024 04:38 PM

no

Anonymous

2/08/2024 05:00 PM

It's not that bad to begin with so why waste the money on something that doesn't need fixing.

Anonymous

2/08/2024 07:22 PM

There is no short term solution, Line 85 and line 87 as well as Rd 141 are not adequate roadways for heavy truck traffic. Significant widening and improvements must be made in order to avoid heavy vehicles in the downtown core.

Anonymous

2/08/2024 08:40 PM

Yes there is. If I am traveling north coming towards Listowel from the south then heading east on 86 I usually turn at LTI and get on 86 at the Listowel Chrysler corner. I think it would help with a traffic light at those corners. They are very busy at certain times of the day when shift changes are going on.

Anonymous

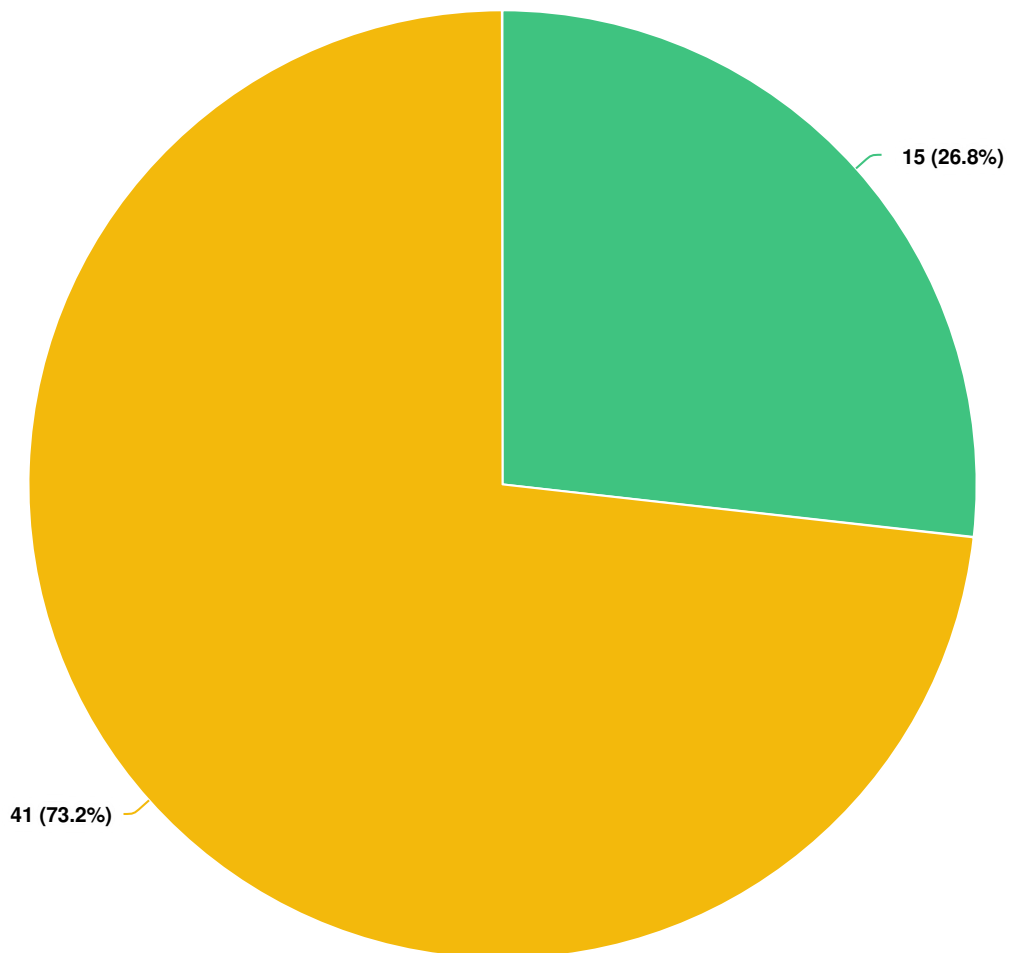
2/11/2024 07:05 PM

I honestly don't think there are. Skirting around town will not make my drive any quicker. If it's busy in town, it's also busy on every other road going to & from.

**Optional question** (39 response(s), 17 skipped)

**Question type:** Essay Question

**Q7** | If the by-pass was implemented with improved intersections would there still be a need for you to drive into or through Listowel?



**Question options**

- No
- Yes (please specify)

*Optional question (56 response(s), 0 skipped)*

*Question type: Radio Button Question*

**Q8 | The Municipality installed a 1-way block on Wallace Street South to see if it would reduce traffic congestion at the core intersection, was the 1-way block an improvement or problem for your daily drive?**

Anonymous

1/29/2024 03:52 PM

Improvement.

Anonymous

1/29/2024 03:56 PM

Created more issues as the backup at the lights was increased, and zig zagging was a mess.

Anonymous

1/29/2024 04:02 PM

Improvement

Greg

1/29/2024 04:13 PM

The 1 way was excellent, I live in wallace south and it was NOT a problem for me.

Anonymous

1/29/2024 04:30 PM

Never

Anonymous

1/29/2024 04:55 PM

No

Anonymous

1/29/2024 05:16 PM

Did not change anything. The issue is the short green light heading west at the downtown core.

Anonymous

1/29/2024 05:18 PM

I think it was an improvement in downtown traffic

Anonymous

1/29/2024 06:02 PM

Definitely an improvement while it was one way

Anonymous

1/29/2024 06:03 PM

I haven't noticed

Anonymous

1/29/2024 06:13 PM

no difference

Anonymous

1/29/2024 06:47 PM

The one way block was the best thing that Listowel has done with the main st lights since moving the stop lines back to accommodate



trucks turning.

Anonymous

1/29/2024 07:25 PM

Haven't seen it

Anonymous

1/29/2024 08:16 PM

That was an absolute improvement. Traffic in town was much smoother, the time at the lights at crabby joes were WAY quicker.

Anonymous

1/29/2024 08:42 PM

This might improve the intersection but I think it would be marginal at best

Anonymous

1/29/2024 08:50 PM

No difference.

Anonymous

1/29/2024 09:32 PM

One way streets only make everything worse; go see Montreal if you don't believe me. Just time up a few intersections and make right hand turns on red signal illegal and you will solve most of you traffic issues. Thanks for reading.

Anonymous

1/29/2024 10:39 PM

It was a huge improvement and would like to see it reinstalled

Anonymous

1/30/2024 01:30 AM

Problem, takes longer

Anonymous

1/30/2024 07:36 AM

It was a great improvement. The traffic went through town a lot quicker and there wasn't much wait.

Anonymous

1/30/2024 08:17 AM

No change

Anonymous

1/30/2024 09:06 AM

Nope

Anonymous

1/30/2024 09:25 AM

No

Anonymous

1/30/2024 09:25 AM

It probably sped the time it would take to go through the main intersection with not having any north traffic.

Anonymous

1/30/2024 09:32 AM

Neither

Anonymous

1/30/2024 10:16 AM

It wouldn't solve anything

Anonymous

1/30/2024 11:16 AM

I would say it improved slightly at the main intersection but only cause congestion at the intersections east and west of it because people now used those street to cut across town.

Anonymous

1/30/2024 11:22 AM

No

Anonymous

1/30/2024 11:23 AM

No issue

Anonymous

1/30/2024 06:19 PM

Problem

Anonymous

1/30/2024 09:19 PM

No

Anonymous

1/31/2024 03:15 AM

Wasn't really a problem on any of my trips to / or through Listowel / North Perth

Anonymous

1/31/2024 07:25 AM

Did not drive through at that time

Anonymous

1/31/2024 09:18 AM

Neither

Anonymous

1/31/2024 02:08 PM

It was an improvement. The slight variation of going around the block when in the car was worth the decrease in traffic on Wallace.

Anonymous

1/31/2024 10:52 PM

Problem. It caused more congestion.

Anonymous

1/31/2024 11:12 PM

I don't know!

Anonymous

2/01/2024 07:13 PM

problem

Anonymous

2/02/2024 05:32 PM

yes, it did help more then people realized, allowed for the traffic to get thru longer

Anonymous

2/02/2024 07:47 PM

Major problem. It caused many delays trying to get across the main road and caused many near misses with cars pulling out into traffic from non controlled side streets. NEVER suggest that stupidity again.

Anonymous

2/02/2024 08:45 PM

No, it did not make the commute through listowel any faster

Anonymous

2/02/2024 11:18 PM

It was a major problem, having to go out of our way every time we wanted to proceed from Wallace Ave S onto Wallace Ave N. Also it caused major backups trying to get back onto Main St and added 5-10 minutes on every trip when we were proceeding from Wallace Ave S to Wallace Ave N. It was also unfair to the Residents of Elma St adding that much more traffic onto their residential street.

Anonymous

2/03/2024 12:44 PM

Anyone with a non biased opinion can see that the one way street greatly improved flow! That boiled down to the people in whoville who couldn't be bothered to adjust their habits complaining and pointing fingers to something they don't understand. If the town would update the current side streets and provide a better access to (whoville) either from the race course or Mitchell road, then update the side streets parallel to main (which is already needed) then the residents of whoville can't complain. Also the implants that have moved here from other areas need to better understand the unique features of north Perth that there is better ways to go then through downtown. If stop signs were placed all down Wallace south that would not only reduce speeding and dangerous driving from cars but would be a natural inconvenience and force people to find a better route then Wallace south of the lights.

Anonymous

2/03/2024 01:13 PM

Don't know haven't been to Listowel for 6 months.

Anonymous

2/03/2024 03:21 PM

It was an improvement, but the crosswalk should be co-ordinated with the stop light on Wallace st south so that pedestrians don't stop the flow of traffic from Wallace stop south turning right onto main

Anonymous

2/03/2024 09:31 PM

Didn't notice much of a change

Anonymous

2/08/2024 02:16 PM

I thought traffic flowed faster through town but heard multiple complaints from people on Wallace South that it made their commute more difficult when trying to get to the north end of town.

Anonymous

2/08/2024 03:17 PM

Did not notice.

Anonymous

2/08/2024 04:00 PM

Yes. This was a proposal that actually made sense. It sped up the light cycles and reduced waiting time downtown. The users coming from the south on Wallace Street towards hwy 86 only had to drive one town block out of their way. That's way less inconvenience than thinking trucks should drive multiple country blocks out of their way.

Anonymous

2/08/2024 04:38 PM

neither

Anonymous

2/08/2024 05:00 PM

Improvement

Anonymous

2/08/2024 07:22 PM

Absolutely not. The solution in downtown Listowel is simple and cost effective. Simply remove access to Main St from the north side parking lots, they can be accessed on Inkerman. Remove the few street parking spots in front of the TD bank and subsequent buildings heading west. Make the right lane a right turn and straight through lane, and the current straight through lane turned into a left turn lane only with a car identifying camera or sensor and put in a left turn signal on the westbound side of Main St in concert with the already existing left turn signal on the east bound side. Problem solved

Anonymous

2/08/2024 07:26 PM

It helps depending on time of day. During busy hours very difficult to make turns due to traffic.

Anonymous

2/08/2024 08:40 PM

It was an improvement. The longer times for the light meant the traffic congestion from the larger number of cars now was greatly reduced.

Anonymous

2/09/2024 05:46 PM

undetermined

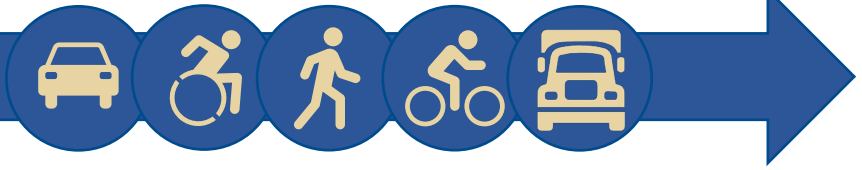
Anonymous

2/11/2024 07:05 PM

No but I did feel bad for people on that side of town having to jockey around to get to the downtown areas

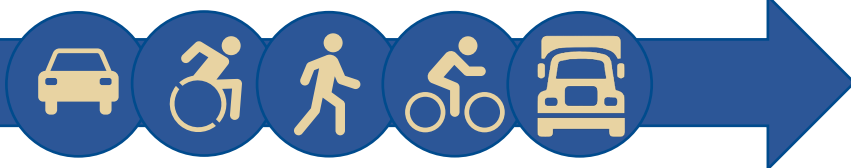
**Mandatory Question** (56 response(s))

**Question type:** Essay Question



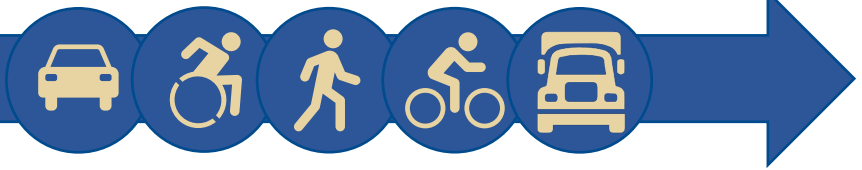
# Appendix B

## Policy Context



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# 1 Introduction

The **North Perth Transportation Master Plan** builds on the land use and transportation planning policy context defined by the Province of Ontario, Perth County, and the Municipality of North Perth. The following sections provide brief summaries of the most pertinent documents and their specific directives, regulations, and initiatives influencing the planning, design, construction, and operation of transportation services in the Municipality.

## 2 Province of Ontario

### 2.1 Planning Act

The *Planning Act* establishes the rules and regulations for land use planning in Ontario and describes how land may be controlled. The purposes of the Act are to:

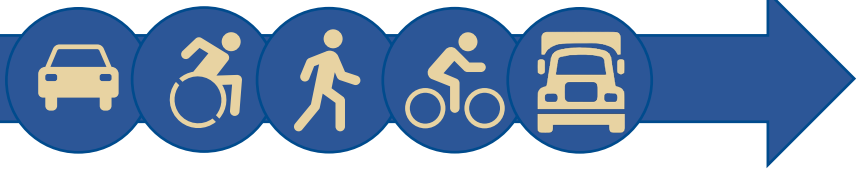
- Promote sustainable economic development in a healthy natural environment within the policy and by the means provided under the Act;
- Provide for a land use planning system led by provincial policy;
- Integrate matters of provincial interest in provincial and municipal planning decisions;
- Provide for planning processes that are fair by making them open, accessible, timely and efficient;
- Encourage co-operation and co-ordination among various interests; and
- Recognize the decision-making authority and accountability of municipal councils in planning.

Of note, the Act requires municipalities to prepare and update Official Plans, specifies the parameters of these plans, and requires all public works to comply with Official Plan provisions.

### 2.2 Provincial Policy Statement

The *Provincial Policy Statement* (PPS), last updated in 2020, provides policy direction on matters of provincial interest related to land use planning and development, including transportation facilities. The *Planning Act* requires that all planning decisions “shall be consistent with” the PPS.





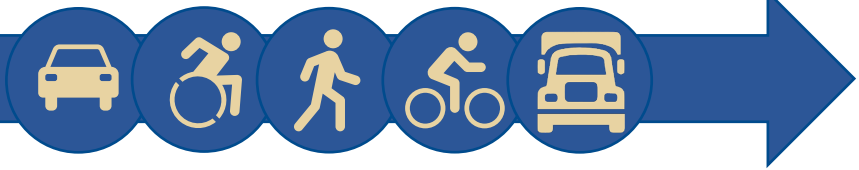
With respect to Infrastructure and Public Service Facilities (Policy 1.6), the PPS policies indicate municipalities should:

- Provide infrastructure and public service facilities in a coordinated, efficient and cost-effective manner, considering climate change impacts while accommodating projected growth;
- Coordinate and integrate with land use planning to ensure financial viability and ability to meet current and projected needs;
- Promote green infrastructure in complement with infrastructure;
- Consider optimization and adaptive re-use of current infrastructure and public service facilities before developing new;
- Strategically locate facilities to support effective and efficient delivery of emergency management systems, and to ensure the protection of public health and safety; and
- Co-locate public service facilities in community hubs to promote cost-effectiveness, facility service integration and access to transit and active transportation.

Furthermore, the PPS sets out specific Transportation Systems policies (Policy 1.6.7) that focus on the movement of people and goods through a safe, energy efficient, and multimodal transportation system, which includes transit and active transportation. This direction is further supported through policies aimed at developing compact, mixed land uses and transportation demand management initiatives that minimize the length and number of motor vehicle trips required.

Finally, with respect to Transportation and Infrastructure Corridors (Policy 1.6.8), the PPS directs municipalities to:

- Plan and protect corridors and rights-of-way for transportation, transit and infrastructure facilities to meet current and projected needs;
- Provide long-term protection for major goods movement facilities;
- Restrict development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified;
- Encourage preservation and reuse of abandoned corridors for purposes that maintain the corridor's integrity and continuous linear characteristics;
- Promote the co-location of linear infrastructure where appropriate; and
- Consider the environmental impacts when planning for corridors and rights-of-way for significant transportation infrastructure facilities.



Beyond transportation and infrastructure, the PPS provides important policy direction pertaining to:

- Efficient use and management of land;
- Provision of sufficient housing to meet changing needs, including affordable housing;
- Protection of the environment and resources including farmland, natural resources (for example, wetlands and woodlands) and water;
- Opportunities for economic development and job creation; and
- Protection of people, property, and community resources by directing development away from natural or human-made hazards, such as flood prone areas.

## 2.3 Accessibility for Ontarians with Disabilities Act, 2005

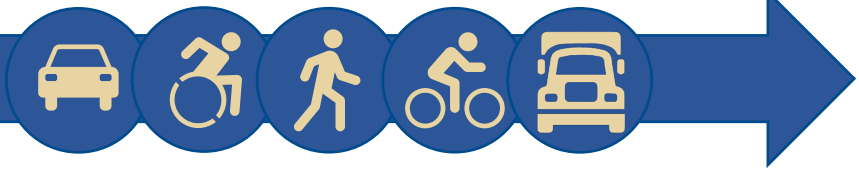
The *Accessibility for Ontarians with Disabilities Act, 2005* (AODA) outlines mandatory requirements for the private, public, and non-profit sectors in Ontario to remove barriers and ensure equitable access for all individuals with disabilities by 2025. Ontario Regulation 191/11 under the AODA establishes accessibility standards to apply when planning, designing, and building transportation facilities. This guidance was considered in preparing the TMP and forming its recommendations.

## 2.4 Southwestern Ontario Transportation Plan (Draft)

The *Southwestern Ontario Transportation Plan* (Draft, 2020) is a long-term plan “to connect communities and give people in southwestern Ontario more options to get where they need to go, when they need to be there.” The plan’s vision is that “individuals, families, and businesses across southwestern Ontario have access to a safe and reliable transportation system that connects local communities, and contributes to the health, well-being, and economic prosperity of the entire region.”

The plan sets out the following goals to improve transportation in Southwestern Ontario:

- Getting people moving and connecting communities;
- Supporting a competitive open for business environment;
- Improving safety;
- Providing more choice and convenience; and
- Preparing for the future.



The five goals include more than 40 improvements for public transit, rail, highways and more across the region, including actions that will impact North Perth and should be reflected in the TMP.

At the time of writing, the Province was finalizing the plan.

## 2.5 #CycleON: Ontario's Cycling Strategy

*Ontario's Cycling Strategy* (#CycleON) is a 20-year plan to encourage the growth and improve the safety of cycling in the province. Initially released in 2013, the Strategy envisions cycling in Ontario as a recognized, respected, and valued core mode of transportation that provides individuals and communities with health, economic, environmental, social, and other benefits by 2033. But achieving this vision requires commitment from all partners for integrated action to:

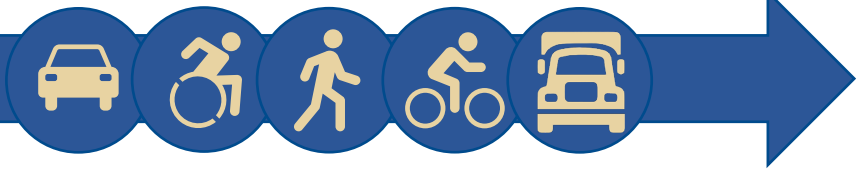
- Design healthy, active and prosperous communities;
- Improve cycling infrastructure;
- Make highways and streets safer;
- Promote cycling awareness and behavioural shifts; and
- Increase cycling tourism in Ontario.

To date, the Province has implemented #CycleON through two multi-year action plans – Action Plan 1.0 released in 2014 and Action Plan 2.0 released in 2018. The Government's website does not identify any further implementation actions currently.

## 2.6 Ontario Trails Strategy

The *Ontario Trails Strategy* is a long-term plan that establishes strategic directions for planning, managing, promoting, and using trails in Ontario. Adopted in 2005, the Strategy recognizes trails as key economic and tourism assets for Ontario communities that bring important health benefits and contribute to a high quality of life. With a vision to develop a world-class system of diversified trails, planned and used in an environmentally responsible manner that enhances the health and prosperity of all Ontarians, the Strategy focuses on:

- Improving collaboration among stakeholders;
- Enhancing the sustainability of Ontario's trails;
- Enhancing the trail experience;
- Educating Ontarians about trails; and
- Fostering better health and a strong economy through trails.



## 3 Perth County

### 3.1 Perth County Official Plan

#### 3.1.1 Current Official Plan

The *Perth County Official Plan* is the guiding document for directing growth and development in Perth County. Last consolidated in 2020, the Official Plan currently in force and effect provides policies to ensure an improved quality of life and to secure the health, safety, convenience, and well-being of the present and future residents of the County. It also establishes the future development pattern of the County and articulates goals, policies, and implementation mechanisms to achieve this desired structure.

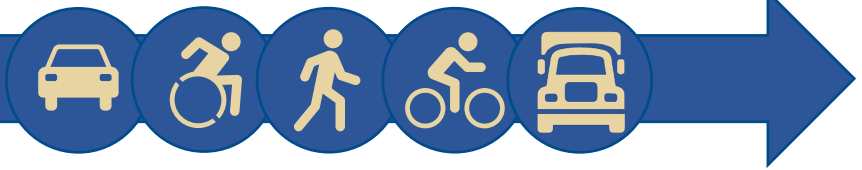
Section 3B of the County Official Plan outlines the following transportation goals:

- Support and encourage the development of a compact urban form in the serviced urban areas to encourage and facilitate active transportation;
- Support and encourage the siting of new public buildings (...) in locations that encourage and support active transportation;
- Encourage the use of and sustain existing trails and open spaces throughout Perth County.

The plan indicates "development within the "Serviced Urban Area" designations for the Listowel, Mitchell, and Milverton Wards shall be in accordance with the specific land use designations and policies of existing local Official Plan documents." The County Official Plan further clarifies that "the content and form of local Official Plan documents may vary from one "Serviced Urban Area" to the next; however, they shall contain, at a minimum, general development and land use policies..." that address transportation.

Section 17.2 provides additional information related to the road network in the County and its connectivity within internal municipalities (e.g., North Perth) and to external jurisdictions (e.g., Region of Waterloo).

The transportation policies in the County Official Plan informed the TMP, providing guidance especially for the active transportation components of the plan.



## 3.1.2 New Official Plan

Perth County is in the process of creating a New Official Plan. Based on community input, background reports, and updated provincial policy, the New Official Plan will ensure both a vision for Perth County and a comprehensive strategy for cultivating new opportunities, building community, ensuring environmental health, and making intelligent and informed land use decisions.

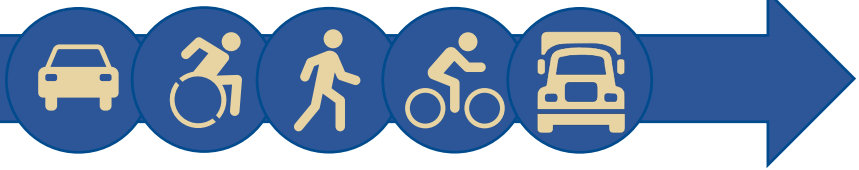
The County released the draft New Official Plan – *Perth County Official Plan 2048* – on December 21, 2023 for comment. Consultation on the plan will continue throughout spring 2024, with adoption by County Council and approval by the Minister of Municipal Affairs and Housing to follow. No timeline is provided for these subsequent stages.

The draft New Official Plan carries forward several policy elements from the current plan, including the road classification system. It also continues to recognize Listowel (fully) and Atwood (partially) as Serviced Urban Areas and Gowanstown, Monkton, and Trowbridge as Villages. These Settlement Areas will continue to accommodate most of the population and employment growth in the County and be subject to the land use policies in the plan.

From a transportation perspective, the draft New Official Plan also incorporates several changes, including updated growth forecasts and new policy direction pertaining to active transportation and transit. The growth management policies in Section 2.3 of the draft New Official Plan assign responsibility for providing infrastructure and public service facilities to local municipalities, who will be requested to report annually to the County on their capacity to accommodate growth. To this end, the plan will require local municipalities to prepare Master Infrastructure Servicing Plans, such as this Transportation Master Plan, for a 25-year planning horizon.

Section 4.7 of the draft New Official Plan sets out the transportation policies for the County, based on the following objectives:

- Promote the establishment of a comprehensive and efficient transportation system [...] to support equity, social and health outcomes, and the economic development objectives of the County;
- Continue to provide a consistent road system within the County, and connecting to surrounding municipalities;
- Promote, support, and improve PC Connect public transit service; and
- Develop active transportation infrastructure within new development and existing communities;



- Optimize existing infrastructure and public facility use prior to the development of new infrastructure; and
- Protect existing and planned infrastructure corridors, including those required for transportation, distribution, transit and energy transmission, to meet current and projected needs.

Section 4.7.2 states the general transportation policies for providing a range of local and higher-order systems and networks for the movement of goods and people, including roads, cycling routes and trails, and rail corridors. It requires the County to prepare a County-wide Transportation Master Plan. Section 4.7.3 provides policy direction specific to the road system, including continuation of the previous road classification system of Provincial Highways, County Roads, and Local Roads. Section 4.7.6 outlines guidance about active transportation, noting that that “New development within the Serviced Urban Areas will facilitate active transportation through compact forms, and connectivity to existing networks”.

The updated policies in the draft New Official Plan informed the TMP, recognizing that the plan must still be adopted by County Council and approved by the Minister before coming into force and effect.

## 3.2 Perth County Strategic Plan

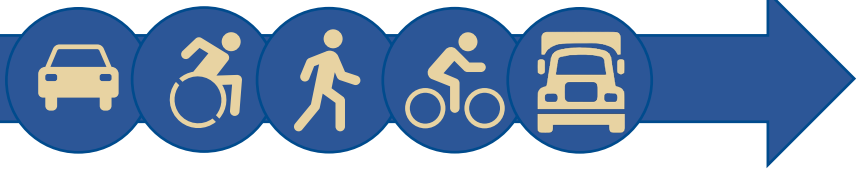
The 2023-2026 *Perth County Strategic Plan* provides a road map to help achieve the County's vision of being a self-reliant and fiscally responsible region known for exceptional service delivery and client-service focus. As the plan states, “The County will strive to enable the region to grow responsibly, innovate successfully and experience excellent quality of life.”

Consistent with the 2019-2022 version, the Strategic Plan sets out five goals – growth and economic development, regionalization and service effectiveness, customer service excellence, community development and planning, and corporate sustainability – and several priorities under each goal. Many of the actions pertain to or depend on transportation, with specific initiatives including:

*Goal 1 – Growth and Economic Development*

*Priority 3 – Flexible and Affordable Transportation Options Exist within the County*

- Collaboratively develop a sustainability plan to enable on-going and meaningful transit access for the region with clearly defined roles, responsibilities, and expected outcomes for each partner.



- Support the development of diverse and flexible transportation options throughout the County and connecting into southwestern Ontario to support commuting and service access.

The Strategic Plan priorities helped reinforce and guide the TMP recommendations.

### 3.3 Perth County Cycling Tourism Strategy

Perth County completed a *Cycle Tourism Strategy* in 2022 to guide the development of its cycle tourism program and continue to improve its offerings, marketing, and collaborative efforts with community stakeholders and partners. The strategy helps County Economic Development and Tourism leverage the growing cycle tourism market and maximize the economic impact on Perth County communities.

## 4 Municipality of North Perth

### 4.1 Listowel Ward Official Plan

The *Listowel Ward Official Plan*, which came in force in 2010, is the guiding document for directing growth and development in the community of Listowel. Aligned with the current Perth County Official Plan, the local plan contains goals, objectives, and policies to manage and guide physical change and the effects on the social, economic, and natural environments of the Listowel Ward for the next 20 years.

Section 14 of the Listowel Ward Official Plan outlines the following transportation goals, echoing the guidance specified in the Perth County Official Plan. Section 16.3 provides additional information related to the road network in the Listowel Ward.

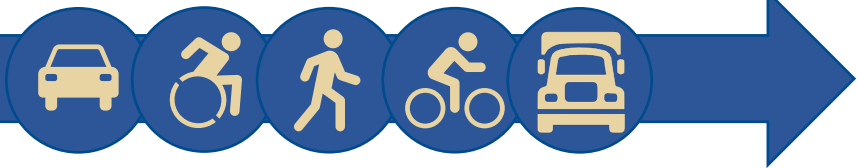
Like the Perth County Official Plan, the transportation policies in the Listowel Ward Official Plan informed the TMP.

### 4.2 North Perth Strategic Plan

The 2023-2026 *North Perth Strategic Plan* defines the future direction of the municipality and guides its progress in getting there. An update to the 2019-2022 version, the plan builds on the following eight community values:

- **Supportive and Friendly** – We are a friendly, close, and welcoming community where people care to take the time to get involved and interact.
- **Welcoming** – We are a community that feels like home; where it is easy to build and sustain long- term relationships and friendships.





- **Contributing** – We are supported with vibrant groups and service clubs that are actively involved in shaping and supporting the community.
- **Progressive** – We are a community that is innovative, creative, visionary and forward-thinking. We embrace growth and are welcoming of the need to change and evolve.
- **Sustainable** – We are a responsible community that is environmentally conscious and recognizes the need for sustainability in our actions.
- **Thriving** – We are a vibrant community where it is possible to build a business and thrive in a career.
- **Safe** – We are a safe and clean community where people are comfortable. We are a great place to raise kids and build a family.
- **Well-Located** – We are ideally situated near other urban centres. We are a hub between cities and cottage country.

The Strategy Plan sets out four goals –service effectiveness, corporate sustainability, growth and economic development, and community planning and development – and several priorities under each goal. Like the County plan, many of the actions pertain to or depend on transportation, with specific initiatives including:

*Goal 4 – Community Planning and Development*

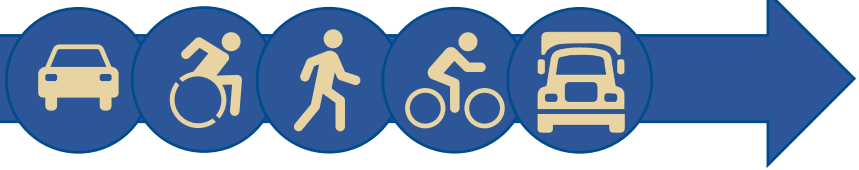
*Priority 4.3 – North Perth is Easy to Move Around and there are Diverse Transportation Options*

- Implement the Transportation Master Plan;
- Establish an alternative transportation corridor for commercial truck traffic;
- Collaborate with the County to explore next steps in sustainability for PC Connect or future alternative models;
- Support the development of flexible transportation options throughout southwestern Ontario; and
- Connect and promote an active transportation system that supports connections between housing, employment, services, and communities through North Perth.

## 4.3 Community Safety and Well-Being Plan

The 2021-2024 *Community Safety and Well-being (CSWB) Plan* provides a roadmap for the six partner municipalities – City of Stratford, Town of St. Marys, Municipality of North Perth, Municipality of West Perth, Township of Perth East, and Township of Perth South – to work together to support a more inclusive, connected, and coordinated





approach to safety and well-being in their communities. The plan builds on existing successful initiatives by leveraging and maximizing available community assets while at the same time working to address gaps in the system to strengthen the responsiveness and supportiveness of the services network.

The CSWB Plan identifies four priority areas and associated goals and objectives based on key areas of concern and vulnerable populations. Goal 3.3 under Priority Area #3 (Affordable and Accessible Health, Social, and Recreation Services) aims to increase availability of affordable transportation options, setting out two objectives:

- Implement new cost-effective transportation initiatives for low-income and rural residents to support improved access to healthcare, social services, and recreational activities.
- Determine the effectiveness of the Perth County Connect public transit pilot in providing residents with affordable and accessible transportation options within Perth County, and surrounding areas, including Stratford, St. Marys, Kitchener/Waterloo, and London. Focus on ridership of rural community members and low-income residents.

Complementary transportation policies and strategies in the TMP could play a role in helping to achieve these objectives.

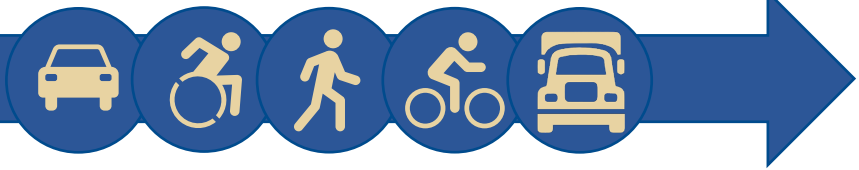
## 4.4 North Perth Development Charges Background Study

The 2019 *North Perth Development Charges (DC) Background Study* identifies development-related infrastructure needs based on residential and non-residential growth forecasts to the year 2041 and apportions the cost of the growth-related infrastructure to the planned growth. The study provides the basis for the Municipality's DC by-law and the rates levied on new development in North Perth to finance transportation infrastructure.

The development forecasts and capital works program prepared for the DC Background Study informed the TMP, particularly the roads strategy of the plan.

## 4.5 North Perth Master Growth Plan Update

The 2014 *North Perth Master Growth Plan Update* assessed available land supply in the Municipality and whether changes to Settlement Area Boundaries were required to meet growth projections. The study confirmed the Municipality has a sufficient supply "to accommodate the anticipated land demand over the next 20 years." Approximately 90% of the available land supply (290.2 ha) is in Listowel (224 ha) and Atwood (35 ha).



The plan recommendations, specifically the allocation of growth, informed the traffic forecasting and future road needs assessment for the TMP.

### 4.6 North Perth Servicing Master Plan

The Municipality is undertaking a *Servicing Master Plan* for stormwater, wastewater, and water servicing in the communities of Listowel and Atwood. The findings, conclusions, and/or recommendations of the study were not available at the time of writing.

### 4.7 North Perth Parks and Recreation Services Master Plan

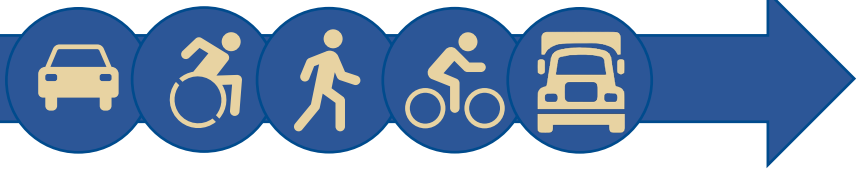
The 2017 *North Perth Parks and Recreation Services Master Plan* identifies current and future parks and recreational needs in the Municipality over a ten-year planning horizon. The plan sets out the following six guiding principles, consistent with its vision of “working together to enrich the quality of life of all residents through vibrant parks, recreations and culture opportunities”:

- Responsive service delivery;
- Opportunities for all;
- Accessible and high-quality facilities;
- Connected parks and trails;
- Building capacity and partnerships; and
- Responsible and efficient use of resources.

The Master Plan includes the following recommendations pertaining to trail facilities:

- Complete the Memorial Park trail loop;
- Prioritize active transportation and trail planning and coordination as key roles of the North Perth Recreation Advisory Committee;
- Require the dedication of land for the development of pedestrian and bicycle infrastructure as a condition of plan of subdivision approval as permitted by the *Planning Act*; and
- Address trail gaps and potential connections at the neighbourhood level, in addition to planning for a long-term vision to connect the Listowel-Atwood Trail to the G2G (Goderich to Guelph) Trail.

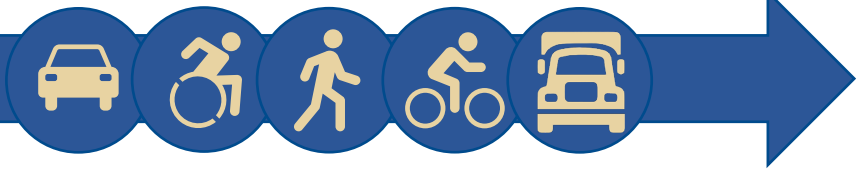
The plan helped guide and reinforce the active transportation recommendations of the TMP.



## 4.8 North Perth Northeast Master Plan

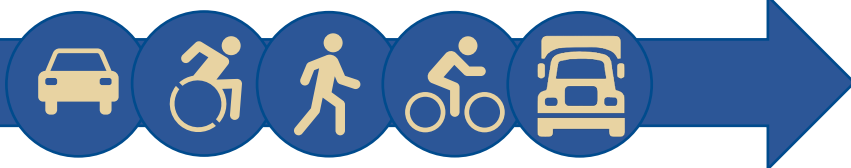
The 2020 *North Perth Northeast Master Plan* Schedule B Class Environmental Assessment identifies servicing requirements for the development of lands surrounding Highway 23, generally north of downtown Listowel and south of Line 87. The study assessed varying alternatives to provide sanitary sewer, stormwater management, and water distribution services to serve future development. The study also included a Traffic Impact Study for the subject lands.

The TMP considered the preliminary development allocations within this area of Listowel and the traffic study findings in establishing future road service needs.



# Appendix C

## Road Network Assessment

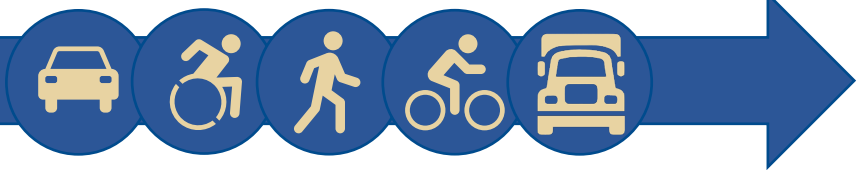


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## Attachments

- Attachment A Traffic Count Data Summary
- Attachment B Existing (2023) Synchro Traffic Operations Reports
- Attachment C Future (2041) Synchro Traffic Operations Reports



## Maps

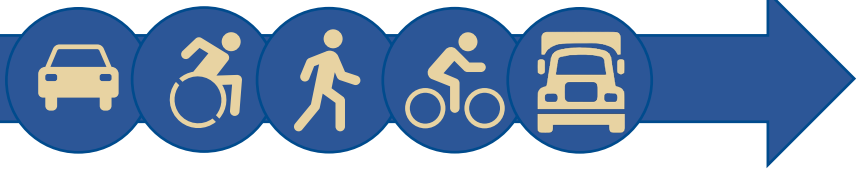
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# 1 Introduction

This appendix documents the road network assessment completed for the **North Perth Transportation Master Plan**. The assessment is organized as follows:

- **Chapter 2** describes existing conditions including an overview of the current road network serving North Perth and historic traffic volumes;
- **Chapter 3** summarizes the road classification review findings and recommended classification system; and
- **Chapter 4** forecasts future traffic conditions in Listowel and identifies required improvements at key arterial/collector and collector/collector intersections.

Three attachments containing traffic count data and detailed technical analysis output supplement this report.

## 2 Existing Conditions

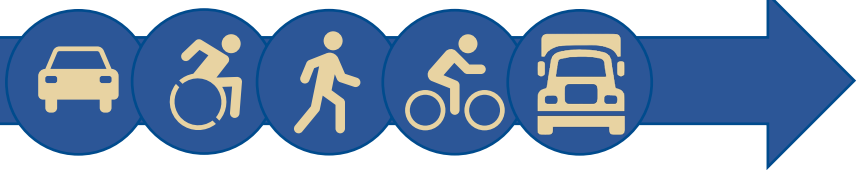
### 2.1 Road Network

North Perth is served by a grid network of roads comprising provincial highways, arterial roads under Perth County jurisdiction, and arterial, collector, and local roads maintained by the Municipality.

Highway 23 is the only provincial highway in North Perth, running (nominally) north-south between West Monkton and Palmerston. The Municipality has jurisdiction and control over Highway 23 through most of Listowel (Main Street between Mitchell Road South and Wallace Avenue North and Wallace Avenue North between Main Street and the north limit of Listowel). The Ministry of Transportation (MTO) designates this section as a connecting link highway under Section 21 of the *Public Transportation and Highway Improvement Act*<sup>1</sup>.

Perth County roads in North Perth include Perth Line 55, Perth Line 72, Perth Line 86, Perth Line 88, Perth Line 91, Perth Line 93, Perth Road 140, Perth Road 147, and Perth Road 178. These arterial roads carry significant volumes of through traffic and heavy vehicles at higher speeds and connect the municipal road network to Highway 23.

<sup>1</sup> Connecting links are municipal roads that connect two ends of a provincial highway through a community. Under the *Highway Traffic Act*, the Ministry of Transportation has the authority to approve all municipal by-laws and traffic control signals that restrict or interrupt the flow of through traffic on a connecting link highway.



The municipal road network in the predominately rural areas outside Listowel generally follows a grid pattern. These roads are typically continuous and carry moderate traffic volumes with few trucks unless in an employment area. In the Listowel Urban Area, the network comprises a denser, grid pattern of mostly local roads (albeit with some discontinuities). **Table 2.1** lists the few arterial and collector roads under the Municipality's jurisdiction, which connect the local roads to Highway 23 and the Perth County road system in Listowel.

**Table 2.1: Arterial and Collector Roads Under Municipal Jurisdiction in Listowel Urban Area**

Road	From	To	Listowel Ward Official Plan Designation
Line 84	Highway 23	Tremaine Avenue S	Arterial
Main Street W	Highway 23	Wallace Avenue N	Arterial/Connecting Link
Main Street E	Wallace Avenue N	Tremaine Avenue S	Arterial
Tremaine Avenue S	Main Street E/ Perth Line 86	Line 84	Arterial
Wallace Avenue N	Listowel Urban Area Boundary	Main Street	Arterial/Connecting Link
Wallace Avenue S	Main Street	Middle Maitland River	Collector

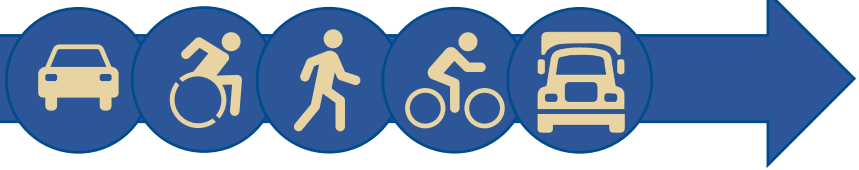
## 2.2 Traffic Volumes

### 2.2.1 Data

Historical and recent intersection traffic volume data were reviewed to gain a better understanding of prevailing traffic conditions and trends in North Perth, and Listowel more specifically. <sup>2</sup> **Attachment A** summarizes the traffic count data assembled for the study. The table lists the subject intersections, notes the date(s) turning movement counts were collected at each location, and states the source of the count data, being:

<sup>2</sup> Early in the study, public health measures invoked to reduce the spread of the COVID-19 virus severely altered traffic patterns, thereby impacting data reliability and comparability to other years. For this reason, no traffic volume data were collected during this period. But as travel restrictions eased toward study completion, more representative traffic counts could be collected.





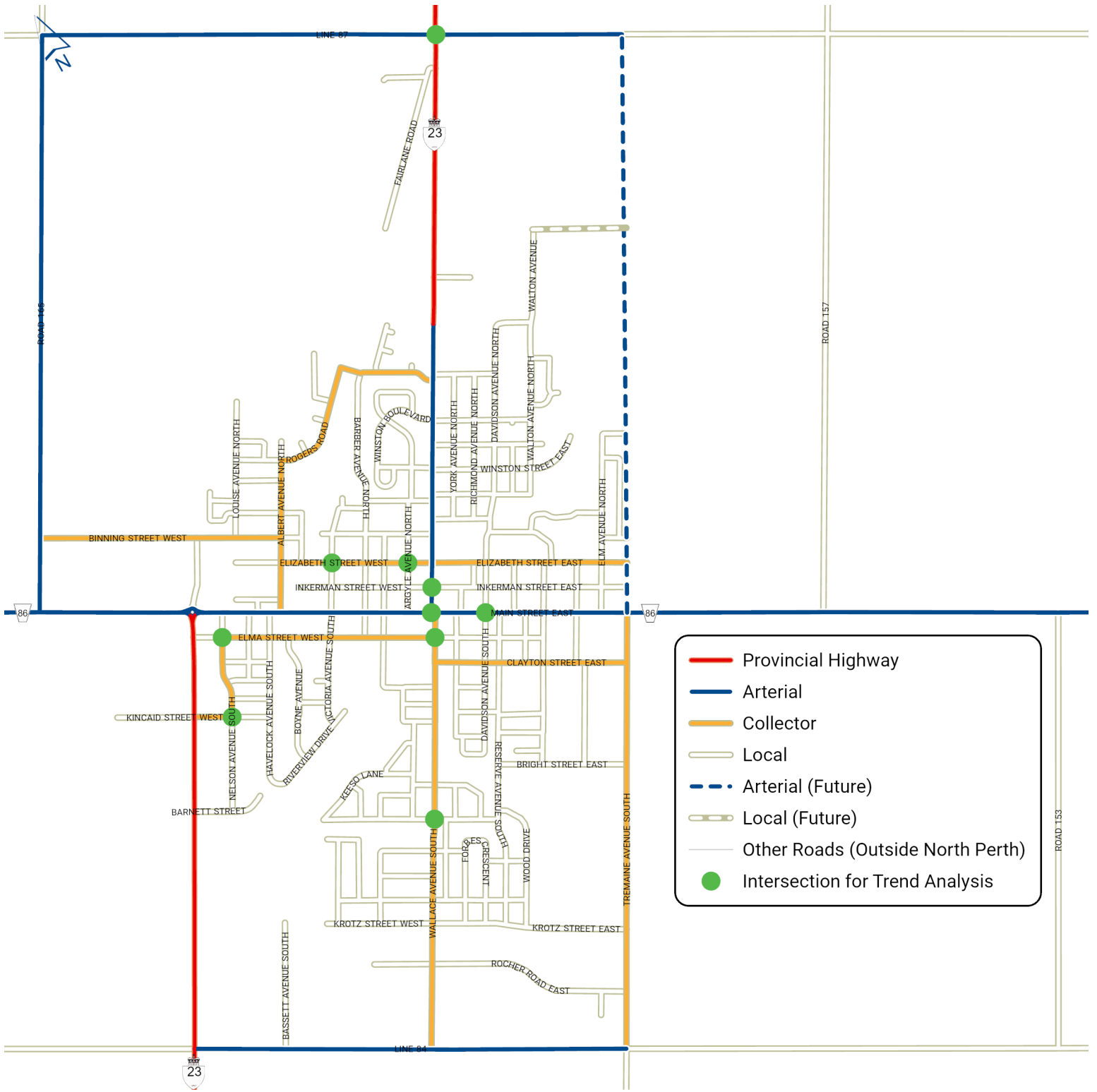
- **North Perth Traffic Study<sup>3</sup>** – Paradigm conducted eight-hour (7:00 to 9:00 AM, 11:00 AM to 2:00 PM, and 3:00 to 6:00 PM) turning movement counts between November 13 and 22, 2012 at 29 intersections in Listowel for the *North Perth Traffic Study*. Paradigm also counted 11 intersections (including three locations from 2012) on September 18, 2015 from 12:00 to 6:00 PM and on September 19, 2015 from 10:00 AM to 6:00 PM to assess congestion in downtown Listowel as part of the study. MTO supplied counts at two intersections for the study, as well.
- **Other Sources** – More recent turning movement counts supplied by North Perth (from 2021), conducted by Paradigm for other studies (in 2021 and 2022), and extracted from a development transportation impact study provided by the Municipality (submitted in 2019) augmented the data set.
- **2022 Traffic Data Collection Program** – Paradigm collected turning movement counts on September 27, 2022 at intersections in Listowel (12 locations) and the more rural areas of North Perth (9 locations) for the Municipality's traffic data collection program. The counts were conducted over a 24-hour period with eight hours (7:00 to 9:00 AM, 11:00 AM to 2:00 PM, and 3:00 to 6:00 PM) extracted for analysis purposes. 24-hour counts were also processed for four intersections.

## 2.2.2 Trends

The availability of multiple turning movements counts enabled the comparison of traffic volumes over a ten-year period at the 10 intersections in Listowel shown in **Figure 2.1**. **Table 2.2** summarizes the total volume entering each intersection in the PM peak hour by year available. All counts (except for the 2019 count at Line 87 and Road 164 (Highway 23) and 2021 count at Hutton Street and Wallace Avenue South) were conducted in the fall (i.e., September, October, or November).

The more mature areas of Listowel have experienced relatively little traffic growth over the past 10 years. By contrast, the areas to the north (near Line 87) and south (near Hutton Street and Wallace Avenue South) of town show more significant traffic volume increases, consistent with the development activity experienced in these parts of the community over this period.

<sup>3</sup> Paradigm Transportation Solutions Limited. *North Perth Traffic Study*. May 2016.



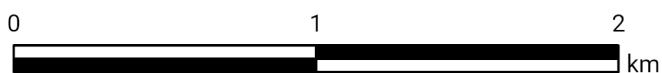
## MAP 2.1: INTERSECTION LOCATIONS FOR TREND ANALYSIS

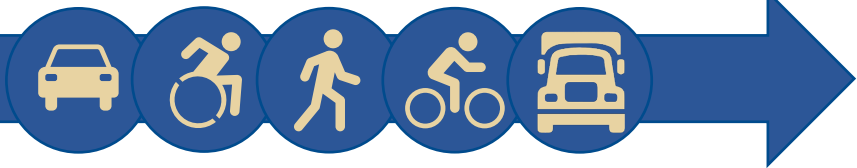
COORDINATE SYSTEM: NAD 1983 UTM Zone 17N

DATE: May 2024

DATA SOURCES: Municipality of North Perth, Perth County, Land Information Ontario, ESRI

MUNICIPALITY OF  
**North Perth**





**Table 2.2: Traffic Volume Trends in Listowel**

Intersection	Total PM Peak Hour Vehicles Entering				
	2012	2015	2019	2021	2022
Elizabeth Street W and Argyle Avenue N	335			302	
Elizabeth Street W and Victoria Avenue N	219				196
Elma Street W and Nelson Avenue S	252				308
Elma Street and Wallace Avenue S	477	729			
Hutton Street and Wallace Avenue S	184			<b>350</b>	359
Inkerman Street and Wallace Avenue N	1,175	1,114			
Kincaid Street and Nelson Avenue S	235				299
Line 87 and Road 164 (Highway 23)	793		<b>736</b>	1,022	
Main Street E and Davidson Avenue		998			820
Main Street and Wallace Avenue	1,236	1,402		1,381	

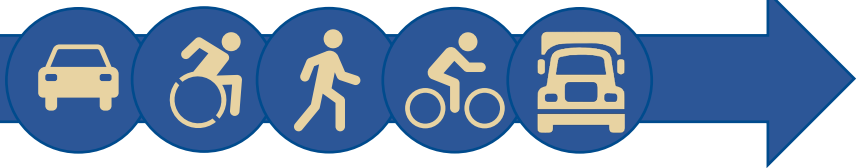
Notes:

1. Traffic volumes in **bold** not collected in September, October, or November.

**Table 2.3** compares 2012 and 2022 PM peak hour traffic volumes (total entering) at four of the Listowel intersections listed in **Table 2.2** to quantify the magnitude of this change. As noted, traffic volumes in the developing south part of Listowel have grown at higher rates over the past 10 years (e.g., approximately 6.9% per year at Hutton Street and Wallace Avenue South) than the more mature areas of town (i.e., between - 1.1% and +2.4% per year).

**Table 2.3: Change in Traffic Volumes at Select Listowel Intersections**

Intersection	Total PM Peak Hour Vehicles Entering		% Change over 10 Year Period
	2012	2022	
Elizabeth Street W and Victoria Avenue N	219	196	-12%
Elma Street W and Nelson Avenue S	252	308	+22%
Hutton Street and Wallace Avenue S	184	359	+95%
Kinkaid Street and Nelson Avenue S	235	299	+27%



**Table 2.4** compares eight-hour and 24-hour traffic volumes (total entering) at four other intersections in the Municipality. The eight-hour volumes are between 55% and 60% of daily traffic volumes, which is consistent with typical industry guidance, except at the intersection of Line 87 and Road 152. At this rural location, eight-hour traffic volumes represent approximately 71% of the daily total.

**Table 2.4: Comparison of Eight and 24-Hour Traffic Volumes at Select North Perth Intersections**

Intersection	Environment	Total Vehicles Entering (2022)		8-Hour as Proportion of 24-Hour Volume
		8-Hour <sup>1</sup>	24-Hour <sup>2</sup>	
Binning Street W and Louise Avenue N	Urban (Listowel)	994	1,666	60%
Main Street E and Davidson Avenue	Urban (Listowel)	6,088	11,038	55%
Line 84 and Perth Road 147	Rural	677	1,159	58%
Line 87 and Road 152	Rural	864	1,210	71%

Notes:

1. Total traffic volume entering the intersection between 7:00 and 9:00 AM, 11:00 AM and 2:00 PM, and 3:00 PM and 6:00 PM.
2. Total traffic volume entering the intersection between midnight and 11:59 PM.

### 3 Road Classification Review

#### 3.1 Functional Classification

Road networks comprise various facility types, each of which performs a specific function from moving traffic through the network to providing access to abutting lands, or a combination of both. A functional roadway classification system establishes a “hierarchy” of roads grouped according to the type of service they provide, with gradation in function from access to mobility. The concept is based on the principle that roads do not operate independently but form part of an interconnected system. The design of the road must also fit its function and context, consistent with the Complete Streets principles.

Roadway classification systems in Canada typically divide roads into as many as five main categories: Freeway/Expressway, Arterial, Collector, Local, and Public Lane. Some systems may also separate arterial and collector roads into major and minor classes.

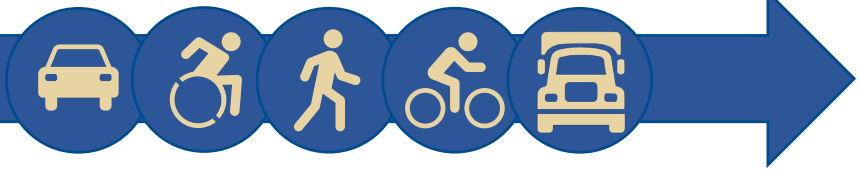
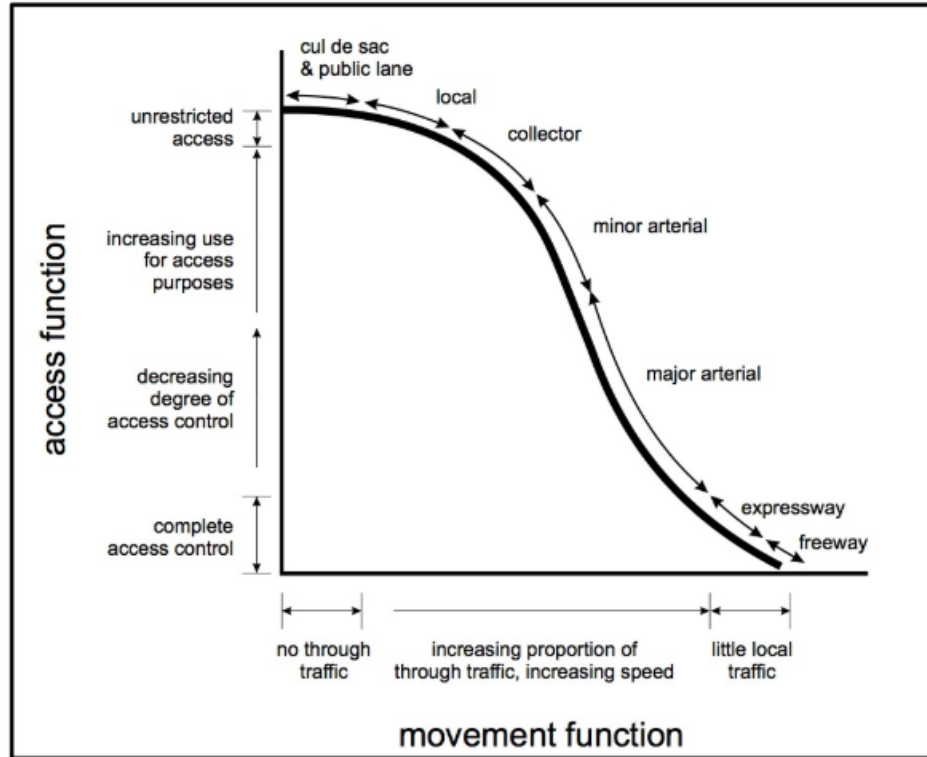


Figure 3.1 illustrates the relative importance of the traffic movement and land access service functions for each category.

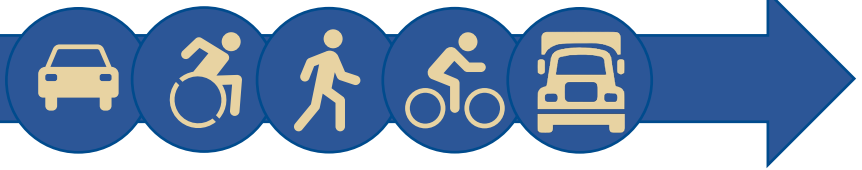


**Figure 3.1: Roadway Service Function**

(Source: Transportation Association of Canada, "Design Controls, Classification and Consistency," Chapter 2 in *Geometric Design Guide for Canadian Roads*, (Ottawa: TAC, 2017), 47.)

A road network operates most efficiently and safely when each facility is designed and managed to serve its intended purpose. When a roadway attempts to prioritize both movement and access, neither function is well served. This compression of service functions typically results in higher collision rates, traffic congestion, excessive vehicle emissions and fuel consumption, and community displeasure with neighbourhood traffic conditions.

Most communities prescribe a road classification system and designate their roadways based on this structure to help minimize potential conflicts between service functions. Factors influencing classification typically include adjacent land use, desired service function (traffic movement versus land access), traffic volume, flow characteristics, operating speed, and vehicle types.



## 3.2 Current Roadway Classification System

Most Ontario municipalities set out roadway classification systems in their Official Plans. In North Perth, the Perth County Official Plan establishes the classification system for roads outside Listowel, while the Listowel Ward Official Plan specifies classifications for roads within the Listowel Urban Area.

Both Official Plans contain relatively similar roadway classification policies. The current Perth County Official Plan defines three categories of roads, as follows:

- **Provincial Highways** carry large volumes of traffic from one centre to another at relatively high speed; therefore, access to Provincial Highways is limited.

This classification applies to roadways under the jurisdiction of the Ontario Ministry of Transportation (MTO).

- **County Roads** serve both an arterial and collector function. Arterial roads are designed to carry large volumes of traffic from one centre to another. Access points should be minimal. Collector roads are designed to collect and carry local traffic to the arterial roads, to distribute traffic to local roads, and to provide access to abutting properties. Generally, access points should be kept to a minimum to permit the efficient and safe movement of traffic. Ideally, County Roads should have a minimum right-of-way width of 30 metres.

This classification applies to roadways under the jurisdiction of Perth County.

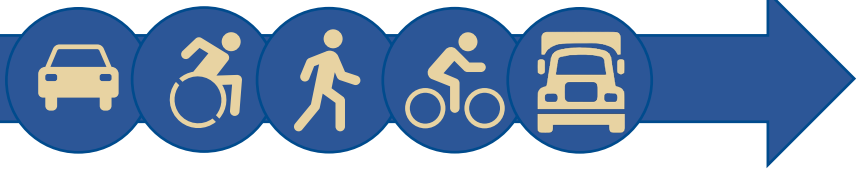
- **Local Roads** are generally intended to provide access to abutting properties. They generally carry low volumes of traffic and most of the traffic will have either an origin or destination along the road. Ideally, local roads should have a minimum right-of-way width of 20 metres.

This classification applies to roadways under the jurisdiction of the local municipalities within the County.

The draft Perth County Official Plan (December 21, 2023) maintains the same general classification system with some minor refinements.

The Listowel Ward Official Plan specifies four categories of roads following an amendment in 2021 (OPA 34) to introduce a Collector Road designation. The categories are as follows:

- **Provincial Highway** is a highway under the jurisdiction and control of MTO.
- **Arterial Roads** (or **County Roads** in the County Official Plan) are intended and designed to carry large volumes of traffic from one area to another and/or through a settlement area (e.g., Listowel).



- **Collector Roads** are designed to collect and distribute traffic from Local Roads to Arterial Roads, and to provide access to abutting properties. These roads tend to be shorter and carry lower volumes of traffic than Arterial Roads.
- **Local Roads** are intended and designed to provide access to abutting properties and to carry lesser volumes of traffic than Provincial Highways and Arterial Roads. Most roads in the Listowel Ward are Local Roads.

The existing and proposed road classification systems are consistent with current recommended practice and provide sufficient gradation in service function (i.e., arterial, collector, and local) to enable appropriate designation of the range of municipal roads needed to serve North Perth. However, the current systems could benefit from additional criteria defining (and differentiating between) the characteristics of different road classes, particularly for roads in the Listowel Urban Area. Such criteria could include typical cross-section features, traffic volumes, vehicle types, and right-of-way widths.

**Table 3.1** recommends typical characteristics for rural and urban roads in North Perth based on guidance provided in the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads*<sup>4</sup>. The Municipality should aim to develop its road network consistent with these criteria.

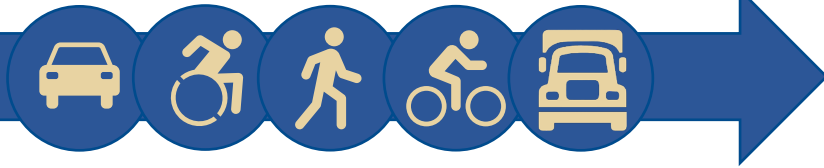
### 3.3 Road Classification Assessment

Current road classifications were reviewed to identify the need for any modifications. The assessment focused on roads in the Listowel Urban Area. Outside of Listowel, the road network generally follows a grid pattern and connects to the Provincial Highway and County Road systems at relatively regular spacing. Modifications to roadway classifications in this area are not recommended since the service functions of Highway 23 and most County Roads (greater focus on traffic movement as Arterial or Collector Roads), as well as most local municipal roads (greater focus on property access as Local or Collector Roads), generally align with their intended roles as described in the current and draft Perth County Official Plans.

The Listowel Urban Area road classification review focused on assessing the merit of designating additional Arterial and/or Collector Roads to form a broader network of higher-order facilities. The assessment process comprised the following three steps:

<sup>4</sup> Transportation Association of Canada, *Geometric Design Guide for Canadian Roads*, (Ottawa, TAC, 2017).

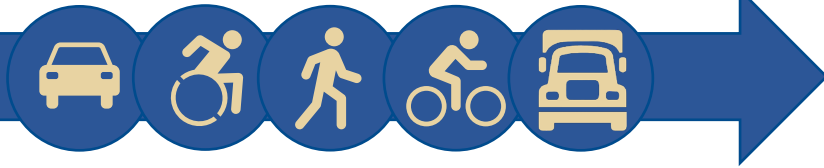




**Table 3.1: Characteristics of Roads**

Characteristic	Local		Collector		Arterial	
	Rural	Urban <sup>1</sup>	Rural	Urban <sup>1</sup>	Rural	Urban <sup>2</sup>
Service Function	Traffic movement secondary consideration		Traffic movement and land access of equal importance		Traffic movement primary consideration	Traffic movement major consideration
Land Service	Land access primary consideration		Traffic movement and land access of equal importance		Land access secondary consideration	Some access control
Traffic Volumes (Daily Typical)	< 1,000 AADT		< 5,000 AADT	< 8,000 AADT	< 12,000 AADT	5,000 – 20,000 AADT
Flow Characteristics	Interrupted flow		Interrupted flow		Uninterrupted flow except at signals and crosswalks	
Design Speed (km/h)	50 – 110	30 – 50	60 – 110	50 – 80	80 – 130	50 – 70
Average Running Speed (km/h)	50 – 90	20 – 40	50 – 90	30 – 70	60 – 100	40 – 60
Vehicle Type	Predominantly passenger cars, light to medium trucks, and occasional heavy trucks	Passenger and service vehicles	All types, up to 30% trucks	Passenger and service vehicles	All types, up to 20% trucks	All types
Normal Connections	Locals, Collectors		Locals, Collectors, Arterials		Arterials, Highways	





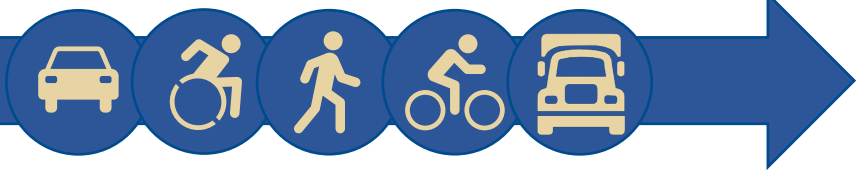
**Table 3.1: Characteristics of Roads**

Characteristic	Local		Collector		Arterial	
	Rural	Urban <sup>1</sup>	Rural	Urban <sup>1</sup>	Rural	Urban <sup>2</sup>
Accommodation of Cyclists	n/a	No restrictions or special facilities	n/a	Special facilities considered	n/a	No restrictions; special facilities considered
Accommodation of Pedestrians	n/a	Sidewalks normally on one or both sides	n/a	Sidewalks provided on both sides	n/a	Sidewalks may be provided, separation for traffic lanes preferred
Parking (typically)	n/a	No restrictions or restrictions one side only	n/a	Few restrictions other than peak hour	n/a	Peak hour restrictions
Minimum Intersection Spacing (m)	n/a	60	n/a	60	n/a	200
Right-of-Way Width (m) (typically)	20	15 – 22	20	20 – 24	30	20 <sup>3</sup> – 45 <sup>4</sup>

Notes:

1. Based on Residential Local category.
2. Based on Minor Arterial category.
3. Rights-of-way 20 m in width applicable to retrofit conditions only.
4. Wider rights-of-way are often required to accommodate other facilities such as auxiliary turn lanes, utilities, noise mitigation implications, bikeways, and landscaping. For new streets, the immediate provision of wider rights-of-way may be considered to accommodate such facilities.

Source: Transportation Association of Canada, "Design Controls, Classification and Consistency," Chapter 2 in *Geometric Design Guide for Canadian Roads*, (Ottawa, TAC, 2017), 51.



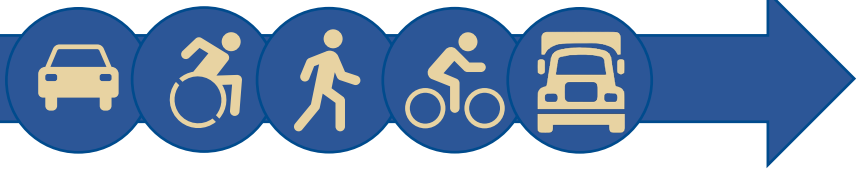
1. Identify key north-south and east-west Local Road corridors providing connectivity between existing Arterial and/or Collector Roads.
2. Estimate daily traffic volumes for each corridor and denote road segments meeting defined volume thresholds for reclassification.
3. Identify gaps in the network affecting connectivity between Arterial and/or Collector Roads.

**Step 1 – Identify Corridors**

An initial desktop review was completed to identify key north-south and east-west Local Road corridors providing connectivity between existing Arterial and/or Collector Roads. **Table 3.2** summarizes the candidate road segments for reclassification.

**Table 3.2: Candidate Local Road Segments for Reclassification**

Road	Limits
<b>North-South</b>	
Albert Avenue N	Main Street W to Rogers Road
Davidson Avenue S/N	Clayton Street to McDonald Street E
Nelson Avenue	Barnett Street to Main Street W
Nichol Avenue S	Bright Street to Elizabeth Street
Reserve Avenue S	Krotz Street to Main Street W
Road 165	Line 86 to Line 87
Rogers Road	Albert Avenue N to McDonald Street W
<b>East-West</b>	
Binning Street E	Road 165 to Albert Avenue N
Clayton Street E	Wallace Avenue S to Tremaine Avenue S
Elizabeth Street E/W	Albert Avenue N to Davidson Avenue N
Elma Street W	Mitchell Road S to Davidson Avenue S
Inkerman Street E/W	Barber Avenue N to Davidson Avenue N
Kincaid Street W	Mitchell Road S to Havelock Avenue S
Krotz Street E	Wallace Avenue S to Tremaine Avenue S
McDonald Street E/W	Rogers Road to Davidson Avenue N



## Step 2 – Estimate Traffic Volumes and Denote Road Segments

The daily traffic volume for each candidate road segment was estimated using the most recent eight-hour turning movement count data. Traffic counts from previous years were factored to a common 2023 base year by applying a one percent per annum compound growth rate and converted by daily (24-hour) volumes by applying a factor of 1.74 to the eight-hour traffic data.<sup>5</sup>

Road segments carried forward for reclassification met the daily traffic volume thresholds for a Rural Arterial (5,000 to 12,000 vehicles per day) or Rural Collector (1,000 to 5,000 vehicles per day) per **Table 3.1**.

## Step 3 – Identify Network Gaps

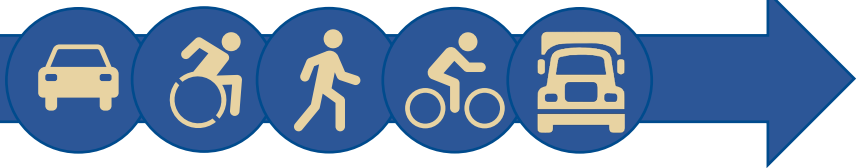
Despite not meeting the daily traffic volume threshold set out in Step 2, select corridors were still considered for reclassification based on their connectivity to other recommended Arterial or Collector Roads. **Table 3.3** summarizes these segments, including the rationale for their reclassification. The table also identifies other potential road segments for reclassification (existing road) or designation (new facility) to improve future network connectivity.

## 3.4 Recommended Road Classification System

**Figure 3.2** illustrates the recommended road classification system for the Listowel Urban Area. **Table 3.4** summarizes the recommended changes. No road classification changes are recommended outside of Listowel as noted in **Section 3.2**.

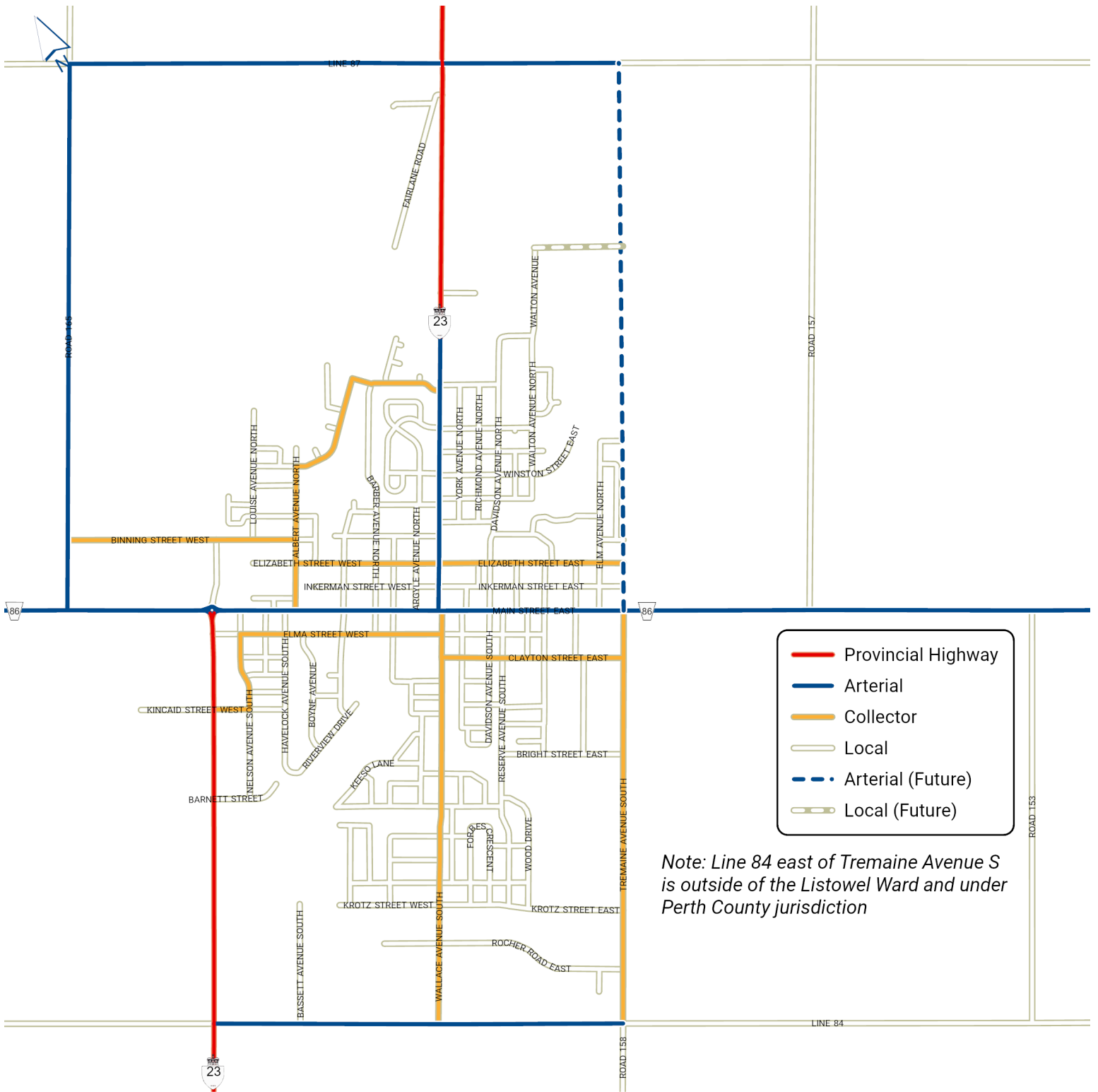
Note that the road classification system assessment did not review roadway jurisdiction (ownership) to any extent. The Transportation Master Plan provides guidance on potential road transfers between the Municipality and Perth County to better align function with jurisdiction.

<sup>5</sup> Calculated as the inverse of the average eight-hour to 24-hour traffic data volumes summarized in **Table 2.6**.



**Table 3.3: Road Segments Recommended for Reclassification/Designation Based on Gap Assessment**

Road	Limits	Recommended Classification	Rationale
<b>Reclassification to Resolve Network Gap</b>			
Binning Street E	Road 165 to Albert Avenue N	Collector	Connects Line 165 to Albert Avenue N
Line 87	Road 165 to Road 164 (Highway 23)	Arterial	Forms part of the proposed Listowel Truck Route
Line 87	Road 164 (Highway 23) to proposed Tremaine Avenue N extension	Arterial	Connects Tremaine Avenue N extension to Highway 23
Road 165	Perth Line 86 to Line 87	Arterial	Forms part of the proposed Listowel Truck Route
<b>Reclassification/Designation to Facilitate Future Network Connectivity</b>			
Proposed Walton Avenue N Extension	North limit of Walton Avenue N to proposed Tremaine Avenue North extension	Local	Proposed extension to improve network connectivity, assuming Tremaine Road N extended
Proposed Tremaine Avenue N Extension	Main Street to Line 87	Arterial	Proposed extension to serve new growth, improve network connectivity, and by-pass downtown Listowel

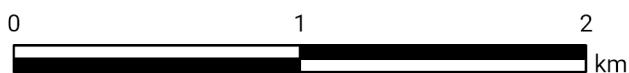


## MAP 3.1: RECOMMENDED ROAD CLASSIFICATIONS FOR LISTOWEL

COORDINATE SYSTEM: NAD 1983 UTM Zone 17N

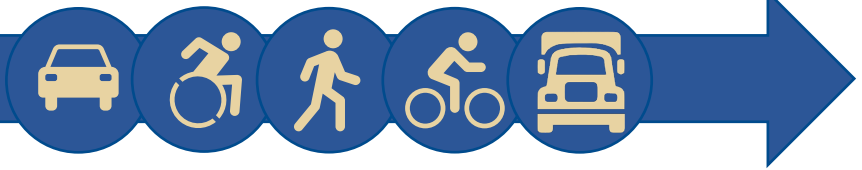
DATE: May 2024

DATA SOURCES: Municipality of North Perth, Perth County, Land Information Ontario, ESRI



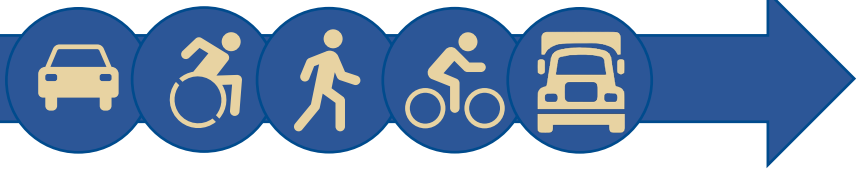
## MUNICIPALITY OF North Perth





**Table 3.4: Recommended Road Classification Changes in Listowel**

Road	Limits	Recommended Classification
Albert Avenue N	Main Street W to Rogers Road	Collector
Binning Street W	Road 165 to Albert Avenue N	Collector
Clayton Street E	Wallace Avenue S to Tremaine Avenue S	Collector
Elizabeth Street W/E	Albert Avenue N to Tremaine Avenue N extension	Collector
Elma Street W	Nelson Avenue S to Wallace Avenue S	Collector
Kincaid Street W	Mitchell Road S to Nelson Avenue S	Collector
Line 87	Road 165 to Wallace Avenue N/Highway 23	Arterial
McDonald Street W	Rogers Road to Wallace Avenue N	Collector
Nelson Avenue S	Kincaid Street W to Elma Street W	Collector
Road 165	Line 86 to Line 87	Arterial
Rogers Road	Albert Avenue N to McDonald Street W	Collector
Tremaine Avenue S	Line 84 to Main Street E	Collector



## 4 Future Road Improvement Needs

### 4.1 Approach and Assumptions

The potential impacts of traffic generated by anticipated development on the surrounding road network were assessed to determine the need for future road improvements. The assessment focused on the Listowel Urban Area and only examined arterial/collector and collector/collector intersections for the following reasons:

- With minimal growth forecast to occur outside the Listowel Urban Area, traffic volumes on roads in the more rural areas of the Municipality are not anticipated to change much in the future. The current road network generally serves existing volumes adequately, so it is unlikely future conditions would necessitate any improvements.
- The need for road widening (other than at intersections) and new links (other than the roads identified in **Section 3.3** to enhance network connectivity) is highly unlikely based on current traffic volumes and anticipated growth in Listowel. Intersection upgrades will be the only road network improvements required to serve planned development.
- Most arterial/arterial intersections in North Perth fall under the jurisdiction of MTO or Perth County, so the Municipality has no responsibility for improvements at these locations. The few arterial/arterial intersections under Municipal jurisdiction are already being addressed due to downtown location (i.e., Wallace Avenue and Main Street) or because the intersection falls along a proposed truck route (e.g., Road 167 and Line 87) (see **Appendix D**).

**Figure 4.1** identifies the eight study intersections.

### 4.2 Methodology

The assessment of future road improvement needs at arterial/collector and collector/collector intersections in Listowel involved the following steps:

1. Estimate current and forecast future traffic volumes for the weekday PM peak hour by applying a growth rate to the most recent traffic counts collected. The PM peak hour was selected for the analysis period as it typically represents the busiest time of the day/week from a traffic perspective.

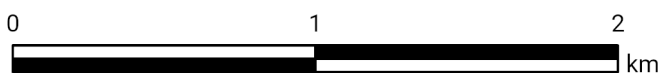


## MAP 4.1: STUDY INTERSECTIONS

COORDINATE SYSTEM: NAD 1983 UTM Zone 17N

DATE: May 2024

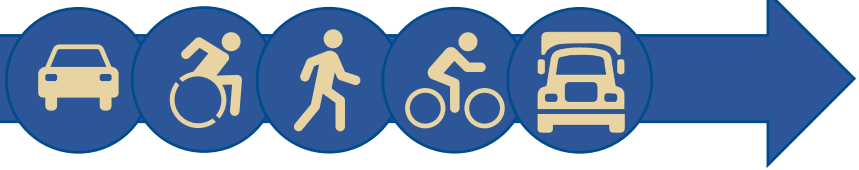
DATA SOURCES: Municipality of North Perth, Perth County, Land Information Ontario, ESRI



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2. Analyze existing and future traffic operations using Synchro 11 (traffic modelling software that implements the methodologies of the *Highway Capacity Manual* (HCM) <sup>6</sup>) to identify potential deficiencies; and
3. Identify required improvements to address noted operational concerns.

Level of service (LOS) measures provided the basis for assessing existing and future road needs. LOS is used to translate complex numerical performance results into a simple A to F system representative of travellers' perceptions of the quality of service provided by a facility or service. LOS A represents the best operating conditions and LOS F the worst.

**Table 4.1** summarizes the LOS criteria set out in the HCM for signalized and unsignalized intersections. For:

- **Signalized intersections**, LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay<sup>7</sup> alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a surrogate measure of driver discomfort and fuel consumption. The v/c ratio quantifies the degree to which a phase's capacity is utilized by a lane group.<sup>8</sup>
- **Two-way stop-controlled intersections**, LOS is determined by the control delay for each minor-street movement (or shared movement), as well as the major-street left turns. LOS is not defined for the intersection as a whole or for major street approaches.<sup>9</sup>
- **All-way stop controlled intersections**, LOS is based solely on control delay at the approach and intersection levels.<sup>10</sup>

LOS A indicates small average control delays (less than 10 second per vehicle) whereas LOS F denotes intersection failure, which results in extensive vehicle queues

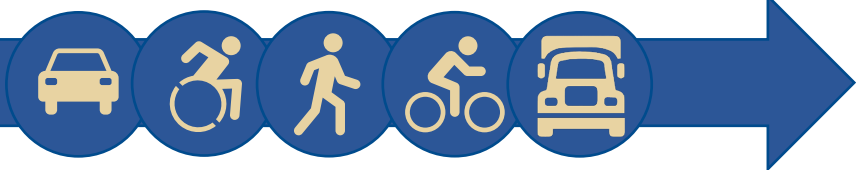
<sup>6</sup> National Academies of Sciences, Engineering, and Medicine. 2022. *Highway Capacity Manual 7th Edition: A Guide for Multimodal Mobility Analysis*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26432>

<sup>7</sup> Defined in the *Highway Capacity Manual 7th Edition* as the "delay brought about by the presence of a traffic control device, including delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed." (Chapter 9 – Glossary)

<sup>8</sup> *Highway Capacity Manual 7th Edition*, Chapter 19 – Signalized Intersections, p. 19-13.

<sup>9</sup> *Highway Capacity Manual 7th Edition*, Chapter 20 – Two-way Stop-Controlled Intersections, p. 20-5.

<sup>10</sup> *Highway Capacity Manual 7th Edition*, Chapter 21 – All-way Stop-Controlled Intersections, p. 21-8.



and long delays (over 50 seconds per vehicle at an unsignalized intersection and over 80 seconds per vehicle at a signalized intersection).

**Table 4.1: Vehicle Level of Service Definitions from Highway Capacity Manual**

Intersection Control Delay (s/veh)		LOS by v/c Ratio	
Signalized	Unsignalized	≤ 1.0	> 1.0
≤ 10	≤ 10	A	F
> 10–20	> 10–15	B	F
> 20–35	> 15–25	C	F
> 35–55	> 25–35	D	F
> 55–80	> 35–50	E	F
> 80	> 50	F	F

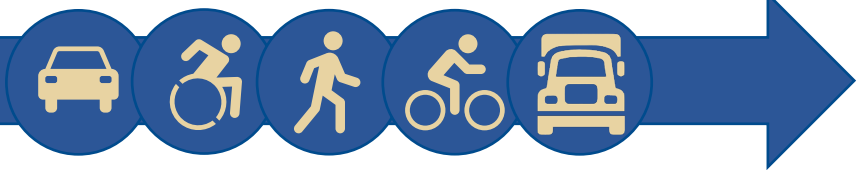
Traffic operations were also assessed in terms of v/c ratios. This measure, sometimes referred to as the degree of saturation, represents the sufficiency of an intersection (or approach or lane) to accommodate vehicular demand (v) within available capacity (c).

In assessing the operational analysis results, an intersection and/or its individual approaches or movements was deemed “critical” if it experienced a LOS E or F and/or had a v/c ratio of 0.85 or greater. A v/c ratio less than 0.85 generally indicates that adequate capacity is available, and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing may occur. Once demand exceeds capacity (i.e., v/c ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing are expected.

### 4.3 Traffic Growth

In the absence of more specific development plans, future vehicle volumes were forecast at the study intersections by applying a uniform traffic growth factor to observed turning movement counts. The 2041 horizon year growth rates were calculated based on projected population growth in the Municipality. This assumes traffic volumes increase at a rate proportional to population expansion.

A separate growth factor was also derived from historical population data to expand observed counts to a common 2023 base year.



### 4.3.1 Historical Population Change

**Table 4.2** summarizes the change in population between 2011 and 2021 for North Perth and the Listowel Urban Area based on Statistics Canada Census of Population data. The total population of North Perth was approximately 15,540 people in 2021, with about 9,540 residents (or 61%) living in Listowel.

**Table 4.2: Historical Population Change**

Census Year	Population		Change	
	North Perth	Listowel	North Perth	Listowel
2011	12,631	6,828	-	-
2016 <sup>11</sup>	13,130	7,530	+3.9%	+10.3%
2021 <sup>12</sup>	15,538	9,539	+18.3%	+26.7%
<b>2011 – 2016 Per Annum Growth Rate</b>			<b>0.8%</b>	<b>2.0%</b>
<b>2016 – 2021 Per Annum Growth Rate</b>			<b>3.4%</b>	<b>4.8%</b>
<b>2011 – 2021 Per Annum Growth Rate</b>			<b>2.1%</b>	<b>3.4%</b>

Both the Municipality as a whole, and Listowel specifically, experienced more rapid growth between 2016 and 2021 (18% or 3.4% per annum and 27% or 4.8% per annum, respectively) than from 2011 to 2016 (4% or 0.8% per annum and 10% or 2.0% per annum, respectively). Over the ten-year period of 2011 to 2021, the population of North Perth and Listowel specifically increased at approximately 2.1% and 3.4% per annum, respectively.

### 4.3.2 Projected Population Growth

**Table 4.3** summarizes the projected population growth for the 2021 to 2041 planning period based on the *Perth County 2023 Official Plan Update – Comprehensive Review*<sup>13</sup> (2023 OP Study), the most current forecasts available for North Perth at the time of preparing the Transportation Master Plan. The 2023 OP Study projects the Municipality will experience considerable growth over the next 20 years, with more

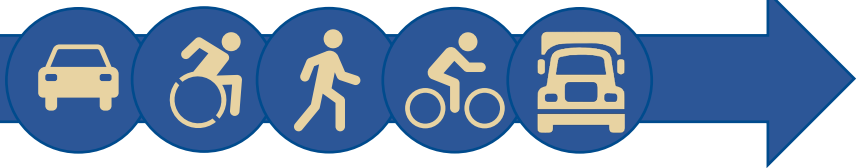
<sup>11</sup> Statistics Canada, *Census Profile*. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017.

<https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E>.

<sup>12</sup> Statistics Canada, *Census Profile*. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released November 30, 2022.

<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E>.

<sup>13</sup> Watson & Associates Economists Ltd., *2023 Official Plan Update – Comprehensive Review County of Perth*, 2023.



rapid population increases between 2021 and 2031 (39.5% or 3.4% per annum) than between 2031 and 2041 (24.2% or 2.8% per annum). Over the entire 20-year period of 2021 to 2041, the population of North Perth is anticipated to grow by approximately 2.8% per annum, which is generally in line with recent trends.

**Table 4.3: Projected Population Change**

Year	Census Population	Change
2021	15,980*	-
2031	22,300	+39.5%
2041	27,700	+24.2%
<b>2021 – 2031 Per Annum Growth Rate</b>		<b>3.4%</b>
<b>2031 – 2041 Per Annum Growth Rate</b>		<b>2.2%</b>
<b>2021 – 2041 Per Annum Growth Rate</b>		<b>2.8%</b>

Note: \* Differs slightly from 2021 Census of Population estimate of 15,538 stated in **Table 4.2**.

Source:

Source: Watson & Associates Economists Ltd., *Perth County 2023 Official Plan Update – Comprehensive Review*, October 2023, Chapter 3, Figure 3-1 and Figure 3-4.

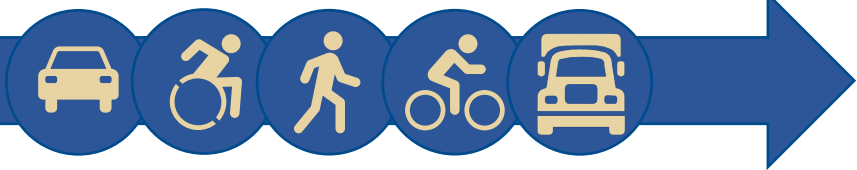
## 4.4 Existing Conditions

### 4.4.1 Base Year (2023) Traffic Volumes

**Attachment A** lists the intersection turning movement count data used in the existing conditions assessment (see **Subsection 2.2.1** for further detail). Historical traffic data (collected prior to 2023) were factored to a common 2023 base year by applying a growth rate of 3.4% compounded per annum. This growth rate reflects the annual change in population in Listowel between 2011 and 2021.

**Figure 4.2** shows the estimated base year (2023) traffic volumes for the study intersections.





### 4.4.2 Base Year (2023) Traffic Operations

Base year (2023) traffic operations for the study intersections were analyzed using Synchro 11. Unique parameters captured in the model included:

- Existing lane configurations and speed limits;
- Heavy vehicle percentages, peak hour factors, and pedestrian crossing volumes, as derived from the turning movement counts;
- Signal timing, as provided by the Municipality; and
- Synchro defaults for all other model parameters.

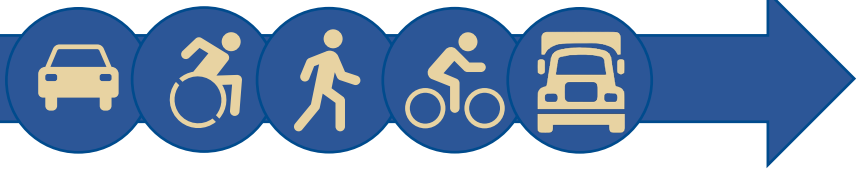
**Table 4.4** summarizes existing intersection operations. All intersections currently operate with acceptable levels of service and within capacity, except for Wallace Avenue and Main Street. **Attachment B** contains the detailed Synchro reports.

**Table 4.4: Existing (2023) PM Peak Hour Traffic Operations for Study Intersections**

#	Intersection	Count Year	Control <sup>1</sup>	PM Peak Hour				
				EB	WB	NB	SB	INT
1	Albert Avenue N and Rogers Road	2022	TWSC	A	A	A	A	-
2	Albert Avenue N and Binning Street W	2012	AWSC	A	A	A	A	-
3	Albert Avenue N and Elizabeth Street W	2012	AWSC	A	A	A	A	-
4	Wallace Avenue N and Elizabeth Street	2015	TCS	C	B	B	B	B
5	Wallace Avenue and Main Street	2015	TCS	B	D	F	E	D
6	Wallace Avenue S and Elma Street	2012	TWSC	C	C	A	A	-
7	Wallace Avenue S and Clayton Street E	2022	TWSC	-	B	A	A	-
8	Wallace Avenue N and McDonald Street W	2022	TWSC	C	-	A	A	-

Notes:

1. Control Type: TWSC – Two-way Stop Control, AWSC – All-way Stop Control, TCS – Traffic Control Signals



## 4.5 Future Conditions

### 4.5.1 Horizon Year (2041) Traffic Volumes

A 2.8% compound per annum growth rate was applied to the base year (2023) traffic counts in **Figure 4.2** to forecast future year (2041) volumes. This growth rate reflects the projected per annum change in population in North Perth between 2021 and 2041 based on the population projections contained in the 2023 OP Study, as summarized in **Table 4.3**.

**Figure 4.3** shows the forecast horizon year (2041) traffic volumes for the study intersections.

### 4.5.2 Horizon Year (2041) Traffic Operations

Horizon year (2041) traffic operations for the study intersections were analyzed using the same methodology as the existing conditions assessment and assuming no change to traffic control, lane configurations, or signal timing.

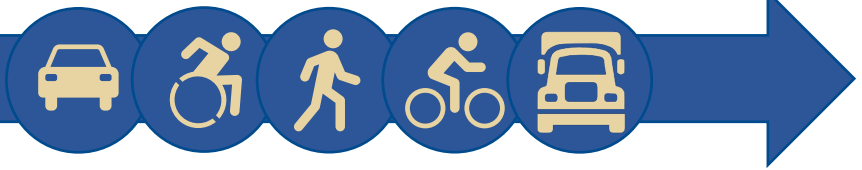
**Table 4.5** summarizes future intersection operations. Four of the eight intersections are expected to operate with acceptable levels of service and within capacity. **Attachment C** contains the detailed Synchro reports.

Compared to base year conditions, the northbound and southbound approaches at Wallace Avenue and Main Street (signalized) are forecast to operate at LOS F, as compared to LOS E or LOS F. Overall intersection operations are also anticipated to worsen, declining from LOS D to LOS F over the 20-year study horizon.

At Wallace Avenue and Elizabeth Street (signalized), the northbound, southbound, and eastbound approaches are forecast to operate at LOS F, as compared to LOS C or better under existing conditions. Overall intersection operations are also anticipated to worsen, declining from LOS B to LOS F over the 20-year study horizon.

At Wallace Avenue and Elma Street (unsignalized), the eastbound and westbound approaches are forecast to operate at LOS F.

At Wallace Avenue and McDonald Street, the eastbound approach of McDonald Street West is forecast to operate at LOS E. The offset intersection configuration further contributes to the operational challenges at this location.



## 4.6 Recommended Road Improvements

The base year (2023) and horizon year (2041) traffic analyses did not identify critical operations at four of the eight study intersections. On this basis, no road improvements are recommended at these locations.

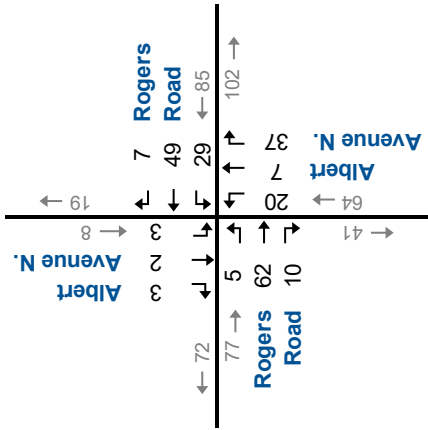
Future traffic operations are forecast to deteriorate at Wallace Avenue and Main Street, Wallace Avenue and Elizabeth Street, Wallace Avenue and Elma Street, and Wallace Avenue and McDonald Street assuming no change in traffic patterns, or modifications to signal timing at the intersections.

Given the uncertainty as to where and when growth may occur in North Perth, and specifically Listowel, traffic volumes and operations at these four intersections should be monitored to confirm the need for and timing of any required improvements. The analyses presented herein assume unimpeded traffic volume increases colinear with population growth. In actuality, this growth may be focused in particular areas of the community, or motorists may rely on alternate travel routes to avoid heavily congested corridors.

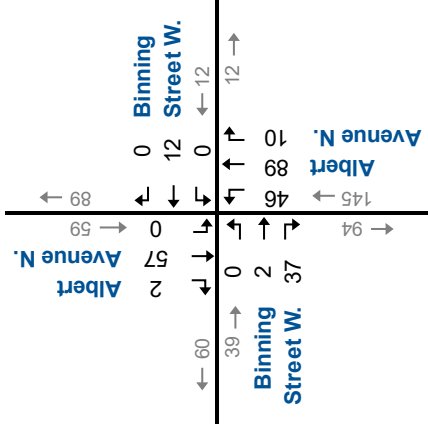
With the Perth County Official Plan update process still in progress at the time of preparing the TMP, and corresponding updates to the Listowel Ward Official Plan (or a new section of the Perth County Official Plan specific to this urban settlement area) likely to follow, there may be a need to revisit the traffic forecasting component of the transportation plan in the foreseeable future. The magnitude of growth now contemplated for North Perth, and Listowel in particular, is still unlikely to drive the need for road section widening and new links from a capacity perspective, but further localized operational improvements, such as the addition of turn lanes and/or traffic signals, are conceivable.



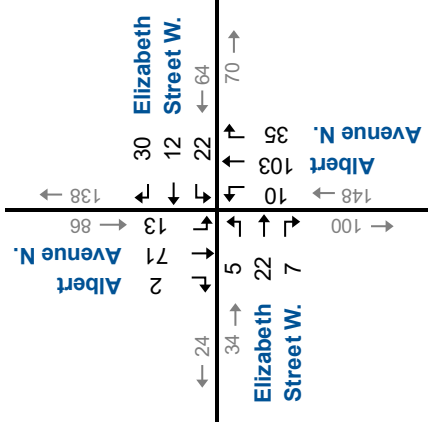
**Albert Avenue North and Rogers Road**



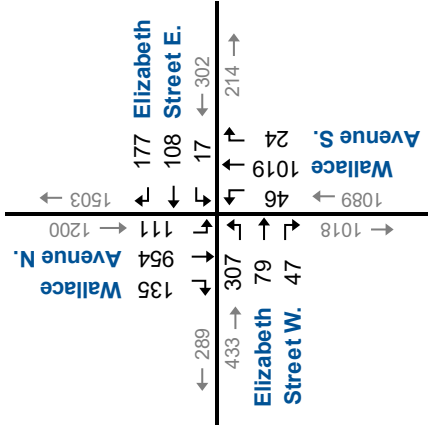
**Albert Avenue North and Binning Street West**



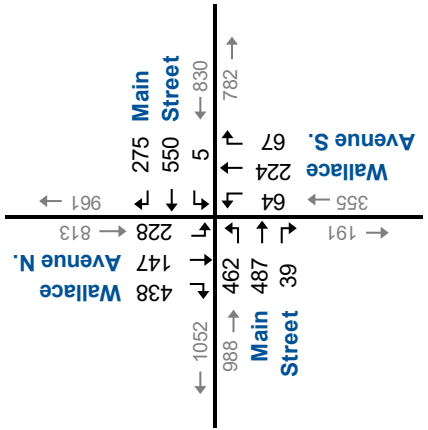
**Albert Avenue North and Elizabeth Street West**



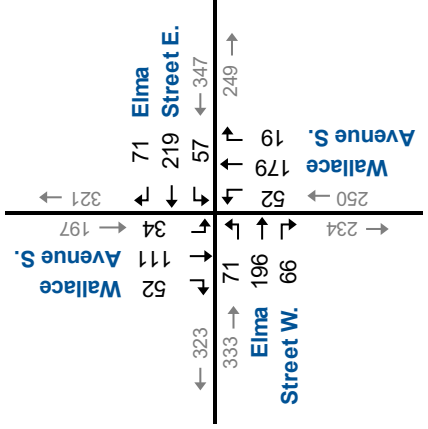
**Wallace Avenue North and Elizabeth Street**



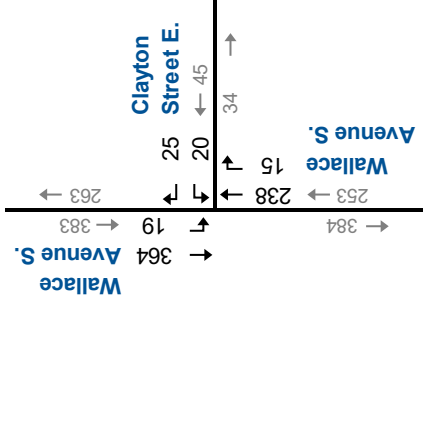
**Wallace Avenue North and Main Street**



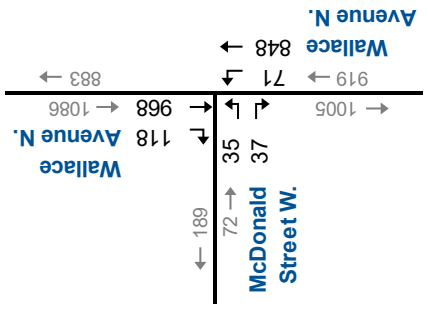
**Wallace Avenue South and Elma Street**



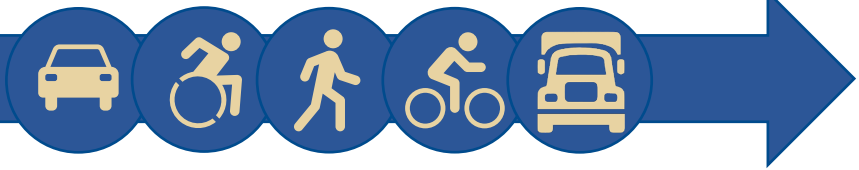
**Wallace Avenue South and Clayton Street East**



**Wallace Avenue North and McDonald Street West**



**Figure 4.2: Future (2041) PM Peak Hour Traffic Volumes for Study Intersections**

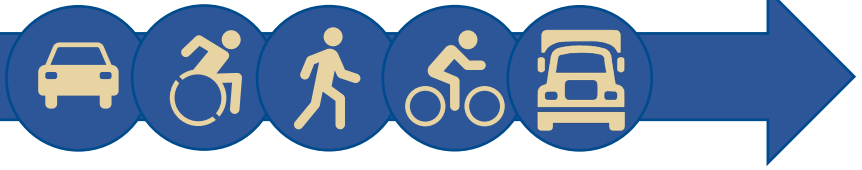


**Table 4.5: Future (2041) PM Peak Hour Traffic Operations for Study Intersections**

#	Intersection	Control <sup>1</sup>	PM Peak Hour				
			EB	WB	NB	SB	INT
1	Albert Avenue N and Rogers Road	TWSC	B	B	A	A	-
2	Albert Avenue N and Binning Street W	AWSC	A	A	A	A	-
3	Albert Avenue N and Elizabeth Street W	AWSC	A	A	A	A	-
4	Wallace Avenue N and Elizabeth Street	TCS	F	C	F	F	F
5	Wallace Avenue and Main Street	TCS	D	F	F	F	F
6	Wallace Avenue South and Elma Street	TWSC	F	F	A	A	-
7	Wallace Avenue S and Clayton Street E	TWSC	-	B	A	A	-
8	Wallace Avenue N and McDonald Street W	TWSC	E	-	B	A	-

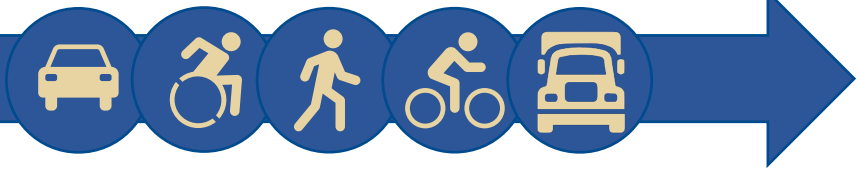
Notes:

1. Control Type: TWSC – Two-way Stop Control, AWSC – All-way Stop Control, TCS – Traffic Control Signals



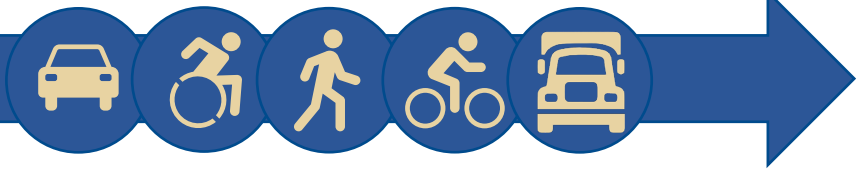
# Attachment A

## Traffic Count Data Summary



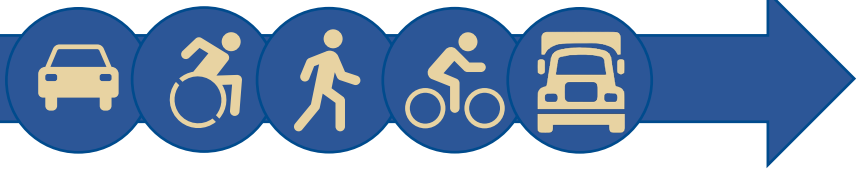
**Table A: Turning Movement Count Inventory**

Intersection	Count Date	Source <sup>1</sup>
<b>Listowel Urban Area</b>		
Anger Street and Wallace Avenue	November 15, 2012	1
Armstrong Street and Wallace Avenue South	March 17, 2021	5
Barnett Street and Highway 23	January 20, 2022	5
Binning Street and Albert Avenue	November 13, 2012	1
<b>Binning Street and Louise Avenue</b>	<b>September 27, 2022</b>	<b>6</b>
Blake Street and Davidson Avenue	November 15, 2012	1
Blake Street and York Avenue	November 21, 2012	1
Bright Street and Reserve Avenue	November 13, 2012	1
Bright Street and Tremaine Avenue	November 20, 2012	1
Campbell Street and York Avenue	November 21, 2012	1
Clayton Street and Maitland Avenue	November 22, 2012	1
Clayton Street and Nichol Avenue	September 27, 2022	6
Clayton Street and Reserve Avenue	November 13, 2012	1
Clayton Street and Wallace Avenue	September 27, 2022	6
David Street and Wallace Avenue	January 31, 2019	3
Edgar Street and Albert Avenue	November 14, 2012	1
Elizabeth Street and Albert Avenue	November 14, 2012	1
Elizabeth Street and Argyle Street	November 22, 2012 September 2, 2021	1 4
Elizabeth Street and Barber Avenue	November 13, 2012	1
Elizabeth Street and Davidson Avenue	November 15, 2012	1
Elizabeth Street and Livingstone Avenue	November 13, 2012	1
Elizabeth Street and Wallace Avenue North	September 18/19, 2015	1
Elizabeth Street and Victoria Avenue	November 15, 2012 September 27, 2022	1 6
Elma Street and Davidson Avenue	November 21, 2012	1
Elma Street and Hay Avenue	November 20, 2012	1
Elma Street and Nelson Avenue	November 21, 2012 September 27, 2022	1 6



**Table A: Turning Movement Count Inventory**

Intersection	Count Date	Source <sup>1</sup>
Elma Street and Wallace Avenue South	November 14, 2012	1
	September 18/19, 2015	1
Elma Street and Victoria Avenue	September 27, 2022	6
Fairlane Road and Wallace Avenue	January 31, 2019	3
Hutton Street and Wallace Avenue	November 14, 2012	1
	September 27, 2022	6
Inkerman Street and Barber Avenue	November 15, 2012	1
Inkerman Street and Davidson Avenue	September 2, 2021	4
Inkerman Street and Livingston Avenue	September 27, 2022	6
Inkerman Street and Wallace Avenue North	November 13, 2012	1
	September 18/19, 2015	1
Kincaid Street and Highway 23	January 20, 2022	5
Kincaid Street and Nelson Avenue	November 21, 2012	1
	September 27, 2022	6
Krotz Street and Wallace Avenue South	March 17, 2021	5
Line 84 and Highway 23	October 22, 2012	2
Line 84 and Tremaine Avenue	September 2, 2021	4
Line 87 and Wallace Avenue North	October 22, 2012	2
	January 31, 2019	3
	September 2, 2021	4
Main Street West and Argyle Avenue North	September 18/19, 2015	1
Main Street West and Barber Avenue	September 18/19, 2015	1
<b>Main Street East and Davidson Avenue</b>	September 18/19, 2015	1
	<b>September 27, 2022</b>	<b>6</b>
Main Street West and Livingstone Avenue	September 18/19, 2015	1
Main Street East and Reserve Avenue	September 18/19, 2015	1
Main Street and Wallace Avenue North	November 14, 2012	1
	September 18/19, 2015	1
	September 24, 2021	4
Main Street and Wallace Avenue South	November 13, 2012	1
Main Street West and Victoria Avenue	September 18/19, 2015	1
Main Street East and Wellington Avenue	September 18/19, 2015	1



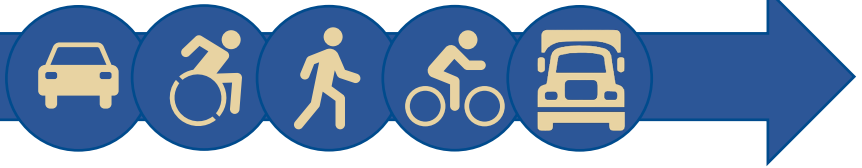
**Table A: Turning Movement Count Inventory**

Intersection	Count Date	Source <sup>1</sup>
McDonald Street and Wallace Avenue	September 27, 2022	6
McKenzie Street and Richmond Avenue	November 20, 2012	1
Rogers Road and Albert Avenue	September 27, 2022	6
Twamley Street and Highway 23	January 20, 2022	5
Winston Street and Davidson Avenue	November 13, 2012	1
Winston Street and Richmond Avenue	November 14, 2012	1
<b>Rural North Perth</b>		
Line 60 and Road 154	September 27, 2022	6
Line 60 and Road 169	September 27, 2022	6
Line 75 and Road 166	September 27, 2022	6
Line 81 and Road 140	September 27, 2022	6
<b>Line 84 and Perth Road 147</b>	<b>September 27, 2022</b>	<b>6</b>
Line 84 and Road 169	September 27, 2022	6
<b>Line 87 and Road 152</b>	<b>September 27, 2022</b>	<b>6</b>
Line 87 and Road 176	September 27, 2022	6
Line 90 and Road 157	September 27, 2022	6

Data Source<sup>1</sup>:

1. Traffic data collected by Paradigm Transportation Solutions Limited for *North Perth Traffic Study*, May 2016.
2. Traffic data supplied by Ministry of Transportation for *North Perth Traffic Study*, May 2016.
3. C.F. Crozier and Associates, *Northeast Master Plan Traffic Impact Study*, June 2019.
4. Traffic data provided by the Municipality of North Perth.
5. Traffic data collected by Paradigm Transportation Solutions Limited.
6. Traffic data collected by Paradigm Transportation Solutions Limited for *Transportation Master Plan Study*, September 2022.

Intersections in **bold** counted and processed over a 24-hour period.



# Attachment B

## Existing (2023) Synchro Traffic Operations Reports

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	37	6	17	29	4	12	4	22	2	1	2
Future Vol, veh/h	3	37	6	17	29	4	12	4	22	2	1	2
Conflicting Peds, #/hr	0	0	12	12	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	3	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	44	7	20	34	5	14	5	26	2	1	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	72	66	14	91	54	19	3	0	0	32	0	0
Stage 1	6	6	-	47	47	-	-	-	-	-	-	-
Stage 2	66	60	-	44	7	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.53	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.027	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	924	823	1072	898	841	1065	1632	-	-	1593	-	-
Stage 1	1021	889	-	972	860	-	-	-	-	-	-	-
Stage 2	950	843	-	975	894	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	884	814	1061	840	832	1064	1632	-	-	1592	-	-
Mov Cap-2 Maneuver	884	814	-	840	832	-	-	-	-	-	-	-
Stage 1	1012	888	-	962	851	-	-	-	-	-	-	-
Stage 2	900	835	-	911	893	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.6		9.6		2.3		2.9	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1632	-	-	844	850	1592	-	-
HCM Lane V/C Ratio	0.009	-	-	0.064	0.069	0.001	-	-
HCM Control Delay (s)	7.2	0	-	9.6	9.6	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0	-	-



Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	22	0	7	0	27	53	6	0	34	1
Future Vol, veh/h	0	1	22	0	7	0	27	53	6	0	34	1
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	6	0	0	0	0	0	0	0	0	100
Mvmt Flow	0	1	28	0	9	0	34	67	8	0	43	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	6.8	7.3	7.6	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	31%	0%	0%	0%
Vol Thru, %	62%	4%	100%	97%
Vol Right, %	7%	96%	0%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	86	23	7	35
LT Vol	27	0	0	0
Through Vol	53	1	7	34
RT Vol	6	22	0	1
Lane Flow Rate	109	29	9	44
Geometry Grp	1	1	1	1
Degree of Util (X)	0.122	0.029	0.01	0.05
Departure Headway (Hd)	4.02	3.596	4.187	4.032
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	893	982	845	887
Service Time	2.04	1.666	2.259	2.063
HCM Lane V/C Ratio	0.122	0.03	0.011	0.05
HCM Control Delay	7.6	6.8	7.3	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0	0.2

















<b>Intersection</b>												
Intersection Delay, s/veh	7.5											
Intersection LOS	A											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	13	4	13	7	18	6	61	21	8	42	1
Future Vol, veh/h	3	13	4	13	7	18	6	61	21	8	42	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	11	0	0	0	5	7	0	10	0
Mvmt Flow	3	15	5	15	8	20	7	69	24	9	48	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	7.5	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	15%	34%	16%
Vol Thru, %	69%	65%	18%	82%
Vol Right, %	24%	20%	47%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	20	38	51
LT Vol	6	3	13	8
Through Vol	61	13	7	42
RT Vol	21	4	18	1
Lane Flow Rate	100	23	43	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.109	0.026	0.05	0.066
Departure Headway (Hd)	3.928	4.117	4.162	4.109
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	907	859	851	866
Service Time	1.975	2.193	2.233	2.162
HCM Lane V/C Ratio	0.11	0.027	0.051	0.067
HCM Control Delay	7.5	7.3	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.2	0.2

4: Wallace Avenue North & Elizabeth Street West/Elizabeth Street East

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	47	28	10	64	105	27	604	14	66	566	80
Future Volume (veh/h)	182	47	28	10	64	105	27	604	14	66	566	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	0.99		0.98	0.99		0.98	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1710	1710	1710	1710	1710	1710	1710	1661	1710	1710	1695	1710
Adj Flow Rate, veh/h	194	50	30	11	68	112	29	643	15	70	602	85
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	3	0	0	1	0
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	91	45	74	194	290	250	849	20	270	762	108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.52	0.52	0.52	0.52	0.52
Ln Grp Delay, s/veh	21.1	0.0	0.0	17.3	0.0	0.0	21.6	0.0	17.4	23.0	0.0	18.8
Ln Grp LOS	C			B			C		B	C		B
Approach Vol, veh/h		274			191			687			757	
Approach Delay, s/veh		21.1			17.3			17.6			19.2	
Approach LOS		C			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		8.0		6.0		8.0			
Phs Duration (G+Y+Rc), s			36.0		24.0		36.0		24.0			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			31.5		19.5		31.5		19.5			
Max Allow Headway (MAH), s			5.8		6.1		5.9		6.0			
Max Q Clear (g_c+I1), s			24.3		12.7		26.0		7.8			
Green Ext Time (g_e), s			3.1		1.1		2.8		0.9			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00		0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			690		841		709		31			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1616		280		1451		598			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			38		138		205		892			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment					L+T+R				L+T+R			

4: Wallace Avenue North & Elizabeth Street West/Elizabeth Street East

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	274	0	70	0	191
Grp Sat Flow (s), veh/h/ln	0	690	0	1259	0	709	0	1521
Q Serve Time (g_s), s	0.0	2.1	0.0	5.0	0.0	5.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.3	0.0	10.7	0.0	24.0	0.0	5.8
Perm LT Sat Flow (s_l), veh/h/ln	0	690	0	1210	0	709	0	1327
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	1354	0	0	0	1704
Perm LT Eff Green (g_p), s	0.0	31.5	0.0	19.5	0.0	31.5	0.0	19.5
Perm LT Serve Time (g_u), s	0.0	11.3	0.0	13.7	0.0	12.7	0.0	8.8
Perm LT Q Serve Time (g_ps), s	0.0	2.1	0.0	5.0	0.0	5.2	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	12.5
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	5.8
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.71	0.00	1.00	0.00	0.06
Lane Grp Cap (c), veh/h	0	250	0	512	0	270	0	558
V/C Ratio (X)	0.00	0.12	0.00	0.54	0.00	0.26	0.00	0.34
Avail Cap (c_a), veh/h	0	250	0	512	0	270	0	558
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	0.0	17.1	0.0	20.7	0.0	15.6
Incr Delay (d2), s/veh	0.0	0.9	0.0	4.0	0.0	2.3	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.6	0.0	21.1	0.0	23.0	0.0	17.3
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	3.8	0.0	1.0	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.6	0.0	0.2	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	4.4	0.0	1.2	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	5.35	0.00	18.40	0.00	13.54	0.00	5.68
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
<b>Lane Assignment</b>								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4: Wallace Avenue North & Elizabeth Street West/Elizabeth Street East

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0




















Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R			T+R				
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	658	0	0	0	687	0	0
Grp Sat Flow (s), veh/h/ln	0	1654	0	0	0	1656	0	0
Q Serve Time (g_s), s	0.0	18.8	0.0	0.0	0.0	20.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	18.8	0.0	0.0	0.0	20.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.02	0.00	0.11	0.00	0.12	0.00	0.59
Lane Grp Cap (c), veh/h	0	868	0	0	0	870	0	0
V/C Ratio (X)	0.00	0.76	0.00	0.00	0.00	0.79	0.00	0.00
Avail Cap (c_a), veh/h	0	868	0	0	0	870	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.2	0.0	0.0	0.0	11.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	6.1	0.0	0.0	0.0	7.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	0.0	0.0	0.0	18.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.4	0.0	0.0	0.0	9.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.5	0.0	0.0	0.0	1.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.9	0.0	0.0	0.0	10.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	11.54	0.00	0.00	0.00	43.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

HCM 2010 Signalized Intersection Capacity Analysis Base Year (2023) - PM Peak Hour  
 5: Wallace Avenue South/Wallace Avenue North & Main Street (Line 86)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	274	289	23	3	326	163	38	133	40	135	87	260
Future Volume (veh/h)	274	289	23	3	326	163	38	133	40	135	87	260
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	0.97		0.95	1.00		0.92	1.00		0.92
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1644	1657	1710	1710	1645	1660	1710	1699	1710	1710	1710	1660
Adj Flow Rate, veh/h	282	298	24	3	336	168	39	137	41	139	90	268
Adj No. of Lanes	1	1	0	0	1	1	0	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	3	6	0	4	3	0	1	0	0	0	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	537	832	67	42	424	348	48	122	28	161	78	351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.26	0.55	0.55	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Ln Grp Delay, s/veh	18.1	0.0	12.3	40.5	0.0	32.7	121.4	0.0	0.0	83.8	0.0	44.5
Ln Grp LOS	B		B	D		C	F			F		D
Approach Vol, veh/h		604			507			217			497	
Approach Delay, s/veh		15.0			37.9			121.4			62.6	
Approach LOS		B			D			F			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6	7	8			
Case No			8.0		4.0		7.0	1.2	7.0			
Phs Duration (G+Y+Rc), s			32.0		57.0		32.0	26.0	31.0			
Change Period (Y+Rc), s			* 8		8.0		8.0	3.0	8.0			
Max Green (Gmax), s			* 20		49.0		24.0	23.0	23.0			
Max Allow Headway (MAH), s			6.0		5.8		5.5	4.6	5.5			
Max Q Clear (g_c+I1), s			26.0		11.8		26.0	11.0	19.1			
Green Ext Time (g_e), s			0.0		2.6		0.0	1.0	1.2			
Prob of Phs Call (p_c)			1.00		1.00		1.00	1.00	1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00	0.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5				1	7	3			
Mvmt Sat Flow, veh/h			0				354	1566	3			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			452		1510		289		1639			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			105		122		1301		1346			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	0	0	0	1	7	3			
Lane Assignment		L+T+R					L+T (Pr/Pm)		L+T			

HCM 2010 Signalized Intersection Capacity Analysis Base Year (2023) - PM Peak Hour  
 5: Wallace Avenue South/Wallace Avenue North & Main Street (Line 86)

Lanes in Grp	0	1	0	0	0	1	1	1
Grp Vol (v), veh/h	0	217	0	0	0	229	282	339
Grp Sat Flow (s), veh/h/ln	0	557	0	0	0	643	1566	1642
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	0.0	24.0	0.0	0.0	0.0	24.0	9.0	17.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1040	0	0	0	1225	787	1043
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	605	0	0
Perm LT Eff Green (g_p), s	0.0	24.0	0.0	0.0	0.0	24.0	25.0	23.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	5.9	23.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0
Time to First Blk (g_f), s	0.0	8.3	0.0	0.0	0.0	0.8	0.0	18.1
Serve Time pre Blk (g_fs), s	0.0	8.3	0.0	0.0	0.0	0.8	0.0	17.1
Prop LT Inside Lane (P_L)	0.00	0.18	0.00	0.00	0.00	0.61	1.00	0.01
Lane Grp Cap (c), veh/h	0	198	0	0	0	238	537	465
V/C Ratio (X)	0.00	1.10	0.00	0.00	0.00	0.96	0.52	0.73
Avail Cap (c_a), veh/h	0	198	0	0	0	238	537	465
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d1), s/veh	0.0	29.4	0.0	0.0	0.0	34.9	14.5	30.8
Incr Delay (d2), s/veh	0.0	91.9	0.0	0.0	0.0	48.9	3.6	9.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	121.4	0.0	0.0	0.0	83.8	18.1	40.5
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	0.0	0.0	5.6	3.8	7.7
2nd-Term Q (Q2), veh/ln	0.0	5.1	0.0	0.0	0.0	3.2	0.5	1.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.9	0.0	0.0	0.0	8.8	4.3	9.0
%ile Storage Ratio (RQ%)	0.00	24.92	0.00	0.00	0.00	10.10	70.78	37758.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
<b>Lane Assignment</b>								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 2010 Signalized Intersection Capacity Analysis Base Year (2023) - PM Peak Hour  
 5: Wallace Avenue South/Wallace Avenue North & Main Street (Line 86)

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				T+R		R		R
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	322	0	268	0	168
Grp Sat Flow (s), veh/h/ln	0	0	0	1632	0	1301	0	1346
Q Serve Time (g_s), s	0.0	0.0	0.0	9.8	0.0	16.9	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.8	0.0	16.9	0.0	9.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.19	0.00	0.07	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	898	0	351	0	348
V/C Ratio (X)	0.00	0.00	0.00	0.36	0.00	0.76	0.00	0.48
Avail Cap (c_a), veh/h	0	0	0	898	0	351	0	348
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.2	0.0	29.9	0.0	28.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.1	0.0	14.6	0.0	4.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	12.3	0.0	44.5	0.0	32.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	6.0	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	1.4	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.7	0.0	7.5	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	11.20	0.00	121.75	0.00	19.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.0
HCM 2010 LOS	D

Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.



6: Wallace Avenue South & Elma Street West/Elma Street East

Intersection												
Int Delay, s/veh	9.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	42	116	39	34	130	42	31	106	11	20	66	31
Future Vol, veh/h	42	116	39	34	130	42	31	106	11	20	66	31
Conflicting Peds, #/hr	11	0	1	1	0	11	22	0	4	4	0	22
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	0	0	4	0	7	5	12	0	0	6	0
Mvmt Flow	44	121	41	35	135	44	32	110	11	21	69	32

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	429	338	108	393	349	131	123	0	0	125	0	0
Stage 1	149	149	-	184	184	-	-	-	-	-	-	-
Stage 2	280	189	-	209	165	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.5	6.2	7.14	6.5	6.27	4.15	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.5	-	6.14	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.5	-	6.14	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4	3.3	3.536	4	3.363	2.245	-	-	2.2	-	-
Pot Cap-1 Maneuver	535	586	951	563	578	905	1446	-	-	1474	-	-
Stage 1	851	778	-	813	751	-	-	-	-	-	-	-
Stage 2	725	748	-	788	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	388	551	932	433	543	894	1419	-	-	1469	-	-
Mov Cap-2 Maneuver	388	551	-	433	543	-	-	-	-	-	-	-
Stage 1	815	752	-	791	731	-	-	-	-	-	-	-
Stage 2	543	728	-	623	740	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.5		15.2		1.6		1.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	546	565	1469	-	-
HCM Lane V/C Ratio	0.023	-	-	0.376	0.38	0.014	-	-
HCM Control Delay (s)	7.6	0	-	15.5	15.2	7.5	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	1.8	0	-	-

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	12	15	141	9	11	216
Future Vol, veh/h	12	15	141	9	11	216
Conflicting Peds, #/hr	2	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	13	17	157	10	12	240

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	430	164	0	0	169	0
Stage 1	164	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	586	886	-	-	1421	-
Stage 1	870	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	578	884	-	-	1419	-
Mov Cap-2 Maneuver	578	-	-	-	-	-
Stage 1	868	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	716	1419
HCM Lane V/C Ratio	-	-	0.042	0.009
HCM Control Delay (s)	-	-	10.2	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

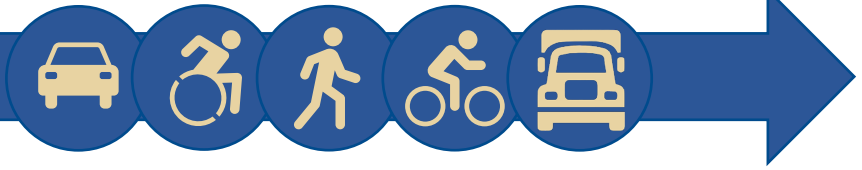
8: Wallace Avenue North/Wallace Avenue South & McDonald Street West

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	22	42	503	574	70
Future Vol, veh/h	21	22	42	503	574	70
Conflicting Peds, #/hr	1	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	6	3	0
Mvmt Flow	24	25	48	578	660	80

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1375	701	740	0	-	0
Stage 1	700	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	162	442	876	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	153	442	876	-	-	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	510	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	876	-	354	-	-
HCM Lane V/C Ratio	0.055	-	0.14	-	-
HCM Control Delay (s)	9.3	-	16.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-



# Attachment C

## Future (2041) Synchro Traffic Operations Reports

Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	62	10	29	49	7	20	7	37	3	2	3
Future Vol, veh/h	5	62	10	29	49	7	20	7	37	3	2	3
Conflicting Peds, #/hr	0	0	12	12	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	0	3	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	73	12	34	58	8	24	8	44	4	2	4

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	123	113	16	146	93	31	6	0	0	53	0	0
Stage 1	12	12	-	79	79	-	-	-	-	-	-	-
Stage 2	111	101	-	67	14	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.53	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.53	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.027	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	856	775	1069	827	801	1049	1628	-	-	1566	-	-
Stage 1	1014	884	-	935	833	-	-	-	-	-	-	-
Stage 2	899	810	-	948	888	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	791	760	1058	739	786	1048	1628	-	-	1565	-	-
Mov Cap-2 Maneuver	791	760	-	739	786	-	-	-	-	-	-	-
Stage 1	999	881	-	920	820	-	-	-	-	-	-	-
Stage 2	817	797	-	849	885	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.1		10.3		2.3		2.7	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1628	-	-	791	785	1565	-	-
HCM Lane V/C Ratio	0.014	-	-	0.115	0.127	0.002	-	-
HCM Control Delay (s)	7.2	0	-	10.1	10.3	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	2	37	0	12	0	46	89	10	0	57	2
Future Vol, veh/h	0	2	37	0	12	0	46	89	10	0	57	2
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles, %	0	0	6	0	0	0	0	0	0	0	0	100
Mvmt Flow	0	3	47	0	15	0	58	113	13	0	72	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	7.6	8.2	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	0%	0%	0%
Vol Thru, %	61%	5%	100%	97%
Vol Right, %	7%	95%	0%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	39	12	59
LT Vol	46	0	0	0
Through Vol	89	2	12	57
RT Vol	10	37	0	2
Lane Flow Rate	184	49	15	75
Geometry Grp	1	1	1	1
Degree of Util (X)	0.209	0.054	0.019	0.086
Departure Headway (Hd)	4.092	3.911	4.517	4.133
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	872	921	797	857
Service Time	2.139	1.912	2.519	2.203
HCM Lane V/C Ratio	0.211	0.053	0.019	0.088
HCM Control Delay	8.2	7.1	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.2	0.1	0.3




















Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	22	7	22	12	30	10	103	35	13	71	2
Future Vol, veh/h	5	22	7	22	12	30	10	103	35	13	71	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	11	0	0	0	5	7	0	10	0
Mvmt Flow	6	25	8	25	14	34	11	117	40	15	81	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	8	8.1	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	15%	34%	15%
Vol Thru, %	70%	65%	19%	83%
Vol Right, %	24%	21%	47%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	148	34	64	86
LT Vol	10	5	22	13
Through Vol	103	22	12	71
RT Vol	35	7	30	2
Lane Flow Rate	168	39	73	98
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.048	0.091	0.118
Departure Headway (Hd)	4.146	4.473	4.501	4.345
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	871	802	798	827
Service Time	2.146	2.491	2.518	2.36
HCM Lane V/C Ratio	0.193	0.049	0.091	0.119
HCM Control Delay	8.1	7.7	8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.2	0.3	0.4

4: Wallace Avenue North & Elizabeth Street West/Elizabeth Street East

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	307	79	47	17	108	177	46	1019	24	111	954	135	
Future Volume (veh/h)	307	79	47	17	108	177	46	1019	24	111	954	135	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj (A_pbT)	0.99		0.98	1.00		0.98	1.00		0.99	1.00		0.99	
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1710	1710	1710	1710	1710	1710	1710	1661	1710	1710	1695	1710	
Adj Flow Rate, veh/h	327	84	50	18	115	188	49	1084	26	118	1015	144	
Adj No. of Lanes	0	1	0	0	1	0	1	1	0	1	1	0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Percent Heavy Veh, %	0	0	0	0	0	0	0	3	0	0	1	0	
Opposing Right Turn Influence	Yes			Yes			Yes			Yes			
Cap, veh/h	311	54	32	77	202	304	120	848	20	120	761	108	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Prop Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.52	0.52	0.52	0.52	0.52	0.52	
Ln Grp Delay, s/veh	121.2	0.0	0.0	21.0	0.0	0.0	40.0	0.0	148.4	107.8	0.0	172.0	
Ln Grp LOS	F			C			D		F	F		F	
Approach Vol, veh/h		461			321			1159			1277		
Approach Delay, s/veh		121.2			21.0			143.8			166.1		
Approach LOS		F			C			F			F		
Timer:		1	2	3	4	5	6	7	8				
Assigned Phs			2		4		6		8				
Case No			6.0		8.0		6.0		8.0				
Phs Duration (G+Y+Rc), s			36.0		24.0		36.0		24.0				
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5				
Max Green (Gmax), s			31.5		19.5		31.5		19.5				
Max Allow Headway (MAH), s			5.9		6.4		6.1		6.0				
Max Q Clear (g_c+I1), s			33.5		21.5		33.5		12.7				
Green Ext Time (g_e), s			0.0		0.0		0.0		1.3				
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00				
Prob of Max Out (p_x)			0.00		0.00		0.00		0.00				
<b>Left-Turn Movement Data</b>													
Assigned Mvmt			5		7		1		3				
Mvmt Sat Flow, veh/h			443		641		464		41				
<b>Through Movement Data</b>													
Assigned Mvmt			2		4		6		8				
Mvmt Sat Flow, veh/h			1615		165		1450		621				
<b>Right-Turn Movement Data</b>													
Assigned Mvmt			12		14		16		18				
Mvmt Sat Flow, veh/h			39		98		206		935				
<b>Left Lane Group Data</b>													
Assigned Mvmt		0	5	0	7	0	1	0	3				
Lane Assignment					L+T+R				L+T+R				



4: Wallace Avenue North & Elizabeth Street West/Elizabeth Street East

Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	49	0	461	0	118	0	321
Grp Sat Flow (s), veh/h/ln	0	443	0	904	0	464	0	1596
Q Serve Time (g_s), s	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	31.5	0.0	19.5	0.0	31.5	0.0	10.7
Perm LT Sat Flow (s_l), veh/h/ln	0	443	0	1086	0	464	0	1275
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	743	0	0	0	1679
Perm LT Eff Green (g_p), s	0.0	31.5	0.0	19.5	0.0	31.5	0.0	19.5
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	8.8	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.71	0.00	1.00	0.00	0.06
Lane Grp Cap (c), veh/h	0	120	0	396	0	120	0	582
V/C Ratio (X)	0.00	0.41	0.00	1.16	0.00	0.98	0.00	0.55
Avail Cap (c_a), veh/h	0	120	0	396	0	120	0	582
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.0	0.0	23.5	0.0	30.0	0.0	17.3
Incr Delay (d2), s/veh	0.0	10.0	0.0	97.8	0.0	77.8	0.0	3.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.0	0.0	121.2	0.0	107.8	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	6.5	0.0	1.9	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	10.8	0.0	2.6	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	17.3	0.0	4.5	0.0	5.1
%ile Storage Ratio (RQ%)	0.00	12.98	0.00	72.66	0.00	51.73	0.00	10.66
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	16.2	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
<b>Lane Assignment</b>								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4: Wallace Avenue North & Elizabeth Street West/Elizabeth Street East

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0




















Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R				T+R			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	1110	0	0	0	1159	0	0
Grp Sat Flow (s), veh/h/ln	0	1654	0	0	0	1656	0	0
Q Serve Time (g_s), s	0.0	31.5	0.0	0.0	0.0	31.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	31.5	0.0	0.0	0.0	31.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.02	0.00	0.11	0.00	0.12	0.00	0.59
Lane Grp Cap (c), veh/h	0	868	0	0	0	869	0	0
V/C Ratio (X)	0.00	1.28	0.00	0.00	0.00	1.33	0.00	0.00
Avail Cap (c_a), veh/h	0	868	0	0	0	869	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.3	0.0	0.0	0.0	14.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	134.1	0.0	0.0	0.0	157.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	148.4	0.0	0.0	0.0	172.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	14.0	0.0	0.0	0.0	14.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	32.4	0.0	0.0	0.0	38.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	46.3	0.0	0.0	0.0	52.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	54.09	0.00	0.00	0.00	209.90	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	60.4	0.0	0.0	0.0	72.4	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	137.2
HCM 2010 LOS	F

HCM 2010 Signalized Intersection Capacity Analysis Future (2041) - PM Peak Hour  
 5: Wallace Avenue South/Wallace Avenue North & Main Street (Line 86)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	462	487	39	5	550	275	64	224	67	228	147	438
Future Volume (veh/h)	462	487	39	5	550	275	64	224	67	228	147	438
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	0.98		0.95	1.00		0.92	1.00		0.92
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1644	1657	1710	1710	1645	1660	1710	1699	1710	1710	1710	1660
Adj Flow Rate, veh/h	476	502	40	5	567	284	66	231	69	235	152	452
Adj No. of Lanes	1	1	0	0	1	1	0	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	3	6	0	4	3	0	1	0	0	0	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	486	832	66	42	423	348	48	80	19	163	63	351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.26	0.55	0.55	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Ln Grp Delay, s/veh	60.1	0.0	16.5	155.6	0.0	49.8	723.4	0.0	0.0	374.9	0.0	182.0
Ln Grp LOS	E		B	F		D	F			F		F
Approach Vol, veh/h		1018			856			366			839	
Approach Delay, s/veh		36.9			120.5			723.4			271.0	
Approach LOS		D			F			F			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6	7	8			
Case No			8.0		4.0		7.0	1.2	7.0			
Phs Duration (G+Y+Rc), s			32.0		57.0		32.0	26.0	31.0			
Change Period (Y+Rc), s			* 8		8.0		8.0	3.0	8.0			
Max Green (Gmax), s			* 20		49.0		24.0	23.0	23.0			
Max Allow Headway (MAH), s			6.2		5.8		5.6	4.6	5.5			
Max Q Clear (g_c+I1), s			26.0		21.9		26.0	24.2	25.0			
Green Ext Time (g_e), s			0.0		4.7		0.0	0.0	0.0			
Prob of Phs Call (p_c)			1.00		1.00		1.00	1.00	1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00	0.00	0.00			
<b>Left-Turn Movement Data</b>												
Assigned Mvmt			5				1	7	3			
Mvmt Sat Flow, veh/h			0				362	1566	4			
<b>Through Movement Data</b>												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			298		1512		234		1636			
<b>Right-Turn Movement Data</b>												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			69		120		1301		1346			
<b>Left Lane Group Data</b>												
Assigned Mvmt		0	5	0	0	0	1	7	3			
Lane Assignment		L+T+R					L+T (Pr/Pm)		L+T			

HCM 2010 Signalized Intersection Capacity Analysis Future (2041) - PM Peak Hour  
 5: Wallace Avenue South/Wallace Avenue North & Main Street (Line 86)

Lanes in Grp	0	1	0	0	0	1	1	1
Grp Vol (v), veh/h	0	366	0	0	0	387	476	572
Grp Sat Flow (s), veh/h/ln	0	367	0	0	0	597	1566	1640
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	22.2	6.1
Cycle Q Clear Time (g_c), s	0.0	24.0	0.0	0.0	0.0	24.0	22.2	23.0
Perm LT Sat Flow (s_l), veh/h/ln	0	829	0	0	0	1096	570	858
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	597	0	0
Perm LT Eff Green (g_p), s	0.0	24.0	0.0	0.0	0.0	24.0	25.0	23.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1
Time to First Blk (g_f), s	0.0	5.4	0.0	0.0	0.0	0.0	0.0	16.9
Serve Time pre Blk (g_fs), s	0.0	5.4	0.0	0.0	0.0	0.0	0.0	16.9
Prop LT Inside Lane (P_L)	0.00	0.18	0.00	0.00	0.00	0.61	1.00	0.01
Lane Grp Cap (c), veh/h	0	147	0	0	0	226	486	465
V/C Ratio (X)	0.00	2.50	0.00	0.00	0.00	1.71	0.98	1.23
Avail Cap (c_a), veh/h	0	147	0	0	0	226	486	465
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d1), s/veh	0.0	30.2	0.0	0.0	0.0	36.0	23.9	34.0
Incr Delay (d2), s/veh	0.0	693.2	0.0	0.0	0.0	339.0	36.2	121.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	723.4	0.0	0.0	0.0	374.9	60.1	155.6
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.0	0.0	5.5	11.5	11.4
2nd-Term Q (Q2), veh/ln	0.0	28.2	0.0	0.0	0.0	21.3	4.9	15.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.0	31.8	0.0	0.0	0.0	26.8	16.4	27.1
%ile Storage Ratio (RQ%)	0.00	80.11	0.00	0.00	0.00	30.62	269.02	25877.75
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	54.8	0.0	0.0	0.0	40.3	0.0	26.8
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.6	0.0	0.0	0.0	0.4	0.0	0.3
<b>Middle Lane Group Data</b>								
Assigned Mvmt	0	2	0	4	0	6	0	8
<b>Lane Assignment</b>								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

5: Wallace Avenue South/Wallace Avenue North & Main Street (Line 86)

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				T+R		R		R
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	542	0	452	0	284
Grp Sat Flow (s), veh/h/ln	0	0	0	1632	0	1301	0	1346
Q Serve Time (g_s), s	0.0	0.0	0.0	19.9	0.0	24.0	0.0	17.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	19.9	0.0	24.0	0.0	17.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.19	0.00	0.07	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	899	0	351	0	348
V/C Ratio (X)	0.00	0.00	0.00	0.60	0.00	1.29	0.00	0.82
Avail Cap (c_a), veh/h	0	0	0	899	0	351	0	348
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	13.5	0.0	32.5	0.0	31.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.0	0.0	149.5	0.0	18.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.5	0.0	182.0	0.0	49.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.9	0.0	8.6	0.0	6.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.7	0.0	14.6	0.0	1.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.6	0.0	23.2	0.0	8.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	23.14	0.00	378.29	0.00	40.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	25.3	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 2010 Ctrl Delay	205.5
HCM 2010 LOS	F

Notes

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

6: Wallace Avenue South & Elma Street West/Elma Street East

**Intersection**

Int Delay, s/veh 53.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	71	196	66	57	219	71	52	179	19	34	111	52
Future Vol, veh/h	71	196	66	57	219	71	52	179	19	34	111	52
Conflicting Peds, #/hr	11	0	1	1	0	11	22	0	4	4	0	22
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	3	0	0	4	0	7	5	12	0	0	6	0
Mvmt Flow	74	204	69	59	228	74	54	186	20	35	116	54

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	701	553	166	659	570	211	192	0	0	210	0	0
Stage 1	235	235	-	308	308	-	-	-	-	-	-	-
Stage 2	466	318	-	351	262	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.5	6.2	7.14	6.5	6.27	4.15	-	-	4.1	-	-
Critical Hdwy Stg 1	6.13	5.5	-	6.14	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.5	-	6.14	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4	3.3	3.536	4	3.363	2.245	-	-	2.2	-	-
Pot Cap-1 Maneuver	352	444	884	374	434	817	1364	-	-	1373	-	-
Stage 1	766	714	-	698	664	-	-	-	-	-	-	-
Stage 2	575	657	-	661	695	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	159	403	867	196	394	807	1339	-	-	1368	-	-
Mov Cap-2 Maneuver	159	403	-	196	394	-	-	-	-	-	-	-
Stage 1	717	681	-	664	631	-	-	-	-	-	-	-
Stage 2	315	625	-	414	663	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	100.2		74.4		1.6		1.3	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1339	-	-	330	371	1368	-	-
HCM Lane V/C Ratio	0.04	-	-	1.051	0.974	0.026	-	-
HCM Control Delay (s)	7.8	0	-	100.2	74.4	7.7	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	12.5	11.1	0.1	-	-

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	25	238	15	19	364
Future Vol, veh/h	20	25	238	15	19	364
Conflicting Peds, #/hr	2	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	0
Mvmt Flow	22	28	264	17	21	404

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	723	275	0	0	283	0
Stage 1	275	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	396	769	-	-	1291	-
Stage 1	776	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	386	768	-	-	1289	-
Mov Cap-2 Maneuver	386	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	633	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.5	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	533	1289
HCM Lane V/C Ratio	-	-	0.094	0.016
HCM Control Delay (s)	-	-	12.5	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

8: Wallace Avenue North/Wallace Avenue South & McDonald Street West

**Intersection**

Int Delay, s/veh 1.9

**Movement** EBL EBR NBL NBT SBT SBR

Lane Configurations						
Traffic Vol, veh/h	35	37	71	848	968	118
Future Vol, veh/h	35	37	71	848	968	118
Conflicting Peds, #/hr	1	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	6	3	0
Mvmt Flow	40	43	82	975	1113	136

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	2321	1182	1249	0	-	0
Stage 1	1181	-	-	-	-	-
Stage 2	1140	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	42	233	564	-	-	-
Stage 1	294	-	-	-	-	-
Stage 2	308	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 36	233	564	-	-	-
Mov Cap-2 Maneuver	142	-	-	-	-	-
Stage 1	251	-	-	-	-	-
Stage 2	308	-	-	-	-	-

**Approach** EB NB SB

HCM Control Delay, s	41.7	1	0
HCM LOS	E		

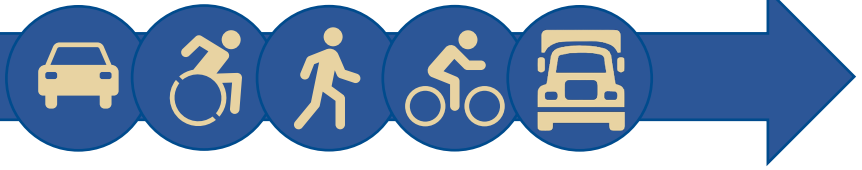
**Minor Lane/Major Mvmt** NBL NBT EBLn1 SBT SBR

Capacity (veh/h)	564	-	178	-	-
HCM Lane V/C Ratio	0.145	-	0.465	-	-
HCM Control Delay (s)	12.5	-	41.7	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.5	-	2.2	-	-

**Notes**

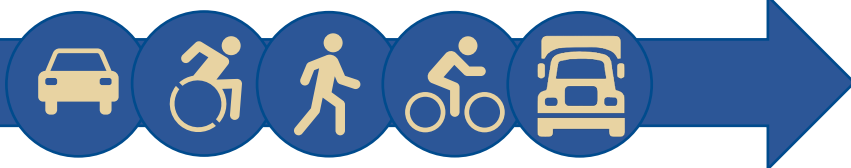
~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon





# Appendix D

## Listowel Truck Route Assessment

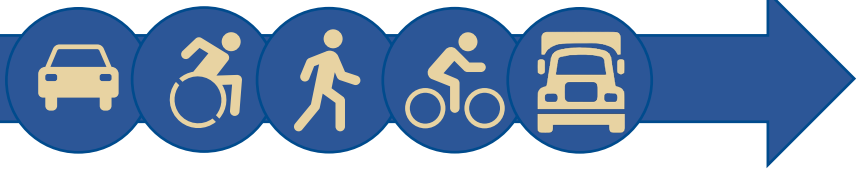


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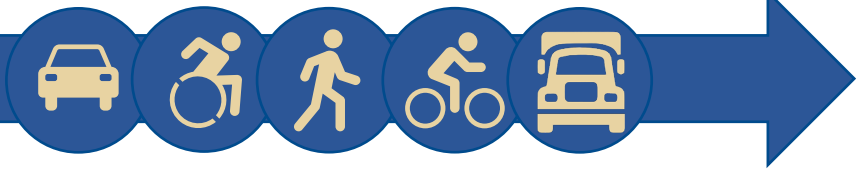
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# 1 Introduction

## 1.1 Overview

The **Listowel Truck Route Assessment** was undertaken as part of the **North Perth Transportation Master Plan Study** to address longstanding concerns about traffic congestion on Main Street in downtown Listowel, particularly excessive heavy vehicle (herein referred to as “truck”) volumes. This appendix summarizes the assessment findings and is organized as follows:

- **Chapter 2** describes the problems and opportunities being addressed;
- **Chapter 3** identifies and assesses alternative solutions to the noted problems and opportunities;
- **Chapter 4** describes the implementation plan for the recommended solution;
- **Chapter 5** outlines the recommendation actions from the assessment.

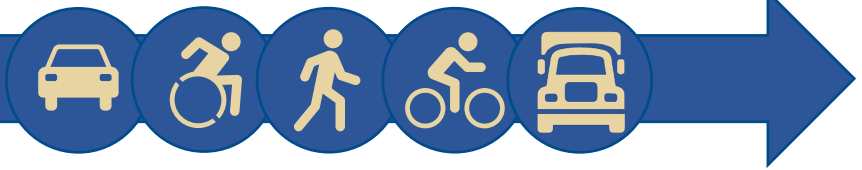
## 1.2 Relationship to Municipal Class Environmental Assessment

The broader North Perth Transportation Master Plan Study followed master planning **Approach #1** of the Municipal Class Environmental Assessment (MCEA) process, with preparation of the plan at the conclusion of

- Identifying the problem (deficiency) and/or opportunity (Phase 1); and
- Identifying alternative solutions to address the problem and/or opportunity, considering the existing environment, and establishing the preferred solution, accounting for public and review agency input (Phase 2).

Although there is no legislative requirement to complete a MCEA to designate a truck route, certain physical roadway improvements needed to implement the route could require environmental assessment approval. Improvements that would require the Municipality to continue with Phases 3, 4, and 5 of the MCEA planning and design process prior to implementing the truck route include:

- Reconstructing or widening a road and/or water crossing where the facility will not be for the same purpose, use, or capacity (e.g., additional motor vehicle lanes, continuous centre turn lane); or
- Constructing a new road, water crossing, grade separation, and/or other linear paved facility.



Otherwise, the Municipality can designate truck routes on existing roads that require no improvements or only minor reconstruction without further environmental study.

### 1.3 Consultation

Consultation is a core element of the MCEA process and a vital component of a master planning study. As part of the Engagement Program for the North Perth Transportation Master Plan Study, the Municipality held three Public Information Centres (PICs) focused on the truck route<sup>1</sup> assessment to:

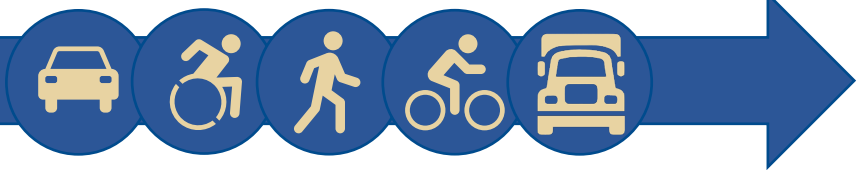
- Review the work completed to date and the draft Problem and Opportunity Statement;
- Present the proposed evaluation criteria and potential route options;
- Gather attendee feedback on the information provided; and
- Discuss next steps.

Approximately 40 people attended the in-person sessions at Kin Station on June 15, 2022 (5:00 PM to 7:00 PM) and July 12, 2022 (1:30 PM to 3:30 PM and 7:00 PM to 9:00 PM). **Attachment H** of the **Engagement Summary Report (Appendix A** of the TMP Report) provides the display boards presented at the meetings (same for all three events) and the comment form distributed to attendees and posted on the Municipality's website following the PIC.

The comment form included a brief three-question survey to gauge participant opinions on the need for a truck by-pass, the route options presented, and the proposed evaluation criteria. According to the survey:

- About 85% of respondents expressed strong support (i.e., scores of 8, 9, or 10) for a truck route. The remainder felt a route was not needed or offered only limited benefit.
- About 58% of respondents have some concern about a potential truck route. Most concerns focused on the possible location of the route and its impacts on adjacent property owners. Specifically, participants noted:
  - Tremaine Avenue South would not be a suitable truck route because of nearby schools and residential areas; and
  - Trucks should not be completely banned from making local deliveries and routes should be convenient for trucks.

<sup>1</sup> The public notices and material presented at three public information centres referred to the truck route as a "commercial (truck) bypass".



During the comment period for the proposed TMP prior to Municipal Council considering the plan for approval (December 2023 to February 2024), the Municipality invited input from local truck and transport operators on the recommended heavy vehicle provisions through an online survey hosted on **Your Say North Perth**. In total, 56 individuals participated in the survey. Of note:

- About 95% of respondents indicated they (or their drivers) drive through the core of Listowel.
- About half (49%) of respondents noted they were driving to local destinations, while 33% stated the location was not within Listowel. The remainder (18%) indicated their destination as "other".
- About half (48%) of respondents indicated that the proposed truck routes, with intersection improvements along the by-pass, would help their daily drive.
- About 73% of respondents would still need to drive into or through Listowel if the by-pass was implemented with improved intersections.

**Attachment L** of the **Engagement Summary Report (Appendix A** of the TMP Report) provides the survey questionnaire and responses.

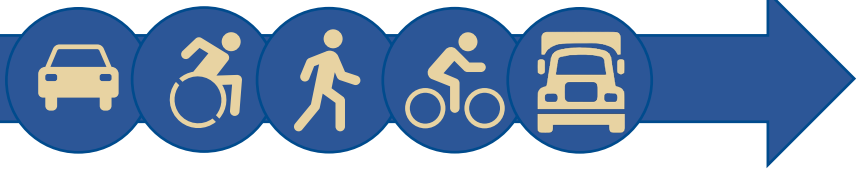
## 2 Problems and Opportunities

### 2.1 Description

Main Street through downtown Listowel regularly experiences traffic congestion. Several factors contribute to this condition, including:

- Frequent, closely spaced intersections and driveways;
- Offset alignment of Wallace Avenue at Main Street;
- Truck traffic;
- Presence of on-street parking; and
- Pedestrian crossing activity.

Of all factors, trucks using Main Street arguably pose the most significant impact on downtown traffic conditions. Excessive truck volumes, particularly heavy vehicles passing through town (not destined to Listowel), contribute to this bottleneck, posing safety, environmental, human health, and economic impacts on the community.



## 2.2 Truck Origin/Destination Survey

Paradigm conducted an origin/destination survey on May 10, 2022 (Tuesday) to better understand truck travel patterns in Listowel and their impact on downtown traffic conditions. The survey aimed to quantify the proportion of trucks passing through town by matching heavy vehicles entering and exiting on:

- Highway 23 (Mitchell Road South/Road 164) north of Line 84 (Station 1 – South);
- Perth Line 86 east of Road 165 (Station 2 – West);
- Perth Line 86 west of Road 157 (Station 3 – East); and
- Highway 23 (Wallace Avenue North/Road 164) south of Line 87 (Station 4 – North).

Traffic counts were collected at the four stations and at the Main Street and Wallace Avenue intersection in downtown Listowel (Station 5) to supplement the survey information.

**Table 2.1** summarizes traffic patterns for trucks entering and exiting Listowel based on the origin/destination survey. Over the 12-hour survey period (6:00 AM to 6:00 PM) approximately 43% of all trucks (both single unit and articulated) entering Listowel via Highway 23 and Perth Line 86 passed through town.

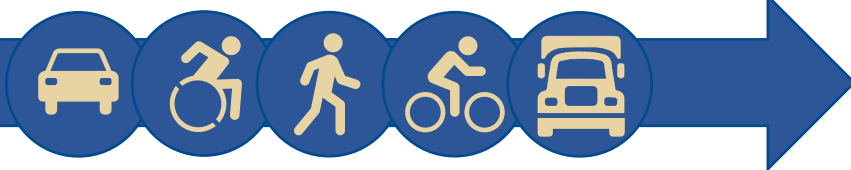
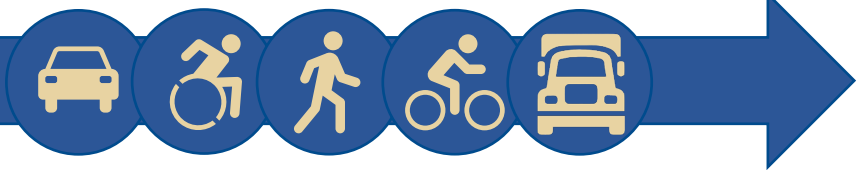


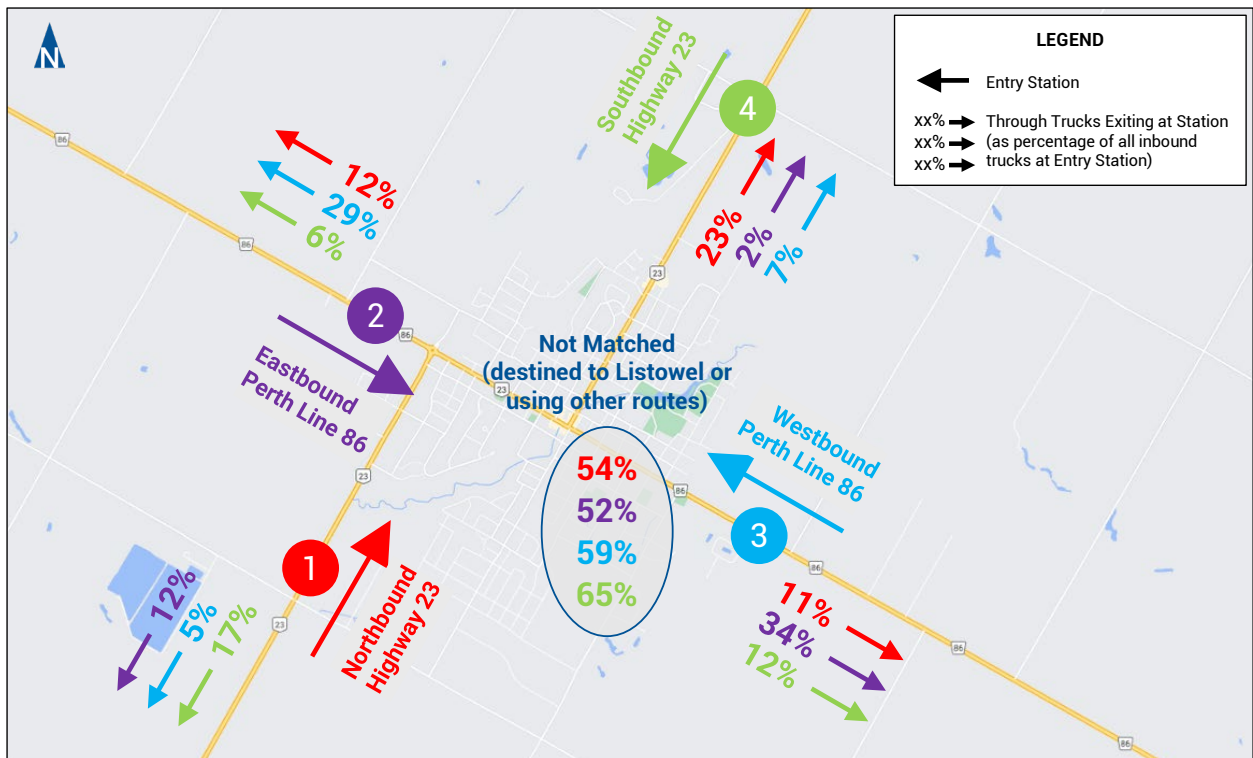
Table 2.1: Traffic Patterns of Trucks Entering and Exiting Listowel

Entry Station		Exit Station				Through Trucks Entering	All Trucks Entering	Through Share of all Trucks Entering
		1	2	3	4			
		Highway 23 north of Line 84 (SB)	Perth Line 86 east of Road 165 (WB)	Perth Line 86 west of Road 157 (EB)	Highway 23 south of Line 87 (NB)			
1	Highway 23 north of Line 84 (NB)	n/a	46	42	88	176	385	46%
2	Perth Line 86 east of Road 165 (EB)	41	n/a	115	8	164	340	48%
3	Perth Line 86 west of Road 157 (WB)	22	124	n/a	31	177	434	41%
4	Highway 23 south of Line 87 (SB)	46	18	32	n/a	96	275	35%
<b>Through Trucks Exiting</b>		<b>109</b>	<b>188</b>	<b>189</b>	<b>127</b>	<b>613</b>	<b>1,434</b>	<b>43%</b>
<b>All Trucks Exiting</b>		<b>343</b>	<b>318</b>	<b>448</b>	<b>312</b>	<b>1,421</b>		
<b>Through Share of all Trucks Exiting</b>		<b>32%</b>	<b>59%</b>	<b>42%</b>	<b>41%</b>	<b>43%</b>		



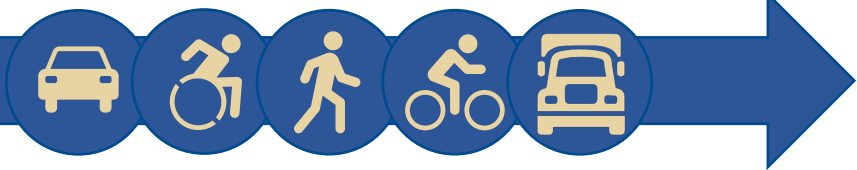


**Figure 2.1** illustrates the destinations of trucks entering Listowel per **Table 2.1**, expressed as a percentage of the total number of heavy vehicles entering town, colour coded by entry station. For example, the values coloured red correspond to Station 1. In this case, of all trucks travelling northbound on Highway 23 at Station 1, 12% exited to the west via Station 2, 11% exited to the east via Station 3, and 23% exited to the north via Station 4. The remaining 54% were not matched at any of the four stations. This infers these trucks used a road other than Highway 23 or Perth Line 86 to exit town or had a destination/stopover in Listowel.



**Figure 2.1: Destinations of Trucks Entering Listowel**

Trucks that travel through Listowel tend to continue in the same direction on the same road (e.g., enter and exit Listowel westbound on Perth Line 86). The percentage varied from 17% for Highway 23 in the southbound direction (from Station 4 to Station 1) to 34% for Perth Line 86 in the eastbound direction (from Station 2 to Station 3). By contrast, the percentage of through trucks changing direction (e.g., enter southbound on Highway 23 but exit westbound via Perth Line 86) ranged between 2% for eastbound to northbound (Station 2 to Station 4) trips and 12% for northbound to westbound (Station 1 to Station 2), westbound to southbound (Station 2 to Station 1), and southbound to eastbound (Station 4 to Station 3) travel.



A higher volume/percentage of through trucks entered Listowel via Perth Line 86 than Highway 23, suggesting a solution for east-west truck traffic would be a slight priority.

Figure 2.2 shows the estimated volume of trucks passing each station during the 12-hour survey period per Table 2.1 (rounded to the nearest 5). Truck percentages calculated as a share of all inbound and outbound vehicles (including autos) are also provided.

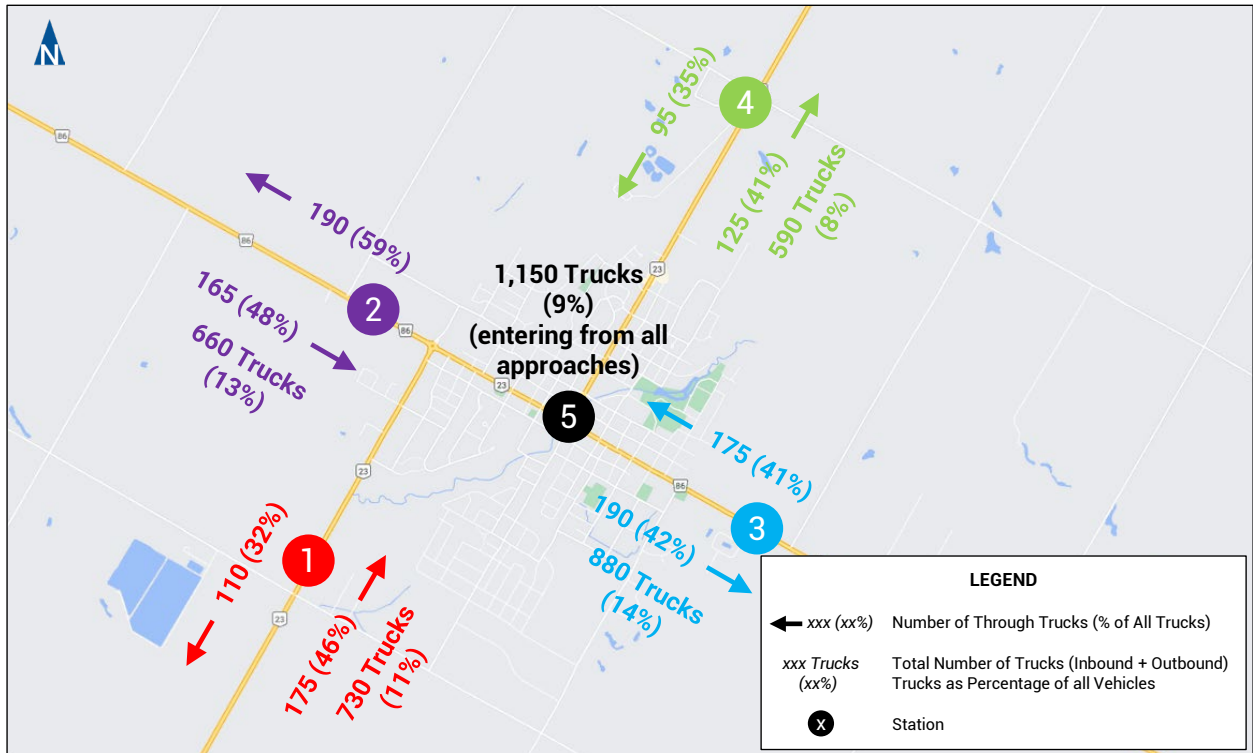
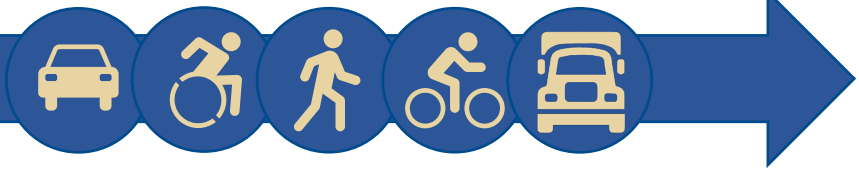


Figure 2.2: Estimated Truck Volumes (6 AM to 6PM)

Truck volumes entering and exiting Listowel on Highway 23 and Perth Line 86 ranged from 590 trucks (in both directions) at Station 1 to 880 trucks at Station 3. Trucks accounted for between 8% at Station 4 and 14% at Station 3 of these vehicles.

The figure also depicts the estimated volume and percentage (as a share of all trucks passing) of through trucks entering and exiting by station. The number of through trucks entering ranged from 95 at Station 4 to 175 trucks at Stations 1 and 3. The proportion of through trucks entering varied between 35% at Station 4 and 48% at Station 2. By contrast, the number of through trucks exiting ranged from 110 at Station 1 to 190 at Stations 2 and 3. The proportion of through trucks entering varied between 32% at Station 1 and 59% at Station 2.



Approximately 1,150 trucks (in total) entered the Main Street and Wallace Avenue intersection (Station 5) during the 12-hour survey period. Nearly 1 in 10 (9%) vehicles entering was a truck.

It is highly likely that most of the trucks passing through town travelled along Main Street within downtown Listowel, for at least part of their trip, given the station locations and limited route alternatives. Trucks travelling between Stations 1 and 2, in either direction, would be the only heavy vehicles not using this road section. Based on this assumption, the number of through trucks passing through the Main Street and Wallace Avenue intersection is estimated at approximately 525 trucks. This represents about 46%, or nearly half, of all trucks entering the intersection between 6:00 AM and 6:00 PM.

In comparison, typical truck percentages observed in other communities are between 3% and 5% on major roads and between 7% and 10% on designated truck routes.<sup>2</sup> This suggests Main Street is likely serving more truck traffic than similar roads in other municipalities, particularly through trucks.

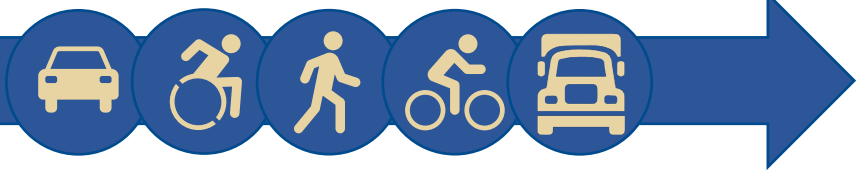
It should be noted that truck percentages can vary over the day as traffic volumes fluctuate. The share of trucks is often higher in the midday periods (when overall traffic volumes are lighter) and lower overnight due to the commercial nature of the operation.

## 2.3 Problem and Opportunity Statement

Based on the foregoing, the Problem and Opportunity Statement can be expressed as follows:

*To preserve and enhance the character of the central area and support a community-focused, pedestrian-oriented, business-friendly, and sustainable downtown core, longer-distance through traffic is no longer suited to travel through downtown Listowel on Main Street. The narrow right-of-way, and pedestrian activity within the corridor are incompatible with excessive vehicle use. The diversion of truck traffic to a suitable alternative route has the potential to reduce traffic congestion, enhance safety for all road users, help mitigate environmental effects (like noise and air pollution), and improve the attractiveness and social environment of the downtown core.*

<sup>2</sup> District of Squamish, *Downtown Truck Route Study*, <https://squamish.ca/assets/Uploads/c45e7c8903/Squamish-Downtown-Truck-Route-Study-FINAL.pdf>, 2017.



## 3 Alternative Solutions

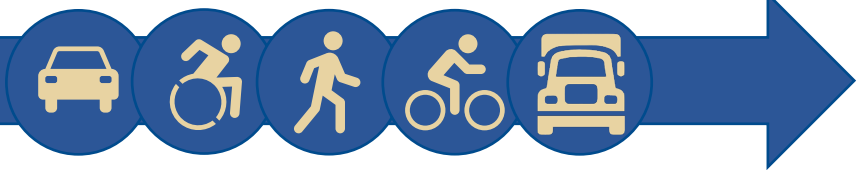
### 3.1 Identification and Assessment of Alternatives

The following alternative solutions were identified to address the Problem and Opportunity Statement, with the “do nothing” option providing the benchmark for comparison:

- **Do Nothing** – This alternative would maintain the status quo. Trucks would continue to travel through the central core along Main Street.
- **Alternative 1: Truck Route Along Existing Roads** – This alternative would designate a truck route around downtown Listowel using existing roads. Some/all roads forming the truck route may need to be upgraded to accommodate higher volumes of truck traffic more safely and efficiently.
- **Alternative 2: By-pass** – This alternative would create a by-pass route to divert all vehicular traffic around downtown Listowel. The by-pass would involve constructing a new roadway or part thereof in a separate right-of-way. Existing roads may form part of the route and may need to be upgraded to accommodate higher volumes of traffic more safely and efficiently.

The three potential solutions were assessed based on a qualitative scale of “**Least Preferred**” to “**Somewhat Preferred**” to “**Most Preferred**” for the following four criteria:

- Technical:
  - Potential to reduce traffic congestion and improve safety on Main Street in downtown Listowel
  - Ability to accommodate trucks
- Social/Cultural Environment:
  - Potential impacts/benefits to residents in downtown Listowel
  - Potential impacts to rural residential and agricultural properties (e.g., noise, dust, vibration)
  - Potential need for land acquisition
- Natural Environment:
  - Potential impacts to natural heritage features
  - Potential impacts on private groundwater wells
  - Potential impacts on air quality



- Economic:
  - Implementation and on-going costs
  - Potential economic impacts/benefits to downtown Listowel businesses
  - Potential impacts to commercial vehicle movement

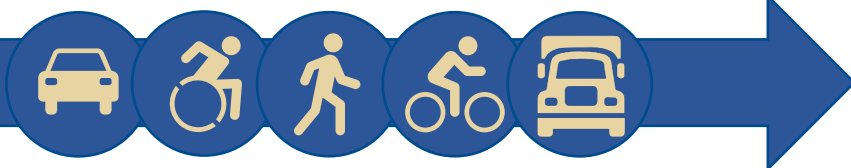
**Table 3.1** summarizes the assessment of the alternative solutions, which identified **Alternative 1: Truck Route Along Existing Roads** as the recommended solution. Routing trucks around Listowel should reduce traffic congestion on Main Street and improve conditions in the downtown. **Alternative 2: By-pass** would also address the identified problems and opportunities but pose significantly greater environmental impacts, potentially affect local businesses, and cost considerably more than Alternative 1. Although preferred from a natural environmental perspective, the **Do Nothing** option would not resolve the traffic and safety issues caused by excessive truck volumes and, therefore, does not satisfy the Problem and Opportunity Statement.

### 3.2 Identification and Evaluation of Truck Route Options

The Municipality can designate a “truck route” for heavy vehicles to use when travelling through Listowel by passing a by-law and installing signs to demarcate the route. The by-law would include provisions to restrict heavy vehicles from operating on other Municipal roads unless making a delivery to, or a pick-up from, a bona fide destination that cannot be reached via a roadway upon which heavy vehicles are not prohibited, having taken the most direct route to access the location.

The process of identifying a truck route(s) needs to consider the physical conditions and characteristics of the roads forming the connection and their ability to accommodate heavy vehicle traffic. Critical factors that directly influence truck routing include vertical and lateral clearance, sign placement, weight limits, pavement structure and condition, bridges and culverts, lane widths, turning radii, and intersection control and configuration. The types of trucks expected to use the route(s) and the associated design vehicle requirements also factor into the process. As well, it is important to know the locations of local carriers and their needs. Exemptions from truck movement restrictions may need to be explored for local cartage companies.<sup>3</sup>

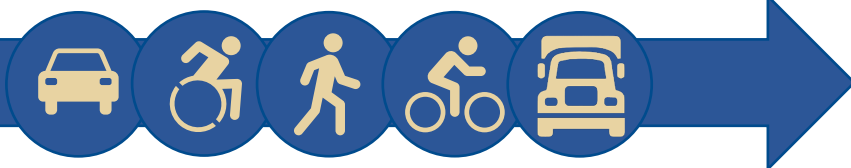
<sup>3</sup> Ontario Trucking Association, *Local Truck Routes: A Guide for Municipal Officials*. December 2011, 17. [https://ontruck.org/wp-content/uploads/2016/04/OTA-Local-Truck-Routes-A-Guide-FINAL\\_public.pdf](https://ontruck.org/wp-content/uploads/2016/04/OTA-Local-Truck-Routes-A-Guide-FINAL_public.pdf)



**Table 3.1: Assessment of Alternative Solutions**

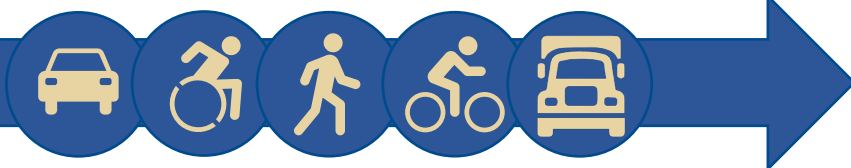
Evaluation Criteria	Do Nothing	Alternative 1: Truck Route Along Existing Roads	Alternative 2: By-pass
<b>Technical</b>	<p><b>Least Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Does not address traffic congestion and safety concerns in downtown Listowel</li> <li>Does not specifically accommodate trucks</li> </ul>	<p><b>Somewhat Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Diverts some trucks around downtown Listowel, which addresses traffic congestion and safety concerns to some extent</li> <li>Provides route capable of accommodating trucks</li> </ul>	<p><b>Most Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Diverts all through vehicles, including trucks, around downtown Listowel, which addresses traffic congestion and safety concerns</li> <li>Provides route capable of accommodating trucks</li> </ul>
<b>Social/ Cultural Environment</b>	<p><b>Somewhat Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Continues to impact residents in downtown Listowel</li> <li>Does not impact rural residential and agricultural properties</li> <li>Does not require land acquisition</li> </ul>	<p><b>Somewhat Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Diverts some trucks around downtown Listowel, which somewhat lessens impact to residents</li> <li>Somewhat impacts rural residential and agricultural properties</li> <li>May require land acquisition</li> </ul>	<p><b>Somewhat Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Diverts all through vehicles, including trucks, around downtown Listowel, which lessens impact to residents</li> <li>Impacts rural residential and agricultural properties</li> <li>Will likely require land acquisition</li> </ul>



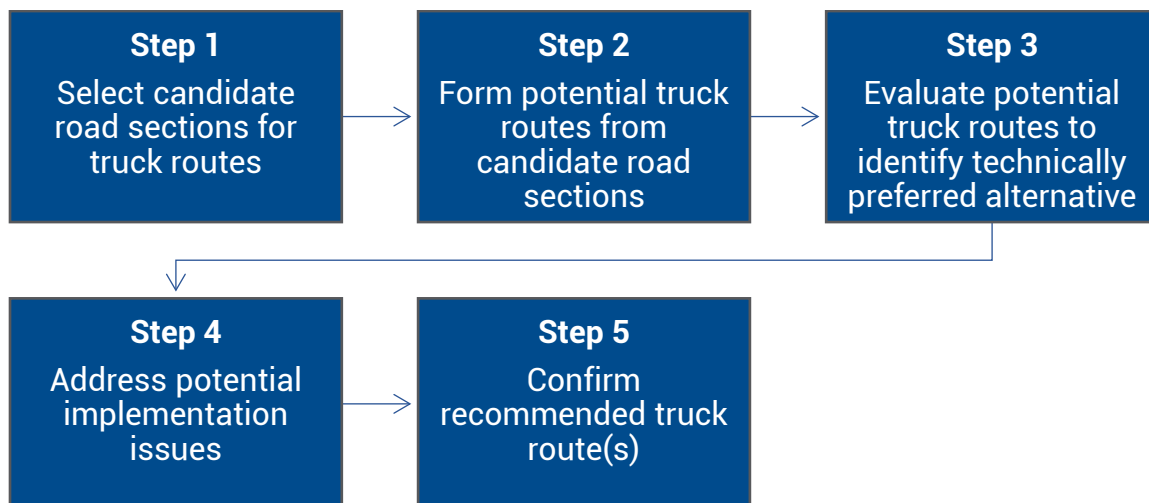


**Table 3.1: Assessment of Alternative Solutions**

Evaluation Criteria	Do Nothing	Alternative 1: Truck Route Along Existing Roads	Alternative 2: By-pass
<b>Natural Environment</b>	<p><b>Most Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Does not impact natural heritage features or private groundwater wells</li> <li>No change to air quality</li> </ul>	<p><b>Somewhat Preferred</b> because:</p> <ul style="list-style-type: none"> <li>May impact natural heritage features and/or private groundwater wells somewhat</li> <li>Increases travel distances for trucks, which may impact air quality somewhat</li> </ul>	<p><b>Least Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Will likely impact natural heritage features and/or private groundwater wells</li> <li>Increases travel distances for all vehicles, including trucks, which may impact air quality</li> </ul>
<b>Economic</b>	<p><b>Somewhat Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Lowest implementation and on-going costs</li> <li>Does not address traffic congestion and safety concerns in downtown Listowel, which may impact businesses economically</li> <li>Does not impact commercial vehicle movement</li> </ul>	<p><b>Somewhat Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Somewhat low implementation and on-going costs</li> <li>Somewhat addresses traffic congestion and safety concerns in downtown Listowel, which lessens economic impact to businesses</li> <li>Increases travel distances for trucks, which may impact commercial vehicle movement</li> </ul>	<p><b>Least Preferred</b> because:</p> <ul style="list-style-type: none"> <li>Highest implementation and on-going costs</li> <li>Diverts all through vehicles, including trucks, around downtown Listowel, which impacts businesses economically</li> <li>Increases travel distances for trucks, which may impact commercial vehicle movement</li> </ul>
<b>Overall</b>	<b>Preferred</b>	<b>Most Preferred</b>	<b>Not Preferred</b>



With these considerations in mind, the process to identify the preferred truck route(s) for Listowel comprised the following five steps:



## Step 1 – Candidate Road Sections

Fourteen (14) candidate road sections were identified in the area roughly bounded by Line 87 to the north, Perth Road 140/Road 140 to the east, Line 84 to the south, and Road 165/Road 166 to the west to form the potential truck route(s). These include:

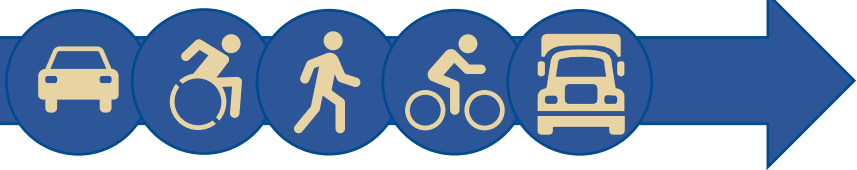
### North-South Roads:

- Perth Road 140/Road 140
- Road 146
- Perth Road 147
- Road 152
- Road 153
- Road 157
- Tremaine Avenue South
- Highway 23 north (Wallace Avenue North/Road 164)
- Highway 23 south (Mitchell Road South/Road 164)
- Road 165
- Road 166

### East-West Roads:

- Line 84
- Perth Line 86
- Line 87





The selection of candidate road sections focused on roadways somewhat close to Listowel to minimize the degree of diversion required for trucks to access the route. Rerouting more than one concession north or south of Perth Line 86 (i.e., Line 84 and Line 87) would cause additional time and cost for operators and likely not occur. **Chapter 4** lists complementary measures intended to induce truck drivers to use the truck route(s) and avoid Main Street through downtown Listowel.

### Step 2 – Potential Truck Routes

**Figure 3.1** and **Table 3.2** summarize the potential Listowel truck routes formed from the candidate road sections. Given the long list of route alternatives possible from combinations of the candidate road sections, the study area was divided into four quadrants along Mitchell Road S/Wallace Avenue N (Highway 23) and Perth Line 86 (i.e., southwest (SW), northwest (NW), southeast (SE) and northeast (NE)) to focus the assessment process. This approach allows alternatives to be combined at common points to form continuous routes over longer distances. It also helps in staging and prioritizing implementation of the recommended truck route(s). Within these four quadrants, a total of 11 potential truck route alternatives were generated from the candidate road sections. The alternatives are colour coded and denoted by quadrant in the figure and table.

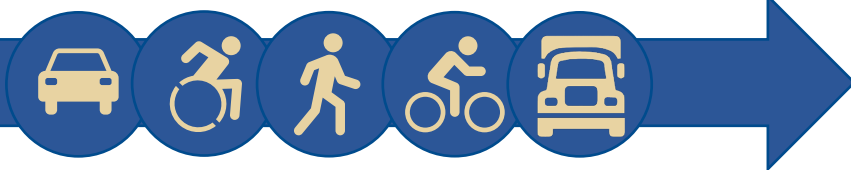
### Step 3 – Evaluation of Route Alternatives

The route evaluation process involved comparison of the 11 alternatives based on the three factors/13 criteria listed in **Table 3.3** to determine the technically recommended route(s) for each quadrant. Each criterion was assigned an unweighted score on a five-point scale for the indicators/measures listed. **Table 3.4** summarizes the evaluation findings with factor and total point scores noted.

Cost estimates prepared by the Municipality's engineering consultant, B.M. Ross, provided the basis for evaluating the Initial Capital Cost criterion. **Table 3.4** notes the indicative cost to upgrade the roads forming each potential route to a standard suitable for accommodating higher truck volumes. This includes amounts for:

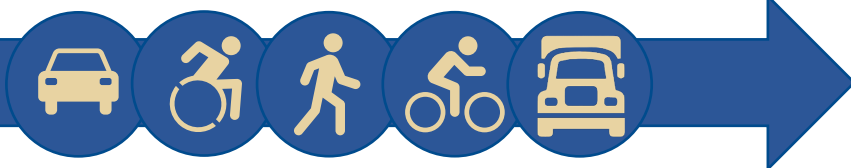
- Reconstruction of the roadway platform (including base and drainage), intersection tie-ins, and auxiliary turn lanes;
- Minor utility relocation and property acquisition;
- Bridge and culvert upgrades/replacements. Existing condition data, where available, was used to assess the extent of work required; and
- Engineering, construction administration, and contingencies.





**Table 3.2: Potential Truck Routes**

Alternative	Road Sections Forming Route
<b>Southwest Quadrant</b>	
SW1	<ul style="list-style-type: none"> <li>Road 166 from Perth Line 86 to Line 84</li> <li>Line 84 from Road 166 to Highway 23</li> </ul>
SW2	<ul style="list-style-type: none"> <li>Perth Line 86 from Road 166 to Highway 23</li> <li>Highway 23 from Perth Line 86 to Line 84</li> </ul>
<b>Northwest Quadrant</b>	
NW1	<ul style="list-style-type: none"> <li>Road 165 from Perth Line 86 to Line 87</li> <li>Line 87 from Road 165 to Highway 23</li> </ul>
<b>Southeast Quadrant</b>	
SE1	<ul style="list-style-type: none"> <li>Perth Line 86 from Road 140 to Tremaine Avenue South</li> <li>Tremaine Avenue South from Perth Line 86 to Line 84</li> <li>Line 84 from Tremaine Avenue South to Highway 23</li> </ul>
SE2	<ul style="list-style-type: none"> <li>Perth Line 86 from Road 140 to Road 153</li> <li>Road 153 from Perth Line 86 to Line 84</li> <li>Line 84 from Road 153 to Highway 23</li> </ul>
SE3	<ul style="list-style-type: none"> <li>Perth Line 86 from Road 140 to Perth Road 147</li> <li>Perth Road 147 from Perth Line 86 to Line 84</li> <li>Line 84 from Perth Road 147 to Highway 23</li> </ul>
SE4	<ul style="list-style-type: none"> <li>Road 140 from Perth Line 86 to Line 84</li> <li>Line 84 from Road 140 to Highway 23</li> </ul>
<b>Northeast Quadrant</b>	
NE1	<ul style="list-style-type: none"> <li>Perth Line 86 from Perth Road 140 to Road 157</li> <li>Road 157 from Perth Line 86 to Line 87</li> <li>Line 87 from Road 157 to Highway 23</li> </ul>
NE2	<ul style="list-style-type: none"> <li>Perth Line 86 from Perth Road 140 to Road 152</li> <li>Road 152 from Perth Line 86 to Line 87</li> <li>Line 87 from Road 152 to Highway 23</li> </ul>
NE3	<ul style="list-style-type: none"> <li>Perth Line 86 from Perth Road 140 to Road 146</li> <li>Road 146 from Perth Line 86 to Line 87</li> <li>Line 87 from Road 146 to Highway 23</li> </ul>
NE4	<ul style="list-style-type: none"> <li>Perth Road 140 from Perth Line 86 to Line 87</li> <li>Line 87 from Perth Road 140 to Highway 23</li> </ul>



**Table 3.3: Evaluation Factors and Criteria**

Factor/Criteria	Indicator/Measure
<b>Social and Community Impact</b>	
Abutting Residential Properties (including farms)	Alternatives abutting fewer residential properties rank higher than options abutting more residential properties
Abutting Non-Residential Properties	Alternatives abutting fewer non-residential properties rank higher than options abutting more non-residential properties
Access to Truck Services/Amenities (e.g., fuel, food)	Alternatives providing better access to trucks services and amenities rank higher than those without or with less access to truck services and amenities
<b>Engineering and Safety</b>	
Roadway Jurisdiction	Alternatives that rely on County roads or Provincial highways to form the route rank higher than alternatives that use roads under North Perth jurisdiction
Road Surface	Alternatives with an asphalt surface rank higher than those with a gravel surface
Road Condition	Alternatives with higher average pavement condition indices rank higher than those with lower average pavement condition indices
Road Width	Alternatives with a higher minimum road width (among all identified segments) rank higher than those with lower minimum road widths
Shoulders	Alternatives with shoulders rank higher than those without shoulders
Intersections	Alternatives with fewer intersections (and therefore, points of conflict) rank higher than alternatives with many intersections
Watercourse Crossings	Alternatives with fewer watercourse crossings rank higher than those with many crossings
Vehicle Traffic Conflicts	Alternatives with a higher number of potential traffic conflicts (e.g., left or right turns) rank lower than those with a lower number of conflicts
Vulnerable Road User Conflicts	Alternatives with a higher number of potential user conflicts (e.g., pedestrians, particularly children and elderly) rank lower than those with a lower number of conflicts
Ease of Implementation	Alternatives easier to implement rank higher than those more difficult to implement
<b>Economic Considerations</b>	
Initial Capital Cost (indicative)	Alternatives with lower capital costs rank higher than alternatives with higher capital costs

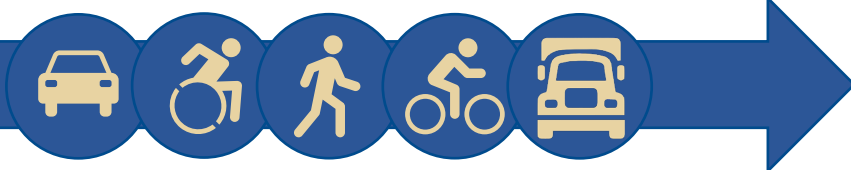
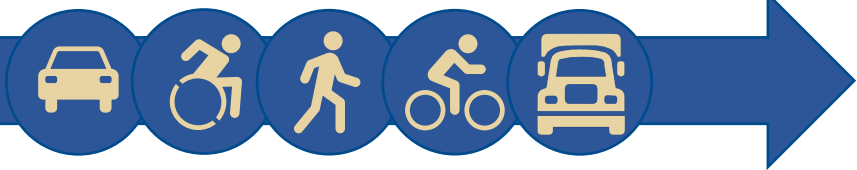


Table 3.4: Evaluation Summary

Factor/Criteria	Quadrant and Alternative									
	Southwest		Southeast				Northeast			
	SW1	SW2	SE1	SE2	SE3	SE4	NE1	NE2	NE3	NE4
<b>Social and Community Impact</b>										
Abutting Residential Properties	●	●	●	●	●	●	●	●	●	●
Abutting Non-Residential Properties	●	●	●	●	●	●	●	●	●	●
Access to Truck Services/ Amenities	●	●	●	●	●	●	●	●	●	●
<b>Score</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>7</b>	<b>7</b>	<b>9</b>	<b>6</b>	<b>6</b>	<b>7</b>	<b>9</b>
<b>Engineering and Safety</b>										
Roadway Jurisdiction	●	●	●	●	●	●	●	●	●	●
Road Surface	●	●	●	●	●	●	●	●	●	●
Road Condition	●	●	●	●	●	●	●	●	●	●
Road Width	●	●	●	●	●	●	●	●	●	●
Shoulders	●	●	●	●	●	●	●	●	●	●
Intersections	●	●	●	●	●	●	●	●	●	●
Watercourse Crossings	●	●	●	●	●	●	●	●	●	●
Vehicle Traffic Conflicts	●	●	●	●	●	●	●	●	●	●
Vulnerable User Conflicts	●	●	●	●	●	●	●	●	●	●
Ease of Implementation	●	●	●	●	●	●	●	●	●	●
<b>Score</b>	<b>23</b>	<b>38</b>	<b>32</b>	<b>32</b>	<b>36</b>	<b>27</b>	<b>33</b>	<b>36</b>	<b>32</b>	<b>34</b>
<b>Economic Considerations</b>										
Initial Capital Cost (\$M)	9.9	-	5.6	9.9	10.4	20.8	12.7	19.0	22.6	20.5
<b>Score</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>2</b>
<b>Total Score</b>	<b>32</b>	<b>52</b>	<b>46</b>	<b>42</b>	<b>46</b>	<b>37</b>	<b>44</b>	<b>45</b>	<b>40</b>	<b>45</b>
<b>Most Technically Merited</b>	<b>SW2</b>		<b>SE1 and SE3</b>				<b>NE2 and NE4</b>			
<b>Legend:</b> ● Most Favourable (5 Points), ● More Favourable (4 Points), ● Neutral (3 Points) ● Less Favourable (2 Points), ● Least Favourable (1 Point)										



Based on these projections, the cost to implement an initial component of a truck route network (i.e., upgrades to roads forming a continuous truck route in one quadrant) ranges from \$6.6 million to \$23.4 million depending on the route selected.

Note that the route evaluation and project costing were carried out at a high-level based on the assumptions stated above. The analysis did not include detailed assessments of project feasibility, constructability, and/or environmental impact, relying on the simplifying assumption that the potential road works could be completed with typical considerations. In most cases, the Municipality will need to carry out further investigation and design prior to commencing implementation of potential truck routes. Ongoing operating and maintenance costs were also not considered as all alternatives relied on existing roads already being serviced. None of the options would materially change current conditions.

The evaluation identified the technically preferred alternatives to carry forward for each quadrant as follows:

### Northwest Quadrant

**Alternative NW1** is the preferred (and only) option.

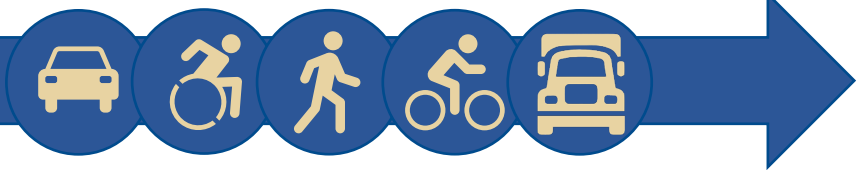
### Southwest Quadrant

**Alternative SW2** should be carried forward as the preferred option as an interim solution as it comprises County and Provincial roads (whose role and function includes accommodating heavy vehicles) and is considerably less costly to implement.

### Southeast Quadrant

The evaluation process identified Alternative SE1 and Alternative SE3 as equally merited. Although Alternative SE1 offers the greatest access to truck services and amenities and poses the least cost to implement, it has the greatest impact on abutting residential properties as it relies on Tremaine Avenue South for part of the route. It also passes by St. Mary Catholic School, heightening exposure to vulnerable road users. From the participant feedback received through the PICs and comment form/survey, a route using Tremaine Avenue South would not be desirable. While Alternative SE4 poses the least impact on abutting residential properties, it does not offer access to truck services/amenities and is the most expensive alternative.

For these reasons, **Alternative SE3** should be carried forward as the preferred option. It would also take advantage of an existing westbound left-turn lane on Perth Line 86 at Perth Road 147, and Perth Road 147 is a County road.



## Northeast Quadrant

Although the evaluation process identified Alternative NE2 and Alternative NE4 as equally merited, **Alternative NE4** should be carried forward as the preferred option because this routing:

- Poses the lowest impact to abutting residential properties;
- Uses a County road (Perth Road 140 between Perth Line 86 and Line 87); and
- Takes advantage of existing eastbound left-turn and westbound right-turn lanes on Perth Line 86 at Perth Road 140.

## Step 4 – Potential Implementation Issues

The preliminary assessment did not identify any specific implementation issues outside typical financial and timing considerations that would impact/alter the route evaluation findings detailed above.

Subject to budget availability, implementation of an initial component of the truck route network could commence in the next few years, beginning with detailed design, property acquisition (if any), and utility relocation (if any). Construction could likely be completed in one season with necessary financing in place. **Chapter 4** further details the implementation plan and related considerations.

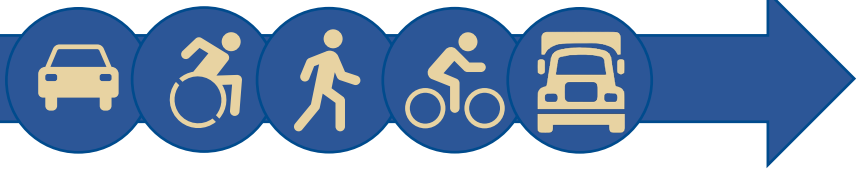
## Step 5 – Recommended Truck Route(s)

**Figure 3.2** and **Table 3.5** illustrate the recommended truck route alternative for each quadrant, with indicative implementation costs provided in the table. The figure denotes Alternative NE4 with a dashed line, as opposed to a solid line for the other truck routes. The assessment did not definitively confirm the need (or urgency) for a truck route in the northeast quadrant, making this segment the last component of the proposed network to implement. **Section 4.1** explains the proposed monitoring and reassessment process to confirm the necessity and location of the truck route.

During the comment period for the proposed TMP, residents abutting Mitchell Road S/Highway 23 between Perth Line 86 to Line 84 expressed concern about the potential implications of the recommended truck route for the southwest quadrant. Residents cited concerns about noise, vibration, safety, and other possible adverse effects arising from more trucks using this road segment.

The assessment completed for the TMP examined two route alternatives for the southwest quadrant, with the recommended option, SW2, preferred based on several criteria, most notably:

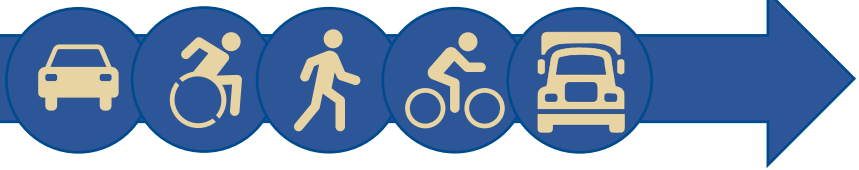




- **Access to Truck Services/Amenities** – Mitchell Road S/Highway 23 offers better access to refueling and other services/amenities for vehicle operators than Alternative SW1.
- **Roadway Jurisdiction** – Mitchell Road S/Highway 23 forms part of a provincial highway. Municipalities typically direct through truck movements to provincial highways as these roadways are intended to serve higher volumes of truck traffic over longer distances.
- **Road Surface** – Mitchell Road S/Highway 23 is a paved roadway, designed to accommodate heavy vehicles. Alternative routes would include roads with gravel surfaces or poor asphalt pavement condition, which are generally not capable of (or desirable for) serving heavy vehicles regularly.
- **Watercourse Crossings** – The existing road sections would require no changes to watercourse crossings to accommodate heavy vehicles, whereas other routes would necessitate bridge/culvert upgrades to render the roadways suitable for use by more trucks. These works may pose environmental consequences.
- **Ease of Implementation** – The Municipality could create a truck route using Mitchell Road S/Highway 23 sooner as few, if any, technical and/or financial impediments to implementation exist.
- **Initial Capital Cost** – Mitchell Road S/Highway 23, as well as the section of Perth Line 86 to the west forming part of the connection, are already constructed to a standard capable of accommodating heavy vehicles, whereas Alternative SW1 (and other potential options in this quadrant) would require capital works to upgrade the constituent road sections.

It is noted that the assessment rated Alternative SW2 less favourable than Alternative SW1 in terms of impact on Abutting Residential Properties. Alternative SW1 adjoins fewer residential properties than the other option considered.





**Table 3.5: Recommended Truck Routes and Indicative Costs**

Alternative	Road Sections Forming Route	Indicative Cost
<b>Southwest Quadrant</b>		
SW2	<ul style="list-style-type: none"> <li>Perth Line 86 from Road 166 to Highway 23</li> <li>Highway 23 from Perth Line 86 to Line 84</li> </ul>	Nil (Relies on Existing County and Provincial Roads)
<b>Northwest Quadrant</b>		
NW1	<ul style="list-style-type: none"> <li>Road 165 from Perth Line 86 to Line 87</li> <li>Line 87 from Road 165 to Highway 23</li> </ul>	\$ 6,050,000
<b>Southeast Quadrant</b>		
SE3	<ul style="list-style-type: none"> <li>Perth Line 86 from Road 140 to Perth Road 147</li> <li>Perth Road 147 from Perth Line 86 to Line 84</li> <li>Line 84 from Perth Road 147 to Highway 23</li> </ul>	\$ 10,495,000
<b>Northeast Quadrant</b>		
NE4	<ul style="list-style-type: none"> <li>Perth Road 140 from Perth Line 86 to Line 87</li> <li>Line 87 from Perth Road 140 to Highway 23</li> </ul>	\$ 20,350,000

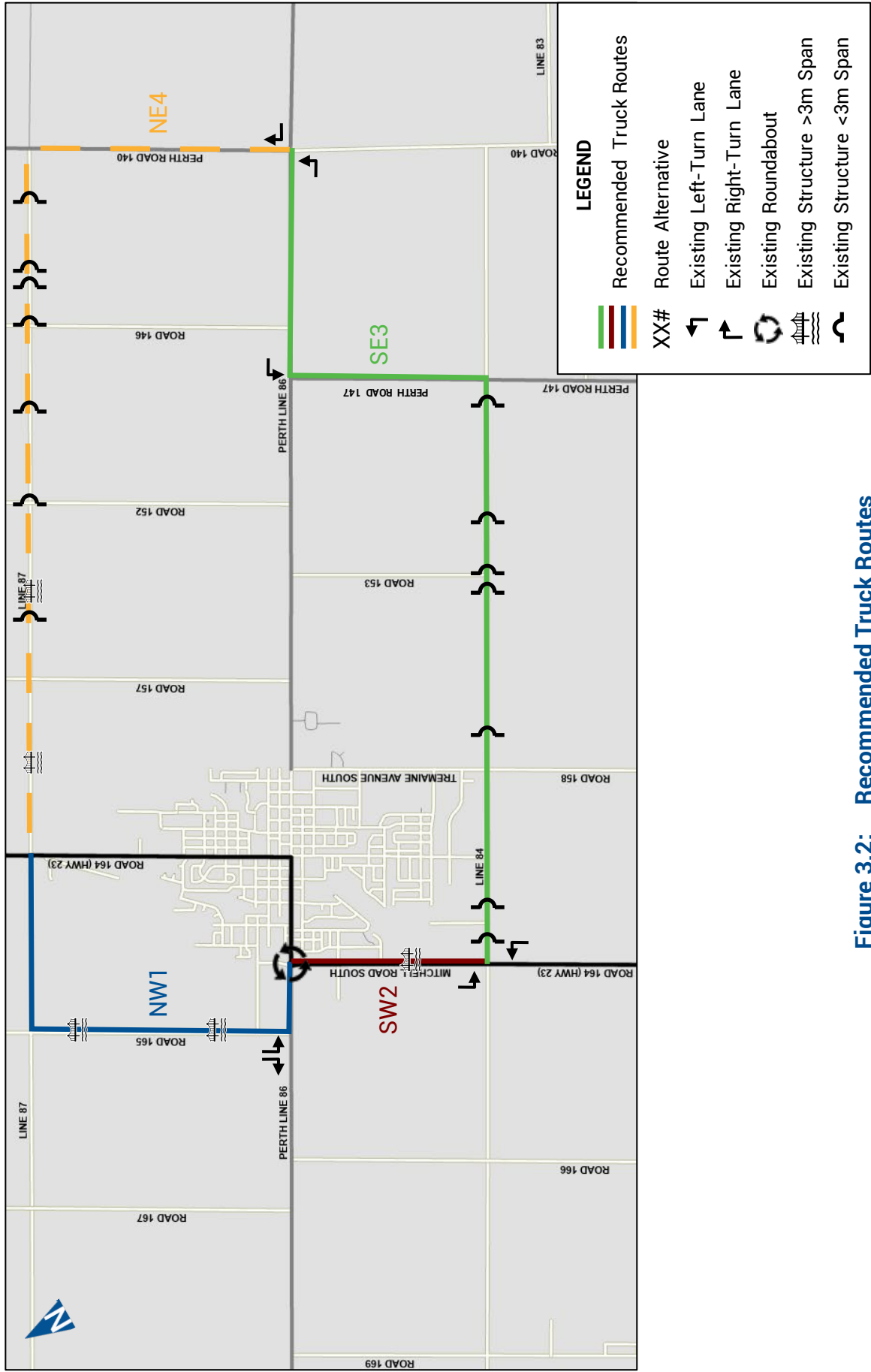
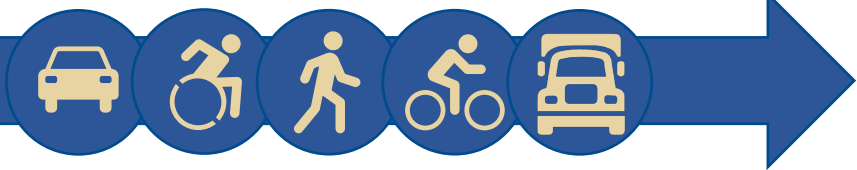


Figure 3.2: Recommended Truck Routes



## 4 Implementation Plan

### 4.1 Staging and Phasing

The assessment summarized in **Chapter 3** identified the recommended truck routes for the four quadrants but did not examine whether all routes needed to be implemented concurrently or could be phased. At a minimum, two of the recommended alternatives listed in **Figure 3.2** and **Table 3.5** would need to be instituted to form a complete north-south or east-west truck route around downtown Listowel; implementing three would create both north-south and east-west by-passes.

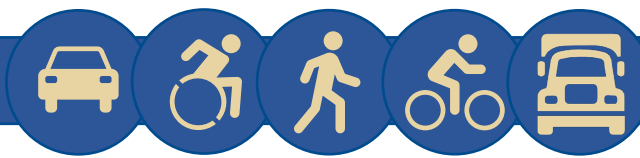
According to the truck origin/destination survey in **Section 2.2**:

- Trucks that travel through Listowel tend to continue in the same direction on the same road (e.g., enter and exit Listowel westbound on Perth Line 86) rather than change direction (e.g., enter southbound on Highway 23 but exit westbound via Perth Line 86); and
- A higher volume of through trucks entered Listowel via Perth Line 86 (340 trucks in both eastbound and westbound directions) and passed through town (approximately 70%) than along Highway 23 (270 trucks in both northbound and southbound directions and approximately 50% through).

On this basis, developing an east-west truck route should be the initial priority.

After considering cost, impacts, and feasibility, the routing south of Line 86 appears preferable to the north option for creating this connection. As well, Alternative SW2 relies solely on Provincial and County roads to form the truck route in the southwest quadrant, making this option the lowest cost alternative to implement and at least as an interim solution pending further consideration of other routes not incorporating the Mitchell Road S/Highway 23 (Perth Line 86 to Line 84) road section. Pairing this option with Alternative SE3 would form a complete east-west by-pass route. While this route is more expensive to implement than Alternative NW1, it would serve the higher through truck movement (and address the Problem and Opportunity Statement) better.

Feedback received from abutting residents during the comment period for the proposed TMP highlighted the need for further consideration of the recommended truck route in the southwest quadrant, specifically the use of Mitchell Road S/Highway 23 between Perth Line 86 to Line 84 as part of the connection. A more extensive investigation of potential route alternatives should be conducted after monitoring truck travel patterns following implementation of the east-west truck route. The monitoring program will aid in quantifying the magnitude and characterizing the implications of the change in heavy vehicle volumes on this road section. Benchmark statistics/



criteria pertaining to traffic volumes and truck percentages should be collected/ defined and clearly communicated at the beginning of the monitoring process.

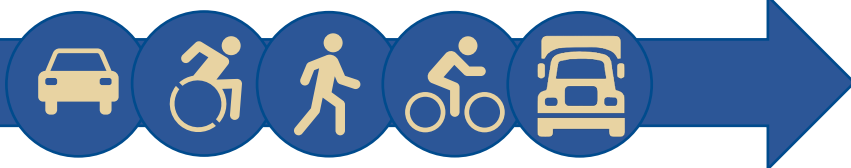
The subsequent phase of network expansion should involve Alternative NW1 to provide a complementary north-south truck route. Implementing this route in conjunction with Alternative SW2 and Alternative SE3 will facilitate all potential route choices for truck traffic intending to by-pass Listowel, albeit somewhat circuitous for travel between the north and east (i.e., southbound Highway 23 to eastbound Perth Line 86 and westbound Perth Line 86 to northbound Highway 23). However, this travel pattern exhibited the lowest through truck volumes of all origin/destination pairs based on the survey summarized in **Section 2.2**. On this basis, the northeast portion of the truck route network should be pursued last, if at all, with the decision to proceed informed by future monitoring of truck travel patterns. Again, benchmark statistics/criteria should be established before commencing monitoring.

If the Municipality decides to pursue a truck route in the northeast quadrant at some future time, Opportunities to connect Highway 23 and Perth Road 140 further to the north, for example using Line 88 as an extension of Perth Road 88, should be further explored to leverage existing infrastructure and potentially reduce costs. Alternative NE4 should also be reconsidered given the evaluation findings support this option as most preferred based on the information currently available.

## 4.2 Infrastructure Improvements

Some roadways forming the recommended truck routes will need to be improved prior to enacting the truck route network. As noted in **Section 3.2**, most roads under the Municipality's jurisdiction will require reconstruction (particularly the roadway platform) to enable regular use by heavy vehicles. **Table 3.5** summarizes the indicative costs for these works, which include modest allowances for utility relocation, property acquisition, structure upgrades/replacements, engineering, construction administration, and contingencies. These estimates will be refined as the scope of road works becomes better defined through further detailed investigation and design.

The costs also include amounts for potential intersection geometric and traffic control improvements, as listed in **Table 4.1**. The Municipality will need to work with the other responsible road authorities – Perth County and the Ministry of Transportation (MTO) – to confirm and implement the noted modifications as all intersections listed for improvement in the table are under the jurisdiction of other road authorities.



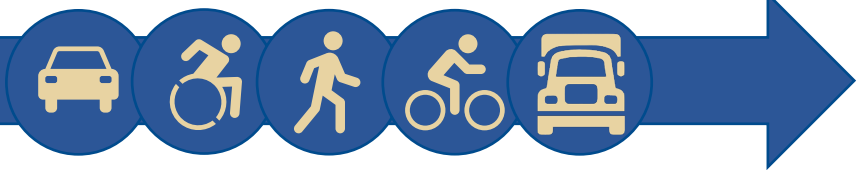
**Table 4.1: Potential Intersection Improvements Along Recommended Truck Routes**

Intersection	Potential Improvements
Highway 23 (Road 164) and Line 87	<ul style="list-style-type: none"> <li>• Traffic control signals or roundabout</li> <li>• Southbound right-turn lane</li> <li>• Eastbound left-turn lane</li> <li>• Westbound right-turn lane</li> </ul>
Perth Line 86 and Road 165	<ul style="list-style-type: none"> <li>• Traffic control signals or roundabout</li> <li>• Eastbound left-turn lane</li> <li>• Westbound right-turn lane</li> </ul>
Highway 23 (Mitchell Road South) and Line 84	<ul style="list-style-type: none"> <li>• Traffic control signals or roundabout</li> <li>• Westbound right-turn lane</li> <li>• Northbound right-turn lane</li> </ul>
Perth Line 86 and Perth Road 147	<ul style="list-style-type: none"> <li>• Traffic control signals or roundabout</li> <li>• Northbound right-turn lane</li> </ul>
Perth Line 86 and Perth Road 140	<ul style="list-style-type: none"> <li>• Traffic control signals or roundabout</li> <li>• Southbound left-turn lane</li> </ul>

### 4.3 Truck Route By-law

Enacting a Truck Route By-Law will enable the Municipality to enforce the recommended truck routes. The by-law should:

- Define “truck route” and “non-truck route”;
- List the Municipal roads designated as truck routes;
- Define the types of vehicles that must follow the designated truck routes. Many municipalities stipulate commercial motor vehicles over 5,000 kilograms in gross vehicle weight;
- Identify any vehicles exempt from the truck route provisions, which could include:
  - Vehicles operated by or on behalf of the Municipality for highway maintenance or transporting waste;
  - Emergency vehicles;
  - School buses; and/or
  - Vehicles instructed by a police officer to operate on a truck route;



- Specify the conditions requiring heavy vehicles to use the shortest path to or from the truck route, such as when:
  - Hauling water;
  - Transporting milk;
  - Serving agricultural purposes;
  - Following a temporary detour route; or
  - Delivering or providing goods or services.
- Denote the roads and time of year reduced load limits apply; and
- Prescribe penalty, obstruction, severability, enforcement, and enactment provisions.

Requesting input from law enforcement agencies (particularly the Ontario Provincial Police (OPP) and MTO), local trucking representatives, and area businesses (such as construction companies) in developing the by-law will help ensure the regulation reflects and captures local needs and community interests.

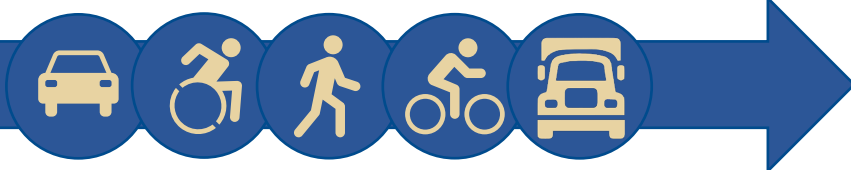
## 4.4 Roadway Signage

Clear, consistent, and easily identifiable roadway signage demarcating the truck routes is needed to convey requirements to truck drivers, promote compliance with municipal regulations, and reduce the number of heavy vehicles using Main Street to travel through downtown Listowel.

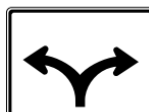
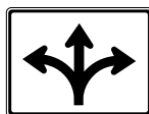
The Ontario Traffic Manual establishes a hierarchy of roadway signs for denoting truck routes. The signage plan for North Perth should include (in order of importance):

- **Regulatory signs** to inform truck drivers of actions needed to comply with the Truck Route By-Law, assuming the Municipality adopts one. The signs are enforceable traffic regulations prescribed under the *Highway Traffic Act* and enabled by the municipal by-law, disregard of which would constitute a violation. **Figure 4.1** illustrates the regulatory signs used for truck routes.

A "hybrid" signing system that combines permissive signs (Rb-61 TRUCK ROUTE and Rb-61t MOVEMENTS PERMITTED Tab), which direct heavy vehicles to the prescribed truck routes, with restrictive signs (Rb-62 NO HEAVY TRUCKS), prohibiting access to streets where truck traffic is undesirable or less safe, experiencing poor compliance with permissive signing, and/or where drivers maybe confused, is preferred.



**TRUCK ROUTE**  
(Rb-61)



**MOVEMENTS PERMITTED Tab**  
(Rb-61t)



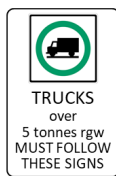
**NO HEAVY TRUCKS**  
(Rb-62)

**Figure 4.1: Regulatory Signs for Truck Routes**

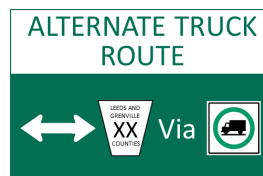
- **Guide and information signs** to supplement the regulatory signage. **Figure 4.2** illustrates typical signs used for truck routes.



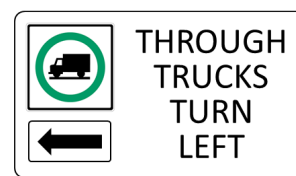
**Gateway (G432)**



**Boundary**



**Alternate (G432)**



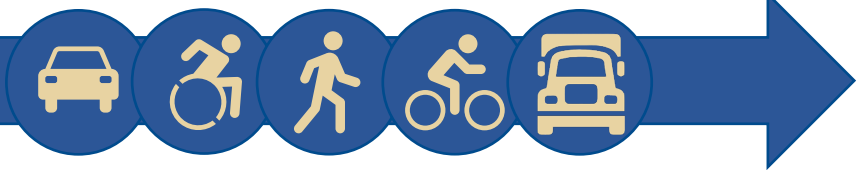
**Directional**

**Figure 4.2: Guide and Information Signs for Truck Routes**

Guide and information signs should be installed at strategic locations to guide truck drivers to/along the routes and/or raise awareness. Specifically:

- **Gateway signs** should be placed at entries to the Municipality to inform truck drivers and other motorists of the requirement for trucks to follow the designated routes. Potential locations to install these signs include Perth Line 86 and Highway 23;
- **Boundary signs** should be installed on roads entering the Municipality without Gateway signs to inform truck drivers and other motorists of the requirement for trucks to follow the designated routes;
- **Alternate signs** should be positioned in advance of intersections to inform truck drivers of designated routes; and
- **Directional signs** should be mounted approaching/at intersections to inform truck drivers where routes change direction.

A plan denoting truck route sign locations should be developed in consultation with Perth County and MTO to ensure proper coverage and placement prior to installation.



## 4.5 Education and Enforcement

An education and communication campaign should be developed to inform residents, businesses, and heavy vehicle operators of the truck routes and their purpose. Education should be targeted to improve compliance and reduce erroneous complaints. A webpage (hosted on the North Perth website), mapping, and other communication techniques should be used to disseminate information about local truck route provisions.

A liaison committee with local businesses, the trucking industry, enforcement entities, community representatives, Perth County, and MTO should be formed to facilitate ongoing communication. Creating a common understanding of the issues, educating and building awareness, and organizing and working together to craft solutions can help to avoid misconceptions and foster mutual cooperation.

If enacting a by-law, the Municipality will need to work with the OPP and MTO to enforce the regulation. Failure to adhere to the truck routes and other heavy vehicle restrictions could result in fines under the *Highway Traffic Act*.

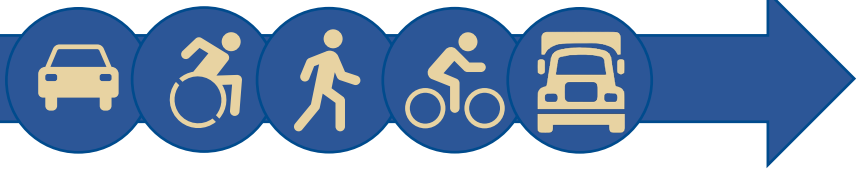
## 4.6 Expectations

Other communities that have designated truck routes to divert heavy vehicles from their downtown cores have experienced mixed results, with adherence to the by-law restrictions inconsistent and difficult to enforce at times. This outcome can be attributed to the *Highway Traffic Act* provisions that allow for "local deliveries" and challenges securing sufficient and sustained enforcement due to resource limitations.

As noted in the truck and transport operator survey summarized in **Section 1.3**, its unlikely all trucks will be diverted from Main Street in downtown Listowel with the proposed truck route measures, in part because some heavy vehicles will still need to enter town to pick-up and deliver goods and freight to local businesses and residents. Eliminating truck access completely is not feasible (or legal) for this reason.

Despite these realities and challenges, the truck route strategy is still expected to divert heavy vehicle traffic from downtown Listowel. Collaboration with the OPP and MTO on enforcement strategies will enhance the likelihood of success. The Municipality can also apply street design and traffic control measures, such as traffic calming, to make the path through downtown Listowel less attractive for heavy vehicles and the truck routes more enticing.

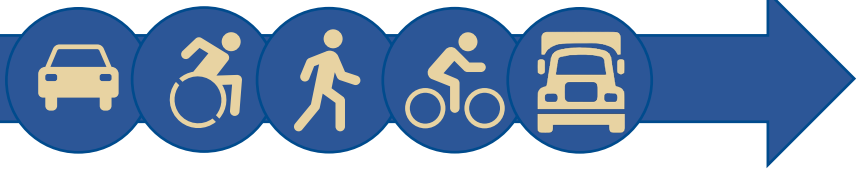




## 5 Recommended Actions

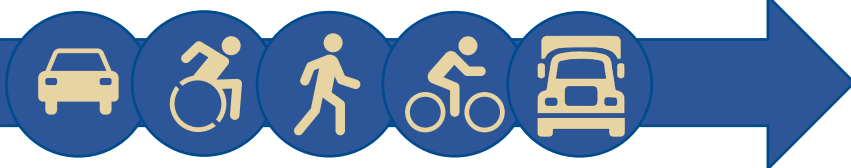
Based on the findings of the Listowel Truck Route Assessment, the Municipality of North Perth should:

- Designate an east-west truck route around downtown Listowel using the following roads:
  - Perth Line 86 from Road 166 to Highway 23, as an interim solution pending further consideration of other routes not incorporating the Mitchell Road S/Highway 23 (Perth Line 86 to Line 84) road section;
  - Highway 23 from Perth Line 86 to Line 84, as an interim solution pending further consideration of other routes not incorporating this road section;
  - Line 84 from Highway 23 to Perth Road 147;
  - Perth Road 147 from Line 84 to Perth Line 86; and
  - Perth Line 86 from Road 140 to Perth Road 147.
- Investigate alternatives to the Mitchell Road S/Highway 23 (Perth Line 86 to Line 84) road section for the east-west truck route after monitoring truck travel patterns.
- After implementing the east-west route, designate a north-south truck route around downtown Listowel using the following additional roads:
  - Road 165 from Perth Line 86 to Line 87; and
  - Line 87 from Road 165 to Highway 23.
- Monitor truck travel patterns between north and east Listowel (i.e., southbound Highway 23 to eastbound Perth Line 86 and westbound Perth Line 86 to northbound Highway 23) to determine the need for a less circuitous route around downtown Listowel for heavy vehicles travelling in this orientation.
- Undertake the complementary actions described in **Chapter 4** with the implementation of the truck routes.
- Consult and collaborate with the Ontario Provincial Police and Ministry of Transportation on enforcement strategies.



# Appendix E

## Traffic Management Protocol



## Contents

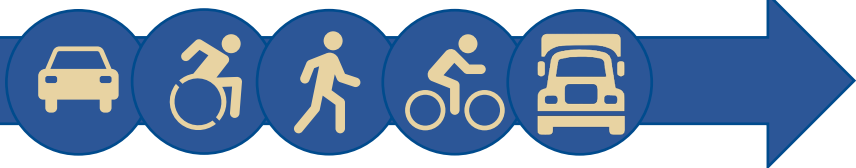
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## Attachments

- Attachment A Request for Traffic Investigation Form
- Attachment B Traffic Calming Toolbox

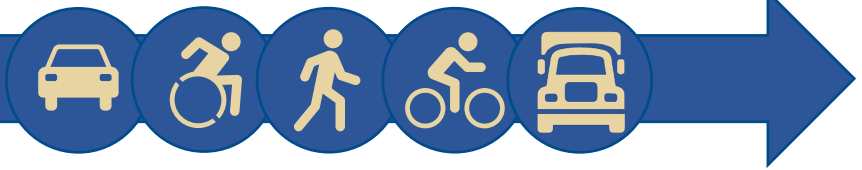
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# 1 Introduction

The **Traffic Management Protocol** sets out the Municipality's procedures for responding to citizen concerns about traffic on streets in North Perth – specifically conflicts between road users, excessive motor vehicle speeds, and neighbourhood traffic infiltration. The protocol features:

- A consistent, objective, and transparent process for reviewing and assessing requests for traffic management measures, with a flowchart illustrating the steps to be followed in responding to reported concerns;
- A range of potential traffic management measures for use in North Perth, including both traffic control devices (i.e., traffic control signals, all-way Stop signs, speed control signs, pedestrian crossovers, Community Safety Zones) and traffic calming treatments;
- A methodology and criteria for determining the most appropriate traffic management measure(s) to use on roads under the Municipality's jurisdiction; and
- A procedure for monitoring and evaluating the effectiveness of traffic management measures after installation.

The protocol supplements and customizes recommended guidance contained in the following publications with considerations specific to North Perth:

- Ontario Traffic Manual (OTM) *Book 5 – Regulatory Signs*<sup>1</sup>
- OTM *Book 6 – Warning Signs*<sup>2</sup>
- OTM *Book 11 – Pavement, Hazard, and Delineation Markings*<sup>3</sup>
- OTM *Book 12 – Traffic Signals*<sup>4</sup>
- OTM *Book 15 – Pedestrian Crossing Treatments*<sup>5</sup>
- OTM *Book 18 – Cycling Facilities*<sup>6</sup>

<sup>1</sup> Ministry of Transportation, *Ontario Traffic Manual Book 5 – Regulatory Signs*, (Toronto, ON; 2021).

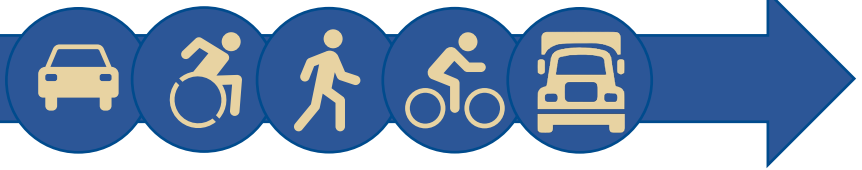
<sup>2</sup> Ministry of Transportation, *Ontario Traffic Manual Book 6 – Warning Signs*, (Toronto, ON; 2001).

<sup>3</sup> Ministry of Transportation, *Ontario Traffic Manual Book 11 – Pavement, Hazard and Delineation Markings*, (Toronto, ON; 2000).

<sup>4</sup> Ministry of Transportation, *Ontario Traffic Manual Book 12 – Traffic Signals*, (Toronto, ON; 2012).

<sup>5</sup> Ministry of Transportation, *Ontario Traffic Manual Book 15 – Pedestrian Crossing Treatments* (Toronto, ON; 2016).

<sup>6</sup> Ministry of Transportation, *Ontario Traffic Manual Book 18 – Cycling Facilities*, (Toronto, ON; 2021).



- Transportation Association of Canada (TAC) *Canadian Guide to Traffic Calming*<sup>7</sup>
- TAC *Canadian Guidelines for Establishing Posted Speed Limits*<sup>8</sup>
- TAC *Geometric Design Guide for Canadian Roads*<sup>9</sup>
- TAC *Speed Management Guide*<sup>10</sup>
- Ontario Traffic Council (OTC) *School Crossing Guard Guide*<sup>11</sup>

The planning, design, and implementation of traffic management measures in Ontario must also comply with relevant provisions of provincial legislation including the *Highway Traffic Act* (HTA), *Accessibility for Ontarians with Disabilities Act* (AODA), and other pertinent statutes.

The protocol is organized as follows:

- **Chapter 2** sets out the step-by-step process for responding to citizen requests for traffic management measures on roads under the Municipality's jurisdiction;
- **Chapter 3** specifies the criteria for assessing the merit of installing or modifying traffic control devices on North Perth roads; and
- **Chapter 4** summarizes the procedures for considering and implementing physical traffic calming measures.

Two attachments supplement this appendix:

- **Attachment A** – Request for Traffic Investigation Form
- **Attachment B** – Traffic Calming Toolbox

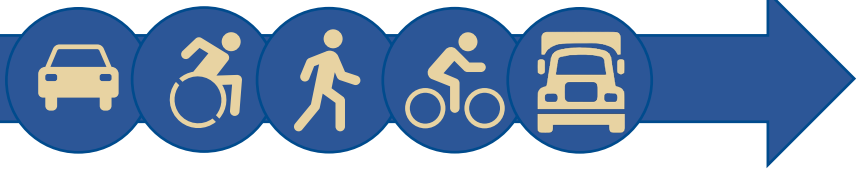
<sup>7</sup> Transportation Association of Canada (TAC), *Canadian Guide to Traffic Calming*, 2nd ed., (Ottawa, ON; 2018).

<sup>8</sup> TAC, *Canadian Guidelines for Establishing Posted Speed Limits*, (Ottawa, ON; 2009).

<sup>9</sup> TAC, *Geometric Design Guide for Canadian Roads*, (Ottawa, ON; 2017).

<sup>10</sup> TAC, *Speed Management Guide*, (Ottawa, ON; 2016).

<sup>11</sup> Ontario Traffic Council, *2023 School Crossing Guard Guide*, (Toronto, ON; 2023).



## 2 Traffic Management Review Process

The Traffic Management Protocol can be described as a “set of instructions” for responding to traffic-related concerns on roads under the Municipality's jurisdiction. **Figure 2.1** depicts the six-step **review process**, which the following sections describe in further detail.

### 2.1 Step 1 – Review Initiation

The review process begins with a written request for a traffic investigation to the Municipality of North Perth Operations Department using the **Request for Traffic Investigation Form** contained in **Attachment A**. The request submitted must identify the requester and specify the subject road section and nature of the traffic-related concern(s). Members of Municipal Council can submit requests on behalf of constituents.

Requests for traffic management measures on roads not under the Municipality's jurisdiction (i.e., Perth County, Ministry of Transportation, adjacent municipality) will be referred to the responsible road authority.

The Municipality will not consider implementing new traffic management measures at locations where a prior request has been denied or measures have been removed within the preceding three years. Investigation requests meeting these criteria will be denied unless Municipal Council directs otherwise.

### 2.2 Step 2 – Technical Assessment

In Step 2, the Municipality will conduct a technical assessment to determine the need for (additional) traffic management measures, and if merited, identify the preferred treatment(s). The assessment procedure comprises up to three stages, with the number of stages dependent on the primary traffic-related concern reported on the **Request for Traffic Investigation Form** (and confirmed by Municipality staff). The reported concern could be:

- **Conflict Between Road Users (Conflict)** – A conflict between road users (e.g., vehicle-vehicle, vehicle-pedestrian, vehicle-cyclist) is defined as an event that would end in a collision if one of the involved parties did not stop to avoid the incident. In most instances, a traffic control device(s) (i.e., traffic signals, all-way stop control, pedestrian crossover, and/or supervised school crossing) can resolve the conflict. Some situations will require education and/or enforcement and/or physical traffic calming measures, though.

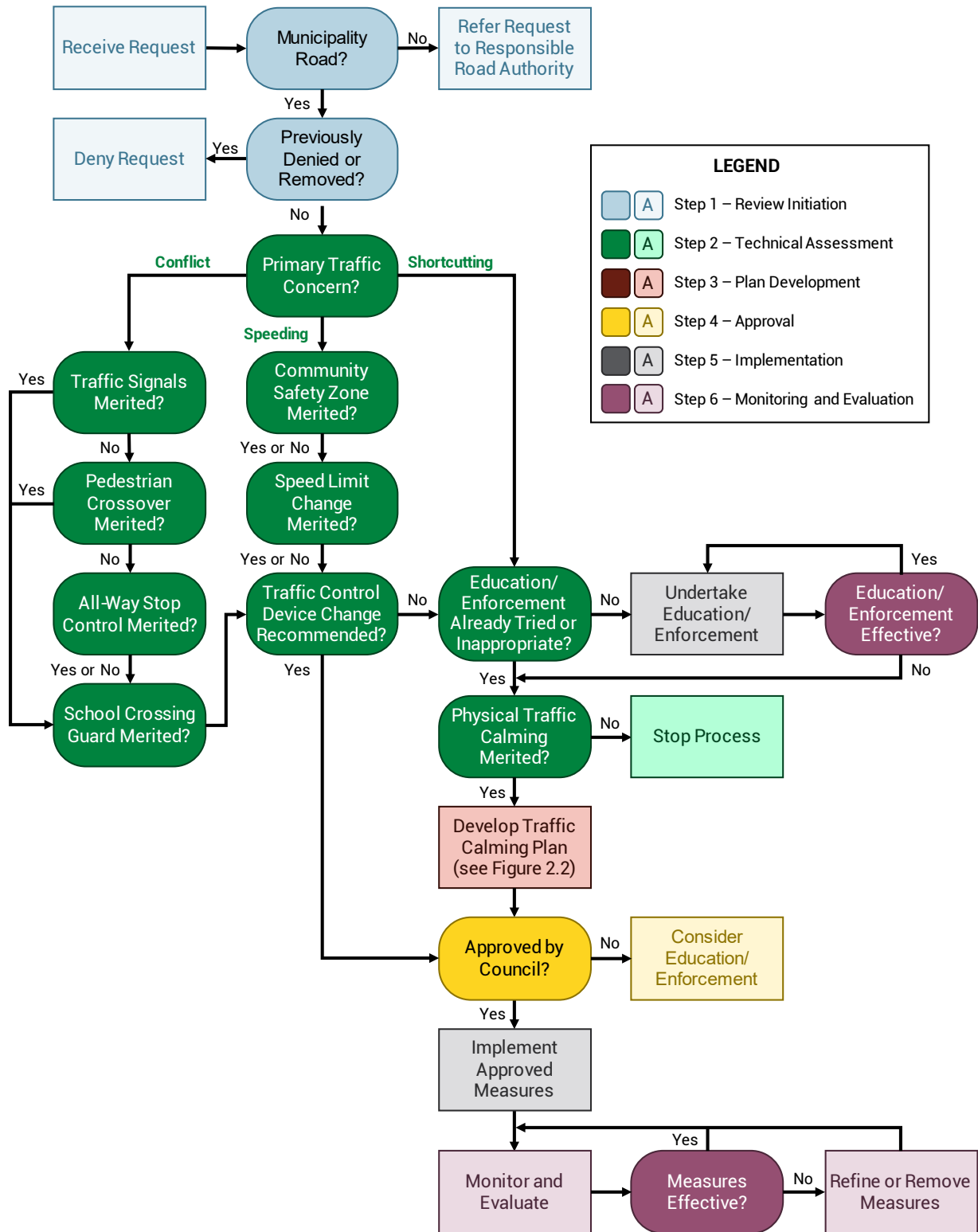
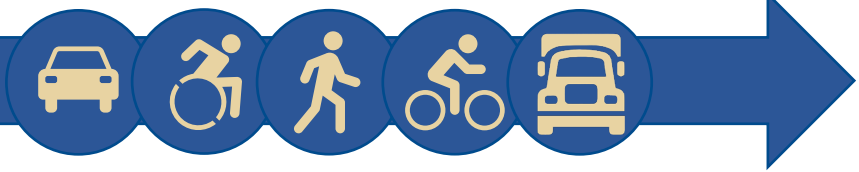
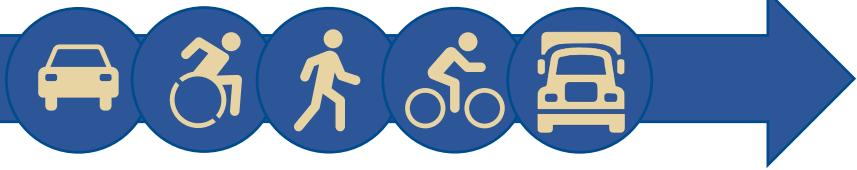


Figure 2.1: Traffic Management Review Process





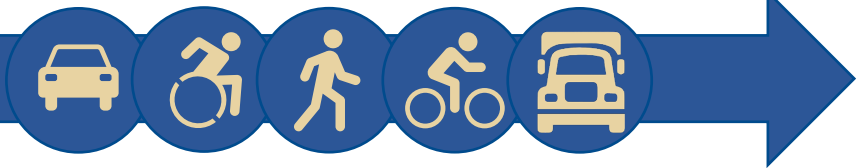
- **Excessive Motor Vehicle Speeds (Speeding)** – Speeding occurs when drivers operate their vehicles at excessive speeds along a section of roadway. In some instances, a traffic control device(s) (i.e., Community Safety Zone and/or lower speed limit) or education and/or enforcement can resolve a speeding concern. Many situations will require physical traffic calming measures, though.
- **Neighbourhood Traffic Infiltration (Shortcutting)** – Shortcutting occurs when a driver, without an origin or destination within the adjoining neighbourhood, diverts from a major road to find a quicker or easier route through the community's residential streets. In some instances, education and/or enforcement can resolve a shortcutting concern. Most situations will require physical traffic calming measures, though.

For Conflict and Speeding concerns, the assessment procedure begins at Stage 1, which examines the merit of installing or modifying a traffic control device to resolve the reported concern. If the warrants are satisfied for an applicable measure, the review process skips to Step 4 for Municipal Council to consider approval of the recommended device (change). If none of the warrants are satisfied, the assessment progresses to Stage 2, which considers education and/or enforcement measures. For Shortcutting concerns, the assessment procedure starts at this stage.

In most cases, the Municipality will undertake a technical study to confirm the issues reported and determine the preferred response. The study will follow the guidance provided by this protocol and consider any contributing factors deemed relevant to the investigation such as adjacent land use, collision history, roadway geometrics, and/or emergency response routing. The Municipality will document the study findings and recommendations, which would also form the basis for reporting to Municipal Council.

After completing the technical assessment, the Municipality (Manager of Operations) will notify the requester of the investigation findings and whether (additional) traffic management measures are recommended. Municipality staff will base its recommendation on the technical study and sound engineering judgement and apply the screening and warrant criteria in the technical assessment to promote uniformity in application and to inform its decision.

If the technical assessment does not support further action and the requester is not satisfied with this outcome, the Municipality (Manager of Operations) will offer to meet with the requester to review the investigation findings. If the requester remains dissatisfied after the explanation, the Municipality (Manager of Operations) will present the technical assessment findings and requester comments to Municipal Council for information and possible direction.



## Stage 1 – Traffic Control Change

For Conflict and Speeding concerns, the Municipality will first determine if the subject location is a candidate for a traffic control device change. If none of the warrant criteria are satisfied, the assessment moves to Stage 2 for consideration of education and/or enforcement measures.

### Conflicts Between Road Users

The technical assessment for Conflict concerns begins with an initial screening to determine if the subject location is a candidate for traffic control signals based on the criteria in **Section 3.1**. If the location satisfies the screening criteria, the Municipality will assess the merit of installing signals, and if warranted, determine the recommended type of signals based on the planning and justification procedure described in Chapter 4 of *OTM Book 12 – Traffic Signals*. **Section 3.1** provides further information to consider in undertaking this analysis.

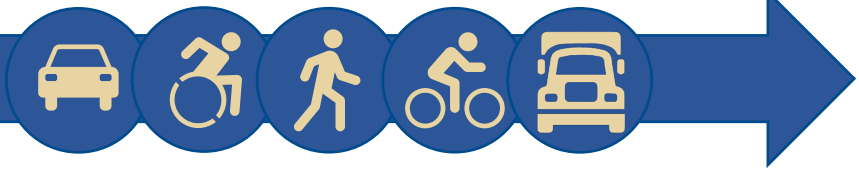
If traffic control signals are not merited and the Conflict concern relates primarily to pedestrians, the Municipality will conduct an initial screening based on the criteria in **Section 3.2** to determine if the subject location is a candidate for a Pedestrian Crossover (PXO). If the location satisfies the screening criteria, the Municipality will assess the merit of installing a PXO, and if warranted, determine the recommended PXO type and level based on the treatment system selection procedure described in Chapter 5 of *OTM Book 15 – Pedestrian Crossing Treatments*. **Section 3.2** provides further information to consider in undertaking this analysis.

If traffic control signals and a PXO are not merited, the Municipality will conduct an initial screening based on the criteria in **Section 3.3** to determine if the subject location is a candidate for all-way stop control. If the location satisfies the screening criteria, the Municipality will assess the merit of installing all-way stop control based on the warrants described in Chapter 2 of *OTM Book 5 – Regulatory Signs*. **Section 3.3** provides further information to consider in undertaking this analysis.

If the Conflict concern relates to students crossing near a school, the Municipality may also assess the merit of providing a supervised school crossing based on the warrants described in the *OTC School Crossing Guard Guide*.

### Speeding Vehicles

The technical assessment for Speeding concerns begins with an initial screening to determine if the subject road section is a candidate for a Community Safety Zone based on the criteria in **Section 3.4**. If the location satisfies the screening criteria, the



Municipality will assess the merit of designation based on the warrant described in **Section 3.4**.

The Municipality will then conduct an initial screening to determine if the subject location is a candidate for a speed limit reduction based on the criteria in **Section 3.5**. If the location satisfies the screening criteria, the Municipality will assess the merit of changing the speed limit, and if justified, determine the recommended posted limit based on the warrant and procedure described in **Section 3.5**.

## Stage 2 – Education and/or Enforcement

If the subject location does not merit a traffic control device change per Stage 1 or Shortcutting is the primary traffic-related concern, the Municipality will undertake education and/or enforcement (often referred to as non-physical traffic calming) if such measures were not previously tried or deemed inappropriate under the circumstances. These programs require no physical changes to the roadway, can be less expensive to undertake, and are usually faster to implement than other measures. Implemented measures will continue until found ineffective.

The **Traffic Calming Toolbox** contained in **Attachment B** lists the education and enforcement measures applied in the Municipality.

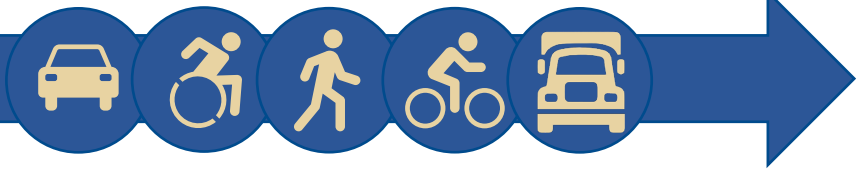
If education and/or enforcement measures were deemed inappropriate and/or found ineffective within the past three years, the review process moves to Stage 3 for consideration of physical traffic calming.

## Stage 3 – Physical Traffic Calming

The Municipality will assess the merit of installing physical traffic calming measures at the subject location based on the screening described in **Section 4.2**.

If the Traffic Calming Screening is satisfied, the review process moves to Step 3 for the development of a Traffic Calming Plan, subject to any unique or local considerations. Where the installation of physical traffic calming measures is deemed the preferred course of action, the Municipality will determine whether an area-wide plan or street-specific scheme is more suitable. An area-wide plan will be pursued if a street-specific scheme would likely result in the diversion of traffic onto adjacent streets.

If the Traffic Calming Screening is not satisfied, the review process stops. After this, the Municipality will not entertain new requests for traffic management measures on the subject road section for a period of at least three years.



## 2.3 Step 3 – Plan Development

In Step 3, the Municipality will develop a Traffic Calming Plan following the process depicted in **Figure 2.2**. The plan development process begins with the Municipality consulting the public and stakeholders to confirm the specific traffic issues to be addressed, identify candidate remedial measures, and note potential implementation challenges. The **Traffic Calming Toolbox** contained in **Attachment B** lists the physical traffic calming measures applicable for use on North Perth streets and describes a methodology for selecting candidate treatments (see **Section 4.3** for more information).

The Municipality will then prepare a conceptual Traffic Calming Plan (or options, if appropriate) based on the input received. When designing the plan, the Municipality will attempt to avoid impeding non-motorized travel (pedestrian and cyclist movement) with the proposed measures. Potential impacts to emergency services, particularly fire and ambulance, will also be considered.

Once a conceptual Traffic Calming Plan (or options) is developed, the Municipality will engage the public and stakeholders (including emergency services) to obtain feedback. The following section sets out considerations and recommended practices for community involvement and consultation. After incorporating input received from the public and stakeholders, the Municipality will finalize the Traffic Calming Plan (or options) and staff will survey the neighbourhood to assess support for a trial application (and to select a preferred option if more than one concept exists). **Section 4.3** provides further guidance on trial installations, including situations where permanent implementation should be considered instead of a trial.

If supported by the neighbourhood, Municipality staff will present the recommended Traffic Calming Plan to Municipal Council for approval to proceed with the trial. If the approved, the Municipality will install the Traffic Calming Plans with temporary/seasonal measures for a period of up to 24 months (unless permanent installation is preferred).

After evaluating the trial application and surveying neighbourhood residents again, if needed, the Municipality will decide whether to install the approved Traffic Calming Plan with permanent materials and present the recommended plan to Municipal Council in Step 4.

If the neighbourhood does not support trial or permanent installation or Municipal Council does not support a trial, the review process stops. After this, the Municipality will not entertain new requests for traffic management measures on the subject road section for a period of at least three years.

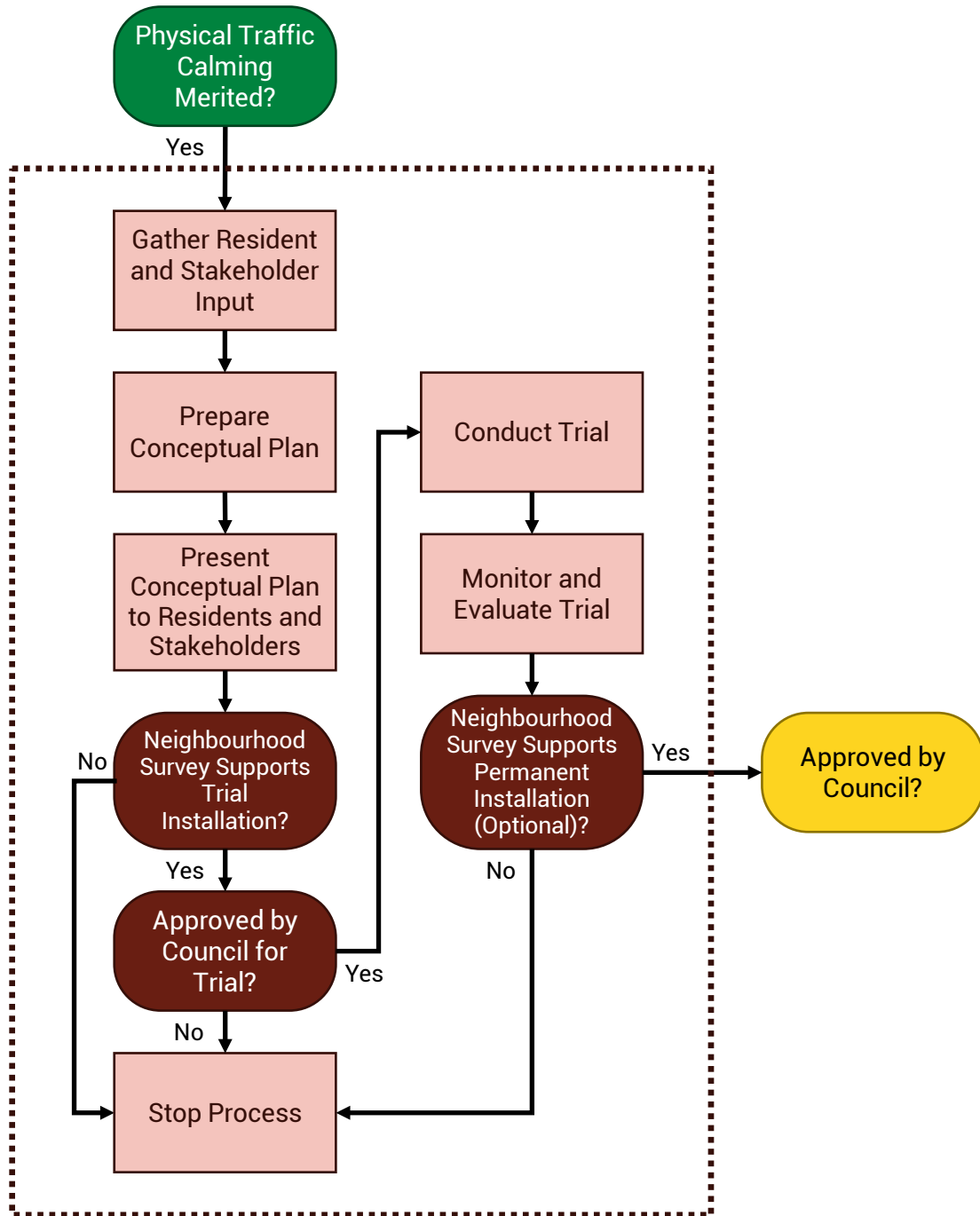
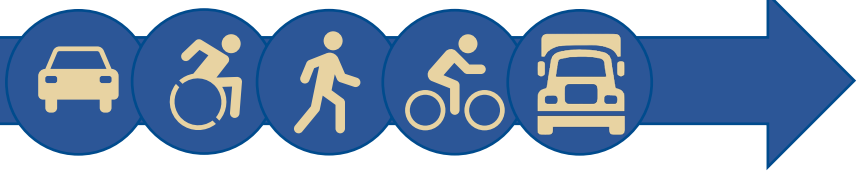
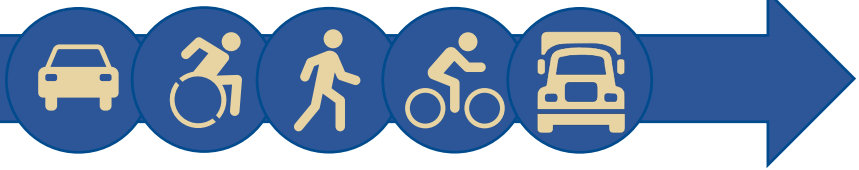


Figure 2.2: Traffic Calming Plan Development Process



## Community Involvement and Consultation

Community involvement is an integral part of developing a traffic calming plan – from problem identification, through plan preparation, to monitoring the installation. Throughout the plan development process, the following principles should be applied in involving the community:

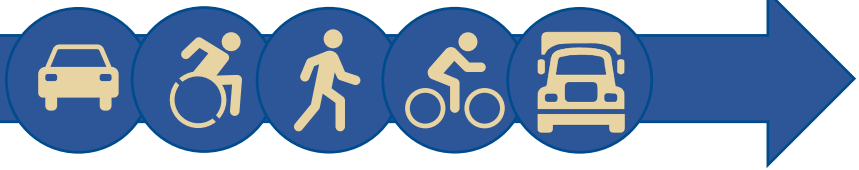
- Engage the public and stakeholders early and often, within available staff resources.
- Identify areas of agreement as early as possible and concentrate resources on areas of contention.
- Clearly define what is (and is not) within the project scope.
- Present relevant technical information and data to allow informed input.
- Provide convenient and accessible methods for interested parties to participate and offer feedback.
- Explain how public feedback influences decision-making, including why specific suggestions are (or are not) included.

Adherence to these basic public consultation principles will ensure that traffic calming plan development is undertaken in a manner consistent with the needs and aspirations of all parties. Promoting communication and understanding between the Municipality and the public and stakeholders will help foster support (and reduce opposition) for potential traffic calming measures and ultimately aid in ensuring a positive outcome.

The Municipality will aim to build consensus throughout the plan development process. However, there may be instances when traffic calming measures are warranted but adjacent residents have conflicting opinions on the preferred approach to addressing the identified concerns. In these circumstances, the Municipality may need to conduct additional community engagement and further outreach with the potentially impacted constituents to resolve the situation.

No single method of community involvement is suitable for all situations. The Municipality will employ a variety of techniques to engage the public, such as workshops, online presentations, community meetings, and mailouts. More complex and contentious issues will typically require greater levels of public education and consultation.

The Municipality will communicate with the local community throughout the traffic calming plan development, primarily through its website. The website will present all study-related information and facilitate online engagement efforts. The Municipality may also communicate through its social media feeds, in local newspapers, and by



email, mail, or handout, as deemed appropriate. Communication and dissemination methods will depend on the size and nature of the study area.

## 2.4 Step 4 – Approval

In Step 4, Municipality staff will present the recommended traffic management measures (with priority ranking for Traffic Calming Plans) and potential funding sources, if needed, to Municipal Council for approval. Prioritization of traffic calming plans will be based on the point score calculated through the technical assessment (see Step 2, Stage 3) and estimated implementation costs. **Council has final approval on all traffic management measures and may deny any recommended treatment at its sole discretion.**

If the measures are not approved for implementation, the Municipality may consider education and/or enforcement if such measures were not previously tried or deemed inappropriate under the circumstances. The **Traffic Calming Toolbox** contained in **Attachment B** lists the tactics applicable in the Municipality. Implemented measures will continue until found ineffective.

If education and/or enforcement measures were previously tried, deemed inappropriate, and/or found ineffective in the past three years, the review process stops. If this occurs, the Municipality will not entertain new requests for traffic management measures on the subject road section for a period of at least three years.

## 2.5 Step 5 – Implementation

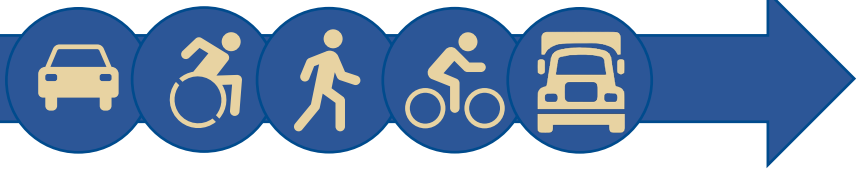
In Step 5, the Municipality will install the approved traffic management measures (incorporating any alterations requested through approval in Step 4) subject to available resources and priority ranking, if applicable for Traffic Calming Plans. For traffic control devices, the Municipality will amend the pertinent by-law and install the required signage and pavement markings to enact the measure.

Further budget approval may be required to finance installation. The Municipality may also need to prepare detailed design and tender documents to facilitate construction and inform the public and stakeholders prior to permanent installation.

## 2.6 Step 6 – Monitoring and Evaluation

In Step 6, the Municipality will monitor the subject road section and evaluate the effectiveness of the traffic management measures implemented in resolving identified concerns. Results will be shared with Municipal Council and the community as appropriate.



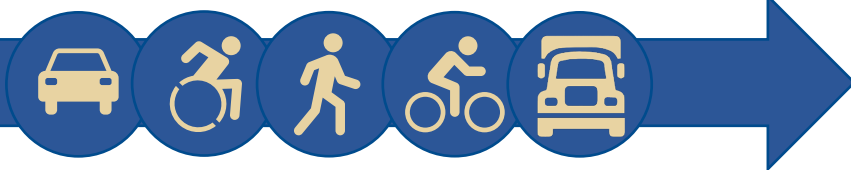


The TAC *Canadian Guidelines for Establishing Posted Speed Limits* recommends that road authorities conduct a review of motor vehicle operating speeds, traffic operations, and safety performance approximately six to 12 months after a posted speed limit is modified. This helps determine whether the posted speed accurately reflects driver expectations and the operating speeds desired by the Municipality.

For Traffic Calming Plans, impact on the surrounding road network should be assessed. Potential impacts include an increase in shortcutting traffic (to avoid the subject road section), higher vehicle speeds, and deterioration in quality of life.

The Municipality may remove traffic management measures deemed ineffective, posing a safety risk, causing unintended consequences, or no longer considered appropriate (e.g., removal of a Community Safety Zone if a school is closed). **Section 4.5** provides additional guidance specific to Traffic Calming Plans. Municipal Council must approve the removal of any approved speed management measures.





### 3 Criteria for Traffic Control Device Changes

#### 3.1 Traffic Control Signals

**Table 3.1** sets out the screening criteria for the consideration of traffic control signals at intersections and midblock locations on North Perth roads. The Municipality may proceed with the justification procedure detailed in *OTM Book 12 – Traffic Signals* if at least one **Part A** criterion and all **Part B** criteria are satisfied.

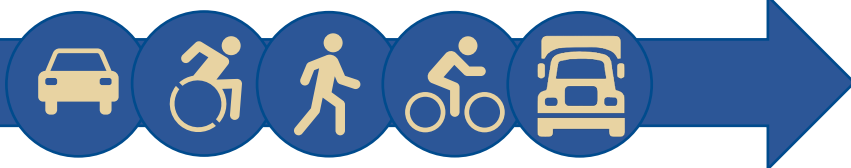
**Table 3.1: Traffic Control Signal Screening Criteria**

Screening Criteria	Satisfied?
<b>Part A: Location</b>	
1. At least one of the intersecting roads is designated as an Arterial Road in the Listowel Ward or Perth County Official Plans.	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. The intersection or midblock location is close to a school or other significant pedestrian generator.	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. Specific road users or movements (such as pedestrians or cyclists crossing midblock or left turning vehicles) require prioritization.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Part B: Network</b>	
4. The intersection approaches are directly opposing (i.e., not offset).	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. The nearest signalized intersection is spaced at least: <ul style="list-style-type: none"> <li>• 215 m away for roads posted at 60 km/h or less</li> <li>• 350 m away for roads posted at more than 60 km/h</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No

In most cases, the Municipality will not consider the installation of traffic control signals:

- For traffic calming;
- For limiting traffic volumes on specific routes;
- As speed or demand control devices; or
- To discourage motorists and pedestrians from using a specific route.

*OTM Book 12 – Traffic Signals* provides guidance on the removal of existing signals if the conditions under which signals were installed change significantly and concerns arise that the device is no longer justified.



### 3.2 Pedestrian Crossover

**Table 3.2** sets out the screening criteria for the consideration of pedestrian crossovers (PXOs) at intersections and midblock locations on North Perth roads. The Municipality may proceed with the treatment selection procedure detailed in *OTM Book 15 – Pedestrian Crossing Treatments* if at least one **Part A** criterion and all **Part B** criteria are satisfied.

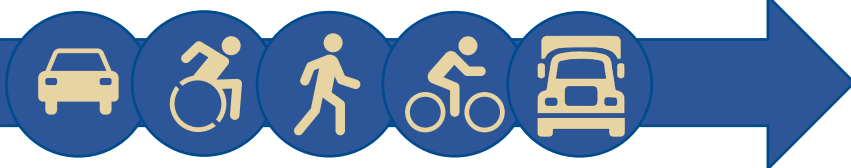
**Table 3.2: Pedestrian Crossover Screening Criteria**

Screening Criteria	Satisfied?
<b>Part A: Type of Concern</b>	
1. The Conflict concern reported relates to pedestrian crossings.	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. The intersection or midblock location is close to a school or other major pedestrian generator.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Part B: Network</b>	
3. The maximum speed limit of the road is 60 km/h or less.	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. The nearest signal protected pedestrian crossing is spaced at least 200 m away.	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. The subject location has adequate sight distance for both motorists and pedestrians.	<input type="checkbox"/> Yes <input type="checkbox"/> No

### 3.3 All-Way Stop Control

**Table 3.3** sets out the screening criteria for the consideration of all-way stop control at intersections on North Perth roads. The Municipality may:

- Consider installing an all-way stop control temporarily, following the guidance in *OTM Book 5 – Regulatory Signs*, if at least one **Part A** criterion is satisfied; or
- Proceed with the warrant assessment detailed in *OTM Book 5 – Regulatory Signs* if all **Part B** criteria are satisfied.

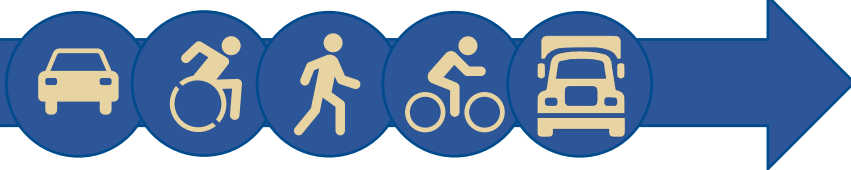


**Table 3.3: All-Way Stop Control Screening Criteria**

Screening Criteria	Satisfied?
<b>Part A: Temporary Installation</b>	
1. As an interim measure, where traffic control signals are warranted but cannot be implemented immediately.	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. As a means of providing a transition period to accustom drivers to a change in intersection right-of-way control from one direction to another.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Part B: Permanent Installation</b>	
3. An urban area and the maximum speed limits of both intersecting roads are 60 km/h or less.	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. The intersection has three or four legs and is not a roundabout.	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. The intersection approaches are directly opposing (i.e., not offset), are at least 150 m in length (measured to the nearest public road intersection), and have an equal number of lanes, with no more than two lanes on each approach.	<input type="checkbox"/> Yes <input type="checkbox"/> No
6. The nearest traffic control devices on the intersecting roads are spaced at least 250 m away.	<input type="checkbox"/> Yes <input type="checkbox"/> No
7. The intersecting roads do not operate with progressive traffic signal timings.	<input type="checkbox"/> Yes <input type="checkbox"/> No

In most cases, the Municipality will not consider the installation of all-way stop control:

- As a speed control device or for the purpose of deterring the movement of through traffic in a residential area (or other traffic calming tool);
- Where the protection of pedestrians, particularly school children, is a prime motivation and the crossing concern cannot be addressed by other measures;
- At intersections that are poorly defined or geometrically substandard;
- Where traffic would be required to stop on steep grades;
- On truck routes except in industrial areas where two such routes cross;
- On multi-lane approaches where a parked or stopped vehicle on the right will obscure the Stop sign; or
- Where visibility of the Stop sign is hampered by curves or grades and insufficient safe stopping sight distance exists.



OTM Book 5 – Regulatory Signs provides guidance on the revision of intersection right-of-way control with Stop signs.

### 3.4 Community Safety Zones

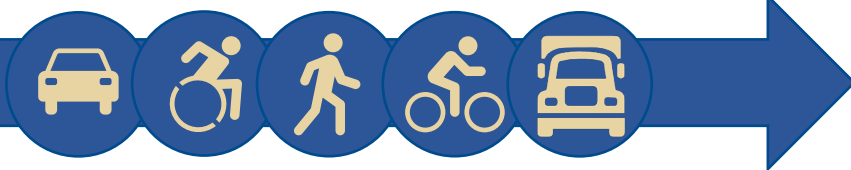
**Table 3.4** sets out the screening criteria for the consideration of Community Safety Zones on North Perth roads. The Municipality may proceed with the warrant procedure detailed in **Table 3.5** if at least one **Part A** screening criterion and all **Part B** screening criteria are satisfied.

**Table 3.4: Community Safety Zone Screening Criteria**

Screening Criteria	Satisfied?
<b>Part A: Area of Special Consideration</b>	
1. The subject road section is adjacent to an elementary or secondary school, seniors' centre or residence, community playground, or hospital.	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. The subject road section has high pedestrian activity and/or pedestrians must walk on a shoulder less than 1.5 m wide.	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Part B: Ability to Enforce</b>	
3. The local police service (Ontario Provincial Police) has sufficient resources to provide the necessary enforcement.	<input type="checkbox"/> Yes <input type="checkbox"/> No

The Municipality may consider designating a Community Safety Zone if all **Part A** and **Part B** warrant criteria in **Table 3.5** are satisfied. The following guidelines will apply when considering the zone designation:

- **Size:** The legislation does not specify limits on the size of a Community Safety Zone. Accordingly, the size will depend on the nature of the safety issue(s) being addressed. For example, a zone could encompass all streets surrounding a particular site or alternatively, only a section of a street fronting an area of special consideration.
- **Duration:** The legislation also does not specify the duration of a Community Safety Zone (i.e., how long the zone can remain in place). If possible, the zone should be removed once the specific problem is addressed.
- **Time Period:** The by-law designating the Community Safety Zone must specify the hours, days, and months the designation is in effect. This will vary by location, depending on the site and nature of the safety issue(s) to address.

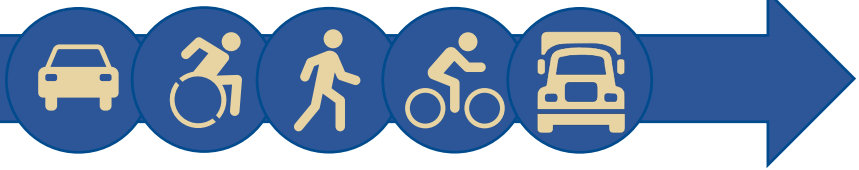


**Table 3.5: Community Safety Zone Warrant**

Warrant Criteria	Satisfied?
<b>Part A: Identified Safety Concern</b>	
1. The ratio of collisions per year to AADT (collision ratio) is less than 1:900 averaged over 36 consecutive months. <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. a) The subject road section experiences unusually high violation rates based on field observations and/or local law enforcement <u>AND</u> b) The <b>Risk Factor Score</b> from <b>Table 3.6</b> is 15 points or more.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Part B: Other Applicable Measures/Devices Tried</b>	
3. Other warranted countermeasures tried and found to be unsuccessful (i.e., failed to reduce the collision ratio to less than 1:900).	<input type="checkbox"/> Yes <input type="checkbox"/> No

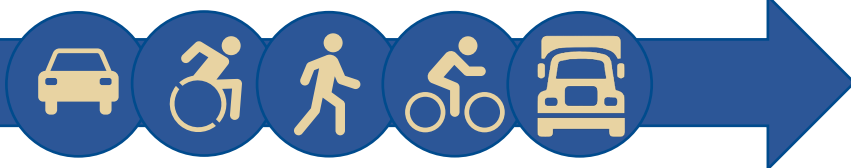
Note:

1. Only collisions with a causal factor related to one of the *Highway Traffic Act* violations identified in the Community Safety Zone legislation (Section 214.1) should be included.



**Table 3.6: Risk Factor Score for Community Safety Zone Warrant**

Factor	Value	Factor Scoring			Score
		High (3 Points)	Moderate (2 Points)	Low (1 Point)	
Current Speed Limited (km/h)		≥ 70	60	≤ 50	
Difference Between 85 <sup>th</sup> Percentile Speed and Current Speed Limit (km/h)		> 15	5-15	< 5	
Average Annual Daily Traffic Volume (AADT)		> 8,000	2,000-8,000	< 2,000	
Number of Vehicle Travel Lanes		6	4	2	
Highest Hourly Truck Volume		> 100	50-100	< 50	
Highest Hourly Pedestrian Volume		> 50	20-50	< 20	
Number of Intersections and Commercial Driveways (per km)		> 10	4-10	< 4	
Geometric Constraints	<input type="checkbox"/> Alignment <input type="checkbox"/> Visibility <input type="checkbox"/> No Sidewalk/ Cycling Facility <input type="checkbox"/> Other	1 to 4 points assigned based on staff review			
<b>Total Score</b>					



### 3.5 Speed Control Signs

**Table 3.7** sets out the screening criteria for the consideration of a speed limit change on North Perth roads. The Municipality may proceed with the warrant procedure detailed in **Table 3.8** if at least one screening criterion is satisfied.

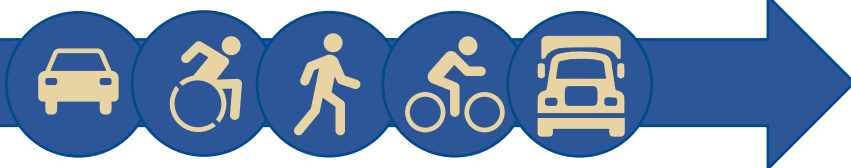
**Table 3.7: Speed Limit Change Screening Criteria**

Screening Criteria	Satisfied?
1. The subject road section is within 500 m of: a) A designated School Zone or Community Safety Zone <u>OR</u> b) Other location of special consideration (e.g., school, seniors' centre or residence, playground, hospital)	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No
2. The 85th percentile speed exceeds the current speed limit by 10 km/h or more.	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. The 95th percentile speed exceeds the current speed limit by 20 km/h or more.	<input type="checkbox"/> Yes <input type="checkbox"/> No

The Municipality may consider changing the speed limit if at least two warrant criteria in **Table 3.8** are satisfied. Where the warrant is met, the recommend posted speed limit will typically be consistent with the suggested speed limit determined using the *TAC Guidelines for Establishing Posted Speed Limits*, subject to any unique or local considerations.

**Table 3.8: Speed Limit Change Warrant**

Warrant Criteria	Satisfied?
1. The suggested speed limit determined using the <i>TAC Guidelines for Establishing Posted Speed Limits</i> differs from current speed limit by 10 km/h or more. Suggested Speed Limit: _____ km/h	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Site-specific geometric constraints (such as reduced sight distance or curve radii) do not match the current speed limit.	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. The 85th percentile speed differs from the current speed limit by 10 km/h or more.	<input type="checkbox"/> Yes <input type="checkbox"/> No



## 4 Physical Traffic Calming

### 4.1 Screening

**Table 4.1** sets out the screening criteria for the consideration of physical traffic calming on North Perth roads. The Municipality may proceed with the warrant procedure detailed in **Table 4.2** if all screening criteria are satisfied.

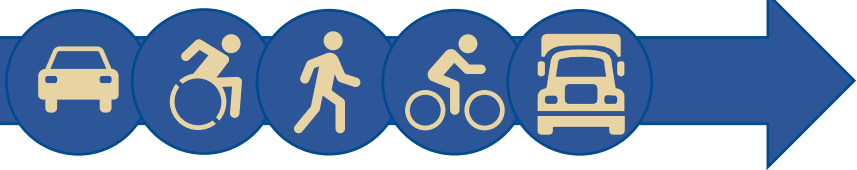
**Table 4.1: Physical Traffic Calming Screening**

Screening Criteria	Satisfied?
1. The subject street(s) is within a designated settlement area (Serviced Urban Area, Villages, and Hamlets) on Schedule A (Land Use Plan) of either the Listowel Ward or Perth County Official Plan	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. The subject street(s) is designated a Local Road or Collector Road in the Listowel Ward or Perth County Official Plan.	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. The subject road section is two-lanes.	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. The posted speed limit on the subject street(s) is 50 km/h or less.	<input type="checkbox"/> Yes <input type="checkbox"/> No
5. The average distance between stop-controlled intersections along the subject street(s) is 150 metres or more.	<input type="checkbox"/> Yes <input type="checkbox"/> No
6. The subject road section does not serve as a designated truck route and/or emergency vehicle route (ambulance, fire, police services) unless exempted by the Municipality.	<input type="checkbox"/> Yes <input type="checkbox"/> No
7. The subject road section does not have any unique or local considerations affecting the installation of physical traffic calming measures.	<input type="checkbox"/> Yes <input type="checkbox"/> No

The Municipality may consider implementing physical traffic calming if the warrant score from **Table 4.2** exceeds **40 points for Local Roads** or **60 points for Collector Roads**. Municipal Council has final approval on all physical traffic calming measures and may deny any plan at its discretion.

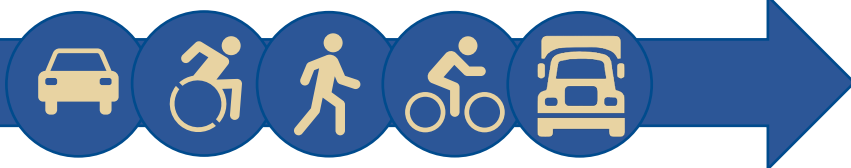
Physical traffic calming may not be appropriate in every situation and, if considered, should ensure the equitable and consistent treatment of all road users following the guidance in this protocol.





**Table 4.2: Physical Traffic Calming Warrant**

Factor	Factor Scoring	Maximum Points	Score
Vulnerable Road Users	5 points for each adjacent pedestrian and/or cycling generator (e.g., arena/recreation centre, hospital, park, place of worship, playground, seniors' centre or residence, school, shopping area)	20	
Pedestrian Facilities	5 points if: <ul style="list-style-type: none"> <li>Local Road – No sidewalks on either side</li> <li>Collector Road – Sidewalk on only one side</li> </ul>	5	
Cycling Facilities	5 points for designated cycling facilities	5	
Residential Frontage	5 points for primarily residential frontage (> 10 entrances per km)	5	
Cut-Through Traffic <sup>1</sup>	5 points if: <ul style="list-style-type: none"> <li>Local Road – 25%</li> <li>Collector Road – 40%</li> </ul> plus 5 points for each 10% increment thereafter	15	
Total Traffic Volume <sup>2</sup>	1 point for every: <ul style="list-style-type: none"> <li>Local Road – 100 vehicles per day</li> <li>Collector Road – 250 vehicles per day</li> </ul>	15	
Speed Differential <sup>3</sup>	1 point for every 1 km/h the 85th percentile speed exceeds the posted speed limit	25	
Excessive Speed <sup>3</sup>	5 points if the 85th percentile speed exceeds the posted speed limit by 20 km/h	5	
Collision History <sup>4</sup>	1 point for each qualifying collision over the last three years	5	
<b>Total Score</b>		<b>100</b>	



**Table 4.2: Physical Traffic Calming Warrant (cont'd)**

Warrant Criteria	Satisfied?
1. The score exceeds 40 points for Local Roads or 60 points for Collector Roads	<input type="checkbox"/> Yes <input type="checkbox"/> No

Notes:

1. See following section to estimate the percentage of cut-through (non-local) traffic.
2. Traffic volumes used in the evaluation are two-way average daily volumes over a 24-hour period.
3. The 85<sup>th</sup> percentile speed is calculated from data collected using automated traffic recorders (or similar units) over a 24-hour period.
4. Includes all collisions along the subject street(s) except for collisions occurring at intersections with arterial roads and collisions involving animals.

### Estimating Cut-Through Traffic

The Municipality will estimate the percentage of cut-through (non-local) traffic on the subject street(s) in applying **Table 4.2** using one of the following methods, which are listed in order from least to most complex/resource intensive/accurate. Select the technique providing the necessary level of precision for the least effort, with Method #1 or #2 typically used earlier in the review process (Step 2 – Technical Assessment) and Method #3 in the later stages (Step 3 – Plan Development or Step 6 – Monitoring and Evaluation):

#### Method #1 – Simplified Trip Generation Calculation

Approximate the percentage of cut-through traffic in predominately residential areas using the following formula:

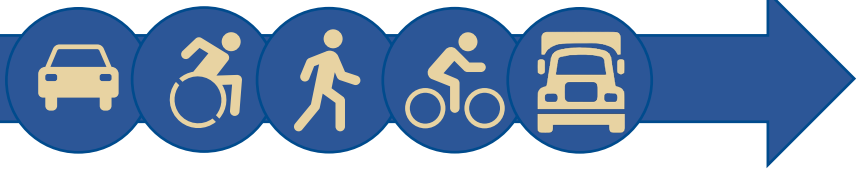
$$\text{Percentage Cut – through Traffic} = \frac{ADT - (10 \times \text{Dwellings})}{ADT}$$

where,

ADT = Average Daily Traffic volume recorded (vehicles per day)

Dwellings = Number of houses on the subject street

Each dwelling on the subject street is assumed to generate 10 vehicle trips per day, roughly the weekday trip generation rate for a single-family detached dwelling cited in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The percentage of cut-through traffic on the subject street should be measured between main intersections or entry points into the study area.



### Method #2 – Study Area Trip Generation Calculation

Determine the daily or peak hour trip generation potential of the study area based on its land uses and ITE *Trip Generation Manual* rates. Compare the projected volume of trips to the recorded ADT or peak hour traffic counts to calculate the percentage of cut-through traffic. Similar in approach to Method #1, this method can be used for study areas that feature a mix of land uses, like residential, commercial, schools and parks, for example.

### Method #3 – Origin-Destination Study

Record vehicle license plates at all entry and exit points to the study area manually or using digital technology. Match the license plates of vehicles entering and exiting to determine the percentage of vehicles passing through the study area compared to those that begin or end their trip within the zone.

## 4.2 Potential Measures

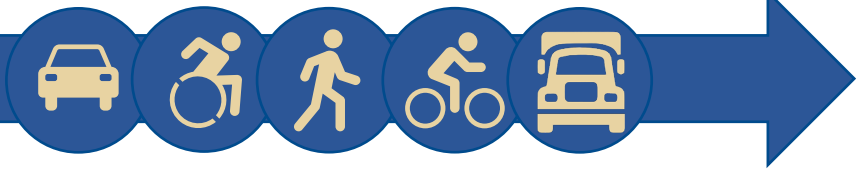
The **Traffic Calming Toolbox** in **Attachment B** provides further information on the physical traffic calming measures applicable for use on North Perth streets (in addition to education and enforcement strategies as described in **Chapter 4**). The Toolbox:

- Provides a description and photo of each measure;
- Notes the applicability (e.g., rural or urban road) and effectiveness of different treatments;
- Describes the recommended process for selecting physical traffic calming measures from the list of potential features; and
- Presents indicative costs and general design guidance for each measure.

Applying the Toolbox consistently will aid the Municipality in selecting the most suitable measure(s) to address traffic concerns related to Conflicts, Speeding, and Shortcutting for the site-specific conditions. This helps to avoid undesirable consequences as not all physical traffic calming techniques are appropriate in all circumstances.

## 4.3 Trial Installations

As noted in Step 5 – Implementation of the review process, the Municipality will typically trial new Traffic Calming Plans for a period of up to 24 months using temporary/seasonal measures before installing the features permanently. Undertaking a trial enables the Municipality to:



- Better understand the implications of and/or gauge community reaction to the traffic calming measures in operation, thereby allowing for refinement (or removal) of the plan before investing in permanent installation;
- Stage, defer, or avoid the initial capital cost of more costly Traffic Calming Plans; and
- Remove measures seasonally, if preferred.

Products typically used for temporary/seasonal traffic calming include:

- Removable rubber products (e.g., curbing, speed humps, tables, cushions);
- Removable/flexible posts and bollards;
- Pavement markings and signs; and
- Temporary speed display boards.

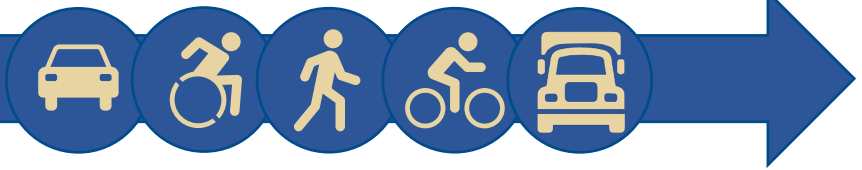
In certain circumstances, the Municipality may move forward with permanent installation without a trial after considering the possible negative aspects of using temporary/seasonal measures, which can include:

- Lower aesthetic value;
- On-going operational costs and/or additional operational resource requirements;
- Requirement for seasonal installation and removal;
- Similar or higher overall costs than permanent installation;
- Lower effectiveness than permanent materials; and
- Quicker degradation of roadway surfaces (specifically where measures are anchored into the road with removable fasteners).

### 4.4 Removal

At its discretion, the Municipality may remove physical traffic calming measures deemed ineffective, posing a safety risk, or creating unintended consequences that cannot be easily rectified, like diversion of traffic onto adjacent neighbourhood streets. The Municipality will notify affected residents if considering changes to the approved Traffic Calming Plan.

The Municipality may also remove physical traffic calming measures at the request of neighbouring property owners. A petition signed by at least 51% of owners directly fronting the subject road section is required to initiate the process. Owners can request removal only after the approved traffic calming plan has been in place for at least three years.



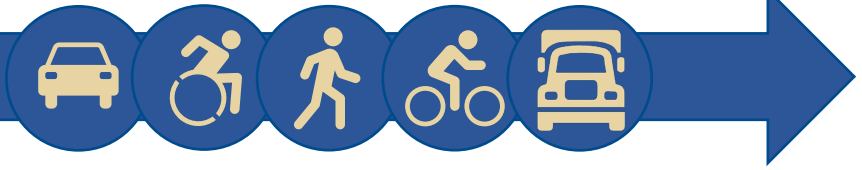
If the petition requests elimination of only part of an approved Traffic Calming Plan, the Municipality may remove all measures if the remaining features will not achieve the intended effect.

Once removed, neighbouring residents must wait at least more three years before submitting a new request for traffic management measures on the subject road section.

## 4.5 Other Implementation Options

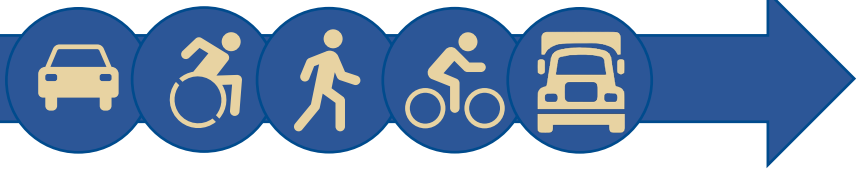
Physical traffic calming can also be implemented on roads under the Municipality's jurisdiction through land development (potentially as a condition of approval for Plan of Subdivision and Site Plan Control applications) and road reconstruction projects. In both cases, measures will still be selected from the **Traffic Calming Toolbox** contained in **Attachment B**.

The approved Traffic Calming Plan will be monitored and evaluated after implementation following the procedure described in **Section 2.6**.



# Attachment A

## Request for Traffic Investigation Form



## Request for Traffic Investigation

Location of concern (be as specific as possible with road name, limits, intersecting street):

---

What is your primary concern about this location? (check one)

- |   |   |
|---|---|
| <input type="checkbox"/> Conflict Between Road Users        | <input type="checkbox"/> Excessive Motor Vehicle Speeds |
| <input type="checkbox"/> Neighbourhood Traffic Infiltration |   |
| <input type="checkbox"/> Other (please specify):            | _____   |

Is there a specific time of day when this issue is most concerning? (check all that apply)

- |                                    |                                  |
|------------------------------------|----------------------------------|
| <input type="checkbox"/> Morning   | <input type="checkbox"/> Noon    |
| <input type="checkbox"/> Afternoon | <input type="checkbox"/> Evening |
| <input type="checkbox"/> Overnight | <input type="checkbox"/> All day |

Which of the following describes you situation? (check all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> I live on this street                   | <input type="checkbox"/> I work on this street                        |
| <input type="checkbox"/> My children go to school on this street | <input type="checkbox"/> I live nearby and use this street frequently |
| <input type="checkbox"/> Other (please specify):                 | _____   |

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

Preferred method of contact (check one):  Email  Phone

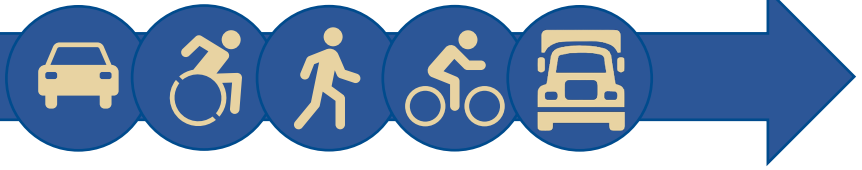
Would you like to share any other comments? \_\_\_\_\_

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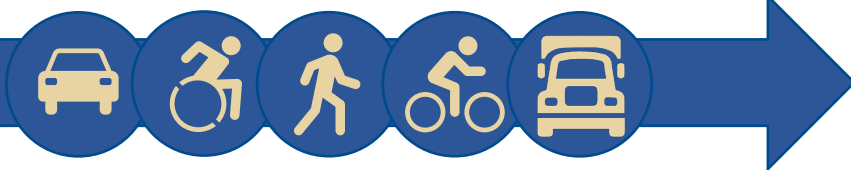






# Attachment B

## Traffic Calming Toolbox



## B Traffic Calming Toolbox

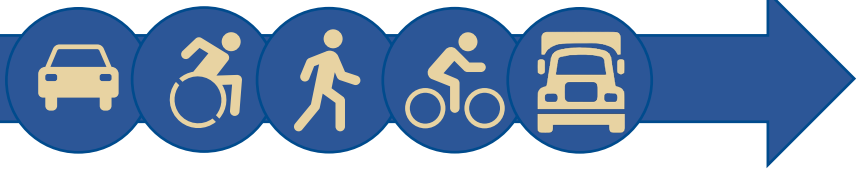
### B.1 List of Potential Traffic Calming Measures

The **Traffic Calming Toolbox** combines the latest and best practices in traffic calming with consideration of local context. Building on guidance contained in the *TAC Canadian Guide to Traffic Calming*, the toolbox outlines a range of techniques that can be used to address the three different types of traffic concerns – conflicts, speeding, and shortcutting – in various contexts (i.e., on different road classifications, urban versus rural roadside environments, etc.). Information provided includes the pros and cons of each measure and its effectiveness based on background research.

The *TAC Canadian Guide to Traffic Calming* identifies a broad range of traffic calming techniques applicable for Canadian conditions. From this catalogue of options, the Municipality has established a shortlist of potential traffic calming measures for use on roads under North Perth jurisdiction. The list provided in **Table B.1** captures a range of different physical and non-physical (i.e., education and enforcement) approaches to traffic calming, providing a description and photo of each measure. The table also notes whether the measures are applicable on Urban Local, Urban Collector, Urban Arterial, and/or Rural Roads and summarizes the potential benefits and implementation considerations of each technique. **Figure B.1** provides the legend for the table.

■	Substantial Benefits
▣	Minor Benefits
□	No Benefits or Limited Data Available
●	Substantial Impact
◉	Moderate Impact
○	No Impact or Limited Data Available
\$	Low Cost (\$0-\$10,000)
\$\$	Moderate Cost (\$10,000 to \$100,000)
\$\$\$	High Cost (\$100,000 +)

Figure B.1: Legend for Table B.1



## B.2 Selecting Measures from the Toolbox

The following outlines the typical decision process for selecting measures from the Traffic Calming Toolbox. As noted above, other factors can also influence the type of measures selected. See **Table B.2** for a detailed comparison of the measures and their applicability based on cross-section (urban/rural), location (intersection/midblock), speed limit, average daily traffic volume, and roadway grade.

### Step 1

Identify the list of potentially applicable traffic calming measures based on roadway classification.

### Step 2

Confirm and rank (based on severity) the primary issue(s) to be addressed through the traffic calming plan. Potential issues include:

- Conflict Between Road Users (Conflict) – includes pedestrian crossings and heavy vehicles
- Excessive Motor Vehicle Speeds (Speeding)
- Neighbourhood Traffic Infiltration (Shortcutting)

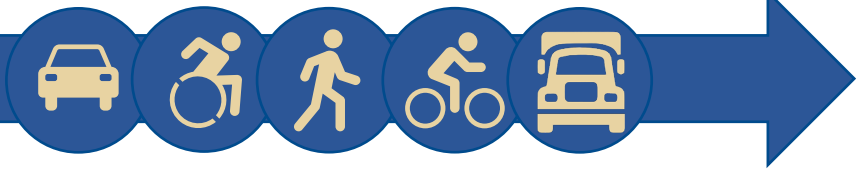
### Step 3

Shortlist the measures that address the issue(s) from the initial list assembled in Step 2.

### Step 4

Focus on/eliminate measures that would/would not be appropriate under the following conditions:

- School Zones and Community Safety Zones
- Active transportation (cycling) routes
- Adjacent to parks
- High pedestrian generators, particularly more vulnerable users
- Adjacent land uses (residential versus non-residential)
- Planned reconstruction
- Noise to surrounding neighbourhood
- Applicability for temporary installation



## Step 5

Confirm measures can be used under current roadway conditions. Factors to consider include:

- Existing intersections and control
- Midblock pedestrian/cyclist crossings and control
- Cross-section width
- Need for on-street parking
- Roadway alignment (i.e., horizontal and vertical curvature)
- Grade
- Block Length
- Driveway density
- Pavement condition and materials
- Drainage
- Utilities and street furniture (e.g., benches, poles, boxes)
- Streetlighting

## B.3 Design Guidelines

The Municipality will generally follow the recommended design guidance provided in Chapter 4 of the *TAC Canadian Guide to Traffic Calming* when implementing the traffic calming measures identified in **Table B.1**. Column 7 (Design Details) denotes the relevant section to consult in the guidebook. The *TAC Geometric Design Guide for Canadian Roads*<sup>12</sup> may also be referenced in the design process.

In a few instances, the table refers to an OTM Book for guidance pertaining to signing or pavement marking treatments. References are not provided for measures without available guidance (e.g., lateral shift) or for non-physical measures (e.g., targeted speed enforcement), as denoted by "n/a".

<sup>12</sup> Transportation Association of Canada. *Geometric Design Guide for Canadian Roads*. June 2017.

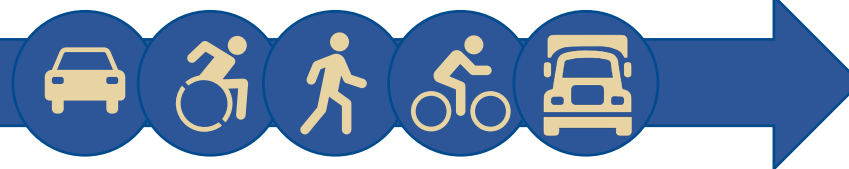


Table B.1: Potential Traffic Calming Measures

Measure	General Description	Applicable Location				Photo	Potential Benefit				Implementation Consideration						Cost
		Urban Local	Urban Collector	Urban Arterial	Rural		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	Local Vehicle Access	Emergency Vehicle Response	Cycling Use	Traffic Enforcement	Vehicle Parking	Street Maintenance	
<b>Vertical Deflection</b>																	
Speed Hump/ Table	A raised area of a roadway that deflects both the wheels and body of a traversing vehicle. A speed table is an elongated speed hump with a flat-topped section long enough to raise the entire wheelbase of a vehicle.	✓					■	■	■	■	○	●	○	○	○	○	\$-\$\$
Speed Cushion	A segmented speed hump that allows for the passage of larger vehicles such as fire trucks and buses without difficulty while still reducing passenger vehicle speeds.	✓					■	■	■	■	○	○	○	○	○	○	\$
Raised Crosswalk	A marked pedestrian crosswalk at an intersection or mid-block location constructed at a higher elevation than the adjacent roadway. Similar to a speed table in configuration.	✓	✓				■	■	■	■	○	○	○	○	○	○	\$-\$\$

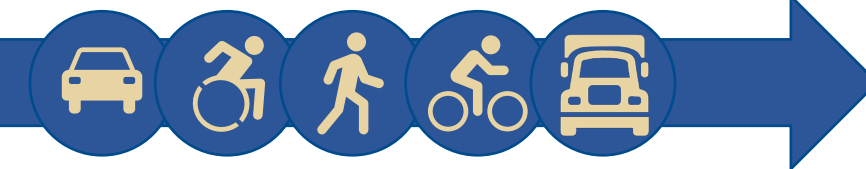





Table B.1: Potential Traffic Calming Measures

Measure	General Description	Applicable Location				Photo	Potential Benefit				Implementation Consideration						Cost
		Urban Local	Urban Collector	Urban Arterial	Rural		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	Local Vehicle Access	Emergency Vehicle Response	Cycling Use	Traffic Enforcement	Vehicle Parking	Street Maintenance	
<b>Roadway Narrowing and Horizontal Deflection</b>																	
On-Street Parking	The reduction of the roadway width available for vehicle movement by allowing motor vehicles to park adjacent and parallel to the curb.	✓	✓	✓			■	□	□	■	○	●	●	○	○	●	\$-\$\$
Vertical Centreline Treatment	The use of features such as flexible post-mounted delineators or raised pavement markers to create a centre median with the intent of giving drivers a perception of lane narrowing and creating a sense of constriction.	✓					■	□	□	□	○	○	○	○	○	●	\$
Traffic Button/ Traffic Circle/ Mini-Roundabout	A raised island located in the centre of an intersection, which requires vehicles to travel through the intersection in a circular, counter-clockwise direction around the island.	✓	✓				■	□	■	■	○	●	●	○	○	●	\$-\$\$\$



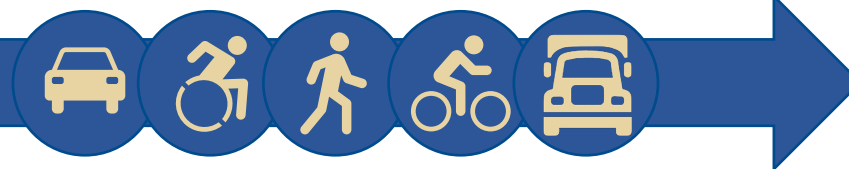





Table B.1: Potential Traffic Calming Measures

Measure	General Description	Applicable Location				Photo	Potential Benefit				Implementation Consideration						Cost
		Urban Local	Urban Collector	Urban Arterial	Rural		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	Local Vehicle Access	Emergency Vehicle Response	Cycling Use	Traffic Enforcement	Vehicle Parking	Street Maintenance	
Curb Radius Reduction	The reconstruction of an intersection corner using a smaller radius for the curb, usually in the 3.0 m to 5.0 m range.	✓	✓	✓			■	□	□	■	○	○	●	○	○	●	\$\$-\$\$\$
Curb Extension	A horizontal intrusion of the curb into the roadway resulting in a narrower roadway width.	✓	✓	✓			■	□	□	■	○	○	●	○	●	●	\$\$-\$\$\$
Raised Median Island	An island constructed on the centreline of a two-way roadway to reduce the overall width of the adjacent travel lanes.	✓	✓	✓			■	□	■	□	○	○	○	○	○	○	\$\$-\$\$\$

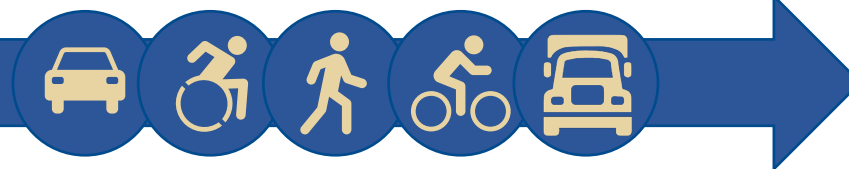





Table B.1: Potential Traffic Calming Measures

Measure	General Description	Applicable Location				Photo	Potential Benefit				Implementation Consideration						Cost	
		Urban Local	Urban Collector	Urban Arterial	Rural		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	Local Vehicle Access	Emergency Vehicle Response	Cycling Use	Traffic Enforcement	Vehicle Parking	Street Maintenance		
Gateway	Combination of traffic calming measures that help to provide an entry or "gateway", which identifies transitional zones such as between commercial/rural areas and urban/rural residential zones, villages, or hamlets.	✓	✓	✓	✓		■	□	□	■	○	○	○	○	○	●	\$-\$\$	
<b>Surface Treatment and Pavement Markings</b>																		
Rumble Strips	Raised buttons, bars or grooves closely spaced at regular intervals on the roadway that create both noise and vibration in a moving vehicle.				✓		■	□	□	□	○	○	●	○	○	○	●	\$
Sidewalk Extension/ Textured Crosswalk	A sidewalk that is continued across a local street intersection at the same elevation of the roadway and a textured and/or patterned surface that contrasts with the adjacent roadway is incorporated.	✓	✓				■	□	■	■	○	○	●	○	○	●	\$-\$\$	



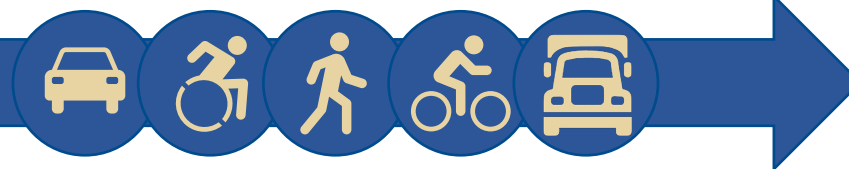




Table B.1: Potential Traffic Calming Measures

Measure	General Description	Applicable Location				Photo	Potential Benefit				Implementation Consideration						Cost
		Urban Local	Urban Collector	Urban Arterial	Rural		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	Local Vehicle Access	Emergency Vehicle Response	Cycling Use	Traffic Enforcement	Vehicle Parking	Street Maintenance	
Lane Narrowing	Process of reducing lane widths using pavement markings or other features (for example, bicycle lanes, street beautification programs, pavement texture). The intention is for drivers to perceive the roadway to be less comfortable at higher speeds due to the narrowing of the lanes and ultimately reduce operating speeds.	✓	✓	✓			■	□	■	□	○	●	●	○	●	○	\$-\$\$
On-Road 'Sign' Pavement Markings	Provide information that would typically be shown to drivers through signage but is painted on the roadway to provide a larger image, and one that is directly in the driver's line of sight. Some examples could be speed limit, 'SLOW', 'Stop ahead, etc.	✓	✓	✓	✓		■	□	□	□	○	○	○	○	○	●	\$

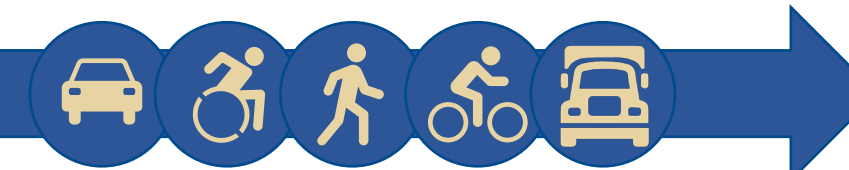





Table B.1: Potential Traffic Calming Measures

Measure	General Description	Applicable Location				Photo	Potential Benefit				Implementation Consideration						Cost
		Urban Local	Urban Collector	Urban Arterial	Rural		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	Local Vehicle Access	Emergency Vehicle Response	Cycling Use	Traffic Enforcement	Vehicle Parking	Street Maintenance	
<b>Access Restriction</b>																	
Directional Closure	Curb extension or vertical barrier extending to approximately the centerline of a roadway, effectively obstructing (prohibiting) one direction of traffic. When combined with other measures elsewhere in a neighborhood, directional closures obstruct short-cutting or through traffic routes.	✓	✓				■	■	■	■	●	○	○	○	○	○	\$-\$\$\$
Right-in/ Right-out Island	Raised triangular island at an intersection approach that obstructs left turns and through movements to and from the intersecting street or driveway.	✓	✓	✓			□	■	■	■	○	○	○	○	○	○	\$-\$\$
<b>Education and Enforcement (Non-Physical Measures)</b>																	
Speed Display Board/Driver Feedback Sign/ Portable Messaging Sign	Permanent or temporary signs, often with digital messages, used to advise drivers of excessive speeds or modified road conditions with the intent of making the motorist aware of undesired behaviour and increasing their awareness to surroundings.	✓	✓	✓	✓		■	□	□	□	○	○	○	○	○	○	\$

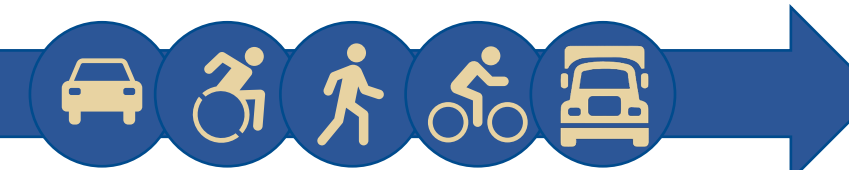
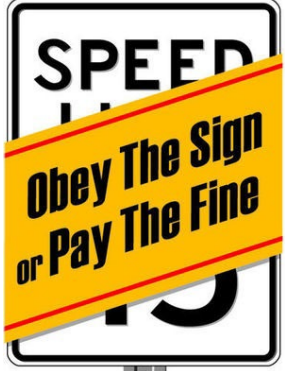



Table B.1: Potential Traffic Calming Measures

Measure	General Description	Applicable Location				Photo	Potential Benefit				Implementation Consideration						Cost
		Urban Local	Urban Collector	Urban Arterial	Rural		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	Local Vehicle Access	Emergency Vehicle Response	Cycling Use	Traffic Enforcement	Vehicle Parking	Street Maintenance	
Education Campaign	Events, programs, and/or media campaigns intended to raise awareness of road safety issues. Education campaigns can address multiple types of driver awareness, including speeding (other types include impaired driving, distracted driving, seatbelt awareness, aggressive driving, etc.).	✓	✓	✓	✓		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	\$-\$\$\$
Targeted Enforcement	Specific police enforcement in locations where speed, collision, citation, resident comments, or other sources of information suggest the site is unusually hazardous due to illegal driving practices.	✓	✓	✓	✓		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	\$-\$\$\$

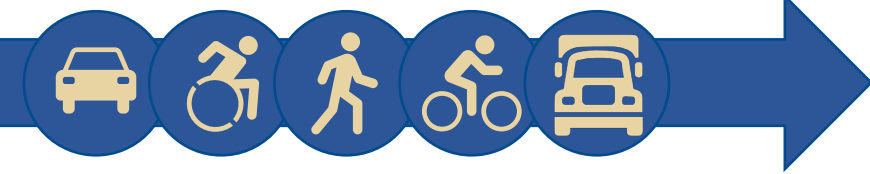


Table B.2: Detailed Comparison of Traffic Calming Measures and Applicability

Measure	Road Class			Cross-Section	Location	Speed Limit	Average Daily Traffic	Grade	Notes
	Urban Local or Collector	Urban Arterial	Rural						
<b>Vertical Deflection</b>									
Speed Hump/Table	●	×	×	Urban	n/a	≤ 50 km/h		< 8%	Implement where speed cushion not effective
Speed Cushion	●	×	×	Primarily Urban	n/a	≤ 50 km/h		< 8%	Primary measure
Raised Crosswalk	●	×	×	Urban <sup>1</sup>	n/a	≤ 50 km/h		≥ 1%, but ≤ 8%	Implement to facilitate pedestrian connections
<b>Roadway Narrowing and Horizontal Deflection</b>									
On-Street Parking	●	▲	×	Urban	n/a	≤ 50 km/h		n/a	Implement in accordance with Town by-laws
Vertical Centreline Treatment	●	×	●	Urban and Rural	Two-lane roads	≤ 80 km/h		n/a	Primary measure
Traffic Button/Traffic Circle/Mini-Roundabout	●	×	×	Urban and Rural	n/a	≤ 50 km/h	< 1,500 vpd	n/a	Implement to address intersection conflicts (where space permits)
Curb Radius Reduction	●	▲	×	Urban	n/a	n/a			Primary measure
Curb Extension	●	●	×	Urban	n/a	≤ 60 km/h		n/a	Primary measure
Raised Median Island	●	▲	●	Urban and Rural <sup>2</sup>	Two-lane roads	≤ 60 km/h		n/a	Implement where width permits and/or alongside reconstruction projects
Gateway	●	●	●	Urban and Rural	n/a	n/a		n/a	Site specific, compliments other measures
<b>Surface Treatment and Pavement Markings</b>									
Rumble Strips	▲	×	●	Urban and Rural	n/a	n/a		n/a	Primary measure
Sidewalk Extension/Textured Crosswalk	●	▲	×	Urban <sup>1</sup>	n/a	≤ 50 km/h		n/a	Implement to facilitate pedestrian crossings, streetscape projects
Lane Narrowing	●	▲	×	Urban	n/a	≤ 60 km/h		n/a	Primary measure
On-Road 'Sign' Pavement Markings	●	●	●	Urban and Rural	n/a	n/a		n/a	Compliments other measures

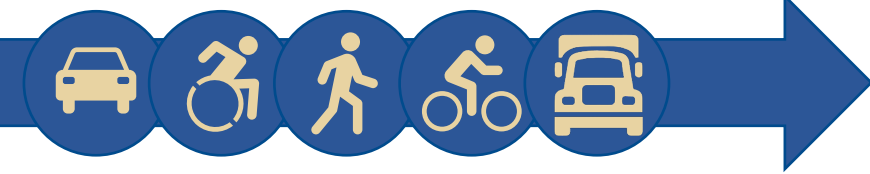


Table B.2: Detailed Comparison of Traffic Calming Measures and Applicability

Measure	Road Class			Cross-Section	Location	Speed Limit	Average Daily Traffic	Grade	Notes
	Urban Local or Collector	Urban Arterial	Rural						
<b>Access Restriction</b>									
Directional Closure	●	×	×	Urban	Midblock or Intersection	n/a	Local: < 1,500 vpd Collector: 1,500 – 5,000 vpd	n/a	Consider for volume reduction within the context of the network design
Right-in/Right-out Island	●	▲	×	Urban	n/a	n/a		n/a	
<b>Enforcement and Education</b>									
Speed Display Boards/ Driver Feedback Signs/ Portable Messaging Signs	●	●	●	n/a	n/a	n/a		n/a	Use prior to implementing physical traffic calming and/or compliments other measures
Education Campaign	●	●	●	n/a	n/a	n/a		n/a	
Targeted Enforcement	●	●	●	n/a	n/a	n/a		n/a	

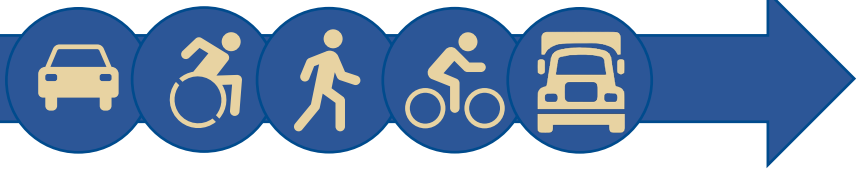
Legend:

● Applicable    ▲ Use with Care    × Not Appropriate

Notes:

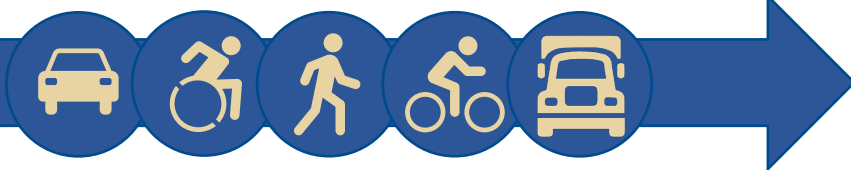
1. Consider only if sidewalk is on at least one side of road
2. Consider on two-lane roads





# Appendix F

## Costing of Proposed Active Transportation Improvements

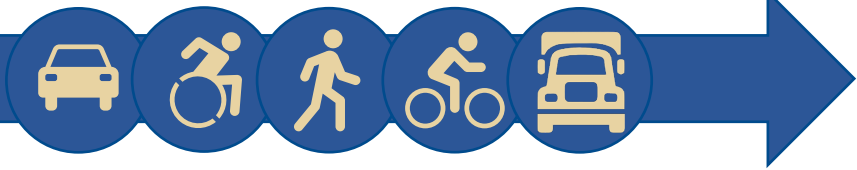


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# 1 Cost Estimating Methodology

The costs of implementing the proposed cycling and pedestrian facilities were estimated based on indicative benchmark unit costs referenced from other active transportation plans<sup>1,2,3</sup> and adjusted to account for inflation and construction price escalation. **Table 1.1** summarizes the unit costs used for linear facilities, crossings, and other features. The following assumptions were made in applying the unit costs:

- Normal/average construction conditions;
- Unless otherwise stated, bi-directional routes for on-road cycling facilities; and
- Excludes costs for property acquisition, utility relocations, engineering design, contingency, and taxes.

# 2 Indicative Costs and Recommended Phasing

**Table 2.1**, **Table 2.2**, and **Table 2.3** summarize the indicative costs (estimated by multiplying the unit costs in **Table 1.1** by the number of units or distance) and recommended phasing (i.e., short-term (0 to 5 years) or long-term (beyond 5 years)) to implement the proposed urban cycling, rural cycling, and sidewalk improvements in North Perth, respectively. Implementation of the proposed active transportation projects was prioritized/phased based on the following criteria:

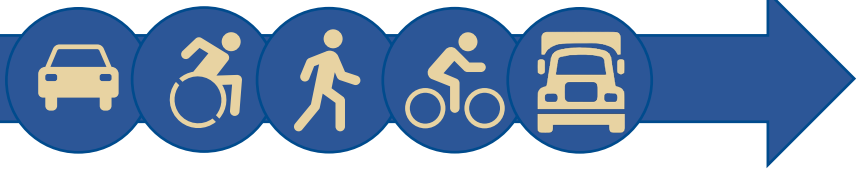
- **Links to Capital Projects** by scheduling network improvements concurrently with planned roadway projects;
- **Closes Gaps** in the network, especially ones that create a safety risk or cause uncomfortable conditions for pedestrians and/or cyclists. Gaps that when resolved resulted in continuous routes and/or important links were also a focus;
- **Reallocates Space**, where possible, to develop bike lanes through lane reallocation and repainting of pavement markings;
- **Establishes a Network** by creating continuous north-south and east-west connections;
- **Responds to Demand** by focusing on areas with higher existing or projected pedestrian and/or cyclist volumes (e.g., routes that lead to/from major pedestrian generators such as schools, parks, retail establishments or employment districts); and

<sup>1</sup> Town of Milton Transportation Master Plan, Appendix A: Active Transportation Strategy. April 2018.

<sup>2</sup> Town of Oakville Active Transportation Master Plan, Technical Appendix I. June 2017.

<sup>3</sup> Town of Ajax Integrated Transportation Master Plan, Appendix D. April 2019.





- **Achieves Quick Wins** by implementing short duration, easily achieved, cost-effective measures first (e.g., signs or pavement markings).

The estimated cost for all active transportation facilities totals approximately:

- \$4,847,200 in the short-term (0 to 5 years); and
- \$1,926,200 in the long-term (beyond 5 years).

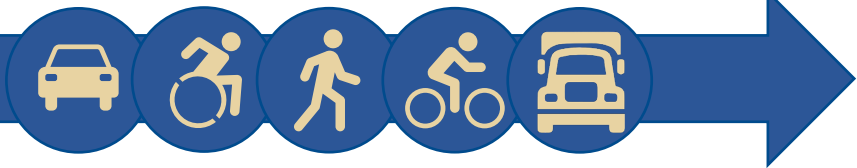


Table 1.1: Unit Costs

Code	Route Type	Cost per Km (2023 \$)	Assumptions/Comments
CROSSRIDE	Trail/road transition at signalized intersection	\$97,000	4 signal heads, 2 poles, 2 bases, 2 controller connectors, and 2 arms
CROSSING	Trail/road transition at unsignalized intersection	\$9,000	Warning signs, pavement markings, curb cuts, and minimal restoration (3.0 metre pathway)
LANE	On-road bike lane (1.5 to 1.8 metres) without edge line	\$26,000	Bike lane signs, bike lane stencils, and longitudinal pavement markings both sides of road. Assumes conventional paint
LANERETRO	On-road bike lane (1.5 to 1.8 metres) by retrofitting/widening existing road	\$851,000	Excavation, catch basin adjustments, lead extensions, new curb/driveway ramps, asphalt, and subbase both sides of road. Also bike lane signs, bike lane stencils, and longitudinal pavement markings. Assumes conventional paint
MUP	Paved boulevard multi-use path (3.0 metres) within road right-of-way	\$395,000	Asphalt surface pathway on one side of the road. Could include removal of existing sidewalk. Assumes no utility relocations.
MUS	Concrete multi-use sidewalk (3.0 metres) within road right-of-way	\$438,000	Concrete sidewalk on one side of the road. Assumes no utility relocations.
MUTPAVED	Paved off-road multi-use trail (3.0 metres) within road right-of-way in an urban setting (e.g., park or open space)	\$365,000	Asphalt surface pathway with trail marker signs. Does not include trail lighting. Assumes no utility relocations.
MUTUP	Upgrade granular to paved off-road multi-use trail (3.0 metres) outside of road right-of-way in an urban setting (e.g., park or open space)	\$213,000	Asphalt surface trail upgraded from granular surface with trail marker signs. Some new base work (approximately 25%), with half of the material removed from site. Does not include trail lighting. Assumes no utility relocations.

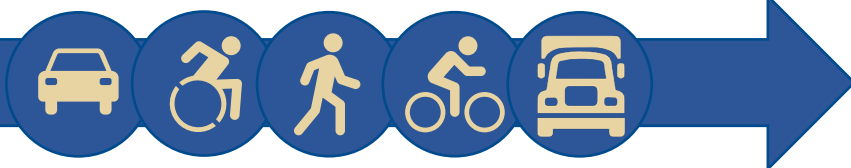


Table 1.1: Unit Costs

Code	Route Type	Cost per Km (2023 \$)	Assumptions/Comments
MUTGRAN	Granular off-road multi-use trail outside of road right-of-way in an urban setting (park or open space)	\$201,000	Compacted stone dust surface trail with trail marker signs. Does not include trail lighting.
PAVEDSHLD	Paved shoulder (1.5 metres) on scheduled resurfacing of existing road	\$182,000	Asphalt shoulder and route signs. Assumes road project already includes other costs (e.g., granular shoulder, any ditch/drainage works, longitudinal pavement markings, etc.)
PRIORITY	Retrofit of exiting two-lane road to bicycle priority street	\$122,000	Traffic calming measures such as neighbourhood traffic circles, through restrictions for automobiles, etc.
PXO	Pedestrian crossover (Level 2 Type B)	\$36,000	RRFBs, 2 poles, 2 bases, 2 push buttons, and 2 arms
SHARROW	Shared on-road bike route ("sharrows")	\$12,000	Route signs every 350 metres (approximately), and sharrow pavement markings every 75 metres (approximately). Assumes conventional paint.
SHOULDER	Marked on-road bike route with edge line ("urban shoulder")	\$17,000	Route signs every 350 metres (approximately) and longitudinal pavement markings. Assumes conventional paint.
SIDEWALK	Concrete sidewalk (1.5 metres) within road right-of-way	\$219,000	Concrete sidewalk one side of road. Assumes no utility relocation.
SIGNEDU	Signed on-road bike route – urban area	\$4,000	Route signs every 350 metres (approximately), both sides of the road
SIGNEDR	Signed on-road bike route – rural area	\$3,000	Route signs every 600 metres (approximately), both sides of the road

**Table 2.1: Indicative Costs and Recommended Phasing of Proposed Urban Cycling Routes**

Corridor/Location	Proposed Improvement	Length (km)	Improvement Type	Unit Cost (per km)	Indicative Cost/Phasing	
					Short (0 - 5 Years)	Long (+5 Years)
<b>North-South Routes (Listowel)</b>						
Reserve Avenue South from Hutton Street East to Elma Street East	Install signed on-road bike route (urban area)	0.87	SIGNEDU	\$4,000	\$3,500	\$0
Nichol Avenue from Elma Street East to Elizabeth Street East	Install signed on-road bike route (urban area)	0.35	SIGNEDU	\$4,000	\$0	\$1,500
Davidson Avenue from Elma Street East to McDonald Street East	Install signed on-road bike route (urban area)	1.25	SIGNEDU	\$4,000	\$5,000	\$0
Louise Avenue North from Binning Street West to Scott Street West	Install signed on-road bike route (urban area)	0.24	SIGNEDU	\$4,000	\$0	\$1,000
Albert Avenue North from Elizabeth Street West to Binning Street West	Install signed on-road bike route (urban area)	0.12	SIGNEDU	\$4,000	\$500	\$0
Kinsmen Trail at Elizabeth Street West/Edward Avenue North	Install unsignalized crossing on Line 84	1.00	CROSSING	\$9,000	\$9,000	\$0
Kinsmen Trail at Main Street West (Perth Line 86)	Install signalized crossride on Main Street West at Kinsmen Trail	1.00	CROSSRIDE	\$97,000	\$97,000	\$0
Kinsmen Trail at Elma Street West	Install unsignalized crossing on Line 84	1.00	CROSSING	\$9,000	\$9,000	\$0
Kinsmen Trail at Line 84	Install unsignalized crossing on Line 84	1.00	CROSSING	\$9,000	\$9,000	\$0
<b>East-West Routes (Listowel)</b>						
Hutton Street from Kinsmen Trail to Reserve Avenue South	Install signed on-road bike route (urban area)	1.01	SIGNEDU	\$4,000	\$4,100	\$0
Mowat Street Allowance from Nichol Avenue South to Tremaine Avenue South	Construct off-road multi-use trail	0.39	MUTUP	\$213,000	\$0	\$84,100
Kinkaid Street from Highway 23 (Mitchell Road South) to Havelock Avenue South/Kinsmen Trail	Install signed on-road bike route (urban area)	0.46	SIGNEDU	\$4,000	\$0	\$1,900
Elma Street West from Kinsmen Trail to Nichol Avenue South	Install signed on-road bike route (urban area)	1.21	SIGNEDU	\$4,000	\$4,900	\$0
Elizabeth Street West from Albert Avenue North to Elm Avenue North	Install signed on-road bike route (urban area)	1.51	SIGNEDU	\$4,000	\$6,100	\$0
Binning Street West from Road 165 to Albert Avenue North	Install signed on-road bike route (urban area)	1.12	SIGNEDU	\$4,000	\$4,500	\$0
McDonald Street from Kinsmen Trail to Davidson Avenue North	Install signed on-road bike route (urban area)	0.70	SIGNEDU	\$4,000	\$2,800	\$0
Tremaine Avenue South from Kinsmen Trail (Listowel) to Main Street East	Install signed on-road bike route (urban area)	1.49	SIGNEDU	\$4,000	\$0	\$6,000
Kinsmen Trail at Victoria Street South	Install unsignalized crossing on Victoria Street South	1.00	CROSSING	\$9,000	\$9,000	\$0
<b>Future Routes (Listowel)</b>						
Tremaine Road North Extension from Elizabeth Street East to Rhine Street East	Install signed on-road bike route (urban area)	1.77	SIGNEDU	\$4,000	\$0	\$7,100
Northeast Listowel Ring Route from McDonald Street East to Kinsmen Trail via Rhine Road East	Install signed on-road bike route (urban area)	2.40	SIGNEDU	\$4,000	\$0	\$9,700
Northwest Listowel Ring Route from Road 165 to Kinsmen Trail (north of McDonald Street West)	Install granular multi-use trail (urban area)	2.62	MUTGRAN	\$201,000	\$0	\$526,800

**Table 2.1: Indicative Costs and Recommended Phasing of Proposed Urban Cycling Routes**

Corridor/Location	Proposed Improvement	Length (km)	Improvement Type	Unit Cost (per km)	Indicative Cost/Phasing	
					Short (0 - 5 Years)	Long (+5 Years)
Southwest Listowel Ring Route from Road 165/Line 87 to Kinsmen Trail	Install granular multi-use trail (urban area)	2.66	MUTGRAN	\$201,000	\$0	\$534,400
Future North-South Road from Northeast Listowel Ring Route to Line 87	Install signed on-road bike route (urban area)	0.22	SIGNEDU	\$4,000	\$0	\$900
<b>Total Urban Cycling Routes - North-South Routes (Listowel)</b>					<b>\$133,000</b>	<b>\$2,500</b>
<b>Total Urban Cycling Routes - East-West Routes (Listowel)</b>					<b>\$31,400</b>	<b>\$92,000</b>
<b>Total Urban Cycling Routes - Future Routes (Listowel)</b>					<b>\$0</b>	<b>\$1,078,900</b>
<b>Total Urban Cycling Routes</b>					<b>\$164,400</b>	<b>\$1,173,400</b>

Table 2.2: Indicative Costs and Recommended Phasing of Proposed Rural Cycling Routes

Corridor/Location	Proposed Improvement	Length (km)	Improvement Type	Unit Cost (per km)	Indicative Cost/Phasing	
					Short (0 - 5 Years)	Long (+5 Years)
<b>North-South Routes (Rural)</b>						
Road 173 from Line 55 to Guelph to Goderich (G2G) Trail	Install signed on-road bike route (rural area)	9.75	SIGNEDR	\$3,000	\$29,300	\$0
Road 158/Tremaine Avenue South from Perth Line 72 to Kinsmen Trail	Install signed on-road bike route (rural area)	8.69	SIGNEDR	\$3,000	\$26,100	\$0
Road 165 from Perth Line 86 to Line 89	Install signed on-road bike route (rural area)	8.11	SIGNEDR	\$3,000	\$24,400	\$0
<b>East-West Routes (Rural)</b>						
Line 81 from Road 172 to Road 158	Install signed on-road bike route (rural area)	12.16	SIGNEDR	\$3,000	\$36,500	\$0
Line 84 from Kinsmen Trail (Listowel) to Perth Road 147	Install signed on-road bike route (rural area)	5.66	SIGNEDR	\$3,000	\$17,000	\$0
Line 87 from Road 176 to Perth Road 140	Install signed on-road bike route (rural area)	16.55	SIGNEDR	\$3,000	\$49,700	\$0
Line 89 from Perth Road 178 to Road 165	Install signed on-road bike route (rural area)	3.98	SIGNEDR	\$3,000	\$12,000	\$0
<b>Total Rural Cycling Routes - North-South Routes (Rural)</b>					<b>\$79,800</b>	<b>\$0</b>
<b>Total Rural Cycling Routes - East-West Routes (Rural)</b>					<b>\$115,200</b>	<b>\$0</b>
<b>Total Rural Cycling Routes</b>					<b>\$195,000</b>	<b>\$0</b>

Table 2.3: Indicative Costs and Recommended Phasing of Proposed Sidewalk Improvements

Street	Side	Limits	Number of Sides	Road Classification	Length (km)	Improvement Type	Unit Cost (per km)	Indicative Cost/Phasing	
								Short (0 - 5 Years)	Long (+5 Years)
<b>Listowel</b>									
<b>North-South Roads</b>									
Albert Avenue North	W	Main Street West to Elizabeth Street West	1	Collector	0.23	SIDEWALK	\$219,000	\$0	\$51,200
Albert Avenue North	E/W	Elizabeth Street West to Rogers Road	2	Collector	0.48	SIDEWALK	\$219,000	\$105,100	\$0
Davidson Avenue North	W	Elizabeth Street East to McKenzie Street East	1	Collector	0.64	SIDEWALK	\$219,000	\$0	\$140,400
Davidson Avenue North	E/W	McKenzie Street East to Rhine Street East	2	Collector	0.46	SIDEWALK	\$219,000	\$99,900	\$0
Davidson Avenue South	W	Main Street East to Elma Street East	1	Collector	0.12	SIDEWALK	\$219,000	\$0	\$25,800
Wallace Avenue South	E	Elma Street to Anger Street	1	Collector	0.69	SIDEWALK	\$219,000	\$0	\$151,100
Wallace Avenue South	E/W	Krotz Street to Line 84	2	Collector	0.59	SIDEWALK	\$219,000	\$129,400	\$0
Alexander Avenue North	E or W	Main Street West to John Street West	1	Local	0.06	SIDEWALK	\$219,000	\$13,300	\$0
Louise Avenue North	E or W	Binning Street West to End of Road	1	Local	0.64	SIDEWALK	\$219,000	\$139,600	\$0
Briarwood Avenue North	E or W	Edgar Street West to End of Road	1	Local	0.14	SIDEWALK	\$219,000	\$30,600	\$0
Edward Avenue North	E or W	Elizabeth Street West to Edgar Street West	1	Local	0.23	SIDEWALK	\$219,000	\$51,200	\$0
Winston Boulevard	E or W	Winston Street West to Highway 23	1	Local	0.48	SIDEWALK	\$219,000	\$105,400	\$0
Churchill Drive	E or W	Winston Street West to Winston Street West	1	Local	0.23	SIDEWALK	\$219,000	\$49,700	\$0
Argyle Avenue North	E or W	Winston Street West to Winston Boulevard	1	Local	0.28	SIDEWALK	\$219,000	\$62,100	\$0
McLaren Avenue North	E or W	McDonald Street West to End of Road	1	Local	0.23	SIDEWALK	\$219,000	\$49,600	\$0
Nelson Avenue South	W	Elma Street West to Main Street West	1	Local	0.12	SIDEWALK	\$219,000	\$25,600	\$0
Hay Avenue South	W	Napier Street West to Elma Street West	1	Local	0.11	SIDEWALK	\$219,000	\$25,100	\$0
Boyne Avenue	E or W	Riverview Drive to Elma Street West	1	Local	0.59	SIDEWALK	\$219,000	\$129,900	\$0
Victoria Avenue South	E or W	Riverview Drive to Main Street West	1	Local	0.53	SIDEWALK	\$219,000	\$116,500	\$0
Maitland Avenue South	E or W	Bright Street East to Clayton Street East	1	Local	0.48	SIDEWALK	\$219,000	\$104,300	\$0
Royal Street East	W	Elizabeth Street East to Derry Street East	1	Local	0.20	SIDEWALK	\$219,000	\$43,300	\$0
Park Avenue North	E or W	Campbell Street East to Blake Street East	1	Local	0.23	SIDEWALK	\$219,000	\$51,400	\$0
Tatham Place	E or W	McKenzie Street East to End of Road	1	Local	0.01	SIDEWALK	\$219,000	\$3,000	\$0
Walton Avenue North	E or W	Campbell Street East to Perkin Crescent	1	Local	0.64	SIDEWALK	\$219,000	\$139,800	\$0
Maple Avenue North	E or W	Elm Avenue North to Palace Street East	1	Local	0.45	SIDEWALK	\$219,000	\$99,000	\$0
<b>East-West Roads</b>									
Rogers Road	N	Albert Avenue North to McDonald Street West	1	Collector	0.57	SIDEWALK	\$219,000	\$0	\$125,300
McDonald Street West	S	Rogers Road to Highway 23	1	Collector	0.45	SIDEWALK	\$219,000	\$0	\$98,400
Elizabeth Street West	S	Albert Avenue North to Victoria Avenue North	1	Collector	0.24	SIDEWALK	\$219,000	\$0	\$52,300
Rhine Street East	N/S	Davidson Avenue North to Walton Avenue North	2	Collector	0.15	SIDEWALK	\$219,000	\$33,100	\$0
Elma Street West	N	Highway 23 (Mitchell Road South) to Victoria Avenue North	1	Collector	0.64	SIDEWALK	\$219,000	\$140,400	\$0
Elma Street West	N/S	Livingston Avenue South to Wallace Avenue South	2	Collector	0.24	SIDEWALK	\$219,000	\$53,000	\$0
Clayton Street East	N	Wallace Avenue South to Wellington Avenue South	1	Collector	0.10	SIDEWALK	\$219,000	\$0	\$22,200
Clayton Street East	N	Nichol Avenue South to Maitland Avenue South	1	Collector	0.20	SIDEWALK	\$219,000	\$0	\$42,900
Clayton Street East	S	Maitland Avenue South to Tremaine Avenue South	1	Collector	0.20	SIDEWALK	\$219,000	\$0	\$43,200
Binning Street West	N or S	Louise Avenue North to Edward Avenue North	1	Local	0.31	SIDEWALK	\$219,000	\$67,800	\$0
Edgar Street West	N or S	Briarwood Avenue North to Edward Avenue North	1	Local	0.44	SIDEWALK	\$219,000	\$95,900	\$0
Robarts Street	N or S	Briarwood Avenue North to Louise Avenue North	1	Local	0.12	SIDEWALK	\$219,000	\$26,400	\$0
John Street West	N or S	End of Road to Albert Avenue North	1	Local	0.21	SIDEWALK	\$219,000	\$45,500	\$0
Inkerman Street West	N or S	End of Road to Victoria Avenue North	1	Local	0.14	SIDEWALK	\$219,000	\$30,900	\$0
Winston Street West	N or S	Winston Boulevard to Highway 23	1	Local	0.26	SIDEWALK	\$219,000	\$56,600	\$0
Jackson Crescent	N or S	Winston Boulevard to Winston Boulevard	1	Local	0.39	SIDEWALK	\$219,000	\$85,900	\$0

Table 2.3: Indicative Costs and Recommended Phasing of Proposed Sidewalk Improvements

Street	Side	Limits	Number of Sides	Road Classification	Length (km)	Improvement Type	Unit Cost (per km)	Indicative Cost/Phasing	
								Short (0 - 5 Years)	Long (+5 Years)
Windham Court	N or S	McLaren Avenue North to End of Road	1	Local	0.03	SIDEWALK	\$219,000	\$7,000	\$0
Centennial Court	N or S	McLaren Avenue North to End of Road	1	Local	0.05	SIDEWALK	\$219,000	\$10,700	\$0
Barnett Street	N	Highway 23 (Mitchell Road South) to Nelson Avenue South	1	Local	0.18	SIDEWALK	\$219,000	\$39,100	\$0
Riverview Drive	N or S	Kinsmen Trail to End of Road	1	Local	0.45	SIDEWALK	\$219,000	\$98,300	\$0
Ann Street	N or S	Boyne Avenue to Victoria Avenue South	1	Local	0.13	SIDEWALK	\$219,000	\$29,300	\$0
Fern Place	N or S	Victoria Avenue South to End of Road	1	Local	0.05	SIDEWALK	\$219,000	\$12,000	\$0
Herbert Street West	N or S	Richelieu Avenue South to Wallace Avenue South	1	Local	0.15	SIDEWALK	\$219,000	\$33,100	\$0
Anger Street West	N or S	Salisbury Avenue South to Wallace Avenue South	1	Local	0.10	SIDEWALK	\$219,000	\$22,300	\$0
Anger Street East	S	Wallace Avenue South to Wellington Avenue South	1	Local	0.09	SIDEWALK	\$219,000	\$20,700	\$0
Bright Street East	N or S	Reserve Avenue South to Tremaine Avenue South	1	Local	0.60	SIDEWALK	\$219,000	\$132,100	\$0
John Rosa Street East	S	Davidson Avenue South to Reserve Avenue South	1	Local	0.07	SIDEWALK	\$219,000	\$14,300	\$0
Inkerman Street East	N	Elm Avenue North to End of Road	1	Local	0.12	SIDEWALK	\$219,000	\$26,600	\$0
Palace Street East	N or S	Elm Avenue North to End of Road	1	Local	0.12	SIDEWALK	\$219,000	\$25,900	\$0
Campbell Street East	N	Davidson Avenue North to Walton Avenue North	1	Local	0.17	SIDEWALK	\$219,000	\$37,200	\$0
Winston Street East	N or S	Davidson Avenue North to End of Road	1	Local	0.43	SIDEWALK	\$219,000	\$94,400	\$0
Blake Street East	N	Davidson Avenue North to End of Road	1	Local	0.22	SIDEWALK	\$219,000	\$48,900	\$0
McKenzie Street East	S	Davidson Avenue North to Walton Avenue North	1	Local	0.17	SIDEWALK	\$219,000	\$36,300	\$0
Pleasant View Drive	N or S	Walton Avenue North to End of Road	1	Local	0.17	SIDEWALK	\$219,000	\$37,600	\$0
Perkin Crescent	N or S	Walton Avenue North to Pleasant View Drive	1	Local	0.26	SIDEWALK	\$219,000	\$56,400	\$0
<b>West Monkton</b>									
<b>North-South Roads</b>									
Nelson Street	E or W	Highway 23 to West Avenue	1	Local	0.20	SIDEWALK	\$219,000	\$44,100	\$0
King Avenue	E or W	Perth Line 55 to Fishleigh Street	1	Local	0.24	SIDEWALK	\$219,000	\$52,900	\$0
Brook Street	E or W	Erskine Street to Line 57	1	Local	0.55	SIDEWALK	\$219,000	\$119,700	\$0
<b>East-West Roads</b>									
Schade Street	N or S	Highway 23 to Perth Line 55	1	Local	0.70	SIDEWALK	\$219,000	\$153,000	\$0
Fishleigh Street	N or S	Highway 23 to King Avenue	1	Local	0.20	SIDEWALK	\$219,000	\$44,100	\$0
Jones Street	N or S	Brook Street to Highway 23	1	Local	0.14	SIDEWALK	\$219,000	\$31,800	\$0
Mill Street	N or S	Brook Street to Highway 23	1	Local	0.17	SIDEWALK	\$219,000	\$37,700	\$0
West Avenue	N or S	Nelson Street to Brook Street	1	Local	0.09	SIDEWALK	\$219,000	\$20,200	\$0
<b>Atwood</b>									
<b>North-South Roads</b>									
Queen Street	E	John Street to Line 75	1	Local	0.58	SIDEWALK	\$219,000	\$127,100	\$0
Queen Street	E	Fisher Avenue to Arthur Street	1	Local	0.28	SIDEWALK	\$219,000	\$62,200	\$0
King Street	E or W	Fisher Avenue to George Avenue	1	Local	0.28	SIDEWALK	\$219,000	\$62,200	\$0
Woodview Drive	E or W	Parkview Crescent to Parkview Crescent	1	Local	0.50	SIDEWALK	\$219,000	\$108,600	\$0
Ellen Street	W	Arthur Street to End of Road	1	Local	0.30	SIDEWALK	\$219,000	\$65,000	\$0
<b>East-West Roads</b>									
Elma Centre Street	N or S	Highway 23 to Woodview Drive	1	Local	0.26	SIDEWALK	\$219,000	\$55,900	\$0
Fisher Avenue	N or S	Highway 23 to End of Road	1	Local	0.42	SIDEWALK	\$219,000	\$92,700	\$0
George Avenue	N or S	Queen Street to Highway 23	1	Local	0.23	SIDEWALK	\$219,000	\$49,300	\$0
Arthur Street	N	Queen Street to King Street	1	Local	0.12	SIDEWALK	\$219,000	\$25,400	\$0
Parkview Crescent	N or S	Elma Centre Street to End of Road	1	Local	0.44	SIDEWALK	\$219,000	\$96,300	\$0
Arthur Street	N	Highway 23 to End of Road	1	Local	0.28	SIDEWALK	\$219,000	\$62,400	\$0



Table 2.3: Indicative Costs and Recommended Phasing of Proposed Sidewalk Improvements

Street	Side	Limits	Number of Sides	Road Classification	Length (km)	Improvement Type	Unit Cost (per km)	Indicative Cost/Phasing	
								Short (0 - 5 Years)	Long (+5 Years)
Baker Street	N or S	Ellen Street to End of Road	1	Local	0.16	SIDEWALK	\$219,000	\$34,300	\$0
John Street	S	Queen Street to End of Road	1	Local	0.20	SIDEWALK	\$219,000	\$42,900	\$0
James Street	N	Queen Street to End of Road	1	Local	0.19	SIDEWALK	\$219,000	\$42,300	\$0
David Street	N or S	King Street to Highway 23	1	Local	0.10	SIDEWALK	\$219,000	\$22,100	\$0
William Street	N or S	Queen Street to Highway 23	1	Local	0.20	SIDEWALK	\$219,000	\$44,100	\$0
<b>Total Sidewalk Improvements (Listowel North-South Roads)</b>								<b>\$1,573,800</b>	<b>\$368,500</b>
<b>Total Sidewalk Improvements (Listowel East-West Roads)</b>								<b>\$1,417,700</b>	<b>\$384,300</b>
<b>Total Sidewalk Improvements (West Monkton North-South Roads)</b>								<b>\$216,700</b>	<b>\$0</b>
<b>Total Sidewalk Improvements (West Monkton East-West Roads)</b>								<b>\$286,800</b>	<b>\$0</b>
<b>Total Sidewalk Improvements (Atwood North-South Roads)</b>								<b>\$425,100</b>	<b>\$0</b>
<b>Total Sidewalk Improvements (Atwood East-West Roads)</b>								<b>\$567,700</b>	<b>\$0</b>
<b>Total Sidewalk Improvements</b>								<b>\$4,487,800</b>	<b>\$752,800</b>