



Town of Grand Valley Transportation Master Plan

Town of Grand Valley

Final Report

March 2017





BURNSIDE

Town of Grand Valley Transportation Master Plan Study

Town of Grand Valley

**R.J. Burnside & Associates Limited
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**March 2017
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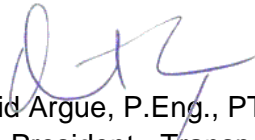
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Executive Summary

The Town of Grand Valley (formerly known as Township of East Luther and Village of Grand Valley) is predominantly a rural community located within Dufferin County. In 2011, the population of Grand Valley was 2,726 residents with employment of 695 jobs. The majority of residents reside in the Main Settlement Area (formerly known as Village of Grand Valley). The Town is planning for a population and employment growth to 7,478 residents and employment of 1,190 by 2031.

To understand the transportation implications and what the necessary infrastructure will be required to accommodate this growth, the Town of Grand Valley has undertaken their first Transportation Master Plan (“TMP”) Study. The TMP will provide guidance to develop a strategic transportation plan for long term growth within the Town up to 2031. The TMP will provide opportunities for the Town to:

- Develop a transportation network that maintains environmental, economic and social stability and sustainability.
- Review road and access options.
- Encourage and improve upon other modes of transportation including cycling and walking.
- Provide additions to the transportation network to improve connectivity, movement and access within the Town.
- Develop guidelines and polices for roadway infrastructure and land use to govern all future proposed development.

R.J. Burnside & Associates Limited (Burnside) was retained by the Town to facilitate the TMP study on their behalf.

The existing transportation road network consists of two main roads:

- Main Street North and Water Street within the Main Settlement Area, and County Road 25 north and south of the Main Settlement Area (north-south); and
- Amaranth Street (east-west)

The existing transportation network will not be able to accommodate traffic volumes for the anticipated growth to 2031.

Problem / Opportunity Statement

Issues will arise and become increasingly aggravated over the next number of years if no changes are implemented to the Town’s existing transportation network. The following problem / opportunity statement was developed to reflect potential challenges from a transportation perspective and the need for mitigation:

Grand Valley is identified to grow to a population of over 7,478 residents and employment of 1,190 jobs by 2031, which will result in an impact on the transportation network.

The TMP will accommodate future population and employment growth and projected transportation demands up to the year 2031. The transportation network will promote increased alternative modes including walking and cycling to promote healthy citizens. It will be accessible to all users in a safe and efficient manner. The transportation system will complement adjacent jurisdictions' road networks and accommodate the Grand Valley By-pass envisioned in the Town's Official Plan.

Master Planning Process and Study Approach

The study was undertaken according to the Master Plan Process outlined in the Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011, and 2015), as approved under the *Ontario EA Act*. The Master Plan will address Phase 1 and 2 of the Municipal Class EA process, which are:

- Phase 1 - Identify the problem (deficiency) or opportunity.
- Phase 2 - Identify alternative solutions to address the problem or opportunity by taking into consideration the existing environment, and establish the preferred solution taking into account public and review agency input.

Public consultations were carried out in each phase and a wide range of stakeholders, including review agencies and organizations. Indigenous communities were identified and contacted at the onset of the study. For EA Phase 1, consultation involved the circulation of the Notice of Commencement advising the purpose and rationale of the study, and invited all to provide comments or share potential concerns regarding the project. As part of Phase 2 consultation, a Public Information Centre #1 (PIC #1) was held on Tuesday, May 31st, 2016, to present and receive public input regarding the project. In addition, the draft Transportation Master Plan Study was circulated to area developers and some took the opportunity to provide comments. The discussions and comments obtained from PIC #1 and input from agencies, Indigenous communities, and consultation with interested parties aided in establishing the transportation network alternatives to be reviewed.

Existing Conditions

All roads are currently under the jurisdiction of the Town with the exception of County Road 109, County Road 10, County Road 15, and County Road 25, which are under the jurisdiction of the County. Outside of the Main Settlement Area, the roads are hard-surfaced or gravel 2-lane roads. Roads within the Main Settlement Area are paved 2-lane road with sidewalks provided in certain areas. The existing road network is operating within capacity.

There were three intersections within the Main Settlement Area that were analyzed in further detail at the intersection level. The three intersections were:

- Amaranth Street East / Main Street North
- Main Street North / Mill Street
- Water Street / Melody Lane

Under existing conditions, during both weekday AM and PM peak hours, all studied intersections and road segments are operating with excess capacity.

In terms of the existing parking supply, the Town currently has a sufficient supply to serve existing businesses within the downtown core. The majority of the designated municipal parking lots are unmarked and unpaved. On-street parking is only prohibited on streets with “No Parking” signs. Parking is also prohibited on all roads from 2:00 AM to 6:00 AM during the winter time, which is the 15th of November to the 15th of April.

Active transportation is encouraged by the County and Town’s OPs. Existing active transportation facilities were evaluated and the results showed that there is some missing sidewalk infrastructure in the northeast portion of the Main Settlement Area.

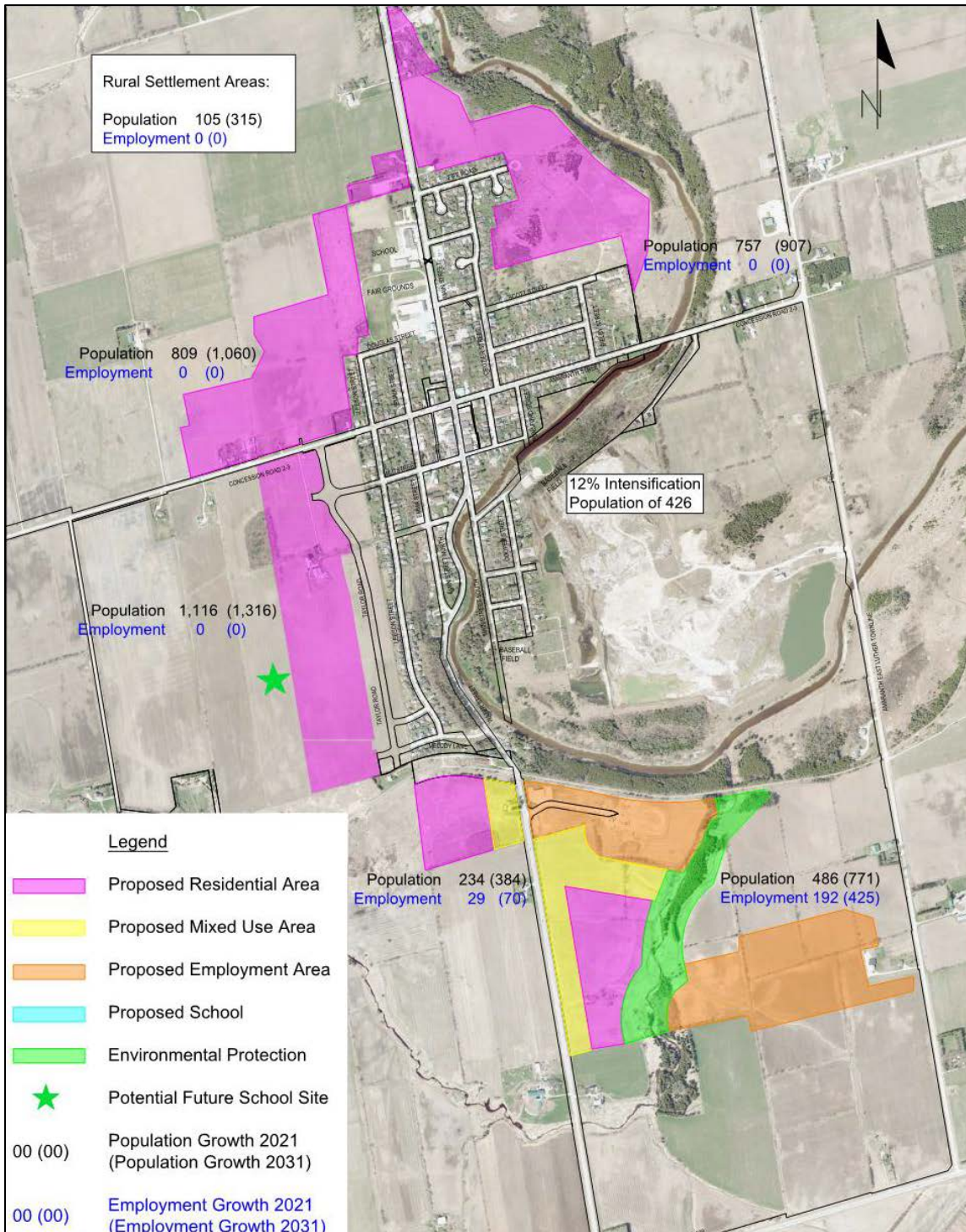
Future Conditions

To assess the future road network, the transportation network was analyzed for two horizon years (2021 and 2031). Population and growth in the areas within the Town were determined through consultation with Town staff, considering development applications and other Town documents. Executive Figure 1 illustrates the future population and employment distribution, and proposed land uses, expected in each quadrant of the Main Settlement Area, under both horizon years.

Future traffic conditions were determined considering the potential background traffic growth and traffic associated with new development in the Town. Traffic was assigned on a screenline basis with a detailed review at the three study intersections noted above.

Anticipated development by 2021 can be accommodated by the existing road network with the exception of the Amaranth Street / Main Street intersection where the traffic volume is projected to exceed capacity and experience higher delays. The existing infrastructure at the intersection will not be sufficient to accommodate the expected traffic growth from new developments and background traffic. Additional infrastructure will be needed in the long term to provide alternative routes for traffic.

Executive Figure 1: Future Population and Employment Distribution



To accommodate the Town’s growth plans to 2031, improvements are required to the transportation system as there will be insufficient capacity on certain segments of the road network. Without these improvements, there will not be sufficient capacity to

accommodate the traffic demand between the Main Settlement Area and County Road 109 and there will be operational problems at intersections within the Main Settlement Area. In addition, Water Street has experienced flooding in the past during the spring thaw in the area adjacent to the Grand River. This resulted in traffic utilizing local streets that are not designed to handle additional traffic. There are also other opportunities to improve and enhance the transportation system.

The Town, outside of the Main Settlement Area, will have limited growth and as such roadways will continue to function similar to existing conditions. The challenges will be between the settlement area and County Road 109 and within the settlement area.

Opportunities were explored to accommodate for future growth by implementing additional cycling routes, connectivity between the transportation system and facilities, pedestrian friendly intersections, innovative pavement markings and fixed time pedestrian phases.

It will be necessary to continue to provide for parking opportunities for residents and businesses within the Town.

Proposed Alternative Road Network

The following alternative solutions were identified to address the problem and opportunity statement:

- Alternative 1 – “Do Nothing”
 - Under the ‘Do Nothing’ solution, improvements would only consist of ongoing regular maintenance of the existing roadway network. There would be no additional roads, or active transportation improvements beyond what is being proposed by development applications submitted to the Town.
- Alternative 2 – Introduction of an additional North-South Collector
 - One of the key improvements in this alternative is the introduction of a collector road. The collector road utilizes future development areas to create a road that circles the Main Settlement Area. A connection is proposed between Water Street and Amaranth East Luther Townline that would provide east-west connectivity. Upgrades to Amaranth East Luther Townline between County Road 109 and the employment lands would be required to facilitate traffic to / from the employment lands and provide an alternative to County Road 25.
 - This option provides alternative routes for traffic to spread demand and provide connectivity within the settlement area.

- Alternative 3 – Use West bypass as an additional North-South Collector
 - This alternative improves upon the existing Sideroad 27 & 28 as a collector road. Concession Road 4/5 provides a connection back to County Road 25. East-west connections from the Main Settlement Area would be provided to the collector road. This alternative reflects one of the truck by-pass options shown in Schedule A-3 of the Town's OP. An east-west connection between County Road 25 and Amaranth East Luther Townline would be provided.
- Alternative 4 – Use East bypass as an additional North-South Collector
 - This alternative identifies the existing Amaranth East Luther Townline as a collector road between County Road 109 and County Road 10. This alternative reflects one of the truck by-pass options shown in Schedule A-3 of the Town's OP. A local road network option is developed in the new development area around the Main Settlement Area.

Following PIC#1, three additional options were developed:

- Alternative 5 – Combination of Alternative 2 and 4
 - The combination of the proposed road network from Alternative 2 and Alternative 4 results in Alternative 5. A collector road is provided on the east side of the Main Settlement Area and through the new development areas.
- Alternative 6 – North-South Collector to County Road 109
 - This option maintains the collector road on the north and west sides of the settlement area; however, rather than swinging to Amaranth East Luther Townline, the collector road continues south to County Road 109 on the west side of County Road 25.
- Alternative 7 – Modification to Alternative 5 without the east bypass improvement
 - Alternative 7 was developed to address concerns raised regarding roads outside the settlement area and impacts of crossing the Boyne Creek between County Road 25 and Amaranth East Luther Townline.

The implementation of the preferred option or any of the alternatives above would require Phases 3 through 5 of the Environmental Assessment process to be undertaken.

The proposed collector road locations illustrated in the various alternative solutions are conceptual. Further refinement and the precise location of the proposed collector roads will be established through appropriate studies.

Evaluation of Alternative Solutions

The evaluation criteria used to assess how well each alternative solution would address the problem / opportunity statement, included the following:

Transportation

- Effective movement of people and goods
- Facilitating active transportation
- Traffic management
- Speed of traffic and safety measures that are appropriate to the urban context
- Impacts to vehicular level of service
- Maintain parking supply in the downtown core
- Provision for a safe and comfortable pedestrian and cycling environment
- Routing, walkability and short trips

Socio – Economic Environment

- Supports the existing and future potential businesses community
- Provide opportunity for planned growth
- Minimize capital and maintenance cost

Built Environment

- Impacts to existing and planned development
- Interface with streets to support adjacent land use

Land Use

- Supports existing and planned land use context
- Supports intensification of Land Use

Plan and Policy Management

- Meet growth management strategies defined by the Town's and County's Official Plans and other planning policy objectives

Natural Environment

- Impacts to the natural environment

The three following options ranked the same overall:

- Alternative 2
- Alternative 5
- Alternative 7

Alternative 2 and Alternative 7 are essentially the same with the only key difference being the alignment of the east-collector and where it crosses Boyne Creek at the south end of the settlement area. Alternative 5 builds upon Alternatives 2 and 7 in that a by-pass is provided around the main settlement area. This was the deciding factor in preferring Alternative 5, as it would accomplish the following:

- Meets objectives identified in the Town OP of providing a by-pass of the Main Settlement Area.
- Allows for through traffic on County Road 25 to utilize Amaranth East Luther Townline to by-pass the Main Settlement Area, which will reduce traffic volumes.
- Provides connectivity between the employment area along Amaranth East Luther Townline and the rest of the Main Settlement Area.
- Allows for trucks to by-pass the Main Settlement Area.

Recommended Transportation Network

Alternative 5, as shown in Executive Figure 2, illustrates the recommended road network. It allows for a collector road system within the new development area that builds around the Main Settlement Area and provides for a connection to Amaranth East Luther Townline. Amaranth Luther Townline is recommended to be upgraded between County Road 109 and County Road 10 to act as a by-pass to the Main Settlement Area, including a truck by-pass. Improvements at the County Road 25 / County Road 10 and Amaranth East Luther Townline / County Road 109 intersections are also recommended. In the area of Water Street in the new development on the south side of the Main Settlement Area, two alternatives are shown to accommodate an east-west collector road.

The proposed collector road locations illustrated are conceptual. An Option A and Option B is shown. The implementation of the preferred option would require Phases 3 through 5 of the Environmental Assessment process to be undertaken. Further refinement and the precise location of the proposed collector roads will be established through appropriate studies.

The Upper Grand District School Board has expressed interest in reserving a site within Phase 4 of Thomasfield's Mayberry Hill development, for a potential future new school. The school site could be located along the collector road.

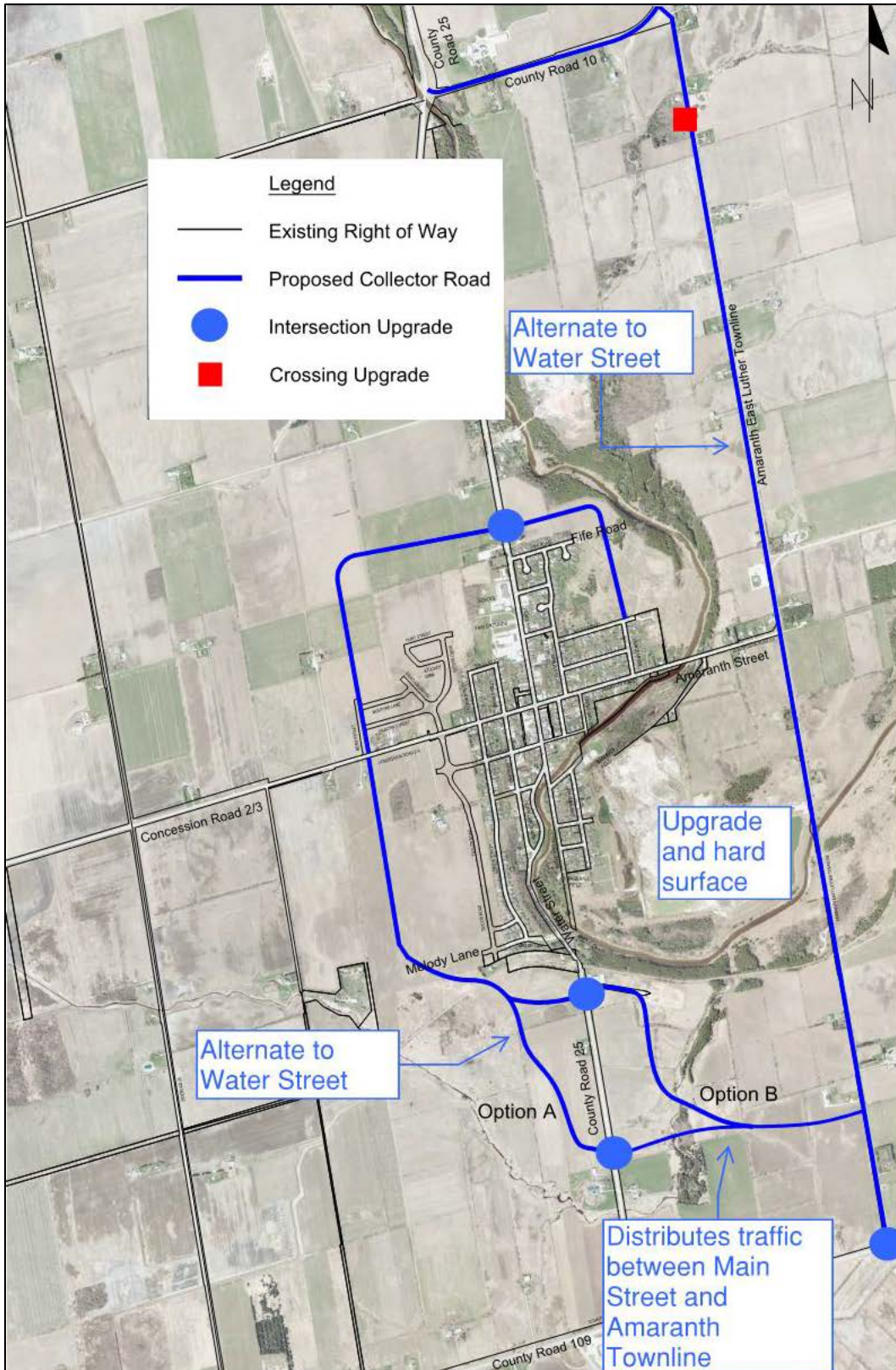
The Municipal authorities will require further consultation with each other to assess jurisdictional responsibilities should a road change in function.

The proposed Active Transportation network builds upon the recommendations in the County's DCATT with the recommended active transportation plan illustrated in Executive Figure 3. A paved shoulder is recommended east of Bielby Street on Amaranth Street East and continuing to Sideroad 5. As well, a paved shoulder is recommended north and south of the Settlement Area on County Road 25. In the Main Settlement Area, there will be signed bike routes on Main Street and Amaranth Street.

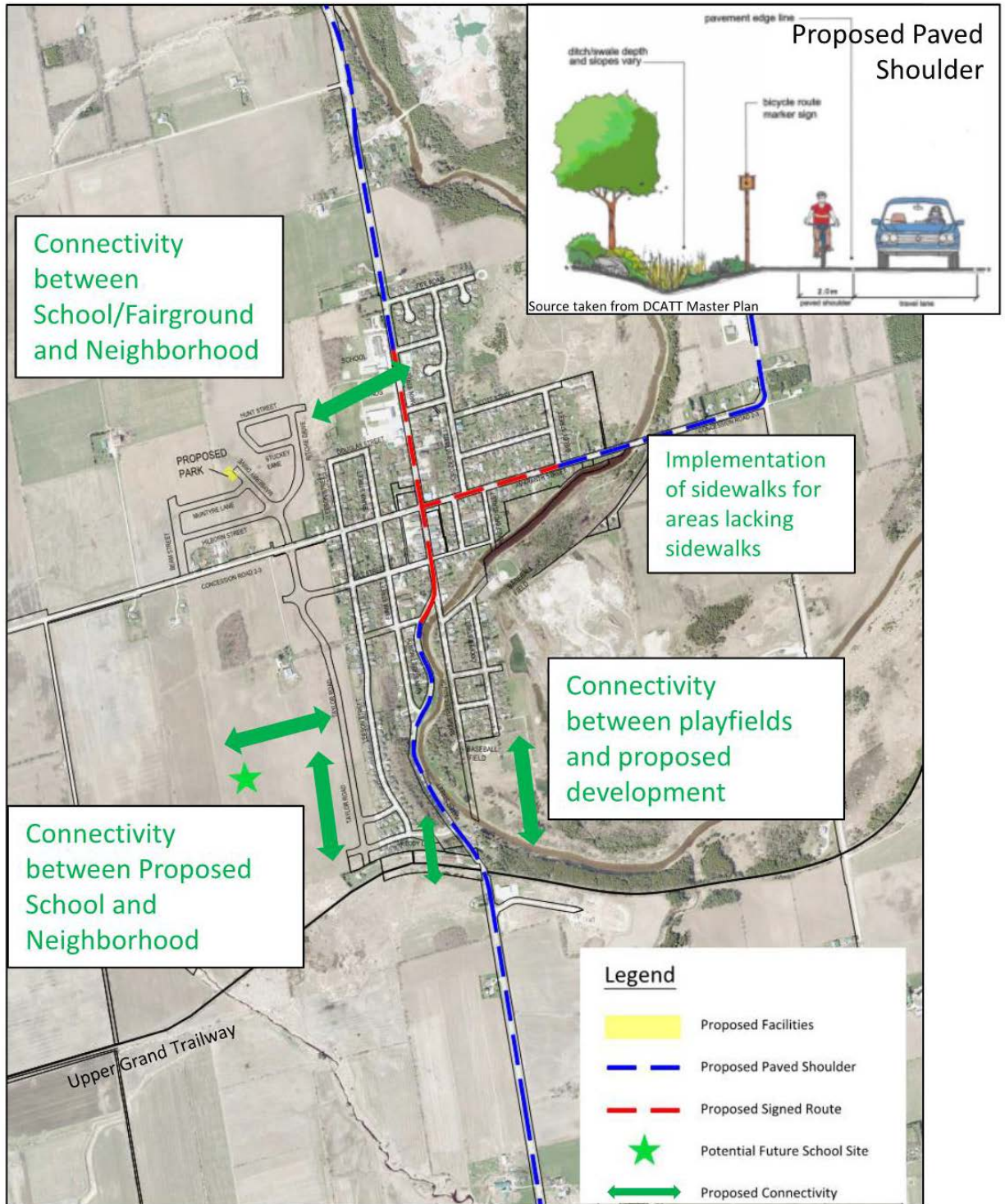
Connectivity will need to be provided between existing neighborhoods, proposed subdivisions, and other public facilities and institutions such as parks and schools. Details for the connectivity will be evaluated as development applications arise to ensure appropriate links between facilities and neighbourhoods.

The Town's Engineering Standards identify that sidewalks should be provided on both sides of all minor collector, collector, and arterial roads and local streets should have a sidewalk provided on one side of the street. These standards should be incorporated as a mandatory aspect to be examined when a development application is submitted.

Executive Figure 2: Preferred Transportation Road Network



Executive Figure 3: Proposed Active Transportation System



Linkages for the new development areas should be provided to the Upper Grand Trailway. Ultimately, it would be desirable to provide a pedestrian crossing of the Grand River in the south area of the Main Settlement Area when demand warrants. This would provide a secondary linkage to recreational facilities on the east side of the Grand River.

In the *Parking Strategies Report* prepared by the Town, anticipated future parking issues were addressed with a list of options as follows:

- Utilize the west rear lane parking lot by Amaranth Street / Main Street to provide for parking for business staff and apartments. This will free up spaces along the store frontage.
- Monitor real-estate sales of properties in disrepair along the east back lane of Amaranth Street / Main Street and consider them for future parking lots.
- Purchase land on the west side of King Street that backs onto the east back lane. The land can be used for future parking provided that the Town budgets for a higher premium per parking spot.
- Consider amendments to the planning and engineering documents to require additional parking spaces in conjunction with residential subdivisions where smaller frontage lots are provided, which limit the ability to provide on-street parking.
- Encourage common parking areas, wider units, and increased side yard setbacks to accommodate for parking in higher density development areas.
- Explore opportunities to encourage converting bank-barn and outdated farm infrastructure to encourage development of storage facilities for RVs, boats and trailers.
- Increased front yard setback to garages would lead to an increase in driveway length and therefore, increase in capacity on the driveway.
- Increase minimum lot requirement to provide more on-street parking. Proper signage for on-street parking will need to be established on one side of the street.
- Develop a target for the amount of street parking provided and require the submission of a parking plan for all future applications.
- Enforce parking infractions through Town initiatives and provide warnings that identify alternative parking for local businesses.

In addition, the Town's OP includes several policies that encourages on-street, shared, rear or side of building parking in the downtown core as well as within commercial, industrial and institutional developments. Improved regulations for on-street parking within the Town are needed where parking restricts the passage of vehicles. The Town could implement a restriction of on-street parking on one side of the road (not on the sidewalk side) where parking on-both sides of the street cause challenges with movement of traffic. This prohibition would better utilize the pavement and facilitate better traffic flow within Town.

The transportation policies and guidelines within the Official Plan were developed in order to meet the objectives of the Town. The existing Town policies and guidelines regarding transportation were reviewed with the following recommendations:

- Roadway Hierarchy:

Section 7.3 (a) in the Official Plan should add collector roads to the list of roads.

Also under Section 7.3, the following should be added: "Additional right-of-way or road allowance may be required to accommodate turning lanes or grading constraints". This would be applicable to all classifications of roadways.

- Transportation Demand Management (TDM) and Active Transportation:

The Official Plan should include a guideline on new developments, requiring them to provide active transportation facilities, such as sidewalk and trail connectivity and bicycle parking. Reference should be made to the County's DCATT for the need to meet the County's objectives.

- Roundabout and Traffic Calming Implementation

Currently, there are no protocols, guidelines or policies in regards to roundabout and traffic calming measures in the Town's documents (OP, by-laws or design guidelines). It is recommended that roundabout and traffic calming policies / guidelines be developed that include the following:

- It is recommended that roundabouts should be considered when:
 - A new intersection is proposed and forecasted traffic volumes warrant a traffic signal.
 - Improvements required at an existing intersection due to safety problems.
- Traffic calming is to be considered in new development applications and roadway reconstruction projects.

- Grand Valley By-Pass:

Section 7.7 and Schedule A-3 of the Official Plan should be amended to reflect a preferred alignment of the by-pass on the east side of the settlement area by utilizing Amaranth East Luther Townline and County Road 10.

The estimated capital cost of the transportation road network alternatives presented is summarized in Appendix E. For the preferred preliminary transportation network option for 2031, the approximate total cost is \$19,800,000. The collector road network is expected to be implemented as development proceeds. Improvements to the existing road network would need to be implemented between 2021 and 2031 and will depend upon the pace of development.

Currently, the DC By-law is collecting for upgrades to the road network, including a number of roads in the recommended transportation network. These upgrades include:

- Sideroad 3/4 and Sideroad 27/28 as a Downtown By-pass improved from gravel to surface treated and widened.
- Amaranth East Luther Townline improved from gravel to asphalt with guardrails from Amaranth Street to County Road 109.

It is recommended that additional funding be allocated to continue the upgrade of Amaranth East Luther Townline further north to County Road 10.

Table of Contents

1.0	Introduction	1
1.1	Description of the Study Area	1
1.2	Importance of a Transportation Master Plan.....	4
1.3	Master Planning Process and Municipal Class EA	4
1.3.1	Benefits of Integrating the Master Plan and Municipal EA Process .	6
1.4	Project Team Organization	6
2.0	Need and Justification	7
2.1	Problem / Opportunity Statement.....	7
3.0	Planning Overview	8
3.1.1	Provincial Planning Policies	8
3.1.2	Dufferin County Planning Policies	10
3.1.3	Town of Grand Valley Planning Policies	13
4.0	Public Consultations.....	17
4.1	Notice of Commencement	17
4.2	Public Information Centre (PIC#1)	18
4.3	Steering Committee	19
4.4	Key Landowner Involvement.....	19
5.0	Existing Transportation Conditions	20
5.1	Travel Demand Characteristics and Patterns	20
5.1.1	Socio-Economic Profile	20
5.1.2	Travel Characteristics.....	21
5.2	Existing Road Network.....	23
5.3	Existing Traffic Volumes	24
5.3.1	Screenline Analysis	24
5.3.2	Key Intersection Operations Analysis.....	26
5.4	Parking.....	30
5.5	Active Transportation Facilities	33
5.6	Trucks	36
5.7	Transit.....	36
5.8	Existing Natural Environmental Features.....	36
6.0	Future Growth and Travel Demand.....	38
6.1	Population and Employment Growth	38
6.2	Proposed Land Use	40
6.3	Transportation Plans – County and Town.....	40
6.4	2021 and 2031 Transportation Conditions	41
6.4.1	Traffic Growth.....	41
6.4.2	Key Intersection Operations Analysis.....	45
6.5	Proposed Parking	50
6.6	Proposed Active Transportation.....	51
6.7	Proposed Roundabouts and Traffic Calming Measures	53

6.7.1	Roundabouts	53
6.7.2	Traffic Calming Measures	54
7.0	Proposed Alternatives	55
8.0	Evaluation of Alternative Solutions	64
9.0	Recommended Transportation System.....	70
10.0	Monitoring the Plan	74

Tables

Table 1:	Demographic Characteristics	20
Table 2:	Percent Population Distribution by Age Group.....	20
Table 3:	Grand Valley Trip Origins and Destinations During AM Peak Period.....	23
Table 4:	Historical Counts Received from the County.....	24
Table 5:	Screenline v/c North/South and East/West Road Sections.....	26
Table 6:	Existing Unsignalized Intersection Operations.....	29
Table 7:	Municipal Parking Lot Summary	31
Table 8:	Grand Valley Minimum Road Allowances	41
Table 9:	Trip Distribution	42
Table 10:	2021 Screenline V/C Ratio.....	45
Table 11:	2031 Screenline V/C Ratio.....	45
Table 12:	Alternative Evaluation	65

Figures

Figure 1:	Site Location	2
Figure 2:	Future Land Use Designation (Figure A-2 in OP)	3
Figure 3:	Phase 1 and 2 of Municipal Class EA Process.....	5
Figure 4:	Draft Active Transportation Network for Grand Valley (Figure 4-7 and Figure 4-8 in DCATT)	12
Figure 5:	Roadway Classification in Grand Valley (Figure A-3 in OP)	15
Figure 6:	Grand Valley Vehicle Ownership	21
Figure 7:	2006 AM Peak Modes of Travel.....	22
Figure 8:	Existing Traffic Screenline Analysis	25
Figure 9:	Existing Lane Configurations	27
Figure 10:	Existing Traffic Volumes	28
Figure 11:	Downtown Parking Supply	30
Figure 12:	Existing Active Transportation Facilities.....	34
Figure 13:	Existing Trails in Town	35
Figure 14:	Environmental Features within Grand Valley	37
Figure 15:	Future Population and Employment Distribution.....	39
Figure 16:	Future 2021 Total Screenline Traffic Volumes.....	43
Figure 17:	Future 2031 Total Screenline Traffic Volumes.....	44
Figure 18:	Total 2021 Traffic Volumes	46
Figure 19:	Total 2031 Traffic Volumes	47

Figure 20: 2021 Intersection Operations48
 Figure 21: 2031 Intersection Operations49
 Figure 22: Proposed Active Transportation.....52
 Figure 23: Roundabout at Taylor Drive / Mill Street53
 Figure 24: Traffic Calming Measures on Taylor Drive.....54
 Figure 25: Alternative 1 – “Do Nothing” Road Network.....56
 Figure 26: Alternative 2 – Introduction of an additional North-South Collector Road
 Network57
 Figure 27: Alternative 3 – West by-pass as an additional North-South Collector Road
 Network59
 Figure 28: Alternative 4 – East by-pass as an additional North-South Collector Road
 Network60
 Figure 29: Alternative 5 – Combination of Alternative 2 and 461
 Figure 30: Alternative 6 - North South Collector, West of Taylor62
 Figure 31: Alternative 7 - Modification to Alternative 5.....63

Appendices – Separate Document

- Appendix A Public, Review Agency, Key Landholder and Indigenous Communities
 Consultation
- Appendix B Transportation Data
- Appendix C Transportation Operation
- Appendix D Grand Valley Parking Strategies Report
- Appendix E Cost Estimation

Abbreviations

The following summarizes abbreviations that are utilized within this report:

- AADT — Average Annual Daily Traffic
- County — County of Dufferin
- DCATT — Dufferin County Active Transportation and Trails Master Plan 2010
- DC By-law – Development Charge By-law
- EA — Environmental Assessment
- LOS — Level of Service
- MTO — Ministry of Transportation of Ontario
- Town OP — Grand Valley Official Plan
- PIC — Public Information Centre
- PPS — 2014 Provincial Policy Statement
- Town — Town of Grand Valley
- TTS — Transportation Tomorrow Survey
- TMP — Transportation Master Plan
- v/c — volume to capacity ratio

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1.0 Introduction

To guide growth, the Town of Grand Valley has undertaken their first Transportation Master Plan (“TMP”) study to guide the needs of a transportation system to meet long term growth within the Town up to 2031. The TMP provides a guide and strategic plan for transportation needs, governing policies, land use decisions, and requirements of infrastructure and services to accommodate for population, employment and economic growth in the area. The TMP explores ways of maintaining environmental stability and recommends improvements for all modes of transportation, which include walking, cycling, and automobiles. In addition, the plan acts as a framework and foundation for the future transportation network system to provide better connectivity, accessibility and linkages.

R.J. Burnside & Associates Limited (Burnside) has facilitated the TMP on the Town’s behalf.

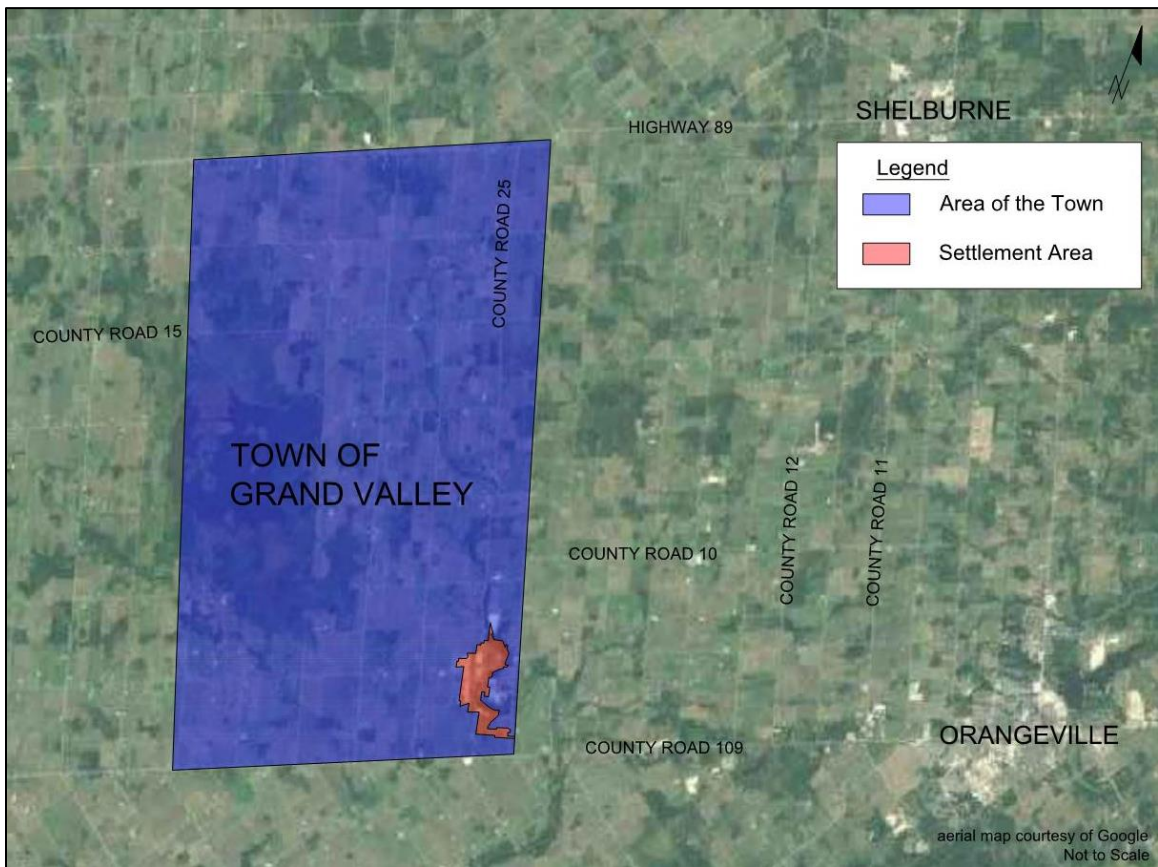
1.1 Description of the Study Area

The Town (formerly known as the Township of East Luther and Village of Grand Valley) is predominantly a rural community with 2,956 residents in 2016 and 695 jobs in 2011. Located within Dufferin County, the Town is bounded by Highway 89 to the north, County Road 109 to the south, East Luther-West Luther Townline to the west and Amaranth East Luther Townline to the east.

The location of the Town is illustrated Figure 1.

The majority of residents reside in the Main Settlement Area (formerly known as the Village of Grand Valley) surrounding the Main Street and Amaranth Street intersection. The Main Settlement Area has one main north-south road (Main Street North and Water Street) and one main east-west road (Amaranth Street). Water Street runs parallel to the Grand River, which is located east of Water Street. This limits the access of residents to / from the east. As a result, development has predominantly occurred along the west side of the Grand River.

Natural features within the Town include the Luther Marsh Wildlife Management Area that covers over 10,000 acres and contains Luther Lake. The Grand River flows from the north to the south through the Town and Main Settlement Area. The Grand River occasionally experiences flooding during the spring time, leading to the periodic closure of Water Street. During these flooding incidents, traffic needs to divert onto the local street system, which has not been designed to accommodate the traffic volumes or heavy vehicles.

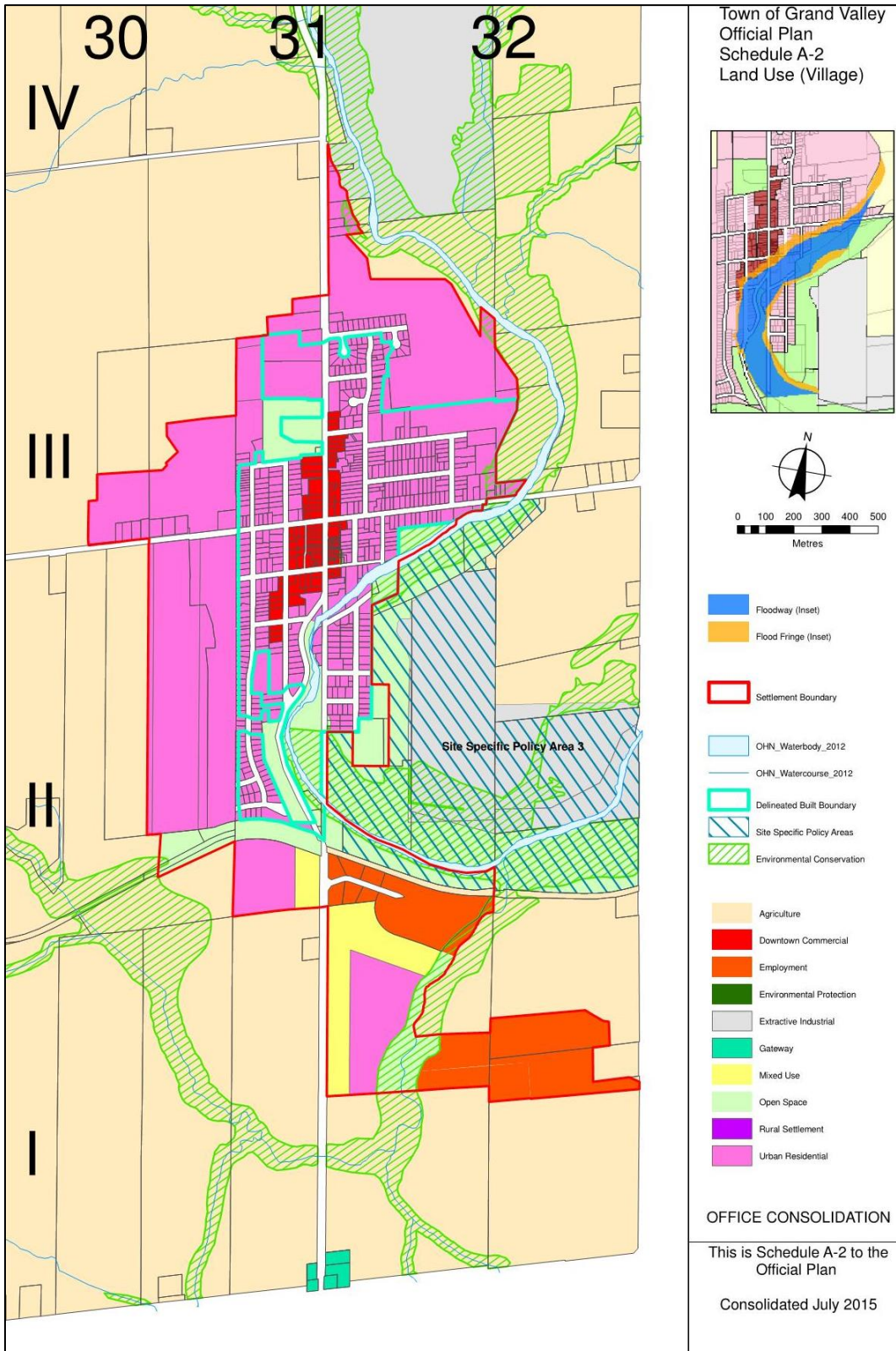
Figure 1: Site Location

The Town is anticipating population and employment growth to 7,478 residents and 1,190 jobs by 2031. The majority of the population and employment will be accommodated within the Main Settlement Area, according to the Official Plan (OP). Future land use designations for the Main Settlement Area are provided in Figure 2, which is an excerpt of Figure A-2 from the OP.

Employment areas will be located within the southeast section of the Main Settlement Area, while a large proportion of future urban residential areas will be located in the northeast, northwest, and southwest of the Main Street / Amaranth Street intersection.

The future land use designation map outlined by the Town respects and reserves the natural environmental functions and features.

Figure 2: Future Land Use Designation (Figure A-2 in OP)



1.2 Importance of a Transportation Master Plan

Grand Valley's first long-term Transportation Master Plan has been initiated to provide guidance for the Town's transportation decision making in the next 10 to 15 years. This framework will provide an opportunity to allow the Town to:

- Develop an environmentally, economically, and socially sustainable transportation network.
- Review all road and access options within the Town.
- Encourage and plan for roads that will facilitate an improved pedestrian, cyclist and motor vehicle travel environment in connection with residential and employment uses.
- Provide additional network to improve connectivity, movement and access in the area.
- Development of guidelines and policies for roadway infrastructure and land use that will govern future proposed developments.

1.3 Master Planning Process and Municipal Class EA

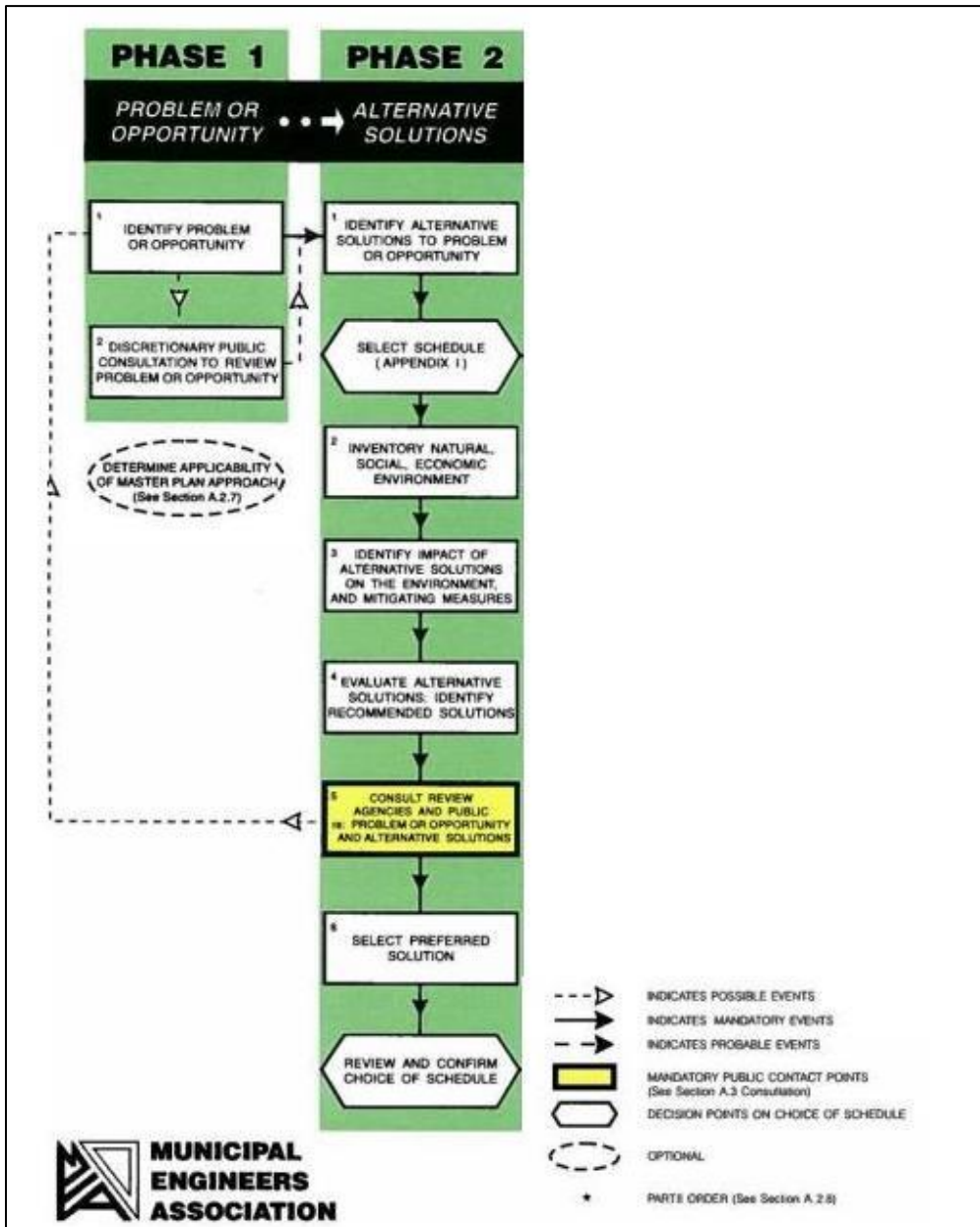
Burnside followed a comprehensive planning and design process in order to accommodate for the future population and employment proposed in the Town's Official Plan. The study has been undertaken in accordance with the Master Plan Process outlined in the Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011, and 2015), which is approved under the *Ontario EA Act*.

The Municipal Class EA document outlines a Master Planning Process that can be followed by municipal proponents. A Master Plan is a long range plan that ties together the various needs of an overall system, such as a stormwater management system, water system, or a road network. Typically, a Master Plan is comprised of a set of separate projects that are dispersed geographically over a broad study area and are to be individually implemented over an extended period of time. At a minimum, Master Plans must address Phases 1 and 2 of the Municipal Class EA Process, which are as follows:

- Phase 1 - Identify the problem (deficiency) or opportunity.
- Phase 2 - Identify alternative solutions to address the problem or opportunity by taking into consideration the existing environment, and establish the preferred solution taking into account all stakeholders including the public and review agencies.

A flow chart shown in Figure 3 portrays Phase 1 and 2 of the Municipal Class EA Process.

Figure 3: Phase 1 and 2 of Municipal Class EA Process



The TMP was initiated through a Notice of Commencement posted on the Town website in January 2016 and published in the Orangeville Citizen on January 28, 2016.

The Grand Valley TMP followed Approach 1 of the Master Plan process. This approach involved the preparation of a Master Plan document at the conclusion of Phases 1 and 2 of the Municipal Class EA process. The Master Plan document is made available for public comment prior to being approved by the municipality. The Master Plan is undertaken at a broad assessment level and more detailed investigations are

Town of Grand Valley Transportation Master Plan Study
March 2017

undertaken at the project specific level for individual recommended improvements, to satisfy the Municipal Class EA documentation requirements for Schedule B and C projects.

Requests for an order to comply with Part II of the *Environmental Assessment Act* would be possible only for those projects identified in the Master Plan, which are subject to the Municipal Class EA, and not the Master Plan itself.

1.3.1 Benefits of Integrating the Master Plan and Municipal EA Process

The integration of the Master Plan process with the Municipal Class EA process allows the Town of Grand Valley to holistically and comprehensively evaluate all alternatives in an inter-connective manner. The scope of work for this assignment entailed addressing the development, environmental and public / agency participation with the functional and technical aspects associated with all proposed roads. This integrated approach allowed for the examination of land use and transportation planning within the Town and future development blocks. The process included public and external agency consultation, an evaluation of alternative solutions, alternative designs, the identification of a preferred design, an assessment of potential impacts associated with proposed improvements and the formulation of measures to mitigate identified impacts.

1.4 Project Team Organization

This study has been carried out pursuant to the Municipal Class EA process by a Project Team consisting municipal and consultant staff led by Burnside with the County in an advisory role. In addition, a number of external regulatory agencies, adjacent property owners (i.e. development groups) and other stakeholders have participated throughout the process. Each of the participants has provided input throughout, and has therefore played an integral role in the planning and decision-making process. Key staff involved in the study included:

Town of Grand Valley

- Jane M. Wilson, C.A.O., CAO / Clerk-Treasurer
- Tracey Atkinson, BES, MCIP, RPP, Planner
- Glenn Sterrett, Public Works Superintendent
- Jeff Bunn, MPS, Deputy Clerk

R.J. Burnside & Associates Limited

- David Argue, P. Eng., PTOE, Consultant Project Manager
- Cindy Chung, EIT, Transportation Planner
- Jennifer Vandermeer, Advisor

Dufferin County (Advisor)

- Scott Burns, P. Eng., C.E.T., Director of Public Works

2.0 Need and Justification

2.1 Problem / Opportunity Statement

Phase 1 of the Municipal Class Environmental Assessment requires a problem or opportunity statement to be identified. To identify a strategy, the following problem / opportunity statement was developed:

Grand Valley is identified to grow to a population of over 7,478 residents and employment of 1,190 jobs by 2031, which will result in an impact on the transportation network. The TMP will accommodate future population and employment growth and projected transportation demands up to the year 2031. The transportation network will promote increased alternative modes including walking and cycling to promote healthy citizens. It will be accessible to all users in a safe and efficient manner. The transportation system will complement adjacent jurisdictions' road networks and accommodate the Grand Valley By-pass envisioned in the Town's Official Plan.

"Grand Valley is envisioned to be a community that is planned, designed, constructed and maintained to support all users and to facilitate all modes of transportation. Furthermore, the Town hopes to foster an environmentally and financially sustainable and accessible transportation network leading to a better quality of life."

3.0 Planning Overview

3.1.1 Provincial Planning Policies

Pursuant to the *Planning Act (2006)*, the Province of Ontario is the primary planning authority in Ontario. The Planning Act enables the Province to delegate some of its planning authority to the upper-tier municipalities while retaining control through the approval process. Municipalities must conform to the approved policies of the Provincial government and its agencies. Matters of provincial interest, as discussed in the *Planning Act*, include the protection of the natural environment, the provision of educational, health, transportation services, the financial well-being of the municipalities and the provision of a range of housing types.

There are several provincial policies affecting this project. Details regarding policies directly affecting the proposed developments are summarized below.

3.1.1.1 Provincial Policy Statement, 2014

The 2014 Provincial Policy Statement (PPS) is the complimentary policy document to the *Planning Act*, issued under Section 3 of the *Planning Act*. It provides policies regarding land use planning and development that are associated with the provincial interest.

The PPS states that municipal projects should be directed to existing settlement areas, create stronger and improved communities, and have little to no impact on the natural features of the area. In general, projects should have consideration for future needs to ensure the benefits of the project are far-reaching. Section 1.6 of the PPS contains specific guidance on Infrastructure and Public Service Facilities. Within Section 1.6, subsection 7 and 8 pertains to policies regarding transportation systems and corridors, respectively. The policies described are as follows:

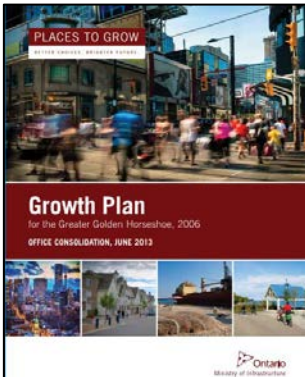
- 1.6.7.1 Transportation systems should be provided which are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address projected needs.
- 1.6.7.4 A land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support current and future use of transit and active transportation.
- 1.6.8.1 Planning authorities shall plan and protect corridors and rights-of-way for infrastructure, including transportation, transit and electricity generation facilities and transmission systems to meet current and projected needs.
- 1.6.8.2 Major goods movement facilities and corridors shall be protected for the long term.

- 1.6.8.3 Planning authorities shall not permit development in planned corridors that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified.

New development proposed on adjacent lands to existing or planned corridors and transportation facilities should be compatible with and supportive of, the long-term purposes of the corridor and should be designed to avoid, mitigate or minimize negative impacts on and from the corridor and transportation facilities.

There are several other sections within the PPS that influence transportation systems and should be considered during the planning process. The improvements made to public infrastructure for the TMP will remain consistent with PPS.

3.1.1.2 Growth Plan for the Greater Golden Horseshoe, 2006



“The Growth Plan for the Greater Golden Horseshoe (GGH)” was developed under the Places to Grow Act, 2005. This document provides guidance to manage and direct long term growth and infrastructure planning in the GGH. The plan designates Dufferin County as part of the outer ring. Within the outer ring, small cities and towns are targeted to “maintain or move significantly towards a minimum of one full-time job per three residents within or in the immediate vicinity of the small city or town” (Growth Plan, 2006). Schedule 3 of the Growth Plan identifies a population allocation of 80,000 people and employment allocation of 27,000 for Dufferin County by 2031.

Additionally in Section 3.2.2 of the Growth Plan, policies regarding the transportation system within the GGH are provided as follows:

- Providing, encouraging and offering connectivity in all modes of transportation (transit, cycling and walking).
- Ensure sustainability (financially and environmentally) and safety of all users.
- All transportation investment, transportation system and land use planning will be co-ordinate to implement the Growth Plan.
- When planning for a development (existing or new), all public agencies and municipalities will:
 - Identify and protect corridors to meet existing and projected needs;
 - Support the use of multi-modal, where feasible;
 - Increase the use of rail, where appropriate;
 - Separate modes of travel within corridors, where appropriate;
- Develop and implement transportation demand management policies within the Municipalities official plan and other planning documents.

Although Grand Valley is not identified as an urban centre, growth is still expected and will drive the need for transportation improvements.

The underlying philosophy behind the Growth Plan is to intensify the existing built-up areas and maximize the use of existing infrastructure in the GGH. A major component to the Growth Plan vision is the proposed transportation network for the GGH that focuses on a multi-modal approach to moving people and goods. As a result, the study takes into consideration the policies of the “Places to Grow” Growth Plan for the Greater Golden Horseshoe.

3.1.2 Dufferin County Planning Policies

Dufferin County and its constituent municipalities, including the Town of Grand Valley, are expected to experience significant growth over the next two decades. To remain consistent with the provincial planning policies and growth, the County has implemented several policies that address the provincial needs, while ensuring the benefits of the County. A discussion of all plans and policies relevant to the study area are provided below.

3.1.2.1 Dufferin County Official Plan, 2015

The County of Dufferin Official Plan (Dufferin OP) was approved on March 25, 2015. The document incorporates policies from the Provincial Policy Statement (2014), and conforms to the Growth Plan for the Greater Golden Horseshoe (GGH). The purpose of the Dufferin OP is to:

- Establish an upper-tier planning framework.
- Provide a 20 year horizon planning and growth development framework to accommodate for the forecasted population and employment growth.
- Ensure logical, efficient and cost effective distribution of land use and infrastructure.
- Implement policies to encourage economic development and improve the quality of life, health, safety and welfare of present and future residents in the County.



The Dufferin OP provides detailed guidance for the transportation system in order to establish a comprehensive and efficient transportation system to move people and goods. The main objectives related to transportation include:

- Optimize the use of existing infrastructure and public facilities.
- Protect and develop corridors and rights-of-way for transportation and transit infrastructure to accommodate for existing and projected needs.
- Support and encourage active transportation to promote the development of a healthy, safe and complete community.

Details for the implementation of trails and active transportation opportunities are found in the Dufferin County Active Transportation Master Plan, 2010.

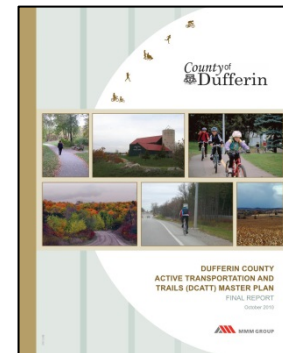
3.1.2.2 Dufferin County Road Network Rationalization Plan (RNRP) Phase 1 - Rationalization Study, 2015

The County was undertaking a county-wide road network rationalization plan, which assessed roadways and structures including bridges and large culverts. The project was to be completed in two phases. Phase 1, the Rationalization Study, was completed by C.C. Tatham & Associates Ltd. in May of 2015. However, County Council terminated the study and Phase 2 never commenced.

3.1.2.3 Dufferin County Active Transportation and Trails (DCATT) Master Plan, 2010

The County recognizes the importance of supporting trail and active transportation, resulting in the establishment of an Active Transportation and Trails Master Plan. The following goals were set to accommodate all forms of active transportation facilities on a broader scale:

- Build upon existing active transportation infrastructure and provide linkages for larger urban areas.
- Develop a network for people of all ages and abilities, and allow the use of facilities for both recreational and utilitarian purposes.
- Increase the usage of active transportation and trail use.
- Support on and off-road facilities within urban and rural areas.
- Derive effective public consultation methods to engage the public on their opinions of future active transportation and trails development.



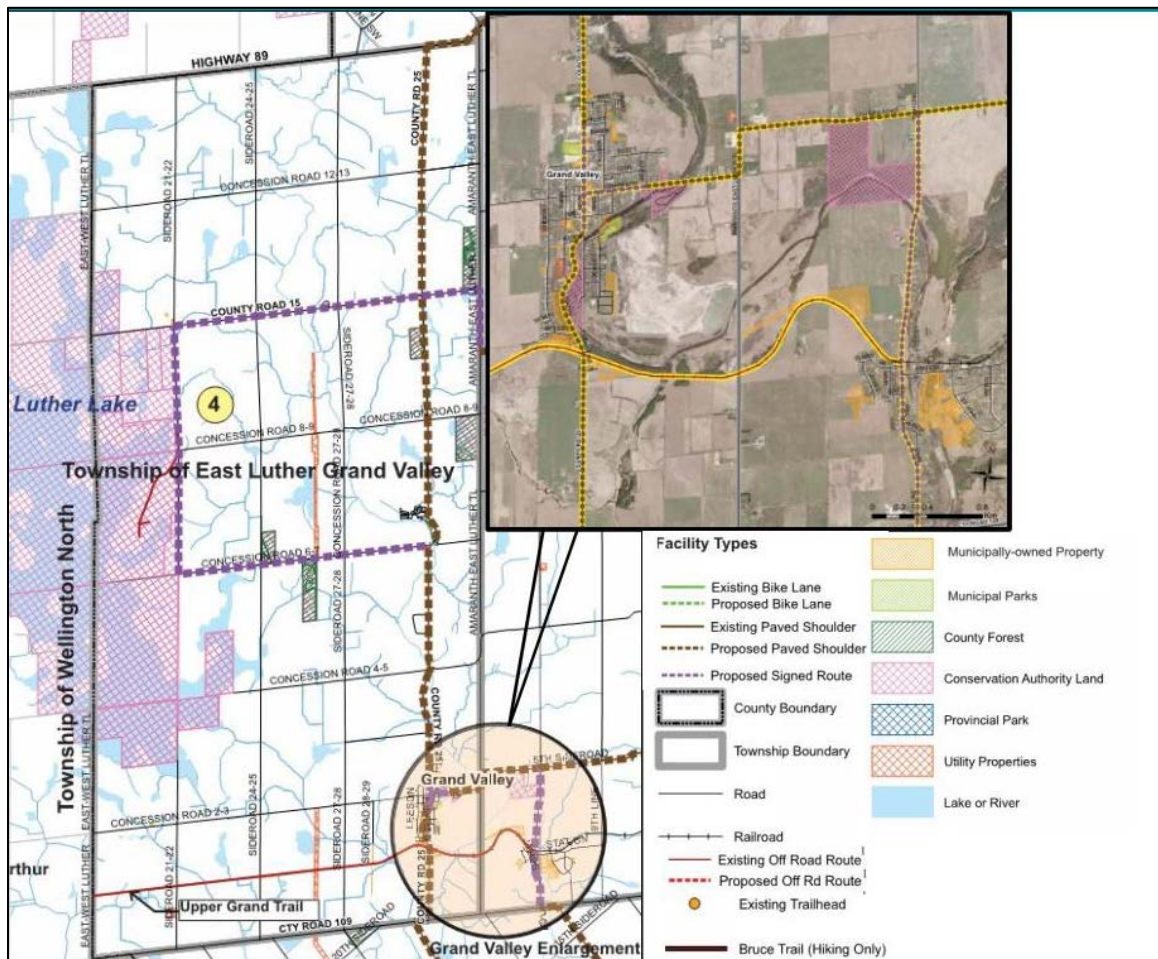
In order to meet the set goals, recommendations were provided in the DCATT. The recommendation that pertained to the TMP includes:

- Encourage local municipalities to incorporate walking and cycling review in their planning policies.
- Connecting all communities within the County and other counties and municipalities.
- Support local municipal tourism, active transportation and recreation network by enhancing cyclist and pedestrian facilities.
- Review gravel road segments for upgrade to hard surface and appropriate improvements.
- Require support from local municipalities to:
 - ensure that the county wide network is contiguous with the local network;
 - obtain input on progress and funding of certain projects;
 - determine priorities of network improvements within the local communities;
 - develop a cooperative maintenance strategy;
- Promote a healthy lifestyle by walking and cycling;

- Educate others regarding safety when walking and cycling (enforcing proper rules for pedestrians and cyclists).

From the recommendations, the County developed a draft active transportation network. For Grand Valley, the draft active transportation network is illustrated in Figure 4, which is a combined excerpt of Figure 4-7 and Figure 4-8 from the DCATT.

Figure 4: Draft Active Transportation Network for Grand Valley (Figure 4-7 and Figure 4-8 in DCATT)



As seen from the figure, along County Road 25 / Main Street North and Amaranth Street east there are proposed signed route and paved shoulder.

Signed routes are mainly implemented on roads where traffic volumes and speeds are low, such as quieter residential streets or lower volume rural roads. Signs can be erected to allow cyclists and motorists to share the road. Whereas paved shoulders are typically found on rural roads where traffic volumes and speeds are moderate to high, pedestrians and cyclists can use the provided space where necessary.

The recommendations in DCATT will act as a guideline to enable the Town to expand their active transportation network. The continuing development and placement of, on-road and off-road trails and hiking routes has been reviewed and incorporated in the TMP.

3.1.3 Town of Grand Valley Planning Policies

There are several documented planning policies established by the Town to guide future development to areas where growth can be optimized and environmental impact can be minimized.

The Town intended for these documents to form a decision making foundation for Council and other government agencies, while remaining consistent with the planning policies stated by the Province and Dufferin County. A discussion of all plans and policies relevant to the study area are provided below.

3.1.3.1 Grand Valley Official Plan, July 2015

The Town of Grand Valley Official Plan (Town OP) was adopted by Town Council in 2006 and was last consolidated in July 2015. It provides a policy framework for guiding growth and development to 2031. The Town's OP states:

“The basic intent of the OP is to guide future development to areas where it is most suited and advantageous with the majority of population and employment growth being directed to the Settlement Areas, and to protect the resources of the Town in order to allow for their continued value, availability and enjoyment.”

There are three fundamental principles that the Town OP is based upon:

- “The protection of agricultural community and resources, and the preservation of character, culture and agricultural land base;
- Development in the settlement area;
- Maintenance of environmental features of the Town including Luther Marsh and Grand River in their natural state for the enjoyment of future generation”.

As part of the Town's growth management plans, the Town's population is expected to reach 7,478 and 1,190 jobs by year 2031. The Town has identified the majority of the growth to occur in and around the Main Settlement Area. The Town strives to manage the projected growth by reinforcing the concept of a complete community. A complete community ensures that present and future resident needs for a daily living are met by providing convenient access to an appropriate mix of jobs, local services, and a full range of affordable housing, recreation and open space. Moreover, it involves connecting the community with the use of all forms of transportation including walking and cycling, while ensuring that all roadways are maintained to municipal standards.

Town of Grand Valley Transportation Master Plan Study
March 2017

Schedule A-3 within the OP depicts the hierarchy of roads such as Provincial Highways, County, Secondary and Local roads within Grand Valley. The Schedule is shown in Figure 5.

The Town has defined standards for the different classification of roads with all roadways designed to maintain municipal standards and design criteria as stated in the OP. For County roads, a minimum 30.5 metres road allowance is required and all access to a County Road must be in accordance with County policies and design criteria. Town and concession roads require a minimum road allowance of 26 metres. However, in certain areas, a wider road allowance may be needed due to grading and slope stabilization. Local roads within subdivisions and the Settlement Area are to have a minimum road allowance of 20 metres unless a lesser road allowance is appropriate to serve a development.

Section 7.6 of the Town OP identifies that the Town is to review and assess existing roads and intersections to improve upon grades, alignments, sight distance, access, traffic flow, and infrastructure conditions. Both roads and bridges are to be monitored for repair or replacement.

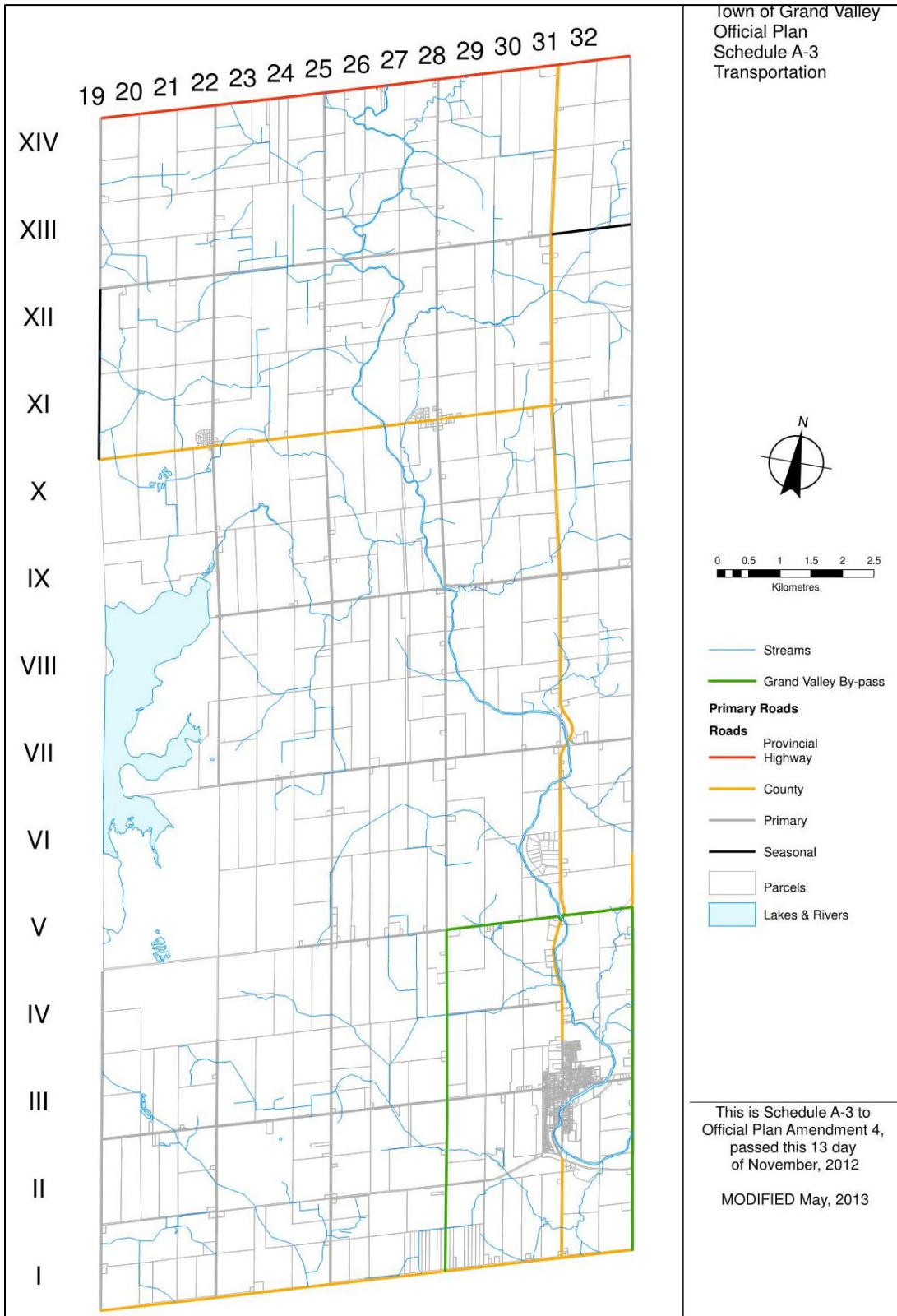
As County Road 25 traverses through the main settlement area, the Town OP identifies some options for a by-pass around the settlement area to address traffic volumes and truck traffic. With the expected intensification, there will be the need for additional and / or improved arterial and collector roads with amendments to Schedule A-3.

The Town OP also provides several guiding policies with respect to parking including:

- Maintaining and encouraging on street parking, and parking in the central and rear yards in the downtown core.
- The use of shared parking and parking to the rear or side of buildings should be considered for commercial, industrial and institutional development.
- Central parking lots in the rear yards shall be encouraged for mixed land uses. The parking lots are expected to be adequately landscaped and provide convenient pedestrian access.
- For land designated as Rural Employment, small parking areas may be provided in the front yard; however, large parking areas are to be located to the side or rear of buildings with appropriate screening and landscaping.

The recommendations of the TMP will be based upon policies and schedules set forth by the Town's Official Plan. Findings from the TMP will be utilized as input for future updates to the Official Plan.

Figure 5: Roadway Classification in Grand Valley (Figure A-3 in OP)



3.1.3.2 Grand Valley 2016 Development Charges Update Study

With the expected growth, the Town is imposing development charges to help with the increased need for services. The 2016 Development Charges (DC) Background study is based on findings and calculations from the “Town of Grand Valley 2014 Development Charges Background Study” dated July 15, 2014. The background study also provides supporting documentation for DC By-law 2014-36 (effective August 11, 2014).

The following additional capital needs were identified in the study and pertains to transportation and roads improvements:

- Reconstruction to full urban services of Amaranth Street West from Main Street to the urban County boundary and Bielby Street from Scott Street to Amaranth Street.
- Widening and surface treatment of Amaranth Street West from urban boundary to Sideroad 29.
- Upgrade Amaranth East Luther Townline from Amaranth Street to County Road 109 from gravel to asphalt with guard rails.
- Downtown By-pass road from gravel to surface treatment and widen of Sideroad 3/4 and Sideroad 27/28.

The recommendations of the TMP considered these roadway improvement recommendations set forth by the Town’s DC study.

4.0 Public Consultations

Consultation with the general public, key stakeholders and regulatory agencies is a critical component and priority of a TMP. The objectives of the consultation program were to:

- Identify potentially affected stakeholders.
- Inform stakeholders of project status and components.
- Obtain input from stakeholders during all phases of the study.
- Integrate information received into the planning and decision-making processes.

The primary methods of consultation were posting and advertising the notice of commencement, mailing the notice of commencement to key agencies and aboriginal groups, holding a Public Information Centre (PIC), consultation with affected stakeholders, and posting of information on the Town's website.

4.1 Notice of Commencement

EA Phase 1 consultations involved the circulation of the Notice of Commencement. The notice advised that the TMP study has commenced, outlining its purpose, rationale and invited all to comment or address any concerns relating to the project. Contact information for the Project Managers was provided so the public could request additional information, if desired.

A notice of commencement was prepared and posted on the Town's website in January 2016 and published in the Orangeville Citizen and Orangeville Banner on January 28, 2016 and in the Wellington Advertiser on January 29, 2016. The notice of commencement is provided in Appendix A.

A wide range of stakeholders were identified and contacted at the onset of the study and during the EA process, including relevant review agencies and organizations, and aboriginal groups who may be affected or have interest in the study. The list of potentially interested or affected review agencies was compiled at the onset of the project based off of a comprehensive list of screening criteria used to determine potential for interest or involvement in the project. This list included county and local municipal departments, provincial ministries, agencies and organizations (including the Ministry of Aboriginal Affairs), federal agencies, local conservation authorities and various utility companies. With the help of the Aboriginal and Treaty Rights Information System (ATRIS), a similar process was used to identify Indigenous communities that may be interested or potentially impacted by the study. A list of these review agencies and Indigenous communities is provided in Appendix A. Each of these stakeholders was mailed a letter and the notice of commencement. These agencies and Indigenous communities were contacted through direct distribution of notices. The sample letter for agencies and aboriginal groups is provided in Appendix A.

Town of Grand Valley Transportation Master Plan Study
March 2017

This list was updated as per correspondence and notifications received through the duration of the EA study to ensure it remained current and that the correct representatives received future notice. Members of the public were added to the list on request.

4.2 Public Information Centre (PIC#1)

As part of Phase 2, a Public Information Centre was held on Tuesday, May 31, 2016, to present and receive public input regarding the project. PIC#1 was held at the Grand Valley and District Community Centre, Grand River Room, located at 90 Main Street North from 6:00 p.m. to 8:00 p.m. The purpose of the PIC was to provide information to the public on existing and future conditions, transportation and traffic concerns, and potential options.

A notice inviting the public to attend PIC#1 was published in the local papers, including the *Orangeville Citizen* and *Orangeville Banner* on May 12, 2016 and the *Wellington Advertiser* on May 13, 2016, and posted on the Town's website. In addition, the notice of PIC #1 and letters were mailed to review agencies, aboriginal groups and other key stakeholders. Contact information for the Project Managers was provided to allow the public and agencies to request additional information. Copies of the PIC #1 notice are provided in Appendix A.



The PIC was held in a “drop-in” format and participants were asked to sign in upon entry. They were also provided a comment form, which could be submitted in the comment box or mailed, emailed or faxed following the PIC. A copy of the comment form and sign in sheet are provided in Appendix A. Presentation

boards describing the EA process, subject area, evaluation of the alternative design concepts being considered and preliminary concepts were placed around the room to facilitate discussion. The display boards used at the PIC #1 can be found in Appendix A. Members of the Study Team, including Town staff and consultant staff (Burnside), were in attendance to answer questions and offer detailed explanations.

The attendance record indicates a total of 10 people attended the PIC, including Town staff and Burnside staff. This resulted in an estimated seven members of the public in attendance, which included two Town Councillors. A redacted copy of the attendance record can be found in Appendix A.

Verbal questions and comments were received and addressed during PIC #1. A redacted version of verbal comments and responses are available in Appendix A.

Public Comment Sheets were made available to collect feedback on the study and the progress made to date. The deadline to submit feedback and responses was June 14, 2016. The comments received following PIC #1 can be found in Appendix A.

The following summarizes the common and general comments received and the issues raised at and following PIC #1:

- The location of the proposed collector road south of the MOCO development (southeast of the Upper Grand Trailway).
- The alternate options for proposed collector roads.
- The size and exact location of the proposed school in the Thomasfield Mayberry Hill Phase 4 lands.
- The implementation of proposed active transportation, including sidewalks and bike lanes to connect with existing conditions. Ensuring consistency, safety and accessibility between the new / existing connectivity with neighborhoods and other key destinations such as schools, parks and the downtown core.

This feedback aided in the establishment of mitigation measures to minimize or alleviate potential impacts as a result of construction of the Preliminary Preferred Solution.

4.3 Steering Committee

A Steering Committee was established at the start of the TMP and was developed in consultation with Town staff. It included representatives from the Town and County, with the County there in an advisory role. The group met on two occasions during the process.

4.4 Key Landowner Involvement

A meeting was held with two key landowners on July 21, 2016. The primary concern raised involved the road network at the south end of the Main Settlement Area. As a result of this meeting and input from the PIC, additional options were developed for assessment. The draft Transportation Master Plan was provided to key landowners for comments, which have been considered.

5.0 Existing Transportation Conditions

5.1 Travel Demand Characteristics and Patterns

5.1.1 Socio-Economic Profile

Data from the 2011 and 2016 Census of Canada was used to establish a socio-economic profile of Grand Valley. It is essential to understand the changing demographics and aging population within the Town as it impacts the future travel characteristics. Table 1 summarizes the demographics of Grand Valley in comparison to Dufferin County.

Table 1: Demographic Characteristics

Characteristics	Grand Valley	Dufferin County
	2016	2016
Population	2,956	61,735
Land Area (km²)	158.23	1,486.31
Median Age of population	41.5 ¹	40.0 ¹
% of Population over 65	11% ¹	12% ¹
Number of Private Dwellings	1,145	22,889
Average Number of persons in a private household	2.7 ¹	2.8 ¹

1. 2011 Census of Canada data used as 2016 Census of Canada data was not available

The Town's demographics are similar to the County's demographics.

Table 2 describes the percent population distribution of Grand Valley and Dufferin County by age group.

Table 2: Percent Population Distribution by Age Group

Age Group (Years)	Grand Valley ¹	Dufferin County ¹
0-14	16%	17%
15-24	23%	21%
25-64	50%	50%
65+	11%	12%
Total	100%	100%

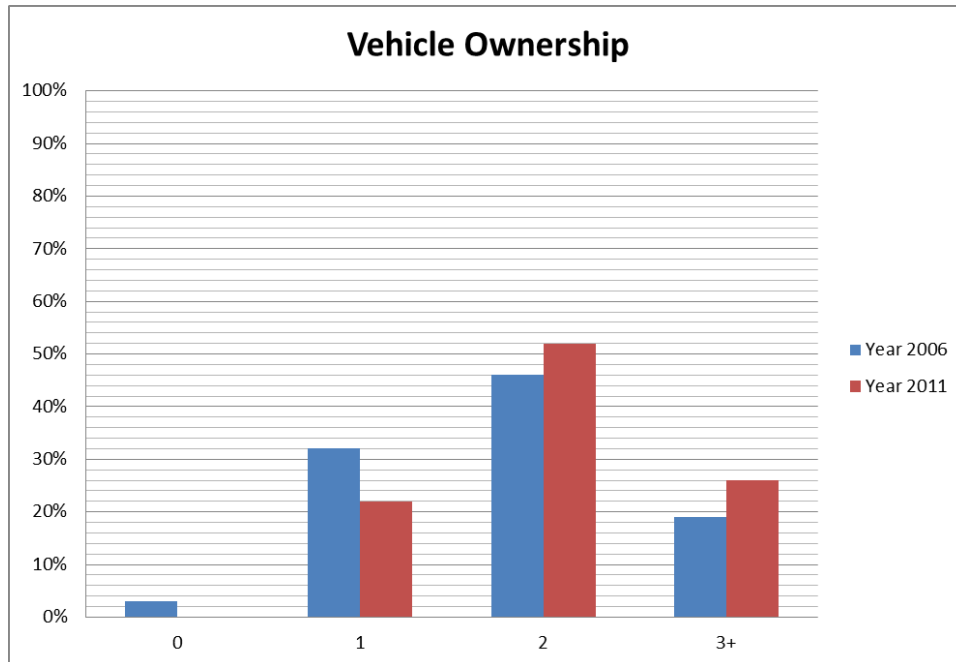
1. 2011 Census of Canada data used as 2016 Census of Canada data was not available

The Town and County show very similar population distribution patterns. Over 85% of the population is under the age of 65 with a median age of 40 years.

In addition, vehicle ownership plays an essential role in distinguishing automobile users and those who are dependent on other modes of transportation such as transit or active transportation. Data from the Transportation Tomorrow Survey (TTS) published by the Data Management Group at the University of Toronto was analyzed to determine vehicle ownership in the Town.

The TTS is a comprehensive travel survey conducted within Southern Ontario every 5-years (starting in 1986). Figure 6 shows the percentage change in household vehicle ownership between 2006 and 2011.

Figure 6: Grand Valley Vehicle Ownership



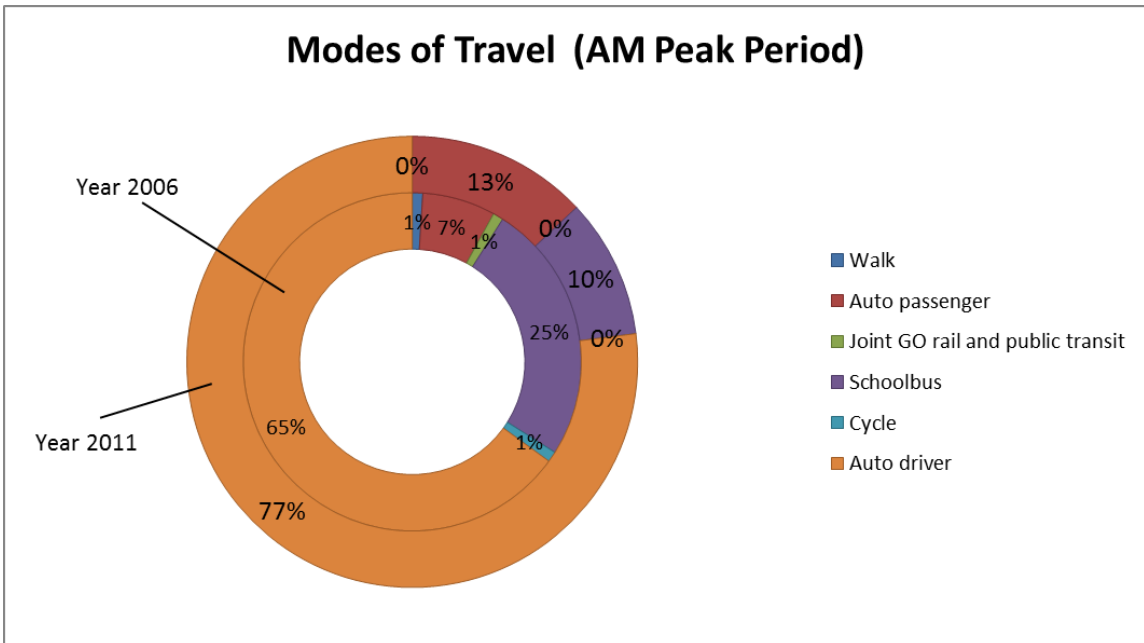
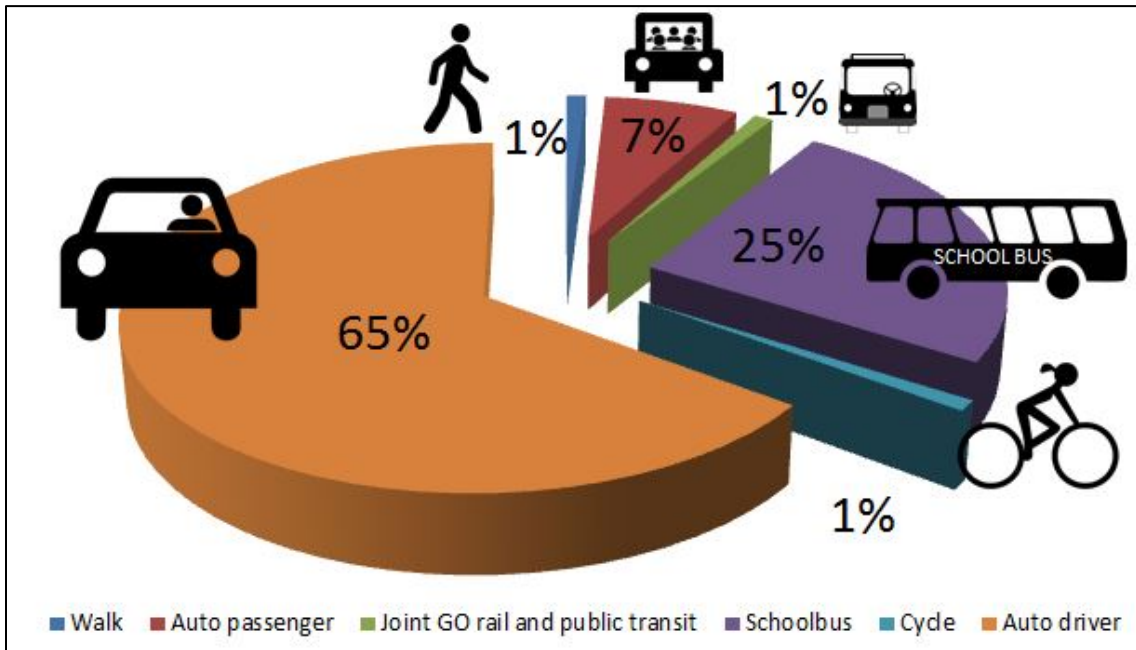
There has been a marked increase in vehicle ownership between 2006 and 2011. During the 5-year period, more than half of the Town households owned at least two vehicles and by 2011 all households had at least one vehicle. There was a decrease in one-vehicle ownership and an increase in two or more vehicles ownership. The pattern indicates an increasingly automobile-oriented community and this will play a crucial role in encouraging future alternative modes of transportation and determining modal split.

5.1.2 Travel Characteristics

Travel patterns of the Town were determined using 2006 and 2011 TTS data. As mentioned in Section 5.1.1, based on TTS data, the main transportation mode is automobile trips, which includes auto driver and auto passenger trips. Figure 7 summarizes the percent split of transportation modes originating from the Town.

TTS data shows an increase of auto drivers and auto passengers over the years. Over the 5-year period, transit, cycling and walking has reduced to zero users. The County and Town's OPs' policies recognize this trend. The implementation of those policies are intended to reverse that trend.

Figure 7: 2006 AM Peak Modes of Travel



An analysis was conducted of the TTS data for trips originating and destined from / to the Town during the morning peak period (6:00 AM to 9:00 AM). The majority of the trips to the Town are internal. Table 3 summarizes the percent trips to and from the Town.

Table 3: Grand Valley Trip Origins and Destinations During AM Peak Period

Other Municipalities	From Grand Valley	To Grand Valley
Toronto	3%	-
Mississauga	3%	-
Centre Wellington (Pilkington)	10%	-
Rest of Wellington	3%	-
Erin	3%	-
Orangeville	23%	6%
Shelburne	10%	-
Amaranth	3%	9%
Mono Township	10%	-
East Garafraxa	3%	-
External	6%	-
Internal (within Grand Valley)	23%	85%
Total	100%	100%

During the morning peak period, 23% of the total trips are made within the Town. The remaining trips originating from within the Town are destined outside Grand Valley.

5.2 Existing Road Network

Several site visits were conducted to review the surrounding environment, existing land uses, traffic signage, lane configurations, parking, sidewalks and trails, and undertake general observations. The surrounding area comprises of many natural features including rivers, creeks, wetlands and woodlots. The Main Settlement Area is situated in the southeast area of the Town with two main roads passing through it. Main Street North / Water Street run north-south and Amaranth Street East / Concession Road 3 run east-west. North and south of the Main Settlement Area, Main Street North and Water Street continues as County Road 25.

The Town's road network is made up of Provincial Highways, County roads and local roads as illustrated in Figure 5 in Section 3.1.3.1. All roads are under the jurisdiction of the Town, with the exception of County Road 109, County Road 10, County Road 15 and County Road 25, which are under the jurisdiction of Dufferin County. Highway 89 is under the jurisdiction of the Ministry of Transportation of Ontario (MTO). There are paved and unpaved 2-lane roads with rural cross sections and no sidewalks provided outside the settlement area. Roads within the Main Settlement area are predominantly paved 2-lane roads with sidewalks provided in certain parts of the Town. All of the existing intersections are operating as STOP controlled intersections with the exception of the County 25 / County 109 intersection, which is signalized.

5.3 Existing Traffic Volumes

5.3.1 Screenline Analysis

To determine existing operations on Town roads, existing screenline traffic volumes were reviewed. A screenline analysis involves evaluating the total amount of traffic crossing a physical or imagined boundary. An assessment is then made between those traffic volumes and roadway capacity. There were four roadway segments considered for the screenline analysis including:

- Water Street, south of Melody Lane
- Main Street North, north of Fife Road
- Concession Road 3, west of Taylor Drive
- Amaranth Street East, east of Bielby Street

Twenty-four hour traffic counts over a 7-day period were conducted by the Traffic Information Group (TIG), on behalf of Burnside. The traffic counts were collected from Sunday, December 6, 2015 to Monday, December 14, 2015, with the exception of Concession Road 3, west of Taylor Drive, which was conducted between Tuesday, December 8, 2015 and Wednesday, December 16, 2015.

The County provided daily traffic counts for several roadway segments. Table 4 summarizes the historical counts with approximate location and date.

Table 4: Historical Counts Received from the County

Location	Date
400 m North of County Road 109	June 25, 2009
200 m North of County Road 109	January 7, 2010
300 m North of County Road 109	September 25, 2012
County Road 25, South of Grand Valley	June 16 – 19, 2015
500 m South of County Road 10	September 9, 2009
200 m South of County Road 10	July 31, 2012

The December 2015 traffic data had a lower volume in comparison to the historical counts. This could be due to several factors such as seasonal and daily variations. To maintain consistency with the County counts, a 25% increase was applied to the December 2015 traffic counts to account for the variations. The resultant volume was used for the screenline analysis. Figure 8 summarizes the existing AM and PM peak hour screenline volumes. The traffic counts are provided in Appendix B.

The resulting volume to capacity (v/c) ratios from the link volumes are summarized in Table 5 for the north/south and east/west road sections, respectively.

Figure 8: Existing Traffic Screenline Analysis



The analysis indicates that under existing conditions, all road segments operate well within capacity.

Table 5: Screenline v/c North/South and East/West Road Sections

Screenline Section	AM Peak	PM Peak	AM Peak	PM Peak
	Northbound		Southbound	
Main Street North, north of Fife Road	0.09	0.14	0.07	0.08
Water Street, south of Melody Lane	0.11	0.32	0.29	0.13
Screenline Section	Eastbound		Westbound	
Concession Road 3, west of Taylor Drive	0.02	0.04	0.03	0.04
Amaranth Street East, east of Bielby Street	0.03	0.05	0.03	0.03

Assumed capacity is 900 vehicles per lane

5.3.2 Key Intersection Operations Analysis

The following three main intersections within the Town were identified for a more detailed review of level of service and capacity analysis:

- Amaranth Street East / Main Street North
- Main Street North / Mill Street
- Water Street / Melody Lane

The lane configurations at the three intersections are illustrated in Figure 9.

Turning movement traffic counts at the intersections were conducted by Traffic Information Group (TIG), on behalf of Burnside on Tuesday December 8, 2015 during the weekday AM and PM peak period (6:30 AM to 9:00 AM and 4:00 PM to 6:00 PM respectively). The traffic counts are provided in Appendix B.

The traffic volumes were lower in comparison to the County's historical counts. This could be because of several factors such as seasonal and daily variations. To maintain consistency with the County counts, a 25% increase was applied to the counts to account for those variations. The resulting existing traffic volumes are shown in Figure 10.

Intersection operations were assessed for intersections in the study area using the software program Synchro 9, which employs methodology from the *Highway Capacity Manual (HCM2000 and HCM 2010)*, published by the Transportation Research Board National Research Council. Synchro 9 can analyze unsignalized intersections in a road corridor or network taking into account the spacing, interaction, queues and operations between intersections.

Figure 9: Existing Lane Configurations

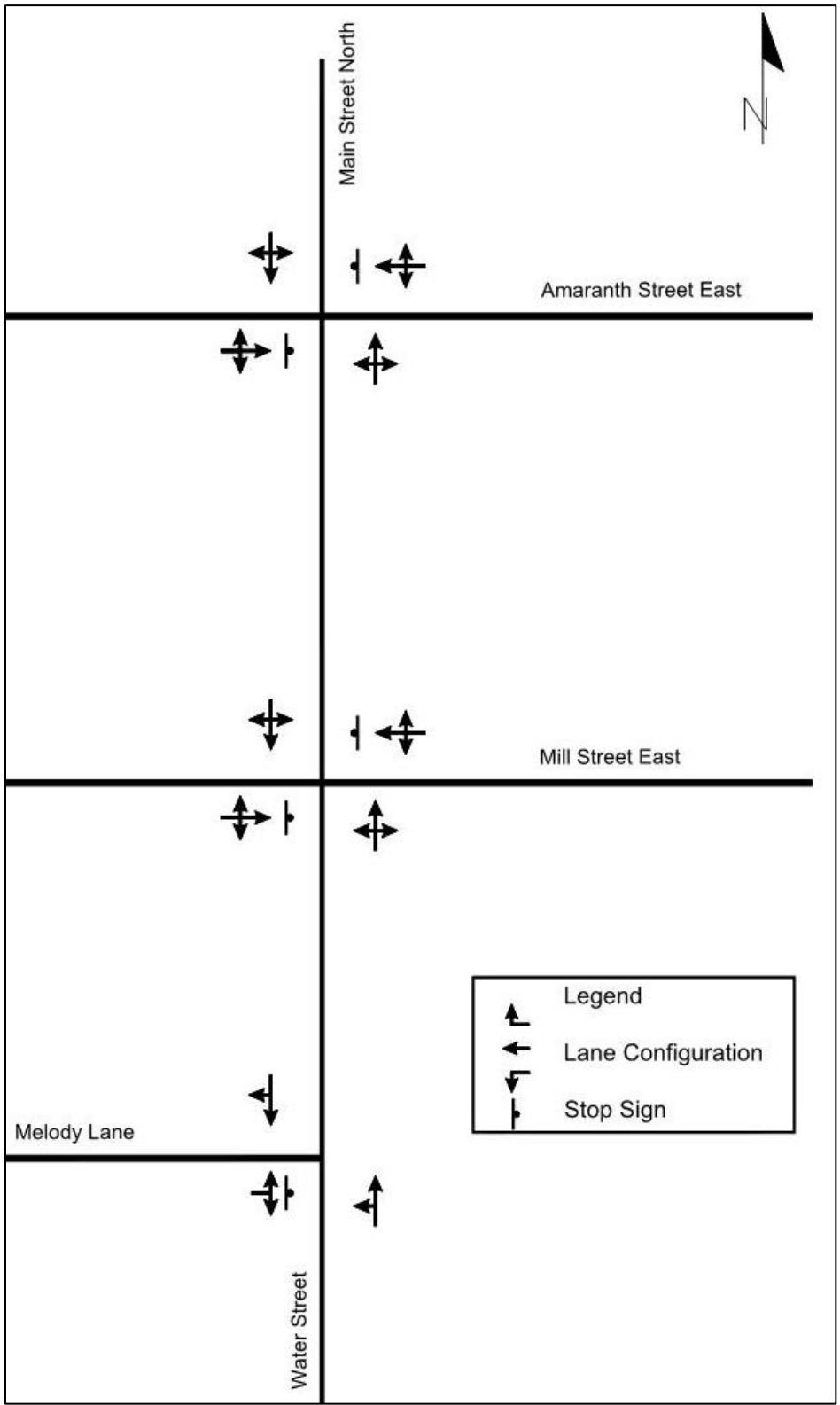
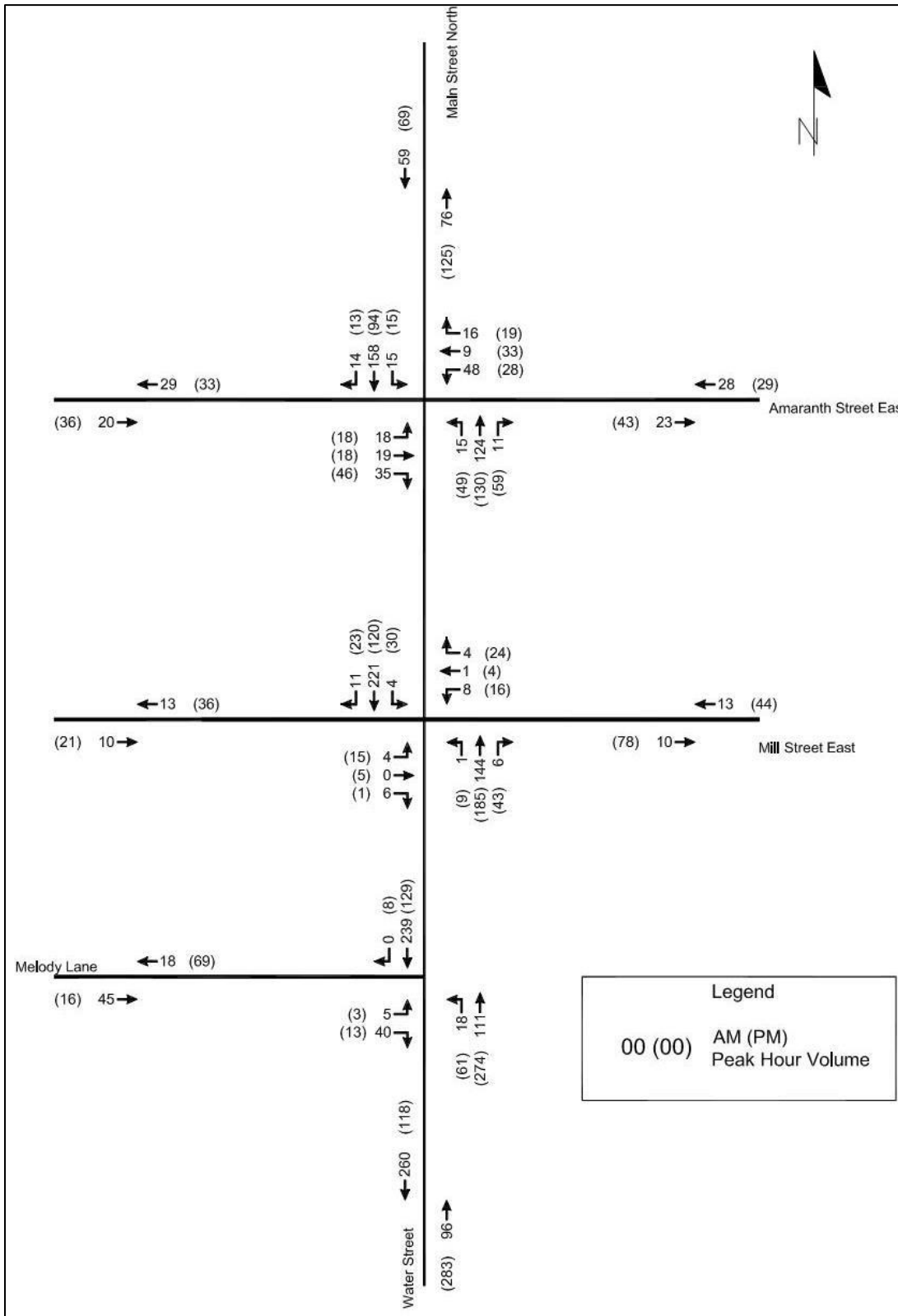


Figure 10: Existing Traffic Volumes



The two-way unsignalized intersection analysis considers two separate measures of performance:

- The capacity of the intersection's critical movements, which is based on a volume to capacity ratio.
- The level of service for the critical movements, which is based on the average control delay per vehicle for the various critical movements within the intersection. The link between LOS and delay (in seconds) for unsignalized intersections is illustrated below.

Level of Service	Control Delay per Vehicle(s)
A	0 – 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

The existing traffic operations were assessed based on the existing traffic volumes shown in Figure 10 and the existing road network shown in Figure 9. Existing operations are summarized in Table 6 for the unsignalized intersections. Detailed Synchro reports are provided in Appendix C.

Table 6: Existing Unsignalized Intersection Operations

Intersection & Movement	Weekday AM Peak Hour		Weekday PM Peak Hour	
	v/c	LOS	v/c	LOS
Amaranth Street East / Main Street North				
Eastbound Left-Through-Right	0.15	B	0.15	B
Westbound Left-Through-Right	0.19	B	0.19	B
Northbound Left-Through-Right	0.02	A	0.04	A
Southbound Left-Through-Right	0.02	A	0.01	A
Main Street North / Mill Street				
Eastbound Left-Through-Right	0.02	B	0.05	B
Westbound Left-Through-Right	0.03	B	0.08	B
Northbound Left-Through-Right	0.00	A	0.01	A
Southbound Left-Through-Right	0.00	A	0.02	A
Water Street / Melody Lane				
Eastbound Left-Right	0.07	B	0.02	A
Northbound Left-Through-Right	0.02	A	0.05	A

Under existing conditions, during both the AM and PM peak hour all the studied unsignalized intersections are currently operating at a level of service of B or better and with a volume to capacity ratio of 0.19 or less. No changes are required to study intersections.

5.4 Parking

The Town currently has a sufficient parking supply to serve existing businesses in the downtown core according to the *Parking Strategies Report* prepared by the Town to Council Members, dated May 12, 2015. The report is contained in Appendix D. Figure 11 illustrates the current designated and available parking areas (on street and off street parking) within the downtown core.

Figure 11: Downtown Parking Supply





In general, parking is prohibited on any street with signs erected displaying “No Parking.” As well, parking is prohibited on all streets from 2:00 AM to 6:00 AM between November 15 and April 15. The majority of municipal parking lots have unmarked parking spaces. A summary is provided in Table 7 describing the estimated number of parking spaces and the conditions of each lot.

Table 7: Municipal Parking Lot Summary

Municipal Lot	Estimated Parking Spaces	Parking Restrictions	Marked Spots	Photo
Lot 1: West of Grand River	6	No	Yes	
Lot 2: River Street Recreation Fields	20	No	No	
Lot 3: South on Mill Street	10	7 am to 10 pm	Yes	

Table 7: Municipal Parking Lot Summary continued

Municipal Lot	Estimated Parking Spaces	Parking Restrictions	Marked Spots	Photo
Lot 4: North on Mill Street	8	2 hours	No	
Lot 5: West Back Alley Lot	30	No	No	
Lot 6: East Main Street, South Amaranth Street	13	2 hours	Yes	
Lot 7: East of Town Library	20	2 hours	Yes	
Lot 8: Hereward Park	10	No	No	
Total Spaces	122			

Photo and Aerial Source: Google Image Captures 2011

Although the parking supply appears adequate, there are several concerns that need to be addressed and are anticipated due to future growth and development:

- With the planned intensification and development, the current supply will not be sufficient to serve the downtown core.
- Designated community parking lots and rear lots are not fully utilized by employees as the lots are not deemed to be ideal, easily accessible and visible parking spaces.
- Shortage of overnight parking spaces to serve the existing apartments located above and behind businesses. This shortage intensifies during the winter due to snow storage occupying parking lots and back laneways.
- Parking spaces provided by landowners in the rear of properties are disorganized, limiting the accessibility or identification of parking spots.
- Some parking has been provided on vacant private lots. Should owners choose to develop the vacant lot in the future, it will result in elimination of the current parking, thus decreasing the parking supply.
- Need to determine and assess the required parking that serves parks, open spaces and congregating areas. These facilities or areas are often utilized by a larger community, so it is essential to determine potential associated parking needs.
- The distance between residential driveways with limited street frontage limits on-street parking opportunities.

These challenges are acknowledged and a mitigation strategy needs to be developed.

5.5 Active Transportation Facilities

Active transportation is supported and encouraged by the Dufferin County and Town of Grand Valley. Schools, recreational facilities and the downtown all promote active transportation. Currently, there are existing linkages among the pedestrian, cycling and trail systems within the Town. Figure 12 illustrates the existing active transportation facilities available in the Town.

Along the south side of the Main Settlement Area and running through Town in an east-west direction is the Upper Grand Trailway that makes use of an abandoned Canadian Pacific Railway line. This is an all season nature trail. Figure 13 depicts the trailheads for trails within the Town.

Figure 12: Existing Active Transportation Facilities

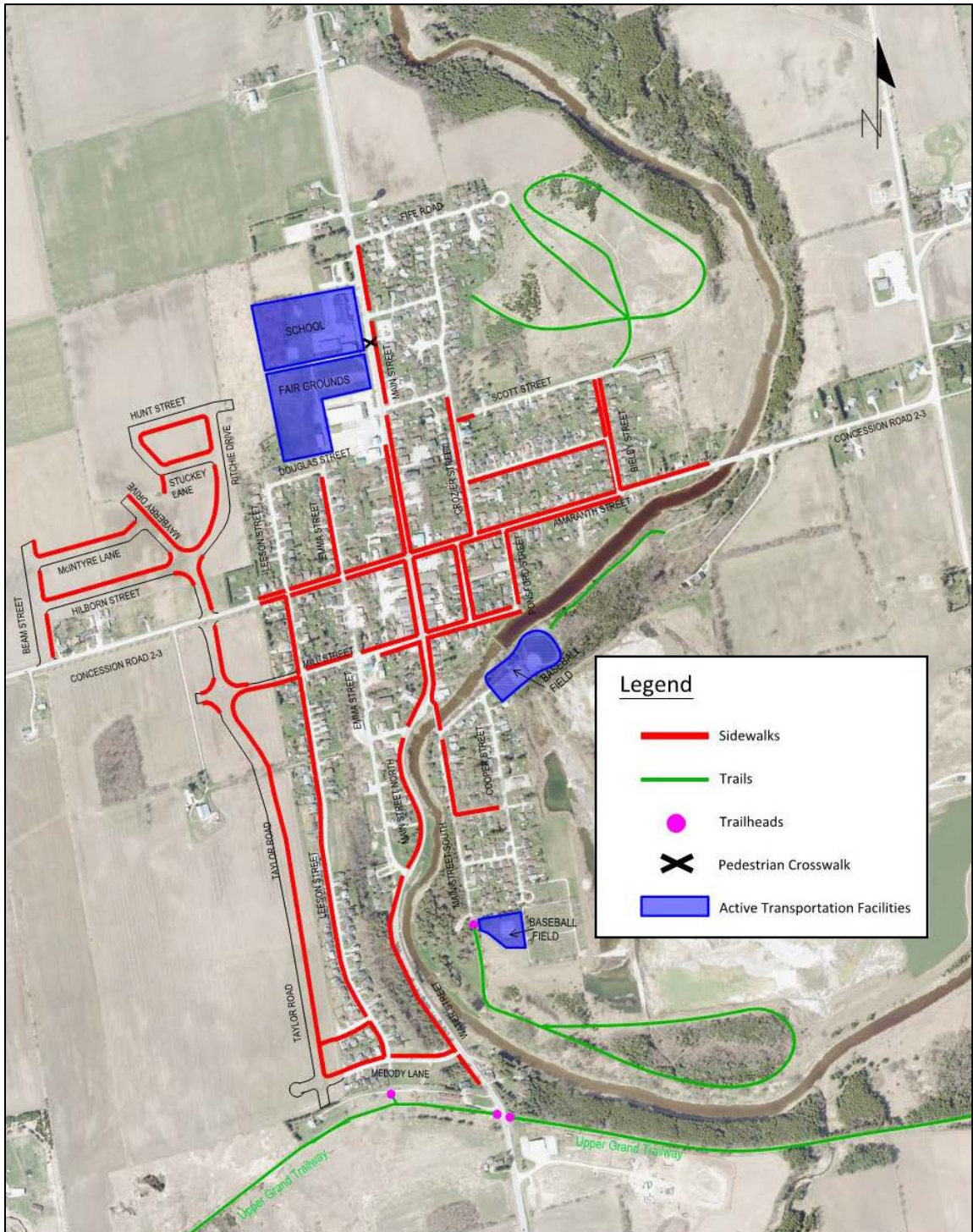


Figure 13: Existing Trails in Town

With future intensification and development, the provision of improved active transportation facilities needs to consider the following:

- On the east side of Main Street, opposite the school, in the residential area, there is a missing sidewalk system. Students were observed walking along the streets. As improvements are made to the system, sidewalks in this area should be considered.
- New developments should have sidewalks provided on at least one side of all streets. Within the vicinity of schools, sidewalks should be considered on both sides of the street.
- Connections to the fair ground, schools, and other recreational facilities should be implemented as development occurs.
- Speeding and traffic congestion at intersections impacting pedestrian and cyclist safety and access.
- The possible increase of traffic volumes around schools and neighborhoods.
- The lack of an interconnected system of active transportation routes to provide access to major residential and employment areas.

In addition, it is noted that the trails identified in the northeast area of the Main Settlement Area are on private lands and are not formal trails.

Opportunities are being explored for implementing additional cycling routes, connectivity in the transportation system, pedestrian friendly intersections, innovative pavement markings and fixed time pedestrian phases. These improvements will facilitate the use

of other non-motorized modes of travel and create a safer and more accessible neighborhood.

5.6 Trucks

Trucks travelling through the Town primarily use the County and MTO roads for movement, which results in trucks going through the Main Settlement Area on Main Street and Water Street. With the growth of the town, this will create more conflict among various users. Schedule A-3 in the Town's OP identifies two potential routes for trucks to by-pass the Town. One route on the east side of the Main Settlement Area would utilize Amaranth East Luther Townline between County Road 109 and County Road 10, where it would then go along County Road 10 to County Road 25. The alternative route would use Sideroad 27 & 28 on the west side of the Main Settlement Area and Concession Road 4/5.

5.7 Transit

Currently, there are no transit services available in Grand Valley. The Town does not have plans for implementing transit by 2031.

5.8 Existing Natural Environmental Features

The Ministry of the Environment and Climate Change (MOECC) of the West Central Region identified several environmental features within the Town. The MOECC provided a GIS map that is shown in Figure 14, illustrating all areas of environmental concern.

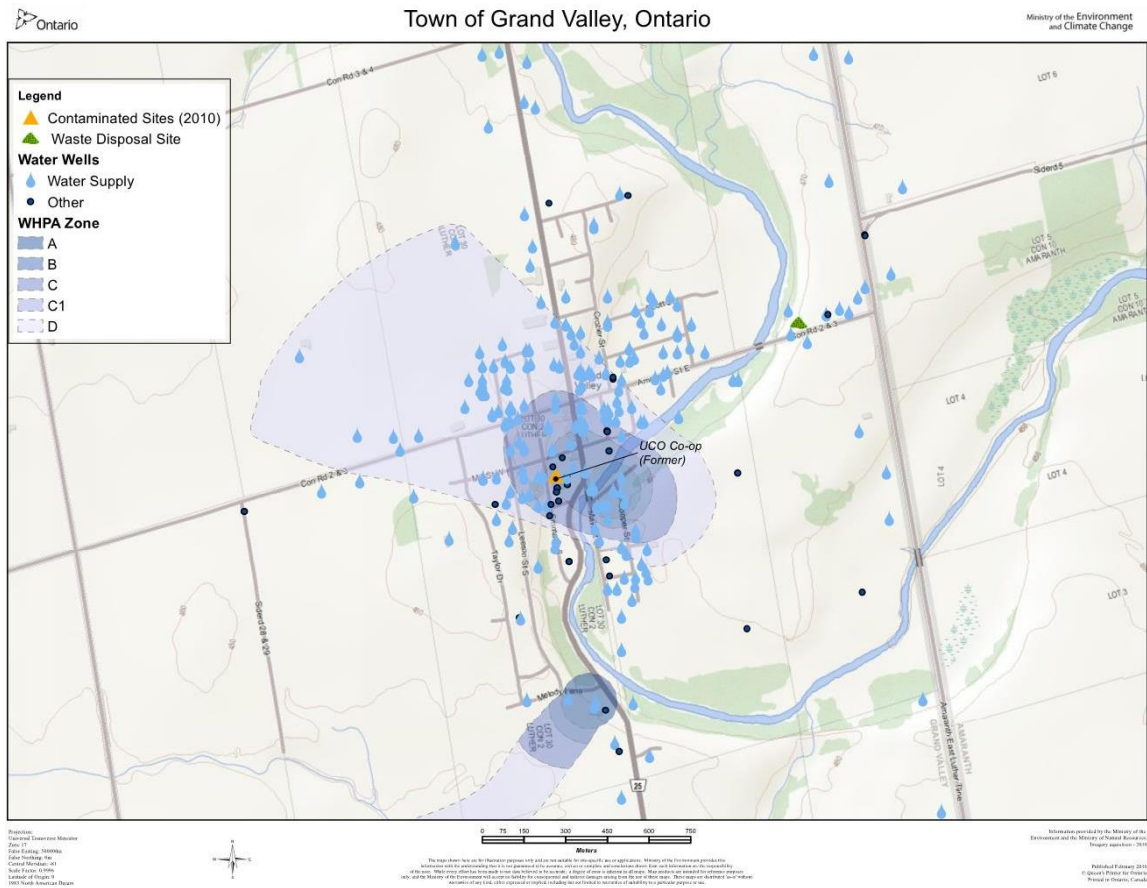
The following schedules in the OP identify environmental features within the Town:

- Schedule B-1 Natural Heritage
- Schedule B-2 Natural & Human-Made Hazards
- Schedule B-4 Water Resources

The natural heritage features found within the study area include:

- Provincially Significant Wetland
- Provincially Significant Life Science ANSI
- Woodland Areas
- Unevaluated Wetlands

Figure 14: Environmental Features within Grand Valley



6.0 Future Growth and Travel Demand

6.1 Population and Employment Growth

Within the next 20 years, the majority of the population and employment growth experienced by the Town will be within the Main Settlement Area. Two future conditions were analyzed as follows:

- Interim year 2021
- Ultimate year 2031

In 2021, the population and employment projections were developed based on development applications submitted and endorsed by the Town. Currently, the developments are in varying phases. Some developments are under construction, while some applications are in the process of being approved, and others are simply conceptual plans. However, based on the development applications submitted and the OP's future land use designation map depicted in Figure 2, an approximate 2021 forecasted population and employment was generated.

For 2031, the population and employment projections are based on the target set in the Town's Official Plan, which coincides with the County's expected growth. By 2031, a population of 7,478 and employment of 1,190 jobs is projected.

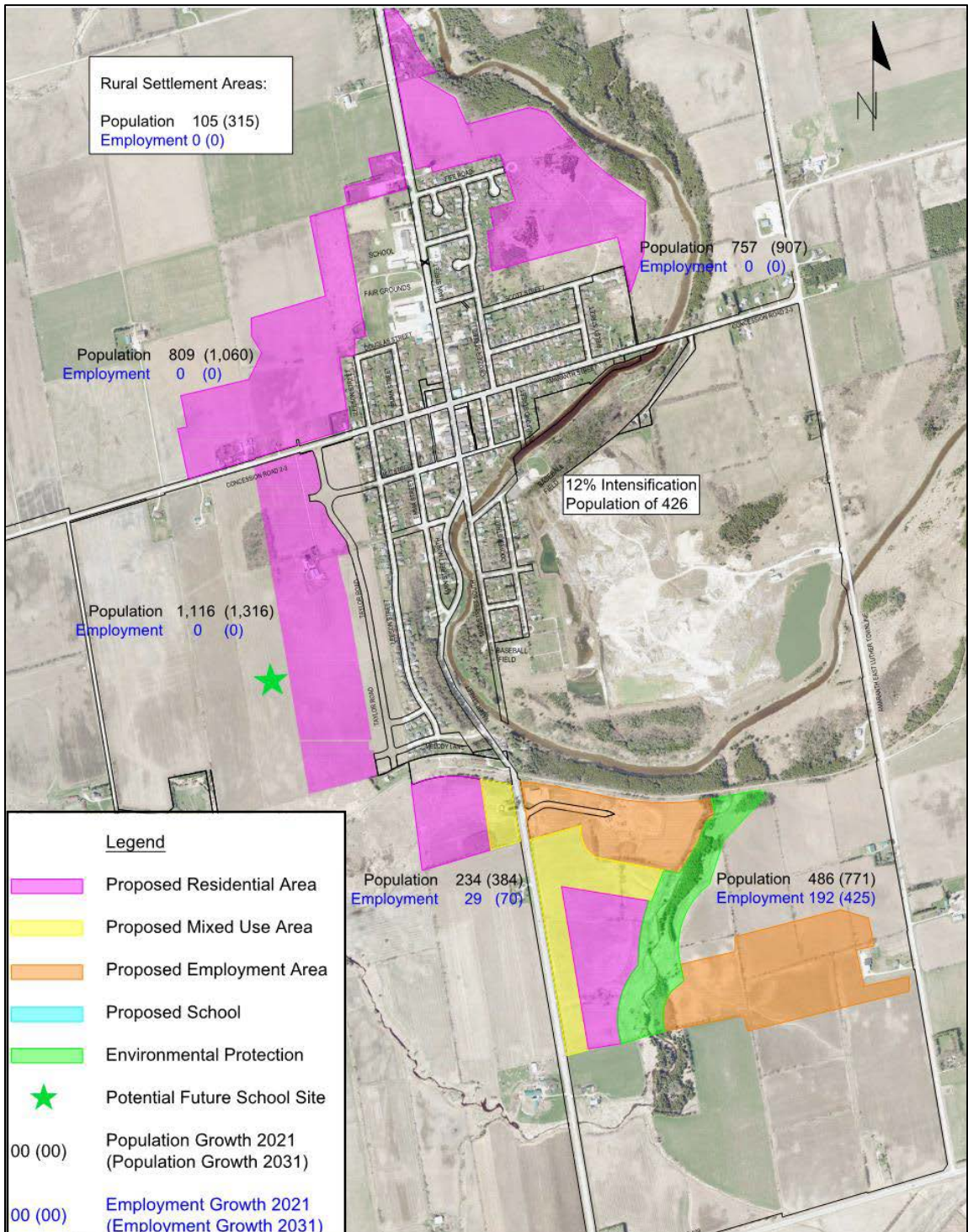
Under the advisory of the Town and abiding by the Town's OP, the following assumptions were applied to determine the population and employment generated from the proposed development applications:

- A rate of 3.15 persons per single or semi dwelling unit
- A rate of 2.75 persons per multi-dwelling unit
- 44 people per hectar
- 12% intensification target within the Built-Up Area within the Main Settlement Area, approximately 426 people

Through consultation with the Town and a review of development applications, the population and employment forecasts were distributed within the Town. Figure 15 illustrates the future population and employment distribution expected in each quadrant of the settlement area for both 2021 and 2031 horizon years and identifies the expected population outside the Main Settlement Area.

As illustrated, a significant amount of the proposed residential growth will occur west of the Main Settlement Area and in the northeast area. On the employment side, almost all of the growth is expected south of the Grand Valley Trail in the areas identified as employment and mixed use.

Figure 15: Future Population and Employment Distribution



6.2 Proposed Land Use

As per the Town's OP, the majority of the designated future land use will occur within the Main Settlement Area as illustrated in Figure 2. There will be little to no additional proposed land uses external to the Main Settlement Area at this time. The future land use takes into consideration the natural environmental functions and features when establishing the designation of lands in the Town.

Future residential area development will mainly occur west of Taylor Drive, south and north of Amaranth Street, as well as south of Upper Grand Valley Trailway. Additionally, there are parcels of land north of Fife Road and south of both the Upper Grand Trailway and Industrial Road designated as residential area. The majority of the proposed residential land use will be low and medium density. Employment areas are located south of the Upper Grand Valley Trailway. At this time, there is little information on how these employment lands will develop.

6.3 Transportation Plans – County and Town

There are a number of transportation improvements identified for Grand Valley by either the County or the Town as discussed in Section 3.0. These improvements are summarized below:

- Sideroad 24/25 resurfacing from County Road 109 to Concession Road 8.
- Amaranth Street West reconstruction to full urban services from Main Street to Urban Boundary.
- Amaranth Street West widening from Urban Boundary to Sideroad 29.
- Bielby Street reconstruction to full urban services from Scott Street to Amaranth Street.
- Amaranth Street West widening and surface treatment from Urban Boundary to Sideroad 29.
- Downtown By-pass Roads gravel to surface treatment with widening for Concession Road 3/4 and Sideroad 27/28.
- Amaranth East Luther Townline improvements from gravel to asphalt with guard rails from Amaranth Street to County Road 109.
- Upgrade Sideroad 21 & 22 between Concession Road 6/7 and County Road 15 to hard surface.

In addition, the County's DCATT identified a proposed paved shoulder for cyclists along County Road 25, between County Road 109 and William Street and from Spruyt Avenue further north. Water Street and Main Street between William Street and Spruyt Avenue is a proposed signed cycle route.

Amaranth Street from Main Street to Bielby Street is a proposed signed cyclist route and, further east of Bielby, a paved shoulder is proposed for cyclists. Signed routes have signs indicating that cyclists and motorists are to share the road.

All roads should abide by standards in the Town's OP as summarized in Table 8.

Table 8: Grand Valley Minimum Road Allowances

Road Classification	Minimum Road Allowance (m)	Additional comments
County Roads	30.5	Must be in accordance to County Policies and Design Criteria
Town and Concession Roads	26	Wider allowances may be required in areas with grading and slope stabilization issues
Local Roads	20	Lesser road allowance may be accept to service development

A right-of-way has not been identified for a collector road in the Town's OP. The Town's standards provide for a 26 m right-of-way for a collector road. The classification should be added to the OP. In addition, language should be added that additional right-of-way may be required to accommodate turn lanes or grading constraints.

The above transportation improvements and concerns were considered when developing the alternative solutions.

6.4 2021 and 2031 Transportation Conditions

6.4.1 Traffic Growth

Based on data from the Canada Census, the Town of Grand Valley experienced a population decrease of 4.1% between 2006 and 2011 and an increase of 8.4% from 2011 to 2016. Development has been occurring over recent years, which is resulting in an increase in population. New developments are emerging in the Main Settlement Area, generating more population within the Town.

According to the historical traffic counts provided by the County, there has been a slight increase in traffic volumes in the most recent few years. A growth rate of 1% compounded annually was applied to traffic volumes to account for background traffic growth that would not be associated with growth within the Town.

For growth within the Town, trips due to projected population and employment growth were estimated based upon various land uses contained in the publication *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers ("ITE").

Town of Grand Valley Transportation Master Plan Study
March 2017

In 2021, the proposed residential developments will generate a total of 606 and 790 trips during weekday AM and PM peak hour respectively. Employment trips will generate a total of 662 trips during the weekday AM peak hour and 652 trips in the weekday PM peak hour.

In 2031, the proposed residential developments will generate 1,043 and 1,362 trips during the weekday AM and PM peak hours, respectively. Projected employment will generate 1,189 trips during the weekday AM peak hour and 1,205 trips in the weekday PM peak hour.

Details regarding the generation of new trips added to the road network can be found in Appendix C.

Trip distribution and assignment was based upon the existing traffic patterns described in Section 5.1.2 and the available road network. Table 9 summarizes the simplified trip distribution utilized for the analysis.

Table 9: Trip Distribution

To/From	Residential Trips	Employment Trips
North	14%	15%
South	51%	40%
East	5%	2%
West	10%	3%
Internal	20%	40%
Total	100%	100%

The resulting total traffic volumes due to development growth and general background growth are shown in Figure 16 and Figure 17 for 2021 and 2031, respectively.

The resulting volume to capacity (v/c) ratios from 2021 and 2031 Total link volumes are summarized in Table 10 and Table 11 for the north/south and east/west road sections, respectively.

Figure 16: Future 2021 Total Screenline Traffic Volumes



Figure 17: Future 2031 Total Screenline Traffic Volumes



Table 10: 2021 Screenline V/C Ratio

Screenline Section	Northbound		Southbound	
	AM Peak	PM Peak	AM Peak	PM Peak
Main Street North, north of Fife Road	0.19	0.29	0.19	0.18
Water Street, south of Melody Lane	0.33	0.89	0.83	0.39
Screenline Section	Eastbound		Westbound	
Concession Road 3, west of Taylor Drive	0.06	0.11	0.10	0.09
Amaranth Street East, east of Bielby Street	0.06	0.08	0.06	0.07

Assumed capacity is 900 vehicles per lane

Under Total 2021 conditions, all road segments will have excess capacity.

Table 11: 2031 Screenline V/C Ratio

Screenline Section	Northbound		Southbound	
	AM Peak	PM Peak	AM Peak	PM Peak
Main Street North, north of Fife Road	0.27	0.41	0.28	0.27
Water Street, south of Melody Lane	0.39	1.20	1.20	0.56
Screenline Section	Eastbound		Westbound	
Concession Road 3, west of Taylor Drive	0.08	0.16	0.14	0.13
Amaranth Street East, east of Bielby Street	0.08	0.11	0.07	0.09

Assumed capacity is 900 vehicles per lane

Under Total 2031 conditions, traffic volumes are within the capacity of the roads with the exception of Water Street south of Melody Lane, where demand will exceed the projected traffic volumes during the morning and afternoon peak hours. Therefore, it is essential that alternative options are provided to disperse north-south traffic between the Main Settlement Area and County Road 109.

6.4.2 Key Intersection Operations Analysis

Following the methodology outlined in Section 5.3.2, the future total traffic volumes for 2021 and 2031 for each of the studied intersections were determined and are illustrated in Figure 18 and Figure 19, respectively.

Based on the future 2021 and 2031 total traffic volumes shown in Figure 18 and Figure 19, respectively, intersection operations were assessed. The future 2021 total traffic operations are summarized in Figure 20 and future 2031 total traffic operations are summarized in Figure 21. Detailed Synchro reports are provided in Appendix C.

Figure 18: Total 2021 Traffic Volumes

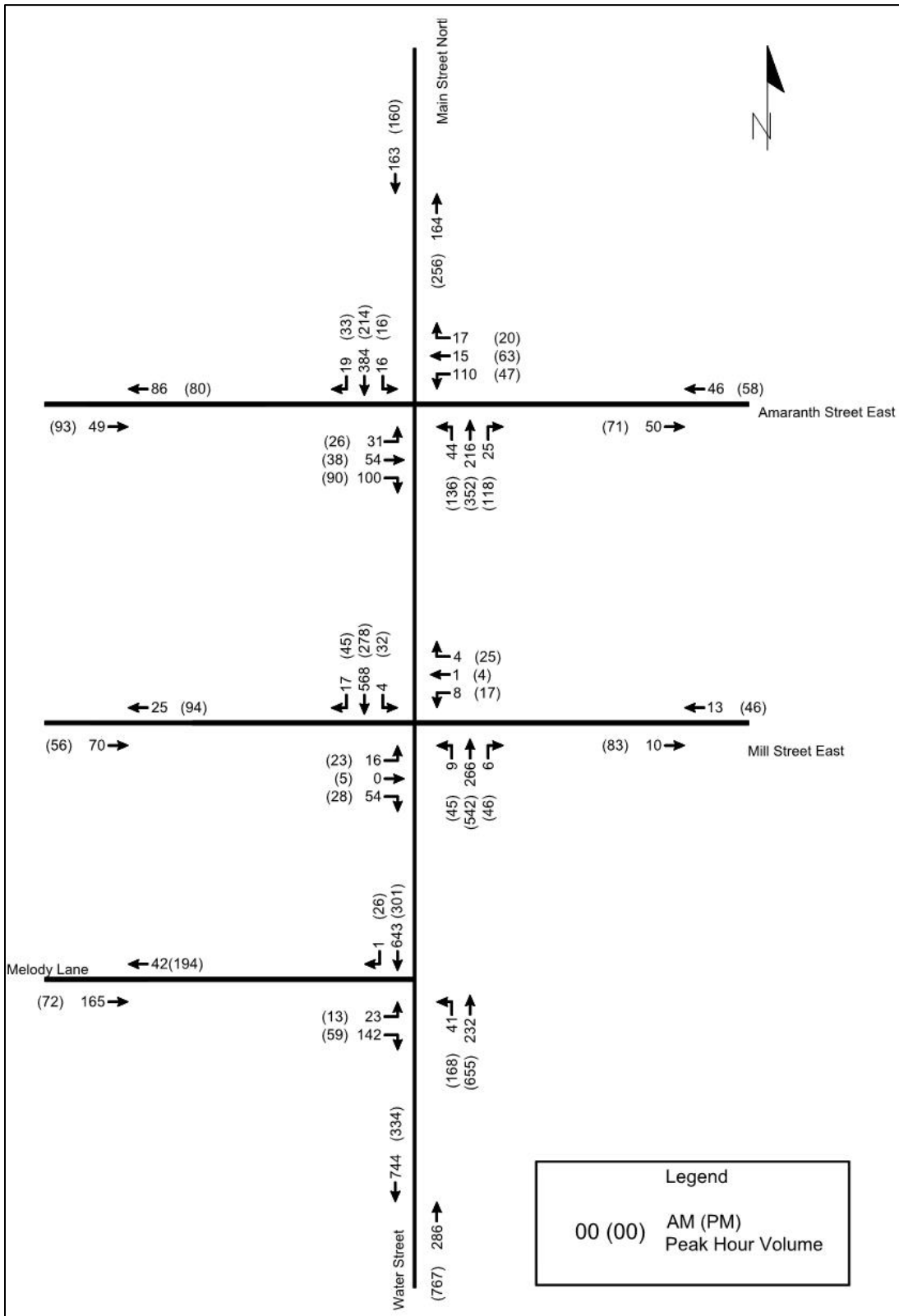


Figure 19: Total 2031 Traffic Volumes

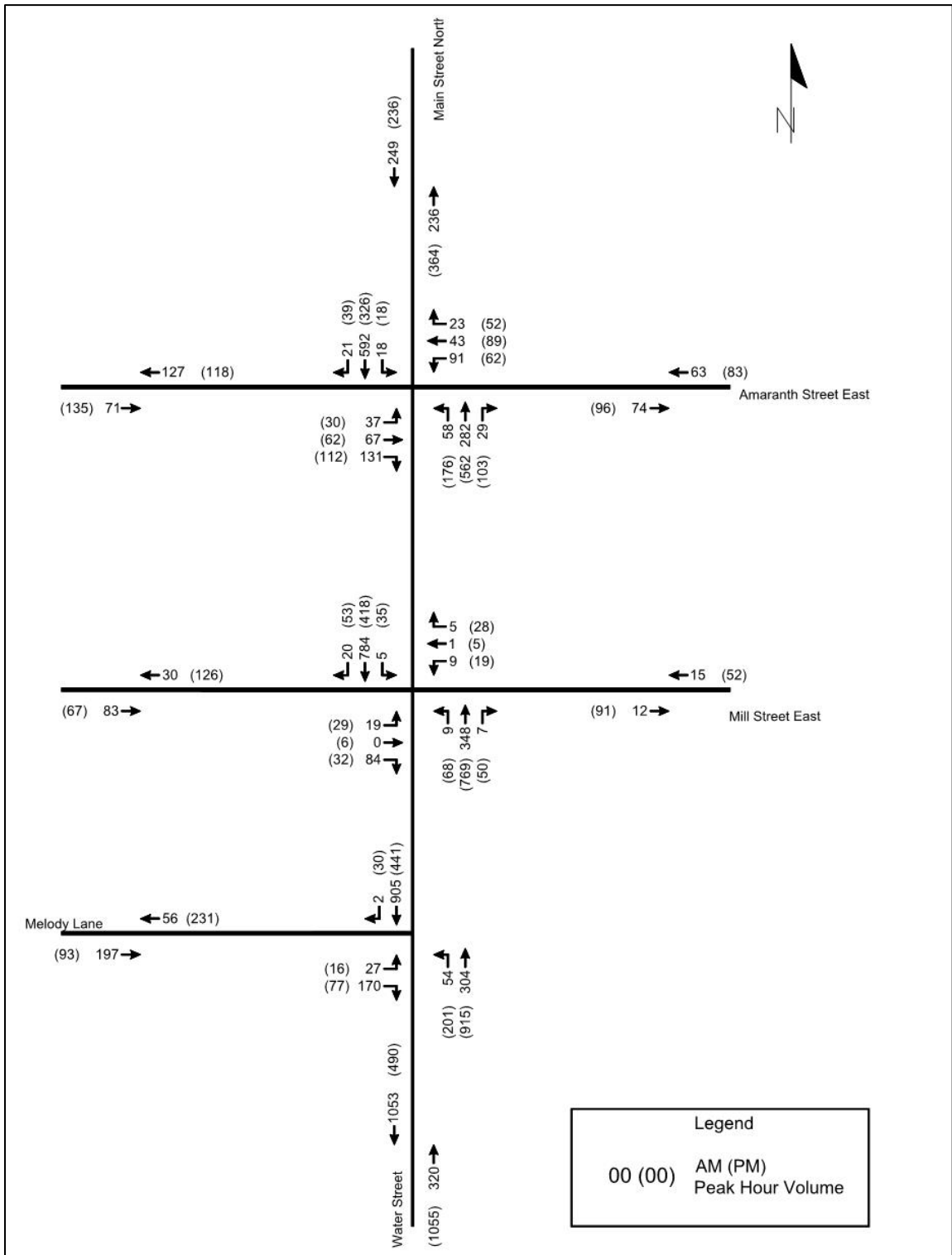


Figure 20: 2021 Intersection Operations

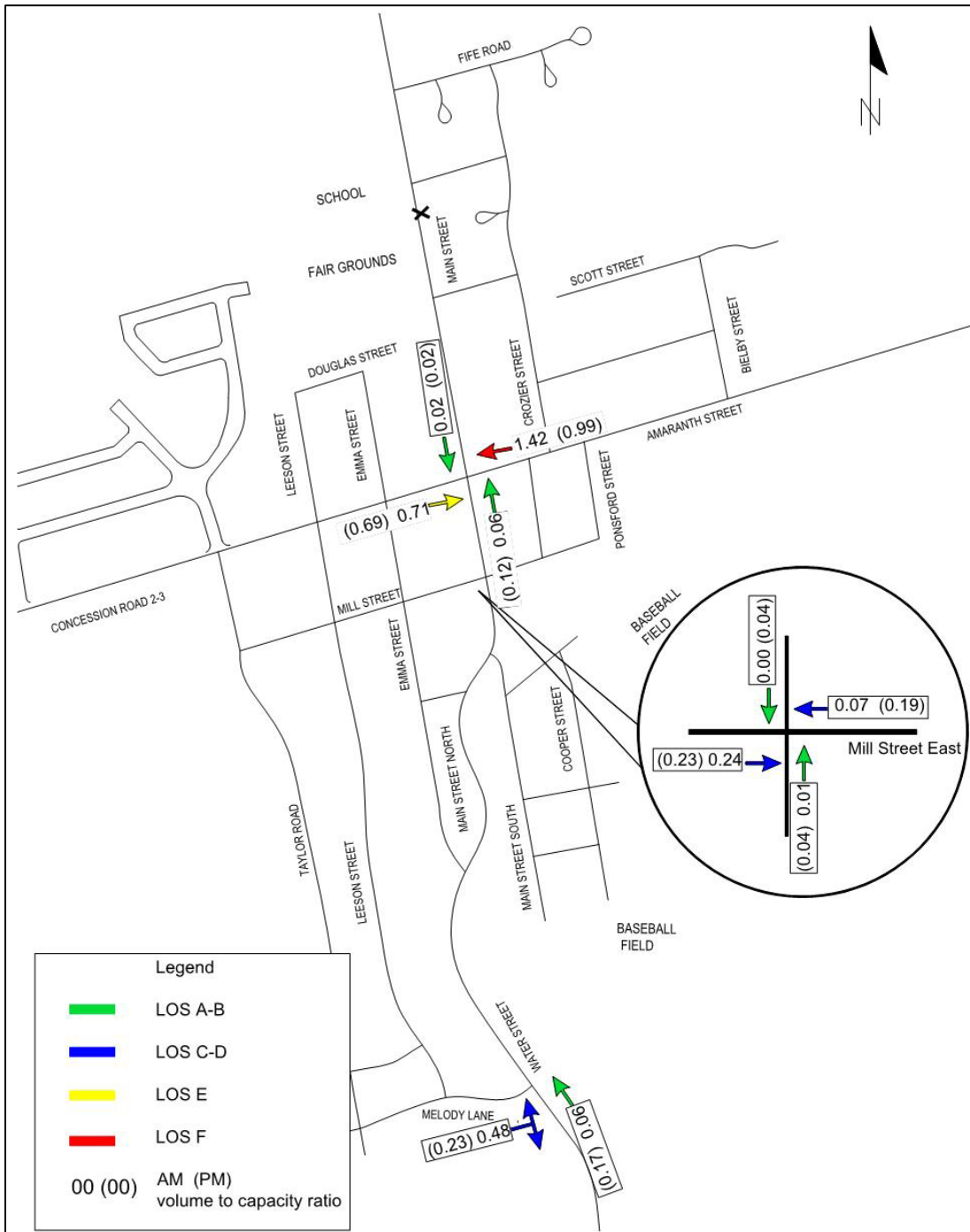
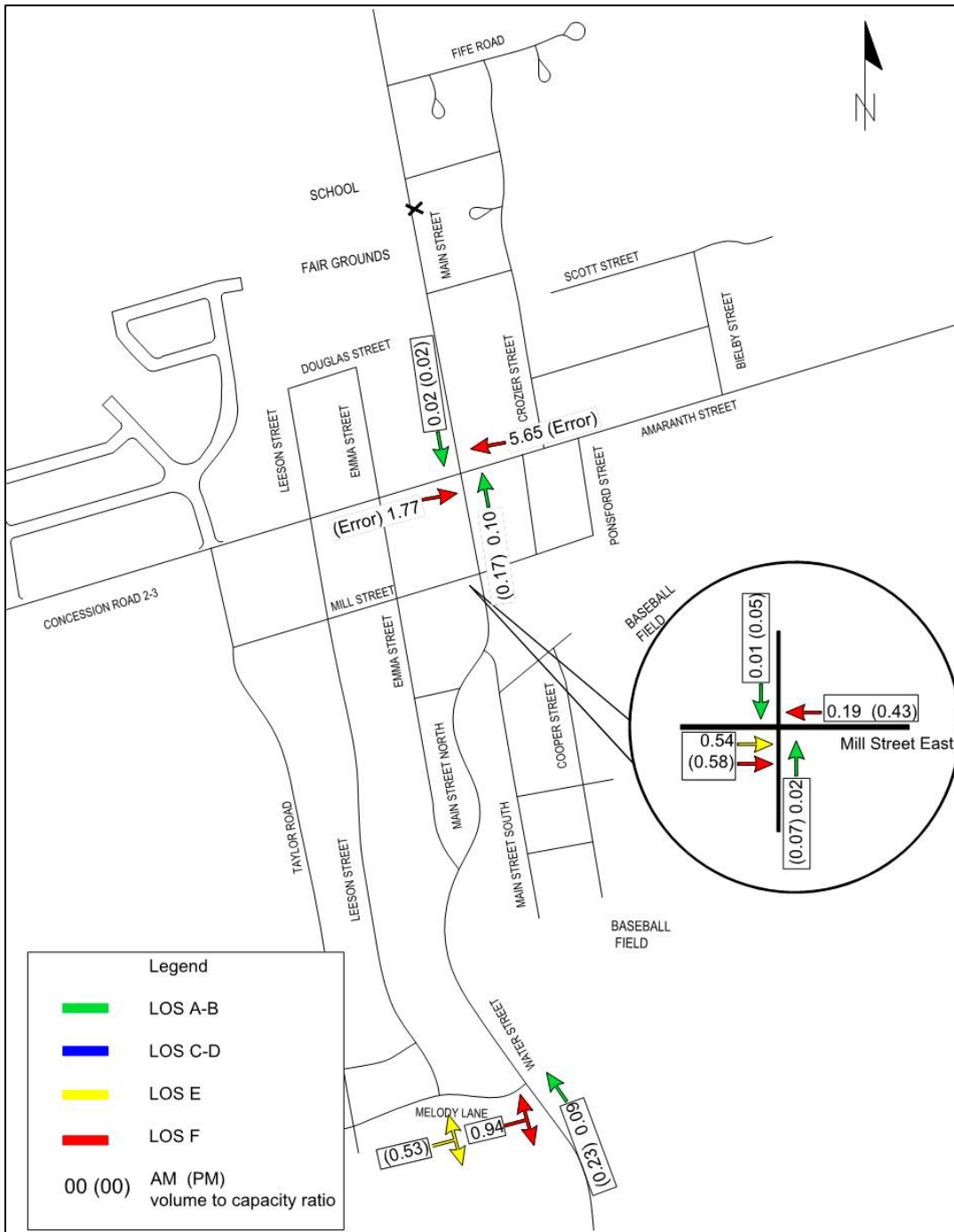


Figure 21: 2031 Intersection Operations



Under future 2031 total conditions, the study intersections will operate within capacity and acceptable delay, except for the westbound movements at the Main Street / Amaranth Street intersection, where it will be either at or over capacity and have increased delays. It should be noted that link volumes could be within capacity;

however, it is possible that there is insufficient capacity at the intersection. Main Street is the primary a north-south road through the settlement area. This intersection presents a challenge for improvements given existing grading and property constraints. Implementation of an all-way stop or traffic signals could generate other concerns. Therefore, it is essential that alternative options are provided to disperse north-south traffic and provide alternative routes for east-west traffic.

Further degradation of the key intersections will be seen under future 2031 conditions. The Main Street / Amaranth Road intersection will be beyond capacity and the Water Street / Melody Lane intersection will be approaching capacity. Melody Lane is a local street and has not been designed to accommodate higher traffic volumes.

Given the projected operations, one can expect traffic to divert; however, there are limited routes to divert onto. The road network needs to plan for future traffic volumes and the need for an alternative collector road is apparent.

6.5 Proposed Parking

In the *Parking Strategies Report* prepared by the Town, anticipated future parking issues were addressed with a list of options as follows:

- Utilize the west rear lane parking lot by Amaranth Street / Main Street to provide for parking for business staff and apartments. This will free up spaces along the store frontage.
- Monitor real-estate sales of properties in disrepair along the east back lane of Amaranth Street / Main Street and consider them for future parking lots.
- Purchase land on the west side of King Street that backs onto the east back lane. The land can be used for future parking provided that the Town budgets for a higher premium per parking spot.
- Consider amendments to the planning and engineering documents to require additional parking spaces in conjunction with residential subdivisions where smaller frontage lots are provided, which limit the ability to provide on-street parking.
- Encourage common parking areas, wider units, and increased side yard setbacks to accommodate for parking in higher density development areas.
- Explore opportunities to encourage converting bank-barn and outdated farm infrastructure to encourage development of storage facilities for RVs, boats and trailers.
- Increased front yard setback to garages would lead to an increase in driveway length and therefore, increase in capacity on the driveway.
- Increase minimum lot requirement to provide more on-street parking. Proper signage for on-street parking will need to be established on one side of the street.
- Develop a target for the amount of street parking provided and require the submission of a parking plan for all future applications.

- Enforce parking infractions through Town initiatives and provide warnings that identify alternative parking for local businesses.

The Town's OP includes several policies that encourage on-street, shared, rear or side of building parking in the downtown core and in commercial, industrial and institutional developments. Improved regulations for on-street parking within the Town are needed where parking restricts passage of vehicles. The Town could implement a restriction for on-street parking to one side of the road (not on the sidewalk side) where parking on both sides of the street cause challenges with movement of traffic. The prohibition will better utilized the pavement area and facilitate better traffic flow within Town.

It is essential that the right balance of parking be provided. For development applications, it should be identified that sufficient parking must be provided by complying with Zoning By-law requirements. Where insufficient parking is provided, cash-in-lieu can be consider as a means to allow the Town to provide consolidated public parking areas in the downtown. Residential developments with narrower lots or closer driveway spacing, that limit the ability to accommodate on-street parking, should demonstrate that sufficient on-street parking is available to meet demand.

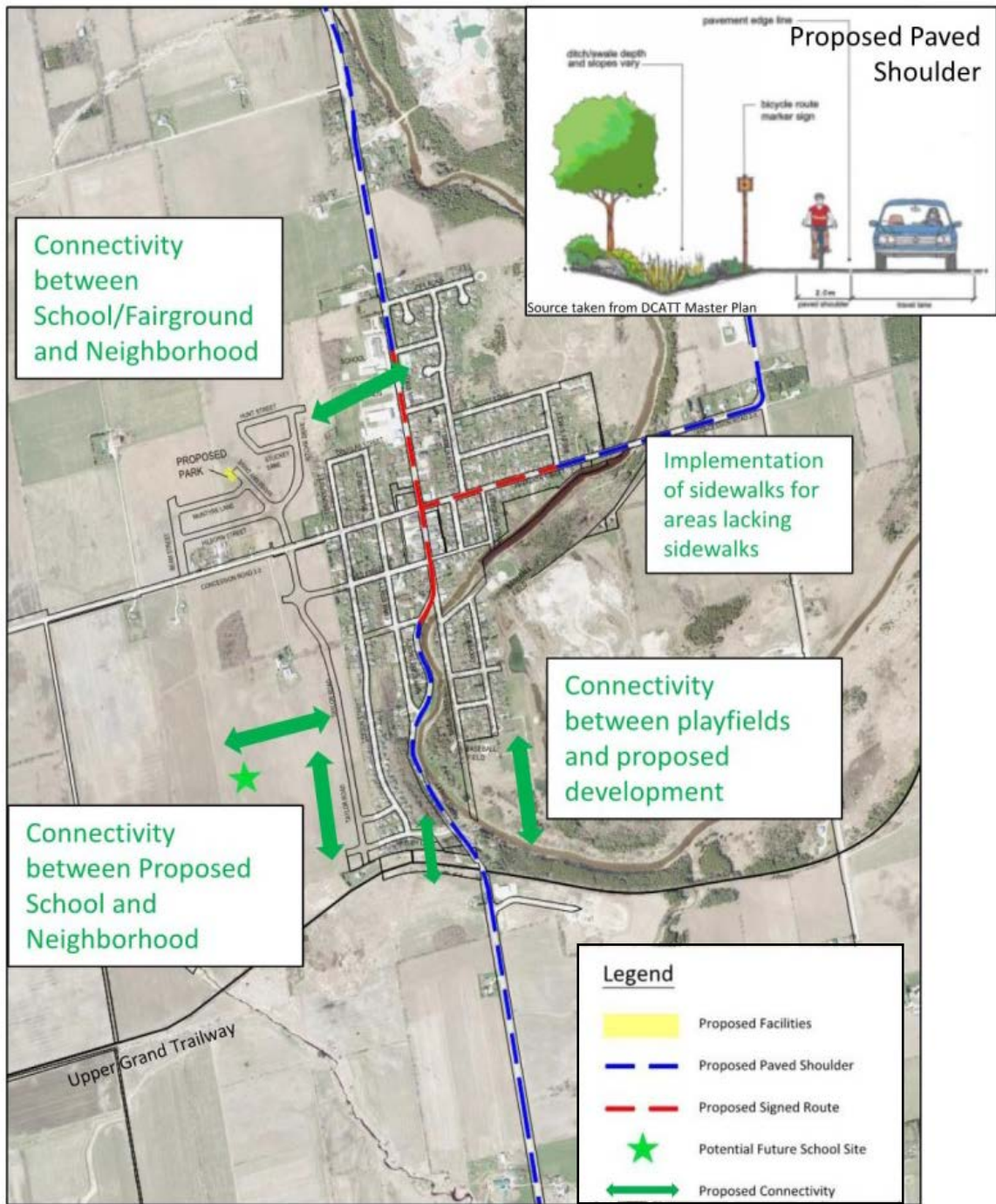
These recommendations were considered when developing alternative solutions.

6.6 Proposed Active Transportation

The proposed Active Transportation network follows the recommendations in DCATT as illustrated in Figure 22. A paved shoulder is proposed east of Bielby Street on Amaranth Street East, which continues to Sideroad 5.

As well, a paved shoulder is proposed north and south of the Main Settlement Area on County Road 25. In the Main Settlement Area, there will be signed routes on Main Street and Amaranth Street. Connectivity will need to be provided between existing neighborhoods, proposed subdivisions and other public facilities / institutions, such as parks and schools. Details for this connectivity will be evaluated as development applications arise. It will be incorporated as a mandatory aspect to be examined when development applications are submitted.

Figure 22: Proposed Active Transportation



6.7 Proposed Roundabouts and Traffic Calming Measures

6.7.1 Roundabouts

Roundabouts are one way circular intersections that circulate traffic in a counter-clockwise direction. All vehicles entering the roundabout must yield to the traffic already within the roundabout. Currently, within the Town there are two roundabouts, one within Phase 2 of the Thomasfield subdivision and one at the Taylor Drive / Mill Street intersection as illustrated in Figure 23.

Figure 23: Roundabout at Taylor Drive / Mill Street



When roundabouts are appropriately designed, installed and signed, they can provide numerous benefits including:

- A reduction in speed, lowering the potential and likelihood for serious collisions and injury.
- Can better handle a high volume of vehicles making left turns.
- Shorter delays and fewer interruptions are experienced due to the continuous flow of traffic.
- Environmental benefit due to fewer delays, reducing emissions and improving air quality.
- Aesthetically pleasing and adds character to the Town.

However, implementation of roundabouts requires careful consideration. It is recommended that the Town establishes a policy to determine the use of roundabouts as an intersection traffic control in future developed areas. Design parameters for roundabouts should also be included in the Town's design standards.

The Town should also take into consideration the education of users in regards to approaching, yielding to traffic, and exiting the roundabout.

6.7.2 Traffic Calming Measures

Traffic calming measures are physical designs intended to reduce the speed of drivers and improve the safety for non-motorists including pedestrian and cyclists. It may involve altering the physical layout of the road or creating a visual illusion through changing the appearance of the roadway to slow down drivers. One of the common measures includes using center island narrowing. This is utilized on Taylor Drive south of Mill Street as illustrated in Figure 24.

Figure 24: Traffic Calming Measures on Taylor Drive



The benefits of traffic calming measures if implemented correctly include:

- Reduction of speed lowers the potential and likelihood for serious crash and injury.
- Decrease cut-through traffic on local roads.
- Provide midpoint refuge for pedestrian crossing.
- Improving the aesthetics of the Town.

Currently, there are no protocols or guidance within the Town's OP on implementing traffic calming measures. It is recommended that the Town develop guidance on traffic calming measures and require new developments to assess the proposed network to include traffic calming measures within their subdivision plans.

7.0 Proposed Alternatives

The previous sections identified the potential future deficiencies in the transportation network. This section focuses on alternatives to alleviate the deficiencies in the road network, achieve the growth and employment projections and meet the goals and objectives of the Town. The following alternative solutions were identified:

- Alternative 1 – “Do Nothing”
- Alternative 2 – Introduction of an additional North-South Collector
- Alternative 3 – West by-pass as an additional North-South Collector
- Alternative 4 – East by-pass as an additional North-South Collector

Input has been received from the agencies, Indigenous communities and other stakeholders. Following PIC #1 and comments received from landowners, the Town, and the public, three additional options were developed. The additional alternatives are as follows:

- Alternative 5 – Combination of Alternative 2 and 4
- Alternative 6 – North-South Collector to County Road 109
- Alternative 7 – Modification to Alternative 5, without the east by-pass improvements

The proposed collector road locations are provided for illustration purposes in each concept. The location of the collector roads would be refined through subsequent EA studies.

Alternative 1 – “Do Nothing”

Under the ‘Do Nothing’ solution, improvements would only consist of ongoing regular maintenance of the existing roadway network. There would be no additional roads, or active transportation improvements beyond what is being proposed by development applications submitted to the Town. Figure 25 illustrates the road network for Alternative 1.

Alternative 2 – Introduction of an Additional North South Collector

One of the key improvements in this alternative is the introduction of a collector road as illustrated in Figure 26. The collector road utilizes the future development areas to create a road that circles the Main Settlement Area. A connection is proposed between Water Street and Amaranth East Luther Townline that would provide east-west connectivity. Upgrades to Amaranth East Luther Townline between County Road 109 and the employment lands would be required to facilitate traffic to / from the employment lands and provide an alternative to County Road 25.

This option provides alternative routes to spread traffic demand and provide connectivity within the settlement area.

Figure 25: Alternative 1 – “Do Nothing” Road Network

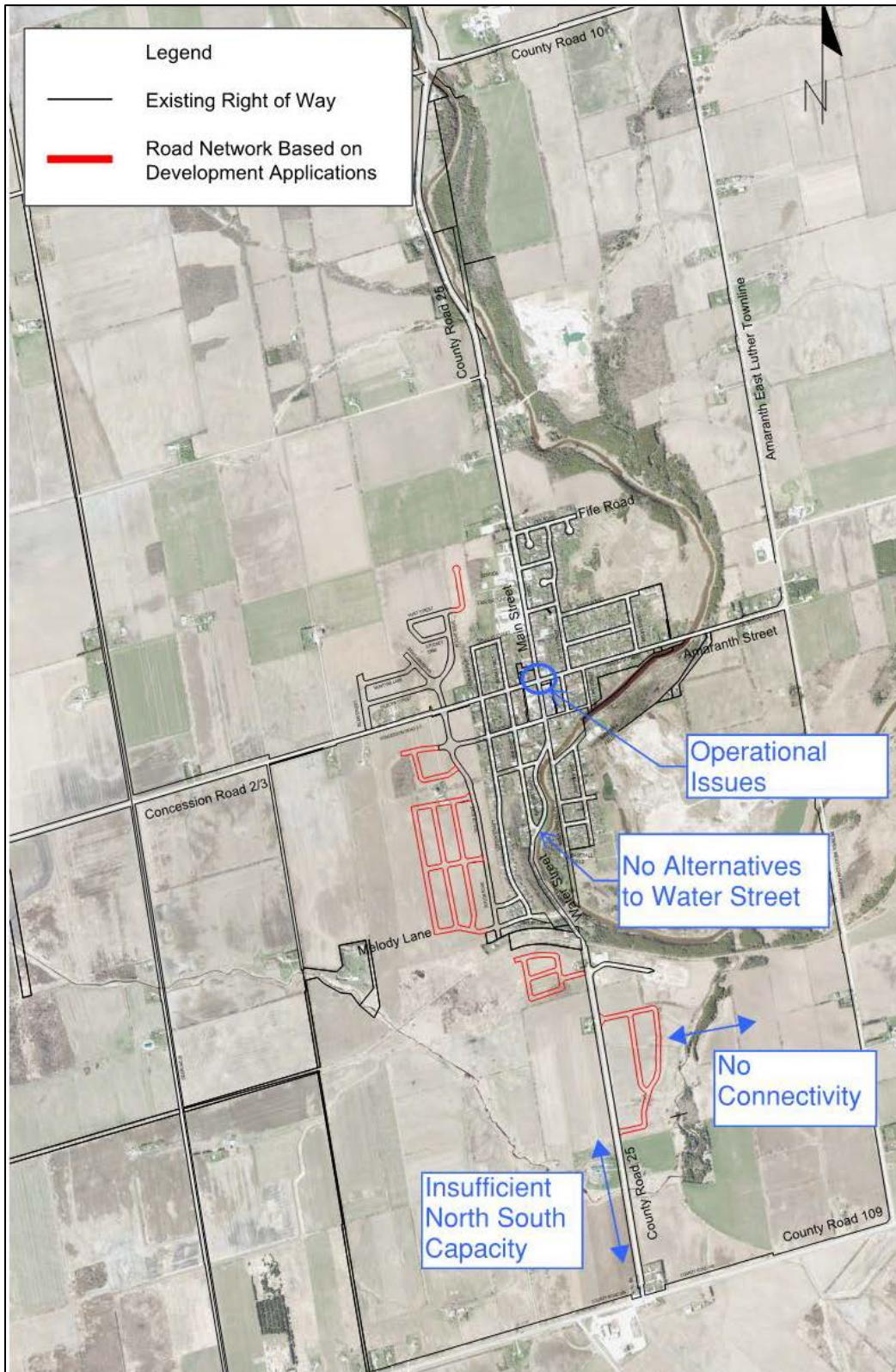
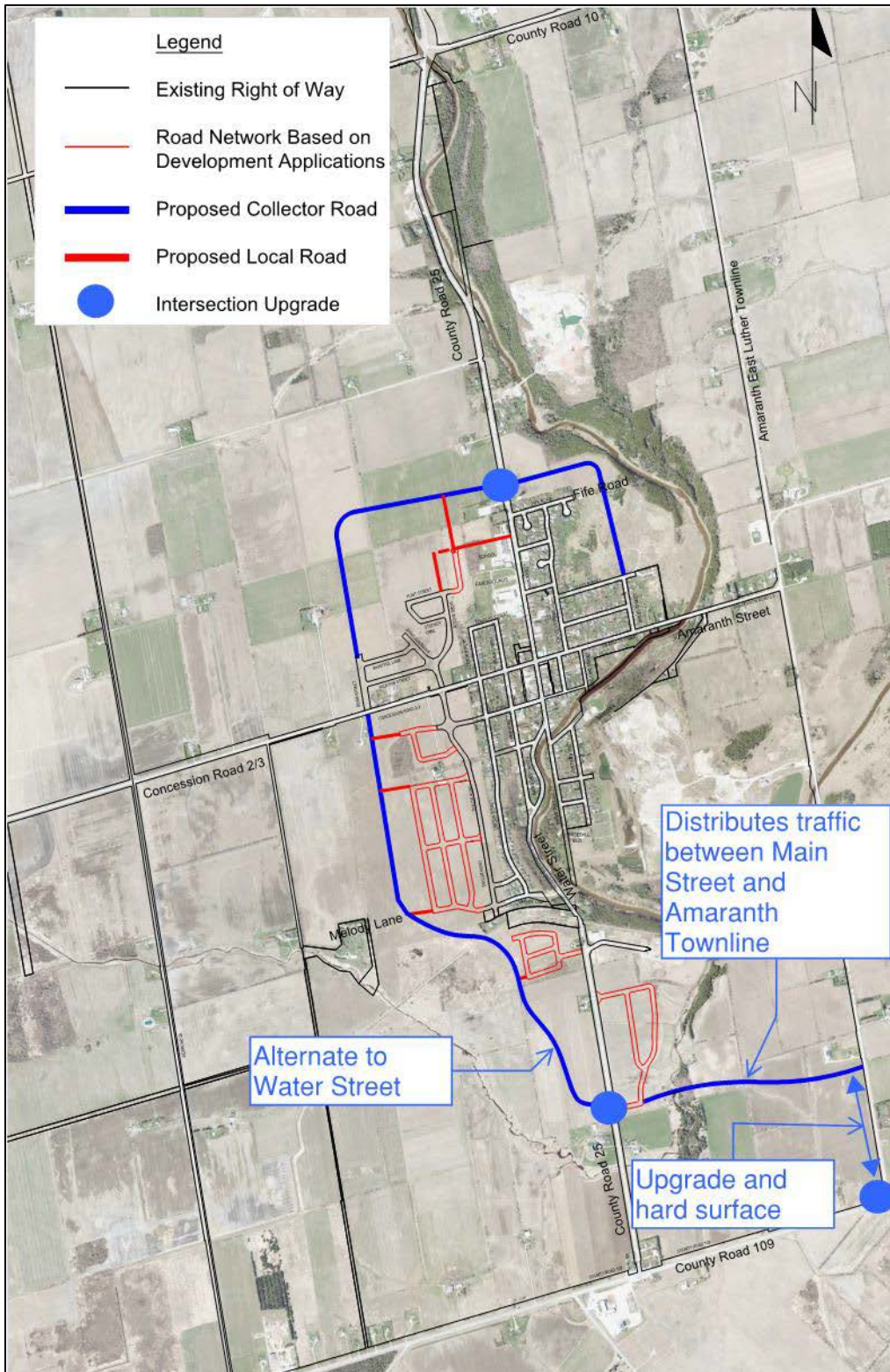


Figure 26: Alternative 2 – Introduction of an additional North-South Collector Road Network



Alternative 3 – West By-pass as an Additional North-South Collector

This alternative improves upon the existing Sideroad 27 & 28 as a collector road as illustrated in Figure 27. Concession Road 4/5 provides a connection back to County Road 25. East-west connections from the Main Settlement Area would be provided to the collector road. This alternative reflects one of the truck by-pass options shown in Schedule A-3 of the Town's OP. An east-west connection between County Road 25 and Amaranth East Luther Townline would be provided.

Alternative 4 – East By-pass as an Additional North-South Collector

This alternative identifies the existing Amaranth East Luther Townline as a collector road between County Road 109 and County Road 10. This alternative reflects one of the truck by-pass options shown in Schedule A-3 of the Town's OP. A local road network option is developed in the new development area around the Main Settlement Area. Figure 28 shows the road network for this option.

Alternative 5 – Combination of Alternative 2 and Alternative 4

The combination of the proposed road network from Alternative 2 and Alternative 4 results in Alternative 5, which is illustrated in Figure 29. A collector road is provided on the east side of the Main Settlement Area and through the new development areas.

Alternative 6—North-South Collector to County Road 109

Responding to comments received, Alternative 6 was developed. This option maintains the collector road on the north and west sides of the settlement area; however, rather than swinging to Amaranth East Luther Townline, the collector road continues south to County Road 109 on the west side of County Road 25. The road network is illustrated in Figure 30.

Alternative 7—Modification to Alternative 5

Alternative 7 was developed to address concerns raised regarding roads outside the settlement area and impacts of crossing the Boyne Creek between County Road 25 and Amaranth East Luther Townline. The transportation network is illustrated in Figure 31 and reflects changes around County Road 25.

It should be noted that implementation of the preferred option or any of the alternatives above would require Phases 3 through 5 of the Environmental Assessment process to be undertaken.

Figure 27: Alternative 3 – West by-pass as an additional North-South Collector Road Network

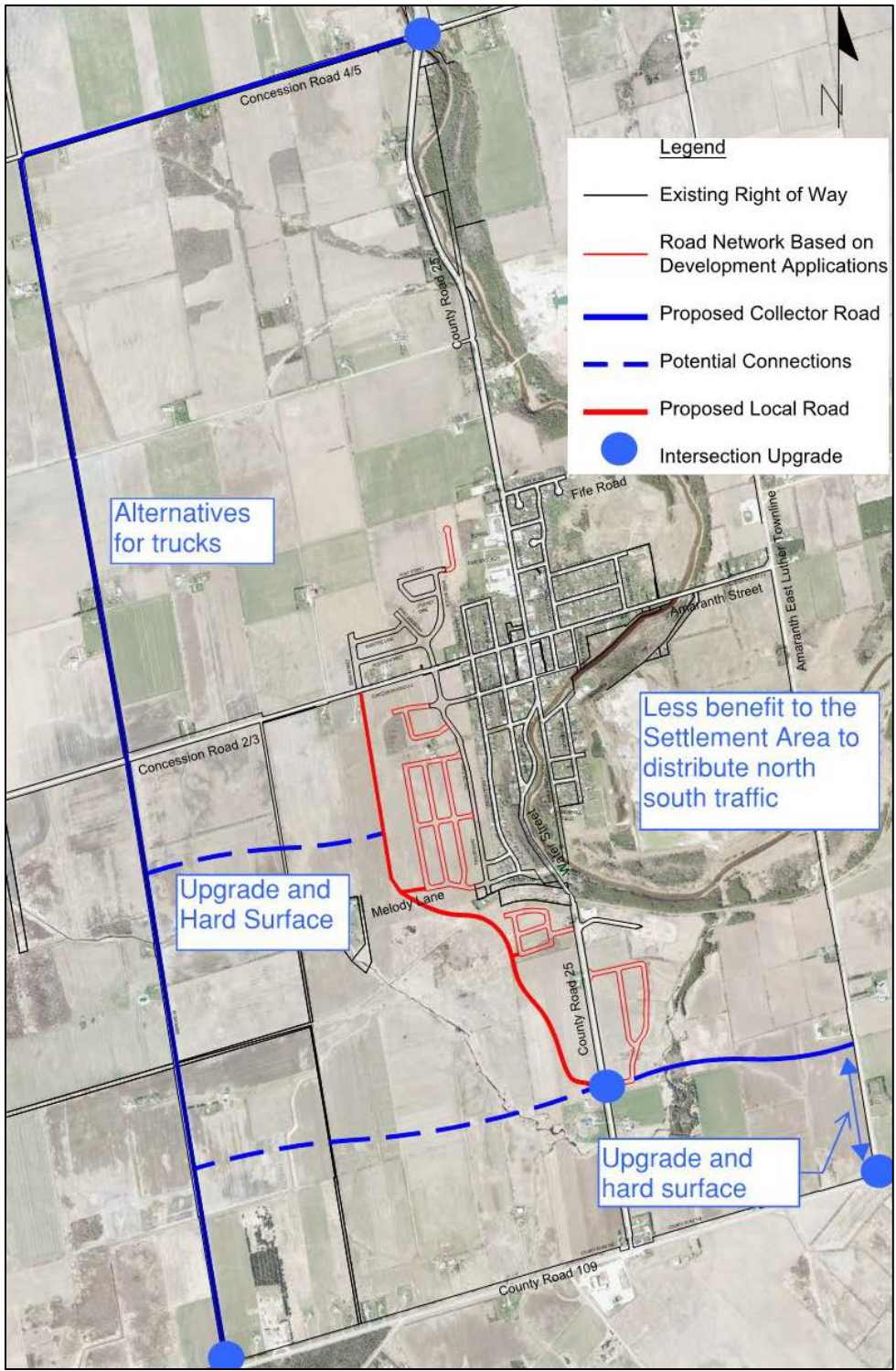


Figure 28: Alternative 4 – East by-pass as an additional North-South Collector Road Network

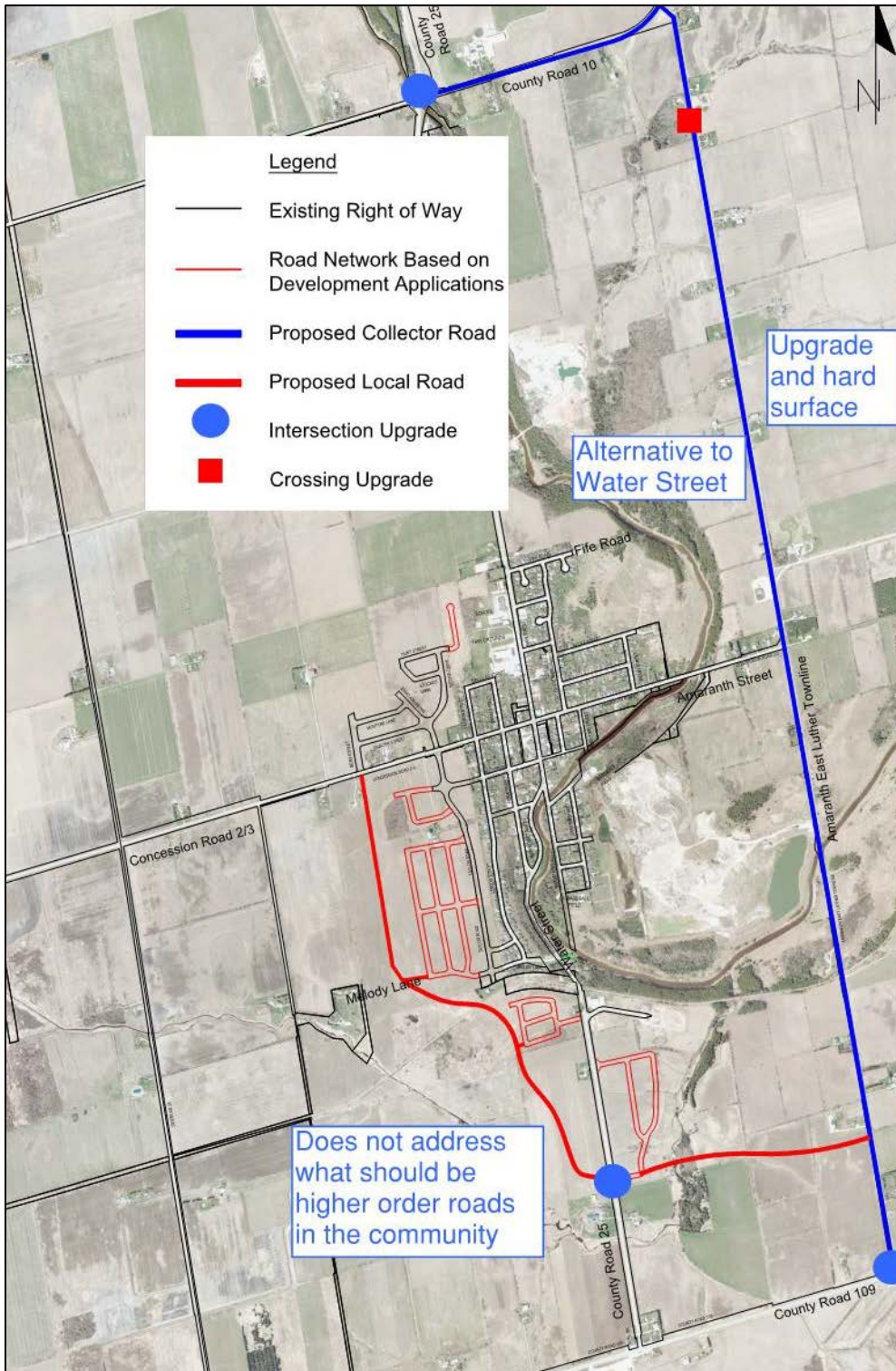


Figure 29: Alternative 5 – Combination of Alternative 2 and 4

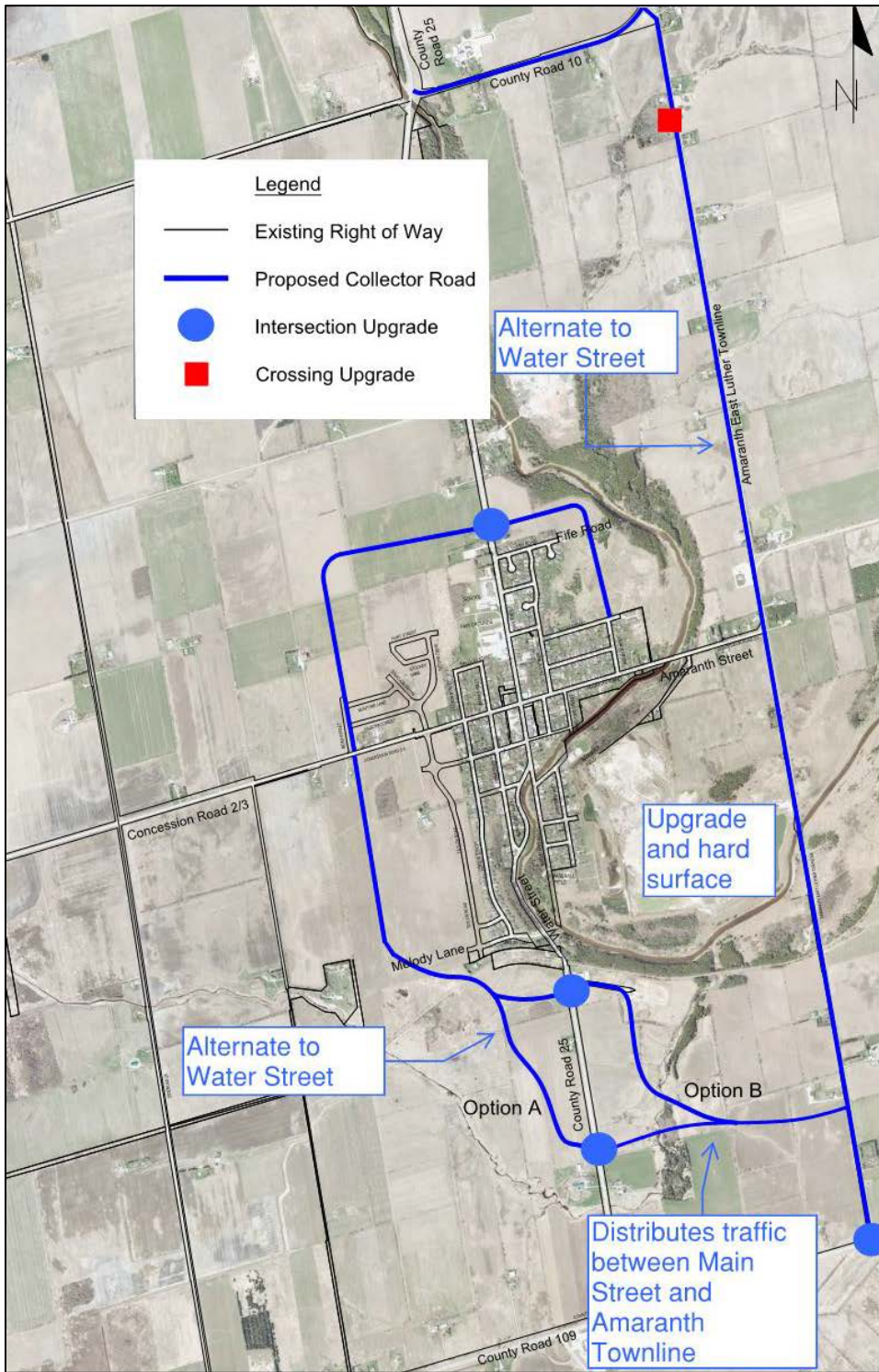


Figure 30: Alternative 6 - North South Collector, West of Taylor

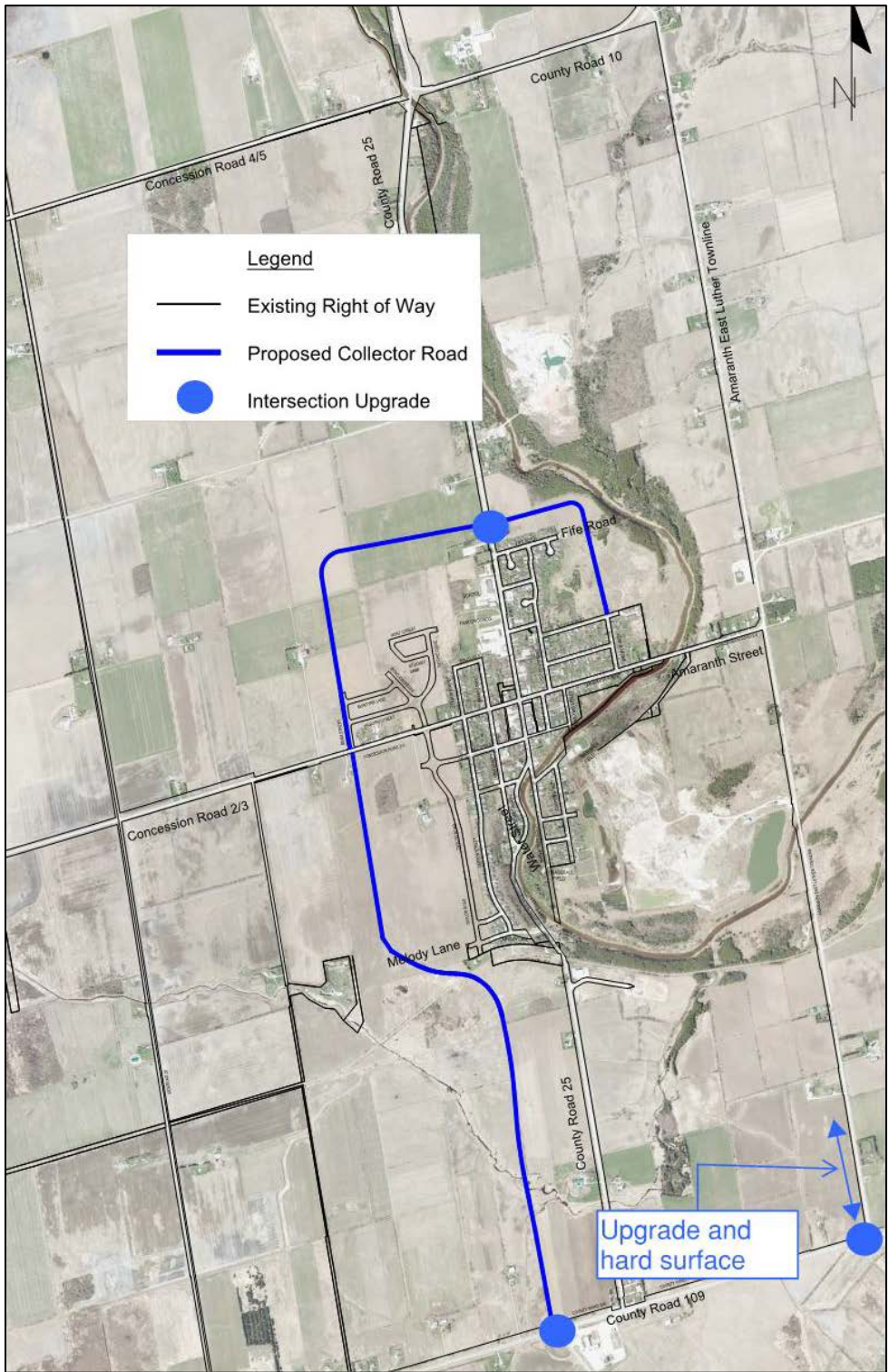
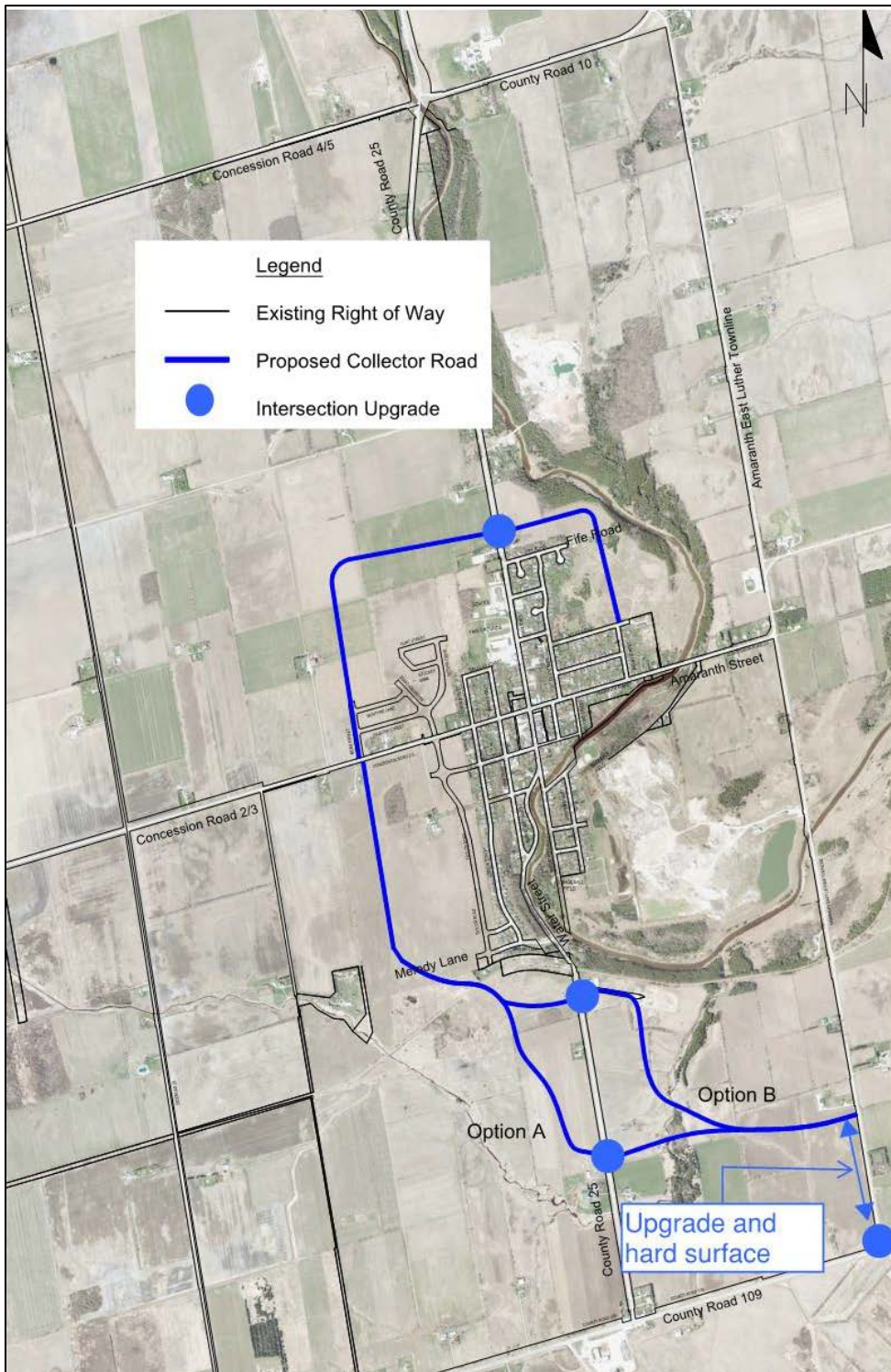


Figure 31: Alternative 7 - Modification to Alternative 5



8.0 Evaluation of Alternative Solutions

The overall objective of the evaluation was to identify a Preferred Solution that will allow for safe and efficient movement of traffic and provide access to the development area, at the least cost while minimizing the impacts on the environment. To this end, a set of Evaluation Criteria were grouped under seven key areas established as part of the Class EA process to comparatively evaluate the Alternative Solutions identified in Section 7.0. The Evaluation Criteria used to assess how well each Alternative Solution would address the problem / opportunity statement, includes:

Transportation

- Effective movement of people and goods
- Facilitating active transportation
- Traffic management
- Speed of traffic and safety measures that are appropriate to the urban context
- Impacts to vehicular level of service
- Maintain parking supply in the downtown core
- Provision for a safe and comfortable pedestrian and cycling environment
- Routing, walkability and short trips

Natural Environment

- Impacts to the natural environment

Socio–Economic Environment

- Supports the existing and future potential business community
- Provide opportunity for planned growth
- Minimize capital and maintenance cost

Built Environment

- Impacts to existing and planned development
- Interface with streets to support adjacent land use

Land Use








- Supports existing and planned land use context
- Supports intensification of land use

Plan and Policy Management















- Meet growth management strategies defined by the Town's and County's Official Plan and other planning policy objectives

The evaluation of the alternative design concepts was based on the criteria above, an assessment of potential impacts and review of input received from the public and regulatory agencies during the study process. Table 12 provides a description of how each alternative design concept compares with the others for each major criterion. The most favorable overall rating that takes into account all criteria was put forward by the study team as the preliminary preferred design concept.

Table 12: Alternative Evaluation

CRITERIA FOR EVALUATING ALTERNATIVES	Alternative 1: Do Nothing	Alternative 2	Alternative 3	Alternative 4	Alternative 5 Blend Alternatives 2 and 4	Alternative 6	Alternative 7
<p>A</p> <p>Transportation Rating:</p>							
<ul style="list-style-type: none"> • Effective movement of people and goods • Facilitating active transportation • Traffic management • Speed of traffic safety measures that are appropriate to the urban context • Impacts to vehicular level of service • Provision for a safe and comfortable pedestrian and cycling environment • Routing, walkability and short-trips • Maintain parking supply in the downtown core 	<ul style="list-style-type: none"> • Insufficient roadway capacity on County Road 25 at the south limits of the community and further south to County Road 109. • Operational issues at Amaranth Street / Main Street by 2021 and cannot accommodate 2031 traffic projections. • No alternatives to Water Street unless local streets used and funnel all traffic to Melody Lane • Under 2031 conditions, all studied intersections have several movements that experience a level of service of E or worse. • No connectivity to the employment lands along Amaranth East Luther Townline. • Truck traffic maintained on County Road 25 / Main Street / Water Street, which does not achieve objectives of the OP. 	<ul style="list-style-type: none"> • Introduces a collector road around the north, west and the south, providing an alternative to Main Street / Water Street. • Connects the employment lands along Amaranth East Luther Townline with the settlement area. • Provides alternative routes to County Road 109 from the settlement area. • Allows efficient use of existing infrastructure. • The Upper Grand District School Board has expressed interest in reserving a site within Phase 4 of Thomasfield's Mayberry Hill development for a potential future new school, which could locate the school along the collector road. • Trucks would continue to use County Road 25 / Main Street / Water Street through the settlement area. • Allows traffic dispersion between Water Street and Amaranth East Luther Townline. 	<ul style="list-style-type: none"> • Improves Sideroad 27 & 28 into a collector road through upgrades and hard surfacing. • There is potential of users still utilizing Main Street / Water Street due to convenience as most of demand is to the south and east. • Requires road connections through the non-settlement area. • May result in safety concerns at Concession Road 4/5 / County Road 25 intersection without upgrades that could be difficult to implement. • Sufficient traffic may not shift from Main Street / Water Street to Sideroad 27 & 28 due to distance out of the way for traffic destined south or east • Truck traffic could be regulated to use Sideroad 27 & 28 and Concession Road 4/5, but would result in longer travel distances for trucks destined to / from the east along County Road 109. 	<ul style="list-style-type: none"> • Improves Amaranth East Luther Townline into a collector road through upgrades and hard surfacing. • Allows a by-pass of the settlement area for trucks and vehicles. • Potential for quick route for trucks destined south and east or to the north and west. • May result in safety concerns at Concession Road 4/5 / County Road 25 intersection without upgrades that could be difficult to implement. • Provides alternative routes to County Road 109 from the settlement area. • Allows efficient use of existing infrastructure. • No collector road system on the north side of the settlement area, which could result in higher traffic on local roads. 	<ul style="list-style-type: none"> • Introduces a collector road around the north, west and the south, providing an alternative to Main Street / Water Street. • Connects the employment lands along Amaranth East Luther Townline with the settlement area • Provides alternative routes to County Road 109 from the settlement area. • Allows efficient use of existing infrastructure. • The Upper Grand District School Board has expressed interest in reserving a site within Phase 4 of Thomasfield's Mayberry Hill development for a potential future new school, which could locate the school along the collector road. • Trucks would have a by-pass to County Road 25/ Main Street / Water Street. • May result in safety concerns at Concession Road 4/5 / County Road 25 intersection without upgrades that could be difficult to implement. • Potential for quick route for trucks destined south and east or to the north. • Allows efficient use of existing infrastructure. 	<ul style="list-style-type: none"> • Introduces a collector road around the north and west providing an alternative to Main Street / Water Street. • Does not connect the employment lands along Amaranth East Luther Townline with the settlement area. • Provides alternative routes to County Road 109 from the settlement area. • Allows efficient use of existing infrastructure. • The Upper Grand District School Board has expressed interest in reserving a site within Phase 4 of Thomasfield's Mayberry Hill development for a potential future new school, which could locate the school along the collector road. • Trucks would not have a by-pass to County Road 25/ Main Street / Water Street. • Requires upgrade to Amaranth East Luther Townline between County Road 109 and employment area. • Requires realignment of County Road 5 south of County Road 109. • Results in closer intersection spacing 	<ul style="list-style-type: none"> • Introduces a collector road around the north and west providing an alternative to Main Street / Water Street. • Provides connection with the settlement area to the employment lands located along Amaranth East Luther Townline. • Provides alternative routes to County Road 109 from the settlement area. • Allows efficient use of existing infrastructure. • The Upper Grand District School Board has expressed interest in reserving a site within Phase 4 of the Thomasfield's Mayberry Hill development for a potential future new school, which could locate the school along the collector road. • Trucks would not have a by-pass to County Road 25/ Main Street / Water Street. • Require upgrade to Amaranth East Luther Townline between County Road 109 and employment area.

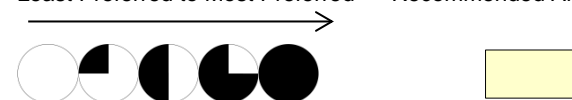
CRITERIA FOR EVALUATING ALTERNATIVES	Alternative 1: Do Nothing	Alternative 2	Alternative 3	Alternative 4	Alternative 5 Blend Alternatives 2 and 4	Alternative 6	Alternative 7
						than desired by the County.	
B Natural Environment Rating:							
<ul style="list-style-type: none"> Impacts to the natural environment (terrestrial environment, aquatic environment, surface water quality, groundwater quality, air quality) 	<ul style="list-style-type: none"> Little to no impact to the natural environment since no additional roads is constructed. However, congestion is expected on the main roads coming into the Settlement area; there can potentially be an adverse impact on air quality. 	<ul style="list-style-type: none"> Requires a new crossing of Boyne Creek for east-west collector road between County Road 25 and Amaranth East Luther Townline. Potential direct impacts to the Boyne Creek and Wooded Areas (per Schedule B-1 of the Town of Grand Valley Official Plan, 2006) for the development of the east-west collector road. 	<ul style="list-style-type: none"> Requires a new crossing of Boyne Creek for east-west collector road between County Road 25 and Amaranth East Luther Townline, plus an additional Boyne Creek crossing for the portion west of County Road 25. Potential direct impacts to the Boyne Creek twice and Wooded Areas (per Schedule B-1 of the Town of Grand Valley Official Plan, 2006) for the development of the east-west collector road. Makes use of existing transportation corridors except for the east-west connections between Amaranth Street and County Road 109 that would extend within and outside the settlement area. 	<ul style="list-style-type: none"> Requires a new crossing of Boyne Creek for east-west collector road between County Road 25 and Amaranth East Luther Townline; however since this is only a local road, the size of the crossing and potential impact will be slightly smaller than Alternatives 2, 3, 5 and 7. Potential direct impacts to the Boyne Creek and Wooded Areas (per Schedule B-1 of the Town of Grand Valley Official Plan, 2006) for the development of the east-west collector road. Requires upgrade to existing culvert on Amaranth East Luther Townline. 	<ul style="list-style-type: none"> Requires a crossing of Boyne Creek for east-west collector road between County Road 25 and Amaranth East Luther Townline. Potential direct impacts to the Boyne Creek and Wooded Areas (per Schedule B-1 of the Town of Grand Valley Official Plan, 2006) for the development of the east-west collector road. Requires upgrade to existing culvert on Amaranth East Luther Townline. 	<ul style="list-style-type: none"> Requires a new crossing of Boyne Creek for north-south collector road. Potential direct impacts to the Boyne Creek for the development of the north-south collector road. More of the section of road is outside of development area through agricultural land. 	<ul style="list-style-type: none"> Requires a crossing of Boyne Creek for east-west collector road between County Road 25 and Amaranth East Luther Townline. Potential direct impacts to the Boyne Creek and Wooded Areas (per Schedule B-1 of the Town of Grand Valley Official Plan, 2006) for the development of the east-west collector road. Option B utilizes an existing farmer's crossing the creek.
C Socio-Economic Environment Rating:							
<ul style="list-style-type: none"> Supports the existing and potential businesses community Provide opportunity for planned growth Minimize capital and maintenance cost 	<ul style="list-style-type: none"> There are little to no financial implications since existing road way infrastructures are not expected to be improved. However, congestion along Main Street may affect businesses along the Downtown Core. It may lead to a higher maintenance cost on the existing roads. 	<ul style="list-style-type: none"> Provides better access to the employment lands along Amaranth East Luther Townline for residents in the settlement area Section of collector road on the south end of the settlement west of County Road 25 is outside the development area. 	<ul style="list-style-type: none"> There will a significant cost to develop Concession Road 4/5 / County Road 25 into the appropriate intersection taking into consideration sightlines, alignments and intersection standards. 	<ul style="list-style-type: none"> There will a significant cost to develop Concession Road 4/5 / County Road 25 into the appropriate intersection taking into consideration sightlines, alignments and intersection standards. 	<ul style="list-style-type: none"> Provides better access to the employment lands along Amaranth East Luther Townline for residents in the settlement area Section of collector road on the south end of the settlement area west of County Road 25 is outside the development area. 	<ul style="list-style-type: none"> Limited access to the employment lands along Amaranth East Luther Townline for residents in the settlement area Section of collector road on the south end of the settlement west of County Road 25 is outside the development area. 	<ul style="list-style-type: none"> Provides better access to the employment lands along Amaranth East Luther Townline for residents in the settlement area Section of the collector road on the south end of the settlement west of County Road 25 is outside of development area.

CRITERIA FOR EVALUATING ALTERNATIVES	Alternative 1: Do Nothing	Alternative 2	Alternative 3	Alternative 4	Alternative 5 Blend Alternatives 2 and 4	Alternative 6	Alternative 7
		<ul style="list-style-type: none"> Reduces congestion and provides alternative transportation routes and accommodates planned growth. Trucks will still use County Road 25 through the settlement area. 	<ul style="list-style-type: none"> Section of collector road on the south end of the settlement west of County Road 25 is outside the development area. Incorporates improvements in the DC charges 	<ul style="list-style-type: none"> Section of local road on the south end of the settlement west of County Road 25 is outside the development area. Provides alternative routes and utilizes existing infrastructure and can accommodate growth. 	<ul style="list-style-type: none"> Reduces congestion and provides alternative transportation routes and accommodates planned growth. There will a significant cost to develop Concession Road 4/5 / County Road 25 into the appropriate intersection taking into consideration sightlines, alignments and intersection standards. 	<ul style="list-style-type: none"> Reduces congestion and provides alternative transportation routes and accommodates planned growth. Requires realignment of intersections along County Road 109 and results in spacing that is less than desirable for the County. 	<ul style="list-style-type: none"> Reduces congestion and provides alternative transportation routes and accommodates for planned growth
D Built Environment Rating:							
<ul style="list-style-type: none"> Impacts to existing and planned development Interface with streets to support adjacent land use 	<ul style="list-style-type: none"> The existing road network does not offer connectivity from the residential areas to other key destinations (including schools, community centre, playfields, core Downtown area). Each proposed development areas are isolated within their own quadrant. There is little connection and support between adjacent land uses. 	<ul style="list-style-type: none"> Can be integrated into future development and will support adjacent land uses. A portion of road needs to built outside the planned settlement area. 	<ul style="list-style-type: none"> This alternative optimizes the use of existing roadway infrastructure prior to the additional new infrastructures. Roads need to be built outside the planned settlement area. This alternative would require traffic to travel out of the way. 	<ul style="list-style-type: none"> This alternative optimizes the use of existing roadway infrastructure prior to the additional new infrastructures. Roads need to be built outside the planned settlement area. 	<ul style="list-style-type: none"> This alternative optimizes the use of existing roadway infrastructure prior to the additional new infrastructures. Can be integrated into future development and will support adjacent land uses. A portion of road needs to built outside the settlement area. 	<ul style="list-style-type: none"> Can be integrated into future development and will support adjacent land uses. A portion of road needs to built outside the settlement area. 	<ul style="list-style-type: none"> This alternative optimizes te use of existing roadway infrastructure prior to additional new infrastructures Can be integrated into future development and will support adjacent land uses A portion of the road needs to be built outside the settlement area
E Land Use Rating:							
<ul style="list-style-type: none"> Supports existing and planned land use context Supports intensification of Land Use 	<ul style="list-style-type: none"> Without additional improvements, it is difficult to fully support the proposed intensification. 	<ul style="list-style-type: none"> This option supports the existing and planned land use by providing a road network system that can link several of the land use together and accommodates planned development to 2031. Does not provide a truck by-pass of the settlement area. 	<ul style="list-style-type: none"> Supports Official Plan diversion of truck traffic from County Road 25 through the settlement area. Supports land use, but limited benefit compared to other options and could still have congestion on County Road 25. 	<ul style="list-style-type: none"> This option supports the existing and planned land use by providing a road network system that can link several of the land use together and accommodates planned development to 2031; however, utilizes a local road system rather than a collector road. 	<ul style="list-style-type: none"> This option supports the existing and planned land use by providing a road network system that can link several of the land use together and accommodates planned development to 2031. Supports Official Plan diversion of truck traffic from County Road 25 through the settlement area. 	<ul style="list-style-type: none"> This option supports the existing and planned land use by providing a road network system that can link several of the land uses with the exception of the employment lands along Amaranth East Luther Townline and accommodates planned development 	<ul style="list-style-type: none"> This option supports the existing and planned land use by providing a road network system that can link several of the land use together and can accommodate planned development to 2031. Does not provide a truck by-pass of the settlement area.

CRITERIA FOR EVALUATING ALTERNATIVES	Alternative 1: Do Nothing	Alternative 2	Alternative 3	Alternative 4	Alternative 5 Blend Alternatives 2 and 4	Alternative 6	Alternative 7
				<ul style="list-style-type: none"> Supports Official Plan diversion of truck traffic from County Road 25 through the settlement area. 		<ul style="list-style-type: none"> to 2031. Required improvements are outside the Town boundaries. Does not provide a truck by-pass of the settlement area. 	
G Plan and Policy Management <i>Rating:</i>							
<ul style="list-style-type: none"> Meeting growth management strategies defined by the Town's and County's Official Plan and other planning policy objectives 	<ul style="list-style-type: none"> This alternative does not fully meet the Town's and County's growth and management. Without additional improvements, it is difficult to support the targeted growth and development 	<ul style="list-style-type: none"> This option meets the Town's and County's growth objective. The additional improvements can support intensification with minimal impact to existing developments. As well, the option can facilitate the use of other modes of transportation by creating connectivity between different land use. 	<ul style="list-style-type: none"> It may be more difficult to meet the growth management strategies defined by the Town and County given the limited attraction to utilize develop Concession Road 4/5 / County Road 25 to attract traffic from the settlement area or divert traffic around the settlement area if destined to the east via County Road 109. 	<ul style="list-style-type: none"> This alternative encourages growth as defined in the Town's and County's Official Plan and planning objectives. By offering an alternative collector to relieve traffic from Main Street / Water Street. It utilizes local roads within the settlement area. 	<ul style="list-style-type: none"> This alternative encourages growth as defined in the Town's and County's Official Plan and planning objectives by offering an alternative collector to relieve traffic from Main Street / Water Street. It addresses a truck by-pass around the main settlement area. 	<ul style="list-style-type: none"> This alternative encourages growth as defined in the Town's and County's Official Plan and planning objectives by offering an alternative collector to relieve traffic from Main Street / Water Street. It results in additional road outside the settlement area and improvements required outside the Town boundaries. Does not address a truck by-pass. 	<ul style="list-style-type: none"> This alternative encourages growth as defined in the Town's and County's Official Plan and planning objectives by offering an alternative collector to relieve traffic from Main Street / Water street
RECOMMENDATION							

Understanding the Rating System

Least Preferred to Most Preferred Recommended Alternative



The widening of Water Street was ruled out as an option given the environmental and physical limitations due to the proximity of the Grand River to Water Street and the adjacent grades.

The following three options ranked the same overall:

- Alternative 2,
- Alternative 5, and
- Alternative 7.

Alternative 2 and Alternative 7 are essentially the same with the only key difference being the alignment of the east collector and where it crosses Boyne Creek at the south end of the settlement area. Alternative 5 builds upon Alternatives 2 and 7 in that a by-pass is provided around the main settlement area. This was the deciding factor in preferring Alternative 5, as it would accomplish the following:

- Meet the objectives identified in the Town and County OPs, of providing a by-pass of the Main Settlement Area.
- Provides a by-pass for through traffic on County Road 25 / Main Street / Water Street to utilize Amaranth East Luther Townline around the Main Settlement Area, which will reduce traffic volumes.
- Provides connectivity between the employment area along Amaranth East Luther Townline and the rest of the Main Settlement Area.
- Provides a truck by-pass route alternative around the Main Settlement Area.

9.0 Recommended Transportation System

To accommodate the Town's growth plans to 2031, improvements are required to the transportation system as traffic operational problems will occur without these improvements. Without upgrades to County Road 25, there is insufficient capacity to accommodate the traffic demand between the Main Settlement Area and County Road 109 and there will be operational problems at intersections internally within the Main Settlement Area. In addition, Water Street has experienced flooding in the past during the spring thaw in the area adjacent to the Grand River. This has resulted in traffic utilizing local streets that are not designed to handle additional traffic. There are also opportunities to improve and enhance the active transportation system and as well as parking availability for residents and businesses within the Town.

The Town, outside of the Main Settlement Area, will have limited growth and roadways will continue to function similar to existing conditions. The challenges will be between the Main Settlement Area and County Road 109, as well as within the settlement area.

Alternative 5, as shown in Figure 29, represents the preferred and recommended road network. It allows for a collector road system within the new development area that builds around the Main Settlement Area and provides for a connection to Amaranth East Luther Townline. Amaranth Luther Townline is recommended to be upgraded between County Road 109 and County Road 10 to act as a by-pass to the settlement area including a truck by-pass alternative. Improvements at the County Road 25 / County Road 10 and Amaranth East Luther Townline / County Road 109 intersections are also recommended. In the area of Water Street within the new development on the south side of the Main Settlement Area, two alternatives are shown to accommodate an east-west collector road.

The Upper Grand District School Board has expressed interest in reserving a site within Phase 4 of Thomasfield's Mayberry Hill development for a potential future new school. The school site could be located along the new collector road.

The Municipal authorities will require further consultation with each other to assess jurisdictional responsibilities should a road change in function.

Anticipated development by 2021 can be accommodated by the road network with the exception of the Amaranth Street / Main Street intersection where operations will be reduced. With the anticipated construction of new proposed developments, infrastructure should be provided for the long term vision. By 2031, it will be necessary to have the recommended infrastructure implemented to accommodate projected population and employment.

The proposed Active Transportation network builds upon the recommendations in the County's DCATT with the recommended active transportation plan illustrated in Figure

Town of Grand Valley Transportation Master Plan Study
March 2017

22. A paved shoulder is recommended east of Bielby Street on Amaranth Street East, continuing to Sideroad 5. As well, a paved shoulder is recommended north and south of the Main Settlement Area on County Road 25. In the Main Settlement Area, there will be signed routes on Main Street and Amaranth Street.

Connectivity should be provided between existing neighborhoods, proposed subdivisions, and other key destinations such as parks and schools. Details on this connectivity will be evaluated as development applications arise to ensure appropriate links between facilities.

The Town's Engineering Standards identify that sidewalks should be provided on both sides of the road for all minor collector, collector, and arterial roads and local streets should have a sidewalk provided on one side of the street. These standards should be incorporated as a mandatory aspect to be examined when a development application is submitted.

Linkages for the new development areas should be provided to the Upper Grand Trailway. Ultimately, it would be desirable to provide a pedestrian crossing of the Grand River in the south area of the settlement area when demand warrants. This would provide a secondary linkage to recreational facilities on the east side of the Grand River.

In the *Parking Strategies Report* prepared by the Town, anticipated future parking issues were addressed with a list of options as follows:

- Utilize the west rear lane parking lot by Amaranth Street / Main Street to provide for parking for business staff and apartments. This will free up spaces along the store frontage.
- Monitor real-estate sales of properties in disrepair along the east back lane of Amaranth Street / Main Street and consider them for future parking lots.
- Purchase land on the west side of King Street that backs onto the east back lane. The land can be used for future parking provided that the Town budgets for a higher premium per parking spot.
- Consider amendments to the planning and engineering documents to require additional parking spaces in conjunction with residential subdivisions where smaller frontage lots are provided, which limit the ability to provide on-street parking.
- Encourage common parking areas, wider units, and increased side yard setbacks to accommodate for parking in higher density development areas.
- Explore opportunities to encourage converting bank-barn and outdated farm infrastructure to encourage development of storage facilities for RVs, boats and trailers.
- Increased front yard setback to garages would lead to an increase in driveway length and therefore, increase in capacity on the driveway.
- Increase minimum lot requirement to provide more on-street parking. Proper signage for on-street parking will need to be established on one side of the street.

- Develop a target for the amount of street parking provided and require the submission of a parking plan for all future applications.
- Enforce parking infractions through Town initiatives and provide warnings that identify alternative parking for local businesses.

In addition, the Town's OP includes several policies that encourages on-street, shared, rear or side of building parking in the downtown core as well as within commercial, industrial and institutional developments. Improved regulations for on-street parking within the Town are needed where parking restricts the passage of vehicles. The Town could implement a restriction of on-street parking on one side of the road (not on the sidewalk side) where parking on-both sides of the street cause challenges with movement of traffic. This prohibition would better utilize the pavement and facilitate better traffic flow within Town.

The transportation policies and guidelines within the Official Plan were developed in order to meet the objectives of the Town. The existing Town policies and guidelines regarding transportation were reviewed with the following recommendations:

- Roadway Hierarchy:

Section 7.3 (a) in the Official Plan should add collector roads to the list of roads.

Also under Section 7.3, the following should be added: "Additional right-of-way or road allowance may be required to accommodate turning lanes or grading constraints". This would be applicable to all classifications of roadways.

- Transportation Demand Management (TDM) and Active Transportation:

The Official Plan should include a guideline on new developments, requiring them to provide active transportation facilities, such as sidewalk and trail connectivity and bicycle parking. Reference should be made to the County's DCATT for the need to meet the County's objectives.

- Roundabout and Traffic Calming Implementation

Currently, there are no protocols, guidelines or policies in regards to roundabout and traffic calming measures in the Town's documents (OP, by-laws or design guidelines). It is recommended that roundabout and traffic calming policies / guidelines be developed that include the following:

- It is recommended that roundabouts should be considered when:
 - A new intersection is proposed and forecasted traffic volumes warrant a traffic signal.
 - Improvements required at an existing intersection due to safety problems.
- Traffic calming is to be considered in new development applications and roadway reconstruction projects.

- Grand Valley By-Pass:

Section 7.7 and Schedule A-3 of the Official Plan should be amended to reflect a preferred alignment of the by-pass on the east side of the settlement area by utilizing Amaranth East Luther Townline and County Road 10.

The estimated capital cost of the transportation road network alternatives presented is summarized in Appendix E. For the preferred preliminary transportation network option for 2031, the approximate total cost is \$19,800,000. The collector road network is expected to be implemented as development proceeds. Improvements to the existing road network would need to be implemented between 2021 and 2031 and will depend upon the pace of development.

Currently, the DC By-law is collecting for upgrades to the road network, including a number of roads in the recommended transportation network. These upgrades include:

- Sideroad 3/4 and Sideroad 27/28 as a Downtown By-pass improved from gravel to surface treated and widened.
- Amaranth East Luther Townline improved from gravel to asphalt with guardrails from Amaranth Street to County Road 109.

It is recommended that additional funding be allocated to continue the upgrade of Amaranth East Luther Townline further north to County Road 10.

10.0 Monitoring the Plan

It is recommended that regular reviews and updates of the TMP are undertaken to ensure the current relevance and effectiveness of the plan and to allow the plan to be adaptable. As well, the Municipal Class EA recommends that the plan be updated every five years. Updates should be done in conjunction with the Official Plan and the land use plan. Policy and transportation systems components in both reports should align. The amount of time between the updates can allow for progression towards the set out objectives, adjustments to population and employment growth and distributions, and accommodate for any changes in other planning documentations.

