

GREY COUNTY TRANSPORTATION MASTER PLAN



Final Draft Report

Project No. TR12-0311



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1. Introduction

1.1. Study Purpose and Objectives

The Transportation Master Plan (TMP) is a strategic plan that directs policies and infrastructure initiatives in Grey County (the County). It is developed within the context of the existing transportation system and travel characteristics in Grey County. The TMP considers development growth within the County and potential improvements to ensure viable travel into the future. The TMP will shape the transportation system, and direct policies and infrastructure plans, which may include roads, transit service, bicycle and pedestrian connections, and travel by air, rail or water.

The TMP addresses short, medium, and long-term transportation needs for all modes of travel and will provide input to future environmental assessments and official plan updates.

Goals of the TMP are listed below:

- Goal #1:** Create a vision for all modes of transportation in Grey County, with a particular focus on encouraging active transportation options (cycling, walking/running).
- Goal #2:** Identify transportation network constraints and opportunities, as well as required infrastructure improvements/expansions to ensure the continued safe and efficient movement of people and goods to the year 2036.
- Goal #3:** Ensure that the TMP is fully aligned with the County's vision and goals identified in the County Corporate Strategic Plan and other County plans/strategies.
- Goal #4:** Establish solutions reflective of the present economic climate and future conditions.
- Goal #5:** Coordinate and establish partnerships with public and private agencies.

1.2. Study Approach

Grey County is undertaking this TMP to direct policies and infrastructure initiatives for its transportation system for the next 25 years. The Grey County TMP was developed within the context of existing transportation infrastructure and travel characteristics and provide input to future environmental assessments, official plan updates and development charge studies. This strategy balances travel needs with community and environmental needs consistent with the Grey County Growth Management Strategy and other County objectives.

The TMP was developed in recognition of growth implications and the effect of transportation solutions on the community and the environment. The TMP follows the requirements of Phases 1 and 2 of the *Municipal Class Environmental Assessment (EA) Process* for master plans.

1.3. Public Consultation

Public consultation is an integral part of the master plan process. Two public open houses were held to inform the public of the study activities and provide opportunities for the public to ask questions and obtain further information from the study team.

1.3.1. Public Open House 1

The purpose of the first Public Open House (POH) was to present background information and obtain input from residents of Grey County regarding their transportation-related issues and concerns. POH 1 was held on Thursday, November 1, 2012, in Owen Sound and Flesherton, and on Saturday, November 3, 2012, in Thornbury and Hanover. Two members from the County and two members from the consultant team were in attendance at each location. A total of 76 persons signed in at the four locations.

The events were informal, which allowed residents to drop-in during the allotted time period to review information boards which were on display, direct any questions or comments to members of the study team, and leave written comments.

1.3.2. Public Open House 2

The second POH provided an overview of the draft recommendations of the TMP which included transit, active transportation, goods movement, community traffic, road rationalization, and bridge rationalization. POH 2 was held on Thursday, April 18, 2013, in Owen Sound and Flesherton, and on Saturday, April 20, 2013, in Thornbury and Hanover. Two members from the County and two members from the consultant team were in attendance at each location. A total of 77 persons signed in at the four locations.

Summaries of each POH, documenting the public consultation activities and comments received are included in **Appendix A**.

2. Study Context

GreyCounty is a collection of communities that is defined in the Official Plan Mission statement as valuing “its heritage, natural beauty, clean healthy environment, and rural lifestyle”. The County’s Official Plan is committed to sustainable, affordable growth through progressive and well-managed planning for the future while maintaining “hometown” communities. Policies by the Province and County have been adopted that allow for more strict control over subdivision growth, development of agriculturally significant lands and greater emphasis on confining growth to designated urban areas.

2.1. County Structure

The current Grey County structure was formed on January 1, 2001. The restructuring resulted in a two-tier government structure with a County government and 9 local municipalities. Within the local municipalities are a number of smaller communities that are of cultural and historical significance. The County structure and location of the major hamlets and communities are shown in **Figure 2-1**.

2.2. Official Plan Policies

The Official Plan of Grey County guides development in the County. It provides a policy framework which encourages growth and prosperity in the County and a framework for comprehensive, integrated and long-term planning.

Section 1.6 identifies the objectives of the Official Plan, including the following which are relevant to transportation:

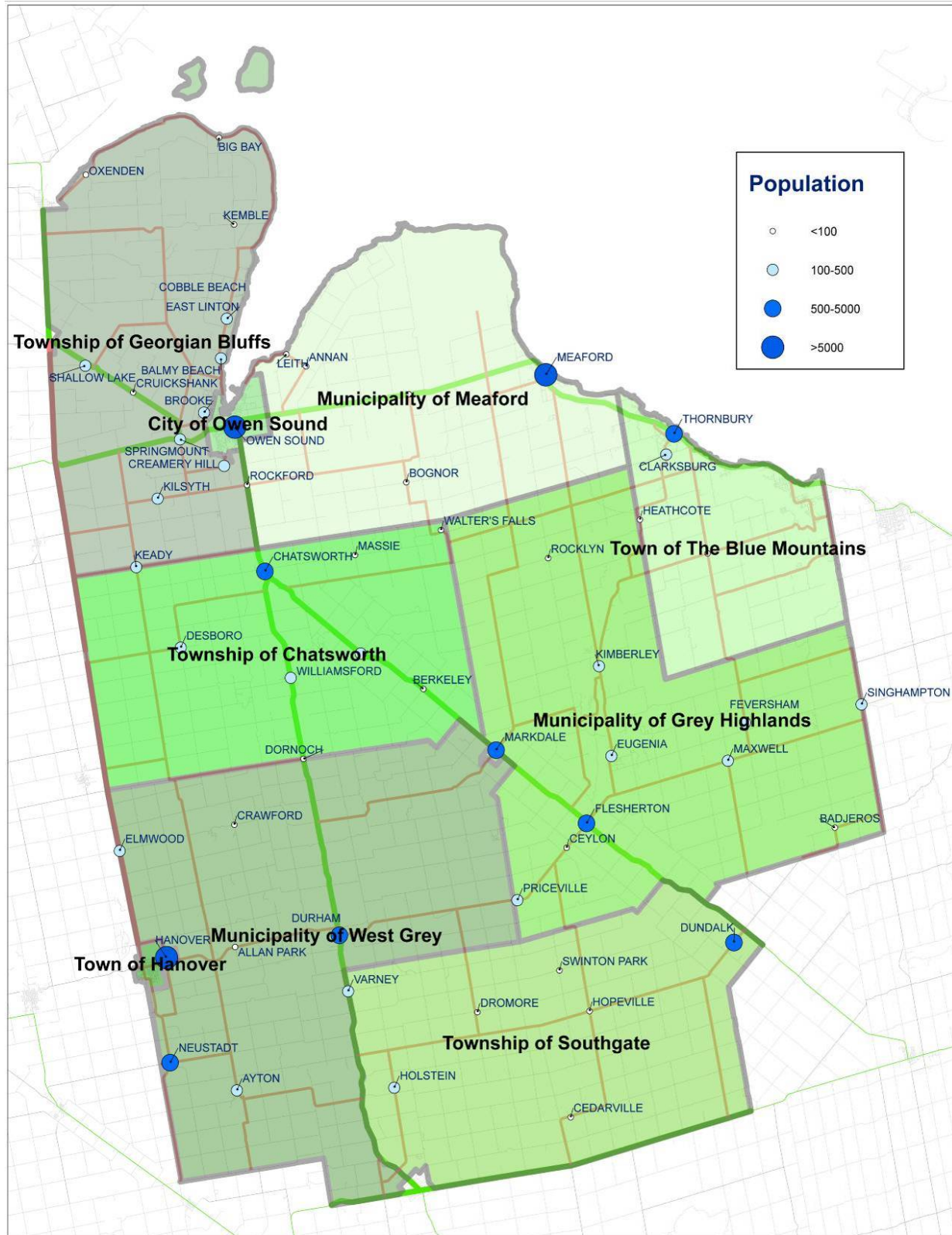
1.6.1. Physical Objectives

- *To locate and develop a new transportation and utility corridors and facilities, and/or expand the use of existing corridors in a manner which minimizes any negative effects.*
- *To set general standards, regulations, and guidelines for development adjacent to County Roads to ensure complementary and standardized policies throughout the County.*
- *To promote the preservation of any railway corridors for future servicing, recreation and/or transportation.*
- *To protect the function of the County Roads as the major traffic carriers through the regulation of development and access points along such roads.*
- *To protect the function of the Provincial Highways by working closely with the Ministry of Transportation as the road authority, on any matters affecting the integrity of the Provincial Highway system.*

1.6.2. Social Objectives

- *To encourage the local preservation, conservation, public accessibility and maintenance of natural, cultural or man-made historical or heritage features.*
- *To respect and support local heritage and culture within the County.*
- *To maintain and enhance the scenic and natural heritage value of the river corridors, the valleys and Georgian Bay shoreline by a strategy which emphasizes both conservation and protection of the landscape.*

Figure 2-1: Grey County Structure showing Municipalities and Major Communities



1.6.2. Environmental Objectives

- *To consider the cumulative effects of new development on the natural environment and surrounding land uses.*

1.6.3. Economic Objectives

- *To encourage the maintenance of existing recreation and tourism-related activities and land uses and the establishment of new facilities which diversify recreational opportunities within the context of a year-round recreational/tourism community for all possible forms of recreation, such as skiing, snowmobiling, fishing, hunting, golfing, walking, hiking, biking, equestrian, and nature trail uses, and marina or water access activities, in a manner consistent with the preservation of the natural environment.*
- *To promote an efficient road system to serve the agriculture, tourism, commercial, industrial and residential needs of the County.*

2.3. GreyCounty Growth Management Strategy (2008)

The Grey County Growth Management Strategy (GMS) Study was undertaken as part of the 5-year review of the Grey County Official Plan and describes the recommended approach for managing growth to 2031 in the County. The strategy recommended that the County strengthen the role of settlement areas, emphasizing the role of intensification and redevelopment, and regulating the expansion of settlement and rural development. This is based on a review of the following documents and policies:

- Grey County's current Official Plan mission statement, goals and objectives;
- Provincial policy directions as defined in the 2005 Provincial Policy Statement;
- The growth projections prepared for the County and its area municipalities as part of the Growth Management Strategy process;
- A land needs and supply analysis carried out as part of the Growth Management Strategy process;
- Discussions with County of Grey planning staff and area municipal representatives concerning recent developments; and
- Grey County policy papers prepared in support of the five-year review of the Grey County Official Plan.

Growth predictions for Grey County have been based on historic growth trends and future economic prospects of the County. **Figure 2-2** and **Figure 2-3** detail the growth predictions for the County by area municipality.

A significant amount of growth continues to occur in rural locations of GreyCounty due to the demand for rural lifestyles. There is a significant amount of residential development potential outside of designated settlement areas given the number of undeveloped rural lots that exist throughout GreyCounty. Some areas of the County are also experiencing growth in quasi-industrial and agricultural areas.

There is some potential for the larger centres within the GreyCounty to intensify the existing built up areas. However, the County does not expect additional land to be required for settlement expansion.

Figure 2-2: Population Projection

<i>Table 2.1: Population Projections by Area Municipality</i>						
	2006	2011	2016	2021	2026	2031
West Grey	12,700	13,500	14,300	15,100	15,600	15,900
Southgate	7,500	8,400	9,300	10,200	10,800	11,400
Grey Highlands	9,800	10,700	11,500	12,400	12,900	13,400
Hanover	7,400	7,800	8,100	8,400	8,600	8,700
Chatsworth	6,600	7,000	7,400	7,800	8,000	8,200
The Blue Mountains	7,000	7,700	8,300	8,900	9,300	9,700
Meaford	11,400	12,000	12,500	13,100	13,300	13,500
Georgian Bluffs	10,900	11,700	12,300	13,100	13,500	13,800
Owen Sound	22,600	23,400	24,000	24,800	24,900	24,900
County of Grey	95,900	102,200	107,700	113,800	116,900	119,500

Source: Grey County Growth Management Strategy (2008)

Figure 2-3: Employment Projection

<i>Table 2.3: Employment Projections by Area Municipality</i>						
	2006	2011	2016	2021	2026	2031
West Grey	3,900	4,200	4,400	4,600	4,600	4,600
Southgate	2,000	2,300	2,500	2,700	2,700	2,700
Grey Highlands	3,900	4,200	4,400	4,600	4,600	4,600
Hanover	4,900	5,200	5,300	5,400	5,400	5,400
Chatsworth	1,500	1,600	1,700	1,800	1,800	1,800
The Blue Mountains	3,000	3,400	3,500	3,700	3,700	3,700
Meaford	3,100	3,300	3,500	3,600	3,600	3,600
Georgian Bluffs	2,600	2,900	3,000	3,200	3,200	3,200
Owen Sound	13,500	13,900	14,200	14,400	14,400	14,400
County of Grey	38,400	41,000	42,500	44,000	44,000	44,000

Source: Grey County Growth Management Strategy (2008)

Comparing the 2006 and 2011 census data to those of the projected populations in the Growth Management Study, there are significant differences in the actual and projected population count for the County as shown in **Table 2-1**. The main factor that may have affected growth could be the economic downturn experienced in 2008 to 2009. Grey County will need to encourage growth at a faster rate in the next 15 years (to 2031) otherwise the County may continue to stagnate and fail to meet its growth potential.

Further, Census data reveals only a slight increase in the permanent population, by 157 persons, while 2,094 additional private dwellings were constructed in the same period. This suggests that many of these newlyconstructed private dwellings may be secondary homes for seasonal residents that are not captured in the Census.

Table 2-1: Actual and Projected Population for Grey County

Year	Permanent Projected Population (GMS)	Permanent Population (Census)	Difference Between Projected Population and Actual Population	Total Number of Private Dwellings (Census)	Total Dwellings Occupied by Usual Residents (Census)
2006	95,900	92,411	-3,489	44,387	37,169
2011	102,200	92,568	-9,256	46,481	38,042
Total Growth	+6,300	+157		+2,094	+873

2.4. Background Transportation Studies

2.4.1. City of Owen Sound Transportation Master Plan

The City of Owen Sound completed its TMP in 2010 to ensure it maintains its position as a key regional centre in the Grey County. The objective of the TMP was to ensure that the city's transportation network continues to operate efficiently to provide a competitive position to attract business and enhance economic vitality. Increasing concerns from local residents over traffic infiltration, traffic impacts and safety were addressed.

In terms of land use and development the TMP recommended that the City:

- Encourage public transit use, walking and cycling by development intensification on the city's primary transit corridors 10th Street, 9th Avenue East and the downtown core.
- Update road design standards to include cycle and pedestrian friendly measures.
- Review development applications to ensure they meet the requirements of cyclists and pedestrians.
- Ensure developments provide sufficient bicycle parking on site.

The TMP recommended that a detailed Public Transit service network review be undertaken to provide for east- west and north-south transit services along key corridors in the city to employment and retail centers. This also supports the Travel Demand Management ride-sharing initiatives and discourages single-occupancy vehicle trips.

To meet the City of Owen Sound's objectives of providing adequate level of service on the city's road network for public transit, cyclists, pedestrians and private vehicles, a number of road network improvements were recommended.

To ensure efficient goods movement in and around the City of Owen Sound, the transportation network needs to balance the transportation needs of the local community and commercial activity. The following were the recommendations relevant to County and Provincial infrastructure:

- Promote outer alternative route around Owen Sound for through truck traffic on County and Provincial routes.
- Work in cooperation with the County and Province to review design of roads recommended as the alternative Owen Sound route.
- Co-operate with the County and Province to provide Commercial Vehicle Operations, Intelligent Transport System and Advanced Traffic Management System to detect the conditions in Owen Sound, on key County and Provincial routes.
- Discourage truck traffic on the downtown core road network.

Transportation Demand Management (TDM) programs formed part of the overall TMP for Owen Sound. An effective TDM program in this area was estimated to reduce vehicular trips by up to 10%. The TDM measures recommended in the City of Owen Sound are as follows:

- Review and modify transit, cycling and pedestrian Official Plan policies.
- Review and modify site design, traffic impact study and site plan approval guidelines to incorporate TDM initiatives.
- Develop a TDM supportive parking policy.
- Develop Park & Ride facilities.
- Encourage employment centres to adopt flexible working.
- Encourage tele-commuting as a substitute to physical travel.
- Educate the City of Owen Sound to use active travel and emphasize the health benefits.
- Employ a City of Owen Sound TDM Co-ordinator.

2.4.2. The Town of The Blue Mountains Comprehensive Transportation Strategic Plan

The Town of The Blue Mountains has thriving economy founded on its four-season recreation and tourism industry and a strong agricultural industry. As the Town continued to grow due to the increasing demand for recreation and tourism, the Town's transportation network was under increasing pressure. From 2008 to 2028 it is estimated that there will be 5000 new residential units in the Town of Blue Mountains. This development growth is forecast to increase pressure on the Town's road network including a number of County roads and intersections.

The Town of The Blue Mountains Comprehensive Transportation Strategic Plan(2010), investigated alternative routing options of through traffic through the Town of Thornbury, however no viable alternative route were identified. The Comprehensive Transportation Strategic Plan recommended that the Town should:

- develop a Town TDM and TDM co-ordinator position;
- educate Town residents and visitors on benefits of TDM;
- review of walking and cycling policies and requirements in road design guidelines;
- co-ordinate transit requirements with County, other municipalities and existing transit operators; and
- undertake the road network improvements highlighted in the study to improve the capacity and safety of the Town andCounty network.

3. Needs and Opportunities

This section provides an overview of the existing community characteristics, environment conditions, and the transportation system, including traffic conditions within the County of Grey.

3.1. Community Characteristics

3.1.1. Existing Population

According to the 2011 Census, GreyCounty has a total population of 92,568,47% of which live within urban environments and 53% of which live within rural environments¹. **Table 3-1** summarizes the urban/rural population composition of each of the nine local municipalities in Grey County.

Table 3-1: Grey County Population Composition by Municipality

Municipality	Urban Population	Rural Population
City of Owen Sound	100%	-
Municipality of Grey Highlands	15.6%	84.4%
Municipality of Meaford	43.9%	56.1%
Municipality of West Grey	23.1%	76.9%
Town of Hanover	100%	-
Town of The Blue Mountains	30.5%	69.5%
Township of Chatsworth	-	100%
Township of Georgian Bluffs	7.2%	92.8%
Township of Southgate	28.6%	71.4%
Total - Grey County	47%	53%

Source: County of Grey Website, www.grey.ca

3.1.2. Existing Employment and Labour Force

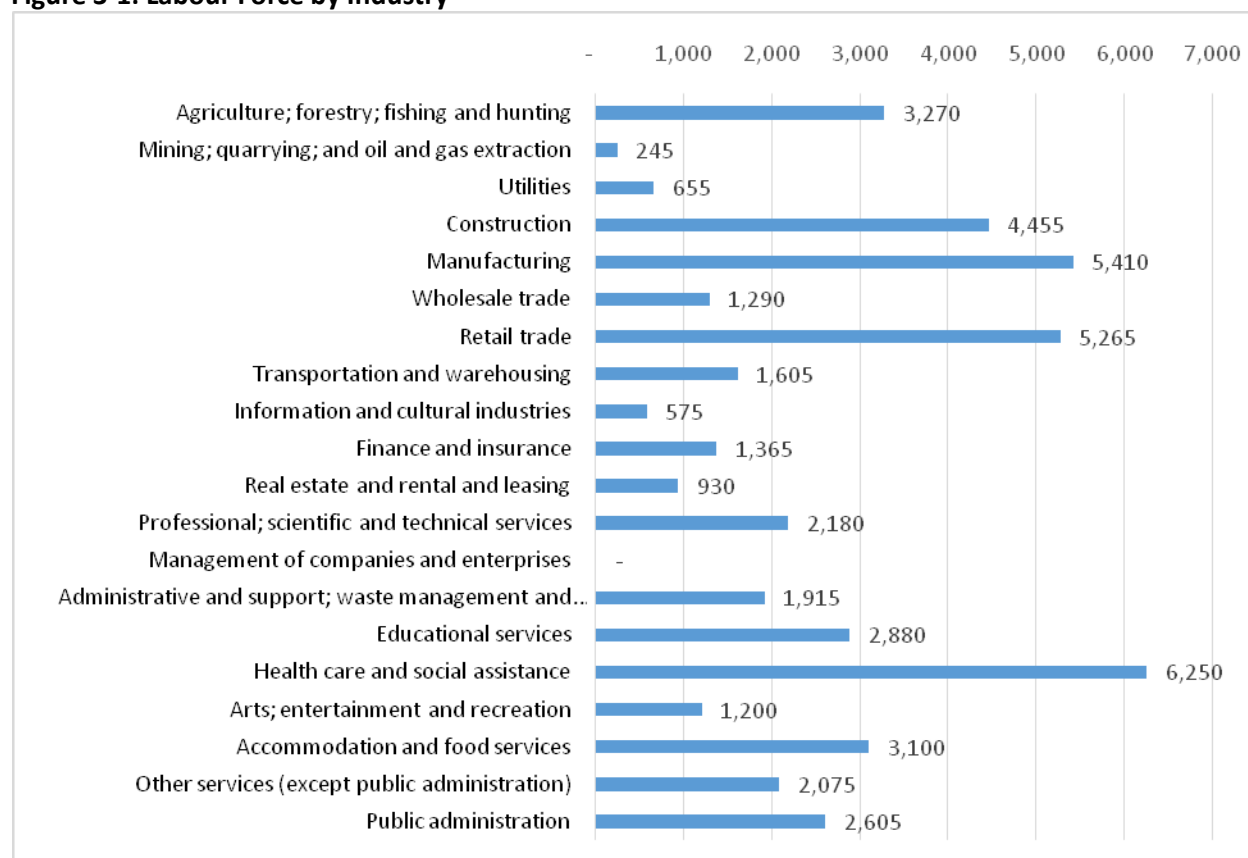
Residents of Grey County work in a range of industries. The total labour force in Grey is 48,100² (2011 National Household Survey). **Figure 3-1** illustrates the distribution of labour force by industry. Total employment in Grey County is somewhat lower with an estimated 37,000³ jobs in the County indicating that many residents of Grey County work outside of the County.

¹As per Statistics Canada, an urban area is defined as having a population of at least 1,000 and a density of 400 or more people per square kilometre.

²Statistics Canada. 2013. National Household Survey Profile. 2011 National Household Survey

³2012 estimate from *Economy Overview Grey County* by Economic Modeling Specialists International.

Figure 3-1: Labour Force by Industry



Source: Statistics Canada. 2013. National Household Survey Profile. 2011 National Household Survey.

3.1.3. Existing Place-of-Residence to Place-of-Work Linkages

To identify the typical commute patterns for residents of Grey County, place-of-work data was requested from Statistics Canada. The usual place-of-work statistics for residents of Grey County are summarized in **Table 3-2** and illustrated in **Figure 3-2** and **Figure 3-3**. The illustrations show major (>1%) usual places-of-work. From **Table 3-2**, it is noted that 13% of Grey County residents have no fixed place-of-work and 6% have a place-of-work beyond Grey County and the adjacent Counties.

Table 3-2: Place of Residence - Place of Work Linkages

Place of Work	Georgian Bluffs	Owen Sound	Meaford	The Blue Mountains	Grey Highlands	Southgate	Hanover	West Grey	Chatsworth	Simcoe County	Dufferin County	Wellington County	Huron County	Bruce County	Other Location	No Fixed Address	Total
Place of Residence	Georgian Bluffs	Owen Sound	Meaford	The Blue Mountains	Grey Highlands	Southgate	Hanover	West Grey	Chatsworth	Simcoe County	Dufferin County	Wellington County	Huron County	Bruce County	Other Location	No Fixed Address	Total
Georgian Bluffs	645	2,785	110	10	55	10	10	10	115	35	10	10	20	770	165	515	5,275
Owen Sound	660	6,615	275	70	95	0	45	45	85	35	0	40	0	345	295	805	9,410
Meaford	40	1,220	1,580	490	160	0	0	0	20	275	0	0	10	60	230	775	4,860
The Blue Mountains	0	15	135	835	60	0	0	0	0	780	0	0	0	0	335	515	2,675
Grey Highlands	15	135	180	165	1,185	135	45	55	20	505	225	60	0	30	400	675	3,830
Southgate	0	35	15	15	220	425	45	215	10	95	385	660	0	30	545	360	3,055
Hanover	0	45	0	0	10	0	1,815	200	15	35	20	85	35	455	110	315	3,140
West Grey	20	175	10	10	360	50	925	1,295	20	125	30	510	30	600	335	765	5,260
Chatsworth	95	830	65	0	185	0	105	100	370	55	15	25	0	215	125	560	2,745
Grey County	1,475	11,855	2,370	1,595	2,330	620	2,990	1,920	655	1,940	685	1,390	95	2,505	2,540	5,285	40,250
	4%	29%	6%	4%	6%	2%	7%	5%	2%	5%	2%	3%	0%	6%	6%	13%	100%

Source: Statistics Canada, 2006 Census

Map of Grey County showing place-of-work trips for residents to surrounding counties.

Legend:

- xxx (x%) → Place-of-Work Trips for Grey County Residents

Trips to Surrounding Counties:

- 2505 (6%) to Bruce**
- 1390 (3%) to Wellington**
- 685 (2%) to Dufferin**
- 2540 (6%) (Other)**
- 1940 (5%) to Simcoe**
- 95 (<1%) to Huron**

Figure 3-3: Place-of-Work -Within GreyCounty



3.2. Environmental Conditions

3.2.1. Environmentally Designated Lands

In the County's Official Plan, natural environment land use designations include Hazard Lands, Provincially Significant Wetlands, Areas of Natural and Scientific Interest, Fish Habitats, Significant Woodlands, Special Policy areas, and Other Identified Wetlands. These lands are generally protected from new developments and are described below:

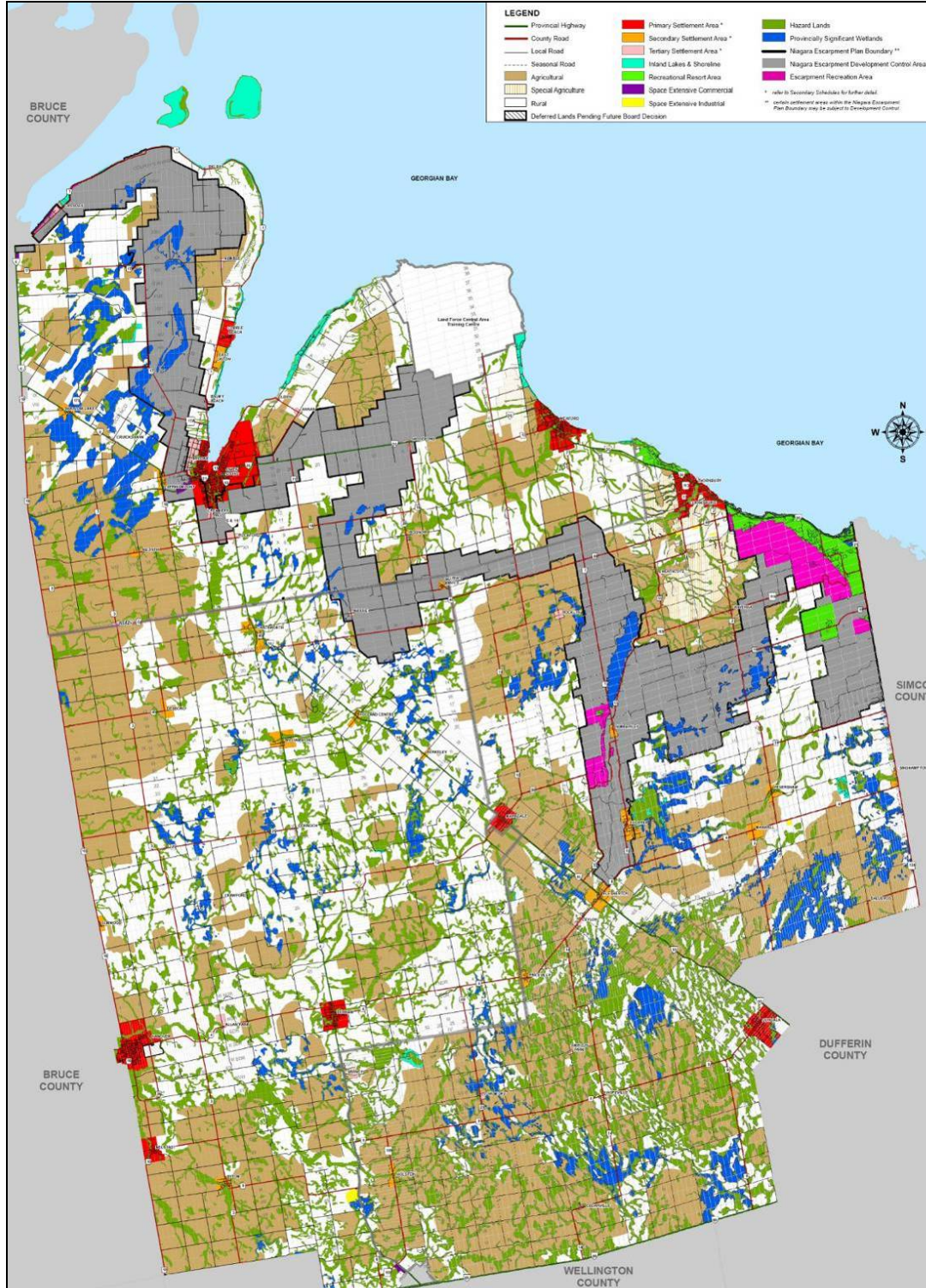
- Hazard Lands are those areas that include floodplains, steep or erosion prone slopes, organic or unstable soils, poorly drained areas, and lands along the Georgian Bay shoreline impacted by flooding, erosion, and/or dynamic beach hazards. These lands are regulated to avoid natural hazards.
- Provincially Significant Wetlands are defined by the Ministry of Natural Resources, as those valued areas saturated with water long enough to form waterlogged soils and the growth of water-loving or water-tolerant plants. Development and site alteration is not permitted within these areas.
- Areas of Natural and Scientific Interest are areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.
- Fish Habitats are areas defined under the Fisheries Act, c. F-14, as spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes.
- Significant Woodlands have been identified by the County of Grey through the assistance of the Ministry of Natural Resources. A woodland is generally considered significant if it is greater or equal to 40 hectares in size outside of settlement areas, and greater than or equal to 4 hectares in size within settlement area boundaries. Other criteria are defined in the County's Official Plan.
- Special Policy Areas within the County have been defined by the Ministry of the Environment as lands consisting of shallow overburden with karst topography.

Hazard Lands and Provincially Significant Wetlands are illustrated in **Figure 3-4**.

3.2.2. Niagara Escarpment Plan

The Niagara Escarpment is a significant landform spanning across southern Ontario with significant portions located within Grey County as illustrated in **Figure 3-5**. Under the Niagara Escarpment Planning and Development Act, 1973, the escarpment is a protected area. Development is limited with land use control achieved through the Niagara Escarpment Plan which allows for Escarpment Recreation Areas and designated settlement areas.

Figure 3-4: Land Use Designation within Grey County



Source: County of Grey Official Plan, Schedule A: Land Use Designations

This map illustrates the Nottawasaga Valley, highlighting numerous conservation areas and parks. Key locations include:

- Conservation Areas:** Bruce's Caves, Spirit Rock, Colpo's Bay, Skimmer's Bluff, Slough of Despond, Lindeewood, The Glen, Indian Creek, Indian Falls, Sydenham Forest West/East, Bayview Escarpment, Ingils Falls, Bognor Marsh, Walters Falls, Rockliffe Creek, Griersville (Blantyre), Fairmount, Epping Lookout, Wodehouse Creek, Kimberley Mill Pond, Wodehouse Karst, Hogg's Falls, Old Baldy, Eugenia Falls, Nottawasaga Bluffs, Noisy River, Pine River, Horning's Mills, and Boyne Valley.
- Parks and Forests:** Robson Lakes Natural Area, Herman McConnell Memorial Forest, Wodehouse Creek, Kimberley Mill Pond Park, Wodehouse Karst, Hogg's Falls, Old Baldy, Eugenia Falls, Nottawasaga Lookout, Nottawasaga Provincial Park, Seymour Property, Delphi Point Municipal Park, Craigleith Provincial Park, Lan Gertler Memorial Loree Forest, Petun Conservation Area, Collingwood, Pretty River Valley Provincial Park, Nottawasaga Lookout Provincial Nature Reserve, Stayner, Devil's Glen Provincial Park, Nottawasaga Bluffs, Noisy River Provincial Nature Reserve, Pine River Fishing Area, Horning's Mills, and Boyne Valley Provincial Park.
- Geographical Features:** Sauble Beach, Boat Lake, Chesley Lake, Arran Lake, Owen Sound, Mountain Lake, Sydenham River, Bighead River, Nottawasaga Bay, and South Saugeen River.
- Towns and Cities:** Wiarton, Gowan Lake, Tara, Meaford, Chesley, Robson, Hanover, Durham, Neustadt, Ayrton, Clifford, Mount Forest, Harriston, Dundalk, Shelburne, Mansfield, Everett, and Creemore.
- Highways:** Various routes are marked, including Highway 1, Highway 21, Highway 26, Highway 35, Highway 40, Highway 48, Highway 50, Highway 52, Highway 54, Highway 56, Highway 58, Highway 60, Highway 62, Highway 64, Highway 66, Highway 68, Highway 70, Highway 72, Highway 74, Highway 76, Highway 78, Highway 80, Highway 82, Highway 84, Highway 86, Highway 88, Highway 90, Highway 92, Highway 94, Highway 96, Highway 98, and Highway 100.

Cole Engineering Group and C.C. Tatham & Associates

3.3. Transportation System

This section provides an overview of the existing facilities and services that comprise GreyCounty's transportation network, as well as a review of recent collision data.

3.3.1. Walking and Cycling Network

GreyCounty has a fairly extensive recreational trail network (including over 8,000 acres of Grey County Forests, many of which contain recreational trails) which accommodates a variety of users. The following is a summary of the major trails in GreyCounty:

Bruce Trail	260 km footpath following the Niagara Escarpment through Grey County connecting The Blue Mountains and Wiarton (the Bruce Trail extends beyond Grey County to the north and south).
Georgian Trail	32 km rail trail connecting Collingwood (Simcoe County) with Meaford and Thornbury.
Tom Thomson Trail	43 km trail connecting Owen Sound and Meaford.
Georgian Bluffs Trail	16 km trail for cycling and walking connecting Owen Sound and the Village of Park Head (Bruce County).
Grey County CP Rail Trail	77 km trail connecting Owen Sound and Dundalk.

Further to the trail system, there are several established on-road cycling routes throughout the County. "Share the road" signage is in place on many routes alerting drivers to the presence of cyclists. As noted on Grey County's *Road Inventory Map - Surface Types, Shoulder Widening and Traffic Counts*, the County currently has 142 kilometres of paved shoulders in place on County Roads with future plans for an additional 453 kilometres (these lengths represent lane kilometres rather than road kilometres; the actual length of road with paved shoulders is approximately 71 kilometres). Most of the existing paved shoulders are located on Grey Road 1 and Grey Road 19 (49 kilometres and 20 kilometres, respectively). In terms of pedestrian facilities (notwithstanding the trail system), the provision of such is limited to the built up areas within the municipalities (which is typical given the rural nature of the County).

Although GreyCounty maintains an impressive trail network, there are several areas that are not linked to the network. This is not unexpected given the size of the County and the low population density. Additional/new trails are required to link those areas where population and demand dictate.

3.3.2. Transit Network

GreyCounty does not provide (nor does there exist) a county wide public transit service. The existing transit network is comprised of several independent services provided through various agencies and private organizations. It is noted that these services are independent of one another, and in most cases provide a service to a specific demographic. The City of Owen Sound, as an exception, provides a public transit service. Summaries of some of the services available within the County are provided below.

3.3.2.1 Owen Sound Transit

The City of Owen Sound offers a conventional transit service and a specialized transit service. The conventional service consists of 4 routes within the City offering ½ hour service from 6:30 am to 6:00 pm, Monday to Friday. A Saturday service is also provided between 9:00 am and 4:00 pm. The specialized transit service operates during the same hours as the conventional service and provides door-to-door service for those individuals who cannot access the conventional service due to mobility limitations. At the time of publication, the City was considering potential changes to their transit system, including a reduction in service routes (from 4 to 3) and closing the Owen Sound Transit Terminal. The conventional and specialized transit services currently operate out of the Owen Sound Transit Terminal. No changes to the 4-route service are expected until a comprehensive review of route options is completed.

3.3.2.2 Taxi Services

There are several taxi companies in operation throughout Grey County. These companies are located primarily in Owen Sound and some of the built-up municipalities (i.e. Hanover, Meaford, etc.).

3.3.2.3 Greyhound Bus Lines

Greyhound provides intercity bus travel across Canada. Within Grey County, Greyhound provides bus service to Owen Sound, Woodford, Meaford, Thornbury, Craileith, and the Blue Mountain Ski Resort.

As noted, Greyhound operates 4 routes (2 outbound and 2 inbound) which provide service within Grey County, 7 days a week.

3.3.2.4 Grey-Bruce Airbus

This service provides a scheduled link between Toronto Pearson International Airport and Owen Sound, Chatsworth, Markdale, Durham, and Flesherton, as well as other destinations in Bruce and Dufferin Counties.

3.3.2.5 School Bus Services

Elementary and high school students residing in areas of Grey County, where distances to the local schools are deemed outside of walking distance, are provided with bus transport to and from school. These services are provided through the Student Transportation Service Consortium of Grey-Bruce.

3.3.2.6 Other Specialized Transit Services

There are a variety of other transit services available within Grey County and its municipalities. Most of these services cater to those individuals with specific needs or limitations. Such services include transport to and from medical appointments, grocery delivery for seniors, wheelchair accessible transport, etc. These services are often subsidized or provided at no cost to the user through benefit programs. The following is a brief summary of the specialized services offered within Grey County.

Grey County Social Services Van

The Grey County Social Services van offers transportation for clients of the Ontario Works support program. The van operates based on user demand with requests for service scheduled in advance. The service transports Ontario Works clients to and from training sessions, community placements and other appointments as deemed appropriate.

Home and Community Support Services of Grey-Bruce

The Home and Community Support Services (HCSS) of Grey-Bruce operates the Movin' GB service, which is a non-emergency, medical transportation service to eligible Grey/Bruce County residents, providing transportation to and from medical appointments via wheelchair accessible vans. Eligible residents include those residents who are 18 years of age or older and do not have access to existing medical transportation services. The service is offered Monday to Friday from 7:00 am to 5:00 pm.

The HCSS also operates a transportation program for eligible individuals who require access to essential services (i.e. medical appointments, shopping, banking, etc.). This service is provided by volunteer drivers and can accommodate long distance travel to medical appointments (Toronto, Kitchener, London and other out of County referral centres). Eligible individuals are those residents who do not have access to other modes of transportation or who require assistance due to health conditions (frailty, cognitive or physical impairment, etc.). This is a user fee demand responsive service that requires 48-hours' notice for service requests.

Beaver Valley Outreach

Beaver Valley Outreach provides transportation to medical, dental, legal and parenting appointments. The service is provided to members of the community who are not covered by Home and Community Support Services or any other support agency.

Beaver Valley Outreach (in partnership with Foodland in Thornbury) also provides a grocery delivery service to seniors living in the Town of the Blue Mountains. The delivery service is offered to those seniors without access to transportation or who have recently returned home from a hospital stay.

First Student Canada - Grey Bruce Wheelchair Accessible Bus

First Student Canada operates a wheel chair accessible bus, Monday to Friday (9:00 am - 2:30 pm). There are limited details available regarding the service.

Saugeen Mobility and Regional Transit

Saugeen Mobility and Regional Transit (SMART) is a specialized public transit service which caters to elderly, frail, and mentally and physically challenged residents of Arran-Elderslie, Brockton, Hanover, Huron Kinloss, Kincardine, Saugeen Shores, Southgate and West Grey. The service is generally operated by appointment (on-demand requests will be accommodated where possible) and provides non-emergency medical, employment and social transportation. SMART is available 7 days a week, including holidays. Clients are required to register with the service.

The Georgian HandiVan

The Georgian HandiVan service is available to any resident of the Municipality of Meaford who is physically disabled or experiences mobility limitations due to age or infirmity. The van provides transportation to work, appointments, shopping, recreation and social activities, with service offered to any location between Collingwood and Owen Sound. The service is supported by the Municipality of Meaford and the Georgian HandiVan Association.

Cross County Patient Transfer Inc.

Cross County Patient Transfer Inc. provides patients with non-emergency transportation service to and from hospitals, long-term care centres, nursing/retirement homes and private residences. The service is offered in Grey and Bruce counties and operates 24 hours, 7 days a week, 365 days a year.

Canadian Cancer Society of Grey-Bruce

The Canadian Cancer Society of Grey-Bruce provides local and long distance transportation service within Grey and Bruce counties for cancer patients. The service makes use of volunteer drivers.

Financial Support Services

In addition to these services there are support programs (i.e. Ontario Works, Ontario Disability Support Program, etc.) which provide financial aid to those individuals who qualify to offset the transportation costs associated with accessing essential services.

3.3.3. Rail Network

There is currently no rail service provided in Grey County.

3.3.3.1 Rail Trail Protection Policy

Grey County owns the former rail corridor stretching 77 kilometres from Owen Sound to Dundalk. The absence of rail infrastructure and the considerable resources required to re-install the track system makes the re-introduction of rail service to the County an infeasible option at this time, further recognizing that the rural attributes of Grey County, as it currently exists (i.e. low density population/industry, rural market conditions, etc.), are not conducive to supporting a viable rail service. Nonetheless, acknowledging that market conditions are dynamic, it would be considered prudent to protect the existing rail trail corridor in order to maintain the option of introducing a rail service for future generations. Divestiture of the rail trail is not recommended as it would increase the future cost of re-introducing rail to the County (i.e. re-acquisition of property), or eliminate the possibility for future rail service altogether.

In order to protect this asset and maintain the possibility of future rail service in the County, a draft rail trail protection policy has been developed which aims to preserve the rail trail as a County asset and provide guidance with respect to the development of the lands adjacent to the rail corridor. The following is a recommended *Draft Rail Trail Protection Policy* for consideration by the County:

1. The rail corridor, being a unique and irreplaceable County asset, is identified as a strategic transportation corridor that is to be preserved for existing and future transportation uses, including the potential re-introduction of rail service to the County.
2. The protection of the rail corridor for existing recreational use and future transportation use (i.e. rail service) requires that the integrity of the rights of way be maintained. As such, the County will maintain ownership of the rail corridor right-of-way and will not permit any encroachment or easement on the rail right-of way that may inhibit or compromise the ultimate return of the property to a rail use, should such an opportunity arise.
3. The County will coordinate with the respective local municipalities (i.e. those municipalities through which the rail corridor passes) to ensure that:
 - a. no development on lands adjacent to the rail corridor right-of-way shall interfere or inhibit the re-introduction of rail service to the County; and
 - b. land-use zoning along the rail corridor promotes development that is compatible and harmonious with the re-introduction of rail service to the County.

It is further recommended that the County coordinate and maintain an open dialogue with Dufferin County to ensure that there is consistency between the Counties with respect to the protection of the rail corridor. The re-introduction of rail service to Grey County is contingent on the same in Dufferin County.

As previously noted, the re-introduction of rail service in Grey County is a long term proposition that requires significant investment and a significant shift in market conditions in order to be realized. As such, the policies introduced to protect the rail corridor, (particularly those policies relating to land use and development) must be reasonable so as not to inhibit sensible growth in the County and its municipalities.

3.3.4. Water Transport Network

3.3.4.1 Existing Harbours

Situated on Georgian Bay, GreyCounty has immediate access to the Great Lakes. In terms of transportation, the Owen Sound harbour is the most prominent water facility in GreyCounty. However, the commercial/industrial operations of the harbour have been in decline over the past two decades. The volume of grain exported out of the harbour has decreased from 200,000 tonnes in 2006 to 84,000 tonnes in 2012. The inner harbour has not been dredged in approximately 30 years and requires such in order to maintain the current freight operations at the grain elevator as the build-up of silt, combined with lower water levels, is reducing water depths. While the exact cost of a maintenance dredge for the harbour has not been established, some estimates are in the order of \$2M (depending on the contamination level of the dredged silt, the disposal costs can rise significantly as it is no longer permitted to haul the silt to the open bay). Freight operations have also been limited with the removal of the rail link in the 1990's. Currently the harbour accommodates some freight operations (only one Great Lakes shipping company is presently making use of the harbour) but is primarily used for recreational and transient marine operations (pleasure craft). While the *Owen Sound Official Plan* (March 2006) encourages the continuing viability of lake freight operations and permits the docking of bulk

freighters and the presence of related repair and service uses, there are continuing plans to develop the harbour-front area into a variety of land-uses including residential.

There are other harbours located within the County - most notably the Meaford and Thornbury harbours; however, these facilities do not experience significant operations and cater primarily to recreational and transient marine operations. Transport Canada currently owns all three harbours, although there have been discussions regarding divestiture of the Owen Sound harbour. Other harbours in the area (but outside of Grey County) include the Collingwood harbour (Simcoe County) and the Goderich harbour (Huron County). Similar to the harbours at Meaford and Thornbury, the utility of the Collingwood harbour is limited to recreational and transient marine operations. The Goderich harbour enjoys a more robust level of commercial/industrial activity than the other noted harbours, buoyed by the export of salt from the local salt mines. The Goderich harbour is currently undergoing major improvements which will increase the harbour's operational capacity.

3.3.4.2 Opportunities - Water Transport

Prior to considering strategies or initiatives to increase the use of the harbour network, it is noted that the future growth and viability of the existing harbour network is dependent on ongoing maintenance and dredging. Dredging, which can be costly, is particularly important given the low water levels in the Great Lakes. As such, the County should support the maintenance efforts of the respective municipalities in ensuring that the harbours remain operable.

Recreational/Transient Marine Operations

Water transport operations in Grey County are primarily related to recreational activities. It is noted that the Department of Fisheries and Oceans categorizes the Owen Sound, Meaford and Thornbury harbours as small craft recreational harbours. The Town of Meaford and the City of Owen Sound have harbour master plans that direct the future development of the harbour and waterfront areas. The ongoing development of these areas to include mixed uses (i.e. retail, public space, residential, commercial, etc.) will increase economic activity and shape the harbours as destinations for residents and tourists. These initiatives can be further supported by the County through tourism marketing programs and by ensuring connectivity of the harbour system to the wider County transportation network (thus connecting destinations within the County).

Commercial Freight

Commercial freight operations have either been on a steady decline over the past decade or all together absent from the County's harbour network. Despite the decline, the County should continue to support efforts to protect the ongoing viability of the commercial operations of the Owen Sound Harbour. Given the existing agriculture and aggregate industries within the County, dredging and proper maintenance of the harbour would provide an opportunity for freight operations to be re-established or increased above current levels. Furthermore, growth in freight operations could result in an increase in other shipping related commercial activities such as freighter lay-up and repair services. In this respect, the Owen Sound Harbour needs ongoing advocacy from the County, municipalities and local industry (i.e. agriculture) to ensure that the required dredging occurs.

The Georgian College Great Lakes International Marine Training and Research Centre, located in Owen Sound and supported by Transport Canada and various shipping companies in Canada, provides

additional exposure for the harbour. The centre offers internationally recognized training programs and recently underwent an \$8M renovation.

3.3.5. Air Transport Network

3.3.5.1 Existing Airports

Grey County is home to two airports: Owen Sound Billy Bishop Regional Airport and Wiarton Keppel International Airport. Although the Town of Wiarton is located outside of Grey County, the airport is located within the County's boundaries.

The Owen Sound Airport is located 5 km east of Owen Sound. The airport, a registered aerodrome with Transport Canada, is situated on approximately 105 hectares (260 acres) of land and consists of a single 1220 m (4,000 ft) north-south runway, aircraft maintenance facilities and hangar space. The airport is home to an air charter service and numerous privately owned aircraft. The airport does not currently serve a major role in the transportation of people or goods. Rather, it caters primarily to private (i.e. corporate) and recreational/pleasure flight operations. The Owen Sound Airport is owned and operated by the City of Owen Sound.

The Wiarton Keppel International Airport is a general aviation airport and is jointly owned by the Township of Georgian Bluffs and the Town of South Bruce Peninsula. The airport has a 5,000 ft asphalt runway and a 3,100 ft gravel strip runway, and offers aircraft services common with most general aviation airports (i.e. fuel, hangars, tie downs, etc.). While the airport can accommodate larger aircraft, service to smaller general aviation traffic is more typical. The Wiarton Keppel International Airport is currently operated by a private airport management group. It is noted that the airport is the only certified aerodrome located within the County. Certified aerodromes are regularly inspected by Transport Canada officials to ensure that the operator is maintaining and operating the airport in a manner that satisfies the standards contained within Transport Canada's publication *TP312 Aerodrome Standards and Recommended Practices*. A 2013 audit by Transport Canada identified runway and lighting deficiencies that must be corrected in order for the airport to maintain its certification. It is understood that the necessary repairs are being coordinated.

The Saugeen Municipal Airport, located in Bruce County to the west of the Town of Hanover, is jointly owned and operated by the Town of Hanover, the Municipality of West-Grey and the Municipality of Brockton. Although not located within the Grey County boundary, the airport is considered as a shared transportation facility (as is the Wiarton Airport). The Saugeen Municipal Airport offers similar services to those of Wiarton and Owen Sound. The airport has two paved runways (4,000 ft and 2,500 ft).

All of the noted airports are designated as "Airport of Entry" (AOE/15) by the Canada Border Services Agency, and as such can coordinate customs services on site as required by flights entering from outside of Canada, whose total number of passengers (including crew) does not exceed 15.

3.3.5.2 Opportunities - Air Transport

As previously noted, the County's airports do not currently play a large role in the movement of people and goods. Significant growth in air transport is not anticipated in the foreseeable future as the realities of operating an airport in a rural market (i.e. low population densities, limited industry, limited funding,

etc.) place limitations on growth opportunities. These limitations must be acknowledged, recognizing that significant growth in the County is required before growth of the air transport network will be realized. Nonetheless, it is recommended that the County support the existing air transport network through soft measures such as general industry growth initiatives, appropriate policy development and strategic planning. The following are potential support initiatives:

- ensure that the airport management groups are engaged with the applicable Chamber of Commerce;
- integrate the airports into municipal/County economic development plans;
- coordinate an economic impact study to document/illustrate the economic benefits of the airport network in Grey County;
- ensure airports have appropriate marketing/business plans and/or ensure that airport management has the capabilities to produce such;
- develop land-use policies that protect lands adjacent to airports from being developed into non-airport friendly uses (i.e. encourage industrial uses rather than residential);
- investigate all available funding avenues (should include all levels of government and their agencies and the private sector) to broaden funding base for airports;
- encourage private partnership opportunities; and
- become an advocate for the airports and encourage advocacy (especially within industry).

The *Study of Municipal Airports in Ontario*⁴ notes that airports are a key consideration when businesses locate to communities. The study further notes that successful municipal airports are well integrated with the surrounding community in terms of economic development and have a good industrial/economic base to support their operations. Thus the noted support initiatives focus on integration of the airport community with local industry. The respective airport management groups should be encouraged to actively engage industry stakeholders and pursue opportunities to establish private partnerships. The County can further support such efforts through initiatives that promote industry growth.

3.3.6. Road Network

The road network in Grey County is comprised of Provincial highways, County roads and municipal (local) roads. The municipalities within Grey maintain authority over most of the roads within their limits with the exception of the County roads and Provincial highways which pass through their jurisdictions. The Provincial highways within the built-up/urban areas (i.e. Owen Sound, Meaford, Thornbury, etc.) are considered as connecting links whereby they provide continuity of the Provincial highway system but generally serve a local purpose. Historically, a road section designated as a connecting link was operated by the City or Town through which it passed while the cost to upgrade/maintain the road was shared between the local municipality and the Province. The maintenance portion of the program was eliminated in 1997, leaving the municipality responsible for the maintenance of the connecting links (the Province continued to share the cost of capital improvements). The Province terminated the connecting link funding program in the spring of 2013. While the respective road sections still maintain the connecting link designation, the cost sharing agreements are no longer in affect.

⁴*Study of Municipal Airports in Ontario*. Sypher (a division of Jacobs Consultancy Inc.). September 2006.

3.3.6.1 Provincial Highways

GreyCounty is served by Provincial Highways 6, 10, 21, 26 and 89. Highway 89 does not enter the County but rather forms the boundary between GreyCounty and DufferinCounty. The remaining four provincial highways pass through the County and provide access to the City of Owen Sound, with Highways 10, 21 and 26 terminating in the City (only Highway 6 passes through the City). As per MTO data, the Highway 6 and Highway 21 overlap (immediately west of Owen Sound) experiences the greatest traffic volumes with reported 2009 Annual Average Daily Traffic (AADT) volumes (the most current MTO published data) in the order of 15,600 to 18,500⁵. A summary of AADT volumes for the noted provincial highways is provided in **Table 3-3**.

Table 3-3: Provincial Highways AADT - 2009

Highway	Section	AADT
Highway 6	Highway 89 to Highway 10 overlap	4,200 - 5,200
	Highway 21 to Bruce Road 10	7,500 - 8,500
Highway 6/21	overlap west of Owen Sound	15,600 - 18,500
Highway 6/10	overlap Chatsworth to Owen Sound	9,450
Highway 10	Highway 6 overlap to Dundalk	5,300 - 7,300
Highway 21	Bruce Road 10 to Highway 6	5,500
Highway 26	Owen Sound to Grey Road 21	6,550 - 8,450
Highway 89	East West Luther Townline to Baseline Road	3,050 - 3,400

3.3.6.2 County Roads

GreyCounty maintains and operates 877 kilometres of County roads. The original intention of the GreyCounty road system was to provide a “farm to market” link, acknowledging the predominantly agricultural environment and the need for the rural population to have access to the market place (both to sell goods and purchase supplies). While similar to its original intent (yet somewhat expanded), the existing purpose of the County road system is to connect area municipalities, provide efficient movement of people and goods within and through the County and provide access to the Provincial highway system.

A typical GreyCounty road has a rural cross-section and provides 2 lanes of travel (one lane per direction). While it is common practice for towns and cities (and becoming more prevalent in Counties/Regions) to assign a functional classification (i.e. arterial, collector, local) to the roads within their transportation system, a formal classification of road function does not currently exist for Grey County beyond the designation of upper tier roads (Provincial highways and County roads) and lower tier roads (municipal/local roads). There are wide variations in AADT volumes on Grey County Roads, with volumes ranging from 400 to 9,500 vehicles. Acknowledging that the function of one County Road may not be the same as another, this study will develop a road system hierarchy within the County

⁵Provincial Highways Traffic Volumes (AADT Only) 2009. Ontario Ministry of Transportation. 2012.

system that distinguishes individual roads by function with the purpose of creating an effective and efficient County road system comprised of roads with complimentary functions.

In addition to the road system, the County is responsible for 189 road bridge and culvert structures. These structures are located on County roads and along municipal town lines (which are not otherwise County roads). This study will include a rationalization of these structures to ensure that an efficient and cost effective approach is realized with regards to their future operation and maintenance.

The County maintains a 5-year forecast of capital and extra-ordinary expenditures related to the planned reconstruction and rehabilitation of the road network. This program considers projects over and above what would otherwise be considered as part of the regular operation and maintenance of the road system. The current 5-year forecast (2013 - 2017) estimates an expenditure of \$44M (the estimated costs related to EMS service have been excluded). The 2012 overall operating and capital budget for roads and bridges was \$15.8M, which included \$8.1M for ordinary maintenance. In addition to the 5-year forecast, the County also undertook a road needs study in 2011 to identify the existing and future needs of the transportation system. The report indicated that the County road system requires an estimated \$160.5M in improvements over the next 10 years whereas the construction and rehabilitation costs for the County's structure system (bridges and culverts) are estimated at an additional \$26.4M⁶.

3.4. Collision Review

3.4.1. Historical Collision Data

Through discussions with County staff it was noted that the County's accident database records are three years out of date and do not capture data for the entire County. As such, the collision review is somewhat limited in scope. The data obtained from the County was reviewed to identify where collisions are occurring on the County Road network. Comment is also provided on the overall nature and severity of the collisions. Although a 34-year collision history was provided, only a 5-year period (2004 - 2008) was reviewed as older collision data may indicate trends that have since been addressed through road improvements.

A summary of the collision data provided between 2004 and 2008 is provided in **Table 3-4** summarized by collision type and injury type. In terms of collision type, nearly half of the reported collisions have been identified as *Hit Object* (an object can include signs, fences, guiderails, pedestrians, cyclists, wildlife, etc.). Of the 663 *Hit Object* collisions, 590 (or 89%) involved collisions with wildlife (predominantly deer). It is noted that the actual number of incidents involving wildlife may be greater as not every collision record identifies the object involved. Given the rural nature of Grey County, it is not surprising that this is the leading type of collision on the road network. The next two leading types of collision on Grey County roads involve a loss of control, accounting for nearly 30% of all collisions (*Lost Control* = 15% and *Lost Control - Slippery Road* = 12%).

⁶County of Grey 2011 Road Needs Study. AECOM. Kitchener, ON. January 2012.

Table 3-4: Collision Summary - 2004 to 2008

Collision Type	Injury Type					Total Collisions	%
	None	Minimal	Minor	Major	Fatal		
Hit Object	648	4	8	2	1	663	44%
Lost Control - Slippery Road	179	23	18	2	1	223	15%
Lost Control	119	24	33	6	3	185	12%
Other	112	7	12	2	0	133	9%
Rear End	70	5	7	1	0	83	5%
Side Impact	49	6	12	4	0	71	5%
Intersection	28	10	19	3	3	63	4%
Swerve	36	9	7	2	0	54	4%
During Turn	31	8	4	1	1	45	3%
Head-on	2	0	0	2	0	4	0%
Fell Asleep	0	0	0	0	0	0	0%
Total	1274	96	120	25	9	1524	
%	84%	6%	8%	2%	<1%		

A majority (84%) of the collisions on GreyCounty roads between 2004 and 2008 did not involve injury. It is further noted that 98% of the collisions involved minor, minimal or no injuries. There were 34 collisions where a major or fatal injury occurred. Approximately 50% of major or fatal injuries occurred at collisions involving an intersection or a loss of control.

Table 3-5 and **Table 3-6** identify the 10 GreyCounty roads which experienced the highest volume of collisions between 2004 and 2008, summarized by injury type and collision type.

The 10 County roads which experienced the greatest number of collisions accounted for 66% of all reported collisions on Grey County roads (there are 37 Grey County Roads, therefore 66% of the collisions occurred on 27% of the roads).It may seem reasonable to assume that more collisions will occur on roads with higher volumes; however, Grey Roads 40, 2 and 7 experienced far lower AADT volumes than the rest of the County Roads in the top 10.This is an indication there may be sub-standard conditions on these low volume roads, or other contributing factors.

The data was further analyzed to identify the specific road sections which experienced the greatest number of collisions between 2004 and 2008.**Table 3-7** and **Table 3-8** identify the top 10 road sections and provide a breakdown by injury type and collision type.The road sections reflect the F-sections as per the County's GIS mapping layers.The available collision records indicate that these road sections be considered for further investigation in terms of safety and the possible causal factors contributing to the increased number of collisions.

Table 3-5: Collision Summary - Top 10 Grey County Roads by Injury Type

Road	Injury Type					Total Collisions	AADT
	None	Minimal	Minor	Major	Fatal		
Grey Road 4	121	7	15	3	4	150	2,840 - 12,550
Grey Road 19	124	6	14	0	0	144	1,740 - 4,645
Grey Road 13	98	3	3	1	1	106	1,100 - 5,450
Grey Road 40	82	7	10	4	0	103	780 - 1,800
Grey Road 2	92	5	3	2	0	102	750 - 1,830
Grey Road 12	77	9	7	2	1	96	800 - 3,050
Grey Road 9	75	9	7	0	0	91	650 - 4,800
Grey Road 18	66	5	5	3	0	79	850 - 5,950
Grey Road 7	62	4	5	0	0	71	1,330 - 1450
Grey Road 17	56	6	6	2	1	71	1,170 - 3,850
Total - Top 10	853	61	75	17	7	1013	
Total - AllCounty Roads	1274	96	120	25	9	1524	
Top 10 % of Total	67%	64%	63%	68%	78%	66%	

Table 3-6: Collision Summary - Top 10 GreyCounty Roads by Collision Type

Road	Collision Type											Total Collisions
	IT	RE	SI	TU	HO	SW	OB	OT	LC	LSR	SLP	
Grey Road 4	6	13	7	5	0	4	61	11	17	26	0	150
Grey Road 19	6	13	5	11	0	2	57	9	16	25	0	144
Grey Road 13	2	4	4	1	0	3	63	5	14	10	0	106
Grey Road 40	10	4	5	1	0	6	44	9	10	14	0	103
Grey Road 2	3	4	7	5	2	4	45	5	8	19	0	102
Grey Road 12	4	3	9	7	0	2	30	18	11	12	0	96
Grey Road 9	5	1	7	2	0	5	39	8	12	12	0	91
Grey Road 18	2	15	1	0	0	3	30	5	15	8	0	79
Grey Road 7	0	2	5	0	0	3	42	4	8	7	0	71
Grey Road 17	3	2	1	1	0	2	34	4	16	8	0	71
Total	41	61	51	33	2	34	445	78	127	141	0	1013
Collision Type Codes:												
HO Head-on				OB Hit Object				SLP Fell Asleep				
IT Intersection				OT Other				SW Swerve				
LC Lost Control				RE Rear End				TU During Turn				
LSR Lost Control, Slippery Road				SI Side Impact								

Table 3-7: Collision Summary - Top 10 Grey County Road Sections by Injury Type

Road	Road Section	Injury Type					Total	AADT
		None	Minimal	Minor	Major	Fatal		
Grey Road 19	19-F21	25	1	5	0	0	31	1,740
Grey Road 7	7-F03	23	0	0	0	0	23	950
Grey Road 13	13-F09	16	1	1	0	0	18	1,400
Grey Road 19	19-F27	15	0	3	0	0	18	2,550
Grey Road 19	19-F33	17	0	1	0	0	18	4,645
Grey Road 9	9-F42	14	3	0	0	0	17	1,650
Grey Road 14	14-F12	14	2	1	0	0	17	1,340
Grey Road 4	4-F36	14	1	0	0	1	16	-
Grey Road 13	13-F03	16	0	0	0	0	16	2,200
Grey Road 7	7-F15	9	2	4	0	0	15	1,450
Total		163	10	15	0	1	189	

Table 3-8: Collision Summary - Top 10 Grey County Road Sections by Collision Type

Table 5-6: Collision Summary - Top 10 Grey County Road Sections by Collision Type													
Road	Road Section	Collision Type											Total
		IT	RE	SI	TU	HO	SW	OB	OT	LC	LSR	SLP	
Grey Road 19	19-F21	1	4	2	3	0	1	7	1	5	7	0	31
Grey Road 7	7-F03	0	0	0	0	0	1	21	0	0	1	0	23
Grey Road 13	13-F09	1	0	0	0	0	0	13	0	0	4	0	18
Grey Road 19	19-F27	0	0	0	1	0	1	9	1	3	3	0	18
Grey Road 19	19-F33	0	4	1	1	0	0	8	0	1	3	0	18
Grey Road 9	9-F42	2	0	3	0	0	0	5	3	3	1	0	17
Grey Road 14	14-F12	3	2	2	1	0	0	5	0	1	3	0	17
Grey Road 4	4-F36	0	0	1	1	0	0	9	1	2	2	0	16
Grey Road 13	13-F03	0	2	0	0	0	0	11	0	3	0	0	16
Grey Road 7	7-F15	0	2	0	0	0	0	2	4	2	5	0	15
Total		7	14	9	7	0	3	90	10	20	29	0	189
Collision Type Codes:													
HO	Head-on			OB	Hit Object			SLP	Fell Asleep				
IT	Intersection			OT	Other			SW	Swerve				
LC	Lost Control			RE	Rear End			TU	During Turn				
LSR	Lost Control, Slippery Road			SI	Side Impact								

Upon review of all County road sections for which data was provided, it was determined that no individual road section experienced more than one fatal injury, nor did any individual road section experience both a major and a fatal injury over the 5-year period considered.

3.4.2. Collision Review Summary

An in-depth review of collisions on the County Road network and the possible causal factors has not been undertaken given the limited scope of data provided. However, the collision review for the period 2004 to 2008, such as it is, has identified the following:

- wildlife strikes account for nearly 40% of all reported collisions;
- loss of control collisions account for approximately 30% of all reported collisions;
- Grey Road 40 experienced the greatest number of intersection collisions;
- 98% of collisions involve minor (8%), minimal (6%) or no injuries (84%);
- no individual road section experienced more than 1 fatal injury; and
- no individual road section experienced both a major and a fatal injury.

Individual road sections were also identified for further investigation. As previously noted, it is recognized that the collision data does not include all County road sections and is not up to date. Therefore the data may not identify all hot spots within the County system. It is also noted that without detailed collision information (such as time of day, operating speed, weather conditions, etc.), it is not reasonable to identify the contributing factors or recommend potential improvements.

3.4.3. County-wide Collision Reporting Database

The County's collision reporting database is not comprehensive in that it has gaps in the coverage of the road system and is three years out of date. Detailed collision data is required in order to conduct a proper safety/collision audit of the County's road system (both to confirm the above noted road sections/intersections and to identify other collision hot spots). A complete and up-to-date database would allow Grey County staff to identify the problem areas and determine the success/effectiveness of the safety measures/improvements implemented to address such. As part of its goal to operate a safe and efficient County road system, it is recommended that the County, in close co-operation with the local police authorities and local municipalities, create and maintain a comprehensive collision database for its road network. Ideally, a collision record should include:

- location (as specific as possible, especially where intersections are concerned);
- date and time of day;
- weather conditions;
- light conditions (i.e. visibility);
- road conditions (i.e. wet, slushy, snow packed, bare and dry, etc.);
- operating speed (if determined by responding police officer);
- number of vehicles involved;
- details of the collision (including an appropriate diagram);
- possible cause of collision (if apparent);
- type of injury; and
- type of collision.

Further to details collected on collision reports, operating speeds should also be collected (potentially as part of the County traffic count program) so as to record the actual operating characteristics of the road network.

Notwithstanding the creation and maintenance of a comprehensive collision database, it is recommended that the County update its existing database with available collision data to better reflect existing conditions.

3.5. Existing Traffic Conditions

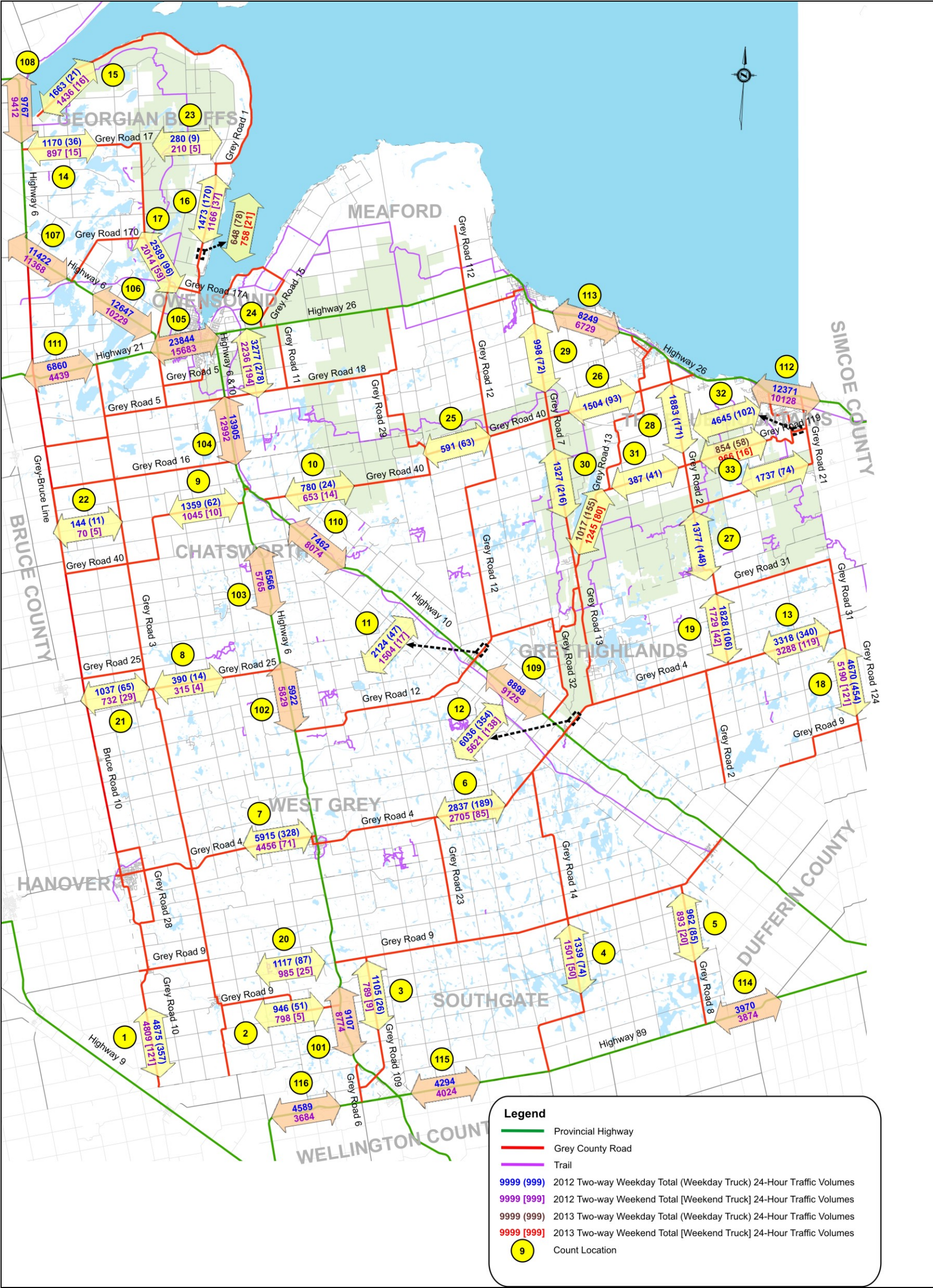
3.5.1. Data Collection

Automated Traffic Recorder (ATR) surveys for weekday and weekend periods were conducted at 19 link segments by Accu-Traffic Inc. commissioned by Cole Engineering. At some locations, the ATR surveys were undertaken for three weeks to act as control locations within the study network to capture the summer, long weekend, and fall traffic patterns. The Transportation department at Grey County also collected traffic data at local road locations as part of the investigation into County road rationalization. In addition, 2009, 2009 and 2012 seasonal ATR data was provided by the County of Grey for various locations within the County

The Ministry of Transportation provided 2012 spring and summer traffic volumes for various location on the Provincial Highways 6, 10, 21, 26 and 89 within the County of Grey.

The existing weekday and weekend traffic volumes are illustrated in **Figure 3-6**. The count locations and survey dates are provided in **Appendix B**.

Figure 3-6: 24-Hour Existing Traffic Volumes

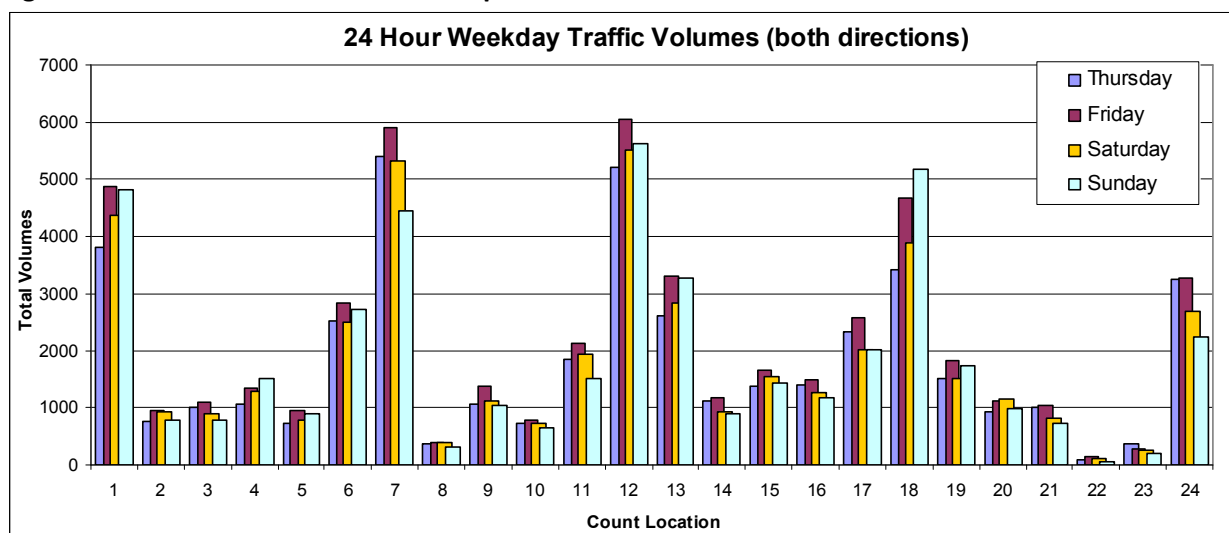


3.5.2. Traffic Data Analysis

The daily (Thursday to Sunday) traffic volumes were compared to determine the peak weekday and weekend volumes respectively. A comparison of 24-hour volumes for all locations are provided in **Figure 3-7**. It should be noted that the count location codes correspond to the locations provided in **Figure 3-6**. Additional analyses of the existing traffic data are included in **Appendix B**.

The data indicates that of the weekday counts, Friday has higher traffic volumes than Thursday. For the weekend, Sunday has higher traffic than Saturday. In general, the data shows that Friday has the highest traffic volumes. Therefore, Friday was considered as peak day of the week for this analysis.

Figure 3-7: 24-Hour Traffic Volume Comparison



Summer, Long Weekend, and Fall Counts Comparison

In order to better assess the variation in traffic patterns, ATR data for three locations was collected for three weeks. The data for the week starting August 23rd, 2012 represents Summer traffic patterns. The traffic volumes during the second week starting August 30th, 2012 reflect traffic variations due to the long weekend. Finally, the volumes for the week starting September 6th, 2012 represent Fall traffic patterns. A comparison of the Friday and Sunday traffic at Grey Road 124 north of Maple Valley (location #18) is provided in **Figure 3-8** and **Figure 3-9**, respectively.

Figure 3-8: Weekday Volume Comparison at Grey Road 124 north of Maple Valley (Location #18)

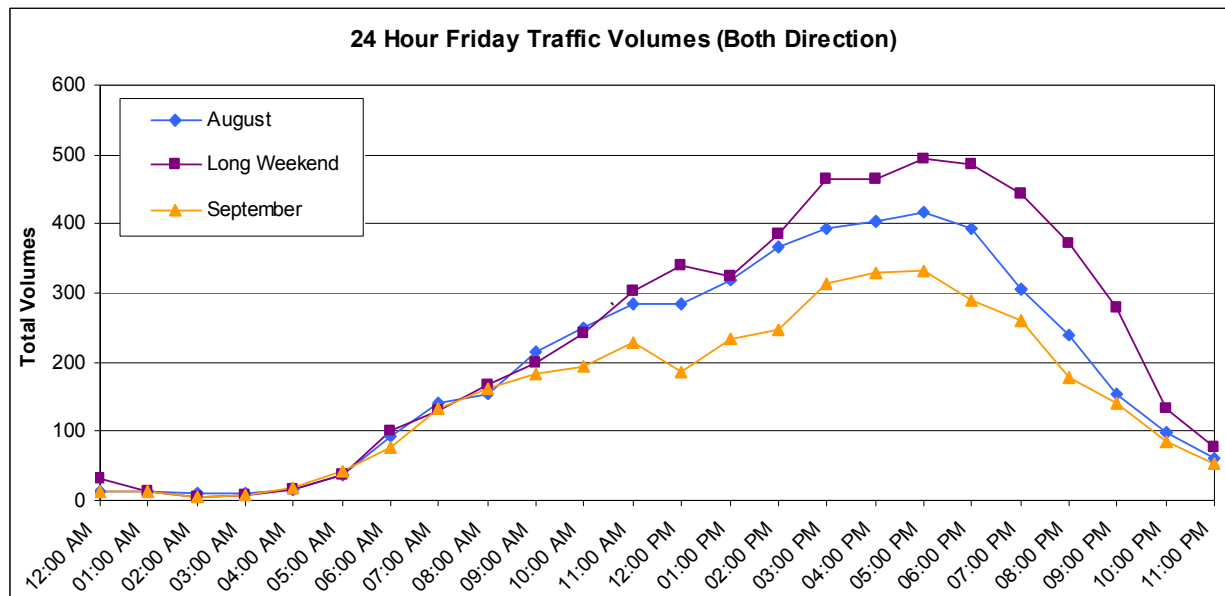


Figure 3-9: Weekend Volume Comparison at Grey Road 124 north of Maple Valley (Location #18)

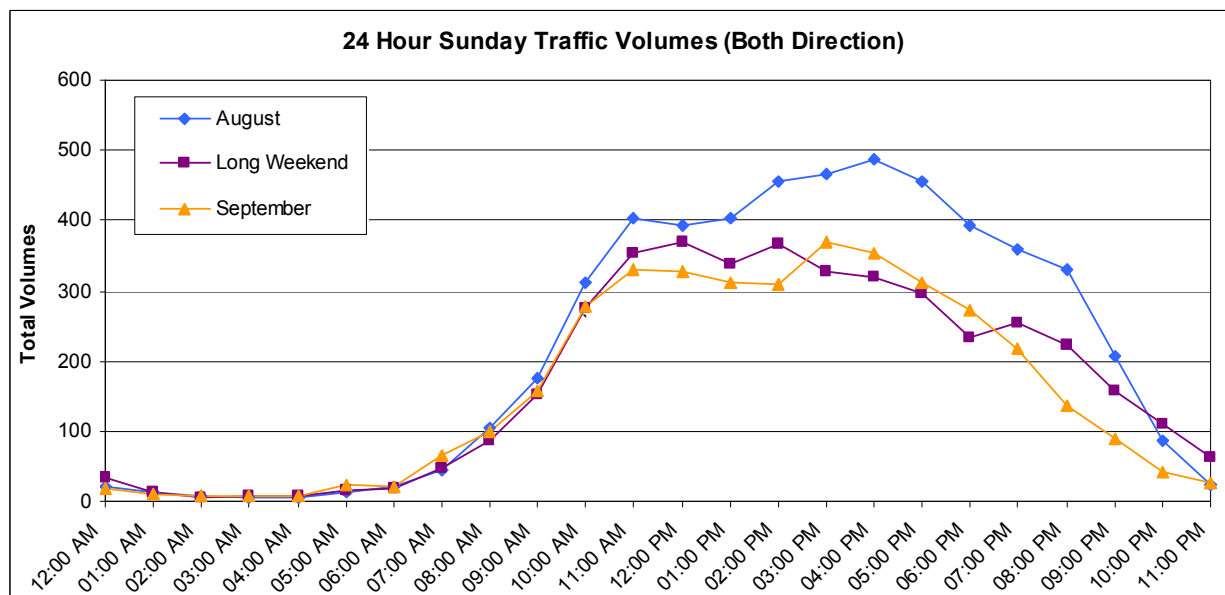


Figure 3-8 indicates that traffic volumes on a Friday at Grey Road 124 north of Maple Valley (location #18) was highest during the long weekend and lowest in September after the start of school. **Figure 3-9** however shows highest volumes on a Sunday in the summer season with lower volumes during the long weekend and after the start of schools.

Seasonal Data Comparison

The County of Grey provided seasonal ATR data for various locations within the County. The 2011 data was used to compare the traffic trends and variations for each season. In order to better examine the

counts, specific locations were selected which were closer to the locations of the counts conducted by Accu-Traffic Inc. for the Cole Engineering Group. **Figure 3-10** and **Figure 3-11** illustrate variation in volumes throughout the year for two locations, namely Grey Road 10 south of Grey Road 9 and Grey Road 4 west of Highway 6.

The results of the seasonal data comparison indicated that the volumes throughout the year vary from location to location within the County. For instance, **Figure 3-10** shows higher volumes during the summer season. However, **Figure 3-11** indicates that traffic volumes peak during the fall season. The County of Grey consists of both recreational and agriculture lands. It is reasonable to assume that seasonal variations in traffic patterns will differ at different locations within the County. Based on the results from this comparison, it was found that summer and fall are the two dominant peak seasons on the County road network.

Figure 3-10: Seasonal Data Comparison - Grey Road 10 south of Grey Road 9

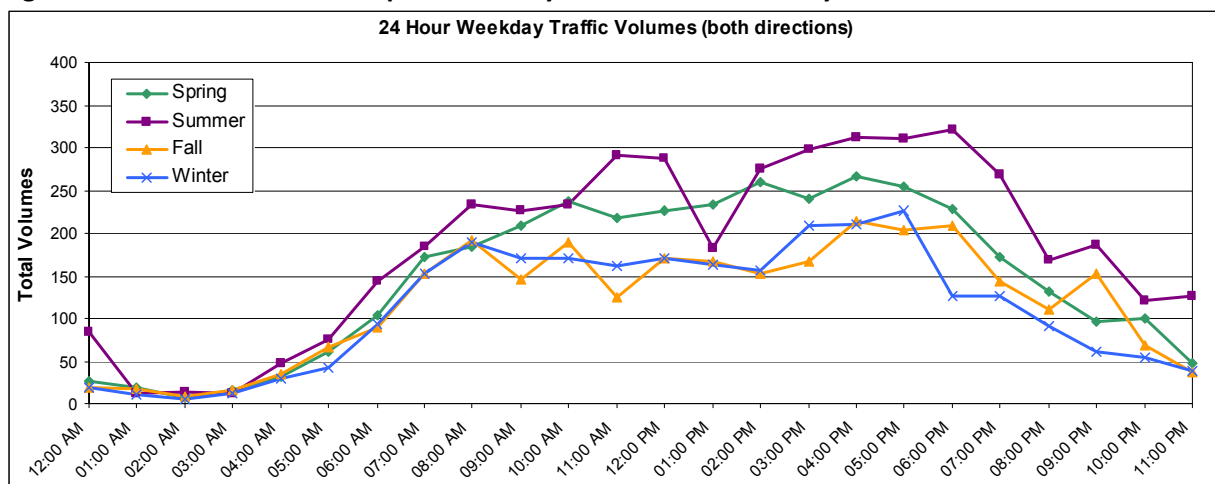
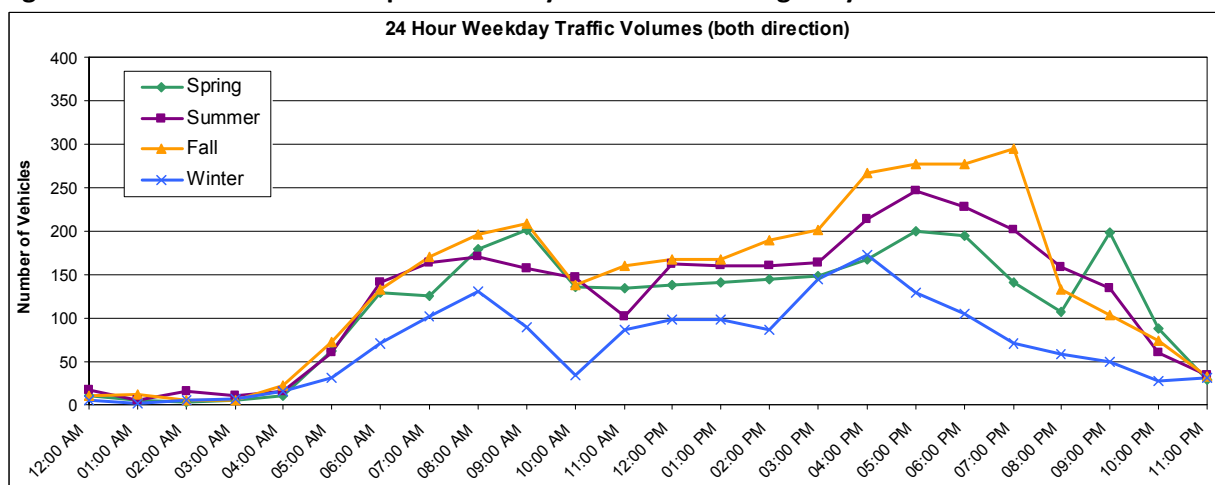
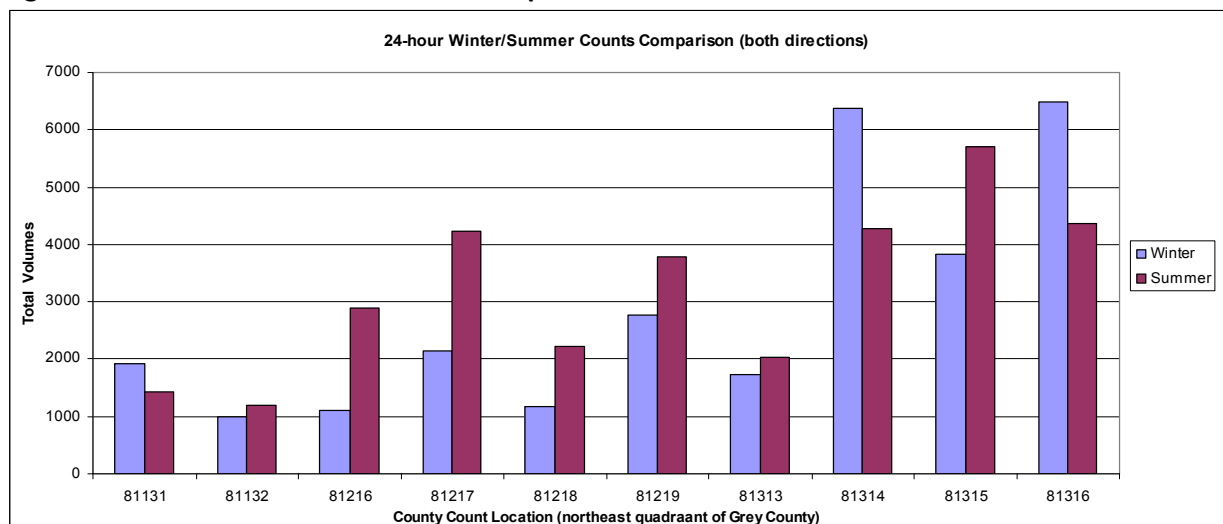


Figure 3-11: Seasonal Data Comparison - Grey Road 4 west of Highway 6



An additional comparison has been made between counts undertaken by the county in the Blue Mountains area from the winter 2012 and summer 2012. **Figure 3-12** below shows that as with other count locations volumes vary depending on count location.

Figure 3-12: Summer and Winter Data Comparison at Various Locations in The Blue Mountains



MTO Data Analysis

The 2012 spring and summer traffic volumes provided by the MTO has been processed to provide weekday and weekend peak daily volumes. Truck percentage for 2012 were not available in the spring and summer data provided. The MTO also provided historical yearly data (2000 to 2009) detailing the Annual Average Daily Traffic (AADT), Summer Average Daily Traffic (SADT), Summer Average Weekday Daily Traffic (SAWDT), Winter Average Daily Traffic (WADT) and truck percentages for count locations on the provincial highway network with the County of Grey. **Table 3-9** below summarizes the available 2012 MTO data and 2009 truck percentages.

Analysis of the Spring and Summer 24 hour counts on the provincial highways in the county, show that Friday is the peak day of the week for traffic volumes. **Figure 3-13** and **Figure 3-14** show this. This can be attributed to the holiday resort nature of the county.

Table 3-9: Summary of Springand Summer MTO Counts

Count No.	Hwy	Location	Spring Weekday Volumes	Spring Weekend Volumes	Summer Weekday Volumes	Summer Weekend Volumes	2009 Truck %
101	6	4.5km North of Wellington - Grey Boundary	5,846	5,077	9,107	9,674	11.1%
102	6	2.6km North of Grey Rd12 - Markdale Rd	3,578	3,109	5,922	5,829	10.6%
103	6	8.1km North of Chatsworth Rd 24	4,568	4,022	6,566	5,874	12.3%
104	6	5.2km North of Highway 10 - Chatsworth	10,804	8,551	13,905	13,325	6.9%
105	6	3.3km West of Highway 10/26	20,699	16,754	23,844	19,759	3%
106	6	3.2km North of Highway 21 - Grey Rd 18	7,873	6,313	12,647	10,512	9%
107	6	6.6km North of Concession Rd 5	6,073	5,038	11,422	12,116	6.1%
108	6	5km North of Grey Rd 5	5,008	4,169	9,767	8,975	5.9%
Count No.	Hwy	Location	Spring Weekday Volumes	Spring Weekend Volumes	Summer Weekday Volumes	Summer Weekend Volumes	2009 Truck %
109	10	4.0km West of Grey Rd 4 - Flesherton	6,305	4,688	8,898	9,125	10.6%
110	10	6.4km West of Grey Rd 24	5,040	3,971	7,462	8,074	11.3%
Count No.	Hwy	Location	Spring Weekday Volumes	Spring Weekend Volumes	Summer Weekday Volumes	Summer Weekend Volumes	2009 Truck %
111	21	7.3km East of Bruce Rd 10 - Grey Bruce Line	6,284	5,109	6,860	5,676	8.2%
Count No.	Hwy	Location	Spring Weekday Volumes	Spring Weekend Volumes	Summer Weekday Volumes	Summer Weekend Volumes	2009 Truck %
112	26	2.1km West of Osler Bluff Rd	9,406	8,984	12,371	11,399	5.9%
113	26	1.1km West of Christie Beach Rd	6,900	6,205	8,249	7,394	8.1%
Count No.	Hwy	Location	Spring Weekday Volumes	Spring Weekend Volumes	Summer Weekday Volumes	Summer Weekend Volumes	2009 Truck %
114	89	3.1km West of Dufferin Rd	2,695	2,220	3,970	3,874	16.8%
115	89	10km West of Wellington and Grey Rd 14	2,930	2,660	4,294	4,297	16.6%
116	89	10.5km West of Highway 6 - Mount Forest	3,553	2,494	4,589	3,642	17.3%

Figure 3-13: Spring Daily Comparison on Provincial Highways

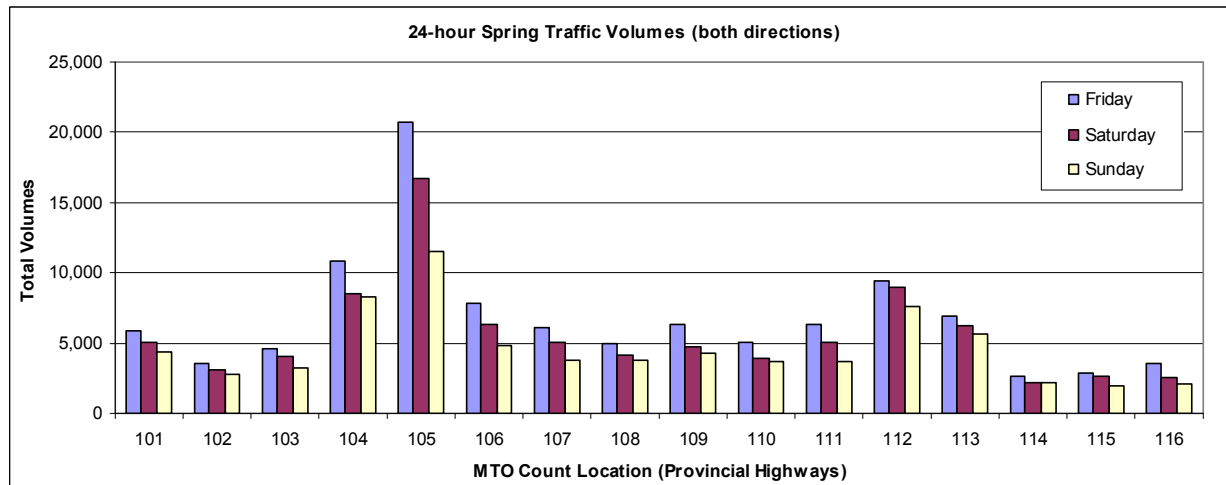
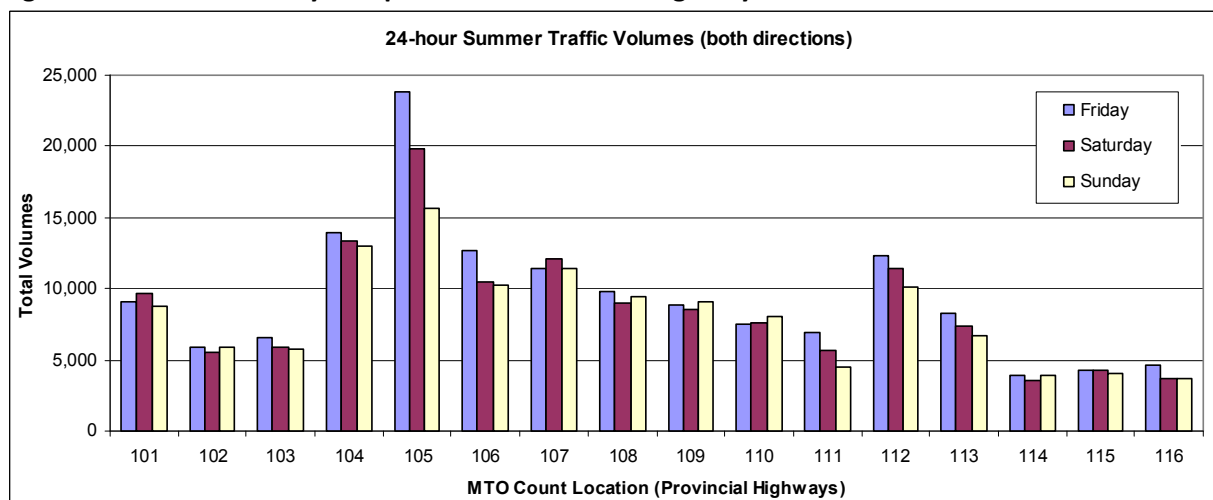


Figure 3-14: Summer Daily Comparison on Provincial Highways



3.6. Future Travel Demand

Future traffic growth was estimated based on population and employment projections and proposed background developments within the County.

Future growth for the study area was determined based on three components: future population and employment growth, traffic growth outside the County, and the site traffic from proposed / planned developments within the County.

3.6.1. Demographic Trends

Recent historic trends from the Census indicate very little growth (0.4% per year) of permanent residents in Grey over the 10-year period from 2001 to 2011. However, over this same period, the number of private dwellings has been growing at a rate of 1% per year. This indicates that there is

overall growth GreyCountythat is not being captured in the count of permanent residents. Part-time residents in Grey County, that is, persons who report a “permanent” residence elsewhere for the Census but reside in a “second home” in Grey County for part of the year, is a trend that is expected to continue.

The growth in private dwellings is counter-balanced by the reduction in average persons per household. The average for GreyCounty has shown as slow decrease from 2.52 persons per household in 2001, to 2.49 in 2006 and 2.40 in 2011. This is a trend that is also observed in the rest of the province with average persons per household decreasing from 2.70 to 2.60 over the same 10-year period.

Table 3-10: Demographic Trends in Grey County

	2001	2006	2011	10-year growth
Population	89,073	92,415	92,568	3.9%
Private Dwellings	42,396	44,387	46,481	9.6%
Private Households	35,325	37,185	38,040	7.7%
Average Persons per Household	2.52	2.49	2.40	-4.8%

Another important demographic trend in Grey is the aging of the population. The median age in Grey is both higher than the provincial median and increasing faster than the provincial median.

Table 3-11: Age Trends in Grey County

	Median Age			Proportion over 65 years		
	2001	2006	2011	2001	2006	2011
Grey County	41.9	44.4	47.3	18.0%	18.7%	21.1%
Ontario	37.2	39.0	40.4	12.9%	13.6%	14.6%

With a growing proportion of the population over age 65, and expectations that this trend will continue, a transportation network that provides mobility and accessibility for older adults in rural communities becomes increasingly important. Many seniors currently enjoy an active lifestyle, but as the population continues to age, the ability to drive decreases and the need for community support increases.

The demand for transportation alternatives to driving that are affordable and accessible is a significant factor in developing a transportation network for GreyCounty.

3.6.2. Population Growth

The future population and employment growth up to 2031 for GreyCounty is documented in the *Grey County Growth Management Strategy* which was undertaken as part of the recent five year review of the County’s Official Plan (OP). Growth predictions for the County were based on historic growth trends and future economic prospects of the County. The projections by municipality are presented in **Section 2.3**.

As noted in **Section 2.3**, the recent growth in Grey County was less than anticipated by the Growth Management Study which completed in 2008. The 2031 forecasts for GreyCounty are still the long-term

targets for growth. An adjusted forecast was developed in order to 'catch up' to the GMS projections. The population projection for 2036 was extrapolated based on growth from 2026 to 2031 in the GMS.

Figure 3-15: Population Forecast

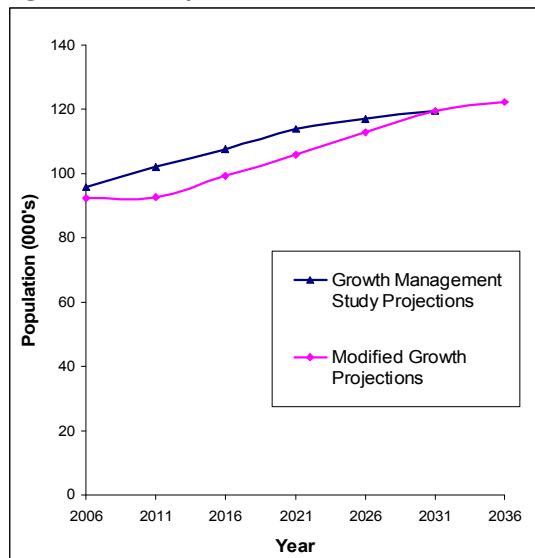


Table 3-12: Population Forecast

Year	Population			Annual Growth Rate
	GMS	Census	Modified	
2006	95,900	92,411	92,411	
2011	102,200	92,568	92,568	0.03%
2016	107,700		99,301	1.41%
2021	113,800		106,034	1.32%
2026	116,900		112,767	1.24%
2031	119,500		119,500	1.17%
2036*	n/a		122,100	0.43%
2011-2036				1.11%

* extrapolated

3.6.3. Employment Growth

Figure 2 and Table 2 summarize the employment forecast from the GMS. As with population, the 2036 forecast is extrapolated from the 2026 to 2031 growth. Employment growth in GreyCounty is modest, and is spread out to all municipalities in the County. Owen Sound has the highest growth (900 jobs) and Chatsworth has the lowest growth (300 jobs) with the other municipalities averaging 500-700 jobs each.

Figure 3-16: Employment Forecast

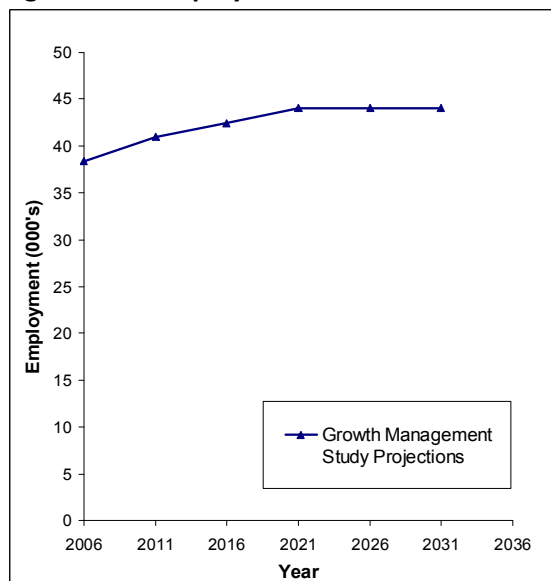


Table 3-13: Employment Forecast

Year	GMS Employment	Annual Growth Rate
2006	38,400	
2011	41,000	1.3%
2016	42,500	0.7%
2021	44,000	0.7%
2026	44,000	0.0%
2031	44,000	0.0%
2036*	44,000	0.0%
2011-2036		0.2%

* extrapolated from 2021 to 2031 forecasts

3.6.4. Historic and Background Growth

One of the concerns related to assessing the impact of growth in GreyCounty is that associated with tourists and seasonal residents that are not captured in the forecasts of “permanent” population. As noted in Table 1, the rate of growth in dwellings surpasses that of households, indicating that some dwelling units are being built to as secondary homes for households that have a “permanent” home elsewhere.

It is difficult to project travel trends of seasonal residents and tourists when there is no documentation on the number of seasonal residents and tourists in GreyCounty in either past years or future years. The County provided a summary of the tourism data and research relevant to the TMP which outlined the following:

- seasonal visitation;
- total visits (2006-2010 average);
- length of stay (i.e. overnight, same day);
- top 10 visitor residence locations (% of total visits);
- party composition (% of visits);
- party size (number);
- average age;
- visitor participation in top 9 activities (% of total visits);
- accommodation (% of total nights spent);
- visitor spending by category (% of total); and,
- averageexpenditure per visit.

The document also included Lodging Locations and Room Counts and Permanent Residency. It should be noted that the summary only provided the average numbers between 2006 and 2010 as opposed to historical trends by year.

The document provided information on seasonal visitation as follows:

- | | |
|----------------------|-----|
| ▪ January - March | 26% |
| ▪ April - June | 23% |
| ▪ July - September | 32% |
| ▪ October - December | 19% |

It should be noted that the traffic counts for this study were conducted during the months of August and September which represent the busiest travel period (i.e. 32%) from a tourist perspective as noted above. Therefore, the analysis reflects a conservative approach.

In addition, we looked to historic trends, and assuming similar growth trends in the future, approximate future traffic growth in GreyCounty. From MTO’s Provincial Highways Traffic Volumes, traffic growth on the Provincial network varies segment by segment. In reviewing a few select locations in Grey to provide an approximation of typical growth, historic growth was observed to range from less than 1% to around 2% per year (from 2001 to 2009).

A number of traffic studies completed in recent years for sites in the County were reviewed to identify other assessments of growth on Provincial highways and County roads. The Owen Sound Transportation Master Plan included a forecast of future traffic conditions of 1% (consistent with anticipated population

and employment growth). The Town of The Blue Mountains Comprehensive Transportation Strategic Plan used a 2% background growth on Highway 26 and County roads to account for all future traffic.

3.6.5. Proposed / Planned Development Growth

Various future background developments were identified by the County staff and the traffic studies were provided to Cole Engineering. The Town of The Blue Mountains Comprehensive Transportation Strategic Plan was also reviewed to estimate future growth due to proposed background developments.

From 2008 to 2028 it is estimated that there will be 5000 new residential units in the Town of Blue Mountains. The Town of The Blue Mountains Comprehensive Transportation Strategic Plan identifies a number of background developments within The Blue Mountains area as per the Town Development Summary dated May 2008. A total of 52 background developments were identified with the following status and development type:

- draft plan/site plan approval;
- designated with application - residential;
- designated with application - commercial;
- designated with application - mixed;
- designated with concept - residential;
- designated with concept - commercial; and
- designated with concept - mixed.

The background developments identified in The Town of The Blue Mountains Comprehensive Transportation Strategic Plan are shown in **Figure 3-17**. A detailed inventory of these developments is provided in **Appendix C**.

In addition to the background developments shown in **Figure 3-17**, this study also includes future developments identified in individual traffic studies provided by the County staff across other municipalities of the County. The developments are illustrated in **Figure 3-18**. A detailed inventory of these developments is also provided in **Appendix C**.

Figure 3-17: Background Developments in The Blue Mountains Area

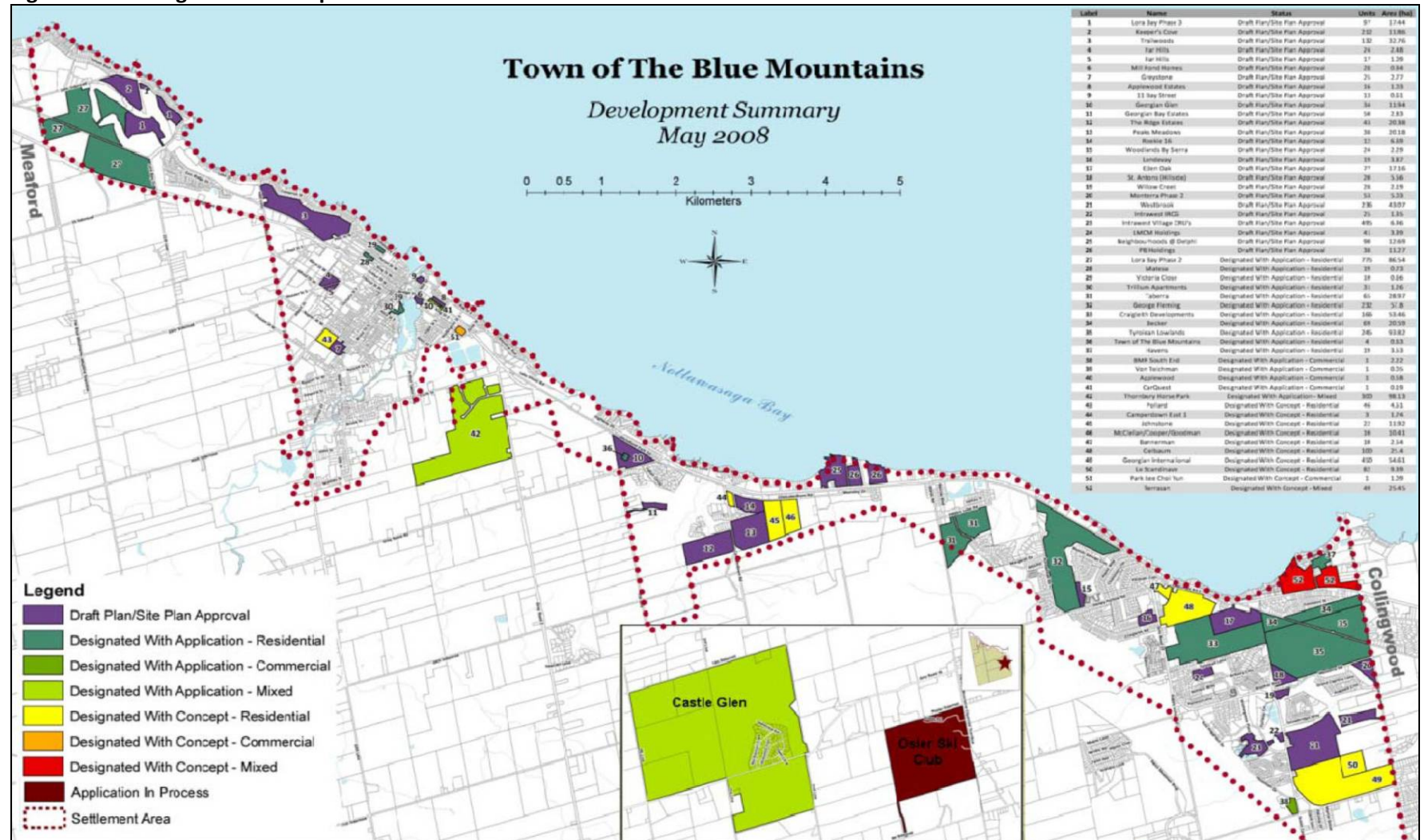
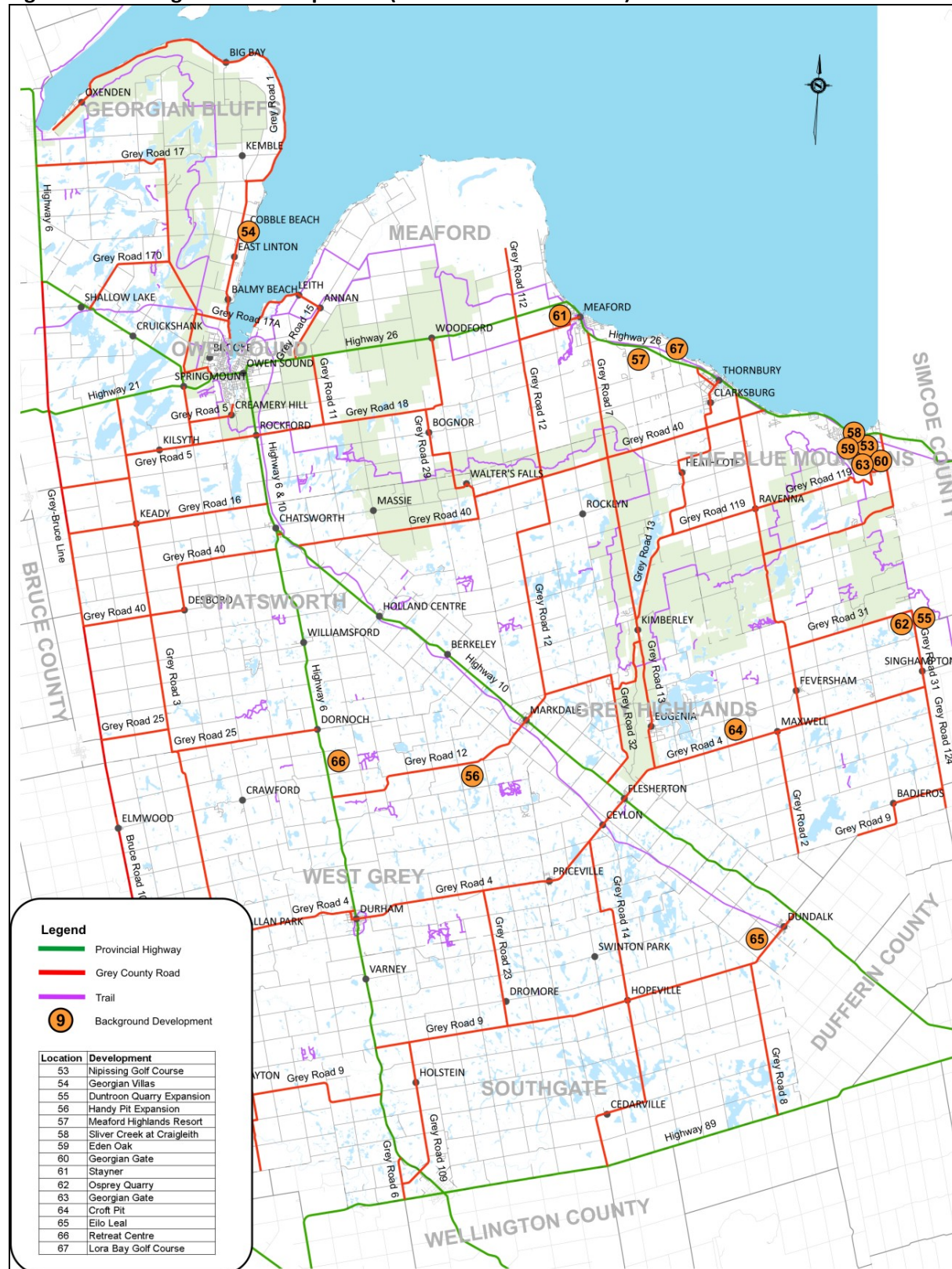


Figure 3-18: Background Developments (based on Traffic Studies)



3.6.6. Future Traffic Forecasts

3.6.6.1 Travel Demand Model

The future travel demand for the assessment of future conditions relied on existing traffic counts, where available, and estimates of growth based on known development applications and traffic growth trends. In future, the County could consider developing a travel demand model using a macro-simulation software such as Emme or Visum. To do so, the County will need to initiate a number of data collection activities in order to meet the data requirements of developing, calibrating and validating a County-wide travel demand model. The quality and quantity of the data will determine the robustness and reliability of the model.

Ideally, the data required for a travel demand model would include:

- Origin-destination data for traffic in and through the County - this could be collected through road-side surveys or telephone/online surveys. The County could consider participating in the Transportation Tomorrow Survey (TTS) is a telephone survey that is conducted every 5 years through a program by MTO and municipalities in and around the Greater Toronto Area (including Simcoe County).
- Peak period traffic volumes on all County roads, and some major local roads, for calibration and validation purposes
- Travel times for County road corridors, for calibration and validation purposes
- A breakdown of land use (population and employment) forecasts by “traffic zone” (which would need to be defined consistently with the zones in the model).

Given the current and anticipated conditions on Grey county roads in the foreseeable future (generally low volumes, longer distances between towns/villages and limited routes between destinations), the development a County-wide travel demand model is not critical for assessing the County’s network and the cost to collect the data and develop a model may be better utilized elsewhere.

For this assessment of future needs, different layers of traffic volumes were estimated to capture the various types of growth, changing demographics, and impacts of seasonal and tourist travel. First, traffic projections from planned and proposed development site were added to the network. Next, a universal growth rate was applied to existing traffic volumes. The purpose of the universal growth rate is to account for traffic growth from future developments that have not been identified nor quantified to date and includes potential developments in the aggregate and farm industry. These future developments are needed to meet the projected population and employment targets of the County. A universal background growth rate of 1% per annum was applied to the County roads and Provincial highways from 2012 to 2036 for the purposes of this study. The total combined traffic volumes were assessed for future capacity constraints.

3.6.6.2 Development Trip Estimates

The site trip estimates for the background developments shown in **Figure 3-17** and **Figure 3-18** were obtained from The Town of The Blue Mountains Comprehensive Transportation Strategic Plan and the traffic studies provided by the County. The estimated total site trips are shown in **Table 3-14**.

Table 3-14: Background Development Trip Estimates

Source	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
TBMCTSP ¹	710	1,286	1,996	1,545	1,181	2,726	1,713	1,610	3,323
Traffic Studies	681	831	1,512	2,162	1,743	3,905	2,599	2,435	5,034
Total	1,391	2,117	3,508	3,707	2,924	6,631	4,312	4,045	8,357

1. The Blue Mountains Comprehensive Transportation Strategic Plan (March 2010)

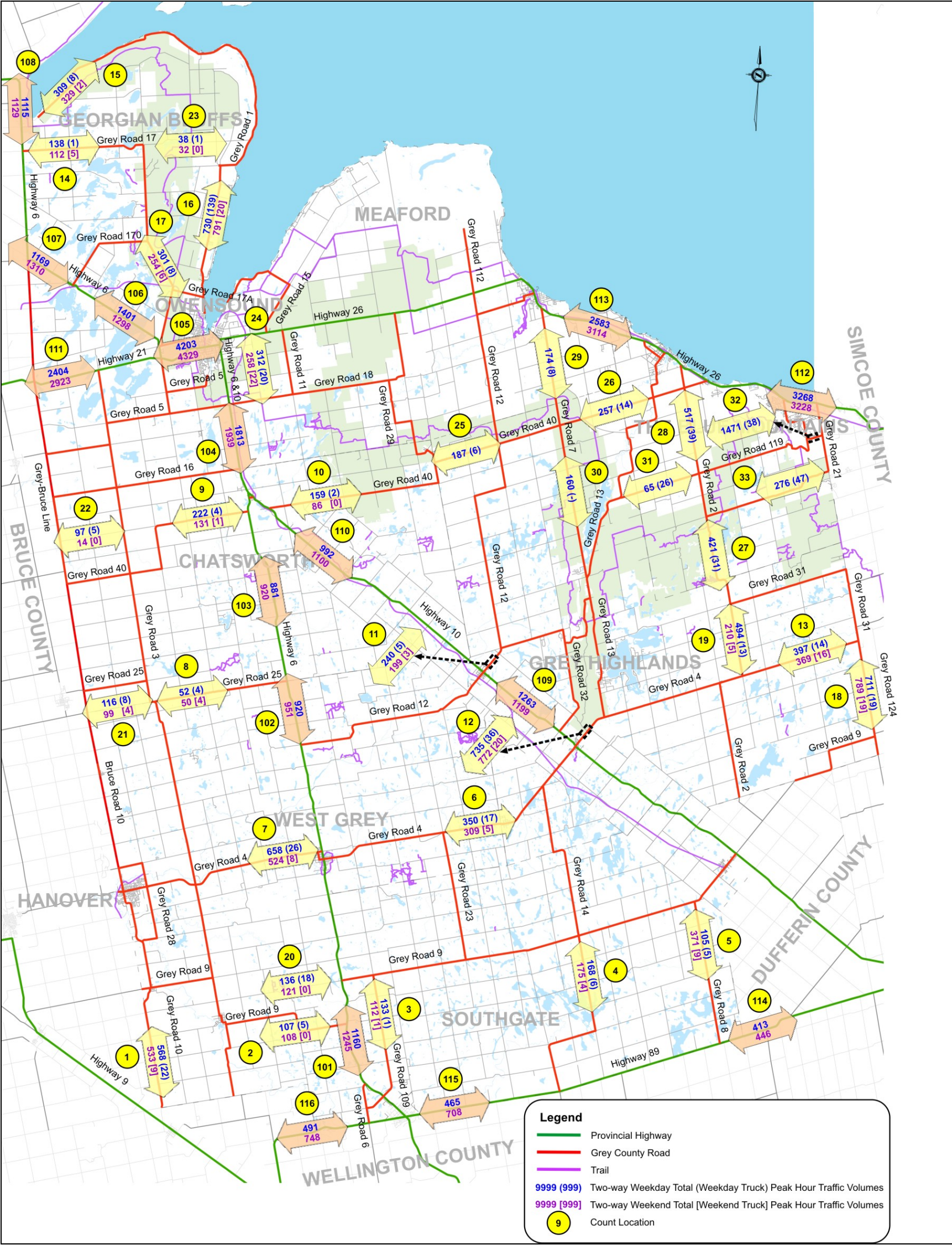
3.6.6.3 Development Trip Assignment

Due to the large size of the road network and locations of the background developments, the origins and destinations of site trips shown in **Table 3-14** vary significantly resulting in uncertainties to reasonably assign site trips to the road network. Therefore, for the purposes of this study, the following assumptions were made:

- For site trips resulting from the background developments illustrated in The Blue Mountains Comprehensive Transportation Strategic Plan, a growth rate of 2% per annum was applied to the existing volumes on all County roads from 2008 to 2028. The resulting volumes were subtracted from the Future 2028 Total volumes to estimate the site trips from the background developments. Subsequently, these site trips were assigned to County roads and provincial highways.
- For site trips resulting from the background developments illustrated in individual traffic studies, only the site trips originating or destined to/from the County Roads or provincial highways were considered in the trip assignment for the purposes of this study.

The 2036 future traffic volumes are illustrated in **Figure 3-19**.

Figure 3-19: 2036 Future Traffic Peak Hour Volumes (two-way link volumes)



3.6.6.4 Road Capacity Constraints

Road capacity is a function of the number of lanes of travel, the roadside characteristics that affect driver behaviour, the percentage of trucks and traffic control features that allocate priority between conflicting flows of traffic. Road capacity per lane on arterial roads can commonly range between 800 and 1,200 vehicles per hour per direction and up to 1,500 vehicles per hour in both directions. Roadway sections can typically accommodate up to 15,000 vehicles per day, however site specific conditions may limit capacity to much lower levels.

Based on the resulting 2036 traffic volumes shown in **Figure 3-19**, the existing road network, from a link capacity perspective, is expected to accommodate future traffic with the exception of east-west travel within the Highway 26 corridor. Until major capacity improvements are committed by MTO to the Highway 26 corridor at the eastern limits of the County, improvements to the County Road system may be required in the immediate vicinity to accommodate traffic that may be redirected to parallel routes. Increased demand on the segment of Grey Road 19 west of Grey Road 21 could be expected to exceed the available capacity, given high peak period conditions in the area.

Although the network overall operates with sufficient capacity, areas of local operational constraints will occur at some intersections, particularly in areas of high development growth.

3.7. Problem and Opportunity

Based on community needs, environmental constraints, network system needs and policy direction of the County, the following are the problems and opportunities identified for the TMP:

- Accommodate traffic volumes and safe operating speeds through communities.
- Address road discontinuities.
- Rationalize County road network and bridges.
- Accommodate pedestrians, cycling and non-motorized travel.
- Opportunities to better meet desire for transit service.
- Opportunities to better achieve economic and strategy objectives through air, marine and rail travel.
- Opportunities to better utilize County capital budget to meet County needs.

4. Active Transportation

Active transportation refers to any form of self-propelled, non-motorized mode of transportation that uses human energy such as walking, cycling, in-line skating, jogging, skiing, etc. These modes contribute to sustainable transportation, help to promote a healthy lifestyle, reduce impact to the environment, and is recommended as a component of the overall transportation system for the Grey County TMP.

All-terrain vehicles (ATVs) and snowmobiles are motorized, and thus not technically active transportation modes. However, in some cases, these modes share a network with cyclists, pedestrian and other active modes in Grey County. For this reason, the network of on-road and off-road trails for ATVs and snowmobiles are included in this section of the report.

4.1. Benefits of Active Transportation

The benefits of walking, cycling and other non-motorized modes of transportation, provide the rationale for integrating active transportation into transportation systems. The development of active transportation strategies will help the County of Grey realize benefits that include:

- integrating healthy, physical activity into everyday travel fosters active lifestyles;
- reducing transportation costs;
- reducing traffic congestion and carbon dioxide (CO₂) emissions and conserving energy resources; and
- contributing to a more connected community.

The physical exercise gained from walking and cycling contributes to improved health and well-being. According to the World Health Organization (WHO), physical inactivity is the second highest health risk in developed countries and is associated with many tens of billions of dollars of healthcare costs. Active transportation can minimize the risk of coronary heart disease, strokes, diabetes and cancer. Research has indicated that active transportation can contribute to lower health care costs in the order of \$100 to \$400 per person⁷.

The benefits of cycling and walking trails extend beyond the transportation system and healthy living impacts. Cycling and walking as tourism activities can represent part of the economic strategy for the County. The development of cycling routes and promotion of use of the trail system within Grey County are opportunities to draw tourism activity to the County.

4.2. Active Transportation Studies in Grey County

4.2.1. Youth Moving Safely With Active Transportation

Due to the large, rural nature of Grey Bruce, transportation is regularly identified as a major barrier for individuals of all ages⁸. The *Youth Moving Safely with Active Transportation Report* (2011) stated that

⁷Source: National Cooperative Highway Research Program Report 552

⁸Hanover/Walkerton Active Transportation Committee – Youth Moving Safely with Active Transportation (2011)

“Youth, in particular, face challenges as they may not have regular access to a vehicle, live outside the urban community and rely on travel by school bus on a daily basis.”

The goals of the study were to:

- Increase opportunities for youth in the community to use active transportation to reach choice destinations.
- Improve the safety and acceptability of active transportation routes in South Grey Bruce.
- Increase access to physical activity opportunities by eliminating transportation barriers.
- Change attitudes about active and safe transportation at the community, municipal and county level.

The study found that rural youth will continue to be dependent on vehicular travel to access the larger centres. In order to encourage residents of all ages to use active transportation, the study identified the importance of providing quality sidewalks, appropriate crossings, safe vehicle speeds, attractive surroundings and places to rest.

4.2.2. Building Healthy Communities Together: Active and Alternative Transportation to Support Healthy Living in Grey Bruce

Building Healthy Communities Together: Active and Alternative Transportation to Support Healthy Living in Grey Bruce (2009) by the Grey Bruce Health Unit was a study was conducted to examine the effects of transportation on health and make recommendations to improve the health of communities. The study identified that public health can be improved by modifying and creating a healthy built environment. “A healthy built environment encourages and enables people to walk and cycle more often, use their automobile less, and create opportunities for social interaction.”

It was concluded that a single recommendation will not completely change a community overnight, but rather a collection of healthy public policies over time can help the community achieve a high quality of life for all residents. The study identified municipalities as being responsible for developing and implementing policy for many components of healthy communities. Recommendations were made for developing and reviewing policy at the municipal level, and included:

- Upper and lower tier municipalities should incorporate healthy public policy into official and master plans, bylaws, and land use planning approvals which supports increasing active and alternative transportation while reducing motor vehicle dependency.
- Policies should be made and reviewed with special attention paid to creating access and equity for all residents, especially children, youth, and older adults, people with low or limited income and others who may be at a disadvantage.
- Increase active and alternative transportation and decrease motor vehicle dependency, this may be accomplished by, but not limited to:
 - Providing opportunities for and promoting intensification of residential and employment areas.
 - Providing opportunities for a mix of land uses where homes are in proximity to workplaces, shopping, entertainment, and daily amenities.
 - Increasing the connectivity of and options for alternative transportation including public/mass transit, carpooling, walking, cycling, etc., both within and between municipalities and regions; and, where appropriate, improve accessibility to necessary amenities (e.g. bicycle racks and storage in safe well-lit areas).
 - Increasing walking and cycling opportunities through the development of a connected trail network and improving existing trail accessibility.

- Improving sidewalk quality and connectivity throughout communities.
- Improving safety and providing aesthetically pleasing built and natural environments for alternative transportation. This might be accomplished by creating or modifying playgrounds, implementing traffic calming measures, creating bike lanes and retrofitting existing infrastructure.
- Improving pedestrian safety by requiring sidewalks in all development areas including residential, commercial, and industrial, creating raised pedestrian islands to ease street crossings, using pedestrian friendly traffic signals, reducing the widths of roads, driveways, and intersections, separating pedestrians from vehicles with curbs and street trees, and reducing vehicle speed.

4.3. Existing Conditions

An overview of the existing network of off-road and on-rail trails, including routes on paved shoulders in Grey County is illustrated in **Figure 4-1**. Each component of the active transportation network is discussed in the following sections.

4.3.1. On-road Cycle Routes

Currently, Grey County Tourism promotes a number of off-road and on-road cycle routes on a mix of local and County roads throughout Grey. The routes are promoted through the Grey County Tourism website and its published maps. The on-road routes are indicated by “share the road” signage. An overview of Grey County cycle routes are shown in **Figure 4-2**.

The Transportation Association of Canada’s Bikeway Traffic Control Guidelines for Canada⁹ indicates that the shoulder adjacent to the travel lanes, not normally used by motor vehicles, can be paved to accommodate bicycling. Paved shoulders are becoming common in rural areas and are often implemented with “share-the-road” signage.

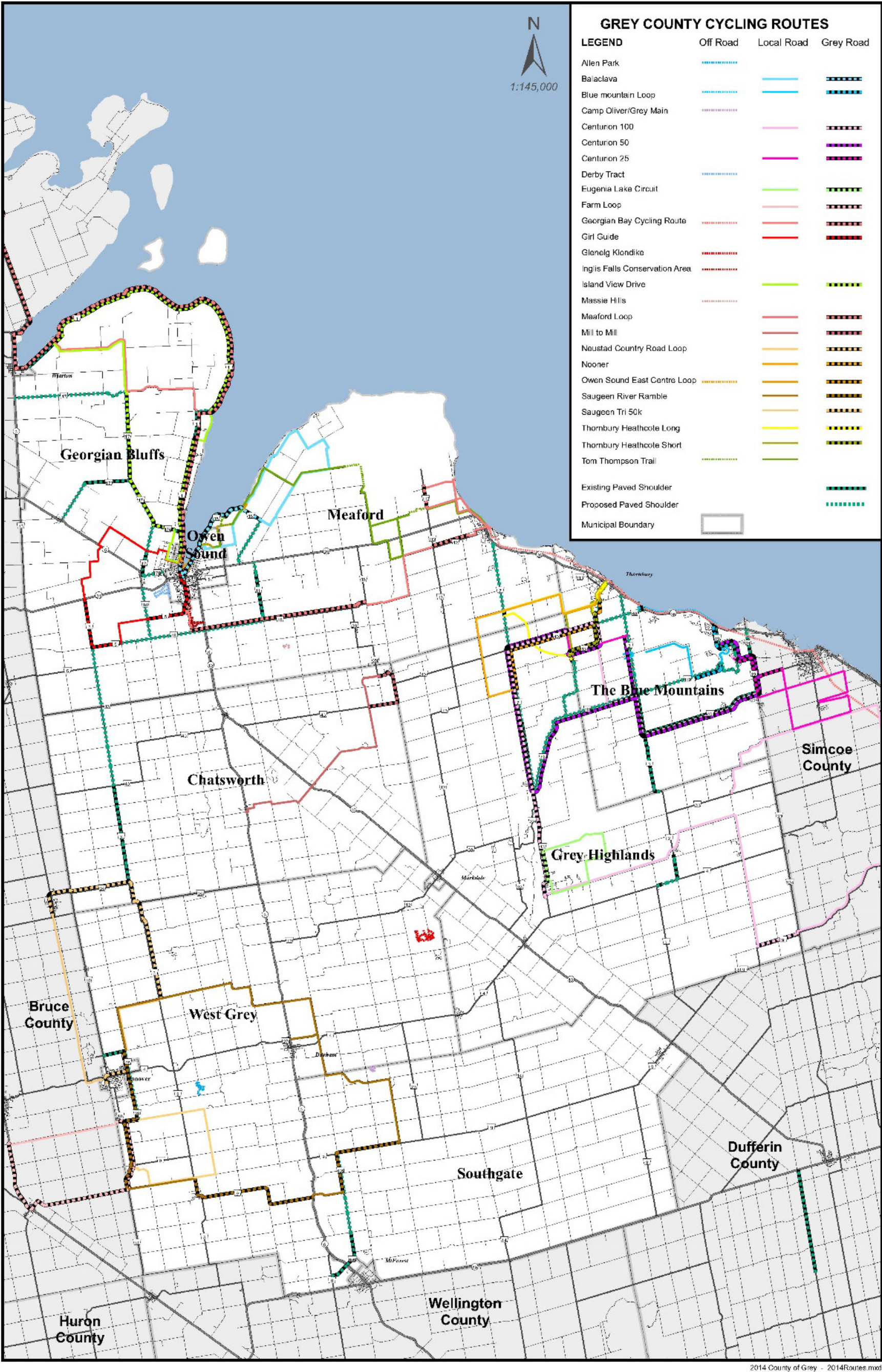
In March 2009, Grey County approved a paved shoulder policy. The primary function of a paved shoulder is to reduce maintenance costs and also to support non-motorized travel such as bicycles and pedestrians. The policy states that “When constructing new highway surfaces during County construction and spot improvement projects, the shoulder next to the driving lanes shall be paved on roads functionally classified as rural arterials regardless of traffic volume”. Paved shoulders should be 1.2 to 2.0 metres, but can be as narrow as 0.5 metres if there are design constraints. Consideration is given to utility and drainage maintenance. As of March 2013, there are 70.91 km of County roads with paved shoulder widenings (141.82 km of paved shoulders). **Figure 4-1** illustrates the locations of existing and proposed paved shoulders in Grey County.

⁹Transportation Association of Canada, Second Edition (February 2012)

Figure 4-1: Existing Active Transportation Network



Figure 4-2: Grey County Cycle Routes



4.3.2. Forest and Trails

The County of Grey owns 8,340 acres of forest tracts, which are considered working forests, that also accommodate trails for a diverse range of recreational activities, including walking, mountain biking, hiking, birding, cross-country skiing and snowmobiling for both visitors and residents¹⁰. **Table 4-1** summarizes existing forest uses within the County.

Table 4-1: Existing Uses in County Forests

Location	CCS	CYC	HIK	HBR	SNM
Camp Oliver - GreyCountyForest 21	✓		✓		
CampOliverEgremont - GreyCountyForest 12	✓	✓	✓	✓	✓
CampOliverGlenelg - GreyCountyForest 17	✓		✓		
Chatsworth Property - GreyCountyForest 45	✓				
Collingwood Osprey Townline - GreyCountyForest 7			✓	✓	✓
Copper Kettle Properties - GreyCountyForest 31			✓		✓
Derby Tract - GreyCountyForest 10	✓	✓	✓		✓
Dornoch Property - GreyCountyForest 20	✓	✓	✓		✓
Glen Rodin - GreyCountyForest 18			✓		
Glenelg Klondike Property - GreyCountyForest 24	✓	✓	✓	✓	✓
Grey Main - GreyCountyForest 19	✓	✓	✓	✓	✓
Harkaway Property - GreyCountyForest 16	✓		✓	✓	✓
Holland Centre Property - GreyCountyForest 26	✓		✓		
Kolapore Property - GreyCountyForest 9	✓	✓	✓		
Lily Oak Property - GreyCountyForest 29	✓		✓	✓	
MountainLake Property - GreyCountyForest 36	✓		✓		✓
Normanby Tract - GreyCountyForest 37	✓		✓		
PrettyRiver Property - GreyCountyForest 5		✓	✓	✓	✓
Quarry Property - GreyCountyForest 35	✓	✓	✓		
Rocklyn Property - GreyCountyForest 14	✓		✓		
St. Vincent Tract - GreyCountyForest 40			✓		
Sullivan Klondike Property - GreyCountyForest 43		✓	✓		✓
Taylor Road Property - Grey County Forest 28	✓	✓	✓		
The Fish Hatchery Property - GreyCountyForest 41	✓	✓	✓	✓	
The Massie Property - GreyCountyForest 44	✓	✓	✓	✓	
The Rocky Saugeen Property - GreyCountyForest 23	✓				✓
The Wickens Property - GreyCountyForest 39	✓		✓		✓

Source: GreyCounty- Forests & Trails (2013)

Legend: CCS - Cross-country Skiing; CYC - Cycling; HIK - Hiking; HBR - Horseback Riding; SNM - Snowmobiling

The Grey County Recreational Trails Strategy (2009), provides the policy direction for the recreational use of the County's Forests and Forest Trails. Low impact activities such as walking, hiking, cross-country skiing, snowshoeing, orienteering, geocaching, photography, nature study and dog sledding are permitted activities on Grey County Trails. Other activities are permitted on certain Forest Trails as appropriate and with appropriate permits and licences, where required.

¹⁰Grey County – Forests & Trails (2013): <http://www.grey.ca/explore-grey/forests-trails/>

4.3.3. Georgian Trail

The Georgian Trail was originally a railway line between Collingwood and Meaford, completed in 1872 and used for rail transportation until its formal abandonment by the Canadian National Railways in 1984¹¹. A feasibility study recommended keeping the property in the public domain and developing it as a recreational trail. On October 31, 1989, the Georgian Trail was officially opened and has become a great asset for the Georgian Triangle area, for residents and tourists alike.

The Georgian Trail is a linear park, featuring a ribbon of green following the route of the old Northern Railway Line¹². It spans 34 kilometers and traverses the Town of Collingwood on the east, Craigleith, the Town of The Blue Mountains, and the Municipality of Meaford to the west (see **Figure 4-3**). Much of the trail passes along the south shore of beautiful Georgian Bay with many opportunities to stop, rest and swim during the summer months¹³. Common uses include hiking, cycling, jogging, cross-country skiing, and snowshoeing.

Figure 4-3: Georgian Trail



Source: Georgian Trail (2013)

¹¹Georgian Trail (2013): <http://www.georgiantrail.ca/our.location.html>

¹²Georgian Trail (2013): <http://www.georgiantrail.ca/trailmap.html>

¹³Georgian Trail (2013): <http://www.georgiantrail.ca/aboutthegeorgian.html>

4.3.4. BruceTrail

The BruceTrail is the oldest and longest continuous public footpath in Canada¹⁴ passing through both public and private land. It runs along the Niagara Escarpment from Niagara to Tobermory, spanning more than 885 kilometres of main trail and 400 kilometres of side trails¹⁵ (see **Figure 4-4**). It provides the only continuous public access to the Niagara Escarpment, a UNESCO World Biosphere Reserve, which is one of only sixteen such reserves in Canada. The BruceTrail attracts about 400,000 visits per year.

The Bruce Trail Conservancy (BTC) is a charitable organization which was established in order to protect natural ecosystems and to promote environmentally responsible public access to this UNESCO World Biosphere Reserve¹⁴. Nine regional Bruce Trail Clubs are part of the BTC. Each Club is volunteer run and is responsible for maintaining, stewarding and promoting a section of the BruceTrail. About 8,226 acres (3,329 hectares) of land is protected and stewarded by the BTC, which is supported by more than 8,500 members and 1,000 volunteers.

Figure 4-4: BruceTrail



Source: BruceTrail (2013)

¹⁴Bruce Trail (2013): <http://brucetrail.org/pages/about-us>

¹⁵Bruce Trail (2013): http://brucetrail.org/system/downloads/0000/0193/BTC_overview_2010.pdf

4.3.5. Tom Thomson Trail

The Tom Thomson Trail is a 43.4 km multi-use trail connecting the Fred Raper Park in Meaford and the Bayshore Community Centre in Owen Sound as shown in **Figure 4-5**. The initial trail was completed in 2008 with a combination of on-road and off-road sections. Over time, it is the intention to continue to develop off-road routes to replace on-road sections and upgrade the surface. In late 2012, the trail group received approval to complete the missing link between St. Vincent-Sydenham Townline and 11th Line.

Figure 4-5: Tom Thomson Trail



Source: Tom Thomson Trail (2013)

4.3.6. CP Rail Trail

The County of Grey acquired the CP Rail Trail in October 2004¹⁶. This is a former rail right-of-way that runs 77 kilometres from Owen Sound to Dundalk (see **Figure 4-6** and **Figure 4-7**). The trail consists of a gravel base trail surface, which is graded annually. The CP Rail Trail permits both non-motorized (hiking, cycling, skiing, and horseback riding) and motorized (snowmobiling and ATV) uses. The section from Sunny Valley Road south to Dundalk is also approved for ATV use.

The CP Rail Trail has the capacity to be used as a utility corridor by one or several approved companies in conjunction with a recreational trail. There is also a possibility of a return to rail use in the future.

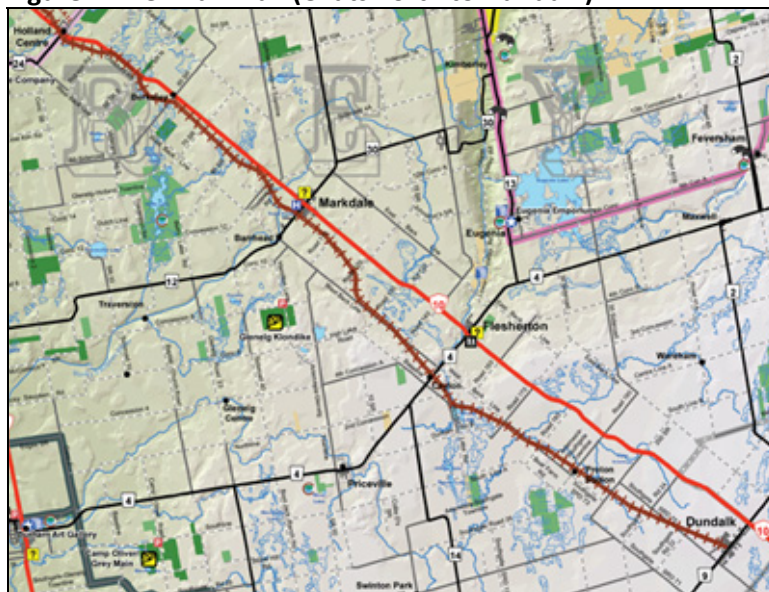
¹⁶GreyCounty Recreational Trails Strategy (2009)

Figure 4-6: CP Rail Trail (Owen Sound to Chatsworth)



Source: Grey County (2013)¹⁷

Figure 4-7: CP Rail Trail (Chatsworth to Dundalk)



Source: GreyCounty (2013)

4.3.7. All-Terrain Vehicle (ATV) Trails

With respect to off-road trails, typically non-motorized and motorized uses have separate trail facilities. However, for trails in rural areas, it is not uncommon to permit use by both no-motorized (walking, cycling, horseback riding) and motorized (snowmobile, ATV) users as noted in the *Canadian Trails Study, A Comprehensive Analysis of Managed Trails and Trail Uses, December 2010*. Conflicts between the various user groups on off-road trails are usually managed through trail management and working with local user groups and through appropriate signage to inform all users of approved trail uses.

With respect to on-road usage, the Province permits the use of ATVs on shoulders and paved portions of some highways under Regulation 316/03 of the Highway Traffic Act. Each municipality also has the authority to determine whether ATVs are permitted to access roads under their authority. Municipalities can also permit access by location, time of day and/or season and set speed limits for ATVs using the public roadway.

An all-terrain vehicle (ATV) is defined as an off-road vehicle with four wheels, steering handlebars, a seat that is designed to be straddled by the driver, low-pressure bearing tires, and are designed to carry a driver only (i.e. no additional passenger). Trails and roads that permit ATVs are shown in **Figure 4-1**.

ATVs are not permitted on Grey County roads except those roads identified in Grey County By-Law 4673-10¹⁸ as follows:

¹⁷ GreyCounty (2013): <http://www.visitgrey.ca/travel-experiences/outdoor-adventure/cycling/rail-trail/>

¹⁸ As amended by By-law 4682-10, 4721-11 and 4770-12)

2. *Subject to the other sections of this By-law, All-terrain Vehicles are permitted to be operated on the traveled portion, including the shoulder, of the Highways described in Schedule A [see Table 4-2]. All-Terrain Vehicles shall not be permitted on any other Highway or part of a Highway.*
3. *An All-terrain Vehicle shall not be operated on any Highway unless it meets the equipment requirements of Section 7 to 15 of Ontario Regulations 316/03 and it is operated in accordance with Sections 16 to 24 of Ontario Regulations 316/03, S. 6.*
4. *No person shall drive an All-terrain Vehicle at a rate of speed exceeding the rate of speed determined by subtracting 30 kilometres per hour from the posted speed limit on the Highway.*
5. *No person shall operate an All-terrain Vehicle on any Highway between the hours of 9:30 p.m. and 7:00 a.m.*
6. *No person shall operate an All-terrain Vehicle on a Highway between November 30 and May 1 of each year except those being used for snow removal. All-terrain Vehicles being used for snow removal must be equipped with a plow and visible intermittent flashing amber light.*

Table 4-2: Grey County Roads Approved for All-Terrain Vehicles(Schedule “A” to By-law 4673-10)

Grey Road	Section	Municipality
1	Bruce Caves Road to Oxenden	Georgian Bluffs
17	Highway 6 easterly 100 metres to the Georgian Bluffs Rail Trail entrance	Georgian Bluffs
4	West Back Line to 30 Sideroad	Grey Highlands
12	Sideroad 7A to Sideroad 10A	Grey Highlands
13	12th Concession B to St. Arnaud Street	Grey Highlands

For the purposes of connectivity, Grey County should continue to support ATV use along or across strategic sections of County Roads to provide a more connected network of ATV trails. As the network of ATV trails expand or as missing-connections are identified, the County should work with the local associations to add sections of roads to the list of approved County roads for ATV use.

4.3.8. Snowmobile Trails

As with ATVs, trails in rural areas could permit use by both no-motorized (walking, cycling, horseback riding) and motorized (snowmobile, ATV) such as the CP Rail Trail. Conflicts between the various user groups on off-road trails are usually managed through trail management and working with local user groups and through appropriate signage to inform all users of approved trail uses.

With respect to on-road usage, the Province permits the operation of motorized snow vehicles (snowmobiles) under the Motorized Snow Vehicles Act. Under this Act, snowmobile drivers are permitted to drive along or across highways if the driver holds both a driver’s licence and a motorized snow vehicle licence. This Act also gives local or upper-tier municipality the authority to pass by-laws to regulate, govern or prohibit snowmobiles along or across roads under their jurisdiction.

The network of off-road and on-road snowmobile trails in Grey County are shown in **Figure 4-8**. Generally, County roads do not accommodate snowmobile trails, except to provide connections to off-road trails or local road trails which would otherwise be discontinuous, such as the two short sections of Grey Road 17 in Georgian Bluffs, one section of Grey Road 30 in Grey Highlands and one section of Grey Road 25. For the purposes of connectivity, Grey County should continue to support snowmobile use along or across strategic sections of County Roads to provide a more connected network of snowmobile trails. As the network of snowmobile trails expand or as missing-connections are identified, the County should work with the local associations to add sections of County roads to complete the network.

4.4. Active Transportation Strategies under Other Jurisdictions

4.4.1. Provincial Cycling Strategy

The Province has recently released *#Cycle ON Ontario's Cycling Strategy* which presents a province-wide cycling strategy and vision for the next 20 years. The strategy was designed to encourage the growth of cycling and improve the safety of cyclists. Ontario's strategic directions are to:

- design healthy, active and prosperous communities;
- improve cycling infrastructure;
- make highways and streets safer;
- promote cycling awareness and behavioural shifts; and
- increase cycling tourism in Ontario.

The guiding principles in developing strategies to meet the vision of *Cycle ON* are:

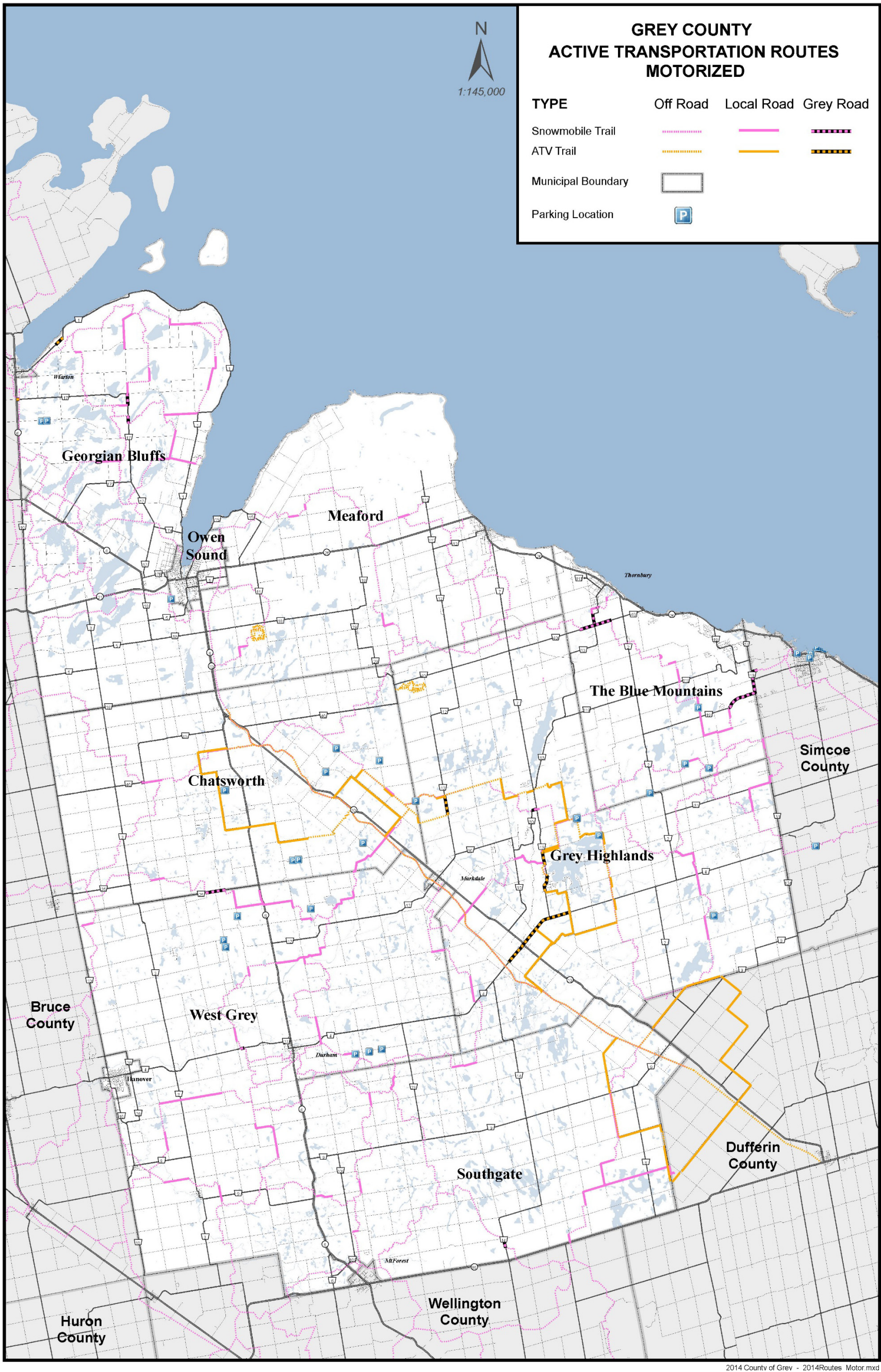
Safety - The safety of all road users, including cyclists, is paramount.

Partnership - Partnerships and collaborations amongst all stakeholders - cyclists, governments at all levels, industry and researchers - are essential to increasing the cycling mode share in Ontario.

Accessibility and Connectivity - Cycling in Ontario is accessible for people of all ages and abilities. Networks are interconnected and integrated with other modes of transportation.

By following the guiding principles and developing cycling strategies throughout the Province, the goals the Cycle Strategy aim to achieve are a built environment that support and promote cycling for all trips under 5 km, a cycling environment that is safe for people of all ages, and an interconnected network of cycling routes between cities and towns.

Figure 4-8: ATV and Snowmobile Trails



4.4.2. Town of The Blue Mountains

The Town of The Blue Mountains has recognized the significance of active transportation within its community by demonstrating commitment through various plans and initiatives.

The vision statement from the *Town of The Blue Mountains Corporate Strategic Plan* (October 2005) is as follows:

“The Blue Mountains will be a progressive four season community, building on its agricultural and recreational features, offering a healthy and supportive lifestyle to a diverse range of residents, businesses and visitors.”

In its Leisure Activities Plan¹⁹ the Town of The Blue Mountains has acknowledged that parks, open space and leisure opportunities contribute to the physical, social, cultural and economic well-being of the community and enhance the overall quality of life for its residents. The Leisure Activities Plan presents “Action Plans” to improve leisure and recreation activities in both indoor and outdoor settings. Active transportation could be improved through improvements to waterfront facilities, sidewalks, trails and cycling facilities. The plan recommended that future subdivisions continue to be designed to accommodate trail networks and sidewalks (on one side of the road, at a minimum), especially those that have potential to connect to the Georgian Trail, the Bruce Trail and other destinations/points of interest.

As part of the Leisure Activities Plan, guiding principles were developed as a means to achieve the Town of The Blue Mountains vision statement. The guiding principles are grounded in the recognition that parks and leisure provide numerous physical, social, economic and environmental benefits that are essential to creating a healthy community for current and future citizens. Strategic directions were developed for each guiding principle listed above, to demonstrate the ways in which the Town plans to contribute to achieving the intentions of the Leisure Activities Plan. The strategic directions which can directly encourage active transportation within the Town of The Blue Mountains are listed in **Table 4-3**.

Table 4-3: The Blue Mountains Leisure Activities Plan -RelevantPrinciples and Directions

No.	Guiding Principle	Strategic Directions
4	<u>Connectivity</u> Improving the physical and social connections between dispersed populations will continue to be a high priority.	4a) Respect local identities while working together as a single municipality, where feasible. 4b) Provide alternative transportation choices (e.g. walking, biking, cross-country skiing opportunities, etc.) which are affordable and sustainable in order to increase efficiency and minimize barriers to accessing leisure opportunities.

¹⁹ The Town of The Blue Mountains – Leisure Activities Plan (March 2006)

7	<p>Infrastructure In cooperation with local and provincial partners, the Town will ensure that appropriate leisure infrastructure (e.g., facilities, parks and trails) is in place to deliver the desired range of leisure services to local residents.</p>	<p>7a) Ensure that there are a suitable number of accessible parks, sports, fitness and recreation opportunities available to meet the needs of the permanent and seasonal residents, along with visitors to the Town.</p> <p>7b) Encourage the development of multi-purpose leisure facilities (a facility that contains several different leisure components, thereby generating economies of scale and cross-programming opportunities) offering a diverse range of programming opportunities to a range of age groups and socio-economic backgrounds.</p> <p>7c) Provide parks that are safe and that accommodate a variety of active and passive uses, and that are integrated into an expansive trail system.</p> <p>7d) Develop a waterfront focus for the Town that provides opportunities for leisure, community development and tourism/economic development through facilities such as beaches, waterfront trails and the Harbour.</p>
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4.4.3. City of Owen Sound

The City of Owen Sound also recognizes the significance of active transportation within its communities by demonstrating commitment through the City's Official Plan and Transportation Master Plan.

The City of Owen Sound Official Plan (March 2006) includes guidelines for pedestrian links and bicycle trails. The City also produced an Active Transportation Plan as a component of its Transportation Master Plan in September 2010, and a draft Recreation Trails Master Plan in 2012 to guide all works and policy related to trails within the City.

The City's Official Plan identifies the planned walking trail and cycling network. It identifies missing links that would help to provide network continuity and complete the proposed network.

The Transportation Master Plan supports sustainable development, protection of the natural environment, economic vitality, and a healthy community, while providing safe, affordable, and efficient transportation through the City²⁰. Cycling and walking have evolved to become a practical, cost effective, environmentally sensitive and healthy mode of travel for both recreational and utilitarian trips. Both are widely recognized as an integral and necessary part of a community's transportation system as an alternative to motorized travel.

The following active transportation opportunities are currently provided within the City:

- hard and soft surface trails and on-road connections;
- sidewalks, typically adjacent to public roadways; and
- on-road cycling on local, collector and arterial roadways (but not marked as formal cycling routes).

There is currently a grid of pedestrian connections throughout the urban portion of the City. Sidewalks are provided on most County roads, arterial roads and collector roads on one or both sides of the road.

²⁰ City of Owen Sound – Transportation Master Plan (September 2010)

The trail system also provides pedestrian connections. The Active Transportation Plan recommended that the City of Owen Sound focus their efforts and funding towards the construction of missing pedestrian and cyclist links and providing a more connected network. The Plan also advised that the City proactively address pedestrian safety needs and establish a program of reviews of pedestrian crossings either through on-going traffic operations studies or annual corridor reviews.

The Plan recognized that in order to support cycling as a viable and competitive mode of travel, there is a need to develop continuous and direct routes to cycling destinations (primary corridors) within the City and to neighbouring municipalities. Primary cycling routes provide opportunities for commuting along continuous corridors and provide connections to key municipal destinations including, but not limited to²⁰:

- Downtown (e.g. City Hall, Farmers' Market, Public Library, Tom Thomson Art Gallery);
- shopping centres (e.g. Heritage Place Shopping Centre);
- major offices (e.g. County of Grey Administration Office in the south of Owen Sound);
- institutional uses (e.g. Georgian College, Grey Bruce Regional Health Centre); and
- community uses (e.g. Harry Lumley Bayshore Community Centre, Victoria Park).

According to the City of Owen Sound Transportation Master Plan (September 2010), the bicycle and pedestrian networks as identified in the Official Plan have not been fully developed and implemented²⁰. Therefore, opportunities exist through the continuous development of the active transportation network to serve all communities within the City.

4.5. Relevant Guidelines for Active Transportation

4.5.1. Accessibility for Ontarians with Disabilities Act

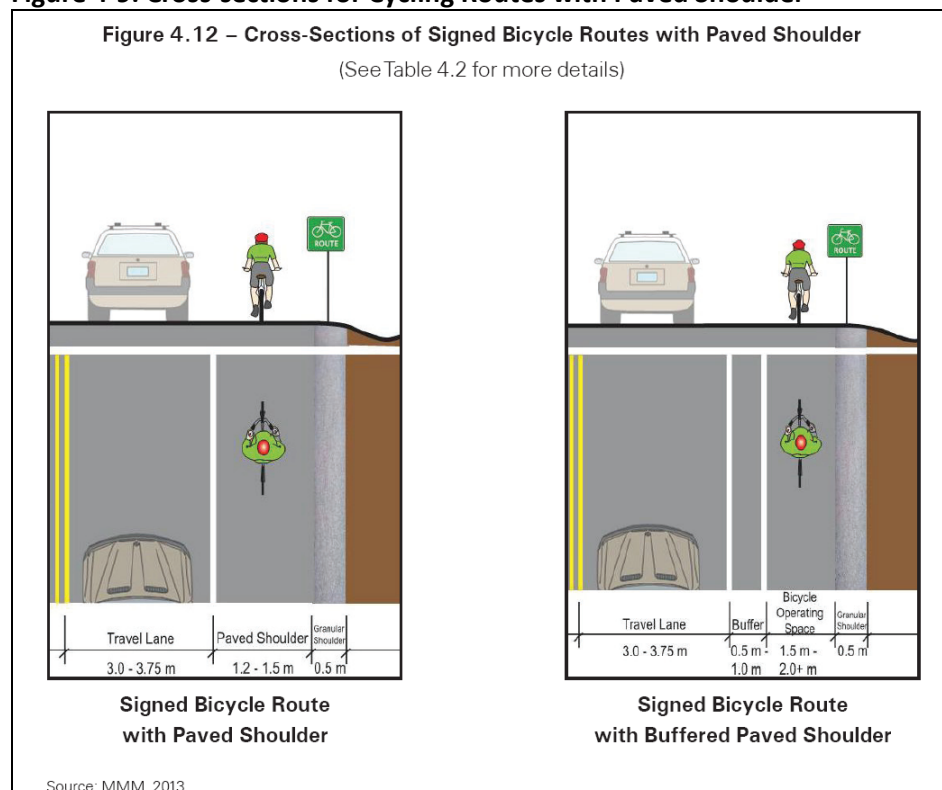
Technical requirements for recreational trails and travel paths for pedestrians are identified under the Accessibility for Ontarians with Disabilities Act (AODA) Design of Public Spaces Standards (Accessibility Standards for the Built Environment). These technical requirements include design considerations for trails and amenities and pedestrian travel paths (sidewalks, ramps, stairs, curb ramp). Requirements for minimum widths, minimum heights, maximum slopes, edge protection, protective barriers, signage, ramps, curb ramps, rest areas, and accessible pedestrian signals must be met for all new construction and major changes to existing of public spaces by 2016.

4.5.2. Ontario Traffic Manual Book 18: Cycling Facilities

The *Ontario Traffic Manual Book 18-Cycling Facilities (March 2014)* is a primary reference document cycling facilities in Ontario. OTM Book 18 sets out the legal requirements, standards, best practices, procedures, and guidelines for the justification, planning, design, timing and operation of bicycle facilities and control measures. It applies to all facilities within the road right-of-way including on-road and off-road facilities. OTM Book 18 promotes a uniform approach to cycling facilities across the province.

Relevant to Grey County are guidelines design considerations for bike routes on rural roads with paved shoulders such as the typical cross-sections shown in **Figure 4-9**.

Figure 4-9: Cross-sections for Cycling Routes with Paved Shoulder



Source: OTM Book 18, Figure 4.12

4.5.3. Paved Shoulder Policy

In a predominantly rural area, paved shoulders are the preferred facility type accommodating cycling connections between rural communities. OTM Book 18 provides guidance on design considerations for paved shoulder cycling facilities.

As noted in **Section 4.3.1**, Grey County adopted a Paved Shoulder Policy in 2009 that identified the primary function of a paved shoulder to be in support of non-motorized travel including bicycles and pedestrians, while reducing maintenance costs. The following procedures constitute part of the County's Paved Shoulder Policy²¹:

- When constructing new highway surfaces during County construction and spot improvement projects, the shoulder next to the driving lanes shall be paved on roads functionally classified as rural arterials regardless of traffic volume.
- The paved shoulder width shall be 1.2 metres to 2.0 metres on newly constructed roads.
- The paved shoulder can be reduced to a minimum of 0.5 metres as a reasonable compromise where it is not possible to achieve 1.2 metre widths due to constraints.
- The thickness of shoulder paving shall be based on the usual design considerations appropriate to each situation.

²¹ Grey County (2013): <http://www.greycounty.ca/files/pagecontent/policy-roads-01-09-paved-shoul.pdf>

- Shoulders may also be paved full width along County roads in suburban areas where closely spaced driveways and/or frequent turning movements cause excessive maintenance to gravelled shoulders.
- Shoulders should not be considered for paving where underground utilities and drainage structures require ongoing maintenance.
- When resurfacing existing County roads the same conditions shall apply providing the sub-base is structurally adequate and able to support the pavement.
- This policy does not apply to County roads within the limits of villages and towns or designated urban areas.
- Paved shoulders on shared boundary roads will require mutual agreement from each abutting County.
- All factors, financial and otherwise, will be considered on a per project basis for exceptions only; subject to a review and final approval by the Standing Committee.

In 2010, MTO constructed 66 kilometres of 1 metre wide paved shoulder on Highway 6 (from the Town of Tobermory to Mar) as part of the Provinces' Southern Highways Programs²².

4.5.4. Signage and Wayfinding

Signs should communicate various kinds of information to the cyclist, and can include:

- destination signs (nearest, intermediate or end destinations);
- direction (directional arrows);
- distance (to destination);
- regulatory signs;
- warning signs; and
- information signs.

Information and guidance relating to signs for roads and trails in Ontario is provided in the Ontario Traffic Manual (OTM). OTM Book 18 provides standards, best practices and practical guidance on the planning, design and operation of cycling facilities in Ontario. Generally, wayfinding signs should be located at locations such as entrances/exits, intersections, and at regular intervals along the routes, in order to provide cyclists with relevant information at decision points.

4.6. Active Transportation Strategy Summary

To complement the County of Grey Recreational Trails Strategy, which provides policy direction for trail uses in the County Forests, it is recommended that the County adopt formal County-wide active transportation strategies that serve to encourage walking, cycling, and other sustainable modes of transportation. Planning for active transportation is important to connect communities and offer alternative, healthier modes of transportation.

The County will benefit from a formal Active Transportation Master Plan. Provision of active transportation infrastructure and facilities is the first step to achieving a more sustainable transportation network. Initiatives and strategies to encourage walking and cycling should be

²² Complete Streets for Canada: http://www.completestreetsforcanada.ca/case_study/grey-and-bruce-counties

developed, and educational programs can be organized to inform residents and promote safety. The following initiatives are recommended for Grey County.

Develop policies through an **Active Transportation Master Plan** that:

- promote accessibility for all ages and abilities (e.g. ramps, pedestrian grade separations) through planning and design guidelines for new and retrofit infrastructure;
- promote enhanced pedestrian design features (e.g. street furniture, benches, streetscape features separating pedestrians from traffic) along pedestrian priority corridors;
- promote walk and cycle to school programs through outreach initiatives with school boards, teachers and parents;
- develop guidelines and policies for implementing supporting infrastructure such as parking lots at trailheads, rest stops, wayfinding signage, etc.;
- develop walkability guidelines for Grey and incorporate walkability audits into transportation and traffic studies;
- support changes to the Highway Traffic Act that permit cycling on the shoulder of a roadway; and
- include consultation and engagement with local municipalities, neighbouring municipalities/counties, Regional Tourism Organization 7 (RTO7) and active transportation stakeholders (i.e. cycling groups and recreational clubs/associations).

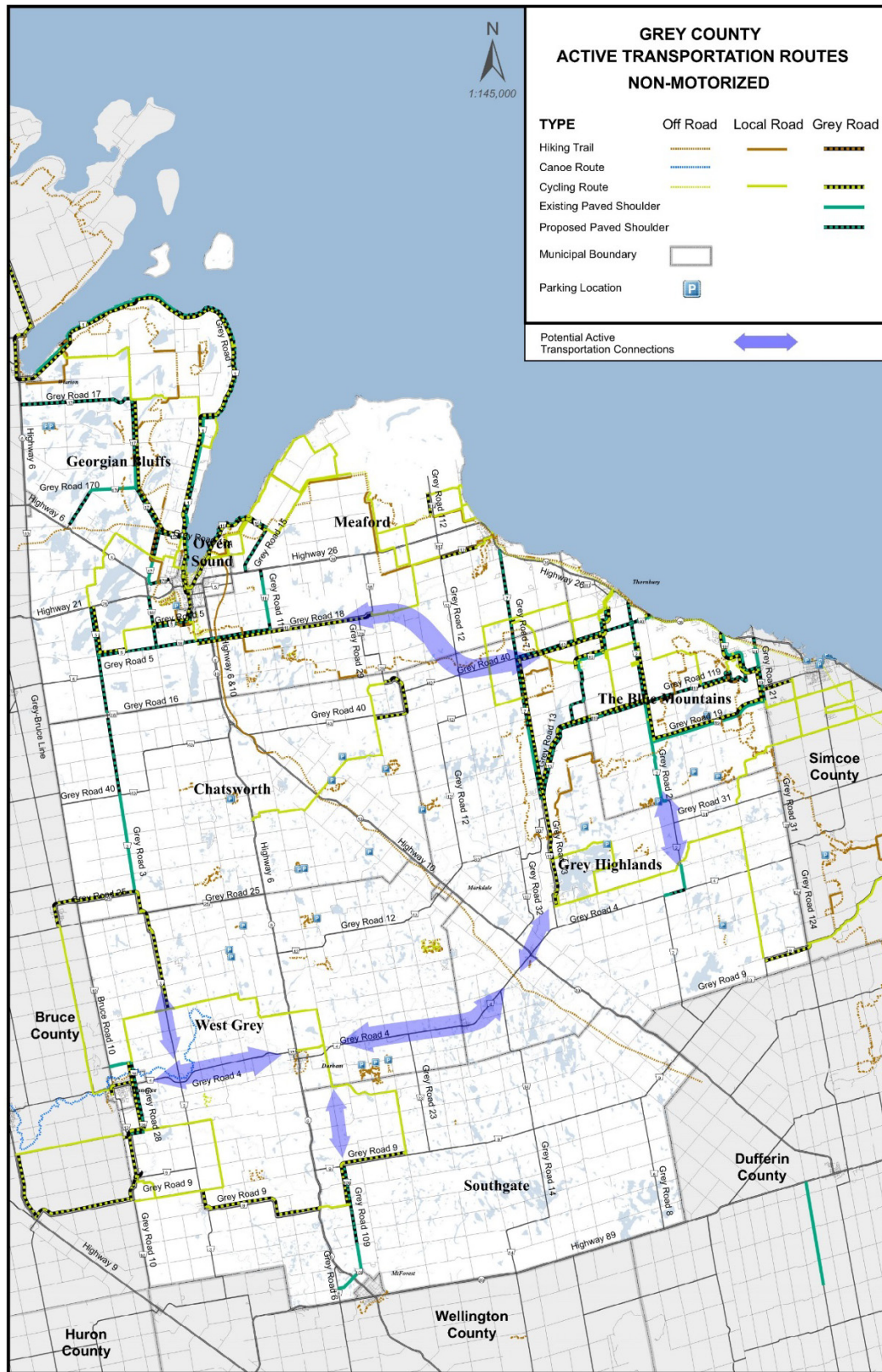
Develop a **connected network** in Grey County by:

- establishing a network of inter-connected routes including connections between municipal centres, links to adjacent counties and cycling “loop routes” to accommodate recreational cycling including cycling organizations and tourist cycling activities (desired lines identifying potential connections are shown in **Figure 4-10**);
- continuing to utilize paved shoulders on County roads together with ‘Share-the-road’ signage;
- accommodating sidewalks and bicycle lanes within urban areas on County roads between key origins and destinations;
- permitting ATV and/or snowmobile use along or across strategic sections of County roads to provide a more connected network of trails
- continuing to provide paths and trails based on current policies and programs that comply with AODA requirements; and
- establishing secure bicycle parking and shower/change room facilities at County facilities.

Other initiatives Grey County could consider include:

- holding annual/monthly events to promote walking and cycling, and to raise awareness in partnership with others including municipalities and County Police; and
- assigning a staff member for the proactive implementation of selected initiatives.

Figure 4-10: Potential Active Transportation Connections



5. Transit

As noted in **Section 3.3.2**, Grey County, which is predominantly rural in nature with a handful of small towns and built-up areas, does not have a county wide public transit system. The City of Owen Sound offers the only public transit service within the GreyCounty area (although this service is only provided within the City limits). While there are specialized transit services offered within the County, these are individual services that cater to very specific geographic areas and demographic segments of the population (i.e. seniors, disabled, etc.). As such, travel within GreyCounty is heavily dependent on the private automobile. Those residents of GreyCounty who do not have access to a private automobile (seniors, youth, low income families, disabled persons, etc.) are thus severely limited in terms of their mobility. Limited mobility translates into limited access to essential services and employment opportunities which, in turn, results in social isolation. The implementation of a county wide public transit system in GreyCounty would increase mobility and accessibility of the rural population and reduce the social inequities inherent with a car centric society. It is noted that traffic congestion, a common pressure point when discussing public transit considerations, is not an issue for GreyCounty as the County road network operates below capacity. Rather mobility and accessibility, as noted, are the primary concerns.

5.1. Provincial Policy Statement

The Provincial Policy Statement (PPS) guides land use planning and development initiatives within the province by way of a foundational policy framework. Local land use and development policies should complement, and be consistent with, the PPS.

With respect to transit, the PPS includes the following policies:

Section 1.4.3 Planning authorities shall provide for an appropriate range and mix of housing types and densities to meet projected requirements of current and future residents of the regional market area by:

d) promoting densities for new housing which efficiently use land, resources, infrastructure and public service facilities, and support the use of active transportation and transit in areas where it exists or is to be developed;

Section 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.

Section 1.6.8.1 Planning authorities shall plan for 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.

Section 1.8.1 Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land use and development patterns which:

- b) promote the use of active transportation and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas:*
- c) focus major employment, commercial and other travel-intensive land uses on sites which are well served by transit where this exists or is to be developed, or designing these to facilitate the establishment of transit in the future;²³*

The Provincial Policy Statement promotes transit-supportive land use policies and development. As the PPS forms an overarching policy framework for the province, regional and local land-use policies should be informed by and reflect the initiatives contained therein. As such, Grey County should support transit-supportive development within County and its municipalities through Official Plan land-use policies that encourage intensification and guided growth in settlement areas. Consideration should also be given to including transit evaluation and transit initiatives as part of the development approval process.

5.2. Public Transit

5.2.1. Public Transit Service Options

A brief summary of typical public transit services is provided below. It is noted that the discussion on rural transit focuses on road transit (i.e. buses).

5.2.1.1 Conventional Transit Service (Fixed Route/Fixed Schedule)

The conventional, or traditional, transit service consists of a fixed route and a fixed schedule. The transit vehicle travels along a pre-determined route making scheduled stops at pre-determined locations. The conventional service is most commonly offered in urban locations where population densities are relatively high and the service route is easily accessible by the users.

5.2.1.2 eDemand Responsive Service

Demand responsive transit is a flexible service in that there is no fixed route or schedule. Rather, the route and schedule are dictated by the user demands for any given day. The user calls the provider in advance to request a pick-up at the user's location for transport to the desired destination. The provider, in turn, will organize a vehicle to respond to the request. Depending on the notice required by the provider to arrange the requested service (i.e. 24-hours vs 48-hours vs real-time), the provider may co-ordinate a number of pick-ups by a single vehicle (this, of course, is also dependent on the requested destinations). In terms of route, the demand responsive service is extremely flexible and is largely dictated by the pick-up and destination requests by the user. In terms of schedule, the degree of flexibility is determined by the notice period required by the provider. As the required notice period is decreased (i.e. approaches real time), flexibility increases for the user and the service becomes more reflective of a typical taxi service.

²³2014 Provincial Policy Statement, Ministry of Municipal Affairs & Housing. Online: <http://www.mah.gov.on.ca/AssetFactory.aspx?did=10463> [Accessed May 2014]

5.2.1.3 Conventional/Demand Responsive Hybrid Service

This type of service combines certain attributes of the conventional transit service with those of the demand-responsive transit service. The following are typical examples of a hybrid service.

Route Deviation Service

The route deviation service follows a specific route at scheduled times and includes scheduled stops or unscheduled stops. Upon pre-arranged user request, the transit vehicle is permitted to deviate from the route to pick-up or drop-off a passenger (unscheduled stop); however, the vehicle must re-enter the fixed route at the same point at which the initial deviation occurred (thus ensuring that the fixed route is followed in its entirety). In considering that the service must maintain its scheduled stops on-time, the extent to which route deviation occurs is controlled through the definition of a deviation area (deviation beyond this area will result in a disruption to the overall schedule). The route deviation service allows users to access the service at the scheduled stops (as per conventional transit) or via a request in advance for a route deviation (as per demand responsive transit).

Point Deviation Service

This service establishes scheduled stops at scheduled times along a route (the stops are generally locations where user demand would be high such as a town centre, shopping mall or employment district) but does not specify the route to be followed between the scheduled stops. The actual route between the stops is dictated by user requests made in advance for pick-up and drop off at pre-scheduled stops (pre-scheduled in that they are requested and arranged in advance by the user but are not regular stops and do not appear on the published schedule). Although the route is flexible and allows for pre-scheduled stops, service to the scheduled stops must remain on-time, or remain within a determined window of time, as per the established schedule.

The route and point deviation services are best utilized in areas where trips of the typical user are not time sensitive. Thus, in the event of a deviation from the route, the user does not associate the deviation with poor service.

5.2.1.4 Other Services

Many-to-Few Service

The many-to-few (or many-to-one) service provides scheduled service to and from a handful of clustered destinations or a single destination (these destinations are usually high demand destinations). The user requests service in advance to and from one of the scheduled destinations. The routes are thus wholly determined by the provider given the user requests for any given day. The destinations are not flexible, which is typical of a conventional transit service, whereas the ability for a user to call to arrange pick-up is typical of a demand responsive service.

Jitney Service (Fixed Route/Flexible Schedule)

A jitney service runs on a fixed route with no schedule. This type of service runs on a high frequency and requires high demand. A park-and-ride facility offering transportation between a remote parking lot and a high demand destination/origin (i.e. airport) is a typical example of a jitney service. These services are not usually associated with public transit as they are often privately owned and operated.

5.2.2. Public Transit Costs

It is acknowledged that public transit services are almost always supported by government subsidies. That is to say, it is rare that a public transit service will recoup its operating costs via its standard operating revenue stream (i.e. fares, advertising space, etc.). The extent to which a service is subsidized depends on many factors including the characteristics of the service area (i.e. size of area and ridership) and the level/type of service offered. A common measure of a transit service's performance is the revenue to cost ratio (which reflects the percent of costs recovered or offset by revenues). The revenue stream includes all revenue generated through operations (i.e. does not include subsidy revenue). **Table 5-1** provides a sample of revenue-cost ratios of local public transit services.

Table 5-1: Revenue-Cost Ratios (local services)

Public Transit Service	Revenue - Cost Ratio	Source
Barrie Transit	0.42	City of Barrie 2013 Operating Budget
Colltrans	0.21	Town of Collingwood 2012 Budget
Orillia Transit	0.62	2013 CAO Budget Report
Owen Sound Transit	0.39	2012 Owen Sound Transit Route Study, HDR
Toronto Transit Commission (TTC)	0.70	2011 TTC Operating Budget

In 2011, Owen Sound Transit reported a revenue-cost ratio of 0.39, which indicates a recovery of 39% of its costs through standard operating revenues (the remaining 61% would be subsidized). In 2012, the costs to operate Owen Sound transit exceeded the revenues by \$620,000. In 2013, a shortfall of \$750,000 has been projected.

The *2010 OMBI Benchmarking Report*²⁴ reported an average revenue-cost ratio of 0.43 in 2010 (the Ontario Municipal Benchmarking Initiative collects performance data across 37 municipal service areas). The revenue-cost ratios for those OMBI participants with transit services are provided in **Table 5-2**.

As noted, only 4 of the 11 OMBI participating municipalities/regions with transit services reported a revenue-cost ratio of 0.50 or greater, with the City of Toronto reporting the highest revenue-cost ratio of 0.70. Even those services with high ridership do not recover the operating costs through standard operating revenues. This results from high costs to operate (equipment, maintenance, fuel, staff, etc.) and restraints on standard revenues, particularly fare revenue as a transit service must be affordable to the user and thus cannot simply raise fares to cover costs.

The actual costs to implement and operate a rural public transit service in Grey County are difficult to identify without first establishing the demand for public transit and the type of service required to satisfy that demand. No two rural transit services are the same and thus the operating costs will vary depending on the services provided. A national study of rural transportation services in the United States identified a cost range of \$1.50 to \$9.70 per trip²⁵, an indication of the wide variation in costs

²⁴2010 OMBI Benchmarking Report, Ontario Municipal Benchmarking Initiative. Online: http://www.ombi.ca/wp-content/uploads/OMBI_2010_Transit.pdf [Accessed February 2013]

²⁵TCRP Report 6: User's Manual for Assessing Service-Delivery Systems for Rural Passenger Transportation, Jon Burkhardt, Beth Hamby, and Adam McGavock, Transportation Research Board, Washington DC, 1995.

depending on the type of service implemented. Operating costs for transit service are typically in the order of \$60 to \$80 per hour, which considers fuel, maintenance, driver costs, etc. but not capital expenditures.

Table 5-2: Revenue-Cost Ratios (OMBI Participants)

Municipality/Region	Revenue - Cost Ratio		
	2008	2009	2010
City of Barrie	-	0.45	0.43
Region of Durham	0.40	0.35	0.35
City of Hamilton	0.58	0.58	0.50
City of London	0.58	0.55	0.55
City of Ottawa	0.46	0.43	0.52
City of Sudbury	0.44	0.39	0.40
City of Thunder Bay	0.33	0.33	0.33
City of Toronto	0.74	0.67	0.70
Region of Waterloo	0.35	0.33	0.34
City of Windsor	0.50	0.48	0.47
York Region	0.40	0.37	0.37

5.2.3. Public Transit Benefits

While the costs of public transit are well known and often publicized, there are also benefits to public transit that deserve consideration. The benefits do not always receive fair attention for the simple reason that they are not easily monetized. Studies have been conducted in an effort to measure the beneficial value of public transit; however, the benefits and associated values are dependent on variables such as the type of service offered, the type of user, ridership levels (expected or actual) and certain demographics of the service area (such as employment and average earnings). The following are typical benefits associated with public transit:

- User benefits - benefits experienced by users as a result of increased access to services;
- Equity benefits - public transit reduces social isolation by increasing the mobility of the otherwise transportation disadvantaged, thus aiding community equity;
- Option value - the benefit realized by those who would otherwise rely on more expensive modes of transportation (i.e. taxi services);
- Efficiency benefits -public transit use realizes certain efficiencies when contrasted with the private automobile (i.e. reduced congestion and pollution emissions; cost savings related to parking, fuel, and maintenance; etc.); and
- Infrastructure benefits - increased public transit use can reduce the number of vehicles on the road which ultimately reduces road maintenance costs and the need for additional infrastructure (i.e. road widening or new roads).

It is further noted that public transit is commonly viewed as subsidized by public monies. In this respect it could also be argued that the road network is also subsidized through tax revenues, and to a far greater extent than any public transit service.

As can be seen, the benefits of public transit are numerous but at the same time are difficult to measure. In terms of GreyCounty, any public transit service to be offered/implemented must be somewhat defined in order to identify and accurately value the benefits associated with such service.

5.3. Rural Transit - Examples

5.3.1. City of Kawartha Lakes

The City of Kawartha Lakes recently completed a 13-month pilot project which introduced limited public transit on 4 rural routes (operated on alternating days) connecting to Lindsay at a cost to the City of \$48,000 (funded by provincial gas tax funds)²⁶. The service operated similar to a conventional service with scheduled stops on each of the routes (the bus did not divert from its route and only stopped at designated bus stops). It is understood that no studies were undertaken to identify the extent or location of latent demand for public transit in the area. During the 13-month pilot, the service had provided 895 rides. At the noted operating cost of \$48,000, the cost per ride was approximately \$54. Assuming that each of the 895 riders paid the full adult fare of \$2.00 (exact fare revenue is not available), the fare revenue over the 13-month pilot would be \$1,790. This equates to a revenue-cost ratio of 0.04 (or less than 4% of costs recovered through revenues). Given the costs and low ridership, the City of Kawartha Lakes discontinued the service after the pilot period.

5.3.2. Bancroft - The Rural and Overland Utility Transit (TROUT)

The Rural and Overland Utility Transit (TROUT) service is supported by the Town of Bancroft and several neighbouring municipalities. Initially operated to provide transportation to seniors, the service has evolved into a fixed route and scheduled service (a hybrid of conventional transit and demand responsive) providing service for all. TROUT runs 5 routes during the week, providing service to a different community each weekday. The routes to each community are fixed, with passengers able to “wave down” the bus anywhere along the route (the service also has scheduled stops). Those requiring service to their front door can schedule the pick-up 48 hours in advance. TROUT connects each of the participating communities to the Town of Bancroft - offering trips into Bancroft in the AM and trips out of Bancroft in the PM. Between the AM and PM schedule, TROUT travels a fixed route within the Town of Bancroft.

TROUT service is operated on a funding formula which includes fare revenues, advertising revenues, municipal contributions, the provincial gas tax rebate for transportation and contributions from other community support initiatives. For 2011-2012 (April 1 to Mar 31 fiscal year), TROUT reported revenues of \$235,125 and costs of \$269,105, realizing a loss of \$33,980²⁷. However, of the total revenues, only \$21,845 was generated by transit operations (i.e. fares and advertising). This equates to a revenue-cost ratio of approximately 0.08 (or 8% of costs recovered through revenues). The participating municipalities contributed \$18,705, with the remaining \$194,575 of revenue coming from other sources as noted above. Despite the loss, TROUT service is recognized as a success in rural transit; with ridership

²⁶Rural transit routes defended despite \$54 cost per rider. Lisa Gervais. <http://www.thepost.ca/2012/10/08/rural-transit-routes-defended-despite-54-cost-per-rider>

²⁷TROUT Report to Municipalities 2010-2012, John Keith & Gord MacDonald. October 2012.

increasing each year (ridership has increased from 5,228 in 2010/11 to 5,983 in 2011/12 and is projected to reach 7,011 in 2012/13).

5.4. GreyCounty Transit Strategy

5.4.1. Rural Population

The population of GreyCounty, as per the 2011 census data, is 92,568 (this includes the population of Owen Sound - reported at 21,688). The census data further reports that 49,563 residents, or 54% of the total population, are considered to live in a rural setting. If the population of Owen Sound is removed from consideration (and assuming that 100% of the Owen Sound population is considered as urban), the percentage of those residents in Grey County living in a rural setting increases to 70%. This is an important reality when considering the feasibility of a county wide public transportation offering, as conventional approaches are not necessarily appropriate in rural settings.

5.4.2. Transportation Disadvantaged

Ready access to transportation is not a benefit that is available to all members of the general population. The level of access available to any one person may be determined by a variety of factors such as geographical location (i.e. rural vs urban), income level or age. Residents of rural areas, such as GreyCounty, typically have far fewer transportation options available to them than do residents of urban areas. This can generally be attributed to the economies of scale that are associated with the greater population densities and development levels of urban areas (high density population/development are desirable characteristics with respect to public transit and other transportation offerings). As such, residents of rural areas tend to be far more dependent on the private automobile. Where alternatives modes to the car are not available or are not considered feasible (i.e. long distances will preclude non-motorized modes such as walking or cycling), those who do not have ready access to a private automobile are disadvantaged with respect to transportation. Segments of the population that may be vulnerable to experiencing transportation disadvantage include:

- low income households/individuals;
- single parent families;
- disabled individuals;
- seniors; and
- youth.

The intent of identifying the vulnerable segments of the population is to identify the potential user groups in GreyCounty that would realize the greatest benefit from a transit offering. A review of the 2011 census data for GreyCounty reveals the following:

- 21.1% of the population was 65 years of age or older;
- 18.8% of the population was 17 years of age or younger; and
- 12.5% of census families are single parent families.

With respect to the age demographic in GreyCounty, the Ontario Ministry of Finance projects that the percentage of the population 70 years of age or older will rise from 14.6% in 2012 to 27.4% in 2036²⁸. This dramatic increase is consistent with ongoing conversations about the aging population in Canada. It is inevitable that as the population ages, the number of individuals requiring transportation assistance will also increase for this demographic.

The 2011 census data related to household income had not been released at the time of publication; however, the 2006 data indicated that 7.8% of the economic families in GreyCounty were considered to be low income households²⁹.

5.4.3. Public Transit Demand

Before implementing a rural transit service, the demand for such must be identified in order to determine whether a transit service can be supported, and, if so, where the service should be located. Based on the origin-destination data gathered for this study, the greatest volumes of daily trips occur between Owen Sound and the Township of Georgian Bluffs (2,460 trips) and between Owen Sound and the Municipality of Meaford (1,095 trips). By no means do these volumes indicate that a transit service can be supported, rather they provide a starting point for further research into where the demand may exist. As the only City within the County (and a hub of essential services and employment), it is considered logical to focus on connecting Owen Sound with the surrounding municipalities. However, further study is required to determine where demand for public transit exists, and whether such is significant enough to warrant service. It is recommended that the County co-ordinate with the municipalities and with those organizations currently providing transit service within the County to determine demand levels and the location of such. Trip surveys should also be circulated to the public to gather further demand data.

It is further noted that any study into demand should also attempt to identify the predominant market or user type. Seniors, youths, stay at home parents and commuters all have very different transportation needs. The type of transit service provided must suit the needs of its primary target market.

5.4.4. Public Transit Opportunities

Acknowledging the need for the County to identify the demand and market for public transit, the following opportunities are recommended as possible options in establishing new, or enhancing existing, transit services within the County.

5.4.4.1 Local Transit Service

Introducing new local conventional transit services within GreyCounty is not recommended at this time. The population levels and densities in the existing population centres are not such that would support a

²⁸Population by 5-yr age group, 2012-2036 – Reference scenario – Census divisions in Southwestern Ontario, Ontario Ministry of Finance, 2013.

²⁹Your Community in Profile: Grey, Bruce, Huron, Perth. Ontario Trillium Foundation, 2008.

stand-alone service. A recent study completed for the Town of Bradford-West Gwillimbury identified a desired population threshold of 30,000 people for establishing a public transit service³⁰. While public transit services have been introduced in municipalities with lower populations (Owen Sound, Collingwood, Midland), their respective populations far exceed the population levels of the individual urban centres/built-up areas within Grey County. Despite this reality, the County should begin laying the groundwork to ensure that future growth in the County occurs in a manner that would support local public transit initiatives in these population centres. In this respect the County should collaborate with the municipalities to develop transit supportive development strategies (i.e. intensification based land-use policies, identification of specific growth areas, transit-supportive design policies for future development, etc.).

In terms of existing local services within GreyCounty, Owen Sound provides the only scheduled public transit service. While there are examples of local public transit being expanded to include adjacent service areas (such expansion has occurred in Simcoe County between Collingwood and Wasaga Beach, with Collingwood expanding the Colltrans service into Wasaga Beach to provide a successful link between these communities, and expansion of the Barrie Transit service between Barrie and CFB Borden), expansion of the Owen Sound transit service is not considered realistic at this time. However, consideration should be given to minor scale route expansion that has the potential to increase ridership (i.e. providing service to the movie theatres on the Sunset Strip). The Barrie Transit extension connects the City of Barrie (a major urban centre) with CFB Borden (a major employer), thus providing a link between two high density nodes. The Colltrans expansion links Collingwood with Wasaga Beach, two service areas with respective populations in excess of 16,000 (for a total serviceable population of over 30,000). In addition, the population density along Collingwood-Wasaga Beach link is much higher than the municipalities surrounding Owen Sound. However, as Owen Sound is a major hub of essential services and employment, the County should initiate discussions with the City and the adjacent municipalities regarding the future potential role of Owen Sound Transit in connecting these municipalities with Owen Sound. Furthermore, the location of future development and designation of settlement areas within these municipalities (Georgian Bluffs, Meaford and Chatsworth) should consider the ability to connect to Owen Sound via public transit.

5.4.4.2 Inter-Municipal Transit

Inter-municipal connections within the County are recognized as an important element of the overall transit strategy for GreyCounty. Many of the primary settlement areas within GreyCounty do not have the essential services required by the general population. It is becoming more common for such services to be located in large urban settlements, such as Owen Sound. As such, access to these services can be expensive, as taxi services are often the only transportation option for those without access to a private automobile. Limited inter-municipal service is currently provided by Greyhound, a private bus operator. The existing service, however, is not an exclusive inter-municipal service but rather a segment of Greyhound's larger inter-city network. It is recommended that the County investigate the potential for private-public partnerships with private bus operators currently providing inter-city services in Ontario. While Greyhound is an obvious candidate to enter into such a partnership (given that Greyhound currently provides service in GreyCounty), it is recommended that the County define the scope of service to be offered and solicit proposals from several inter-city bus operators as part of the

³⁰County of Simcoe Transportation Master Plan, Earth Tech Canada Inc, Markham, ON. July 2008

competitive tendering process. The service offering should focus on connecting the primary settlement areas in GreyCounty with Owen Sound. To determine the type of service to be provided, discussions are recommended with the municipalities, current transit service providers (including the operators of specialized services within the County) and the public in order to identify demand and need.

5.4.4.3 Inter-Regional Transit

The opportunity to introduce inter-regional public transit is limited for GreyCounty. While there is interest from the public in a connection to GO Transit services in Barrie (specifically the rail service which ultimately serves the GTA), such would be difficult to implement given the location of Grey County and the resulting travel distance and travel time. It is therefore recommended that the County concentrate on establishing inter-regional routes on a smaller scale, such as the Collingwood-Blue Mountain link that was launched as a 6-month pilot project in November 2013. The Town of Collingwood, in partnership with the Town of the Blue Mountains and Blue Mountain Resort, expanded the Colltrans service into the Town of the Blue Mountains and Craigleith (thus providing a link between Grey County and Simcoe County). This route provides benefits for both counties as synergies already exist between Collingwood and Blue Mountain. It is understood that the 6-month pilot project has been extended through to August 2014.

The County should also initiate discussions with Metrolinx regarding the extension of Go Transit bus services from Orangeville into Grey County. While it is acknowledged that the introduction of a Go Transit service is not likely, the County should attempt to establish Metrolinx's threshold requirements for providing such service so as to inform the County's development policies (i.e. development policy should support transit initiatives).

5.4.4.4 Alternative Service

It is recommended that the County explore the possibility of coordinating and supporting alternative transit services within the County. The TROUT model discussed in this study provides the framework for a rural service which should be further investigated by the County. Grey County should enter into discussions with the surrounding municipalities and the operators of specialized services within the County (such as the Grey County Social Services van, SMART, HCSS, the Georgian HandiVan, etc.) to establish whether the existing transit services can be expanded or enhanced. Rather than begin a public transit offering from scratch, it is considered prudent to coordinate the existing services in order to realize potential operating efficiencies. Given that GreyCounty is not a transit operator, it is necessary to include those organizations that do offer transportation services and leverage their expertise and existing services to increase mobility and accessibility within the County.

5.4.4.5 Rail Transit

Regardless of public desire for passenger rail service within the County, the lack of rail infrastructure and low population density makes the realization of such highly unlikely. Passenger rail services, as convenient and desirable as they are, are costly to provide. The provision of GO service north of Toronto to the City of Barrie was not re-introduced until 2007, despite a large serviceable population along the line (Barrie, Newmarket, Aurora, Bradford, etc.) and existing infrastructure. The costs to install new railway tracks in addition to the annual costs to operate a passenger service into GreyCounty are

prohibitive. As such, passenger rail transit service in GreyCounty is not considered a feasible option for the foreseeable future. However, it is recommended that the County maintain ownership of the existing rail right-of-way through the County and establish a rail trail protection policy (as recommended in **Section 3.3.3.1**) that guides the development of adjacent lands in a manner that would support the re-introduction of rail service to the County.

5.5. Funding Opportunities

The implementing of any transit initiatives will require investment and support at the County level. Aside from typical revenue streams (i.e. fares and advertising), the County should work together with the municipalities to establish an appropriate funding formula. Provincial and federal funding schemes available for public transit initiatives should be identified and leveraged. In this respect, it is recommended that the County review existing transit models and establish best practices that can be implemented within the County. The funding formula established must be sustainable to ensure transit services in the long term.

5.6. Transit Strategy Summary

The following summarizes the key points of the recommended transit strategy for GreyCounty:

1. Support existing local transit services within the County.
2. Support the transit-supportive development of the County and its municipalities through Official Plan land-use policies that encourage intensification and guided growth in settlement areas.
3. Take a leadership role in coordinating discussions with municipalities and private operators to identify the demand and market for public transit within the County.
4. Investigate the potential to create public-private partnerships to provide inter-municipal transit service.
5. Explore inter-regional transit opportunities with SimcoeCounty, DufferinCounty and Metrolinx.
6. Research existing rural transit models to establish best practices for implementation in GreyCounty.
7. Facilitate discussions with municipalities and organizations providing existing specialized transit services in the area in order to identify where existing services can be expanded, combined or enhanced.
8. Establish a sustainable and equitable funding formula with the municipalities, exploring and leveraging all public transit funding schemes and grants available from the Provincial and Federal governments.

GreyCounty, its municipalities and other potential transit stakeholders involved in the transit discussion should pay particular attention to the age demographic of the County. The aging population offers a unique opportunity to provide a transit service to a rapidly growing market segment (as previously noted, the percentage of the population aged 70 years or older is expected to surpass 27% in 2036); however, the rapid growth of this population segment will inevitably be followed by a rapid decline. It is therefore crucial that the development of transit provision maintain a dynamic aspect with a view to providing service to multiple user groups going forward (if the service is developed to cater solely to the senior population segment, the service will likely collapse beyond the 25 year horizon as the population segment declines).

5.7. Coordinated Transit Project

The County has initiated the Coordinated Transit Project (CTP) to identify and define the rural transportation services currently available in the County with the intent of developing a long-term strategy for coordinating rural transit. The project will compile a comprehensive inventory of transit providers that currently offer service within the County and will document the service parameters of each provider (i.e. service area, routes, schedules, clientele, mandates, etc.) in order to develop a complete overview of the existing transit offering within Grey County. This inventory will inform the development of potential rural transportation solutions for the County.

It is recognized that Grey County is not in the position to act as a public transit service operator, nor is this transit strategy intended to establish Grey County as a public transit service operator. Rather it is intended that the County will act as a facilitator and supporter of existing and future public transit services operating within the County. The CTP will aid this process.

6. Community Traffic

6.1. Background

Throughout Grey County, small towns and villages are located along County roads. These County roads are used for the movement of residents, visitors and goods and support the economic sustainability of these villages and the County as a whole. However, within these towns and villages, the County road may also form part of the community as the property adjacent to residential and community land uses, providing land access and accommodating pedestrian and cycling activity. The challenge that the County faces is the balancing of these two functions of County roads within these settlement areas.

It has been observed that vehicles often continue to travel at the higher speed into settlement areas where the speed limits are generally reduced to 50 km/hr. Currently, transition zones are placed prior to the settlement area to allow motorists to reduce their speed to reach the lower speed limit prior to entering the settlement area. This section reviews the current practices within transition zones and provides a “toolbox” of potential traffic calming measures to reduce higher speeds within settlement areas.

6.1.1. Speed-related Issues

Operating speed can be related to the level of safety on the roadway, where higher speeds can contribute to higher severity of collisions and to higher frequency of collisions under specific conditions. High speeds are also associated with environmental impacts such as noise and vehicle emissions. Speed-related safety problems arise under a number of circumstances:

- Operating speed is inconsistent with the road geometry resulting in inadequate sight distance or inability for drivers to control their vehicles through geometric transitions,
- Conditions where there are large variations in vehicular speeds resulting in conflicts, passing and driver frustration.
- Higher speeds make the turning requirements for driveway operations more difficult, such as drivers judging gaps in traffic flow and managing the speed differential of traffic travelling along the roadway and vehicles turning into driveways.
- Vehicle speeds pose a significant threat to more vulnerable road users (pedestrians and cyclists) including children, where crossing activity and travel along the roadway results in high interaction and potential for conflict.

High speeds also affect the sense of security within neighbourhoods. The perceived community concern noted above may exceed the actual level of risk, however this perception also reflects impacts to quality of life that are not desirable.

6.1.2. Traffic Calming and Speed Management

The Subcommittee on Traffic Calming of the Institute of Transportation Engineers defined traffic calming as, “...the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users.”

Traffic calming is one potential measure available to Grey County to address undesirable traffic characteristics on County roads. In addition to police enforcement and public education, physical traffic calming techniques can be used to moderate or control excessively high traffic speeds or high volumes of through traffic within settlement areas.

The type of traffic calming used depends on the issues being addressed and the function of the road. Traffic calming measures usually include one or a combination of the following:

- changes to driver behaviour through enforcement or education;
- changes to the vertical and / or horizontal alignment of the roadway;
- changes to the travelled portion of the roadway through pavement and / or lane narrowing, or reduction of travel lanes to provide for bike lanes or parking;
- changes to the roadways surface texture and / or colour; and
- installing visual treatments that may include entrance gateways, trees and / or ground cover.

6.1.3. Traffic Calming Goals

When traffic speeds and volumes on roads exceed the posted speed limit and the intended function of the road, the safety and sense of security for all road users is affected. The primary goal of traffic calming is to address the following key concerns:

- **Liveability** — Motorists traveling at high speeds along roadways often do not observe the reduced speed limit within the settlement area negatively affecting the activities within the settlement areas.
- **Access and Mobility** — Within settlement areas, intersections and driveways are more closely spaced, both access and mobility of all users of the road allowance should be maintained.
- **Safety** — Within the settlement areas there is increased pedestrian, cyclist and other non-automotive activities. It is critical to improve safety for pedestrians and motorists.

Effective speed management should meet the above key goals. Where possible, consideration should also be given to maintaining or improving the aesthetics of the roadway.

Liveability

Settlement areas ideally would have low volumes of traffic characterized by less through traffic, low volumes of truck traffic, low vehicle travel speeds, few collisions, and less noise and air pollution. These traits create a safer environment for pedestrians, cyclists, and motorists of all ages. Promoting this ideology is a step towards maintaining the “small hamlet” and “rural” vision of Grey County.

Access and Mobility

The function of County roads within settlement areas includes the social needs of the community providing an opportunity for neighbours to meet and socialize and function as an extension of a neighbour’s front yard and in some cases the provision of parking. Speed management and traffic calming may help preserve this function. However, it is necessary to maintain the mobility of County roads to meet the capacity carrying function of County Roads and to efficiently accommodate access of essential services, including emergency and police services. It is in the community interest that traffic calming within settlement areas does not compromise capacity and accessibility functions of County roads.

Safety

Research and studies over the past two decades indicated that traffic calming can reduce the number of collisions on streets and also decrease the severity of these accidents through the promotion of lower speeds. A study done by the Traffic Safety Research Council found that after compiling collision statistics of 44 redesigned roads there was a 72% reduction in the frequency of accidents and a 78% reduction of serious injuries. Research has shown that when pedestrians are struck by a vehicle travelling at 70 km/h there is a 90% fatality rate; at 50 km/h the likelihood of fatality is about 45%; and at 30 km/h, there is less than a 5% fatality rate. Within settlement areas, where there are increased non-vehicular road users, a reduction in vehicle speeds will likely lead to a reduction in the number and severity of collisions.

Aesthetics

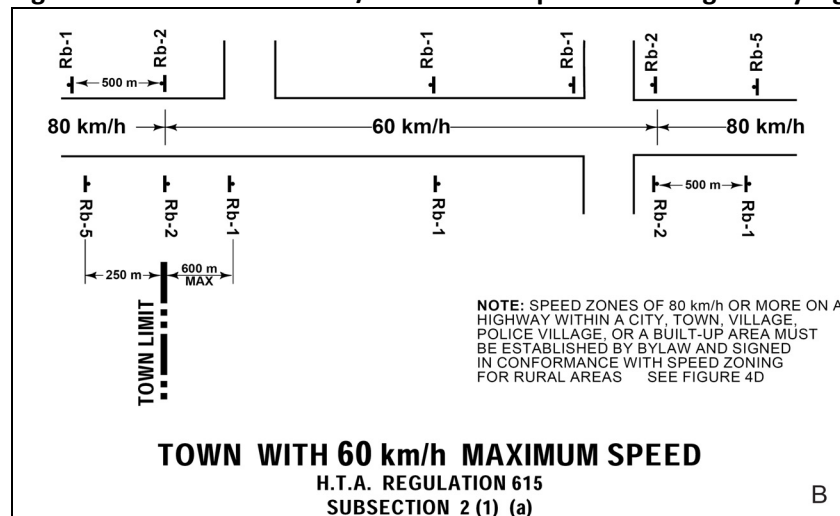
When designing calmer streets there are many opportunities allow improvements to the existing streetscape. Traffic calming measures such as narrowing street pavement width, reducing building setbacks, planting trees closer to the street edge and using landscaped traffic calming measures all have the potential to increase the aesthetics along the street.

6.2. Current Practice

6.2.1. Ontario Traffic Manual Book 5

The current practice to transition from a higher speed limit into a lower speed limit is based on the placement of regulatory signs as per the Ontario Traffic Manual (OTM) Book 5. OTM Book 5 regulates that Maximum Speed Ahead sign (Rb-5) must be placed 100 m to 250 m upstream of the reduced speed zone and is required to be used when the posted speed reduction is 20 km/hr or more. The Maximum Speed Ahead sign must be followed by a Maximum Speed sign with Begins Tab sign (RB-1 and Rb-84t) or Maximum Speed Begins sign (Rb-2 or Rb-3). Following this sign, a Maximum speed sign is required to be placed within a maximum distance of 600 m. The placement of these regulatory signs is illustrated in Figure 6-1.

Figure 6-1: Town with 60 km/h Maximum Speed Limit Regulatory Sign placement






(Ontario Traffic Manual Book 5, 2000)

6.2.2. Grey County Examples

Throughout Grey County, various traffic calming measures have been implemented. Table 6-1 illustrates some of these measures.

Table 6-1: Current Traffic Calming Measures within Grey County

Village / Hamlet	Description	Image
Durham	Highway 6 has a posted speed limit of 80 km/hr with a rural cross-section. Approaching the village, the road transitions to a posted speed limit of 50 km/hr with an urban cross-section. An urban cross-section serves as a visual delineation for drivers noting a change in road characteristics.	 North on Highway 6 within village of Durham (Google, 2009)
Markdale	Highway 10 has a posted speed limit of 80 km/hr with a rural cross-section. Within the village, the road transitions to a posted speed limit of 50 km/hr with an urban cross-section. A raised median island creates a shift in the roadway narrowing the “optical width” of the roadway. Grey Road 12 also has urban cross-section, sidewalks. Speed transition from 80 km/h to 50 km/hr	 Northwest on Highway 10 within village of Markdale (Google, 2009)
Thornbury	Highway 26 has a posted speed limit of 80 km/hr with a rural cross-section. Approaching the village, the road transitions to a posted speed limit of 50 km/hr with an urban cross-section. A gateway sign creates a visual cue to drivers that is a point in change in roadway characteristics.	 West on Highway 26 within village of Thornbury (Google, 2009)

6.2.3. Typical Traffic Calming Measures

Over the past decades transportation professionals have developed a number of measures that deal with the excessive speeds, with some measures more effective than others. This collection of measures has become better known in the industry as a “toolbox”. The toolbox can be divided generally into social measures and physical measures. Social measures are subtle or psychological means to influence driver behaviour, while physical measures prevent or reduce traffic movement through physically changes to discourage speeding.

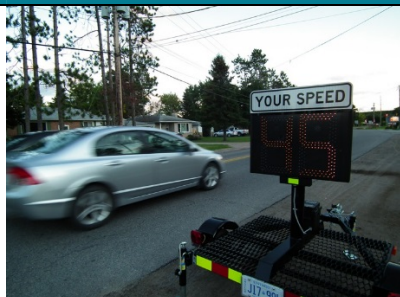
6.2.3.1 Social Measures

Social measures include speed watch programs, education, and enforcement which can be directed to raise awareness to traffic speeds.

Speed Watch Programs

Speed Watch Programs involve the placement of speed radars to indicate a driver's passing speed. The use of these programs is primarily an educational tool which is aimed at reducing the speeds of vehicles. The speed of passing motorist is read by the radar and displayed on a large messaging board which provides instant awareness and driver sensitivity to their own actual travel speeds. Further, some municipalities are experimenting with permanent boards as an ongoing educational tool in increasing the awareness of vehicle speeds. The collection of the data from various boards can be obtained to provide an understanding of vehicular travel speeds through a community. This data can further be forwarded to the local police for enforcement purposes. This measure is summarized in **Table 6-2**.

Table 6-2: Speed Watch Description

Measure	Description	Image
Speed Watch Programs	Electronic signs placed at the roadside connected to a radar that measures the speed of approaching vehicles displaying the speed on a message board	 <p>(Township of Springwater, 2013)</p>

Education

Education can take many forms including brochures, neighbourhood newsletters, neighbourhood associations, public meetings. A community or neighbourhood pledge program has been used by other municipalities to increase the level of compliance, developing a change in driver behaviour and respect for the community.

Enforcement

An increase of police presence is a viable solution to minimizing the speeds and traffic related violations on the municipality's roadways. Their involvement can greatly improve the reduction of traffic-related issues along a roadway; however the effect of enforcement is limited to the resources available. **Table 6-3** lists some of the advantages and disadvantages to local police enforcement.

Table 6-3: Enforcement Advantages and Disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> ▪ Effective while officer actually monitoring traffic. ▪ They are a flexible measure that can be implemented in almost any circumstance and on short or immediate notice. ▪ They provide an educational opportunity when on site. ▪ Awareness of marked car and or vehicles encourages compliance. 	<ul style="list-style-type: none"> ▪ Tickets / Fines do not cover cost of enforcement. ▪ Disrupts flow of traffic on higher volume roadways. ▪ Effectiveness weakens when officer is no longer present. ▪ The reduction in which speeds occurs for only a short distance (150m) before and after the awareness of a police car.

6.2.3.2 Physical Measures

Physical traffic calming measures can be categorized into three categories: Vertical Deflection, Horizontal Deflection, and Traffic Control Devices and Visual Treatments. The following is a brief description of each of the categories.

Vertical Deflection

This type of deflection is caused by forces of vertical acceleration. This deflection generally reduces vehicle speeds because motorists slow to avoid unpleasant sensations when traversing the vertical measure. The primary effect from vertical deflection devices is the reduction of vehicle speeds but they may also contribute to volume reductions since it will potentially take motorists longer to get to their destination as a result of reduced speeds. Further, if traffic calming measures are driven over at speeds in excess of the design speeds, they may pose a hazard. It is noted that the design of vertical deflection features should include consideration of the needs of emergency service vehicles. Designs must ensure that emergency vehicles, particularly fire trucks, can traverse the feature without damaging the vehicle and maintain acceptable response times. Examples of vertical deflection measures include speed humps/tables, raised crosswalks and raised intersections. These measures are summarized in **Table 6-4**.

Table 6-4: Vertical Deflection Measures

Measure	Description
Speed Hump	A raised area of the roadway, creating discomfort for motorists that travel through it at high speeds.
Raised Crosswalk	A marked crosswalk at an intersection or mid-block location, constructed at a higher elevation than the adjacent roadway.
Raised Intersection	An intersection, including crosswalks, constructed at a higher elevation than the adjacent roadway.

Based on the 2011 literature review for *Speed Reduction Techniques for Rural High-to-Low Speed* conducted by the Transportation Research Board (TRB), it was found that many guidelines recommend against any vertical deflections within the transition area. Vertical deflections were determined to be the most perilous if traversed at high speeds causing an increase in collision rate.

Horizontal Deflection

Horizontal deflection is caused by the forces of lateral acceleration through the changes in horizontal alignment of the vehicle. The effectiveness of horizontal deflection devices is determined by the impact to the level of accessibility to settlement areas. Horizontal deflection measures reduce vehicle speeds. In addition some horizontal deflections will reduce the number of conflicts between automobiles and other modes of travel. Horizontal deflection measures are summarized in **Table 6-5**.

Research including the TRB document “Speed Reduction Techniques for Rural High-to-Low Speed” included recommendations for the use of horizontal deflections as a calming feature for rural-urban transition areas.

6.2.3.3 Traffic Control Devices

The use of traffic control signs should only be used when necessary, as often a driver’s perception is dulled by an overwhelming number of signs. The *Ontario Traffic Manual Book 5: Regulatory Signs and Book 6: Warning Signs and the Manual for Uniform Traffic Control Devices (MUTCD)* provide a designer with the general requirements for most signing applications including islands, pedestrian crossings, object markers, lane lines and advance warning signs. The *Canadian Guide to Neighbourhood Traffic Calming* also provides direction with respect to the appropriate signage for specific traffic calming applications.

Table 6-5: Horizontal Deflection Measures




Measure	Description	
Roundabouts	A one-way circular intersection, which requires vehicles to travel through the intersection in a counter-clockwise direction around the center raised island.	
Curb Extensions / Lane Narrowing	A horizontal intrusion of the curb into the roadway resulting in a narrower section of roadway.	
Raised Centre Median	An elevated median constructed on the centreline of a two-way roadway.	

Table 6-5: Horizontal Deflection Measures (cont.)

Measure	Description
Chicanes	<p>A series of curb extensions on one side or on alternating sides of a roadway, depending on the width of the roadway.</p> 
Road Diets	<p>A reduction in the number of travel lanes for vehicular traffic, this space is then allocated to bicycle lanes, painted medians or center turn lanes.</p>
On-Street Parking	<p>Reduction of the roadway width available for vehicle movement by allowing motor vehicles to park adjacent to the traveled portion of the roadway.</p>

6.2.3.4 Visual Treatments

A motorist's perception of the appropriate driving speed is influenced by the design aspects of the roadway. Surface treatments are intended to create the perception that the vehicle's speed is increasing to trigger driver awareness of the need to slow down, while vertical elements influence the driver's perception of appropriate speed by altering the physical relationship between the width of the road and the height of the nearby vertical elements.

Research indicates that vehicle speeds are slower in areas where the vertical elements are greater than the width of the road. The installation of vertical elements either separately or in conjunction with other traffic calming measures will increase their overall effectiveness. In addition to the calming effects of vertical elements within the road allowance, the installation of trees and bollards also improves aesthetics, make the measures more evident, and provides an additional barrier between pedestrians and automobiles and in the case of trees provides positive environmental impacts. Visual treatment measures are summarized in **Table 6-6**.

Table 6-6: Visual Treatment Measures

Measure	Description
Textured Surfaces	Used to define a crossing location for pedestrians, or provide greater visibility of an area.
Optical Speed Bars/ Transverse pavement markings	Transverse marking placed across the travel lane with the intention to create a sense of increasing speed. Speed bars may be exponentially spaced with a decreased spacing as a motorist travels forward.
Gateway / urbanized streets	Elements that are placed upon entering a settlement area, presenting a visual indication that a point of change in the roadway character has occurred.
Street Trees	Street Trees significantly increases a driver's perception on the spatial edge, reducing a driver's speed.

6.3. Community Traffic Strategy Summary

It is recommended that Grey County adopt a speed management program for transition zones for rural settlement areas along County roads. In designing a transition zone from rural areas to settlement areas, the objective is to have motorists traveling at the higher posted speed prior to the transition zone to reduce their speed at by the beginning of the settlement area, as defined by planning policies and roadway environment.

Based on literature review it is recommended that the Grey County consider a toolbox of traffic calming measures for speed management. This toolbox includes:

- horizontal deflection;
- signage and Speed Watch program;
- visual treatments; and
- enforcement and education

The typical horizontal traffic calming measures toolbox as listed in **Section 6.2.3.2** will form a basis to for calming measures for Grey County. As there is no one measure that is appropriate in all situations, each transitions area should be assessed and treated based on its characteristics and conditions. Traffic control features should be considered, only where warranted based on the Ontario Traffic Manual.

Based on a cursory review of villages within GreyCounty, some limited traffic calming measures have been already implemented within transition zones. It is recommended that speed conditions in these locations be assessed to determine the effectiveness of measures implemented to date.

It is recommended that Grey County establish a policy and process of investigating requests to retrofit existing roads with traffic calming treatments where excessive speeds have been identified. It is recommended that additional traffic calming measures on the County road system be considered in those areas where observed average speeds exceed the posted speed limit by 10 km/hr or more or where 85th percentile speeds exceed the design speed by 10 km/hr or more. The investigations will incorporate public input from residents within the affected area and other stakeholders (such as emergency services) to ensure consideration is given to both technical and public concerns.

The implementation of speed management measures will have regard for:

- confirmation of need based on speed surveys, design conditions and detail of public concerns;
- public and stakeholder input on proposals (general public support and staff input);
- annual funding available; and
- staff resources and allocation.

7. Road Rationalization

The road hierarchy is a division of the road network into road classifications, which in turn reflect the functionality of the roads making up the network. Management of the road network must provide for the following (the degree to which dictates the classification):

- effective access to property;
- free flow of vehicles and pedestrians;
- management of traffic movements;
- protection of roadside amenities; and
- support of sustainable land development.

Within Grey County, the hierarchy reflects the following road classifications (as illustrated in **Figure 7-1**, including insets for Owen Sound, Chatsworth, Meaford and Hanover):

- Provincial highways (intended to serve through traffic, greater volumes at higher speeds, with less opportunity for local access);
- County roads; and
- local roads (intended to serve local traffic, at lower speeds, with greater opportunity for local access).

In considering the County road designation, such roads are considered primary travel corridors within the County and are intended to provide efficient movement of traffic throughout. County roads should provide connectivity between the County's settlement areas and rural areas, and support the associated residential and commercial activities. In this respect, they are vital to the economic development and vitality of the County. Where feasible, County roads are intended to serve increased traffic volumes, at higher travel speeds, with reduced interruption.

7.1. Objectives of Road Rationalization

The design of a road's physical attributes such as width, pavement structure, surface type and other design elements are determined by its road classification. Similarly, the road maintenance and capital programs employed by the County and the local municipalities are also based on the classification. It is recognized that the higher the road classification, the greater the road standard pertaining to design and construction, and also the greater the expectation and requirements with respect to road maintenance.

To ensure appropriate accountability to the road users and application of standards and practice that best suit the road classification, a road rationalization exercise has been completed for all County roads, with the intent of confirming those roads that serve a through traffic function are designated as County roads, whereas those serving a local function are considered as potential candidates for transfer to their respective municipality. In addition, a number of local roads have also been considered, as identified by County staff, in that they are seen to possibly provide a higher level function and thus could be considered a County road.

Figure 7-1: Existing County Road System

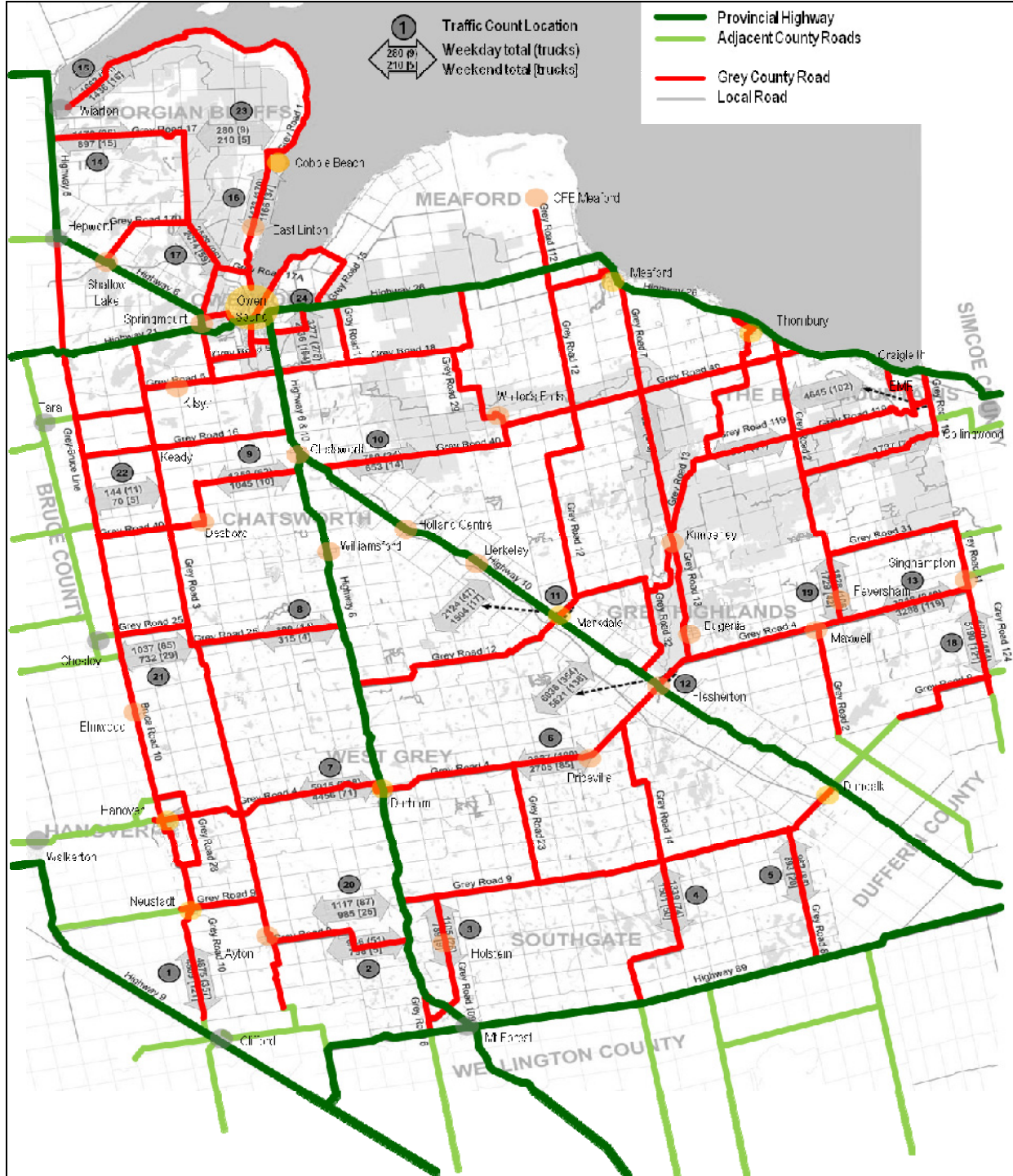


Figure 7-1a: Existing County Road System - Owen Sound

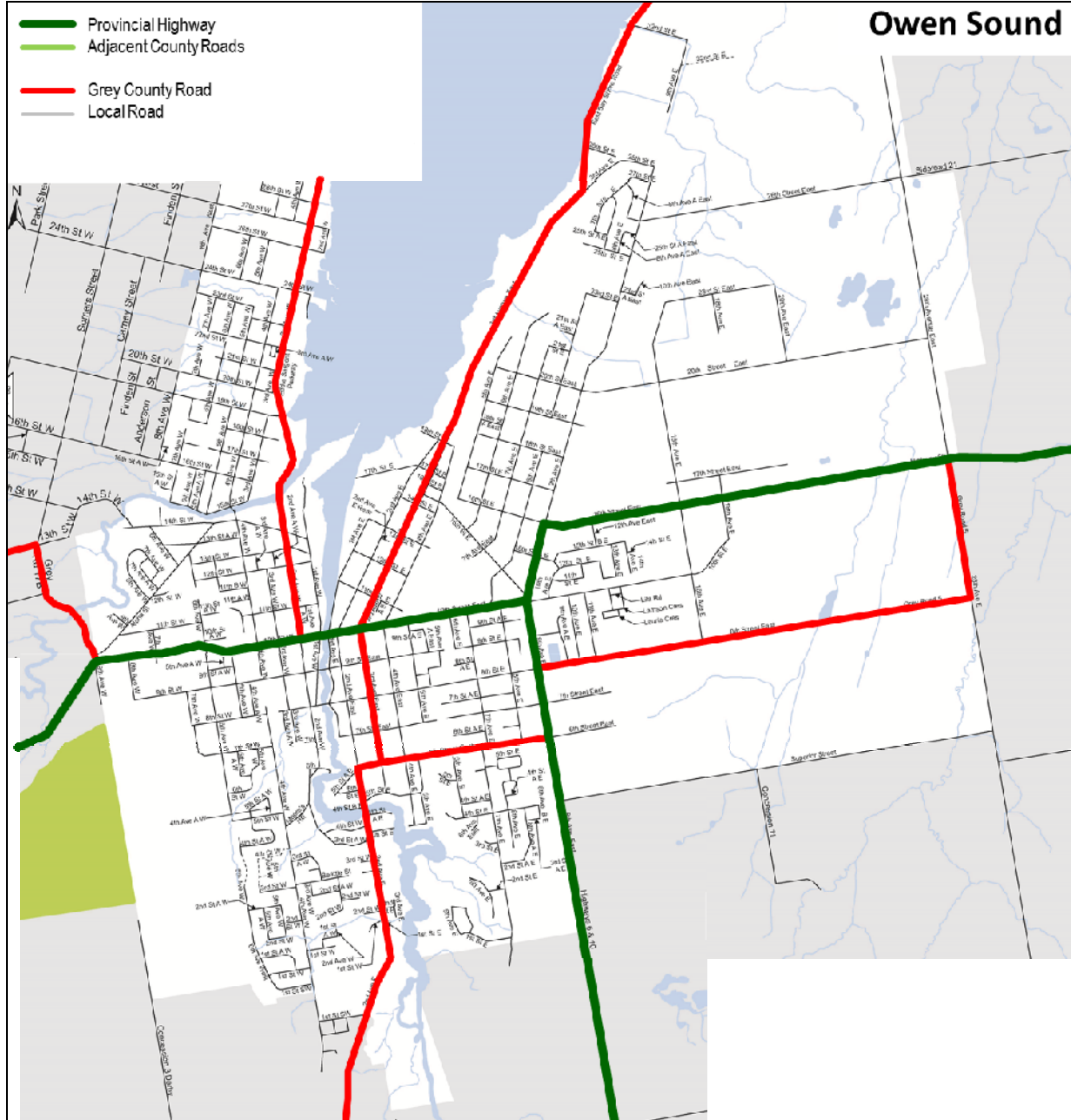


Figure 7-1b: Existing County Road System - Chatsworth and Meaford

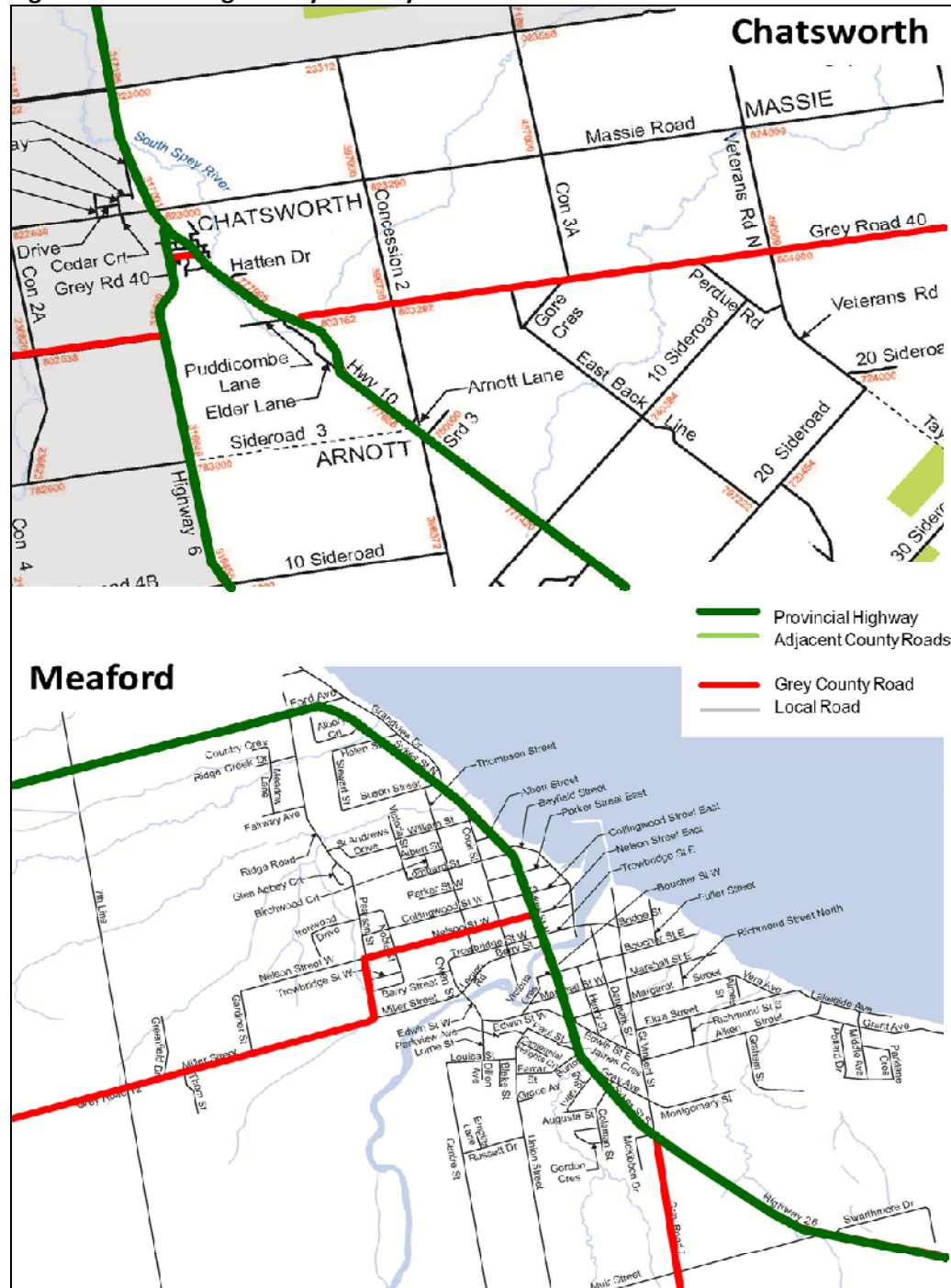
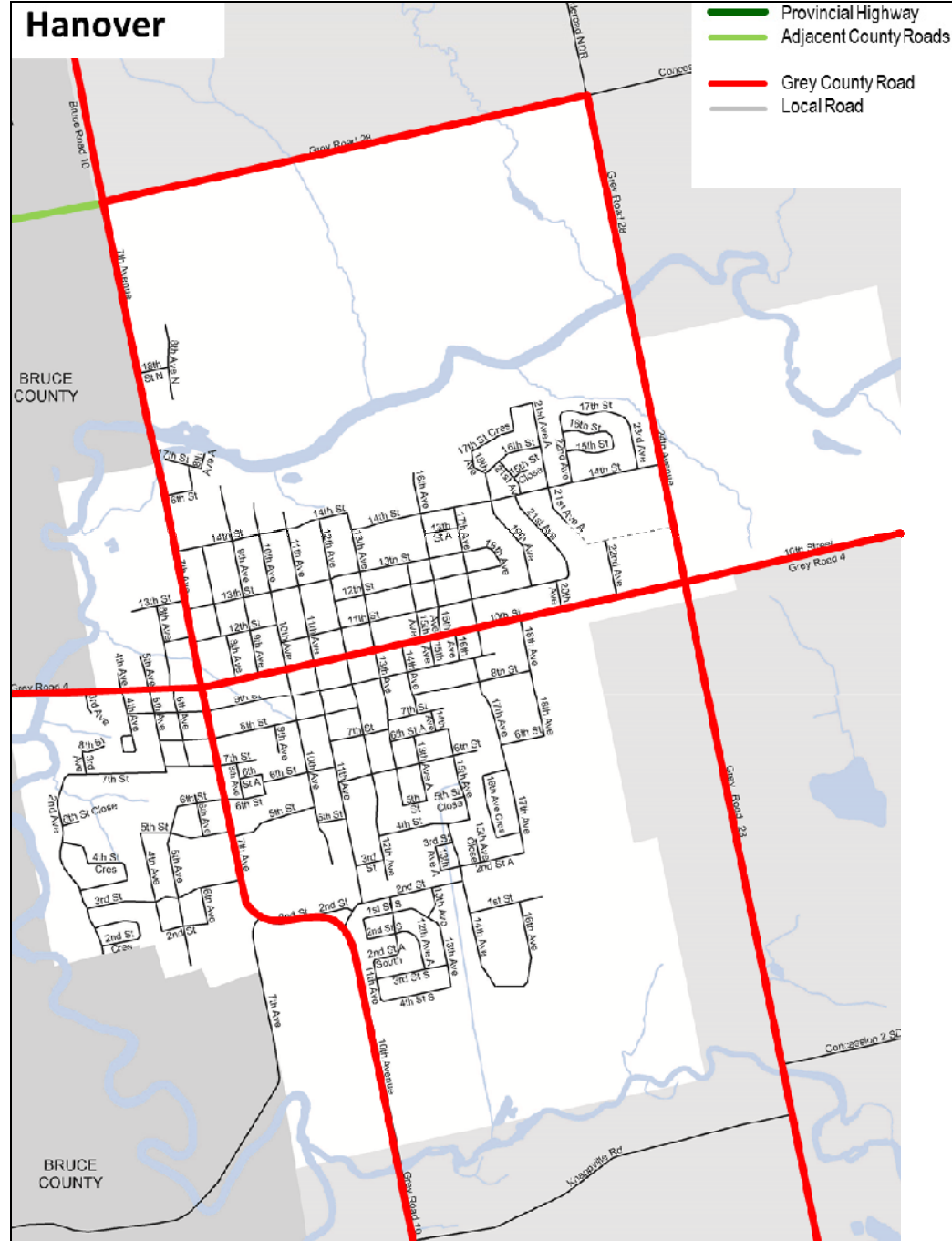


Figure 7-1c: Existing County Road System - Hanover



Under the Municipal Act, and in addition to the Public Transportation and Highway Improvement Act, Grey County has been granted the power to establish, maintain, add or remove designated roads to or from their County road system as a means of rightsizing the road network. Further to the powers noted in the aforementioned Acts, the County Clerk has reviewed the previous road agreements that the County has entered into with individual municipalities pertaining to the designation and care of specific road sections and has found that the agreements are not in perpetuity; thus the rationalization process is not in contravention of these agreements.

One of the benefits of the road rationalization process is that a local road, which serves a high volume of traffic and provides a higher function, may be identified as a potential County road and thus ultimately held to a higher standard of service. Similarly, lower volume County roads, which may not be considered priorities within the overall County system, may be identified as potential local roads and may become a greater priority within the local road system.

It is noted that the road rationalization process is a first step towards rightsizing the County's road network. Where roads do not meet the established criteria for designation as a County road, several options are discussed with regard to the strategic transfer of these roads to the local municipalities while keeping in mind the needs and concerns of both the County and the municipalities. Through this process, it is intended that the resulting County road system will ensure appropriate and comprehensive road corridors are provided throughout the County in the most economical manner possible, to provide service within and beyond the County limits in a safe and efficient manner, and to support the continued growth and prosperity of the County.

7.2. Road Rationalization Approach

7.2.1. Principles

In order to develop a County Road Classification System, a framework must first be developed that defines the objectives of a County road system and distinguishes a County road from a local road. This fundamental framework is premised on the following principles:

1. County roads should provide appropriate service within all areas of the County extending north to south, and east to west, with an emphasis on those serving established settlement areas.
2. County roads should complement the Provincial highway system (Highways 6, 9, 10, 21, 26 and 89).
3. County roads should be a direct, succinct and intuitive road system for the benefit of County residents, commercial traffic and visitors alike (the preferred manner in which to achieve this is through the development of a grid based system which accommodates north-south and east-west travel throughout the County, building on the Provincial highway system).
4. County roads are primarily transportation corridors and thus should provide a high degree of connectivity and a good level of service to the road users.
5. County roads should be capable of being improved and/or maintained to a reasonable standard (improved with respect to horizontal/vertical alignment, number/width of lanes, shoulders, etc.).

6. County roads should be along the shortest practical route, along existing streets and roads.
7. County roads should not provide redundant service with respect to the provision and maintenance of alternative parallel roads.
8. County roads should not extend through downtown areas of urban centres where access to abutting development is the primary need and where significant pedestrian activities results (both of which detract from the primary function of the road).

7.2.2. Methodology

The methodology employed in the road rationalization reflects the following tasks, as established by the Ontario Good Roads Authority (OGRA):

- Apply the OGRA road rationalization criteria (as discussed in **Section 7.3.1**) to all existing Grey County roads and local roads otherwise identified as possible upper tier roads (i.e. upgraded from a local road to a County road). Additional criteria, beyond those established by OGRA, have also been considered to address road continuity and connectivity both within the County (i.e. roads that provide continuous and direct service through the County) and beyond the County (i.e. roads that connect to boundary County or upper tier roads continuing outside of Grey County). In addition, County roads serving as alternative routes or bypass routes around urban centres, or those constructed to alleviate congestion on parallel routes, have also been specifically considered. These additional criteria are further discussed in **Section 7.3.2**.
- Establish an appropriate weight for each criteria (as discussed in **Section 7.3.4**), reflective of the degree of importance that each holds, and apply such weights to each road under consideration.
- Determine a threshold weight for inclusion/exclusion of roads in the County system - in this case, a threshold of 6.0 has been applied (which is consistent with the OGRA methodology and the road rationalization reports otherwise referenced in the following section). Roads with scores equaling or exceeding the threshold should either remain part of the County network or be transferred to the County, whereas a road with a score of less than the threshold should be considered for transfer from the County to the local municipality, or remain a local municipal road.
- Further to the assessment of criteria weights, review the County road system in consideration of the overall road network, particularly as it relates to the provision of parallel and alternative County road corridors within close proximity to one another (including boundary roads or such roads within the adjacent Counties), and County roads which have limited connectivity and continuity.
- Determine the needs to be addressed prior to the transfer of roads to the local municipality or the acceptance of roads by the County, as it relates to road condition and/or compensation, and the associated cost implications.
- Involve local municipalities in the rationalization process by encouraging feedback and comments.

- Transfer roads to the local municipalities which serve primarily a local function and transfer roads to the County which primarily serve a through traffic function.

7.3. Road Rationalization Criteria

To aid in the rationalization process and hence designation of County roads, it is common practice to establish a set of rationalization criteria. In developing a set of criteria for the rationalization of Grey County roads, criteria published by the Ontario Good Roads Association (OGRA) and approaches used by the following jurisdictions were reviewed:

- Simcoe County (2008);
- Lanark County (2008);
- Oxford County (2007); and
- Grey County (2006 Road Rationalization Study).

7.3.1. OGRA Criteria

The 12 OGRA criteria are commonly used as the basis for rationalization, with road authorities adjusting or adding criteria that address specific needs of the County or Region. A brief overview of the OGRA criteria follows.

Criterion 1: Urban Centre Connector

This criterion is intended to identify roads providing service to and from centres having commercial / recreational and possibly industrial development. Urban centres are areas of concentrated development, not “ribbon” or “strip” development. The criterion is not intended to be applied to residential subdivisions that are developing in rural areas. When the residential development grows to a sufficient size, upper tier road service may be considered through the application of all of the criteria.

This criterion would provide a connection within urban boundaries and between urban centres with a population of more than 250 people within 20 hectares (approximately 50 acres). The urban centres would have commercial or industrial development along with a residential section. This category would not include upper tier service to residential subdivisions that are developing in rural areas. This criterion is to connect urban centres to each other or to a King’s Highway unless such a service is now provided by the King’s Highway System.

Criterion 2: Kings Highway/Upper Tier Connector

The intent of this criterion is to extend the King’s Highway or upper tier road to connect to the facilities mentioned and not to provide for lateral connections between the King’s Highways/upper tier roads. Grey County and the municipalities within must ensure that local roads serve primarily the needs of the local population and the County roads serve as a continuous transportation network (i.e. extensions of the King’s Highways or connections with external County roads). This criterion does not apply to lateral connections between highways/upper tier roads.

Criterion 3: Heavy Industrial Service

It is not intended that it be an upper tier responsibility to provide service to the entrance of every attractor or generator of heavy vehicles in an area. Rather, it is intended that upper tier service be

provided within 4 km of locations that generate the movement of heavy trucks and vehicles on an ongoing basis. Types of operations being serviced would include quarries, gravel pits, logging and lumber production, large processing plants, feed mills, area landfill sites as well as industrial parks. The operation must generate industrial activity for at least 9 months of the year and provide service within 4 km of consistent major attractions or generators of heavy vehicles.

Criterion 4: Barrier Service

The intent of this criterion is to alleviate traffic on local roads by providing service parallel to or across barriers to traffic movement where upper tier service is justified. The barrier must be an obstacle to traffic wishing to cross it and it must be feasible to cross (i.e. rivers by bridges). Service is provided parallel to only if there is no other upper tier road or King's Highway providing that service within a reasonable distance and only along roads that are used to reach barrier crossings.

Criterion 5: Resort /Recreation Service

The route would provide upper tier service within 4 km of the edge of major resort and/or recreational locations (e.g. BlueMountain, Talisman) generating a minimum of 700 vehicle trips per day during normal season of operation.

Criterion 6: Urban Cell Service

The intent of this criterion is to provide service in urban areas within cells formed by Kings Highways and upper tier roads (as determined by Criteria 1 through 5), provided that the traffic demand on the street is for through traffic. It is noted that a weight of 0 is applied to this criterion in that it is typically considered after the initial rationalization process is complete and provides rationale for filling gaps in the County road network. OGRA notes that these criteria are seldom applied given the relatively good condition of most local roads which provide adequate service within urban and rural cells.

Criterion 7: Urban Arterial Extension

The intent of this criterion is to provide for the extension of urban arterial streets into the rural areas to connect with an upper tier road or a King's Highway. Traffic counts should be taken on both sides of the intersection with the upper tier and the extension continued through the intersection, only if both AADT's equal or exceed 700 vehicles per day.

Criterion 8: Rural Cell Service

The intent of this criterion is to provide upper tier service within the cell formed by the application of Criteria 1 through 5 and 7, at spacing related to population density within the cells. Upper tier roads or King's Highways in the subject upper tier or in adjacent upper tiers act as rural cell boundaries. As with Criterion 6, a weight of 0 is recommended initially.

Criterion 9: Traffic Speed

This criterion is intended to identify those roads which, for the majority of the road, have speed limits of 80 km/h. This is deemed to be a desirable speed limit allowing roads that predominately serve as inter-municipal links in a road network to do so efficiently.

Criterion 10: Road Surface

This criterion is intended to identify those roads with a hard top surface. These roads were deemed to be more appropriate to serve as upper tier roads as a hard top surface is more durable to withstand the greater traffic volumes, heavier vehicles and higher speeds as anticipated on upper tier roads.

Criterion 11: Traffic Volume

This criterion is intended to identify roads with current traffic volumes greater than 1000 vehicles per day.

Criterion 12: Road Right-of-Way

The intent of this criterion is to identify roads with a right-of-way width of 20 metres (66 ft). It is appropriate to be considered for an upper tier road designation that the road have at least a minimum right-of-way.

7.3.2. Other Criterion

Through a review of the previously referenced road rationalization studies for Simcoe County, Lanark County and Oxford County, and through discussions with County staff, a number of other criteria were established and employed to reflect the local objectives and functions of the respective county road systems. These include consideration for the following:

Criterion 13: Provides a Continuous Route through the County

This criterion identifies those road sections that provide continuous travel service through the County and thus have the potential to serve a higher function.

Criterion 14: Connects to a County Road in a Neighbouring Jurisdiction

This criterion identifies roads that provide continuity as a link with another upper tier road across the County boundary. This includes roads that form a boundary with an adjacent County with a similar County designation.

Criterion 15: Provides Urban Congestion Relief/By-pass

This criterion takes into consideration roads that can be effective in providing relief to urban congestion and act as a local by-pass.

Criterion 16: Emergency Detour Routes

This criterion recognizes roads that act as designated emergency detour routes for major provincial highways. The key to an effective emergency detour route is to efficiently accommodate diverted traffic. Simcoe County deemed this criterion important as it allows the County to protect for efficient traffic movements on the designated road.

Criterion 17: Peak Seasonal / Monthly Volumes

This criterion takes into account traffic volumes that increase substantially during particular months of the year, as evident in Lanark County.

7.3.3. Summary of Criteria and Weights

The OGRA criteria are a suggested methodology and thus a guideline rather than a rule. The definitions and weightings are often altered to suit a particular jurisdiction and other criteria often introduced to address specific issues and objectives (e.g. peak seasonal volumes, emergency detour routes, etc.). A comparison of the OGRA criteria and those applied by other jurisdictions, and their corresponding weights, is provided in **Table 7-1**, including the criteria and weights considered in the *Grey County Road Rationalization Study 2006*. The threshold weight is also noted - roads scoring below the noted weight should be considered for local road status.

Table 7-1: Road Rationalization Criteria Comparison

OGRA Criteria	Weighting				
	OGRA	Grey County 2006	Simcoe County 2008	Lanark County 2008	Oxford County 2007
1. Urban Centre Connector	3	3	2	3	3
2. Kings Highway/Upper Tier Connector	2	3		2	3
3. Heavy Industry Service	2	2	1 to 5	2	2
4. Barrier Service	1	0.5	-	1	1
5. Resort / Recreation Service	1	1	1 or 2	-	1
6. Urban Cell Service	0	-	-	3	-
7. Urban Arterial Extension	3	3	1 or 3	-	3
8. Rural Cell Service	0	0.5	-	1	-
9. Traffic Speed	1	1	-	-	1
10. Road Surface	0.5	0.5 or 1	-	1,2 or 3	0.5
11. Traffic Volume	0.5	1,2,3 or 3.5	1 to 6		0.5
12. Road Right-of-Way	1	1	-		1
13. Provides continuity within the County					
14. Connects to neighbouring County road			1		
15. Provides urban congestion relief/by-pass			2		
16. Emergency detour route			6		
17. Peak seasonal/monthly volumes				1,2, or 3	
Total Criteria Used	10	11	8	8	10
Threshold Weight	6	6	6	6	6.5

7.3.4. Recommended Criteria

The noted criteria and scoring were reviewed with consideration for the needs of GreyCounty. The resulting criteria and respective weights as employed in this assessment are summarized below.

Criterion 1: Urban Centre Connector

Criterion 2: Kings Highway/Upper Tier Connector

Within GreyCounty the major commercial areas are typically located within the urban areas and thus Criterion 1 and Criterion 2 were combined. In context of GreyCounty, it was determined that an “urban centre” would also refer to a “built-up area” or “settlement area”. The designated settlement areas, as per the *Grey County Official Plan*, are provided in **Table 7-2**.

Table 7-2: GreyCounty Settlement Areas

Primary	Secondary		Tertiary	
<ul style="list-style-type: none"> ▪ Dundalk ▪ Durham ▪ Georgian Villas ▪ CobbleBeach ▪ Hanover ▪ Markdale ▪ Meaford ▪ Neustadt ▪ Owen Sound ▪ Thornbury/Clarksburg 	<ul style="list-style-type: none"> ▪ Ayton ▪ Berkeley ▪ Chatsworth ▪ Desboro ▪ East Linton ▪ Elmwood ▪ Eugenia ▪ Feversham ▪ Flesherton ▪ Holland Centre 	<ul style="list-style-type: none"> ▪ Holstein ▪ Kilsyth ▪ Kimberley ▪ Maxwell ▪ Priceville ▪ Shallow Lake ▪ Singhampton ▪ Springmount ▪ Walter’s Falls ▪ Williamsford 	<ul style="list-style-type: none"> ▪ Allan Park ▪ Annan ▪ Badjeros ▪ Balmy Beach ▪ Big Bay ▪ Bognor ▪ Brooke ▪ Cedarville ▪ Ceylon ▪ Crawford ▪ Creamery Hill ▪ Cruickshank ▪ Dornoch ▪ Dromore 	<ul style="list-style-type: none"> ▪ Heathcote ▪ Hopeville ▪ Keady ▪ Kemble ▪ Leith ▪ Massie ▪ Oxenden ▪ Ravenna ▪ Rockford ▪ Rocklyn ▪ Swinton Park ▪ Varney ▪ Woodford ▪

Further consideration has also been given to areas of recreational importance. Although not designated as “settlement areas”, these recreational areas are at the heart of GreyCounty’s tourism industry and thus are economically significant. The *Grey County Official Plan* identifies these areas as “Recreation Resort Areas” and “Escarpment Recreation Areas” (see Schedule A of the *Grey County Official Plan* as attached in **Appendix D**). “Recreation Resort Areas” include existing major tourism attractions and are typically fully serviced, which allows these areas to accommodate future growth. “Escarpment Recreation Areas” have a lesser degree of existing recreational development than the resort areas and are not fully serviced (thus future development in these areas will be of a lower density).

To recognize the significance of the various settlement and recreational/resort areas and the commercial activity associated with each area, the following weights were assigned:

- 4 roads connecting to Primary Settlement Areas as defined in the County's Official Plan;
- 3 roads connecting to Primary Recreation Resort Areas (Craigleith, Blue Mountain);
- 2 roads connecting to Secondary Settlement Areas and other Recreation Resort Areas;
- 1 roads connecting to Tertiary Settlement Areas, Escarpment Recreation Areas and other minor tourism attractions (i.e. Inglis Falls, Grey Roots, etc.); and
- 0 roads connecting to non-settlement areas.

It is noted that connectivity points have been applied to entire road sections which join two settlement areas rather than just to the sections that physically connect or enter into a settlement area (i.e. all sections of Grey Road 1 receive points for connecting to settlement areas between Wiarton with Owen Sound as opposed to only those road sections located at the urban boundaries).

Criterion 3: Heavy Industrial Service

To recognize the existing truck traffic on the road network, the following weights were assigned:

- 2 $400 \leq$ daily truck volumes
- 1.5 $300 \leq$ daily truck volumes < 400
- 1 $200 \leq$ daily truck volumes < 300
- 0.5 $100 \leq$ daily truck volumes < 200
- 0 daily truck volumes < 100

In addition to the volume-based weighting, an additional weight of 1 was assigned to those roads which serve an existing or potential truck generating area. This ensures that, while a particular road may not warrant a higher weight based on existing truck volumes, the potential of increased truck traffic due to the area served by said road is still considered in the weighting process. There are many quarry operations scattered about the County. The County's Aggregate Resource Master Plan was used to identify existing quarries and areas where potential exists for future aggregate operations. Aside from quarry operations, areas with significant industrial development were also considered.

Given the assigned weighting, roads can score a maximum of 3 for this criterion.

Criterion 4: Barrier Service

There are numerous roads in Grey County that serve a barrier service given the number of waterways in the County and the presence of the Niagara escarpment. The criterion has been considered in the rationalization process but given that it is not considered a crucial factor in the differentiation of road classification, it has been given a reduced weight of 1.

Criterion 5: Resort / Recreation Criterion

The resort criterion has not been considered as an exclusive criterion but rather points have been awarded under Criteria 1 which has been framed to consider connection to recreation/resort areas.

Criterion 6: Urban Cell Service

This criterion is not considered applicable to Grey County.

Criterion 7: Urban Arterial Extension

This criterion has not been considered as it is deemed to be a redundancy of Criterion 1. All roads which would qualify as providing an urban arterial extension have also received points for providing connectivity into a settlement area.

Criterion 8: Rural Cell Service

Similar to Criteria 6, the rural cell service is not considered an important factor in the road rationalization process.

Criterion 9: Traffic Speed

The intent of a County road is to move traffic efficiently through the County, therefore the traffic speed criteria is considered as relevant to the Grey County road network (a weight of 1 applies to those roads with a predominant speed limit of 80 km/h). The predominant speed limit for any road section reflects the speed limit which is in force for a majority of that road section length. For a road section which has only two speed limits throughout its length, the speed limit in place for greater than 50% of the road section length is considered the predominant speed limit. Where road sections have 3 or more speed limits, the speed zone with the greatest length is considered the predominant speed (in these cases the predominant speed limit zone may consist of less than 50% of the overall road section length). In conjunction with the traffic speed, the design speed must also be predominantly 80 km/h to ensure that a road which is posted at 80 km/h is also designed for 80 km/h.

Criterion 10: Road Surface

The condition of a road surface is not considered an important factor in designating a County road. If a road is determined to be eligible for the County road designation, then the surface is irrelevant (i.e. if paving is necessary then such should be planned for).

Criterion 11: Traffic Volume

Traffic is an important indicator of road function. The single weight applied by OGRA is not considered sufficient and thus a range of weights has been developed to better reflect the role and function of the road within the overall network. Increased volumes will also have a bearing on the ultimate road classification (i.e. major versus minor County road or arterial) and hence development and access control that should be considered. The assessment was based on current (2012) traffic volumes (Average annual daily traffic volumes), considering the following:

4 points	$3500 \leq \text{AADT volumes}$
3.5	$3000 \leq \text{AADT} < 3500$
3	$2500 \leq \text{AADT} < 3000$
2.5	$2000 \leq \text{AADT} < 2500$
2	$1500 \leq \text{AADT} < 2000$
1.5	$1000 \leq \text{AADT} < 1500$
1	$500 \leq \text{AADT} < 1000$
0	$\text{AADT} < 500$

Criterion 12: Road Right-of-Way

Similar to the road surface criterion, the available right-of-way should not be a determining factor on whether or not a road can function as a County road. If it is deemed a County road and the right-of-way does not meet the minimum standard, provisions should be made to acquire the necessary lands.

Criterion 13: Provides Continuity through the County

This criterion is considered important in terms of continuity of the County road network throughout the County. Road sections serving this function were assigned a weight of 2.

Criterion 14: Connects to a County Road in a Neighbouring Jurisdiction

This criterion is also considered important in terms of continuity and connectivity of the County road network. Connection to neighbouring counties is beneficial to both Grey County and its neighbours and thus such connecting roads were assigned a weight of 2.

Criterion 15: Provides By-Pass Function for Urban or Built-Up Areas

This is an important criterion for urban and built-up areas where congestion may be occurring. The by-pass can alleviate congestion, remove trucks and through traffic from built-up areas and improve traffic conditions. Roads serving this function were assigned a weight of 2.

Criterion 16: Emergency Detour Routes

As there are no such designations within Grey County, this criterion does not apply.

Criterion 17: Peak Season / Monthly Volumes

This criterion was not deemed necessary. Roads that experience significant increases in seasonal traffic volumes typically serve the resort/recreational areas and thus have been considered under Criterion 1.

7.3.5. Summary

The resulting criteria and weighting to be applied to the Grey County road rationalization process is provided in **Table 7-3**.

Table 7-3: Grey County Road Rationalization Criteria

Criteria	Weight
1. Urban Centre Connector / Upper Tier Connector	0, 1, 2, 3 or 4
3. Heavy Industry Service	0 to 2 + 1
4. Barrier Service	0 or 1
9. Traffic Speed	0 or 1
11. Traffic Volume	0 to 4
13. Provides Continuity within the County	0 or 2
14. Connects to a County Road in a Neighbouring Jurisdiction	0 or 2
15. Provides a By-pass Function for Urban or Built-up Areas	0 or 2
Threshold Weight	6

7.4. Road Rationalization Results

7.4.1. Criteria Assessment

Each County road was evaluated based on the criteria noted in the previous section and appropriate weights attached. In consideration of the varying roles and functions, traffic volumes and conditions along some County roads (which have implications with respect to the evaluations) the roads were divided into distinct segments. Overall, 96 road sections were established, totaling 877.1 km in length.

In addition to the County roads, a number of local roads were investigated in consideration of recommendations from the *County or Grey Road Rationalization Study 2006*, and through discussions with County staff with respect to their current role, function and use. The corresponding local roads, totalling 62.2 km, are as follows:

- Concession 20 Kemble Rock Road - Grey Road 1 to Grey Road 17;
- Concession 10 - Grey Road 18 to Grey Road 5/8th Street East;
- Sideroad 2 - Grey-Bruce Line to Concession 8/Grey Road 40;
- Bentinck Sullivan Townline - Grey-Bruce Line to Grey Road 3/Grey Road 25;
- Concession 12 - Grey Road 10 to Highway 6;
- Concession 5 Derby - Grey Road 18 to Grey Road 16;
- Concession 6 Chatsworth - Grey Road 16 to Grey Road 40;
- Grey Road 40 (new road connection) - Highway 6 to Highway 10; and
- Southgate 11 Sideroad - Grey Road 14 to Highway 89.

A list of the County and local road sections considered, the associated weights for the applicable criteria, the total weight and associated results (i.e. satisfies the County road criteria if total weight ≥ 6 ; does not satisfy the County road criteria if total weight < 6) is attached in **Appendix D** whereas a summary is provided in **Table 7-4**.

Table 7-4: Criteria Assessment

Current Designation			Satisfies County Road Criteria (weight ≥ 6)		Does Not Satisfy County Road Criteria (weight < 6)	
Road	Sections	Length (km)	Sections	Length (km)	Sections	Length (km)
County Road	96	877.1	76	711.6	20	165.5
Local Road	9	62.2	8	53.56	1	8.7

As noted, of the 96 road sections currently designated as County road, 20 sections accounting for 165.5 km (19% of the total length) do not satisfy the criteria for County road designation (in that the respective weights are < 6).

Of the local roads investigated, 8 of the 9 sections satisfy the criteria for designation as a County road (weights ≥ 6), which include:

- Concession 10 - Grey Road 18 to Grey Road 5/8th Street East;
- Sideroad 2 - Grey-Bruce Line to Concession 8/Grey Road 40;
- Bentinck Sullivan Townline - Grey-Bruce Line to Grey Road 3/Grey Road 25;
- Concession 12 - Grey Road 10 to Highway 6;
- Concession 5 Derby - Grey Road 18 to Grey Road 16;

- Concession 6 Chatsworth - Grey Road 16 to Grey Road 40;
- Grey Road 40 (new road connection) - Highway 6 to Highway 10; and
- Southgate 11 Sideroad - Grey Road 14 to Highway 89.

7.4.2. Road Rationalization Principle Assessment

Further to the assessment based on the various criteria used to differentiate those roads serving a County function versus those serving a local function, a review based on the defined Road Rationalization Principles (as described in **Section 7.2.1**) was also conducted with special consideration given to the overall County road network (in that the criteria assessment was focused on individual road sections and does not otherwise consider the larger County picture).

With respect to the existence of parallel alternative routes (i.e. Grey Road 10 and Grey Road 3, Grey Road 12 and Grey Road 7) and providing limited reach within or beyond the County (e.g. Grey Road 109), the following objectives are noted:

- to establish a County road system that provides appropriate service within all areas of the County extending north to south, and east to west, with an emphasis on those serving established settlement areas;
- to complement the Provincial highway system (Highways 6, 9, 10, 21, 26 and 89);
- to eliminate redundancy with respect to the provision and maintenance of alternative parallel roads; and
- to establish a direct, succinct and intuitive road system for the benefit of County residents, commercial traffic and visitors alike (the preferred manner in which to achieve this is through the development of a grid based system which accommodates north-south and east-west travel throughout the County).

In consideration of the Road Rationalization Principles and the extent to which each road section satisfied the principles (the Principle Assessment is provided in **Appendix D**), a number of existing County roads, which otherwise satisfy the criteria assessment to remain as County roads (i.e. weight ≥ 6) have been identified for incorporation into the local road system. In doing so, those County roads that remain as part of the network can be properly established as key travel routes to, from and within the County allowing the resources of the County to be best utilized. The corresponding road sections are identified in **Appendix D** (the Criteria Assessment indicates "County" whereas the Principle Assessment or Final Recommendation indicates "local") and discussed below.

7.4.2.1 Grey Road 1

Grey Road 1, from the Wiarton town limits to Zion Church Road, is recommended for transfer to the local municipality as it satisfies only one of the noted principles. Its role as a County road is further reduced with the recommended transfer of Grey Road 1 from Zion Church Road to Kemble Rock Road to the local municipality. Furthermore, the recommended transfer of Concession 20/Kemble Rock Road (from Grey Road 1 to Grey Road 17) will provide a more direct and succinct connection between Wiarton and Owen Sound.

7.4.2.2 Grey Road 3

It is recommended that Grey Road 3 be considered as a candidate for transfer as its service provision is considered redundant given its close proximity to Grey Road 10 (2 concession blocks away) and parallel orientation. The preference is to maintain Grey Road 10 as part of the County road system as it serves a greater function as a boundary road with Bruce County and also provides a more complete north-south service, connecting with Highway 9 to the south and Highway 6 to the north.

7.4.2.3 Grey Road 5 and Grey Road 16

Grey Road 5 (with the exception of the small segment connecting Highway 26 to 8th Street East) and Grey Road 16 (from Grey Road 3 to Highway 6/10) have been recommended as candidates for transfer as the service they provide is considered redundant. The redundancy of service occurs given the existing east-west service in the area provided via Highway 21 to the north and via Grey Road 40 to the south.

Furthermore, the east-west service provided by Grey Roads 5 and 16 is considered incomplete when compared to the service provided by the Highway 21 and 26 corridors and the Grey Road 40 corridor with respect to the overall east-west connectivity of the County.

7.4.2.4 Grey Road 9

While it is recognized that Grey Road 9 is an important east-west corridor through the southern portion of the County, the section from Grey Road 10 to Highway 6 is disjointed and indirect. As such, this section of Grey Road 9 is recommended as a candidate for transfer. This recommendation is in conjunction with the recommendation to transfer Concession 12 (between Grey Road 10 and Highway 6) to the County in order to maintain and enhance the east-west service provided by Grey Road 9.

7.4.2.5 Grey Road 12

Grey Road 12 from Highway 10 to Highway 26 is recommended for transfer. The section from Highway 10 to Grey Road 112/16th Sideroad provides redundant and disjointed north-south service given the service provided by Grey Road 7 whereas the section between Grey Road 112/16th Sideroad and Highway 26 is redundant given the east-west service provided by Highway 26 into Meaford.

7.4.2.6 Grey Road 13

Grey Road 13 from Grey Road 30 to Highway 26 provides indirect/disjointed north-south service which is also made redundant by the existing north-south service provided by Grey Road 7 and Grey Road 2. As such, this section of Grey Road 13 is recommended as a candidate for transfer. The service provided by Grey Road 7 and Grey Road 2 is preferred in that both roads provide a direct north-south route which is more conducive to wayfinding by tourists and visitors than that of Grey Road 13.

7.4.2.7 Grey Road 14

Grey Road 14 from Highway 89 to Southgate 11 Sideroad is recommended for transfer due to its indirect route. It is recommended that this section of road be replaced by Southgate Road 11 (Highway 89 to Grey Road 14), which is recommended for transfer to the County.

7.4.2.8 Grey Road 15

Grey Road 15, within the limits of the City of Owen Sound, is recommended for transfer as it does not contribute to the overall objectives of the County road network. Specifically, it does not provide critical north-south service and does not contribute to the overall connectivity of the County. It is further noted that the remainder of Grey Road 15 is recommended for transfer based on both the criteria and principle based assessments.

7.4.2.9 Grey Road 17

Grey Road 17 (Concession 20/Kemble Rock Road to Grey Road 17A) has been recommended for transfer as it provides redundant service to Highway 6 to the west and Grey Road 1 (from Owen Sound to Kemble Rock Road) to the east.

7.4.2.10 Grey Road 17B

Grey Road 17B (Grey Road 17 to Highway 21) has been recommended for transfer as it does not significantly contribute to the overall objectives of the County road network. Grey Road 17B offers redundant service when considering the proximity of Highway 21 and its role is further diminished by the recommended transfer of Grey Road 17 (based on the criteria and principle assessments) between Grey Road 17A and Concession 20.

7.4.2.11 Grey Road 18

A small section of Grey Road 18 (from Concession 10 to Grey Road 11) is recommended as a candidate for transfer given the other recommended changes to the County Road network in the area. With the recommended transfer of Grey Road 11 and Grey Road 18 (east of Grey Road 11) to the local municipality (both of which do not satisfy the criteria to be maintained as a County road) and the subsequent transfer of Concession 10 (from Grey Road 10 to Grey Road 5/8th Street) to the County, the section of Grey Road 18 in question no longer serves a relevant purpose. As such, it has been recommended for transfer.

7.4.2.12 Grey Road 19

Grey Road 19 from Grey Road 21 to Highway 26 has been recommended for transfer as it serves a predominantly local purpose through Blue Mountain Resort and provides redundant service to Grey Road 21 (Grey Road 21 provides direct north-south service and connectivity within the same area). However, the importance of maintaining a connection to the resort area (which is a crucial economic driver for the area) is noted and thus, should it be determined that the road remain with the County, it is recommended that it be considered as a candidate for the connecting link program (further discussion on connecting links is provided in **Section 9**).

7.4.2.13 Grey Road 25

Grey Road 25 (from Grey Road 10 to Grey Road 3), although satisfying the criteria and principle assessments for County road status, is recommended for transfer due to the disjointed east-west service

it provides. It is recommended that this section of road be replaced by Bentinck Sullivan Townline (Grey Road 10 to Grey Road 3), which is recommended for transfer to the County.

7.4.2.14 Grey Road 27

Grey Road 27, a small County road located in Durham, is recommended for transfer as it provides redundant parallel service to Grey Road 4 and does not contribute to the overall connectivity of the County road network.

7.4.2.15 Grey Road 31, Grey Road 113 and Grey Road 119

Grey Road 31, Grey Road 113 and Grey Road 119 are all recommended for transfer as they provide redundant parallel service to other County or Provincial roads. Grey Road 113 provides redundant service to Highway 26 whereas Grey Road 119 (from Grey Road 2 to Grey Road 19) provides redundant service to Grey Road 19. It is further noted that Grey Road 119 scores very low on the Principle Assessment, with sections of the road unable to be improved (cost effectively) to acceptable County standards. Grey Road 31 provides redundant service to Grey Road 4 and also provides incomplete north-south service, north of Grey Road 4.

7.4.2.16 Grey Road 40 (McNab Street)

The small section of Grey Road 40 (known as McNab Street) connecting Highway 6 with Highway 10 is recommended for transfer upon construction of a new connection along the Puddicombe Lane right-of-way. The new connection will provide a continuous connection for Grey Road 40. It is noted that Grey Road 40 (McNab Street) should remain within the County network until the new connection is completed.

7.4.2.17 Grey Road 109

Grey Road 109 from Highway 6 to Grey Road 9 has been recommended for transfer as it provides a redundant parallel service to Highway 6.

7.4.2.18 Low Scoring Roads to Remain with County

Similarly, there are a number of existing County Roads that do not meet the assessment threshold (weight <6), but should nonetheless remain as County roads to ensure network continuity and to provide service where there are no ready alternatives. These road sections are identified in the listing provided in **Appendix D** (the Assessment Criteria indicates “consider as local” whereas the Principle Assessment or Final Recommendation indicates “County”) and summarized below:

- Grey Road 5 - 8th Street East to Highway 26 (completes new County road connection with recommended transfer of Concession Road 10 to the County);
- Grey Road 6 - Highway 89 to Highway 6 (provides an extension of Wellington Road 6 to Highway 6);
- Grey Road 17 - Concession 20 to Highway 6 (completes new County road connection with recommended transfer of Concession 20 to the County);
- Grey Road 25 - Grey Road 3 to Highway 6 (provides an east-west connection between Grey Road 40 to the north and Grey Road 4 to the south);

- Grey Road 27 - Grey Road 4 to Highway 26 (acts as a north bypass within Durham); and
- Grey Road 112 - Highway 26 to CFB Meaford (provides important connection to CFB Meaford).

7.5. Proposed County Road Network

7.5.1. County Road System

The resulting proposed County road network is illustrated in **Figure 7-2** and **Figure 7-3**, taking into account recommendations for transfer of the noted County roads to local municipalities and local roads to the County (based on the County road designation criteria in conjunction with consideration for the overall road system and coverage). **Figure 7-2** illustrates the proposed changes to the network (identifying the roads to remain with the County vs roads to be transferred to the municipality or County) whereas **Figure 7-3** illustrates the proposed County road system based on the final recommendations. As evident, the road system provides service throughout the County, serves all primary settlement areas, and is based on a grid system with relatively uniform separation between consecutive County roads. Although based on objective criteria, it is noted that the road network as proposed is a recommendation and it is expected that further discussion will occur between the County and the municipalities to ensure that all concerns and input are appropriately considered.

7.5.2. Functional Classification

Further to the identification of the County road system, functional classifications have also been provided, based on the criteria assessment weights and in consideration of the following:

- minor/secondary arterial road classification: $6 \leq \text{weight} \leq 10$; and
- major/primary arterial road classification: $\text{weight} > 10$.

While the rationalization scores formed the basis of the functional classifications, additional consideration was given to the overall connectivity and consistency of the County Road network to ensure that the minor and major arterial roads were complementary and did not introduce new redundancies to the system. Those County roads that scored above the point threshold for consideration as major/primary arterial (i.e. >10 points) but travel through a primary settlement or major recreational area have been classified as minor arterial roads (i.e. Grey Road 10 through Hanover). The minor arterial functional classification better represents the primary role these road sections play in serving a local purpose. Likewise, those roads that scored below the major arterial threshold but serve a greater role than is otherwise indicated by the criteria assessment score, have been classified as major arterial roads (i.e. the Grey Road 18 bypass serving Owen Sound and the Grey Road 28 bypass serving Hanover).

Figure 7-2: Proposed Changes to County Road System

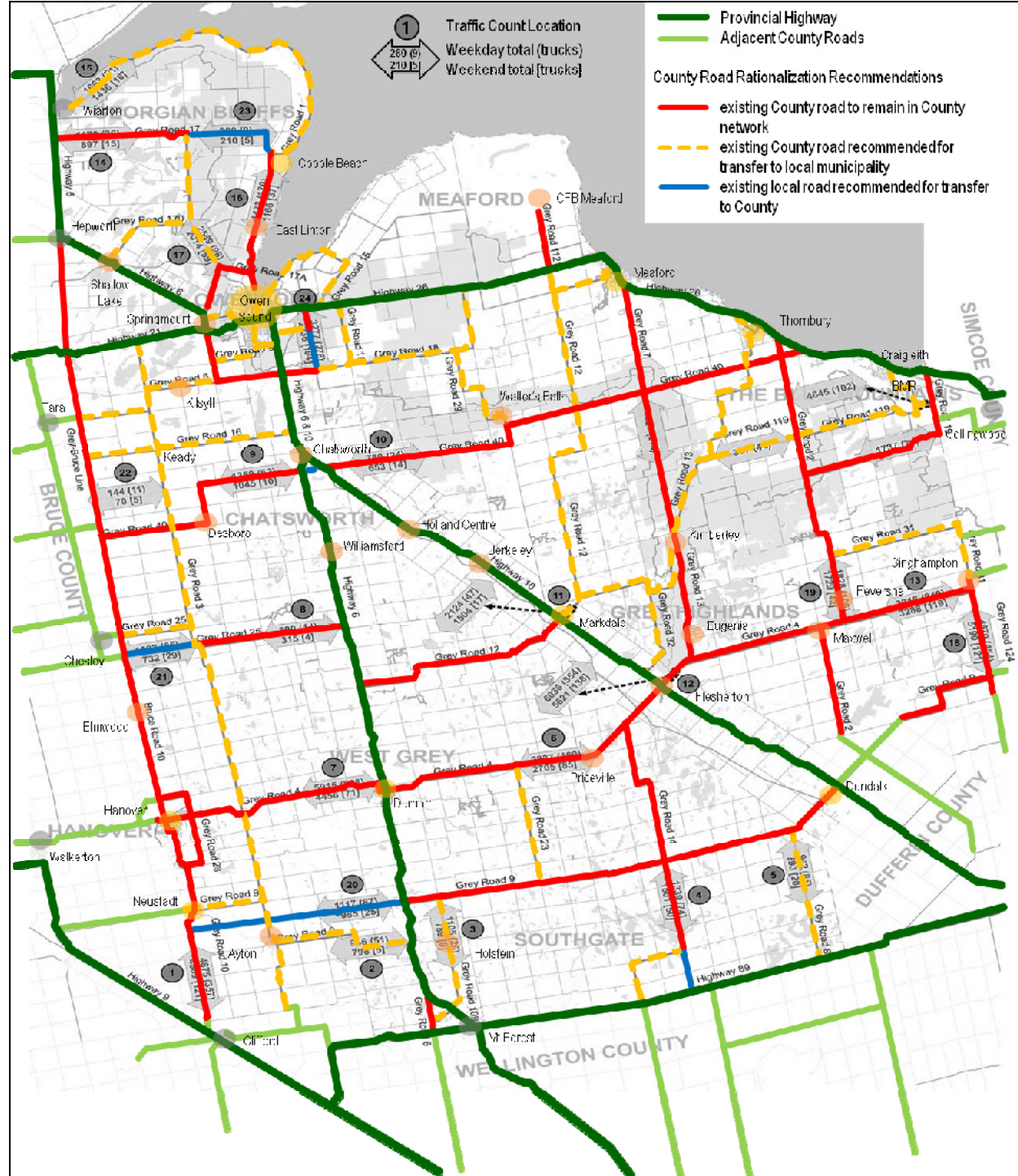
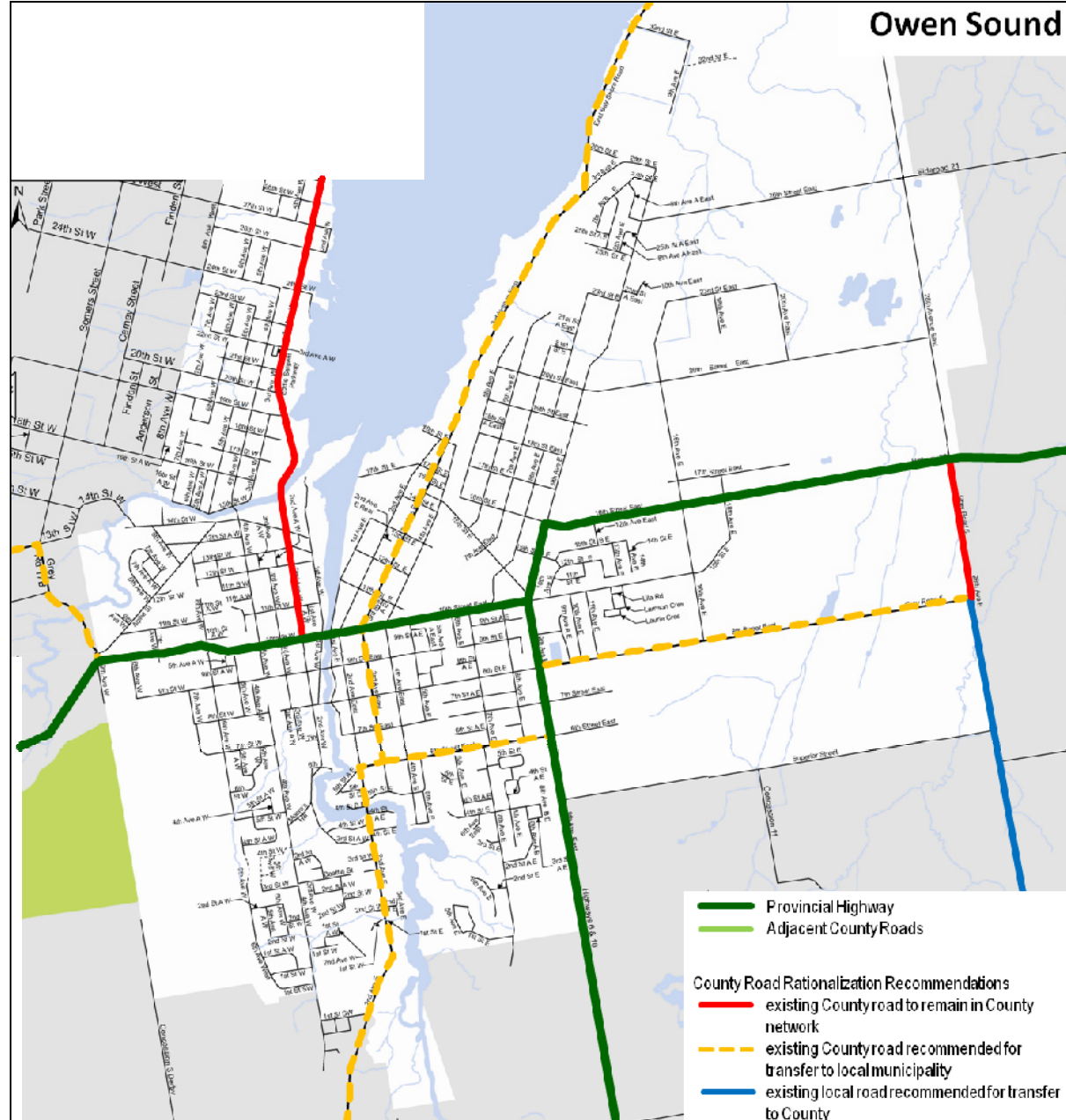


Figure 7-2a: Proposed Changes to County Road System - Owen Sound



Chatsworth

Massie Road
Veterans Rd N
Grey Road 40
Concession 2
Highway 10
Sideroad 3
Puddicombe Lane
Elder Lane
Arnott Lane
East Back Line
10 Sideroad
20 Sideroad
20 Sideroad
Tay Sideroad

Provincial Highway
Adjacent County Roads

Meaford

County Road Rationalization Recommendations

- existing County road to remain in County network
- existing County road recommended for transfer to local municipality
- existing local road recommended for transfer to County

Figure 7-2c: Proposed Changes to County Road System - Hanover

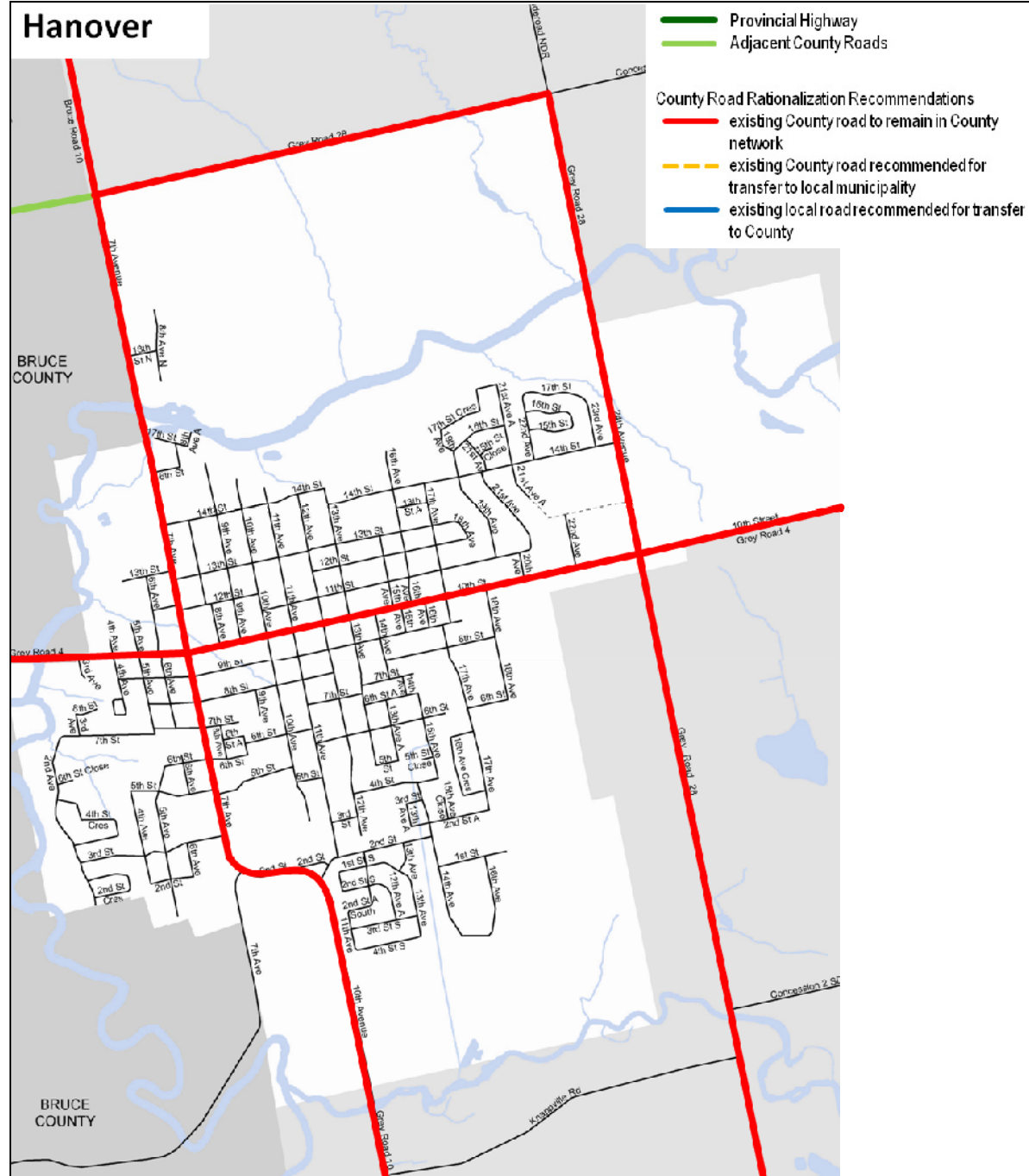


Figure 7-3: Proposed County Road System

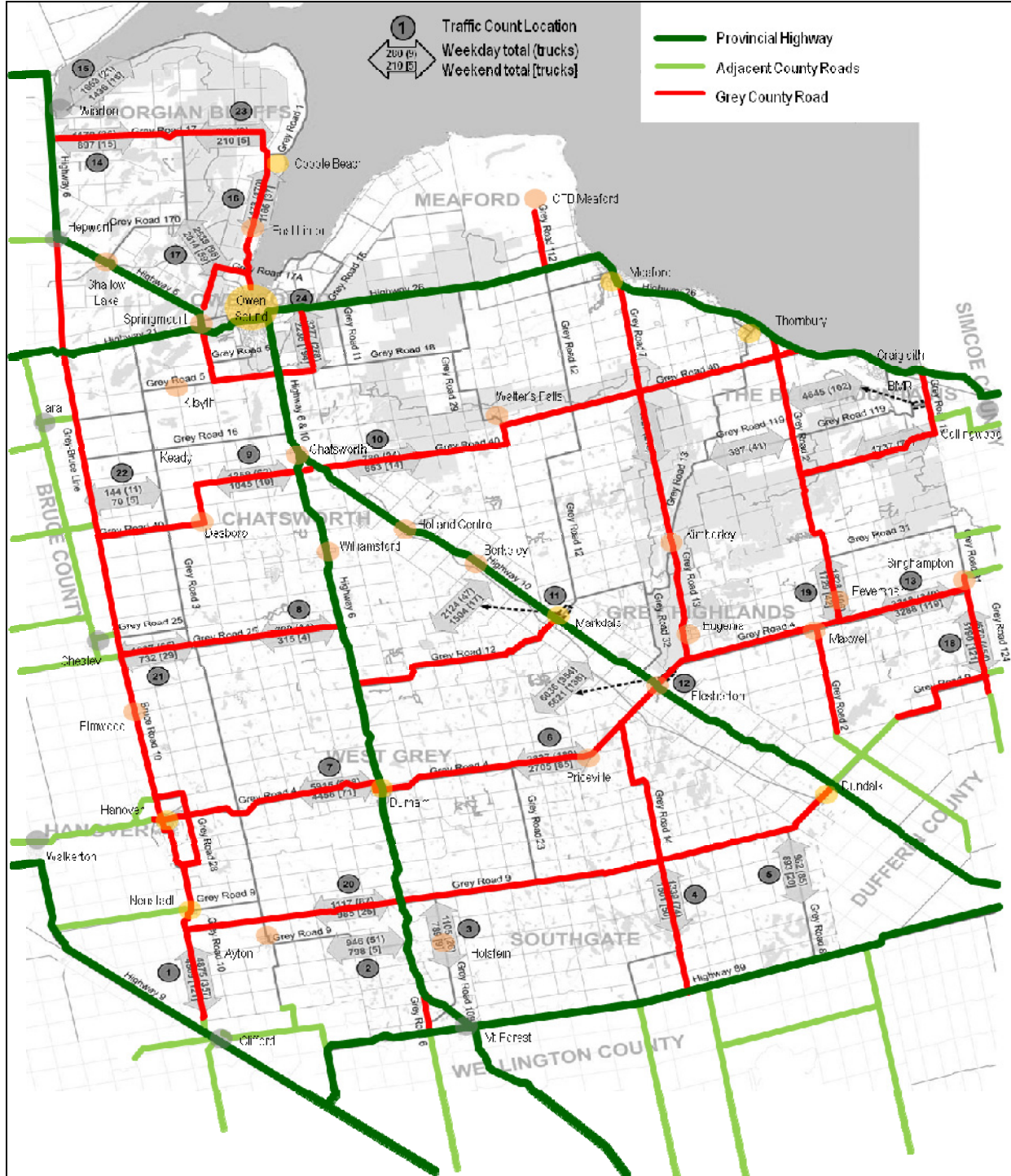


Figure 7-3a: Proposed County Road System - Owen Sound

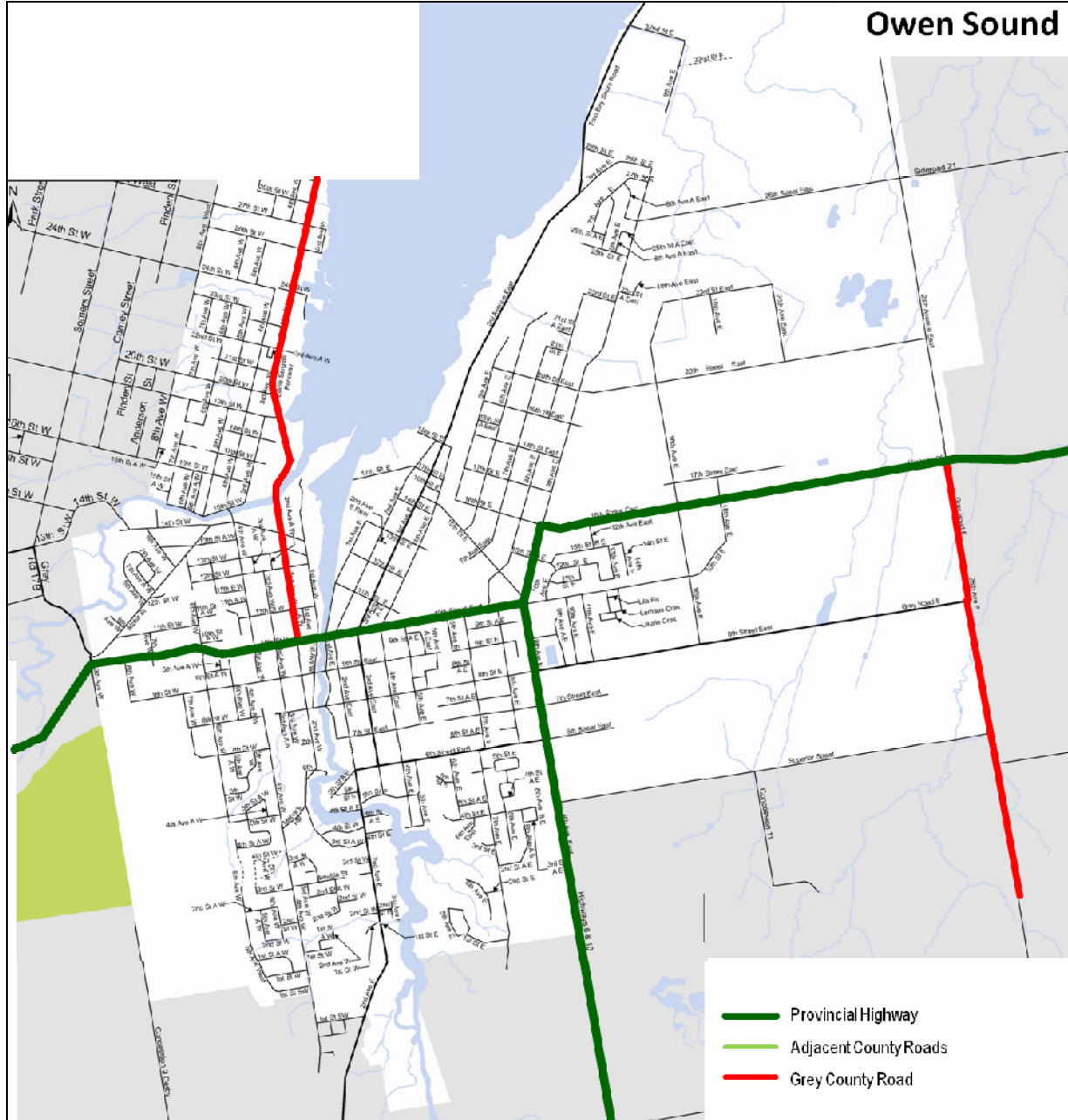


Figure 7-3b: Proposed County Road System - Chatsworth and Meaford

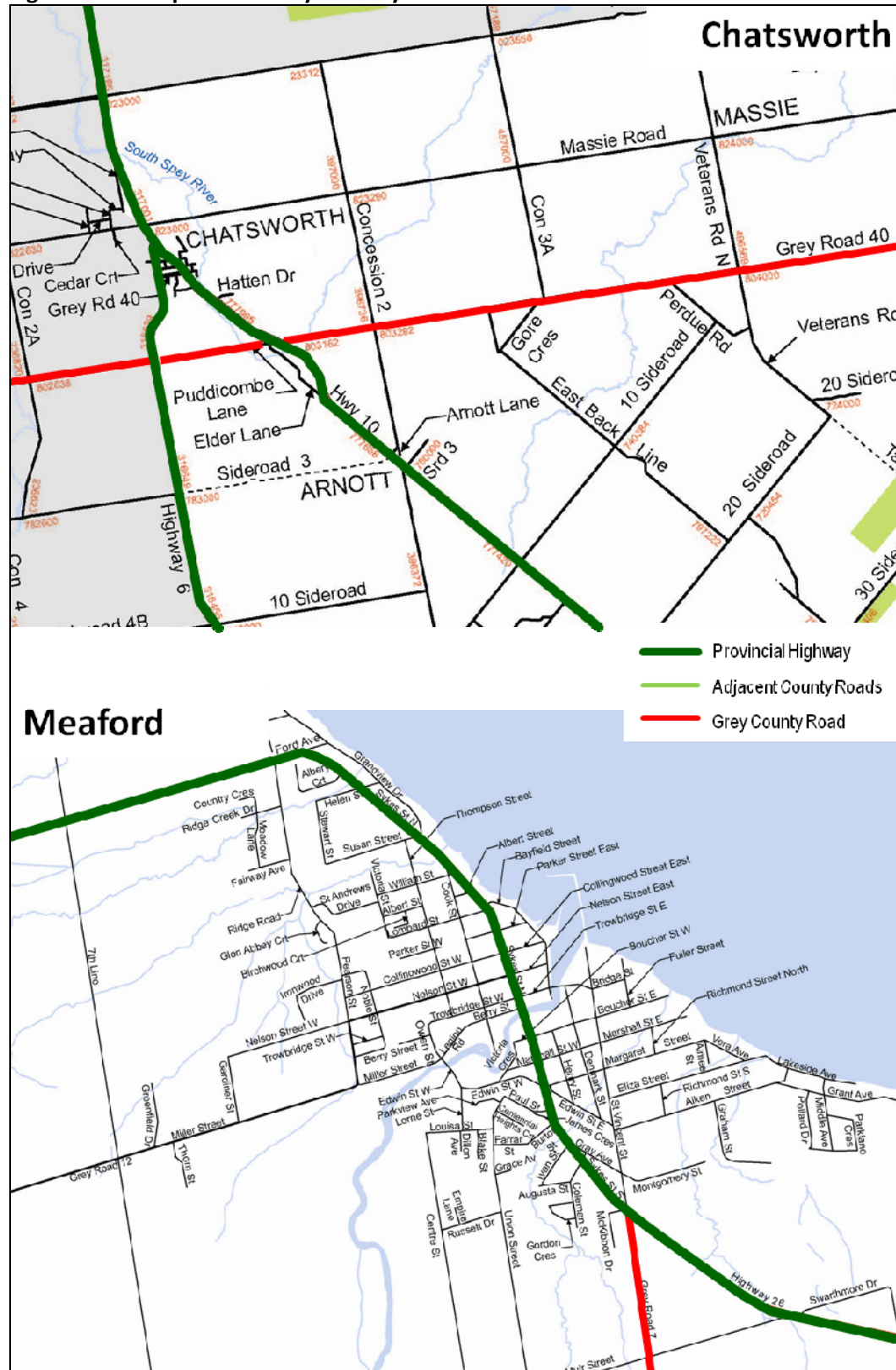
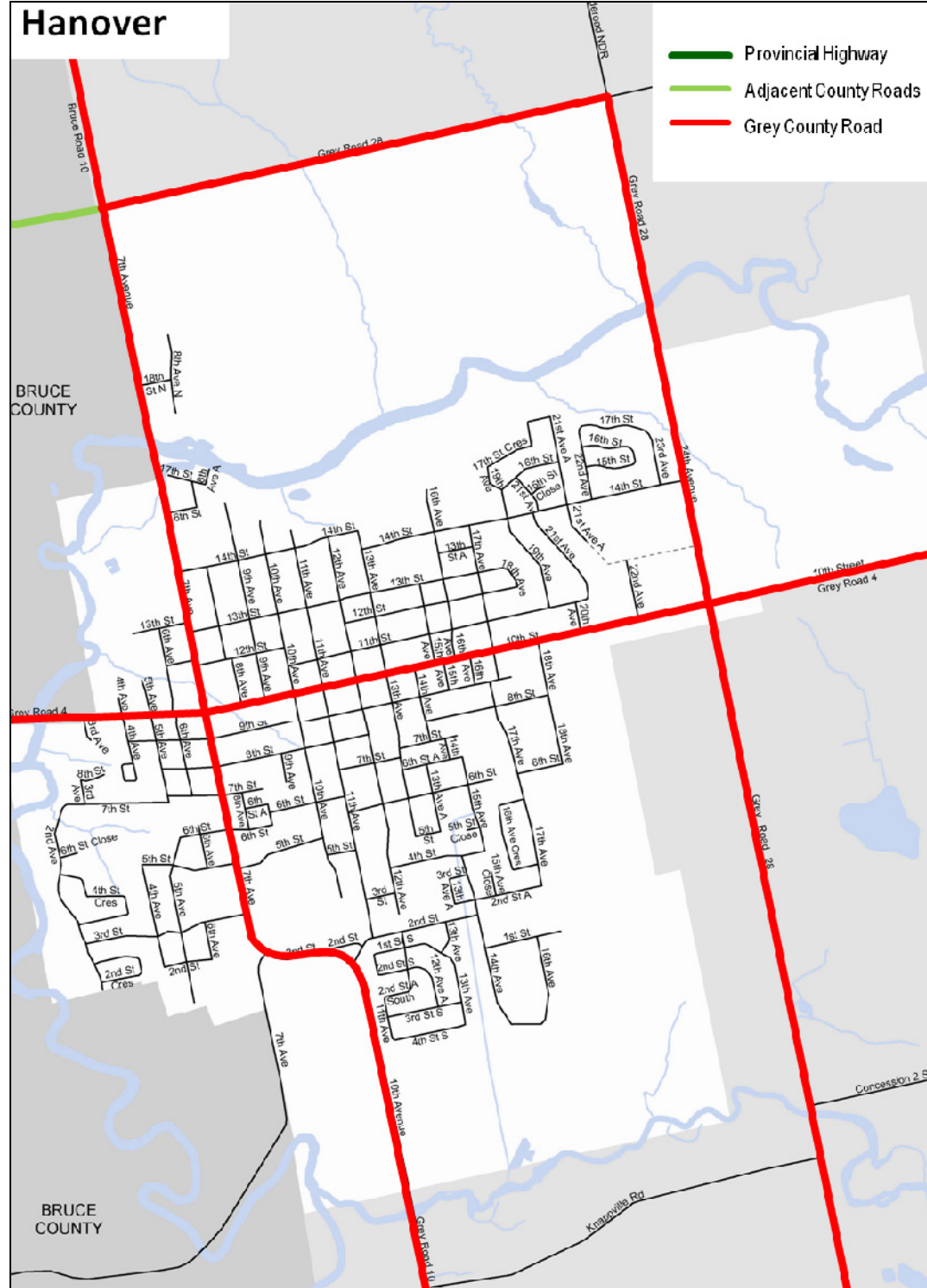


Figure 7-3c: Proposed County Road System - Hanover



7.5.2.1 Minor/Secondary Arterial

Minor/secondary arterials are intended to carry moderate traffic volumes within and through the County. The primary functions of this road classification are to:

- connect secondary settlement areas/minor activity centers within the County;
- provide connectivity between primary arterials or connect a settlement/activity center with a primary arterial road; and
- provide access to local properties and intersecting municipal roads or local streets that intersect with it.

7.5.2.2 Major/Primary Arterial

Major/primary arterials are intended to carry large volumes of traffic within and through the County with primary functions to:

- connect primary settlement areas/major centers within and outside the County; and
- accommodate long distance person or goods movement travel through the County between major activity areas.

The resulting functional classifications are illustrated in **Figure 7-4** and further noted on the overall road system listing provided in **Appendix D**.

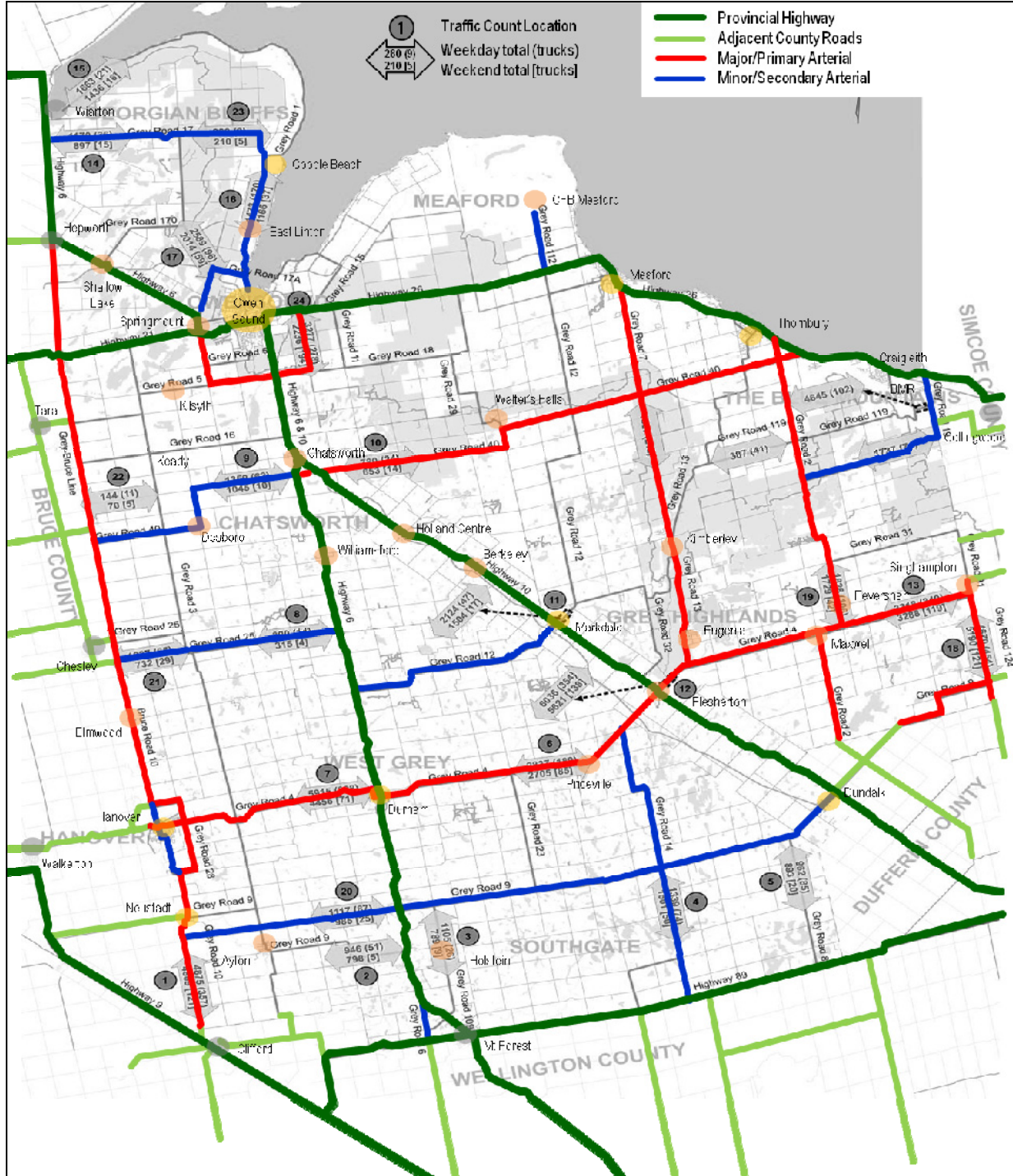
7.6. Road Improvement Costs

In 2011, the County undertook a *Road Needs Study*³¹, the purpose of which was to provide an overview of the condition the County's entire road system (relating to County roads only), identify the corresponding maintenance and construction needs to ensure the continued provision of an appropriate system, and identify the associated costs. Key findings for this study are noted below.

- The estimated total cost of improvements (maintenance and construction needs) for the road system is \$159.3M, of which \$98.0M is in the "Now" period, \$38.4M is in the "1 to 5 year" period and \$22.5M is the "6 to 10 year" period (an additional \$0.4M has been identified for maintenance needs). This results in an average need of approximately \$16M per year over the next 10 years.
- The annual depreciation of the road system is \$13.9M per year based on a road life expectancy of 50 years, 2% depreciation each year and considering County of Grey construction unit costs.
- An annual asphalt resurfacing program of \$4.7M is required to maintain the road system at its current adequacy level (i.e. maintain status quo).
- An annual surface treatment and crack sealing program of \$0.6M is recommended.

³¹ 2011 Road Needs Study. AECOM, January 2012.

Figure 7-4: Functional Road Classifications



The improvement costs reported in the *Road Needs Study* are a conservative estimate and include improvements that might otherwise not be done (i.e. road realignments which, although preferred, are not considered essential). It is noted that the referenced road improvement costs reflect the desired road improvement strategy, assuming that the necessary financial means for implementation are available. It is recognized that the actual improvement strategy may be modified and limited in context of the available capital budget (i.e. rather than full reconstruction, pulverization and resurfacing may be considered should funds be limited). Furthermore, as roads are transferred from the County to the local municipalities, it is expected that volumes on the transferred roads will eventually decrease as motorists alter their routes in favour of the higher serviced County roads in the area. As volumes decrease on the transferred roads, it is possible that the maintenance needs, and hence maintenance costs, will be reduced as well (i.e. fewer vehicles on a road translates to less road stress). Therefore, the maintenance costs will likely vary compared to that which is presented in the *Road Needs Study*; however, maintenance is still to be done in accordance with the minimum maintenance standards (such is to be resolved with the local municipalities).

The *Road Needs Study* further notes that the County's annual capital budget in 2011 was \$5.6M, which included road and road structure capital construction cost elements (whereas the above noted figures pertain only to the road system). Suffice to say, the available funds fall significantly short of the funds required to maintain the current road system. In light of this, the *Road Needs Study* recommended to revisit the road rationalization process completed in 2006, with the intent of identifying those roads that truly serve a County transportation service and noted that *"as an editorial comment, too often this exercise is seen as reciprocal - if the upper tier transfers a road to a lower tier, then an equal length is transferred to the County. This defeats the purpose of the exercise."*

7.6.1. Improvement Costs by Road Jurisdiction

A further summary of the noted road improvement costs by road jurisdiction (existing and proposed) is provided in **Table 7-5**.

Table 7-5: Road Costs - by Road Jurisdiction

Road Jurisdiction	Length of Road	Time of Need			
		Now ²	1 to 5 Years	6 to 10 Years	Total
Existing County Road to remain Countyroad ¹	474	\$36,226,000	\$15,440,000	\$12,170,000	\$63,840,000
Existing County Road to be possibly transferred to local municipality ¹	403	\$62,185,000	\$22,970,000	\$10,360,000	\$95,520,000
Total	877	\$98,411,000	\$38,410,000	\$22,540,000	\$159,360,000

1. As per the recommendations of the Road Rationalization Study

2. Includes total of \$0.4M associated with maintenance needs

7.6.2. Improvement Costs by Municipalities

A breakdown by municipality of the costs associated with the proposed transfer of existing County roads is provided in **Table 7-6**(includes only the costs associated with those roads identified for possible transfer).

Table 7-6: Road Costs - by Municipality

Road Jurisdiction	Length of Road (km)	Time of Need			
		Now ¹	1 to 5 Years	6 to 10 Years	Total
Chatsworth	47.7	\$6,911,800	\$1,822,900	\$1,773,300	\$10,508,000
Georgian Bluffs	88.7	\$20,099,500	\$3,869,200	\$4,759,600	\$28,728,300
Grey Highlands	94.7	\$10,381,100	\$2,603,100	\$985,700	\$13,969,900
Hanover	-	-	-	-	-
Meaford	38.7	\$3,029,400	\$5,347,000	\$911,000	\$9,287,500
Owen Sound	10.8	\$7,987,600	\$2,106,000	\$67,200	\$10,160,700
Southgate	42.1	\$2,080,600	\$1,282,400	\$489,600	\$3,852,600
Town of The Blue Mountains	24.6	\$7,815,300	\$4,756,500	\$519,600	\$13,091,300
West Grey	55.6	\$3,879,800	\$1,184,100	\$858,600	\$5,922,500
Total	402.7	\$62,185,000	\$22,970,000	\$10,360,000	\$95,520,000

1. Includes identified maintenance needs

7.6.3. Focused Efficiency of Resources

Rationalization of the road network, while acknowledged as a sensitive process given the financial implications to the parties involved, is a crucial step in ensuring that the County road network is serving its intended purpose and is doing so as efficiently as possible. Certainly, to forgo the rationalization of the County's road system would also have financial implications going forward whether by increased levies to raise the additional funds required to maintain the road system to appropriate County standards or as a result of a deteriorating road network. If County roads are not properly maintained, they will continue to deteriorate which will compromise the overall road system in its ability to achieve its primary objectives, including the promotion and support of economic growth within the County (which naturally benefits the local municipalities and the County as a whole). The economic reality facing counties and municipalities across Ontario is that the resources available to maintain the road system are finite, if not dwindling. Therefore it is imperative that the available resources are used with focused efficiency, recognizing that every dollar invested in a County road that does not serve a County road purpose is a dollar that is not efficiently invested in the overall objectives of the County road network. The rationalization process will assist the County in defining a focused, effective and efficient road network while providing a means of prioritizing the allocation of resources. The aim is to facilitate the smart spend of County dollars which will allow the County to develop, maintain and sustain the road system in consideration of the overall objectives of the network, rather than misuse the available resources by maintaining roads that provide redundant or incomplete service.

7.7. Implementation

The implementation of the road rationalization recommendations (i.e. transfer of candidate County roads to the local municipalities and likely candidate local roads to Grey County), must be considered in consultation with the local municipalities. This is particularly true as it relates to time of transfer, required road improvements and/or associated financial implications to both the County and the local municipalities (recognizing that the most significant impediment to local municipalities taking control of additional roads is the cost to adequately maintain them).

While it is recognized that several local roads have been identified for transfer to the County, they are alternatives to the existing County road system and thus would only be considered in conjunction with the corresponding County road transfer (i.e. County road is transferred to the local municipality and in exchange, the local road is transferred to the County).

7.7.1. Road Transfer Options

There are a number of options through which the County can transfer the candidate road sections, as noted below:

Option 1: Do Nothing

The County maintains the existing County road system as is, with no transfers either from or to the County.

Option 2: Transfer Roads in their Current State

The candidate road sections are transferred to the local municipalities (and likewise to the County) under the current conditions with no requirement for improvements. Ownership of the roads would simply be transferred and those receiving them would be responsible for any and all associated costs following the time of transferral.

Option 3: Transfer Roads in an Improved State (as appropriate)

The County ensures that the candidate road sections comply with appropriate local road standards and that the roads are in suitable condition, undertaking improvements as necessary, prior to transferring such roads to the local municipalities.

Option 4: Transfer Roads with Concessions

The candidate road sections are transferred to the local municipalities under the current conditions, with some form of accompanying funding or cost sharing arrangement.

Option 5: Transfer All County Roads and Provide On-going Engineering Support

All County roads are transferred to the respective municipalities and the County provides on-going engineering support to the municipality roads departments. A funding or cost sharing agreement would accompany the transfer of roads.

7.7.2. Assessment of Options

7.7.2.1 Option 1: Do Nothing

Option 1 is not considered a viable long-term solution in that the County does not have the financial means to maintain the current County road system to an appropriate level of service (without significant increases to their current capital works program). While it may be possible to restructure the works program in favour of resurfacing and preservation, as opposed to reconstruction projects, the lack of funds to address all needs will invariably result in resurfacing needs becoming reconstruction needs when left for 2 to 3 years. Over time, the needs will increase beyond the means available to address them (unless the capital program is increased considerably) and the priority will shift to the key County roads (as per the recommended functional classification), with lesser priority to those roads serving a lesser role. These roads are likely to deteriorate further and faster, to a point where motorists may alter their travel patterns to utilize those roads that are better maintained.

Option 1a

Alternatively, the County could implement a similar program from the onset, whereby a hierarchy of road standards and/or service levels are established and applied in consideration of the road system functional classification (i.e. maintain the key roads to a higher standard and adopt a lesser standard for the lesser roads). It is noted that all minimum maintenance standards as set forth in Ontario Regulation 239-02 must be satisfied (which in themselves are dictated by traffic volumes and speed limits, and thus to some degree reflect the significance of each road).

7.7.2.2 Option 2: Transfer Road in their Current State

Under Option 2, all roads would be transferred to the local municipalities in their current states, along with full responsibility for any required and future construction, reconstruction and maintenance needs. In this respect, there would be no additional cost to the County.

As per the *Road Needs Study*, those roads identified as candidates for transfer to the local municipalities have a combined value of needs of \$95.5M (\$0.2M for maintenance, \$16.0M for rehabilitation/resurfacing and \$79.3M for reconstruction). This represents approximately 60% of the total County road improvement program. It is noted that these road improvements reflect County standards which are typically more onerous than local municipal standards (wider road, wider and/or partially paved shoulders, additional road base/granulars and additional asphalt thickness). To reflect the application of local standards, the associated reconstruction costs have been reduced by 33% (as determined from benchmark cost estimates reflective of the varying standards) whereas maintenance and rehabilitation/resurfacing costs have been maintained (recognizing that these efforts relate to maintaining what is there and that the same procedures would be undertaken regardless). The revised value of work, considering local standards, is \$69.0M (\$0.2M for maintenance, \$16.0M for rehabilitation/resurfacing and \$52.8M for reconstruction). This is the expenditure level that would be incurred by the local municipalities over the next 10 years to improve the roads upon receiving them (provided municipalities choose to implement the improvements). A breakdown by municipality of these associated costs is provided in **Table 7-7** (includes only the costs associated with those roads identified for possible transfer).

Table 7-7: Adjusted¹ Road Costs - by Municipality

Road Jurisdiction	Length of Road (km)	Time of Need			
		Now ²	1 to 5 Years	6 to 10 Years	Total
Chatsworth	47.7	\$4,890,000	\$1,295,000	\$1,251,000	\$7,438,000
Georgian Bluffs	88.7	\$13,913,000	\$2,770,000	\$3,235,000	\$19,917,000
Grey Highlands	94.7	\$7,168,000	\$2,450,000	\$957,000	\$10,574,000
Hanover	-	-	-	-	-
Meaford	38.7	\$2,468,000	\$4,020,000	\$624,000	\$7,113,000
Owen Sound	10.8	\$5,327,000	\$1,405,000	\$67,000	\$6,799,000
Southgate	42.1	\$1,526,000	\$1,280,000	\$490,000	\$3,298,000
Town of The Blue Mountains	24.6	\$5,346,000	\$3,325,000	\$406,000	\$9,079,000
West Grey	55.6	\$3,178,000	\$820,000	\$859,000	\$4,857,000
Total	402.7	\$43,816,000	\$17,370,000	\$7,890,000	\$69,080,000

1. Reconstruction costs consider adjustments to reflect local vs County road standards

2. Includes identified maintenance needs

While this option would be favourable to the County, it would not be acceptable to the local municipalities given the lack of sufficient funds and the impacts on the local capital programs and tax base.

7.7.2.3 Option 3: Transfer Roads in an Improved State

Option 3 requires the candidate road sections to be improved to the applicable local road standards (recognizing that County road standards need not be considered following the transfer) prior to being transferred. The local municipality is therefore provided with a road in good condition that, apart from routine maintenance, should not require significant works (and hence would not incur significant costs) for some time. The approach by which candidate road sections are improved could include consideration for the following:

- improve all candidate road sections that have identified improvement needs prior to transferal;
- improve only those road with identified short-term needs (i.e. within 0-5 years); or
- improve only those roads that serve a greater role and function in the road system (i.e. must meet a minimum score threshold in consideration of the County road designation criteria).

Option 3a: Fix all roads

The County would upgrade all of the candidate roads before transfer, as required. As with Option 2, the associated cost to improve the road system, as per the *Road Needs Study*, is \$69.0M (following adjustment to reflect local road improvement standards), to be incurred by the County. As previously noted, the County's capital budget in 2011 was \$5.6M and thus the noted improvements would require in excess of 12 years to appropriately address prior to transferral, assuming the annual capital budget remains relatively constant. During this time, without significant increase to the County capital budget, all remaining road needs (i.e. needs associated with roads that are to remain County roads, totaling in

excess of \$63.0M) would remain unattended, with the threat of becoming more onerous to remedy with the passage of time.

Option 3b: Fix those roads with short-term needs

Option 3b would see the County upgrade only those roads with “Now” or “1-5 year” needs prior to transfer, in addition to identified maintenance needs. All other candidate roads (i.e. those with “6-10 year” needs) would be transferred as is. In this respect, the local municipalities would receive a network of roads that would not require significant improvement for the next 5 years, thus providing them with considerable time to begin planning for future maintenance. In consideration of the current County Road Needs Study, the associated cost for identified road improvements is estimated at \$61.1M (factored to reflect local road improvement standards- \$0.2M for maintenance, \$43.6M for “Now” needs and \$17.3M for “1-5 Year” needs).

It is acknowledged that the County is undertaking an update to the Road Needs Study and will establish a Pavement Condition Index (PCI) for each road section, which in turn will dictate the need for improvement and timing of such. As completed, this should form the basis for this option.

Option 3c: Fix those roads that scored 3 points or greater through the rationalization process

The County would only upgrade those roads which scored 3 points or greater during the rationalization process; those roads scoring less than 3 points (i.e. roads which serve a local purpose yet have been maintained by the County, to County standards, despite not serving a County purpose) would be transferred as is, simply reverting back to the local municipality in their current condition. This would ensure that those roads which serve a greater role (as per the rationalization scores) are upgraded prior to transfer to the local municipality and hence improvement resources are not allocated to those roads of lesser significance. In other words, improvement funds are to be directed to the more significant roads that are more likely to complement and support the resulting County road system. Under this option, the associated cost to upgrade the road system is \$64.7M (adjusted to reflect local road improvement standards), to be incurred by the County. In considering the County’s 2011 capital budget, the transfer process would require approximately 12 years to complete.

All three sub-options which consider some method of improving the candidate roads prior to transfer to the local municipalities would likely result in the remaining County roads being neglected until such time that the upgrade and transfer of the candidate roads is completed (given the County’s limited resources available for capital projects). In this respect, Option 3 is not ideal for the County (or its road users), albeit it would likely be preferred by the local municipalities.

7.7.2.4 Option 4: Transfer Roads with Concessions

Option 4 seeks to establish a cost sharing mechanism between the County and the local municipalities in recognition of the financial requirements and limited funding that both parties are constrained by. The intent is that the candidate roads would be transferred in their current condition with some form of concession or cost sharing agreement, which could include:

- full cost recovery (i.e. County is to provide the municipality with 100% funds to improve the road as if the County had undertaken the improvements on their own); or
- partial cost recovery (i.e. County is to provide a percentage of the total road cost estimate, with the local municipality responsible for the remainder).

In the case of the latter, the extent of cost recovery or cost sharing could be a fixed arrangement regardless of road characteristics (e.g. 50% County and 50% local municipality - or whatever is agreed upon) or could be based on the same principles set forth under Option 3, in which case the following sub-options could be considered:

Option 4a: Fund all roads

Option 4b: Fund those roads with short-term needs

Option 4c: Fund only those roads which, through the rationalization process, scored 3 points or greater

As further alternatives, the extent of cost sharing could reflect a sliding scale considering the following:

- the value of the necessary works with the percentage of contribution increasing or decreasing with the cost (e.g. 75% for the first \$500,000, 50% for the next \$500,000, 25% for anything above \$1M or vice versa);
- the current needs of the road as per the *Road Needs Study* (e.g. County would contribute a smaller portion to maintenance and rehabilitation projects, and a greater portion to reconstruction projects recognizing the greater overall costs or County addresses maintenance needs only, with all else being the responsibility of the local municipalities);
- the length of road in question with the percentage of contribution increasing or decreasing with the road length; or
- the results of the County road rationalization assessment, with greater concession for those roads scoring 3 to 5 (in that they serve a greater overall role), and less concession to those scoring 1 or 2 (as they truly serve a local role).

7.7.2.5 Option 5: Transfer All County Roads and Provide On-going Engineering Support

Option 5 would see the County transfer all existing County roads to the respective municipalities and provide on-going engineering services to the municipal roads departments. The local municipalities would assume responsibility for all maintenance operations of the roads within their jurisdiction. The County would support the municipal maintenance efforts by providing engineering services which may include:

- on-going review and inspection of the road network to identify rehabilitation needs and coordinating the timing of such improvements;
- completing traffic studies to identify road network requirements (i.e. intersection improvements, additional capacity, etc.); and
- maintain weather monitoring program.

This option would require a funding formula or transfer plan (such as is discussed in Options 3 and 4) to facilitate the transfer of the County road network to the local municipalities.

The transfer of all County roads to the local municipalities would be an unprecedented step and thus the impacts/consequences of such a strategy are unknown. Further study would be required to fully measure the potential cost savings and efficiencies (if any) for the County and its municipalities.

Furthermore, it is acknowledged that the County road network serves a distinct purpose by connecting the municipalities within County's borders as well as providing connectivity beyond its borders and

facilitating the movement of people and goods both to/from and through the County. The purpose of a County road is thus inherently different than the purpose of a local road. To transfer all of the County roads to the local municipalities carries the risk of compromising the objective of the County road network, which is to serve the vitality of the County as a whole. The level of care and standards applied could vary considerably across adjacent communities as could the relative importance of maintaining the road system particularly in consideration of limited funds. In this respect, a systematic approach considering the County road system as a whole is preferred.

7.7.2.6 Recommendation

Recognizing that the proper maintenance and upkeep of the road system, regardless of whether it consists of County roads or local roads, will incur significant costs beyond the current capability of the County and of the local municipalities, an approach which seeks to establish partnerships and cost sharing of the candidate road transfers is recommended.

7.7.3. Phasing of Road Transfers

Regardless of which road transfer option is ultimately decided upon, it is recognized that the transfer of the candidate roads cannot realistically occur overnight. While the County cannot afford to continue maintaining the road network as it is on an ongoing basis, it is also acknowledged that the municipalities are not in the position to accept ownership of the candidate roads tomorrow (in fact, under some form of concession agreement, the County could not afford a quick transfer either). Therefore, the method for transfer must carefully consider potential phasing options. Potential options include:

- phase the transfer of roads based on the rationalization scores with those scoring 2 points or less being transferred first followed those scoring 3, 4, 5 and so on;
- phase the transfer of roads based on the estimated improvement costs published in the *Road Needs Study* whereby the roads requiring the least amount of improvement (from a cost perspective) are transferred first followed by those requiring a higher investment;
- phase the transfer of roads based on the time of need, transferring those roads with 6-10 year needs first, followed by roads with 1-5 year needs and immediate needs;
- phase the transfer of roads on an equitable basis within the County and limit transfers to a finite length (e.g. 10 to 20 km/year) so as to spread out the transfers equally and not overburden an individual municipality with consecutive transfers over a short period of time; or
- phase the transfer of roads based on a road transfer spend per year program whereby the number of transfers per year are determined on a dollar basis rather than a kilometer basis.

The transfer phasing could also be a combination of options. For example, the order of transfer may be based on the rationalization scores (low scoring roads transfer first) while the timing of the transfers are determined by an agreed upon annual dollar amount (a percentage of the capital budget) dedicated to the rationalization of the County road network.

In considering a final phasing plan for the transfer of the candidate roads, it must recognize the financial implications for each local municipality and ensure that the timing of transfer does not cause undue burden on any one municipality (i.e. via consecutive transfers in one area).

8. Bridge Rationalization

8.1. Objective

According to the structure database as set out in the Grey County 2011 Road Needs Study³², Grey County currently owns and maintains 193 bridge and culvert structures, of 3 metres or greater span, located on both County and local roads throughout the County. Of these:

- 143 structures (91 bridges, 1 of which is jointly owned between Grey and Bruce Counties, and 52 culverts) are located on County roads; and
- 50 structures (45 bridges and 5 culverts) are located on local roads.

The corresponding structure location map is provided in **Appendix E**.

Similar to the road rationalization study, a review of these County bridge and culvert structures has been undertaken with the objective of establishing which structures should remain under control of the County, and which should be considered as candidates for transfer to the local municipalities.

8.2. Historical and Legislative Context

8.2.1. Municipal Act

In the mid 1980's the Municipal Act stated that the County shall have jurisdiction over all bridges with a span of 20 feet or greater that were located on municipal boundaries. This legislation was updated in 1990 to the following:

"Subject to a By-law passed under Section 278, Sub section 1, the Council of the County has jurisdiction, or joint jurisdiction over all bridges over which it had jurisdiction, or joint jurisdiction, as the case may be, on the 12th day of February, 1987." (Municipal Act, R.S.O. 1990, Section 265, Sub-section 3)

It is noted that the reference to "municipal boundaries" was removed. The revised legislation simply states that those bridges that were previously designated as County bridges would remain as County bridges (i.e. the Municipal Act does not take a stand as to whose jurisdiction a bridge should fall under based on road jurisdiction). In addition to the above noted Section, the Municipal Act R.S.O 1990 also allowed for the transfer of bridges to local municipalities.

The Municipal Act 2001, while conveying a similar theme to that stated in the 1990's Act, makes an interesting comment whereby bridges are considered as part of a highway:

"a municipality has jurisdiction, or joint jurisdiction, as the case may be, over all highways (including bridges) over which it had jurisdiction or joint jurisdiction on December 31, 2002." (Municipal Act R.S.O. 2001, Section 28)

³²County of Grey 2011 Road Needs Study. AECOM, January 2012.

As with the previous Acts, it is noted that the current Act also maintains provisions that allow Counties to transfer jurisdiction of a bridge to a local municipality.

8.2.2. GreyCounty Policy

The County's ownership of bridges on local roads stems from the legislation of the 1980's which dictated that the County must maintain jurisdiction over bridges on municipal boundaries. The original requirements for County bridges on local roads were as follows:

- structures of span 6 metres (20 feet) or greater on external boundary roads between Grey, Simcoe, Dufferin, Wellington, Huron and Bruce Counties; or
- structures of span 6 metres (20 feet) or greater on internal boundary roads between former Townships of Artemesia, Bentinck, Collingwood, Derby, Egremont, Euphrasia, Glenelg, Holland, Keppel, Normanby, Osprey, Proton, Sarawak, St Vincent, Sullivan and Sydenham; also Owen Sound, Durham, Hanover, Meaford, Thornbury, Chatsworth, Dundalk, Flesherton, Markdale, Neustadt and Shallow Lake.

The legislation itself has since changed as has the municipal structure of Grey County. While the legislation no longer states that a County must maintain ownership of a bridge located on a municipal boundary, many of the municipal boundaries that existed in the 1980's no longer exist today. Amalgamation in Grey County has resulted in a reduction in the number of municipalities from 27 to 9, thus reducing the number of boundary roads significantly.

8.2.3. MTO "County Bridges on Local Roads" Program

Prior to 1996, the Province of Ontario offered municipalities significant subsidies to maintain their road systems (which was the rationale in undertaking Road Needs Studies). As part of this, the municipality could apply for special funding for bridges that the Ministry of Transportation (MTO) had classified as "county bridges on local roads." However, it is understood that this program was not sufficiently funded, and thus bridge needs were not appropriately addressed over the years. As a result, there are significant current needs with associated liabilities to the bridge owners.

8.3. Problem Statement

Given the changes to provincial legislation and, more importantly, the municipal structure of Grey County, the ownership of the County bridge structures must be reviewed to ensure that the ownership of such reflects the needs and objectives of the County and its transportation network.

8.4. Bridge Rationalization Approach

The approach to bridge rationalization is not supported by the same documentation available when considering road rationalization. The Ontario Good Roads Association (OGRA) does not provide a published set of criteria to aid in bridge rationalization. It could be inferred by this lack of guidance that the ownership of a bridge structure is assumed to follow the jurisdiction of the road on which it is located. Given the lack of published information, a review of the discussions and approaches in other local counties has been conducted.

8.4.1. Bruce County

Bruce County produced the *Bruce County Bridge Report*³³ in 2005 which set out to identify which bridges should remain under ownership of the County and which should be transferred to the local municipality. The report did not identify or develop criteria for consideration other than the jurisdiction of the road leading up to and away from the structure. It was the opinion of the County Engineer that bridges on County roads and existing municipal boundaries should remain as County structures whereas bridges on former boundaries should be replaced, repaired or closed, and subsequently transferred to the local municipality.

While there was no other objective criteria considered in determining whether a bridge is to remain under County jurisdiction or be transferred to the municipality, a traffic analysis was conducted as part of the *County of Bruce Bridge Infrastructure Master Plan for Central Bruce County*³⁴. This analysis identified several criteria which would be used in determining a repair, replace or close program as part of the transfer of the bridges.

8.4.2. Wellington County

In Wellington County, there are 12 County owned bridges on local roads, which were established based on the following criteria:

- has a span of 6 metres or greater and is located on a boundary road between 2 of the County's local municipalities (that existed prior to 1999);
- has a span of 6 metres or greater and is located on a boundary road between a local municipality and a neighbouring County; or
- if it was deemed at the time to be too big for a local municipality and a neighbouring County.

Ownership of bridges on local roads has been an ongoing discussion for Wellington County council over the past 10 years, yet no firm plan has been put forward. The main discussion does not appear to be how to determine ownership, but rather how to proceed with the transfer of ownership. As with Bruce County, the overriding principle in determining current bridge ownership is the jurisdiction of the road on which the bridge is located.

8.4.3. Renfrew County

Renfrew County currently has 157 structures (46 bridges and 111 culverts) that are under County jurisdictions, but located on local roads. The original criteria for eligibility as a County bridge, dating back to 2001, were established as follows:

- structures must have a total or combined span of 3 metres or greater (for structures made up of multiple spans (culverts), the cumulative measurement is taken from the outside edge of each culvert span providing that the distance between the cells is less than half the diameter of the cells); and

³³2011 Road Needs Study. Bruce County Highways Dept., December 8, 2005.

³⁴County of Bruce Bridge Infrastructure Master Plan for Central Bruce County. B.M. Ross and Associates Limited, April 24, 2013.

- the structure must be located on an opened road under the jurisdiction of the County of Renfrew or a municipality therein.

In 2011/12, the County undertook additional studies and established the following principles for the development of updated County bridge policies and practices:

- bridges represent a significant expense in terms of their rehabilitation and replacement;
- County bridges and major culverts should service the greater community not just the residents/businesses of the local municipality - in other words they should be of regional significance;
- in view of the significant costs associated with bridges and major culverts, there is a “.... need to bring financial resources of all constituent municipalities to bear for the rehabilitation and replacement of the structures”;
- the County should be responsible for all bridges and major culverts with a span of at least 3.0 metres;
- if the replacement of a County structure no longer meets the definition of a bridge, the County shall bear the cost of the replacement and transfer jurisdiction of the structure to the local municipality; and
- structures on seasonally maintained roadways should be under the jurisdiction of the local municipality.

In consideration of the above, the criteria to be designated a County bridge were revised to the following:

- bridges must be 3 metres or greater in span and culverts must be 3 metres or greater in width; and
- the structure must be located on an all-season maintained road that is determined to have regional significance in serving the greater community.

Under the modified policy, 34 bridge and culvert structures were subsequently identified for transfer to local municipalities. To assist with the associated operations and maintenance, the County proposed compensation of \$50,000 per structure, which was thought to be adequate to bring a bridge structure to a “tolerable standard”. Four structures had been rehabilitated and/or replaced since 2007 and hence no compensation for these structures was proposed. In conjunction with this, the Operations Committee supported a recommendation that the County continue to undertake the bi-annual inspections, at County cost, on those bridges transferred to the local municipalities. The County would provide the local municipality with the condition assessment reports.

Upon presentation to County Council, the motion to implement the above noted revisions to the bridge policy was subsequently defeated and hence the 34 identified structures were not transferred. It is noted that much of the opposition appears focused on the insufficient funding that was proposed to accompany each transfer - rather, compensation should be based on the actual condition of each structure, remaining life and associated repair/replacement costs.

8.4.4. Other Counties

The Renfrew County Operations Committee report also noted the following bridge related policies:

- County of Haliburton: does not have control of structures on non-County roads;
- Peterborough County: responsible for bridges structures on County and non-County roads provided they have a minimum span of 6 metres;
- Lanark County: has jurisdiction of only 3 boundary road bridges on non-County roads; and
- United Counties of Stormont, Dundas and Glengarry: responsible for 6 boundary road bridges on non-County roads, each of which has a span of 6 metres.

8.4.5. Criteria Based Approach

A criteria based approach (similar to the approach used in the road rationalization study) could be created whereby a set of criteria is developed and applied to each County owned structure to determine ownership. Criteria could include:

- type of land use and level of development served by the structure;
- redundancy of structure (i.e. is there another nearby structure that serves the same purpose);
- size of structure;
- traffic volumes;
- detour length; and
- condition of road.

The criteria would be weighted and a cut-off weight assigned to determine the hierarchy of the structures.

8.4.6. Recommended Approach

The road rationalization process was based on a number of principles which distinguished a County road from a local road. Using these principles, a set of criteria was developed and applied to each County road and a number of local roads in order to rationalize the road network. Through this process, a revised County road network was identified which, should it be implemented, will involve the transfer of roads from the County to the municipality and vice versa. If one considers that a bridge is a part of the highway (as indicated in the Municipal Act), then it is considered logical that the ownership of a bridge structure on a specific road should reflect the ownership of said road (given that the road is already classified as a local or a County road and serves a respective purpose). While the criteria based approach provides another level of objectivity, it can be argued that applying additional criteria over and above those defined as part of the road rationalization process is unnecessary and even redundant.

It is recognized that there are County structures located on boundary roads where joint municipal ownership of the road remains. With respect to these structures, it is recommended that the County transfers ownership to the respective municipalities as the boundary roads are considered local roads. It would then be the responsibility of the neighbouring municipalities to establish equitable partnerships to ensure that the costs associated with the maintenance and upkeep of these structures is shared.

Noting the above considerations, the following rationalization approach is recommended:

- County bridges on County roads will remain under County ownership;
- County bridges on local roads that are current municipal boundaries will be identified as candidates for transfer to the respective neighbouring municipalities; and
- County bridges on local roads that are former municipal boundaries will be identified as candidates for transfer to the corresponding local municipality.

Further to the assessment based on the existing road system classification, consideration has also been given to the recommendations of the road rationalization exercise, which identified a number of County roads as candidates for designation as local roads (in that they did not meet the County road criteria or were not considered appropriate in context of the overall County road system). In conjunction with any road transfer, it is assumed that any associated structures would also be transferred (recognizing that under the Municipal Act, bridges are considered part of the highway system). If the County road is currently a boundary road between local municipalities, the bridge would be transferred to the respective municipalities. Likewise, any bridge or culverts on local roads that were identified as a potential County road would also be transferred to the County.

8.5. Bridge Rationalization Results

The results of the bridge rationalization based on the recommended approach are summarized in **Table 8-1**. It is noted that the results also consider those County roads that have been identified through the road rationalization process for transfer to the local municipality.

As noted, 110 structures (78 bridges and 32 culverts) have been identified as candidates for potential transfer to the local municipalities.

Table 8-1: County Bridge Structures - Rationalization Results

Current Ownership			Proposed Ownership		
Ownership	Bridges	Culverts	Ownership	Bridges	Culverts
County Structure	136	57	County Structure	58	25
Local Structure	0	0	Local Structure	78	32
Total	136	57	Total	136	57

A breakdown of the structures by road type is provided in **Table 8-2**. It is noted that the rationalization only considered structures that are currently owned by the County. Further review is required to identify additional bridges and culverts that are currently owned by the local municipalities and are situated on the local roads identified for transfer to the County.

Table 8-2: Bridge Rationalization - by Road Jurisdiction

Road Jurisdiction	County			Local Municipalities		
	Bridges	Culverts	Total	Bridges	Culverts	Total
Existing County Road to remain Countyroad ¹	57	24	81			
Existing County Road to be possibly transferred to local municipality ¹				33	28	58
Existing Townline				14	0	14
Former Townline				8	1	9
Local Road				19	3	22
Local Road - CountyBoundary ²				4	0	4
Local Road to be possibly transferred to County ¹	1	1	2			
Total	58	25	83	78	32	110

1. As per the recommendations of the Road Rationalization Study

2. These are local roads that are situated on a GreyCounty boundary line with an adjacent County

8.6. Bridge Improvement Costs

This section summarizes the projected improvement costs based on the findings of the *2011 Road Needs Study*. The study reports the following needs for the bridges and culverts owned by the County (based on the overall County structure network):

- 13 bridges and 2 culverts require further engineering investigation (\$275,000);
- 2 bridges are recommended for removal (\$321,000);
- 7 bridges require replacement (\$9,752,000);
- 3 culverts require replacement (\$2,217,000);
- 114 bridges require rehabilitation (\$12,579,000); and
- 28 culverts require rehabilitation (\$1,308,000).

The needs were reviewed for a 10 year period, broken down into NOW needs, 1 to 5 year needs, and 6 to 10 year needs as follows:

- \$17.5M for NOW needs;
- \$7.5M for 1 to 5 year needs;
- \$1.5M for 6 to 10 year needs; and
- \$26.5M total needs.

8.6.1. Improvement Costs by Road Jurisdiction

A further summary of the noted costs by road jurisdiction (existing and proposed) is provided in **Table 8-3**.

Table 8-3: Bridge Costs - by Road Jurisdiction

Road Jurisdiction	No. of Structures	Time of Need			
		Now	1-5 Years	6-10 Years	Total
Existing County Road to remain Countyroad ¹	81	\$ 2,000,000	\$ 4,673,000	\$ 907,000	\$ 7,580,000
Existing County Road to be possibly transferred to local municipality ¹	61	\$ 3,112,000	\$ 1,526,000	\$ 406,000	\$ 5,044,000
Existing Townline	14	\$ 2,514,000	\$ 141,000	\$ 28,000	\$ 2,683,000
Former Townline	9	\$ 1,238,000	\$ 158,000	\$ 20,000	\$ 1,416,000
Local Road	22	\$ 3,202,000	\$ 933,000	\$ 80,000	\$ 4,215,000
Local Road -CountyBoundary ²	4	\$ 5,138,000	-	-	\$ 5,138,000
Local Road to be possibly transferred to County ¹	2	\$ 60,000	-	\$ 41,000	\$ 101,000
Total - County Structures	83	\$ 2,060,000	\$ 4,673,000	\$ 948,000	\$ 7,681,000
Total - Local Structures (proposed)	110	\$ 15,204,000	\$ 2,758,000	\$ 534,000	\$ 18,496,000
Total³	193	\$ 17,264,000	\$ 7,431,000	\$ 1,482,000	\$ 26,177,000

1. As per the recommendations of the Road Rationalization Study

2. These are local roads that are situated on a Grey County boundary line with an adjacent County

3. The total costs do not include the \$275,000 required for future engineering investigation noted in the 2011 RNS

8.6.2. Improvement Costs by Municipalities

A breakdown by municipality of the costs associated with the proposed transfer of existing County bridges and culverts is provided in **Table 8-4** through **Table 8-6** (the summaries only include the costs associated with those structures identified for possible transfer).

There are 14 structures located on existing townlines, 3 structures on County Roads that will otherwise become townlines through the road rationalization process and an additional 4 structures on townlines where the neighbouring municipality is located in the adjacent County (i.e. local roads on County boundaries). These 21 structures have been identified as candidates for transfer to the local municipality and have been considered separately in the breakdown of costs. For the purposes of this review, it is assumed that the responsibility for these structures will be shared between the respective local municipalities. Therefore the improvement costs for the 17 townline structures wholly within Grey County boundaries have been split 50/50 and allocated to the appropriate municipalities. Similarly, the improvement costs for the 4 structures located on local roads that are situated on County boundaries have been split 50/50 between the Grey County municipality and the respective County (it will be up to

the adjacent County and their respective municipalities to resolve their share in ownership of the structures accordingly).

Table 8-4: Bridge Costs by Municipality - Sole Responsibility

Road Jurisdiction	No. of Structures	Time of Need			
		Now	1-5 Years	6-10 Years	Total
Chatsworth	10	\$ 2,622,000	\$ 786,000	\$ 115,000	\$ 3,523,000
Georgian Bluffs	6	\$ 913,000	\$ 11,000	\$ 13,000	\$ 937,000
Grey Highlands	10	\$ 344,000	\$ 110,000	-	\$ 454,000
Hanover	0	-	-	-	-
Meaford	16	\$ 658,000	\$ 40,000	\$ 184,000	\$ 882,000
Owen Sound	5	\$ 432,000	-	\$ 48,000	\$ 480,000
Southgate	14	\$ 732,000	\$ 92,000	\$ 14,000	\$ 838,000
Town of The Blue Mountains	9	\$ 151,000	\$ 401,000	\$ 26,000	\$ 578,000
West Grey	19	\$ 1,555,000	\$ 1,177,000	\$ 106,000	\$ 2,838,000
Total - Local Structures (proposed)	89	\$ 7,407,000	\$ 2,617,000	\$ 506,000	\$ 10,530,000

Table 8-5: Bridge Costs by Municipality - Shared Responsibility

Road Jurisdiction	No. of Shared Structures	Time of Need			
		Now	1-5 Years	6-10 Years	Total
Chatsworth	6	\$ 174,500	\$ 17,000	-	\$ 191,500
Georgian Bluffs	3	\$ 72,500	-	-	\$ 72,500
Grey Highlands	9	\$ 1,034,000	\$ 50,000	\$ 14,000	\$ 1,098,000
Hanover	0	-	-	-	-
Meaford	2	\$ 86,000	\$ 36,500	-	\$ 122,500
Owen Sound	0	-	-	-	-
Southgate	7	\$ 353,500	\$ 7,000	\$ 3,500	\$ 364,000
Town of The Blue Mountains	3	\$ 59,500	\$ 10,000	\$ 10,500	\$ 80,000
West Grey	8	\$ 3,448,000	\$ 20,500	-	\$ 3,468,500
Grey County Municipalities' Share	-	\$ 5,228,000	\$ 141,000	\$ 28,000	\$ 5,397,000
<i>Adjacent Counties Share</i>	4	\$ 2,569,000	-	-	\$ 2,569,000
Total Shared Responsibility	42¹	\$ 7,797,000	\$ 141,000	\$ 28,000	\$ 7,966,000

1. Actual number of shared structures is 21 but each structure is counted twice as responsibility is shared between two municipalities.

Table 8-6: Bridge Costs by Municipality - Total

Road Jurisdiction	Time of Need			
	Now	1-5 Years	6-10 Years	Total
Chatsworth	\$ 2,796,500	\$ 803,000	\$ 115,000	\$ 3,714,500
Georgian Bluffs	\$ 985,500	\$ 11,000	\$ 13,000	\$ 1,009,500
Grey Highlands	\$ 1,378,000	\$ 160,000	\$ 14,000	\$ 1,552,000
Hanover	-	-	-	-
Meaford	\$ 744,000	\$ 76,500	\$ 184,000	\$ 1,004,500
Owen Sound	\$ 432,000	-	\$ 48,000	\$ 480,000
Southgate	\$ 1,085,500	\$ 99,000	\$ 17,500	\$ 1,202,000
Town of The Blue Mountains	\$ 210,500	\$ 411,000	\$ 36,500	\$ 658,000
West Grey	\$ 5,003,000	\$ 1,197,500	\$ 106,000	\$ 6,306,500
<i>Adjacent Counties</i>	<i>\$ 2,569,000</i>	-	-	<i>\$ 2,569,000</i>
Total - Grey County Municipalities	\$ 12,635,000	\$ 2,758,000	\$ 534,000	\$ 15,927,000
Total - All Municipalities	\$ 15,204,000	\$ 2,758,000	\$ 534,000	\$ 18,496,000

Table 8-7 provides a final summary with respect to the shared responsibility of those structures on existing townlines/County boundaries, identifying the structure improvement costs by municipal pairs.

Table 8-7: Bridge Costs by Municipal Pairs - Shared Responsibility

Municipal Pair	No. of Structures	Time of Need			
		Now	1-5 Years	6-10 Years	Total
Blue Mountains/Grey Highlands	3	\$ 119,000	\$ 20,000	\$ 21,000	\$ 160,000
Chatsworth/West Grey	2	\$ 118,000	\$ 34,000	-	\$ 152,000
Grey Highlands/Southgate	4	\$ 273,000	\$ 7,000	\$ 7,000	\$ 287,000
Georgian Bluffs/Chatsworth	3	\$ 145,000	-	-	\$ 145,000
Meaford/Grey Highlands	1	\$ 86,000	\$ 73,000	-	\$ 159,000
Meaford/Chatsworth	1	\$ 86,000	-	-	\$ 86,000
West Grey/Grey Highlands	1	\$ 1,590,000	-	-	\$ 1,590,000
West Grey/Southgate	2	\$ 242,000	\$ 7,000	-	\$ 249,000
Southgate/Dufferin County	1	\$ 192,000	-	-	\$ 192,000
West Grey/Bruce County	1	\$ 2,228,000	-	-	\$ 2,228,000
West Grey/Huron County	2	\$ 2,718,000	-	-	\$ 2,718,000
Total - Local Structures (proposed)	21	\$ 7,797,000	\$ 141,000	\$ 28,000	\$ 7,966,000

It is noted that the referenced bridge improvement costs reflect the desired improvement strategy, assuming no financial restraints. It is recognized that the actual improvement strategy may be modified and limited to reflect the funds available in each municipality's capital budget.

8.7. Implementation

A number of options have been identified for transferring of the subject bridges and culverts to the local municipalities. Such options include:

Option 1: Do Nothing

The County maintains the existing County bridge system as is, with no transfers from the County. As with the road system Do Nothing option, Option 1 is not considered a viable long-term solution from a financial perspective.

Option 1a

While it may not be possible to adopt reduced standards for structure improvements in that the safety of the motoring public cannot be compromised, the County could consider restrictions on the structure such that the need for improvements could be reduced or eliminated altogether (i.e. load restrictions or limiting access to pedestrians only). The extent to which this is considered would be a function of available funds.

Option 2: Transfer Structures in their Current State

The candidate structures are transferred to the local municipalities under the current conditions with no requirement for improvements. Ownership of the structures would simply be transferred and those receiving them would be responsible for any and all associated costs following the time of transferral. This option recognizes that bridges on non-County roads should not be the responsibility of the County, and hence there would be no consideration for improvements and/or concessions prior to transfer.

Option 3: Transfer Structures in an Improved State (as appropriate)

The County ensures that the candidate structures comply with appropriate standards and that the structures are in suitable condition, undertaking improvements as necessary, prior to transferring such structures to the local municipalities.

Option 4: Transfer Structures with Concessions

The candidate structures are transferred to the local municipalities under the current conditions, with some form of accompanying funding or cost sharing arrangement.

The timing of transfer must be in co-ordination with the road transfers so as to ensure equitable and fair transfer (i.e. no one municipality should be burdened beyond what is considered reasonable with excessive consecutive transfers).

8.8. Strategy for Municipal Structures

With the transfer of structures, the local municipalities should develop an assessment strategy to determine whether or not a structure should remain open (an appropriate avenue for this would be the Class Environmental Assessment process). As previously discussed with respect to the alternative approaches to the bridge rationalization process, a criteria based approach could be created whereby a set of criteria is developed and applied to each municipal structure to determine whether or not a bridge is deemed as a critical component of the local road network. Criteria could include:

- type of land use and level of development served by the structure;
- redundancy of structure (i.e. is there another nearby structure that serves the same purpose);
- size of structure;
- traffic volumes;
- detour length;
- condition of structure (and associated costs to improve); and
- condition of road (and associated costs to improve).

The criteria would be weighted and a cut-off weight assigned to determine whether or not a structure should remain open. Those structures identified as candidates for closure should be evaluated with respect to their condition in order to develop an appropriate structure attrition or bridge retirement program (i.e. to ensure that candidate bridges are closed when necessary rather than all at once).

It is noted that this strategy, while intended to provide a method of assessment for the municipalities, could be applied to all structures within the County, regardless of whether or not they have been identified for transfer to the local municipality.

9. Connecting Links

A primary objective of the County road network is to provide connectivity within the County as well as connecting the County to its neighbours, thus facilitating the flow of traffic to, from and through the County. This connectivity is vital to the economic development and vitality of the County.

County roads are intended to serve increased traffic volumes, at higher travel speeds, with reduced interruption. With respect to connectivity, the road rationalization process identified the following principles in terms of County road characteristics:

- County roads are primarily transportation corridors and thus should provide a high degree of connectivity and a good level of service to the road users; and
- County roads should not extend through downtown areas of urban centres where access to abutting development is the primary need and where significant pedestrian activities are present (both of which detract from the primary function of the road).

These principles can become compromised where a County road travels through a built-up or urban area. These sections of County road travelling through the built-up/urban area typically experience an increase in traffic volumes when compared to the sections of road leading into, and out of, the built-up/urban area. The increase in volume can be directly attributed to the influx of local traffic accessing the road within the boundaries of the urban area. The County road begins to serve a local purpose as a greater proportion of the traffic volume is local traffic (i.e. in-town traffic) rather than County traffic (i.e. through traffic). The challenge becomes how to manage the road so that it can serve the local needs as a “Main Street” to the built-up area while maintaining an appropriate level of connectivity as part of the County road network.

9.1. County Need vs Local Need

While some County road sections travelling through built-up areas warrant the County road status, they are likely to also serve a local function given their role in providing access to businesses and amenities in downtown areas. Often these roads are targeted for beautification upgrades as a means of attracting and fostering economic growth in the “downtown” core. As such, the access they provide is not solely focused on the automobile but also for pedestrians and cyclists.

In order to preserve these areas as vital places, a balance between the competing needs (i.e. pedestrian vs car, local vs County) must be reached. By maintaining these downtown roads as municipal facilities, the through route function must be de-emphasized and the function of access (by multiple modes) must be encouraged. For a municipality to properly develop its “Main Street”, it makes sense that it should have control over this important corridor with respect to access, sidewalks, traffic signals, pedestrian measures, signage, etc. Currently, developers need to address both County and local standards and requirements which can result in an inefficient use of resources and becomes onerous, in addition to introducing conflicting and competing objectives. With the local municipality assuming control of these “Main Street” road sections within their limits, the development process for abutting lands becomes more streamlined and less cumbersome for all stakeholders.

9.1.1. MTO Connecting Links

The MTO initiated the Connecting Link program whereby a municipality could apply to have a local road, which connected a Provincial highway through its urban centre, designated as a connecting link. A connecting link was simply a section of the local road which served a local purpose but also served a role in connecting the Provincial highway system at the boundaries of the urban area (consider Highways 6, 10, 21 and 26 which pass through a number of built-up areas within Grey County). If granted this designation by the MTO, the municipality was then eligible for financial support from the Province with respect to the maintenance and construction needs of the connecting link. The connecting link agreements defined the terms of cost sharing with respect to construction, maintenance and repair costs. While the section of road designated as a connecting link remained under the jurisdiction of the municipality and could be modified to suit local needs, some improvements (particularly those related construction) required the approval of the MTO. The overall aim of the program was to aid the local municipalities in the maintenance and upkeep of local roads which also served a significant role in the connectivity of the Provincial highway system, recognizing that a large portion of the traffic was provincial.

A summary of the initial MTO connecting link program is provided below (recognizing that changes were made to the program over the years and was ultimately cancelled in 2013).

9.1.1.1 Criteria for Connecting Link Designation

The *Public Transportation and Highway Improvement Act, R.S.O. 1990* defines a connecting link as a connection “between parts of the King’s Highway or as an extension of the King’s Highway.” From this definition, the MTO provided the following interpretation of what it considers a connecting link to be:

- 1) *“A route that connects the ends of a highway by the most direct, practical means from one municipal boundary to the other.*
- 2) *A route that connects the end of a highway to another highway entering a municipality.*
- 3) *The extension of a highway from a municipal boundary to the Central Business District of the municipality or to connect with a Provincial or International boundary.”*

(MTO King’s Highway Connecting Links, 1974)

Beyond the noted interpretation of what a connecting link was considered to be, no further criteria is provided as to what the MTO considered in the designation decision process.

9.1.1.2 Cost Sharing

The MTO provided financial assistance to the municipalities to support the maintenance and construction of the designated connecting links. To determine the level of financial assistance to be provided to any one municipality, the MTO established a sliding scale based on population. The contribution rates were set as follows:

- 75% towards eligible construction costs in cities and separated towns;
- 90% towards eligible construction and maintenance costs in towns, villages and townships having a population greater than 2,500; and

- 100% towards eligible construction and maintenance costs in towns, villages and townships having a population of 2,500 or less.

9.1.1.3 Eligible Cost Sharing Items

Although a cost sharing structure was established, not all connecting link costs were considered eligible for funding by the Ministry under the connecting link program. First and foremost, the MTO would only pursue or take on road works on a connecting link if such works were in support of, or dictated by, highway related traffic needs (i.e. through traffic). Works that were deemed to be driven by local development or required to support other local needs were the sole responsibility of the local municipality. For works deemed necessary due to highway related traffic needs, the MTO identified a number of maintenance/construction related items and further clarified which costs were eligible for coverage. It is noted that assistance with maintenance costs was only provided in towns, villages and townships. Cities and separated towns were responsible for 100% of the maintenance of the connecting links. A sample of the maintenance related items is provided in **Table 9-1** (exhaustive cost sharing details are available in the King's Highway Connecting Link agreement and document provided in **Appendix F**).

Table 9-1: Cost Sharing Eligibility - Maintenance Items¹

Item	Cost Sharing Eligibility
Bridges	costs shareable to the percentage noted in the agreement
Culverts underneath link all others	costs shareable to the percentage noted in the agreement 100% to the municipality
Shoulders	100% to the municipality
Snow plowing	costs shareable to the percentage noted in the agreement
Snow removal	50% Ministry; 50% municipality
Storm Sewers and Structures	100% to the municipality

1. Assistance with maintenance costs is only available to towns, villages and townships

With respect to construction costs, the MTO would share the costs of items such as:

- widening, altering or diverting the highway;
- constructing bridges, culverts or other structures (other than sanitary sewers) incidental to the construction of the highway;
- grading the highway, including shoulders and roadside ditches (the ongoing maintenance of such was 100% responsibility of the municipality);
- constructing curbs, gutters, and catch basins, and constructing sidewalks where removal and relocation of existing sidewalks is rendered necessary by the construction of the roadway; and
- constructing storm sewers and drains of a nature and capacity appropriate to the actual requirements of the highway itself.

The municipality was responsible for 100% of the construction costs for sanitary sewers, sidewalks, street lights, light standards or other works deemed special by MTO. The connecting link agreements also noted that the municipality was 100% responsible for the acquisition of all land required for the construction of the connecting link and to negotiate and complete settlement with the owners.

9.1.1.4 Termination of Connecting Link Funding Program

The MTO connecting link program underwent various changes over the years. The provision of maintenance funds to towns, villages and townships was eventually discontinued and the program focused solely on the construction related elements of connecting links. The entire funding program was ultimately terminated in the spring of 2013 with funds being rerouted into the Municipal Infrastructure Investment Initiative (MIII). While the municipality is now responsible for 100% of all costs (save what can be obtained through the MIII program), the connecting link designations remain in place and the MTO maintains responsibility for connecting link traffic related by-law approvals and traffic signal approvals.

9.2. Grey County Connecting Link Program

9.2.1. Objective

The primary objective of introducing a connecting link program for Grey County roads is to ensure that the interests of both the County and the municipality are reconciled in relation to the role and function of the County roads which enter built-up or urban areas. For the County, the continuity and connectivity of the County road system is vital. For the municipalities, access to the downtown area (often a hub of amenities and economic activity) by motorists, pedestrians and cyclists alike is a priority.

9.2.1.1 County Interests

As noted, the County's main priority is to ensure that the continuity and connectivity of the County road network is not compromised. Through a connecting link agreement, the County would relinquish ownership of the road section but the municipality would require approval from the County regarding any construction plans for the connecting link. Thus the County would continue to have a degree of high level oversight going forward that would ensure that the connecting link meets the needs of the County road network in terms of connectivity and continuity.

9.2.1.2 Municipal Interests

It is often the case where a County road will form the "Main Street" of the built-up/urban area through which it passes. The "Main Street", as previously noted, plays an important role in the vitality and economic strength of the respective settlement area it serves. Thus the main priority for any given municipality with respect to its "Main Street" is to ensure that it promotes economic growth and activity. This includes providing access to businesses and catering to pedestrians and cyclists as well as motorists. Under a connecting link program, the municipalities would assume ownership of these important road sections and, through control of their own corridor development policy, would be able to modify the road to suit the local need. In particular, speed limits, pedestrian facilities, access control and right-of-way requirements would be the sole responsibility of the municipality with County input/approval no longer required (this would also be a benefit to the County who would no longer be burdened with the administrative details of such requests). In addition, all planning and development policies and procedures of the local municipality would apply to the abutting lands, as opposed to the often more stringent and controlled policies of the County. This would ensure that each time development plans are brought forward, which may be conducive to the development of a downtown

but yet do not satisfy the County requirements (e.g. reduced setbacks), that policy exceptions from the County would not be required. All such matters would be addressed at the municipal level and developers would no longer need to address both municipal and County standards

It is noted that the municipality, although having ownership of the connecting link, would not have the authority to alter the connecting link in such a way that would disrupt or negate the interests and objectives of the County road network (i.e. closing the road segment for exclusive pedestrian use, altering traffic flow to one direction, etc.).

9.2.2. Connecting Link Definition

For the purposes of Grey County and its municipalities, it is suggested that a connecting link be considered as a connection between two ends of a Grey County road, or the extension of a Grey County road, whereby the connecting segment or extension travels through a built-up or urban area.

This definition is intended to serve as an overarching or high level description to which other criteria can be applied to further determine the suitability of a road section for designation as a connecting link.

9.2.3. Connecting Link Criteria

While it is not necessary that the connecting link designation process apply the same rigorous analysis as employed in the road rationalization process, it is still considered necessary to consider other criteria which evaluate the candidate road segment with respect to its existing role in the road network (at both the local and County level). Ultimately, this additional evaluation is intended to ensure that road segments designated as connecting links serve the appropriate purpose. Beyond the general definition of what constitutes a connecting link, the following criteria might be considered:

1. road rationalization score;
2. settlement designation (Primary, Secondary, Tertiary);
3. length of road section;
4. "Main Street" status;
5. County roads in Owen Sound; and
6. provision of a by-pass or alternative route within a reasonable distance.

It is not suggested that a weight or score be assigned to each criteria but rather that the criteria act as a checklist to ensure that due consideration and discussion occurs regarding the appropriateness of the connecting link designation with respect to the candidate road segment.

9.2.4. Discussion of Criteria

Criteria 1: Road Rationalization Score

The road rationalization score serves as an indicator of County interest in a road section. The higher the score, the more significant the road with respect to the role it plays as a County road. Conversely, if a road segment receives a low score then the County interest will also be lower.

Ideally, only road segments fitting the connecting link description (as per **Section 9.2.2**) and scoring 6 points or greater in the road rationalization process would be considered for the connecting link designation. These road sections would represent roads that pass through a built-up/urban area which also possess a higher degree of County interest. The exception to this rule would be those roads that scored less than 6 but were recommended for retention as County roads. Having noted this exception, it is further noted that none of the roads identified as such pass through a built-up/urban area and thus would not be considered for connecting link status (nonetheless, this exception had been identified to ensure full consideration of the County road network).

Roads that scored less than 6 points and that have subsequently been identified as candidates for local status should not be considered for connecting link status as the degree of County interest is not sufficient enough to warrant such designation.

Criteria 2: Settlement Designation

The settlement designations (as per the *Grey County Official Plan*) identify the urban centres, towns, villages and hamlets (i.e. the built-up and urban areas) that currently exist within the County. Primary settlements are the areas with greater levels of development and are the primary targets for residential and non-residential growth. Secondary settlements have significant populations but lower growth targets than that of the primary settlements. Tertiary settlement areas are smaller hamlets with limited opportunities for growth due to various factors.

The *Grey County Official Plan* also identifies areas of recreational significance. These areas are designated as "Recreation Resort Areas" and "Escarpment Recreation Areas". "Recreation Resort Areas" include existing major tourism attractions and are typically fully serviced, which allows these areas to accommodate future growth. "Escarpment Recreation Areas" have a lesser degree of existing recreational development than the resort areas and are not fully serviced.

With respect to the designation of connecting links, the type of settlement or recreational area provides an indicator of local interest in the road segment. For example, larger settlements (such as Hanover or Owen Sound) will generate higher volumes of local traffic than a secondary or tertiary settlement and thus the road segments within primary settlements will serve a higher proportion of local traffic vs County traffic. Furthermore, when considering the level of local development and the required access to this development to ensure economic health, a primary settlement will have greater needs that equal, if not outweigh, the needs and objectives of the County (in terms of road function). In these instances, a connecting link agreement can aid in reconciling the competing needs.

For the purposes of establishing a connecting link program that meets the objectives stated in **Section 9.2.1**, it is recommended that only County road segments that pass through (or whose extension enters into) primary and secondary settlement areas or major recreation resort areas be considered for connecting link status. The local interests of primary and secondary settlement areas (or a recreation resort area such as Blue Mountain) in relation to County roads passing through them are considered significant enough to warrant connecting link consideration (i.e. the local interest is more than simple access to and from the area). A tertiary settlement, although requiring the County road for access to the area, does not have the same need at the local level. Most traffic generated by a tertiary settlement will likely utilize the County road for purposes that coincide with County road objectives (i.e. connectivity to other areas with greater development).

Criteria 3: Length of Road Section

The length of road section to be considered for connecting link designation should be of an appropriate minimum length (a maximum length is not considered necessary as such will be dictated by the built-up/urban area through which it passes). There are a number of Provincial highway connecting links through settlement areas in Grey County, the shortest of which run through Chatsworth and Flesherton. The connecting link segment through Chatsworth (Highway 6) is 0.6 km in length whereas the connecting link through Flesherton (Highway 10) is 0.5 km in length. Although a minimum length is not published in the MTO connecting link documents, an initial review of the existing Provincial highway connecting links indicate that no connecting link is less than 0.5 km in length.

It is recommended that Grey County not consider any section of road for connecting link status whose length is less than 0.5 km. Road segments shorter than this are not likely the primary means of access to surrounding development or are not serving an area of significant or meaningful development.

Criteria 4: “Main Street” Status

Where a County road passed through a built-up/urban area, the road segment considered for connecting link designation should currently serve as the “Main Street” for the area. The purpose of this criterion is to ensure that the connecting link designation is only applied where there is a noticeable difference or conflict between local priorities and those priorities of the County.

Criteria 5: County Roads in Owen Sound

It is recognized that Owen Sound, the only City within the County, will have some County roads travelling through it that are not considered a “Main Street” but do, nonetheless, serve the local area to a great extent. It is recommended that any County road travelling through, or extending into, Owen Sound be considered for connecting link status (notwithstanding those road segments which have been identified as candidates for transfer to the City as part of the rationalization process).

Criteria 6: By-pass/Alternate Route within a Reasonable Distance

As previously noted, one of the objectives of a connecting link is to provide a means of reconciling competing road priorities between the County and the local authority. There are instances (and there may be future instances) where the conflict between these priorities has been solved or mitigated through the construction of (or designation of) a by-pass or alternative route. The intent of a by-pass/alternative route is to separate through traffic (i.e. County traffic) from local traffic and thus disentangle the competing priorities. It is recommended that the proximity of such facilities be considered when reviewing potential road segments with respect to connecting link status (not that the presence of such facilities would negate a road segment from being designated as a connecting link but rather to ensure that potential redundancy had been considered by the County).

9.2.5. Potential Connecting Link Candidates

Based on the connecting link definition and the noted criteria and in considering the recommendations of the road rationalization process with respect to the potential transfer of County roads to the local municipalities, the following road sections have been identified for consideration as connecting links (illustrative maps are provided in **Appendix F**):

- Grey Road 1 within Owen Sound;

- Grey Road 4 through Hanover (from Grey Road 28 to west limits of Hanover);
- Grey Road 4 through Durham;
- Grey Road 4 through Flesherton;
- Grey Road 9 through Dundalk;
- Grey Road 10 through Neustadt;
- Grey Road 12 through Markdale;
- Grey Road 13 through Thornbury; and
- Grey Road 19 through Blue Mountain Village.

As previously noted, Grey Road 19 (between Grey Road 21 and Highway 26) has been identified as a potential candidate for transfer to the local municipality through the road rationalization assessment. If it is determined that this road section should remain as part of the County road network, it is recommended that it be considered as a candidate for the connecting link program (recognizing that it provides a connection to an important economic region of the County but also serves a local purpose).

There are other road sections that could be considered as possible candidates for connecting link status; however, through the road rationalization process these roads have been identified as candidates for transfer to the local municipality which has otherwise precluded them from consideration as connecting links.

9.2.6. Designation

The responsibility for designating a road section with connecting link status should fall on the County (given that all connecting links will consist of existing County roads). It is suggested that County staff, in consultation with the local municipalities, identify potential candidate road segments and then review each segment according to the noted connecting link criteria to determine if the connecting link designation is appropriate. If deemed appropriate, the County can then designate the County road segment as a connecting link and pursue a connecting link agreement with the respective municipality.

9.2.7. Connecting Link Agreement

After designation of a road segment as a connecting link, the municipality and the County may enter into an agreement which outlines the roles and responsibilities of each party with respect to management of the connecting link going forward. The agreement would typically specify jurisdictional rights, cost sharing details (including eligible costs) and approval rights with respect to construction plans.

9.2.7.1 Jurisdiction

Under the connecting link agreement, the local authority would assume ownership of the connecting link and thus would have outright control over land-use plans, access control, speed limits, right-of-way widths, pedestrian facilities, etc. The municipality would have the ability to modify the road to suit local needs as long as such modifications do not negate or unreasonably restrict the needs and objectives of the County and its road network. All applicable by-laws, development standards, and guidelines of the municipality would govern. Signage responsibilities would also fall to the municipality, thus releasing the municipalities from the more stringent sign restrictions imposed by the County.

9.2.7.2 Eligible Items

The connecting link agreement must clearly identify the items that are eligible for County support under the cost sharing agreement. It is not reasonable to assume that all costs should be eligible given that some costs will be related to improvements/construction that are solely local in nature (i.e. sidewalks, sanitary sewers and even storm sewers). It is noted that the standard County road cross-section reflects a 2-lane rural road with shoulders and open ditches, and if the development area did not exist, this level of standard would likely apply to the road section in question. It is recommended that the County and municipalities mutually agree on what will be considered an eligible cost. For clarity sake, it is recommended that maintenance costs and construction costs be listed separately. Maintenance service and the associated costs should be based on the provincially prescribed level of service for routine maintenance rather than dictated by local need or desire.

9.2.7.3 Cost Sharing

The agreement must clearly identify the cost sharing responsibilities for each party. The MTO connecting link cost sharing arrangement was based on the population of the city, town, village or township through which the Provincial highway passed, with larger areas (population wise) assuming a larger portion of the costs (i.e. a separated city would be responsible for 25% of all eligible costs whereas a town with a population over 2,500 people would be responsible for 10%). A similar cost sharing arrangement could be established for Grey County whereby cost sharing is based on the settlement designation:

- Primary settlements - 25% local, 75% County;
- Secondary settlements - 10% local, 90% County; and
- Tertiary settlements - do not qualify for connecting link status.

Another option would be to include the road rationalization scores in the cost sharing scheme. An example of such is provided in **Table 9-2**. As noted, the share for which the County is responsible increases as the road rationalization scores increase, thus reflecting that the County's interest in the road is higher. Similarly, the County's share is lower with the larger settlements, reflecting an increase in the local interest.

Table 9-2: Cost Sharing Scheme - by Settlement Designation and Road Rationalization Score

Settlement Designation	Cost Sharing Responsibility (County % / Municipality %)			
	Rationalization Scores			
	<6	6 to 9.5	10 to 13.5	≥14
Primary Settlement	0/100	50/50	60/40	75/25
Secondary Settlement	0/100	70/30	80/20	90/10
Tertiary Settlement	0/100	100/0	100/0	100/0

With respect to shared costs, the County would share costs related to the construction or improvement of a connecting link where such improvements were dictated by, and directly related to, County traffic needs and not otherwise a requirement of local growth and development. Furthermore, the County would only be required to share the construction and improvement costs as they relate to the delivery of the connecting link to a cross section typical of a County road. Works beyond those required of a

typical County road cross section would be completed at the discretion of the local municipality and any costs associated with said works would be their sole responsibility.

9.2.7.4 Approval Rights

It is important that the County, while relinquishing ownership of the segment of road designated as a connecting link, maintains approval oversight with respect to construction related plans involving the connecting link. The purpose of approval rights are twofold in that it allows the County to ensure that the overall objectives of the wider County road network continue to be met while also providing the County financial oversight over its share of the investment in the connecting link. County approval would typically be required for, but not limited to, the following items:

- design and functional plans;
- consultant selection (where a consultant is proposed);
- estimated cost-sharing breakdown for project;
- construction proposal; and
- award of contract.

In cases where the County is proposing the work, it is expected that the County would consult with the municipality and submit plans and cost estimates to the municipality for approval.

9.2.7.5 Coordination of Improvement Works

Further to consultation with the local municipality as it relates to the establishment of the connecting link and associated agreement, coordination will be required as it relates to timing of improvement needs with the connecting link right-of-way. In many cases, the time of need relating to municipal services (e.g. replacement of sanitary sewers or watermain) may not correspond to the time of need relating to road works. The manner in which this is to be addressed and resulting schedule of works should be included in the overall connecting link agreement.

9.3. Financial Impacts

It is difficult to assess the financial impacts of a connecting link program in the absence of a detailed cost-sharing structure and an approved connecting link agreement identifying the eligible costs (both of which will directly dictate the impact to each party). Once these items are finalized by the County the financial impacts can be assessed for each municipality based on the respective candidate road section.

9.4. Implementation

The implementation of the connecting link program (once finalized) should be coordinated with the road rationalization process. Through coordinating the implementation of a connecting link program with the transfer of roads through the road rationalization process, the County can ensure that all transfers of ownership are managed in an equitable manner (to the extent that is deemed reasonable) thus limiting undue burden on the municipalities. While coordination is suggested, it is recognized that the connecting link program is an independent program that will continue to operate after the road rationalization process is completed. Regardless of how the program is implemented, it is important that

consultation with the municipalities be included in the process (significant consultation should be inherent leading up to the County and municipality entering into a connecting link agreement).

9.4.1. Initial Road Transfer Options

The following are potential options by which the initial transfer of ownership could be executed:

Option 1: Transfer the candidate road segments in their current state to the local authority upon designation of the segment as a connecting link with all future maintenance and construction costs being shared as per the terms of the connecting link agreement.

Option 2: Improve the road segment to address NOW needs (as per the RNS) prior to the connecting link agreement coming into effect, after which all future maintenance and construction costs will be shared as per the terms of the connecting link agreement.

Option 3: Improve the road segment to address all needs, despite time of need (as per the RNS) prior to the connecting link agreement coming into effect, after which all future maintenance and construction costs will be shared as per the terms of the connecting link agreement.

9.4.2. Recommended Transfer Approach

Option 2 (or some variation of Option 2) is the recommended approach for transfer of designated connecting link road sections from the County to the municipality. The connecting link agreements provide a method of sharing future construction and maintenance costs and therefore it is not considered reasonable to require that the County deliver additional concessions beyond the cost-sharing structure noted in the agreement. While NOW needs are considered in Option 2, improvements beyond that would be subject to the connecting link agreement. It is noted that any improvements undertaken by the County prior to transfer should be reviewed and coordinated with any immediate local service and infrastructure needs.

10. Goods Movement

The movement of commercial goods within and through Grey County is an indicator of the County's economic health. Truck traffic may be a concern to residents due to the noise, perceived safety risks and efficiency of traffic flows. However, the presence of trucks on the road network is necessary for businesses to operate and for the supply of goods and services to the public. Therefore it is important to ensure that the movement of trucks (and the commercial goods that they carry) is done efficiently and effectively, thus meeting the needs of industry while minimizing the impact to the residents of the County.

The markedly different characteristics of heavy trucks compared to passenger vehicles mean that different approaches are required on routes with high truck volumes to ensure that all traffic moves efficiently and safely. Although car traffic volumes are far greater than that of truck traffic, it is the truck traffic, rather than the auto traffic, that tends to be the key factor in pavement life. Therefore, identifying the nature of truck traffic (i.e. volumes and routes) within the County will inform the network planning and capital budget forecasting process.

10.1. Commercial Vehicle Movement

To generalize the type of commercial goods movements within Grey County, there can be considered two types of commercial vehicle traffic - aggregate based and non-aggregate based. For the purpose of this review, non-aggregate based traffic is considered as commercial vehicles transporting those goods to and/or from built-up areas which are necessary to support the activities typically associated with a built-up area or urban centre (i.e. commercial/retail, industrial, etc.). Aggregate based traffic is considered as those commercial vehicles specifically associated with the operations of the aggregate industry within the County. The traffic count data does not distinguish between the two; however, comment is provided on the characteristics of each type with regards to the County road network.

10.1.1. Non-Aggregate Based

As previously noted, non-aggregate based commercial traffic is largely dictated by the presence of urban centres. Commercial goods are typically manufactured, purchased, or consumed within an urban centre (understanding that the urban centre is an area with concentrated population and/or industry/commercial activities). As such, the flow of commercial goods vehicles can be expected to follow routes which link urban centres. In considering this, the non-aggregate commercial good movement is relatively predictable in its route.

Grey County is predominantly rural with a handful of small urbanized areas located throughout the County. Owen Sound (the largest local urban centre), Meaford, Thornbury, Hanover, Durham and Markdale generate a large portion of the commercial goods movements within the County as they serve both the population within their boundaries as well as the surrounding rural population. These centres are well connected (both to each other and to markets beyond Grey County's borders) via the Provincial highway system. The impact of these movements on the County road network is not significant.

While there is an unquestionable connection between non-aggregate based commercial traffic and the presence of urban activity, it is important to note that the County does have an active agricultural industry which also generates commercial goods movements. These agricultural related truck movements are largely seasonal and not considered to be an overburden on the road network (for the most part these truck movements will move towards, and travel along, major routes on the way to/from urban centres). The County also permits small-scale industrial operations on farmland throughout the County as a means for farmers to subsidize their farming operations. These small operations add to the commercial goods movements occurring in the rural areas of the County. The volumes are not significant at this time and are expected to follow routes to and from the market place (similar to the agricultural related movements).

10.1.2. Aggregate Based

In 2004, Grey County commissioned the *Grey County Aggregate Resource Inventory Master Plan*³⁵ (Aggregate Master Plan), which identified aggregate resources within the County and provided recommendations as to their protection. The major sand and gravel resources in Grey County are located in the Municipality of West Grey; however, in 2001 over half of the production was located in the Townships of Georgian Bluffs and Chatsworth and the Municipality of Grey Highlands. At the time of the report, most of the aggregates extracted in Grey County were for use in Grey County (with some exported to Bruce and Huron Counties). This trend was expected to continue through 2023, with local demand remaining below 3,000,000 tonnes a year (which translates to approximately 85,000 to 120,000 truck loads per year, depending on truck size).

It was noted in the Aggregate Master Plan that the potential to export into the GTA market exists over the long term; however, this is largely dependent on the supply levels of closer aggregate sources as Grey County aggregates are more expensive than those of closer sources due to increased transportation costs. Until the demand for Grey County aggregates is realized in the GTA, truck volumes are not anticipated to increase by any significant measure (notwithstanding increased activity associated with specific construction projects, which may result in temporary increases in truck traffic).

Truck traffic associated with the aggregate industry is less predictable than non-aggregate based traffic in that each aggregate pit operation is a trip generator. Aggregate resources are rarely located in close proximity to urban centres (on the contrary, their location is dictated by location of the resource) and while development and growth within the urban centres does require a supply of aggregate, construction projects are not always located within these centres. Unlike traditional commercial goods which typically flow between urban centres, aggregate related trip routes are inherently less conventional. As such, the aggregate based truck traffic relies on the County road network to a far greater extent than that of non-aggregate based truck traffic.

As demand for Grey County aggregate resources grows, there will be increased pressure on the road network. The County's policy on aggregate operations must consider the County road network to ensure that appropriate haul routes can be identified and designated as such. Road design standards should

³⁵Grey County Aggregate Resource Inventory Master Plan, Jagger Hims Ltd. October 2004.

reflect the pavement management needs associated with the truck routing. Consideration must also be given to the existing urban centres to ensure minimal impact through these areas.

10.1.3. Truck Volumes

The truck volumes on County roads were collected during via 24-hour ATR counts at several locations across the County. The counts were conducted during a weekday and a weekend day in August/September 2012, coinciding with what is typically considered as the peak period for aggregate operations (summer construction). A summary of the County Roads where the greatest weekday truck volumes were observed is provided in **Table 10-1** (the weekday volumes were greater than the weekend day volumes and thus represent the critical conditions).

Table 10-1: Truck Volumes - County Roads

County Road	Road Section	Daily Volumes (24hr weekday)		
		Trucks	Total	%
Grey Road 124	between Grey Road 4 and Grey Road 9	454	4,670	10%
Grey Road 4	between Grey Road 2 and Grey Road 31	340	3,318	10%
	between Highway 10 and Grey Road 13	354	6,036	6%
	between Grey Road 23 and Grey Road 14	189	2,837	7%
	between Grey Road 3 and Highway 6	328	5,915	6%
Grey Road 10	south of Grey Road 9	357	4,875	7%
Grey Road 11	between Grey Road 18 and Highway 26	278	3,277	8%
Grey Road 7	between Grey Road 40 and Grey Road 7	216	1,327	16%
Average		315	4,032	8%

As indicated, the truck volumes account for 6 to 10% of the total 24-hr weekday volumes on the noted County roads. The exception to this is Grey Road 7, where truck volumes account for 16% of the total volumes (it is noted, however, that the truck volumes on Grey Road 7 and the total volumes are considerably lower than most of the other noted Grey County roads). Overall, the observed truck volumes on the County road system are not considered significant in terms of operational capacity. Typically, peak hour data represents 10 to 15% of the daily volumes and thus peak hour truck volumes are in the order of 19 to 68 trucks per hour (total of both directions of travel).

Acknowledging the importance of the Provincial highway system within the County, AADT volumes were obtained from the MTO for Highways 6, 10, 21, and 26. The MTO volumes, collected in 2009, are summarized in **Table 10-2**.

In comparison to the County roads considered, the percentage of truck volumes on MTO roads are similar (8% of AADT), but truck volumes on MTO roads are approximately 2 times greater than the truck

volumes on the County roads, which reflects the higher total traffic volumes and greater significance of the Provincial highways in serving commercial traffic (particularly longer distance travel).

Table 10-2: Truck Volumes - Provincial Highways (2009)

County Road	Road Section	AADT (24hr weekday)		
		Trucks	Total	%
Highway 6	Mount Forest to Durham	690	6,200	11%
	Durham to Chatsworth Rd 24	446	4,200	11%
	Chatsworth Rd 24 to 8.4 km north	639	5,200	12%
	8.4 km north of Chatsworth Rd. to Grey Rd 40	499	5,200	10%
	Highway 10 to Owen Sound (Fourth Street)	651	9,450	7%
	Owen Sound (west limit) to Grey County Mall	548	18,500 ¹	3%
	Grey County Mall to Highway 21/Grey Rd 18	638	15,800 ¹	4%
	Highway 21/Grey Rd 18 to Concession 5	754	8,400	9%
	Concession 5 to Bruce Rd 10/8	448	7,400	6%
Highway 10	Grey Rd 9 to Flesherton	864	6,250	14%
	Flesherton to Markdale	771	7,300	11%
	Markdale to Highway 6	597	5,300	11%
Highway 21	Bruce Rd 10 to Highway 6/Grey Rd 18	457	5,550	8%
Highway 26	Long Point Rd/Grey Rd 21 to Grey Rd 19	527	8,950	6%
	Grey Rd 19 to Thornbury	527	8,450	6%
	Thornbury to Meaford	537	6,600	8%
	Meaford to 14 th Avenue (Owen Sound)	642	6,550	10%
Average		602	7958	8%

1.The increased volumes are due to the location within the City of Owen Sound which experiences a high level of local traffic. Therefore the truck volume % is reduced.

10.1.4. Primary Truck Routes

The observed truck volumes on the Provincial and County road networks indicate that the movement of commercial goods within and through Grey County is occurring via a logical and appropriate use of the road hierarchy (i.e. Provincial highway to County Road to local road and vice versa). The Provincial highway system is the primary means by which commercial vehicles are moving to and from Grey

County. This is not unexpected given that most of the County's urban centres and built-up areas (Owen Sound, Meaford, Thornbury, Durham, Markdale and Dundalk) are served by a Provincial highway.

Highways 6, 10, 21, and 26 all provide access to Owen Sound, the largest urban centre located within the County, and thus connect Owen Sound with the smaller markets. The Town of Hanover is the largest built-up area not served by a Provincial highway; however, access to Highways 6 and 10 is provided via Grey Road 4. The truck volumes on the County road system (being lower than volumes observed on the Provincial highways) indicate that the County roads are serving an intermediary role in feeding the highway system and aiding in the distribution of truck volume to the local markets. A summary of the key routes serving the movement of commercial goods is provided below.

10.1.4.1 North-South Routes

The primary north-south routes serving Grey County are Highways 6 and 10. Both highways connect Owen Sound to the southern regions of the County and further connect the County to the larger markets to the south (ultimately the GTA). It is noted that the County does not have a centralized north-south corridor within the County road system (Grey-Bruce Line and Grey Road 3 offer north-south connections but both are located to the west). As per the MTO data, Highway 6 through Grey County averages at 590 trucks daily whereas Highway 10 averages 744 trucks daily. These volumes illustrate that the north-south movement of goods to/from the County rely heavily on these two provincial highways.

The greatest truck volumes on the County road system (as per the August 2012 counts) were observed on Grey Road 124, a north-south route on the eastern edge of the County. Grey Road 124, which forms part of the boundary between Grey County and Simcoe County, is an important link to the south for both eastern Grey County and western Simcoe County as it connects with Highway 89 (which provides further access to other major corridors - Highway 10, Highway 400, etc.). It also provides direct access to the Town of Collingwood (as Simcoe County Road 124/Hurontario Street).

10.1.4.2 East-West Routes

Through the north section of Grey County, Highway 21 and Highway 26 create an east-west corridor from the Grey-Bruce County line, through Owen Sound (via the Owen Sound road network), to the Grey-Simcoe County line. This is an important commercial goods link as it connects Owen Sound, Meaford, Thornbury and the Town of Blue Mountains with Simcoe County. The average daily truck volumes along this corridor range from 457 to 642 trucks.

There is no provincial highway providing continuous east-west capacity and truck routing within the southern portion of Grey County; traffic must travel south of Grey County to Highway 89 for a continuous east-west provincial truck route. While there are several east-west County roads, none provide a continuous direct route (i.e. there are jogs in the route or missing links). Grey Road 4 is the closest continuous east-west link within the system, connecting Bruce County (at Hanover) in the west with Simcoe County in the east, with one small jog as it passes through Durham. However, the importance of Grey Road 4 in terms of commercial goods movement is not only the moving of goods through the County to the east and west, but also to the north and south through connections with Highways 6 and 10 and Grey Road 124.

Grey Road 4 serves as a commercial goods link between Hanover (and Bruce County to the west) and Highway 6 and between Highway 10 and Grey Road 124. Grey Road 4, east of Highway 10, provides access to Grey Roads 7 and 2 which, in turn, provide access to Meaford and Thornbury to the north. It is further noted that there are a number of aggregate pit operations along, and in close proximity to, this section of Grey Road 4 thus resulting in higher truck volumes. The lower truck traffic along Grey Road 4 between Highways 6 and 10 can be attributed to the lack of development between the two highways and the likelihood that Grey Road 4 distributes truck traffic to Highway 6 and Highway 10.

10.1.4.3 Other Truck Routes

Most of the remaining roads in the County's network experience some level of truck traffic, including the movement of aggregate through the area (noting that most of the aggregate resources produced in Grey County are for local needs). It is noted that the majority of aggregate sites generating truck traffic are in the southern portion of the County. While these volumes are minor, they reflect the nature of aggregate pit operations and the location of such in rural areas.

Residual truck volumes on the County road system may also include those vehicles necessary to support the agricultural needs of the County, delivery vehicles, and school buses.

10.1.5. Constraints and Operational Needs

10.1.5.1 Truck Routes in Urban Areas

Truck routes that pass through urban areas can impact the liveability of the community due to the noise, vibration, debris, traffic impacts and safety related concerns associated with truck traffic. Conversely, urban environments can impact upon the efficiency of truck routes through lower speeds, interaction with parked vehicles and turning traffic, discontinuous road alignments and less generous road geometry. For existing routes the following communities are affected by truck traffic:

- Owen Sound (Highway 6/10, Highway 21 and Highway 26);
- Hanover (Grey Road 4 and County Road 10);
- Chatsworth (Highway 6, Highway 10 and Grey Road 40 via the highways);
- Durham (Highway 6 and Grey Road 4);
- Markdale (Highway 10 and Grey Road 12);
- Flesherton (Highway 10 and Grey Road 4); and
- Dundalk (Grey Road 9).

Some of these communities have alternate routes as part of the County Road system that allow for truck traffic to avoid the constraints of urban communities and settlement areas. For example, Grey Road 18 provides an alternate route around Owen Sound and Grey Road 28 provides an alternate route around Hanover. However, these alternative routes may not be designed or signed to clearly convey the option to unfamiliar truck drivers. Furthermore the design and restrictions may not allow for regular use by trucks. Other communities do not have alternate routes on the County Road system.

10.1.5.2 Road Design Requirements

The ability of the County to effectively accommodate truck traffic in part relates to the ability of the County to match the road and pavement design with operating conditions (i.e. truck traffic) in order to have a manageable pavement life-cycle. Factors affecting truck traffic include:

- aggregate operations policies;
- commercial developments;
- availability of alternate modes of transporting goods, such as rail; and
- truck load restrictions.

10.1.5.3 Commercial Vehicle Operator Needs

Surveys undertaken by Grey County staff of commercial vehicle operators provided insight into trucking needs. Design issues include: need for more and longer left-turn lanes and taper lengths, signage height, concerns with load restrictions, interaction with bicycles, interaction with tourism traffic, changes in speed limits through settlement areas, site specific design issues.

Commercial vehicle operators also expressed concern with the lack of continuity of certain County roads. Recommendations were presented by the operators for network modifications including:

- Grey Road 40 connection between Highway 10 and Highway 6;
- Grey Road 9 continue through on Concession 12 (which would also connect to the Bruce County Road);
- Southgate Sideroad 49 be a County Road (extension of Grey Road 23);
- Grey Road 14 extension to Southgate Sideroad 11 rather than bending and going through Cedarville; and
- By-pass around Dundalk to connect to Grey Road 9.

10.1.6. Policy Alternatives

The County's current policy allows small industrial operations on farmland (the intent of which is to provide farmers with additional income which subsidizes and encourages farm operations). This policy may result in transportation impacts for specific County roads, as these industrial operations may generate additional truck volumes in areas not previously anticipated.

As noted, aggregate sites can greatly impact truck volumes. A comprehensive aggregate operations strategy can be developed to ensure that truck traffic is directed to haul routes rather than spread out across the County network.

To accommodate projected truck volumes, road design practices can differentiate between routes that are designated primary truck routes based on anticipated demand. Pavement design standards for primary truck routes and secondary routes can help focus infrastructure investment. Similarly, truck load restriction policies can be developed within the context of the road hierarchy and truck route strategy.

An established wayfinding system will assist in commercial vehicle movement. Signage placement will include consideration of truck traffic needs and accommodate a range of objectives including commercial traffic and tourism objectives. It is noted that tourism related wayfinding signage within the County is based on the *Regional Tourism Organization 7 (RTO7) - Tourism Wayfinding Signage Standards*

and Specification Manual. The RTO7 manual establishes a consistent county-wide approach to tourism related wayfinding. A similar approach for commercial vehicles is recommended. The commercial wayfinding system should focus on identification of haul routes and bypass routes around built-up urban areas.

10.2. Recommendations

It is recommended that to better accommodate truck traffic in support of the County's economic objectives and needs, the following initiatives be undertaken.

1. Investigate specific network changes including Grey Road 40, Grey Road 9 westerly extension, Grey Road 23 extension along Southgate Sideroad 49, Grey Road 14 extension along Southgate Sideroad 11, and Dundalk by-pass.
2. Actively promote alternate routes around urban areas - including the new alternate route around Owen Sound which incorporates the transfer of Concession 10 (from Grey Road 18 to Grey Road 5/8th Street East) to the County as a result of the noted road rationalization process.
3. Develop supplementary signage strategy for alternate routes on Grey Road 18 around Owen Sound and Grey Road 28 around Hanover, and incorporate into the County's on-going road signage program.
4. Establish a design policy that defines pavement design and road design elements that meet the needs of primary and secondary truck routes and incorporate truck loading regulations (which could include the development of a separate road standard specific to designated truck routes).

11. Implementation

This TMP has been developed as a practical guide for implementing transportation improvements, policies and strategies in Grey County. The recommendations of this plan are intended to be implemented over time in a manner that is financially and administratively sustainable. The plan requires financial mechanisms for capital and operating costs, and also requires the input and insight of affected agencies and stakeholder partners. It is also acknowledged that the timing of transportation needs are influenced by changing economic and political conditions that affect growth and the rate of development. It is anticipated that the TMP will be updated in the future and that priorities may change.

County Council will need to determine which recommendations to proceed with and prioritize the implementation of the recommendations. Before an Implementation Action Plan can be finalized, a number of questions will need to be answered by Council including the following:

1. Active Transportation
 - a. Does Council wish to maintain the status quo?
 - b. Does Council wish to implement the recommendations contained in the Transportation Master Plan?
2. Transit Implementation Strategies
 - a. A number of the recommendations in the Transportation Master Plan are being implemented through the Rural Transit project being led by the County of Grey, as directed by Council. There may be further recommendations from the Rural Transit Strategy which could result in further Action Items.
3. Road Rationalization
 - a. Does Council wish to maintain the status quo (i.e. no transfers)?
 - b. Does Council wish to implement a functional classification of roads for the current County road system and develop maintenance and construction standards based on that classification (i.e. no transfers, however maintain and construct the County roads based on the classification standard)?
 - c. Does Council want to consider transferring some of the County roads based on one of the options identified in the Transportation Master Plan?
4. Bridge Rationalization
 - a. Does Council wish to maintain the status quo (i.e. no transfers)?
 - b. Does Council wish to transfer bridges based on the options identified in the Transportation Master Plan?
5. Connecting Links
 - a. Does Council wish to maintain the status quo?
 - b. Does Council wish to pursue the development of connecting link agreements for the road sections identified in the Transportation Master Plan?
6. Goods Movement
 - a. Does Council wish to maintain the status quo?
 - b. Does Council want to make some network improvements as recommended in the Transportation Master Plan (*note network improvements as recommended would require roads to be transferred from the local municipality to the County and vice versa).

All of the above questions are dependent upon funding which will also dictate the timing of implementing the recommendations. Some of the recommendations are dependent upon another, that is, implementing some of the recommendations may have a bearing on how other recommendations are implemented from a funding and timing perspective.

A draft Implementation Action Plan has been included in **Appendix G** which identifies a potential action plan for implementing the current recommendations contained in the Transportation Master Plan. This is subject to change based on what Council decides to implement and based on which recommendations Council wishes to implement first. The below draft Action Plan can be used by Council and staff as a guide for implementing the recommendations in the Transportation Master Plan.

A summary of the recommendations and draft Action Plan is provided in the following sections.

11.1. Active Transportation Strategy

11.1.1. Recommendations

The recommendations of the transportation master plan are intended to meet the Goal #1 of the plan, to “Create a vision for all modes of transportation in Grey County, with a particular focus on encouraging active transportation options (cycling, walking/running).” To this end, the County will benefit from a formal Active Transportation Master Plan. Provision of active transportation infrastructure and facilities is the first step to achieving a more sustainable transportation network. Initiatives and strategies to encourage walking and cycling should be developed, and educational programs can be organized to inform residents and promote safety. The following initiatives are recommended for Grey County.

Develop policies through an **Active Transportation Master Plan** that:

- promote accessibility for all ages and abilities (e.g. ramps, pedestrian grade separations) through planning and design guidelines for new and retrofit infrastructure;
- promote enhanced pedestrian design features (e.g. street furniture, benches, streetscape features separating pedestrians from traffic) along pedestrian priority corridors;
- promote walk and cycle to school programs through outreach initiatives with school boards, teachers and parents;
- develop guidelines and policies for implementing supporting infrastructure such as parking lots at trailheads, rest stops, wayfinding signage, etc.;
- develop walkability guidelines for Grey and incorporate walkability audits into transportation and traffic studies;
- support changes to the Highway Traffic Act that permit cycling on the shoulder of a roadway; and
- include consultation and engagement with local municipalities, neighbouring municipalities/counties, Regional Tourism Organization 7 (RTO7) and active transportation stakeholders (i.e. cycling groups and recreational clubs/associations).

Develop a **connected network** in Grey County by:

- establishing a network of inter-connected routes including connections between municipal centres, links to adjacent counties and cycling “loop routes” to accommodate recreational cycling including cycling organizations and tourist cycling activities;
- continuing to utilize paved shoulders on County roads together with ‘Share-the-road’ signage;

- accommodating sidewalks and bicycle lanes within urban areas on County roads between key origins and destinations;
- permitting ATV and/or snowmobile use along or across strategic sections of County roads to provide a more connected network of trails
- continuing to provide paths and trails based on current policies and programs that comply with AODA requirements; and
- establishing secure bicycle parking and shower/change room facilities at County facilities.

Other initiatives Grey County could consider include:

- holding annual/monthly events to promote walking and cycling, and to raise awareness in partnership with others including municipalities and County Police; and
- assigning a staff member for the proactive implementation of selected initiatives.

11.1.2. Implementation and Action Plan

The next steps to implementing the above recommendations are:

INITIATIVE: Develop an Interim Active Transportation Plan prior to the completion of the ATMP	
Q1/2015 to Q3/2015	<p>Create an interim Active Transportation Plan that will identify action items that can be addressed in the near future including the coordination of the tourism cycling routes with the paved shoulder program, preliminarily identify key strategic cycling routes, identify active transportation signage options, strategies and policies, explore policy options to support active transportation (e.g. policies that address orientation of buildings with respect to the street, parking lot dedication near trails and recreation areas, looking at active transportation/trail connections as part of the new developments, implementation of OTM Book 18, etc.).</p> <p>ACTION: Planning, Transportation and Tourism Staff</p>
INITIATIVE: Develop an Active Transportation Master Plan	
Q1/2016	<p>Update Inventory of Existing Active Transportation infrastructure.</p> <p>ACTION: County GIS Staff/Tourism Staff</p>
Q1/2016	<p>Prepare RFP to hire consultant to prepare Active Transportation Master Plan (ATMP).</p> <p>ACTION: Planning Department</p>
Q2/2016 to Q3/2016	<p>Engage local municipalities, neighbouring municipalities/counties, active transportation stakeholders (i.e. cycling groups, recreational clubs/associations, tourism staff, etc.) to explore network connections and opportunities for accessing trails/bike routes (e.g. parking areas, rest stops, etc.).</p> <p>ACTION: Consultant</p>
Q4/2016 to Q1/2017	<p>Prepare Draft ATMP based on information and comments received. Draft ATMP would include an implementation plan/strategy.</p> <p>ACTION: Consultant</p>

Q2/2017	Present Final ATMP to Council. ACTION: Consultant
INITIATIVE: Support changes to the Highway Traffic Act to permit cycling on shoulder of a roadway	
Q4/2014	Prepare a staff report with respect to proposed Bill 173, Highway Traffic Amendment Act (Keeping Ontario's Roads Safe) which proposes to permit cycling on the shoulders of a road under the Highway Traffic Act and recommend that a letter be sent to the Minister of Transportation Ontario and to other municipalities through AMO indicating support for this change. ACTION: Transportation Services Department

11.2. Transit Strategy

11.2.1. Recommendations

Opportunities exist for establishing new or enhancing existing public transit services. Grey County's role is to act as the facilitator and supporter of existing and future services operating within the County.

The following summarizes the key points of the recommended transit strategy for Grey County:

1. Support existing local transit services within the County.
2. Support the transit-supportive development of the County and its municipalities through Official Plan land-use policies that encourage intensification and guided growth in settlement areas.
3. Take a leadership role in coordinating discussions with municipalities and private operators to identify the demand and market for public transit within the County.
4. Investigate the potential to create public-private partnerships to provide inter-municipal transit service.
5. Explore inter-regional transit opportunities with SimcoeCounty, DufferinCounty and Metrolinx.
6. Research existing rural transit models to establish best practices for implementation in GreyCounty.
7. Facilitate discussions with municipalities and organizations providing existing specialized transit services in the area in order to identify where existing services can be expanded, combined or enhanced.
8. Establish a sustainable and equitable funding formula with the municipalities, exploring and leveraging all public transit funding schemes and grants available from the Provincial and Federal governments.

GreyCounty, its municipalities and other potential transit stakeholders involved in the transit discussion should pay particular attention to the age demographic of the County. The aging population offers a unique opportunity to provide a transit service to a rapidly growing market segment; however, the rapid growth of this population segment will inevitably be followed by a rapid decline. It is therefore crucial that the development of transit provision maintain a dynamic aspect with a view to providing service to multiple user groups going forward (if the service is developed to cater solely to the senior population segment, the service will likely collapse beyond the 25 year horizon as the population segment declines).

11.2.2. Implementation and Action Plan

The action plan to initiate the above recommendations is described below:

INITIATIVE: Coordinated Transportation Project - investigating opportunities to enhance existing transit services	
Q2/2014	Hire a consultant to facilitate the project. ACTION: Social Services Department
Q2/2014	Conduct an inventory of existing transit services including mapping of existing transit routes, services provided, how the existing systems are funded, etc. ACTION: Consultant
Q2/2014	Conduct a survey/gather information amongst the various stakeholders (i.e. local municipalities, existing transit providers, social service organizations, etc.). ACTION: Consultant
Q3/2014	Facilitate a discussion with municipalities and private/non-profit transit operators to explore opportunities to coordinate existing services. ACTION: Consultant
Q4/2014	Prepare a report summarizing the information collected and the input received from the municipalities and the existing transit operators, and identify potential opportunities to coordinate the existing services for Council's consideration. ACTION: Consultant

11.3. Community Traffic Strategy

11.3.1. Recommendations

It is recommended that Grey County establish a policy and process of investigating requests to retrofit existing transition zones for rural settlement with traffic calming treatments where excessive speeds have been identified. In designing a transition zone from rural areas to settlement areas, the objective is to have motorists traveling at the higher posted speed prior to the transition zone to reduce their speed at by the beginning of the settlement area, as defined by planning policies and roadway environment.

The implementation of speed management measures will have regard for:

- confirmation of need based on speed surveys, design conditions and detail of public concerns;
- public and stakeholder input on proposals (general public support and staff input);
- annual funding available; and
- staff resources and allocation.

11.3.2. Implementation and Action Plan

The action plan to initiate the above recommendations is provided below:

INITIATIVE: Develop criteria for considering the implementation of the Community Traffic Measures identified in the TMP	
2017	<p>Develop Criteria for determining whether the Community Traffic Measures identified in the Transportation Master Plan should be implemented. Continue to investigate using the Transportation Association of Canada (TAC) manual and Ontario Traffic Manual Book 18 as a basis.</p> <p>ACTION: Transportation Services Department</p>

11.4. Road Rationalization Strategy

11.4.1. Recommendations

County roads should provide connectivity between the County's settlement areas and rural areas, and support the associated residential and commercial activities. The road rationalization process is the first step in rightsizing the County's road network which will ensure appropriate and comprehensive County road corridors that provide service within and beyond the County limits in a safe and efficient manner to support the continued growth and prosperity of Grey County.

The implementation of the road rationalization recommendations (i.e. transfer of candidate County roads to the local municipalities and likely candidate local roads to Grey County), must be considered in consultation with the local municipalities. This is particularly true as it relates to time of transfer, required road improvements and/or associated financial implications to both the County and the local municipalities (recognizing that the most significant impediment to local municipalities taking control of additional roads is the cost to adequately maintain them).

There are a number of options through which the County can transfer the candidate road sections. Recognizing that the proper maintenance and upkeep of the road system, regardless of whether it consists of County roads or local roads, will incur significant costs beyond the current capability of the County and of the local municipalities, an approach which seeks to establish partnerships and cost sharing of the candidate road transfers is recommended.

Regardless of which road transfer option is ultimately decided upon, it is recognized that the transfer of the candidate roads cannot realistically occur overnight. While the County cannot afford to continue maintaining the road network as it is on an ongoing basis, it is also acknowledged that the municipalities are not in the position to accept ownership of the candidate roads tomorrow (in fact, under some form of concession agreement, the County could not afford a quick transfer either). Therefore, the method for transfer must carefully consider potential phasing options.

In considering a final phasing plan for the transfer of the candidate roads, it must recognize the financial implications for each local municipality and ensure that the timing of transfer does not cause undue burden on any one municipality (i.e. via consecutive transfers in one area).

11.4.2. Implementation and Action Plan

The next steps to complete the road rationalization process are described below:

INITIATIVE: Finalize Road Rationalization Criteria and Principles	
2015/2016	Prepare a report to Committee/Council to seek direction with respect to the road rationalization recommendations identified in the Transportation Master Plan – consult with local municipalities. ACTION: Transportation Services Department
2015/2016	Apply road criteria and principles to develop an agreed upon County road network in consultation with local municipalities, adjacent municipalities and other stakeholders. ACTION: Transportation Services Department
INITIATIVE: Develop a Funding Model/Transfer Model for Potential Road Transfers	
2016	Develop a funding model/transfer model in consultation with the local municipalities to provide reasonable compensation for potential road transfers. Potential road transfers would be based on the agreed upon County road network or when a road is reconstructed. ACTION: Transportation Services Department
INITIATIVE: Develop a Road Transfer Plan	
2016/2017	Present a road transfer plan to Council with feedback from local municipalities that would identify the estimated funding required and the estimated timing for the transfers. The timing within the road transfer plan would coincide with the timing within the bridge transfer plan. ACTION: Transportation Services Department
INITIATIVE: Implement Road Transfer Plan	
2017 to 2021 (and potentially beyond depending upon funding)	Begin transferring roads over a phased period based on the agreed upon road network and the agreed upon funding model/transfer model ACTION: Transportation Services Department

11.5. Bridge Rationalization Strategy

11.5.1. Recommendations

Bridges and culvert structures were reviewed with the objective of establishing structures which should remain under the control of the County. It is recommended that the ownership of bridge structure on a road reflect the ownership of said road, under the assumption that through the road rationalization process an agreed upon County road network is established with the local municipalities.

To implement the potential bridge transfers, the County should develop a bridge funding model and transfer plan. The timing of bridge transfers must be in co-ordination with the road transfers so as to ensure equitable and fair transfer. For bridges transferred to the local municipality, the County should assist in developing bridge classification criteria to determine whether or not a structure should remain open or be closed.

11.5.2. Implementation and Action Plan

The next steps to complete the bridge rationalization process are described below:

INITIATIVE: Develop Bridge Classification Criteria and Assess Bridges using Criteria	
2015/2016	Prepare a report to Committee/Council to discuss a potential system to classify bridges to determine whether a bridge should remain open or should remain closed – use recommended criteria in the Transportation Master Plan as a basis – consult with local municipalities (including adjacent municipalities where affected by a boundary bridge). ACTION: Transportation Services Department
2015/2016	Assess bridges through a Comprehensive Environmental Assessment Process* to identify bridges recommended to remain open and bridges recommended to be closed. ACTION: Transportation Services Department

* Scale of this study will depend upon the direction from Council on which option(s) are to be implemented.

INITIATIVE: Develop a Funding Model for Potential Bridge Transfers	
2016	Develop a draft funding model to provide reasonable compensation for bridges identified to remain open and consult with local municipalities. ACTION: Transportation Services Department

INITIATIVE: Develop a Bridge Transfer Plan	
2016/2017	Present a bridge transfer plan to Council considering feedback from local municipalities that would identify the estimated funding required and the estimated timing for the transfers (transfer of bridges from County to local municipalities and vice versa), with potentially County bridges on local roads being considered for transfer first. The timing within the bridge transfer plan would coincide with the timing within the road transfer plan. ACTION: Transportation Services Department

INITIATIVE: Implement Bridge Transfer Plan	
2017 to 2021 (and potentially beyond depending upon funding)	<p>Begin transferring bridges over a phased period based on the classification results and based on the agreed upon funding model.</p> <p>ACTION: Transportation Services Department</p>

11.6. Connecting Link Strategy

11.6.1. Recommendations

County roads are primarily transportation corridors that are intended to provide a high degree of connectivity within the County. However, County road sections travelling through built-up areas likely also serve a local function. Introducing a connecting link program for Grey County roads will ensure that the interests of both the County and the municipality are reconciled in relation to the role and function of County roads which enter built-up or urban areas.

The implementation of the connecting link program (once finalized) should be coordinated with the road rationalization process. Through coordinating the implementation of a connecting link program with the transfer of roads through the road rationalization process, the County can ensure that all transfers of ownership are managed in an equitable manner (to the extent that is deemed reasonable) thus limiting undue burden on the municipalities. While coordination is suggested, it is recognized that the connecting link program is an independent program that will continue to operate after the road rationalization process is completed. Regardless of how the program is implemented, it is important that consultation with the municipalities be included in the process (significant consultation should be inherent leading up to the County and municipality entering into a connecting link agreement).

11.6.2. Implementation and Action Plan

The action plan to initiate the above recommendations is provided below:

INITIATIVE: Establish Connecting Link Agreements with Local Municipalities	
Q1/2015	<p>Develop funding criteria for the maintenance and construction of connecting links using the criteria identified in the Transportation Master Plan as a guide and consult with local municipalities.</p> <p>ACTION: Transportation Services Department</p>
Q1/2015	<p>Develop a connecting link agreement template and consult with local municipalities.</p> <p>ACTION: Transportation Services Department</p>
Q3/2015 to Q4/2015	<p>Prepare a final report which identifies the funding model for connecting links based on previous direction from Council and present the connecting link agreements for Council's approval.</p>

	ACTION: Transportation Services Department
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11.7. Goods Movement Strategy

11.7.1. Recommendations

Goods movement within and through Grey County is necessary for the economic health of the County. The movement of trucks should be efficient and effective to meet the needs of industry while minimizing impacts to residents.

It is recommended that to better accommodate truck traffic in support of the County's economic objectives and needs, the following initiatives be undertaken:

1. Investigate specific network changes including Grey Road 40, Grey Road 9 westerly extension, Grey Road 23 extension along Southgate Sideroad 49, Grey Road 14 extension along Southgate Sideroad 11, and Dundalk by-pass.
2. Actively promote alternate routes around urban areas - including the new alternate route around Owen Sound which incorporates the transfer of Concession 10 (from Grey Road 18 to Grey Road 5/8th Street East) to the County as a result of the noted road rationalization process.
3. Develop supplementary signage strategy for alternate routes on Grey Road 18 around Owen Sound and Grey Road 28 around Hanover, and incorporate into the County's on-going road signage program.
4. Establish a design policy that defines pavement design and road design elements that meet the needs of primary and secondary truck routes and incorporate truck loading regulations (which could include the development of a separate road standard specific to designated truck routes).

11.7.2. Implementation and Action Plan

The following initiatives are identified to implement the above recommendations:

INITIATIVE: Investigate Specific Network Changes	
Q1/2015	Prepared a report to Committee/Council to discuss whether specific network changes as recommended in the Transportation Master Plan should proceed and identify possible timing for the network changes – consult with local municipalities. ACTION: Transportation Services Department
Q2/2015 to Q3/2015	Prepare cost estimates for the proposed network changes. ACTION: Transportation Services Department
Q4/2015	Identify proposed network changes in 5 year capital plan (if projects are proposed within the next 5 years), proposed timing for the network changes, and cost estimates for the projects.

	ACTION: Transportation Services Department
Q1/2016 to Q4/2016	Include proposed network changes in Bridge/Road Transfer Plans as well as the Development Charges Update to begin collecting development charges to assist with the funding of the projects.
	ACTION: Finance Department

INITIATIVE: Establish a Design Policy for Primary and Secondary Truck Routes	
Q1/2017	Prepare a draft Design Policy for Primary and Secondary Truck Routes based on the recommendations in the Transportation Master Plan.
	ACTION: Transportation Services Department
*Q2/2017	Circulate a copy of the draft Design Policy to the local municipalities and organize a meeting to receive comments and feedback.
	ACTION: Transportation Services Department
*Q3/2017	Revise policy based on comments received and present to Council for consideration.
	ACTION: Transportation Services Department
On-going	Implement the policy changes as part of the overall construction and maintenance activities and update policy to incorporate any network changes.
	ACTION: Transportation Services Department

* Timing dependent upon direction from Council regarding Road Rationalization.

INITIATIVE: Develop a Supplementary Signage Strategy	
2015	Investigate opportunities as part of the County's Overall Signage Program/Project for way finding to support businesses and industries (e.g. signage for alternative truck routes, etc.) with consultation with stakeholders including local municipalities.
	ACTION: Transportation Services Department/Tourism/Economic Development, and Planning Staff

11.8. Accessibility

11.8.1. Recommendations

Grey County will need to comply with the Design of Public Spaces Standards under the Accessibility for Ontarians with Disabilities Act (AODA). These standards apply to recreational trails and travel paths for pedestrians. These technical requirements include design considerations for trails, trail amenities, sidewalks, ramps, stairs, and curb ramps such as minimum widths, minimum heights, maximum slopes, edge protection, protective barriers, signage, ramps, curb ramps, rest areas, and accessible pedestrian signals. All new construction and major changes to existing of public spaces must comply by 2016.

11.8.2. Implementation and Action Plan

The action plan to implement the above recommendations is provided below:

INITIATIVE: Develop design standards to address the requirements of the Accessibility for Ontarians with Disabilities Act (AODA)	
2015/2016	Develop and/or incorporate accessible design standards for matters such as parking, accessible signals and trails in accordance with the AODA. ACTION: Transportation Services, Accessibility Coordinator and Planning Staff

11.9. Harbours, Airports and Rail Corridors

11.9.1. Recommendations

11.9.1.1 Harbours

Prior to considering strategies or initiatives to increase the use of the harbour network, it is noted that the future growth and viability of the existing harbour network is dependent on ongoing maintenance and dredging. Dredging, which can be costly, is particularly important given the low water levels in the Great Lakes. As such, the County should support the maintenance efforts of the respective municipalities in ensuring that the harbours remain operable.

Water transport operations in Grey County are primarily related to recreational activities. It is noted that the Department of Fisheries and Oceans categorizes the Owen Sound, Meaford and Thornbury harbours as small craft recreational harbours. The Town of Meaford and the City of Owen Sound have harbour master plans that direct the future development of the harbour and waterfront areas. The ongoing development of these areas to include mixed uses (i.e. retail, public space, residential, commercial, etc.) will increase economic activity and shape the harbours as destinations for residents and tourists. These initiatives can be further supported by the County through tourism marketing programs and by ensuring connectivity of the harbour system to the wider County transportation network (thus connecting destinations within the County).

Commercial freight operations have either been on a steady decline over the past decade or all together absent from the County's harbour network. Despite the decline, the County should continue to support efforts to protect the ongoing viability of the commercial operations of the Owen Sound Harbour. Given the existing agriculture and aggregate industries within the County, dredging and proper maintenance of the harbour would provide an opportunity for freight operations to be re-established or increased above current levels. Furthermore, growth in freight operations could result in an increase in other shipping related commercial activities such as freighter lay-up and repair services. In this respect, the Owen Sound Harbour needs ongoing advocacy from the County, municipalities and local industry (i.e. agriculture) to ensure that the required dredging occurs.

11.9.1.2 Airports

The County's airports do not currently play a large role in the movement of people and goods. Significant growth in air transport is not anticipated in the foreseeable future as the realities of

operating an airport in a rural market (i.e. low population densities, limited industry, limited funding, etc.) place limitations on growth opportunities. These limitations must be acknowledged, recognizing that significant growth in the County is required before growth of the air transport network will be realized. Nonetheless, it is recommended that the County support the existing air transport network through soft measures such as general industry growth initiatives, appropriate policy development and strategic planning. The following are potential support initiatives:

- ensure that the airport management groups are engaged with the applicable Chamber of Commerce;
- integrate the airports into municipal/County economic development plans;
- coordinate an economic impact study to document/illustrate the economic benefits of the airport network in Grey County;
- ensure airports have appropriate marketing/business plans and/or ensure that airport management has the capabilities to produce such;
- develop land-use policies that protect lands adjacent to airports from being developed into non-airport friendly uses (i.e. encourage industrial uses rather than residential);
- investigate all available funding avenues (should include all levels of government and their agencies and the private sector) to broaden funding base for airports;
- encourage private partnership opportunities; and
- become an advocate for the airports and encourage advocacy (especially within industry).

11.9.1.3 Rail Corridors

Grey County owns the former rail corridor stretching 77 kilometres from Owen Sound to Dundalk. The absence of rail infrastructure and the considerable resources required to re-install the track system makes the re-introduction of rail service to the County an infeasible option at this time, further recognizing that the rural attributes of Grey County, as it currently exists (i.e. low density population/industry, rural market conditions, etc.), are not conducive to supporting a viable rail service. Nonetheless, acknowledging that market conditions are dynamic, it would be considered prudent to protect the existing rail trail corridor in order to maintain the option of introducing a rail service for future generations. Divestiture of the rail trail is not recommended as it would increase the future cost of re-introducing rail to the County (i.e. re-acquisition of property), or eliminate the possibility for future rail service altogether.

In order to protect this asset and maintain the possibility of future rail service in the County, a draft rail trail protection policy has been developed which aims to preserve the rail trail as a County asset and provide guidance with respect to the development of the lands adjacent to the rail corridor. The following is a recommended *Draft Rail Trail Protection Policy* for consideration by the County:

1. The rail corridor, being a unique and irreplaceable County asset, is identified as a strategic transportation corridor that is to be preserved for existing and future transportation uses, including the potential re-introduction of rail service to the County.
2. The protection of the rail corridor for existing recreational use and future transportation use (i.e. rail service) requires that the integrity of the rights of way be maintained. As such, the County will maintain ownership of the rail corridor right-of-way and will not permit any encroachment or easement on the rail right-of way that may inhibit or compromise the ultimate return of the property to a rail use, should such an opportunity arise.

3. The County will coordinate with the respective local municipalities (i.e. those municipalities through which the rail corridor passes) to ensure that:
 - a. no development on lands adjacent to the rail corridor right-of-way shall interfere or inhibit the re-introduction of rail service to the County; and
 - b. land-use zoning along the rail corridor promotes development that is compatible and harmonious with the re-introduction of rail service to the County.

It is further recommended that the County coordinate and maintain an open dialogue with Dufferin County to ensure that there is consistency between the Counties with respect to the protection of the rail corridor. The re-introduction of rail service to Grey County is contingent on the same in Dufferin County. As previously noted, the re-introduction of rail service in Grey County is a long term proposition that requires significant investment and a significant shift in market conditions in order to be realized. As such, the policies introduced to protect the rail corridor, (particularly those policies relating to land use and development) must be reasonable so as not to inhibit sensible growth in the County and its municipalities.

11.9.2. Implementation and Action Plan

The action plan to implement the above recommendations is described below:

INITIATIVE: Implement the Policy Recommendations with respect to Harbours, Airports and Rail Corridors	
2015	<p>Incorporate the Policy Recommendations identified in the Transportation Master Plan with respect to Harbours, Airports and Rail Corridors into the County Official Plan as part of a County Official Plan Amendment.</p> <p>ACTION: Planning Department</p>