

Technical Paper

County of Grey Transportation Master Plan

Paper 1b - Existing Transportation System

1.0 Transportation System Inventory

This Section provides an inventory of the existing facilities and services that comprise Grey County's transportation network.

1.1 Walking and Cycling Network

Grey County has a fairly extensive recreational trail network (including over 8000 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 Grey County:

- Bruce Trail - 260 km footpath following the Niagara Escarpment through Grey County from Blue Mountain to Wiarton (the Bruce Trail extends beyond Grey County to the north and south).
- Georgian Trail - 32 km rail trail linking 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 which connects Owen Sound with the Village of Park Head (Bruce County).
- Grey County CP Rail Trail - 77 km trail travels between 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 & 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 kilometers rather than road kilometers; 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 km and 20 km, 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 Grey County 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.

1.2 Transit Network

Grey County 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.

1.2.1 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 5:30 pm. The specialized transit service operates from Monday to Friday (8:00 am to 5:00 pm) and provides door-to-door service for those individuals who cannot access the conventional service due to mobility limitations. The conventional and specialized transit services operate out of the Owen Sound Transit Terminal.

1.2.2 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 (ie. Hanover, Meaford, etc.).

1.2.3 Greyhound Bus Lines

Greyhound provides intercity bus travel across Canada. Within Grey County, Greyhound provides bus service to Owen Sound, Woodford, Meaford, Thornbury, Craigeleith, and the Blue Mountain Ski Resort. The existing Greyhound service schedule and frequency is provided in Table 1 (it is noted that the service schedule as presented, while including all stops within Grey County, does not show all stops outside of Grey County).

Table 1: Greyhound Service Schedule in Grey County

Outbound Service					Inbound Service				
Locations	Rte 5722		Rte 5734		Locations	Rte 5703		Rte 5715	
	Arr.	Dep.	Arr.	Dep.		Arr.	Dep.	Arr.	Dep.
Owen Sound	Start	8:00	Start	15:15	Toronto	Start	8:30	Start	15:30
Woodford	8:15	8:15	15:30	15:30	Barrie	10:00	10:05	17:15	17:20
Meaford	8:25	8:25	15:40	15:40	Collingwood	11:20	11:20	18:35	18:35
Thornbury	8:35	8:35	15:50	15:50	Blue Mountain	11:30	11:30	18:45	18:45
Craigeleith	8:40	8:40	16:00	16:00	Craigeleith	11:35	11:35	18:50	18:50
Blue Mountain	8:45	8:45	16:10	16:10	Thornbury	11:45	11:45	19:00	19:00
Collingwood	9:00	9:00	16:25	16:25	Meaford	11:55	11:55	19:10	19:10
Barrie	10:25	10:30	17:50	18:15	Woodford	12:05	12:05	19:20	19:20
Toronto	11:59	End	19:45	End	Owen Sound	12:25	End	19:40	End

Source: www.greyhound.ca

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

1.2.4 Grey-Bruce Airbus

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

1.2.5 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.

1.2.6 Other Specialized Transit Services

There are a variety of other transit services available within Grey County and its municipalities/towns. 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.

1.2.6.1 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.

1.2.6.2 Home & Community Support Services of Grey-Bruce

The Home & Community Support Services (HCSS) of Grey-Bruce operates the Movin' GB service - 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 (ie. 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 (HCSS requires 48 hour notice for service request).

1.2.6.3 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 & 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.

1.2.6.4 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). Limited details are provided regarding the service.

1.2.6.5 Saugeen Mobility and Regional Transit (SMART)

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.

1.2.6.6 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.

1.2.6.7 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.

1.2.6.8 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.

1.2.6.9 Financial Support Services

In addition to these services there are support programs (ie. 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.

1.3 Rail Network

There is currently no rail service provided in Grey County. It is noted that the County owns the former rail corridor stretching 77 kilometres from Owen Sound to Dundalk.

1.4 Water Transport Network

Situated on Georgian Bay, Grey County has immediate access to the Great Lakes. In terms of transportation, the Owen Sound harbour is the most prominent water facility in Grey County. 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 had 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*¹ 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 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. 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.

¹ *Owen Sound Official Plan*. The Biglieri Group Ltd. March 2006.

1.5 Air Transport Network

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 kilometres east of Owen Sound. The airport, registered with Transport Canada, consists of a single 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, catering primarily to private (ie. corporate) and recreational/pleasure flight operations.

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. The airport can accommodate larger aircraft but typically provides service to smaller general aviation traffic. The airport offers aircraft services common with most general aviation airports (ie. fuel, hangars, tie downs, etc.).

It is noted that 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" by the Canada Border Services Agency, and as such can coordinate customs services on site as required by flights entering from outside of Canada.

1.6 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; however, 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.

1.6.1 Provincial Highways

Grey County is served by Provincial Highways 6, 10, 21, 26 and 89. Highway 89 does not enter the County but rather forms the boundary between Grey County and Dufferin County. 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 18,500². A summary of AADT volumes for the noted provincial highways is provided in Table 2.

Table 2: 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

1.6.2 County Roads

Grey County maintains and operates 877 kilometres of County roads. The original intention of the Grey County 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 Grey County 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 (ie. 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 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.

² *Provincial Highways Traffic Volumes (AADT Only) 2009*. Ontario Ministry of Transportation. 2012.

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 \$26.4M³.

2.0 Collisions & Safety Review

2.1 Historical Collision Data

Through discussions with County staff it was noted that the County's accident database records are 3 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 reviewing 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 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%).

A majority (84%) of the collisions on Grey County 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.

³ County of Grey 2011 Road Needs Study. AECOM. Kitchener, ON. January 2012.

Table 3: 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%		

Table 4 and Table 5 identify the 10 Grey County 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 6 and Table 7 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 4: 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 - All County Roads	1274	96	120	25	9	1524	
Top 10 % of Total	67%	64%	63%	68%	78%	66%	

Table 5: Collision Summary - Top 10 Grey County 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		
LSR	Lost Control, Slippery Road	SI	Side Impact		

Table 6: 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 7: 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		
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.

2.2 Collision Hot Spots - Intersections

Further to the review of collision records, collision hot spots were identified by the County's transportation department staff based on field experience and observation. The locations as identified are provided in Table 8.

It is noted that several intersections along Grey Road 40 were identified by County staff as collision hot spots. The review of collision data (see Section 2.1) supports these field observations as Grey Road 40 experienced the greatest number of collisions coded as *Intersection* than any other County road between 2004 and 2008. The County has implemented additional safety measures at these intersections including the installation of oversized stop signs equipped with top mounted flashing beacons (oversized stop ahead signs have also been installed). The intersections of Grey Road 40 with Grey Road 2 and Grey Road 13 have had rumble strips installed and the stop signs equipped with a second flashing beacon below the sign. Despite the added safety features, the intersections continue to experience collisions.

Grey Road 119, from Ravenna to the intersection with Grey Road 19 and Gord Canning Drive (at the roundabout), has been identified by County staff as a safety concern. The road has several geometric deficiencies (horizontal curves severely restrict sight lines, specifically where the road travels down the escarpment) and is in poor overall condition. Of particular concern is the popularity of the road with cyclists and pedestrians as the geometry and condition of the road is not conducive to shared use.

Table 8: Collision Hot Spots - Intersections

Major Road	Minor Road	Intersection Control
Grey Road 2	Grey Road 40	2-way stop
Grey Road 7	Grey Road 40	2-way stop
Grey Road 12	Sideroad 10 (Meaford)	2-way stop
Grey Road 13	Grey Road 40	2-way stop
Grey Road 16	Concession 5(Georgian Bluffs)/ Concession 6(Chatsworth)	2-way stop
Grey Road 16	Concession 7(Georgian Bluffs)/ Concession 8(Chatsworth)	2-way stop
Grey Road 17	Girl Guide Road/Vault Works Road	2-way stop
Grey Road 17	Grey Road 170	2-way stop
Grey Road 18	Grey Road 11	2-way stop
Grey Road 40	Concession 6 (Chatsworth)	2-way stop
Grey Road 40	7 th Line (Grey Highlands)	2-way stop
Grey Road 40	Euphrasia/Blue Mountain Townline	2-way stop

2.3 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.

2.4 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 3 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;
- time of day;
- weather conditions;
- light conditions (ie. visibility);
- road conditions (ie. wet, slushy, snow packed, bare & 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.

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Subject to Council Approval