Traffic Safety Strategic Plan

2020

STRATHCONA
COUNTY

Strathcona County
Traffic Safety Strategic Plan 2020

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Executive Summary

Introduction

Between 2004 and 2013, there were 21,500 reported collisions in Strathcona County. Seventy-three people lost their lives and 315 suffered major, often life changing injuries. Altogether, these collisions cost our community over $400 million. Although we have seen modest improvements in traffic safety over the last five years, collisions remain the leading cause of death in Alberta for those between five and 30 years of age.

This document identifies priorities and programs for maintaining and improving traffic safety on County roads. The objective of the Traffic Safety Strategic Plan (TSSP) 2020 is to serve as an internal guiding document for the County's decision-making processes related to traffic safety through the year 2020.

Mission, Vision and Targets

Strathcona County's vision, mission and targets for traffic safety are as follows:

Vision:

> *No one is seriously injured or killed while travelling on Strathcona County's road network.*

Strathcona County's vision is aspirational in nature and need not necessarily be achieved within the timelines of the TSSP 2020. Interim targets are set to track progress towards this vision.

Mission:

> *Strathcona County is committed to the proactive implementation of integrated, evidence-based, and collaborative road safety strategies to create an increasingly safe and sustainable transportation environment.*

Targets:

> 1. For roads that are owned and maintained by Strathcona County: the average annual rate of combined fatal and major injury collisions per 100,000 population from 2018 to 2020 will be reduced by 15 percent compared to the average rate from 2011 to 2013. The average number of fatal and major injury collisions from 2018 to 2020 will be reduced by 15 percent compared to the average number of collisions from 2011 to 2013.
>
> 2. For roads that are within the borders of the County but that are owned and maintained by the Province of Alberta: Strathcona County will work cooperatively with Alberta Transportation staff to improve traffic safety and help meet provincial safety targets.

Strategies and Programs

Strathcona County's TSSP 2020 is based on the Safer System approach. With this approach in mind, the following Guiding Principles apply to all traffic safety strategies and programs in the County:

➢ Integration: Strategies to improve road safety are holistic in nature, acknowledging the interdependencies which exist between drivers, roads and vehicle safety design.
➢ Collaboration: As a leader in road safety, Strathcona County will engage residents, all County departments, commercial/industrial businesses operating in the County as well as regional and provincial partners in developing strategic safety solutions.
➢ Shared Responsibility: Best results in road safety are possible when the responsibility for road safety is shared between road users, designers and regulators.
➢ Evidence-Based Decision Making: Proven countermeasures will be used to improve road safety. Decision-making in road safety will be data driven.
➢ Evaluation and Knowledge Transfer: Initiatives to improve road safety in Strathcona County will be evaluated for effectiveness, and this information will be shared in order to build capacity within the traffic safety community.
➢ Inclusion: Traffic safety decisions will be made with all ages, abilities and modes of travel in mind.
➢ Prevention: Road safety strategies are proactive with the goal of preventing road safety concerns before they occur.

Thirteen specific strategies have been identified as having the greatest potential for significant, measureable and long-lasting impacts on traffic safety in Strathcona County. Each strategy is intended to become an ongoing program to which specific resources can be allocated and outcomes can be measured based on defined performance measures. The 13 strategies are divided into four categories:

• Implemented and Ongoing Strategies: These strategies are well-established in Strathcona County and will continue to evolve and improve with ongoing evaluation.
• Planned Strategies: Action plans for these strategies have been developed and are ready to be implemented and evaluated.
• Short-Term Strategies: These strategies are the highest priority and most readily implementable in the County within the next two to three years.
• Long-Term Strategies: These strategies will be implemented by 2020.

The 13 strategies are summarized in Table ES.1.

Table ES.1 Summary of Strathcona County's Traffic Safety Strategies 2020

Implemented and Ongoing Strategies	Planned Strategies (Implement in 2014)	Short-Term Strategies (Implement by 2017)	Long-Term Strategies (Implement by 2020)
• Strategy 1: Traffic Safety Data Collection, Analysis and Management Program	• Strategy 5: In-Service Road Safety Review Program	• Strategy 7: Road Safety Audit Program	• Strategy 11: MARD/Older Adults Traffic Safety Strategy
• Strategy 2: Road Network Screening Program	• Strategy 6: Neighbourhood Traffic Safety Strategy	• Strategy 8: Intersection Safety Strategy	• Strategy 12: Safe Vehicles Strategy
• Strategy 3: Integrated Safety-Focused Enforcement Program		• Strategy 9: Rural Road Safety Strategy	• Strategy 13: Corporate Traffic Safety Strategy
• Strategy 4: Integrated Public Education and Social Marketing Program		• Strategy 10: Work Zone Safety Strategy	

Details of each strategy, the actions to be performed between 2014 and 2020, and the departments responsible for leading and participating in the implementation of each strategy are described in detail in this strategic plan. In addition, this document outlines the expected resources (human and financial) that will be required.

1.0 Introduction

1.1 Background

In 2005, Strathcona County formalized its commitment to traffic safety with the formation of the Traffic Safety Committee. Key recommendations of their 2006 report included the creation of an Office of Traffic Safety and the development of a Traffic Safety Strategic Plan (TSSP).

In 2008, Strathcona County became one of the first municipalities in Canada to create a Traffic Safety Strategic Plan. Since that time, significant progress has been made in implementing many of the strategies outlined in that plan. Through investment in staff, infrastructure and technology, Strathcona County has achieved success in improving traffic safety in the community and is well positioned to move forward with further traffic safety initiatives.

While Strathcona County has seen some improvements in traffic safety in the community, there were still over 21,500 reported collisions in the County between 2004 and 2013. Over the last ten years, seventy-three people lost their lives and 315 suffered major, often life-changing injuries. Altogether, these collisions cost our community over $400 million. Traffic collisions remain the leading cause of death in Alberta for those between five and 30 years of age.

1.2 Plan Objectives

The objective of the Traffic Safety Strategic Plan 2020 is to serve as an internal guiding document for the County's decision-making processes related to traffic safety through the year 2020.

Since the development of the 2008 TSSP, there have been significant changes in research and practice in traffic safety. In addition, there have been many changes in the community and administration of Strathcona County. The 2008 TSSP was developed as a ten year plan, and many of the strategies remain relevant and appropriate. This successor plan aims to build on the work started in 2008, while identifying new areas of focus that reflect the current traffic safety environment and best practices in the industry.

1.3 Plan Development

The Traffic Safety and Engineering branch of Transportation and Agriculture Services led the development of the TSSP 2020. In the fall of 2013, an interdepartmental team was formed to contribute to the development of the plan. Broad representation from departments not traditionally engaged in traffic safety was sought to add to the diversity of perspectives available in the development of key strategies.

The team consisted of representatives from the following departments:

- Capital Planning and Construction
- Communications
- Corporate Planning and Intergovernmental Affairs
- Economic Development and Tourism

- Emergency Services
- Facility Services
- Family and Community Services
- Fleet Services
- Human Resources (Occupational Health and Safety)
- Planning and Development Services
- Recreation, Parks and Culture
- Royal Canadian Mounted Police and Enforcement Services
- Transit
- Transportation and Agriculture Services
- Utilities

The TSSP 2020 was developed in three phases:

Phase One
- ➢ A review was conducted to identify best practices in other jurisdictions.
- ➢ A Traffic Safety Survey was conducted in May of 2013 to establish resident perceptions and attitudes towards traffic safety and traffic safety initiatives. This data was used in the identification of key issues and priorities, the development of solution strategies and will provide a baseline for some evaluation measures of the 2014 TSSP.
- ➢ Interdepartmental representatives were engaged in the identification of community and organizational changes in Strathcona County since 2006, as well as the identification of key issues and priorities for the updated TSSP.

Phase Two
- ➢ Based on the results of Phase One, interdepartmental representatives were engaged in issue-specific discussions to improve understanding of the issue, identify key stakeholders, develop solution strategies and discuss possible outcome measures.

Phase Three
- ➢ A draft of the TSSP 2020 was completed and circulated to the interdepartmental team for feedback on solutions strategies and the overlying vision, mission and targets. Suggestions were then incorporated into this document.
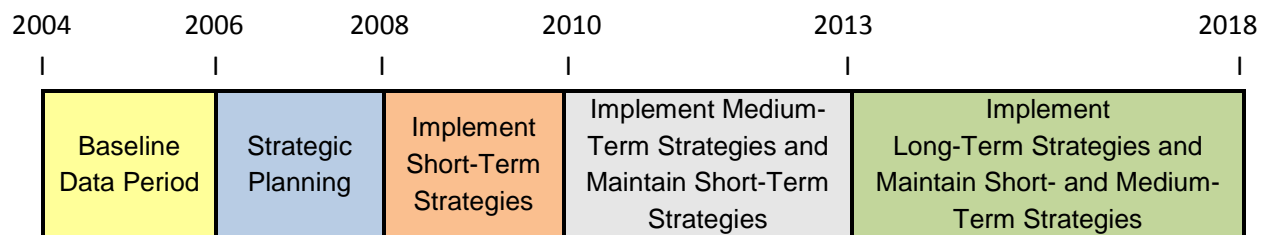
2.0 Traffic Safety Successes to Date

2.1 Capacity Building in Road Safety

Since the creation of the 2008 TSSP, much has been done to implement the eleven strategies included in the plan. Strathcona County now has two full-time positions dedicated specifically to traffic safety in the community. The Traffic Safety Liaison works closely with the community and stakeholders to champion the strategies of the TSSP. In addition, the Traffic Safety Analyst provides the technical skills to implement best practices in traffic engineering, data collection, analysis and network screening. Investment in traffic collision tracking and traffic signal monitoring software now provides high quality data for traffic safety decision-making. Administrative resources have been allocated for crash data entry.

Strathcona County has a fully integrated traffic unit consisting of members of the RCMP, Municipal Peace Officers and Provincial Sheriffs. More than doubling in size since 2008, Strathcona County's Integrated Traffic Unit is now the largest in Alberta. Strong relationships have been built between Strathcona County's engineering and enforcement partners, as well as with other stakeholders in the Capital Region. This investment in staff, technology and relationships has significantly increased Strathcona County's capacity to improve traffic safety going forward, opening up possibilities for new traffic safety strategies.

2.2 Tracking Progress

The following timeline for implementation was set out in the 2008 TSSP:

2004	2006	2008	2010	2013	2018
Baseline Data Period	Strategic Planning	Implement Short-Term Strategies	Implement Medium-Term Strategies and Maintain Short-Term Strategies		Implement Long-Term Strategies and Maintain Short- and Medium-Term Strategies

In 2011, Strathcona County underwent a corporate reorganization. As part of this process, the Engineering and Environmental Planning (EEP) department was eliminated, and transportation-related engineering staff were integrated into three different departments. The Office of Traffic Safety was relocated from Corporate Planning and Intergovernmental Affairs to the Transportation and Agriculture Services' department. As EEP was defined as the lead on most of the strategies of the 2008 TSSP, its implementation was somewhat delayed as these administrative changes were made and new roles and relationships were established. The hiring of a Traffic Safety Analyst in 2011 and a Traffic Safety Liaison in 2012 have put the implementation of the plan back on track; however, implementation remains approximately two years behind what was anticipated in 2008.

The 2008 TSSP set out a target to reduce the annual rate of total crashes in the County by 30%. Specifically, the target was to reduce the average annual crash rate from 14.1 per 1000 in 2004-2006 to 9.9 crashes per 1000 population in 2014-2016.

Figure 2.1 Crash Rates*- County Roads Only 2006-2013
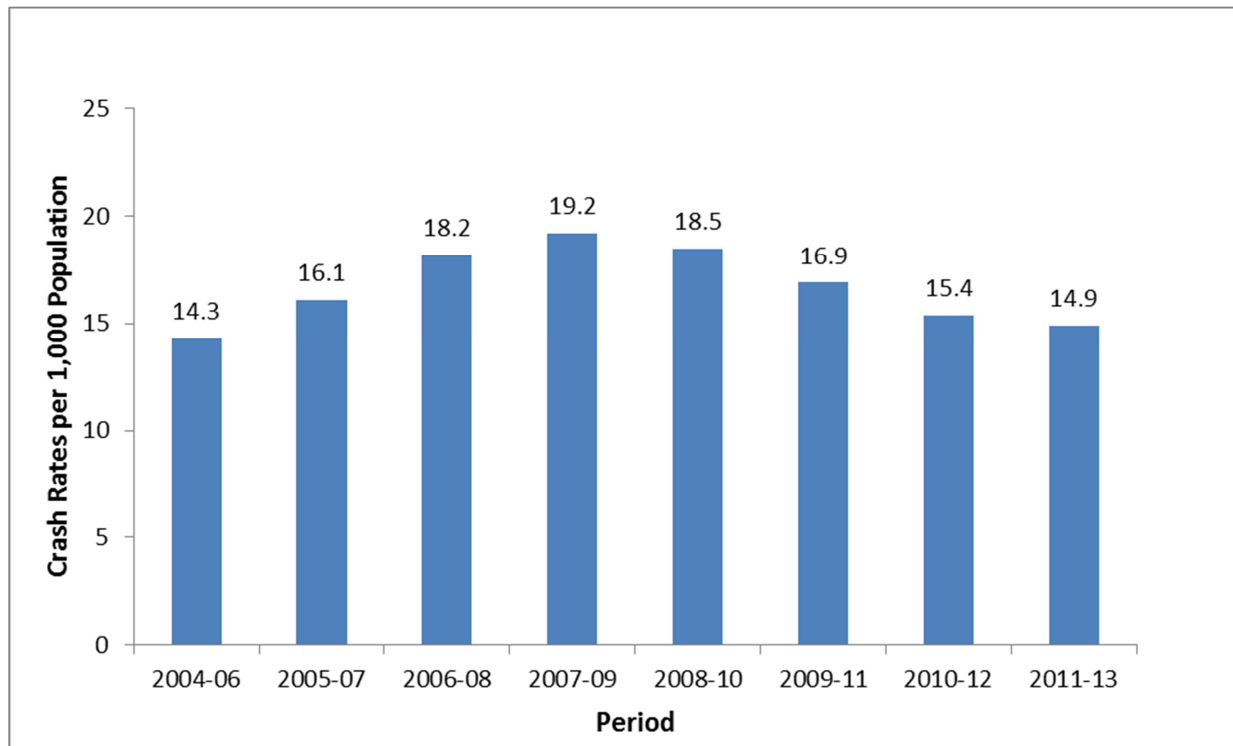
*Rates are based on three year averages of annual crash rates.

Crash rates on County roads continued to rise through 2008. Overall crash rates have returned to a similar level as seen in the years preceding the development of the TSSP. Most of the strategies implemented to date have increased Strathcona County's capacity to improve traffic safety, but they have yet to cause a change in the traffic safety environment. For example, an improved traffic crash tracking system and traffic signal software are now implemented, but their presence is only starting to affect traffic safety decision-making.

If Strathcona County continues with the current trend in overall collision rate, we are positioned to see our numbers drop below 2006 statistics by 2016, although a 30% reduction is unlikely. Since the implementation of the 2008 TSSP, however, research and practice in traffic safety has evolved from the use of overall collision rate as an outcome measure to the use of rates and numbers of fatal and serious collisions to evaluate progress. Overall collision rates can vary greatly based on weather and reporting practices. Serious collisions are a more accurate indicator of road safety and better reflect our updated vision and mission. Total collision rate will no longer be used as a metric for evaluating the updated TSSP.

See Section 4.0 Current State of Traffic Safety for more discussion.

3.0 Strathcona County's Traffic Safety Environment in 2014

3.1 About Strathcona County

Strathcona County's physical, economic and cultural environment presents a unique and challenging context for traffic safety initiatives. Strathcona County is a specialized municipality lying to the east of Edmonton, Alberta. Strathcona County is part of Alberta's Capital Region, the northernmost metropolitan area of Canada and home to over 1.1 million people. Spanning 1,265 km^2, the County includes the urban area of Sherwood Park and a large rural area with eight hamlets.

Table 3.1 Breakdown of the Population of Strathcona County (2012 Municipal Census)

Total Strathcona County	Sherwood Park	Rural*
92,403	65,465	26,938

*acreages, farms, rural hamlets

Strathcona County's transportation network consists of 394 km of urban roads, 1,310 km of rural roads and another 232 km of provincially-owned and maintained highways. Both Canadian Pacific and Canadian National Railways operate in the County. In 2012, there were 1,964 farms in Strathcona County and 7,755 acreages.

A large portion of Alberta's Industrial Heartland, Canada's largest hydrocarbon processing region, falls in Strathcona County. Well positioned as a gateway to Alberta's oilsands, industry in the Heartland generates a high volume of traffic on the rural roads and highway network in the northern half of the County. Many of these drivers, particularly during shut-down times, are not from the community.

MoneySense Magazine, in March 2013, rated Strathcona County as the number four overall best place to live in Canada, and the fourth best place to raise children. MoneySense also named Strathcona County as the second best small city in the nation.

At just under $147,000 per year, Strathcona County residents have the third highest average household income in Canada. This affluence, coupled with the rural and suburban nature of the County, translates into high rates of vehicle ownership and use. According to the 2012 census, 72% of households in the County have two or more motorized vehicles, and 20% of households in the County have three or more motorized vehicles. This significantly exceeds the average number of vehicles per household in Alberta (1.87 vehicles) and Canada (1.47 vehicles).

3.2 Community Changes and Challenges Since 2006

Since 2006, when the former TSSP was under development, there have been many changes in the County that have the potential to impact traffic safety.

The most notable change in the community has been the high rate of growth in both the residential and industrial sectors. The population of Strathcona County has grown from 82,511 in 2006 to 92,403 in 2012, an increase of 12%. According to Strathcona County's 2013 Facts and Stats, there were $16.3 billion worth of major projects announced, under construction or recently completed in the County.

This growth has led to an increase in the volume of traffic, as well as a change in the type of traffic on County roads. There are more commercial and heavy vehicles than previously and many more non-residents utilizing the network as they come to work in the community. Our road network has expanded significantly and has become much more complex.

As the Baby Boomers begin to turn 65, the number of seniors in the community is increasing quickly. In 2005, there were 6,910 seniors in Strathcona County. In 2012, the number of seniors grew to 11,166, an increase of over 60%. By 2031, the number of seniors in Strathcona County is expected to double. With the strong relationship between senior and medically-at-risk drivers, the aging of the community may have negative implications for traffic safety.

3.3 Organizational Changes

At the time the 2008 TSSP was written, all engineering staff were concentrated in the Engineering and Environmental Planning department. Since that time, this department has been eliminated and transportation-related engineering staff have been integrated into the Planning and Development Services, Transportation and Agriculture Services and Capital Planning and Construction departments. As a result of this change, increased interdepartmental coordination is needed to implement traffic safety initiatives.

Since 2006, there have also been many changes in the elected and administrative leadership in Strathcona County. Many new strategic documents and policies are in place that must be considered in road safety decision-making (see section 3.6 Alignment with Strathcona County Strategic Documents).

The development of a corporate wide Service Request Tracking System is currently underway. Once completed, this system will provide improved service and efficiency, increased information sharing and support performance measurement related to resident inquiries. This will impact the way all resident feedback is tracked, including those comments related to traffic safety.

3.4 Changes in Traffic Safety Research and Practice

"Safer System" Approach

In 2008, the summary report, *Towards Zero: Ambitious Road Safety Targets and the Safe System Approach,* was released by an international group of safety experts representing 21 countries, the World Bank, the World Health Organisation and the FIA Foundation. This report recognized the Safe System approach to road safety management as the state of the art in improving road safety outcomes, and recommended that all countries adopt this approach.

The Safe System philosophy is based on the belief that responsibility for road safety is shared between road users, designers and regulators. Safe transport is recognized as the most important outcome of the road network. Although a Safe System requires alert, compliant and responsible road users, it also acknowledges that humans are prone to making errors, and advocates for vehicles and roads which are forgiving of human error.

The Safe System approach reframes the way in which road safety is viewed and managed. The Safe System approach is based on four pillars: Safe Road Use, Safe Roads and Roadsides, Safe Speeds and Safe Vehicles. All of these elements are addressed in an integrated way with the goal of ensuring that energy levels produced in a potential crash stay below the human tolerance to violent forces. As such, the goal of the Safe System approach is to decrease serious injury and fatalities on the transport system.

With the recognition that Strathcona County's unique physical, economic and cultural environment precludes the full adoption of a Safe System approach at this time, Strathcona County has adopted a "Safer System" approach to road safety. The Safer System approach incorporates the Safe System concepts without fully committing to the very significant investment in infrastructure that would be necessary to bring all 1,700 km of our road network into compliance. Going forward, new development and transportation system upgrades will consider Safe System design.

3.5 Alignment with National and Provincial Road Safety Documents

3.5.1 Canada's Road Safety Strategy 2015

The Council of Ministers Responsible for Transportation and Highway Safety endorsed the Road Safety Strategy (RSS) 2015 in September 2010. The updated RSS 2015 retains the long-term vision of making Canada's roads the safest in the world. Through the adoption of a "safer systems concept", the strategy strives to take a more holistic and coordinated approach to traffic safety, without fully committing to the Safe System approach which traditionally involves significant long-term investments.

The RSS 2015 seeks to achieve downward trends in fatalities and serious injuries using rate-based measures. It does not include hard quantitative targets, but rather allows provincial jurisdictions to set their own.

3.5.2 Alberta's Traffic Safety Plan 2015

Alberta's Traffic Safety Plan 2015 is a successor to the Province's 2007 plan. Similar to the Federal plan, the 2015 plan is underpinned by a Safer System Approach. Priorities are addressed using core strategies, including education and training, communication, community initiatives, enforcement, research, legislation, new technologies, road engineering and infrastructure improvements.

Targets in Alberta's 2015 plan include a 15% reduction of both rate-based and absolute numbers of fatal and major injury collisions. Targets are calculated based on a three year average to dampen yearly fluctuations.

Alberta's 2015 Traffic Safety Plan does not set a vision for traffic safety on Alberta's roads. However, the conclusion of the report, *Beyond 2015-The Way Forward*, acknowledges that determining an appropriate "Vision Zero" is likely the next stage of evolution in road safety in Alberta.

3.6 Alignment with Strathcona County Strategic Documents

Since 2006, the County has created many new strategic documents to guide decision-making.

Council's strategic plan, *Powering our New Tomorrow*, completed in 2013, is now the principal guiding document for governance, community development, infrastructure and service delivery in the County. A Corporate Business Plan (2015-2018), as well as department specific business plans, have been developed to align with the strategic plan.

In 2012, the *Integrated Transportation Master Plan* was completed. This plan establishes a vision and direction to guide policy and decision making related to the County's transportation network over the next 30+ years. The plan provides guidance for development of transportation infrastructure facilities and the framework for identifying appropriate funding sources.

In 2010, County Council approved a *Public Engagement Policy and Framework* to guide the design and implementation of public engagement activities. Strathcona County is increasingly recognizing the growing demand for public engagement and the value of public contribution to decision making.

Other significant documents include the 2009 *Older Adults Plan*, the 2010 *Sustainable Rural Roads Master Plan* and the 2012 *Transit Master Plan*.

Explicit consideration was given to the alignment of the vision, mission and targets of the TSSP 2020 with Strathcona County's broader vision and goals.

4.0 Current State of Traffic Safety

The County's overall crash history for the last ten years is summarized in Table 4.1. With regards to the absolute number of collisions on all roads within Strathcona County, the number of reported collisions increased quite rapidly from 2004 to 2008, and then declined through to 2011. For the last two years, the number of collisions show a slight rise. This trend remains essentially the same when the crash history is narrowed to County-owned roads and provincial highways are excluded (see Table 4.2).

Table 4.1 Summary of All Collisions by Consequence Within County Borders 2004-2013

Year	Fatal	Major*	Minor**	PDO***	Total
2004	10	33	344	1236	1623
2005	12	18	411	1317	1758
2006	8	40	463	1509	2020
2007	7	40	505	1808	2360
2008	9	27	500	2063	2599
2009	5	44	443	1956	2448
2010	3	25	390	1834	2252
2011	7	32	418	1670	2127
2012	7	26	366	1743	2142
2013	5	30	411	1751	2197

*One or more persons required hospitalization **One or more persons injured ***Property Damage Only

Table 4.2 Summary of Collisions by Consequence on County Roads (Excluding Provincial Highways)

Year	Fatal	Major*	Minor**	PDO***	Total
2004	2	11	235	791	1039
2005	4	9	278	778	1069
2006	5	14	331	978	1328
2007	4	20	365	1187	1576
2008	4	12	346	1320	1682
2009	2	18	314	1336	1670
2010	0	13	260	1260	1533
2011	1	10	267	1096	1374
2012	1	14	228	1115	1358
2013	3	9	262	1115	1389

*One or more persons required hospitalization **One or more persons injured ***Property Damage Only

While absolute numbers of collisions in the County have increased from the levels experienced in 2004-2006, the population of Strathcona County has increased significantly. For that reason, crash rates give a more accurate picture of crash trends in the community. Overall crash rates in the County have been declining since the 2008 TSSP was created. However, 2013 overall crash rates remain above those recorded in 2004.

Table 4.3 Collision Rates per 100,000 Population on All Roads within the County

Year	Fatal	Major*	Minor**	PDO***	Total
2004	12.84	42.38	441.80	1587.40	2084.43
2005	14.96	22.43	512.26	1641.49	2191.15
2006	9.70	48.48	561.14	1828.85	2448.16
2007	8.33	47.61	601.08	2151.97	2808.99
2008	10.52	31.57	584.65	2412.27	3039.02
2009	5.68	50.00	503.42	2222.78	2781.88
2010	3.32	27.70	432.16	2032.27	2495.46
2011	7.57	34.60	451.94	1805.60	2299.71
2012	7.58	28.14	396.09	1886.30	2318.11
2013	5.16	30.93	423.79	1805.49	2265.37

*One or more persons required hospitalization **One or more persons injured ***Property Damage Only

Table 4.4 Collision Rates per 100,000 Population on County Roads

Year	Fatal	Major*	Minor**	PDO***	Total
2004	2.57	14.13	301.81	1015.89	1334.40
2005	4.99	11.22	346.50	969.69	1332.39
2006	6.06	16.97	401.16	1185.30	1609.48
2007	4.76	23.80	434.44	1412.83	1875.83
2008	4.68	14.03	404.58	1543.48	1966.77
2009	2.27	20.46	356.83	1518.22	1897.77
2010	0.00	14.41	288.11	1396.21	1698.73
2011	1.08	10.81	288.68	1184.99	1485.57
2012	1.08	15.15	246.75	1206.67	1469.65
2013	3.09	9.28	270.15	1149.70	1432.22

*One or more persons required hospitalization **One or more persons injured ***Property Damage Only

On January 1, 2011, the reporting threshold for property damage only (PDO) collisions increased in Alberta from $1,000 to $2,000. This makes it difficult to assess trends which include PDO collisions over time. In addition, the County implemented new collision tracking software in 2011 and a new data entry process. This may also have affected overall numbers of collisions entered in the system.

For the last several years, traffic safety in the County has been moving towards the Safer System approach. The Safer System approach focuses on the reduction of the kind of collisions which cause serious injury and death rather than overall crash reduction.

It is difficult to assess trends for fatal and major injury collisions in Strathcona County as absolute numbers of these kinds of collisions are low. Figures 4.5 and 4.6 combine fatal and injury collision statistics in order to better assess the incidence of our most serious collisions. Although variation is still high (blue line), trend lines (gray line) have been added to the graphs to illustrate the general direction

of collision statistics. Both graphs show a decreasing trend for fatal and major injury crashes in the County.

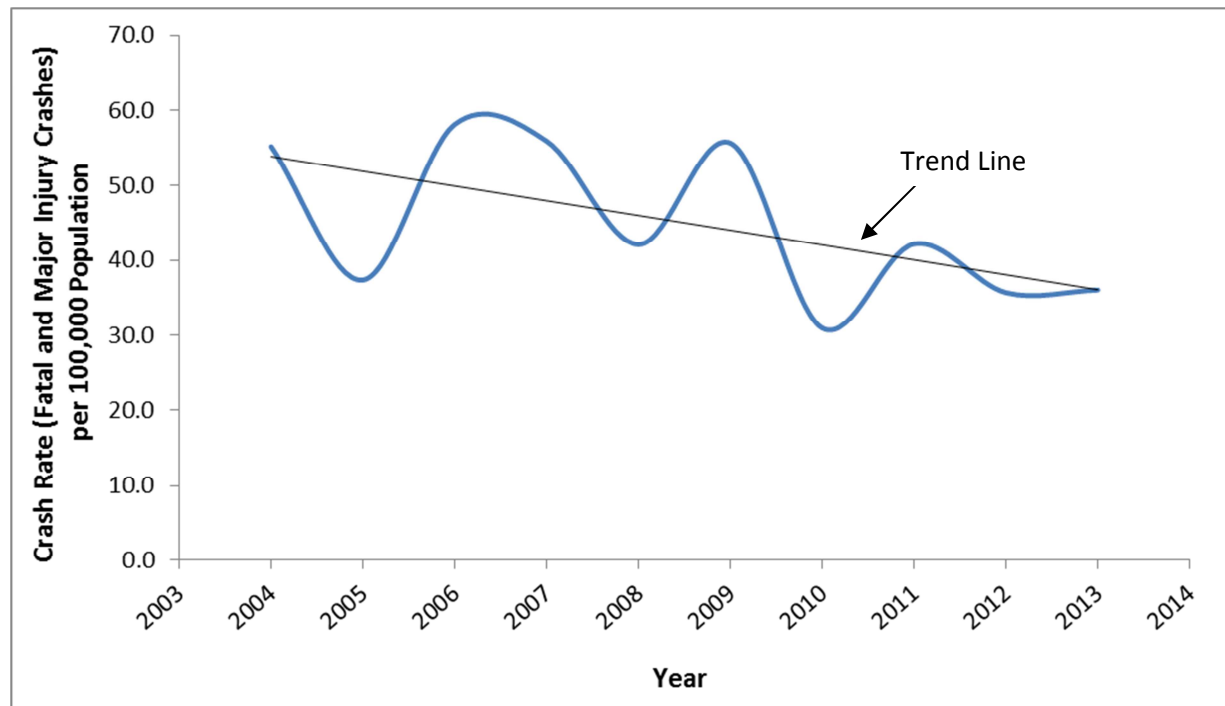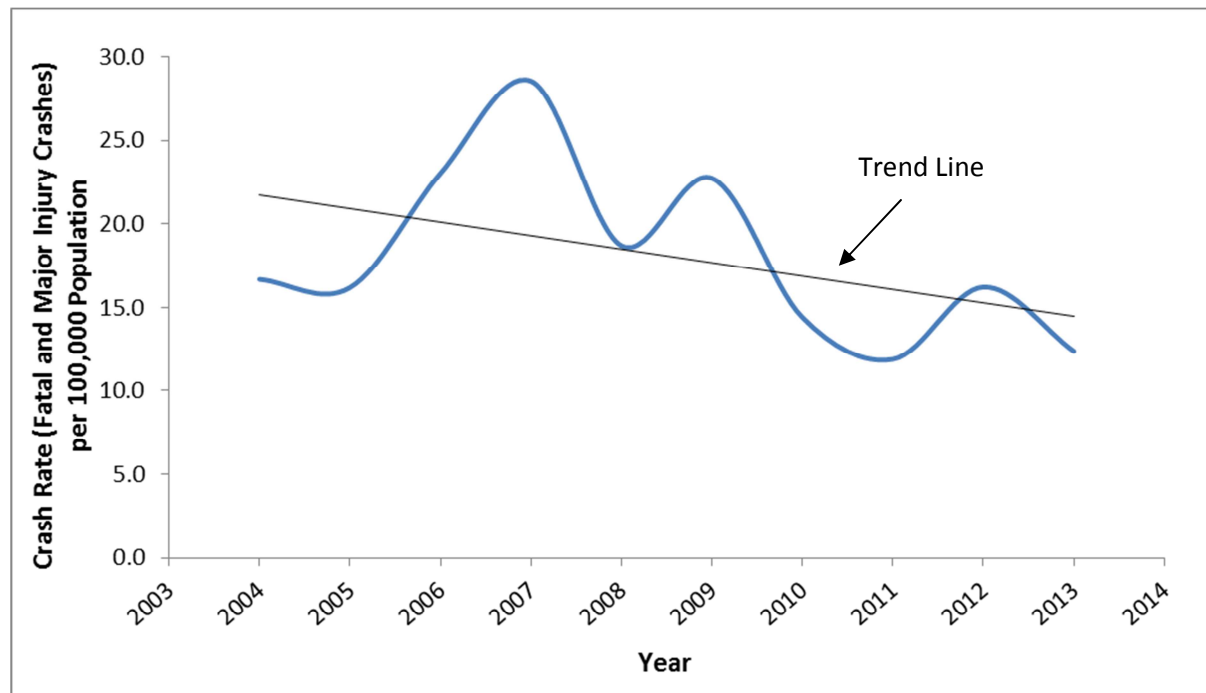**Table 4.5 Crash Rates for Fatal and Major Injuries Combined - All Roads within the County**

Table 4.6 Crash Rate for Fatal and Major Injuries Combined - County Roads Only

In addition to population rate based measurement of traffic safety outcomes, Strathcona County is utilizing measurements based on the amount vehicle distance travelled in the municipality per year[1]. Given Strathcona County's high rate of vehicle dependence and the presence of significant heavy industry, these rates give another important perspective on traffic safety in the community that may be the most readily comparable to other jurisdictions.

Table 4.7 2012 Collision Rates per Billion Vehicle Kilometres Travelled on <u>All Roads</u> within the County

Severity	Crash Rates (per Billion Km of Travel)
Fatal	2.45
Major Injury	9.09
Minor Injury	128.02
Non-Fatal Injury	137.11
Property Damage Only	608.95
Total	748.51

Table 4.8 2012 Casualty Rates per Billion Vehicle Kilometers Travelled on <u>All Roads</u> within the County

Severity	Injuries	Injury Rates (per Billion Km of Travel)	Injury Rates (Per 100,000 Population*)
Fatal	7	2.45	7.58
Major Injury	41	14.34	44.37
Fatal and Major	48	16.79	51.95

*Based on 2012 population census of Strathcona County; 92,403

Rates for all categories of collisions are well below the provincial average. Although Strathcona County has experienced improving trends in fatal and injury collision rates, we know that we can do better, and that traffic safety remains a priority issue in our community.

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[1] Note: Measurement of vehicle kilometre of travel annually is estimated on the available average weekday traffic from Strathcona County traffic volume data and the Alberta Transportation Traffic Volume Data.
Vehicle Km of Travel (In billions) = AWDT x L x N/10^9: where AWDT = Average Weekday Traffic; L = Length of the road in Km; N = Number of days in a year. County Roads = 0.899; Highways = 1.96 ; Total Travel = 2.859.

In addition to crash statistics, Strathcona County recognizes that resident perceptions of traffic safety are also an important consideration. For that reason, a Traffic Safety Survey was administered in 2013 to establish baseline numbers for future evaluation of the TSSP.

The random telephone survey elicited responses from 500 County residents. An additional 399 residents completed the survey online, for a total of 899 responses. The following two questions were asked to determine residents' perception of traffic safety generally and of the County's efforts to improve traffic safety.

Table 4.9 Question: Overall, how would you rate the state of traffic safety in Strathcona County?
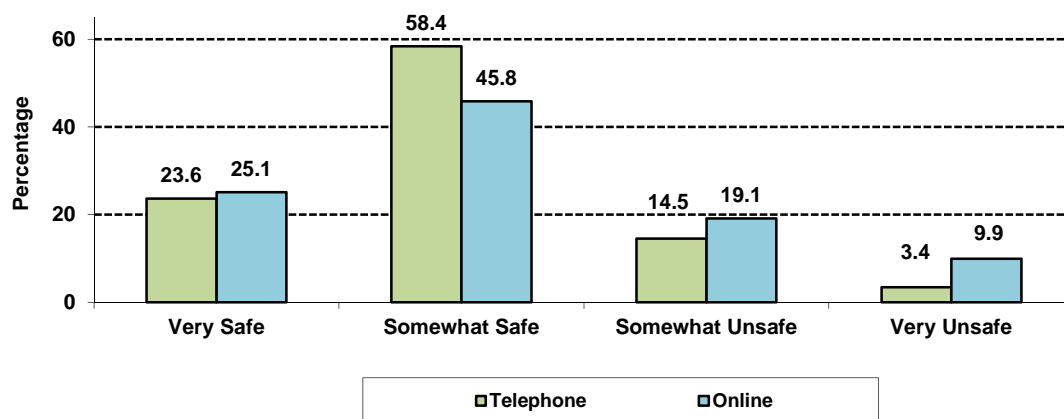
When asked to rate the state of traffic safety in Strathcona County, the majority of residents feel somewhat safe, suggesting that there is still room for improvement.

Table 4.10 Question: To what extent do you agree with the following statement: Strathcona County is always working to improve road safety?
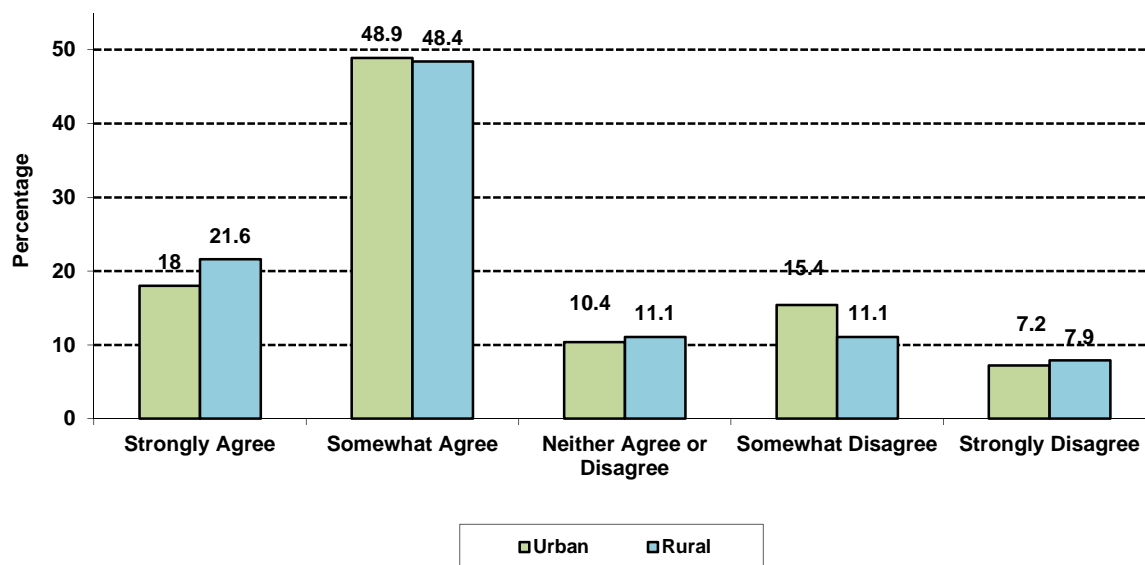
Similarly, the majority of residents somewhat agree that Strathcona County is always working to improve road safety.

4.1 Current High Priority Issues

Based on the review of current trends and key issues and priorities identified by residents and the TSSP interdepartmental team, the following areas have been identified as key areas of concern:

- Commercial vehicle safety
- Intersection safety
- Work zone safety
- Neighbourhood traffic safety
- Distracted driving
- Medically-at-risk/aging drivers
- Staff resources and funding
- Low resident awareness of traffic safety decision-making, including increased enforcement and alternative intersection designs
- Culture of disrespect for other road users and traffic safety laws

This strategic plan contains strategies aimed at addressing each of these issues.

5.0 Vision, Mission, Guiding Principles and Targets

5.1 Vision

> *No one is seriously injured or killed while travelling on Strathcona County's road network.*

Strathcona County's vision is aspirational in nature and need not necessarily be achieved within the timelines of the TSSP 2020. Interim targets are set to track progress towards this vision.

5.2 Mission

> *Strathcona County is committed to the proactive implementation of integrated, evidence-based, and collaborative road safety strategies to create an increasingly safe and sustainable transportation environment.*

This mission statement was developed to reflect the Guiding Principles of the TSSP 2020.

5.3 Guiding Principles

Strathcona County's TSSP 2020 is based on the Safer System approach. With this approach in mind, the following Guiding Principles apply to all traffic safety strategies and programs in the County:

➢ Integration: Strategies to improve road safety are holistic in nature, acknowledging the interdependencies which exist between drivers, roads and vehicle safety design.

➢ Collaboration: As a leader in road safety, Strathcona County will engage residents, all County departments, commercial/industrial businesses operating in the County as well as regional and provincial partners in developing strategic safety solutions.

➢ Shared Responsibility: Best results in road safety are possible when the responsibility for road safety is shared between road users, designers and regulators.

➢ Evidence-Based Decision Making: Proven countermeasures will be used to improve road safety. Decision-making in road safety will be data driven.

➢ Evaluation and Knowledge Transfer: Initiatives to improve road safety in Strathcona County will be evaluated for effectiveness, and this information will be shared in order to build capacity within the traffic safety community.

➢ Inclusion: Traffic safety decisions will be made with all ages, abilities and modes of travel in mind.

➢ Prevention: Road safety strategies are proactive with the goal of preventing road safety concerns before they occur.

5.4 Targets

In support of Canada's Road Safety Strategy 2015 and Alberta's Traffic Safety Plan 2015, Strathcona County's overarching traffic safety targets are:

> 1. For roads that are owned and maintained by Strathcona County: the average annual rate of combined fatal and major injury collisions per 100,000 population from 2018 to 2020 will be reduced by 15 percent compared to the average rate from 2011 to 2013. The average number of fatal and major injury collisions from 2018 to 2020 will be reduced by 15 percent compared to the average number of collisions from 2011 to 2013.
>
> 2. For roads that are within the borders of the County but that are owned and maintained by the Province of Alberta: Strathcona County will work cooperatively with Alberta Transportation staff to improve traffic safety and help meet provincial safety targets.

Using base conditions presented in Section 4.0, the crash targets are summarized in Table 5.1.

Table 5.1 TSSP 2020 Target Crash Outcomes for County-Owned Roads

Base Condition 2011-2013		Target 2018-2020	
Average Annual Crash Rate (Combined Fatal and Major Collisions)	Average Annual Number of Fatal and Major Collisions	Average Annual Crash Rate (Combined Fatal and Major Collisions)	Average Annual Number of Fatal and Major Collisions
13.5	12.7	11.5	10.8

Distance-based measurement of traffic safety outcomes is very new to Strathcona County. For this reason, no hard percentage based targets have been set for crash rates and casualty rates per billion vehicle kilometers travelled. Rather, Strathcona County will seek to achieve directional downward trends in fatalities and serious injuries through to 2020.

Targets for resident perceptions of traffic safety in Strathcona County will be based on a 15% increase in those rating traffic safety in Strathcona County as "Very Safe" or "Somewhat Safe", and those who "Strongly Agree" or "Somewhat Agree" that Strathcona County is always working to improve traffic safety. Results from the 2013 Traffic Safety Survey will be used as the base condition.

Table 5.2 TSSP 2020 Target Resident Perception Outcomes

Base Condition 2013 Resident Survey		Target 2020 Resident Survey	
Percent of Residents Rating Traffic Safety in the County as Safe	Percent of Residents who Agree that the County is working to improve road safety	Percent of Residents Rating Traffic Safety in the County as Safe	Percent of Residents who Agree that the County is working to improve road safety
77.0%	67.6%	88.5%	77.7%

In addition to these overarching traffic safety outcomes, which track our overall progress towards our mission and targets, key performance indicators have been identified for each strategy to more closely monitor the progress of the TSSP 2020.

6.0 Traffic Safety Strategies and Programs

Thirteen specific strategies have been identified as having the greatest potential for significant, measureable and long-lasting impacts on traffic safety in Strathcona County. Each strategy is intended to become an ongoing program to which specific resources can be allocated and outcomes can be measured based on defined performance measures.

The 13 strategies are divided into four categories:

- Implemented and Ongoing Strategies: These strategies are well-established in Strathcona County and will continue to evolve and improve with ongoing evaluation.
- Planned Strategies: Action plans for these strategies have been developed and are ready to be implemented and evaluated.
- Short-Term Strategies: These strategies are the highest priority and most readily implementable in the County within the next two to three years.
- Long-Term Strategies: These strategies will be implemented by 2020.

The 13 strategies are summarized in Table 6.1. Each strategy is subsequently described in detail, along with the current status, potential actions, responsibilities, evaluation indicators and resource and funding requirements.

Table 6.1 Summary of Strathcona County's Traffic Safety Strategies 2020

Implemented and Ongoing Strategies	Planned Strategies (Implement in 2014)	Short-Term Strategies (Implement by 2017)	Long-Term Strategies (Implement by 2020)
• Strategy 1: Traffic Safety Data Collection, Analysis and Management Program	• Strategy 5: In-Service Road Safety Review Program	• Strategy 7: Road Safety Audit Program	• Strategy 11: MARD/Older Adults Traffic Safety Strategy
• Strategy 2: Road Network Screening Program	• Strategy 6: Neighbourhood Traffic Safety Strategy	• Strategy 8: Intersection Safety Strategy	• Strategy 12: Safe Vehicles Strategy
• Strategy 3: Integrated Safety-Focused Enforcement Program		• Strategy 9: Rural Road Safety Strategy	• Strategy 13: Corporate Traffic Safety Strategy
• Strategy 4: Integrated Public Education and Social Marketing Program		• Strategy 10: Work Zone Safety Strategy	

6.1 Implemented and Ongoing Strategies

The first four strategies are now well-established in Strathcona County and will continue to evolve and improve with ongoing evaluation.

Strategy 1: Traffic Crash Data Collection, Analysis and Management Program

Overview

Data collection and management is integral to traffic safety, since traffic safety decisions should be based on evidence.

In 2013, Strathcona County implemented the Traffic Crash Location System (TCLS) to track crash data in the County. Crash data dating back to July 2011 has been directly entered into the system. Crash data dating back to 1982 from the County's previous system (COTRIS) has also been uploaded to TCLS. The RCMP provide Strathcona County with collision reports, which are then entered into the system. Processes are now in place for data input and cleansing, system maintenance and analysis of the data. A part-time administrative position has been created in Transportation and Agriculture Services to enter crash data.

The TCLS was chosen after extensive review of available collision tracking systems. Strathcona County's Traffic Safety Analyst worked closely with the vendor and Information Technology Services to customize the system to the specific needs of the County. The information provided by the TCLS is integral to the implementation of many other strategies included in the TSSP 2020.

Implementation of the TCLS has given Strathcona County the capability to:

- Accurately represent crash trends, both spatially and by cause
- Effectively develop data driven traffic safety initiatives, and then monitor and evaluate them.
- Accurately analyze and report crash statistics
- Easily separate those crashes occurring on public roads from those occurring on private property

Future Actions

- Continue to acquire, cleanse and enter crash data into the TCLS

- Routinely update crash management software
- Identify other sources of data required for traffic safety analysis
- Improve capacity to segregate crashes which occur on provincial highways from those which occur on Strathcona County's roads
- Ongoing evaluation of processes for data gathering, input, cleansing and system maintenance

Responsibility

Lead

- Transportation and Agriculture Services

Support

- RCMP
- Information Technology Services

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Percentage of crashes entered within 30 days of receiving the report from the RCMP

Strategy 2: Road Network Screening Program

Overview

A Network Screening program for crash-prone locations has been implemented in Strathcona County. Data provided by the TCLS is used to:

- Identify and rank specific sites where improvements have the potential to reduce the number of crashes
- Evaluate the network to identify sites that have potential to benefit from a specific program (e.g., increased enforcement) or countermeasure (e.g., guardrail implementation program) in order to formulate and implement policy for system-wide improvements
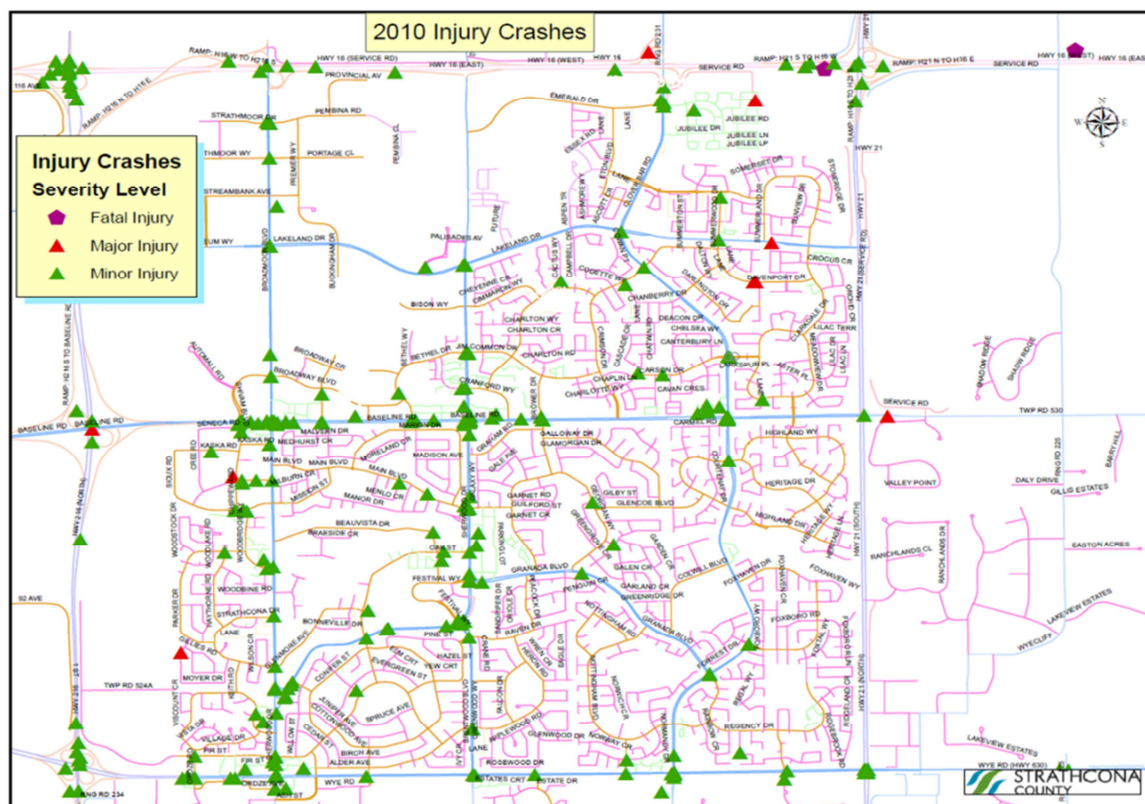
The goal of the Road Network Screening Program is to identify and rank sites from "most likely" to "least likely" to realize a reduction in crash frequency with implementation of countermeasures. Network screening is conducted by Strathcona County's Traffic Safety Analyst in the first quarter of each year, as soon as the TCLS data is available for analysis.

Network screening is conducted separately for rural and urban locations. Multiple performance measures are used to evaluate intersections and road segments, including crash frequency, crash rate and Equivalent Property Damage Only (EPDO). Only those crashes which occur on public roadways are included in the network screening.

The Road Network Screening Program has several linkages with Strategy 5 (In-Service Road Safety Review Program), Strategy 8 (Intersection Safety Strategy) and Strategy 9 (Rural Road Safety Strategy).

Future Actions

Ongoing evaluation of the Road Network Screening Program will be conducted to ensure the process remains consistent with industry standards and will evolve as new data sources become available.

Responsibility

Lead

- Transportation and Agriculture Services

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Network screening is completed by the end of Q_1 for the previous year to allow for the In-Service Road Safety Review process to start in a timely manner.

Strategy 3: Integrated Safety-Focused Enforcement Program

Overview

The RCMP and Strathcona County have continued to invest in traffic safety through enforcement since the implementation of the first TSSP. The County now has the largest traffic unit in Alberta, with one traffic officer for every 4000 residents. Currently, Strathcona County's Integrated Traffic Unit (ITU) is composed of 39 dedicated traffic officers: 12 municipal RCMP members, 12 County Peace Officers, 8 provincial RCMP traffic members and 7 provincial Sheriffs.

In September 2012, mobile automated enforcement was discontinued in the County. The program was replaced by the addition of 5 full-time positions on the ITU. Intersection Safety Devices are operating at several intersections in the County, monitoring speed on green and red light infractions.

The Strathcona County ITU has developed a good working relationship with Edmonton Police Services and routinely carries out Joint Forces Operations to target impaired and high-risk driving. The ITU also works closely with enforcement partners in Fort Saskatchewan.

Traffic safety enforcement is most effective when it is integrated with education and engineering initiatives, data-driven and sustained over time.

The RCMP publishes an annual report that reviews crash trends from the previous year and outlines its plans for the coming year. As the majority of fatal and serious injury crashes in the County are intersection-related, intersections remain the key focus area for enforcement operations.

With the acknowledgement that speed increases both the frequency and severity of motor vehicle collisions, and in keeping with the Safer System approach, both high and low level speeding are also a priority for enforcement in Strathcona County.

Enforcement in Strathcona County has become increasingly data driven. Recent research conducted through the Capital Region Intersection Safety Partnership has revealed a positive correlation between automated enforcement infractions, increased collision risk and increased criminal activity. As a result, automated enforcement data is now shared among partners in the Capital Region to identify high risk drivers for targeted enforcement efforts.

The ITU also works closely with its engineering partners to identify high risk locations and behaviours for enforcement efforts. New signal software currently being installed in Strathcona County will provide another rich source of data that can be used to identify the most effective use of enforcement resources. Strong working relationships with County engineers are important as compliance with traffic safety laws is closely tied to the consistent and appropriate application of traffic control.

Despite unequivocal research evidence linking increased traffic enforcement to improved safety outcomes on the road network, some misperceptions still exist in the community that enforcement is conducted for the purpose of revenue generation. Efforts to educate residents regarding the Safer Systems approach and increased transparency regarding the use of funds generated through traffic enforcement are necessary to build support for increased enforcement efforts.

Future Actions

- Continue current efforts in targeted traffic safety enforcement, making use of available data for decision-making.
- Continue to collaborate with other traffic safety partners in the Capital region and the County to leverage new data sources for targeted enforcement efforts.
- Continue to build relationships with other enforcement partners in the Capital Region to ensure consistent and collaborative enforcement efforts.
- Continue to coordinate with education efforts in the County (link Strategy 4) and explore new ways to educate residents around the purpose and goals of enforcement.
- Continue to identify and develop leadership capacity to ensure that traffic safety is a police priority and not dependent on specific individuals.
- Explore new ways to enforce in rural areas (link to Strategy 9).
- Develop an automated enforcement policy to guide its use and evaluation. Continue to expand ISD program at intersections of concern (link to Strategy 8).
- Collaborate with County traffic safety partners to develop a stop-sign strategy to improve driver compliance at stop-controlled intersections (link to Strategy 8)

Responsibility

Lead

- RCMP and Enforcement Services

Support

- Transportation and Agriculture Services

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Traffic Safety Survey (Level of agreement with the statements: Red light cameras make intersections safer, Traffic Enforcement in Strathcona County makes our roads safer. Decreased reported acceptability of running a red light, speeding up to get through a yellow light, rolling through a stop sign, driving over the speed limit)
- Number of ISDs
- Number of ISD infractions
- Number of manned speed and stop sign operations
- Number of Joint Forces Operations

Strategy 4: Integrated Public Education and Social Marketing Program

Overview

Strathcona County has developed a Traffic Safety Communication Plan to guide messaging related to traffic safety. The Plan was developed in collaboration with Communications, Transportation and Agriculture Services and the RCMP and Enforcement Services. Key messages were based on annual crash trends and local traffic safety issues.

The Traffic Safety Communication Plan was created to provide an easily accessible guide to communicating clearly, concisely and accurately with the following goals in mind.

- To create awareness and understanding among residents about traffic safety and about measures taken by Strathcona County to improve road safety, specifically the Safer System approach
- To create awareness of suitable channels for resident engagement and feedback regarding traffic safety in Strathcona County
- To educate residents on specific traffic safety issues

January	February	March	April
Intersection Safety	Medically At Risk Drivers	Occupant Restraints	Cycling Safety
	Distracted Driving		Work Zone Safety
			ATV Safety
May	**June**	**July**	**August**
Child Seats	Speed	Intersection Safety	Rural Driving Safety
Motorcycle Safety	Commercial Vehicle Safety		
September	**October**	**November**	**December**
Back to School/ Pedestrian Safety	Halloween Safety	Winter Driving Safety	Impaired Driving
	Animal Strikes	Snowmobile Safety	

The County's social marketing and education programs are conducted in cooperation with other agencies in the Province, the Capital Region and Strathcona County's Integrated Traffic Unit.

In most cases, Strathcona County's communication calendar has been designed to mirror Alberta's Traffic Safety Calendar. Strathcona County also supports Partners in Road Construction Safety, a mass media campaign dedicated to reducing speeding in construction zones in Alberta.

Strathcona County is also an active partner in the Capital Region Intersection Safety Partnership (CRISP). Although CRISP is no longer involved in the development of mass media campaigns, the partnership still functions to standardize messaging across the region with respect to intersection safety. One example of this is the recent development of an educational insert being included with automated enforcement violations issued across the Capital Region stressing the dangers of speeding at intersections.

Currently, Strathcona County uses social media (Facebook, Instagram and Twitter), newspaper advertising and news releases to communicate traffic safety messages. In addition, the Traffic Safety

Liaison and the Integrated Traffic Unit work closely with schools and at community events to educate about traffic safety concerns and initiatives in the County.

Community Services' departments in Strathcona County (other than the RCMP and Enforcement Services) have not traditionally been involved in traffic safety messaging. These departments have direct access to many of our key target audience for traffic safety messaging (parents, youth and seniors). Collaboration with these partners may allow for more effective, targeted and consistent messaging regarding traffic safety.

Future Actions

- Continue to participate in education programs initiated by partner agencies and the province.
- Continue to coordinate with enforcement efforts in the County (See linkage Strategy 3).
- Build relationships with partners in Family and Community Services, Recreation, Parks and Culture, Emergency Services, Transit and the Library. Increased awareness of each other's roles will help to identify opportunities to deliver traffic safety education where it will be the most effective

Responsibility

Lead

- Transportation and Agriculture Services

Support

- RCMP and Enforcement Services
- Communications
- Family and Community Services
- Recreation, Parks and Culture
- Emergency Services
- Transit

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Google analytics
- Number of community events attended/presentations given
- Community surveys (change in residents' perceived acceptability and reporting of risky driving behaviour)
- Number of departments involved

6.2 Planned Strategies

Action plans for Strategy 5 & 6 have been developed, and they are ready to be implemented and evaluated.

Strategy 5: In-Service Road Safety Review Program

Overview

A program and process summary have been developed for the implementation of In-Service Road Safety Reviews (ISRSR) in Strathcona County. The process is modelled after the Transportation Association of Canada's *Canadian Guide to In-Service Road Safety Reviews* (2004).

The goal of the program is to address the safety of all road users at crash-prone locations. Normally, a location(s) will be identified annually through the Network Screening Program; however, ISRSRs may also be performed based on a resident or Council concern/request.

The benefits of an ISRSR program include:

- multidisciplinary review by a focused team
- review of both collision history and assessment of future collision potential
- formal justification for expenditures for upgrades
- opportunity for the application of best practices and new technologies
- formulation of both low cost and longer-term safety measures

Staff will be identified in each department to participate in the ISRSR process. Creating a consistent team will allow staff to develop the skills necessary to perform effective ISRSR.

An effective ISRSR program must also establish a process to ensure that recommendations are implemented in a timely and consistent manner.

Future Actions

- Identify and assemble individuals in Planning and Development Services, RCMP and Enforcement Services, Emergency Services, Transit, Capital Planning and Construction and Transportation and Agriculture Services to form a core team for ISRSRs.

- Review existing transportation policies and programs to determine how the ISRSR program can be integrated into the project creation and budgeting process.

Responsibility

Lead

- Transportation and Agriculture Services

Support

- RCMP and Enforcement Services
- Emergency Services
- Planning and Development Services
- Capital Planning and Construction
- Transit

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Change in number, severity or type of collisions at the review location
- Number of ISRSR completed each year
- Number of programs/projects ordered as a result of an ISRSR
- Number of requests for ISRSRs each year

Strategy 6: Neighbourhood Traffic Safety Strategy

Overview

Neighbourhood traffic safety is focused on residential areas, including low speed roads and school and playground zones. Strathcona County has developed a number of initiatives to address neighbourhood traffic safety concerns. Analysis of residential traffic collision data from 2003 to 2012 indicates that residential roads in Strathcona County are very safe, and the few collisions that have occurred involving pedestrians or cyclists were unrelated to speed.

Despite this, neighbourhood traffic safety remains a top concern for residents of Strathcona County, with 68% of urban residents and 56% of rural residents agreeing that "Traffic Safety is a concern in my neighbourhood" on the 2013 Traffic Safety Survey. Of those who were concerned with neighbourhood traffic safety, the vast majority of those cited speeding as their main concern.

In December 2013, Strathcona County Council approved the Neighbourhood Traffic Safety Strategy. This strategy outlines all of the initiatives the County currently has in place to address neighbourhood traffic safety, including the 2013 SER-009-040 Traffic Calming Policy, the driver feedback sign program and Speedwatch.

The following recommendations were made to address neighbourhood traffic safety concerns in Strathcona County:

- increase resident engagement in neighbourhood traffic management
- increase public education regarding residential traffic safety
- explore the formation of a School Traffic Safety Partnership composed of representatives from County schools, Parent Councils, Enforcement and Strathcona County

Future Actions

- Implement the recommendations from the 2013 Neighbourhood Traffic Safety Strategy.

Responsibility

Lead

- Transportation and Agriculture Services

Support

- RCMP and Enforcement Services
- Corporate Planning and Intergovernmental Affairs (Senior Public Engagement Advisor)

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Follow-up Traffic Safety Survey (level of agreement with the statement *"traffic safety is a concern in my neighbourhood"* and *"Strathcona County engages its residents in traffic safety"*)
- Number of Residential and School-related complaints
- Speed and volume data

6.3 Short-Term Strategies

These strategies are the highest priority and most readily implementable in the County within the next two years.

Strategy 7: Road Safety Audit Program

Overview

Road Safety Audits refer to safety-focused multi-modal safety reviews conducted during the planning and design stages of new road or development projects. In Strathcona County, planning and design of new arterial and rural grid roads is conducted or overseen by Capital Planning and Construction (CPC). As part of this process, CPC incorporates an independent third party RSA.

The Planning and Development Services' (PDS) department sets requirements for construction of developer built local and collector roadways. Road Safety Audits (RSAs) are occasionally conducted for locations where novel, complex or non-standard designs or roadway features have been proposed, but formal requirements for RSAs are not currently entrenched in planning policies.

The benefits of conducting design safety audits on a more systematic basis are:

- low cost of making safety improvements prior to construction;
- encourages development industry to take ownership of traffic safety, and safety improvements can be funded by them; and
- reviews roadway elements beyond the traditional standards, including all road users and project interfaces.
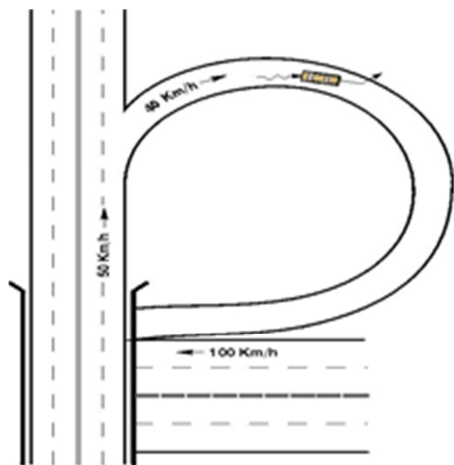
The Transportation Association of Canada (TAC) has published the *Canadian Road Safety Audit Guide*, which covers all aspects, including how and when audits can be conducted, and the Province of Alberta has developed implementation guidelines. For example, design safety audits can be carried out at the

- planning stage;
- detailed design stage; and
- pre-opening stage audit.

Future Actions

- Review existing TAC guidelines and establish Road Safety Audit guidelines for Strathcona County and ensure these are written into overarching development documents including:
    - o identification of candidate projects and design stages during which to conduct RSAs
    - o RSA delivery model (internal/external)
    - o incorporation of safety into traffic impact assessments for new developments

Responsibility

Lead

- Planning and Development Services (for local and collector roadways constructed by developers)
- Capital Planning and Construction (for arterial and rural grid roadways constructed by Strathcona County)

Support

- Transportation and Agriculture Services

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Number of RSAs completed per approved design

Strategy 8: Intersection Safety Strategy

Overview

Each year, 35-40% of collisions in the County occur at intersections. The majority of fatal collisions are intersection-related. Rural stop sign controlled intersections present the highest risk. Safety issues at intersections include poor driver behaviour, such as red light running, speeding and non-compliance with stop signs. Other road users, such as pedestrians and cyclists can also be non-compliant at intersections, for example, crossing near the end of a signal cycle.

Roadway design can also contribute to intersection safety concerns. Intersection geometry affects sightlines and determines the angles of a potential collision. Pedestrian and cycling facilities need to be incorporated into design. Currently, portions of Strathcona County's urban areas are not up to the standard for para-ramp design and installation.

Traffic management, including the consistency of signage, speed limits and signal phasing, also affects intersection safety. Maintenance issues, such as faded line markings, road surface conditions and appropriate lighting, also contribute to intersection safety.

Strathcona County invests a significant amount of resources addressing intersection safety. In 2014, intersection safety is the number one priority for enforcement efforts. Intersection Safety Devices (ISDs) are in place at seven major urban intersections in Strathcona County. The Integrated Traffic Unit regularly performs stop sign operations in rural, urban and industrial areas.

New development and redevelopment in the County uses best practices in intersection design to maximize safety on new roads. Roundabouts are becoming increasingly common in the County as a result of their safety benefits, which have been shown to reduce serious injury and fatal collision by as much as 78%.

Strathcona County is proud to be a member of the Capital Region Intersection Safety Partnership (CRISP). CRISP shares resources and expertise to implement ongoing, collaborative and integrated intersection safety initiatives to reduce the frequency and severity of intersection collisions in the Capital Region.

Strathcona County pilots new initiatives to improve intersection safety, for example the pedestrian countdown signals and flashing red

light beacon pilot projects. In addition, Strathcona County is currently implementing new traffic signal management software - Centracs. This software will provide valuable real-time data, which can be used to improve intersection operations and safety.

Regular brushing of vegetation, priority-based sanding in winter, geometric and pavement improvements at intersections and regular review of signal timings are other actions taken by the County to improve intersection safety.

Future Actions

- Continue with Network Screening to identify crash-prone locations for In-Service Road Safety Reviews (linkages with Strategies 1,2 and 5).
- Continue to refine and develop guidelines for the consistent and effective brushing of vegetation on rural grid roads to maintain sightlines (link to Strategy 9).
- Recommend changes to Design and Construction Standards to include provisions for greater use of Safe System intersection design, such as roundabouts, in new and redevelopment areas (rural and urban).
- Consider improvements to pedestrian and cycling facilities at intersections as part of the update of Design and Construction Standards (i.e. incorporate bike facilities into arterial porkchops).
- Consider the creation of a retrofitting program for missing para-ramps.
- Continue to follow best practices in illumination at intersections and pilot the use of new illumination devices (ie. LED lit street name signs).
- Improve resident awareness and education about the advantages and use of roundabouts and ISDs, as well as safe driving behaviours at intersections (link to Strategy 4).
- Continue to expand ISD program at intersections of concern (link to Strategy 3). Explore new ways to enforce at rural intersections.
- Develop a stop-sign strategy to improve driver compliance at stop-controlled intersections.
- Develop Left Turn Operation Guidelines to guide the consistent application of protected left-turn phasing at signalized intersections.
- Continue to work with stakeholders in the Capital Region through CRISP to improve intersection safety.
- Continue to leverage new technologies to improve traffic signal operations and safety.

Responsibility

Lead

- Transportation and Agriculture Services
- Capital Planning and Construction
- Planning and Development Services
- RCMP and Enforcement Services

Support

- Transit
- Emergency Services

Human Resource Requirements

- No new resources required

Estimated Annual Cost

- To be determined based on initiatives implemented

Key Performance Indicators

- Intersection collision data
- Speed on green and red light infraction rates at signalized intersections
- Speed data at intersections (from Centracs)

Strategy 9: Rural Road Safety Strategy

Overview

The rural roads of Strathcona County account for most of its transportation network. The safety issues in rural areas are vastly different than in urban areas. Rural drivers contend with a roadway environment that can include a large diversity of vehicles operating with potentially large speed differentials, animals on the road, railway crossings, varying road surfaces and other potentially hazardous factors.

Driver non-compliance also tends to be higher in rural areas, including decreased seat belt usage, poor stop sign compliance and improper towing. Enforcement operations in rural areas are often limited by the environment, and it is difficult to enforce a large rural area with any consistency using traditional methods.

About 35% of collisions each year occur in rural areas. Each year, animal strikes account for about ten percent of the total collisions reported in the County, with the majority of these occurring in rural areas.

In 2010, Strathcona County Council approved the Sustainable Rural Roads Master Plan (SRRMP) that guides the way rural roads are maintained and rehabilitated. The SRRMP also determines which classification of road should be in place based on volumes and connectivity. Road classification specifics are defined in Strathcona County's Design and Construction Standards.

Programs for mowing and brushing are in place to maintain sightlines and discourage animals from being on the road. The Driver Feedback Sign Program was also expanded to the rural areas of the County in 2013 to increase driver awareness of speeding.

Future Actions

- Continue with Network Screening to identify crash-prone locations for In-Service Road Safety Reviews (linkages with Strategies 1,2, 5 and 8).
- Ensure speed and volume data collection is up to date on rural grid roads to support implementation of SRRMP.
- Continue to refine and develop guidelines for the consistent and effective brushing of vegetation on rural grid roads to maintain sightlines (link to Strategy 8).
- Consider changes to Design and Construction Standards to include provisions for Safe System improvements such as rumble strips and guard rails across the network.
- Improve resident awareness and education about appropriate driving behaviour and specific risks in rural settings (link to Strategy 4).
- Collaborate with stakeholders to develop a strategy to decrease animal strikes in rural areas.
- Explore new ways to enforce in rural areas (link to Strategy 3).

- Conduct sign review of rural area to ensure signage is clear, consistent and warranted.
- Consider the creation of a rural road cross-section re-establishment program.

Responsibility

Lead

- Transportation and Agriculture Services

Support

- Capital Planning and Construction
- Planning and Development Services
- RCMP and Enforcement Services

Human Resource Requirements

- No new resources required

Estimated Annual Cost

- To be determined based on initiatives implemented

Key Performance Indicators

- Rural collision data
- Animal strikes data

Strategy 10: Work Zone Safety Strategy

Overview

Strathcona County employees and contractors regularly perform activities such as roadway work, utilities work and vegetation maintenance on or adjacent to public roadways in the County. It is imperative that the person(s) performing the work must define a safe work area and make suitable provisions to safely accommodate the travelling public.

In 2012, work on the Northeast Anthony Henday Drive (NEAHD) project commenced in Strathcona County and is expected to continue through to at least the end of 2016. The construction of the final leg of Edmonton's ring road is a massive project, undertaken by Alberta Transportation, involving the construction of 47 bridge structures. The NEAHD project has brought an unprecedented level of construction activity to Strathcona County, having traffic impacts on every transportation link to the City of Edmonton.

The NEAHD project in combination with regular construction and maintenance projects in Strathcona County has led to increased resident levels of concern with work zone safety. Residents have expressed concern with the intensity of construction, unclear and inconsistent traffic control in work zones and decreased speed limits in areas where risks are not apparent. While there have been few incidents in the construction zones to date, there is the potential for casualty collisions in these zones due to driver frustration, poor compliance and increased levels of congestion.

All work completed within the road right-of-way in Strathcona County requires a Right-of-Way Construction Activity Permit (ROWCAP). Work that requires temporary traffic control (TTC) must include a TTC plan. Strathcona County's Temporary Traffic Control Manual (2008) was developed as a resource for those developing TTC plans.

ROWCAPs are required for work being conducted by Strathcona County staff and by third parties. ROWCAPs can be issued annually for ongoing projects (ie. brushing) or for a specific project. Enforcement of ROWCAPs is done by municipal Peace Officers and is generally complaint driven.

Identified issues with the ROWCAP process include a lack of understanding of the TTC plan by the individuals actually performing the work, lack of resources to review and approve ROWCAP applications and lack of inspection of work sites. In addition, work lasting under 30 minutes does not require a ROWCAP.

Other initiatives currently in place to manage work zone safety include the Workplace Safety Certificate of Recognition (COR) program, administered by the Alberta Construction Safety Association. The COR is a pre-qualification requirement for any prime contractor hired by Strathcona County, and is awarded to employers who develop health and safety programs that meet established standards. In situations where Strathcona County is named as the prime contractor, subcontractors are not generally required to have a COR.

Additionally, the Provincial Occupational and Health legislation has a new ticketing process in place and will be implementing it in 2014. Increased inspections can result in ticketing for workers, managers and employers.

The Transportation Association of Canada is currently in the process of developing a national set of guidelines to assist Canadian agencies and their contractors to create work zones that are safe for both workers and the general public with explicit consideration of vulnerable road users.

Future Actions

- Continue to work closely with Alberta Transportation to ensure traffic safety concerns related to construction activities on Alberta highways are addressed quickly and proactively.
- Evaluate our ROWCAP process and benchmark with other municipalities. Specifically consider:
  - the addition of a tracking system to avoid conflicting projects
  - the requirement to have a professional engineer review all TTC plans
- Explore new ways to deliver TTC training to employees, including hands-on sessions and on-site training.
- Recommend the addition of a dedicated position to monitor compliance with ROWCAPs to allow for a more proactive approach to work zone safety.
- Explore new ways to educate drivers regarding appropriate construction zone driving behaviour.
- Participate fully in the Transportation of Canada's initiative to develop National Guidelines for Work Zone Safety in Canada.

Responsibility

Lead

- Transportation and Agriculture Services

Support

- Capital Planning and Construction
- Planning and Development Services
- RCMP and Enforcement Services
- Recreation, Parks and Culture
- Utilities
- Human Resources (Corporate OHS)

Human Resource Requirements

- Realign one FTE during the construction season (May to October) for ROWCAP enforcement

Estimated Annual Cost

- $5 000 to participate in the TAC initiative

Key Performance Indicators

- Number of work zones compliant with ROWCAP
- Traffic Survey (number of residents who report they should "Slow down all of the time" in a construction zone, whether or not workers are present)
- Number of collisions which are reported in work zones

6.4 Long-Term Strategies

While work will begin on some initiatives in the long-term strategies immediately, it is intended that Strategies 11-13 will be fully implemented by 2020.

Strategy 11: Medically-at-Risk Drivers/Older Adults Traffic Safety Strategy

Overview

A medically-at-risk driver (MARD) is a person who, regardless of age, has a medical condition or conditions that *could* affect driving performance (e.g., some drivers with diabetes are safe to drive, others are not). Current research indicates that many illnesses and medications can have a negative impact on driving ability. For example, the risk of a crash in which the driver was determined to be at-fault can be 2 to 3.5 times higher for drivers with a high-risk medical condition than those drivers who are considered healthy. Some of the high-risk conditions that may affect driving ability include dementia, diabetes, epilepsy, heart failure, macular degeneration, sleep apnea and stroke (Source: MARD Centre, University of Alberta).

MARDs are identified as one of five key target groups in Canada's Road Safety Strategy 2015. There is a close relationship between MARD and older adults, as many of these high-risk conditions are age associated. With population growth, the aging of the baby boomers and older adults driving longer into their lifetime, the probability of medically-at-risk drivers on our roadways increases. In addition, many of the chronic diseases traditionally associated with age are becoming health risks in younger populations. Changes related to the normal aging process can also affect driving ability, including vision and hearing loss, a decrease in strength and flexibility, and decreasing cognitive abilities.

Seniors make up the fastest-growing age group in Strathcona County. In 2005, 8.7% of Strathcona County's population was over the age of 65. In 2012, the proportion of seniors had increased to 12.6%. This trend is expected to continue for the next several decades; by 2036, one in five Strathcona County residents will be over 65 (Source: Statistics Canada).

From a traffic safety perspective, the rate of fatalities per distance traveled starts to increase considerably at 75 and over. Drivers aged 65 and over represent 17% of the traffic fatalities, even though they only account for 14% of the licensed drivers (Transport Canada). Older pedestrians are particularly vulnerable. In Canada, 35% of fatally-injured pedestrians were aged 65 or older even though they represent only 13% of the population; 63% of pedestrians killed at intersections were 65 or older.

Approximately 10% of drivers involved in crashes in Strathcona County between June 2011 and June 2013 were aged 65 and older. During this time, 29% of fatal crashes involved a driver over 65.

Strathcona County's driving environment has changed significantly in the last ten years. Increasing volumes of traffic require quicker response times and increases the difficulty of many driving maneuvers. There are more intersections and more complex intersections. Vehicle controls have become increasingly complex, and rules of the road have also changed. All of these factors contribute to an increasingly challenging environment for all drivers, but particularly older drivers and those dealing with medical conditions.

As the number of older adults and medically-at-risk drivers increases, proactive planning for the safety and support for these drivers and their families is increasingly critical. Strathcona County's Older Adults Plan (2009) recognizes the importance of maintaining mobility for those who are no longer able to drive in our community. Strathcona County's large rural area makes this an even greater challenge. Family and Community Services is working closely with multiple stakeholders to develop affordable, accessible and safe transportation options in Strathcona County.

Many organizations, such as the Seniors Association of Greater Edmonton (SAGE) and the Alberta Motor Association (AMA), have developed resources for older drivers and those looking to make the transition to the passenger seat. Strathcona County's Traffic Safety Communication Plan already includes MARD as a key communication topic. Education is crucial as families need to have the tools and resources available to ask critical questions to help their family members develop a driving cessation plan.

Future Actions

- Collaborate with partners in Family and Community Services, Recreation, Parks and Culture, Emergency Services, Transit, RCMP and Enforcement Services and the Library to identify those who may be at risk due to age or a medical condition.
- Develop a too lkit of resources that frontline service workers can provide to families/residents who are transitioning to the passenger seat.
- Continue to target older adults and medically-at-risk drivers for traffic safety communication (link to Strategy 4).
- Advocate for the adoption of a Taxi Safety Bylaw which includes requirements for criminal record (vulnerable sector) checks to improve the safety of seniors utilizing taxis for transportation.
- Monitor collision data for any trends in senior or MARD related crashes that could be addressed through engineering improvements utilizing the Traffic Safety Engineering Toolbox For Aging Road Users (2009).

Responsibility

Lead

- Transportation and Agriculture Services

- Family and Community Services
- RCMP and Enforcement Services
- Communications
- Recreation, Parks and Culture
- Emergency Services
- Transit
- Corporate Planning and Intergovernmental Affairs

Human Resource Requirements

- No new resources required

Key Performance Indicators

- Development of a tool kit
- Number of advertisements/presentations
- Community Survey
- Number of crashes involving seniors
- Number of crashes attributed to a medical condition

Strategy 12: Safe Vehicles Strategy

Overview

Safe Vehicles are one of the pillars of the Safe System approach. Good vehicle condition is important to collision avoidance, as well as to protecting those persons involved, should a collision occur.

In 2013, Strathcona County maintained a mixed fleet of 672 vehicles, including transit buses, equipment and light passenger vehicles. Organizationally, vehicle condition and maintenance is a high priority, and Strathcona County follows all provincial and federal guidelines for vehicle maintenance. In addition, Fleet Services is in the process of implementing new fleet maintenance software (Asset Works), which will be able to wirelessly extract information from the vehicles.

The effectiveness of organizational policies is often dependent on individual compliance (i.e. completion of pre-trip inspections). Identification of individuals who are not compliant with vehicle safety policies is improving, as is the reporting of vehicle maintenance issues before an incident occurs; however, there is still room for improvement.

Maintenance of commercial vehicles is a significant concern in Strathcona County. Strathcona County is well known in industry for its rigid enforcement of commercial vehicles. However, commercial vehicles routinely fail mechanical inspections, many of them to the point where they are towed upon inspection, and resources to perform inspections are limited. Common infractions include those related to brakes, steering mechanisms and tires.

The highly competitive nature of the bidding process favours haulers who do not factor in the cost of vehicle maintenance. This problem is compounded by ineffective and inconsistent provincial regulations, where exemptions and loopholes exist. In addition, the problem is intermunicipal. Businesses may be located geographically outside of the County, yet routinely haul on our roads. Due diligence of end users, where possible, can help to improve the economics of proper commercial vehicle maintenance.

Similarly, in the taxi industry, where profit margins are very small, there is no incentive to maintain vehicles. Strathcona County is in the process of evaluating the implementation of a Taxi Safety Bylaw to regulate their operation in the community.

Lack of understanding can also affect the safety of vehicles in Strathcona County. Education regarding current research and changing regulations may improve resident and employee compliance with safe vehicle practices, such as load securement and the use of winter tires.

Future Actions

- Develop and implement a Taxi Safety Bylaw which includes requirements for vehicle maintenance.
- Explore funding options to increase commercial vehicle inspection in the County.
- Explore options to increase contractor accountability for the condition of their fleet, for example, the disclosure of their National Safety Code (NSC) profile.
- Continue to educate residents (link to Strategy 4) and employees (link to Strategy 13) regarding safe vehicle practices via a variety of mediums.
- Promote a culture of vehicle safety amongst County employees. Explore new ways to reward compliance with safety policies and identify and manage employees who are not compliant (link to Strategy 13).
- Continue to investigate and implement new technologies for improved vehicle safety.

Responsibility

Lead

- Transportation and Agriculture Services
- RCMP and Enforcement Services
- Fleet Services

Support

- Communications
- Economic Development and Tourism
- Emergency Services
- Transit
- Corporate Planning and Intergovernmental Affairs
- Human Resources (OHS)

Human Resource Requirements

- To be determined based on initiatives implemented

Estimated Annual Cost

- To be determined based on initiatives implemented

Key Performance Indicators

- Number of commercial vehicle inspections
- Percentage of commercial vehicles inspected that do not meet requirements
- Number of crashes per year in the County attributed to mechanical failure

Strategy 13: Corporate Traffic Safety Strategy

Overview

Depending on the time of year, Strathcona County employs between 1200 and 2000 people. Of these, between 600 and 800 are required to drive as part of their job description. Many more are classified as casual drivers, driving for work on occasion, up to 10 hours per week. The great majority of County employees also drive to work.

In 2013, there were approximately 250 work-related vehicle incidents in County and personal vehicles. Driving is the most dangerous thing that many Strathcona County employees do in their day-to-day work.

Strathcona County has several initiatives in place to improve driving safety for employees. All employees should be acquainted with the *Vehicle and Equipment Manual,* as part of their orientation. Fleet Services equips all County vehicles with safety kits including fire extinguishers. The kits are regularly maintained by Fleet Services. Casual Drivers are currently not required to carry safety kits in their vehicles.

Currently there is no corporate standard for driver training. It is up to the department to decide on the level of training required for their staff beyond obtaining the necessary licence to drive the required vehicle. Competency training is provided for specialized vehicles, i.e. skid steer.

Transit currently provides most driving training in the organization. Transit conducts practical training reviews with Transit operators. They also provide evaluations and driver training for Emergency Services, Recreation, Parks and Culture and Transportation and Agriculture Services. Generally, documentation of this training and assessment is improving.

All employees who drive County vehicles (commercial or standard) must provide a Driver Abstract prior to hire. Abstracts are pulled annually on these employees, and they are not permitted to drive a County vehicle, if they have more than seven demerits.

Previously, the County considered the implementation of a centralized driving program including driving simulators and full-time instructors. The County decided not to pursue this initiative due to the high cost.

 Future Actions

- Promote a culture of vehicle safety amongst County employees. Explore new ways to reward compliance with safety policies and identify and manage employees who are not compliant.
- Review existing driving safety policies and ensure employee accessibility and awareness of these documents across the organization, including the *Vehicle and Equipment Manual*.

- Continue to investigate and implement new technologies to improve driver safety and for the monitoring of driver behaviour and the identification of employees for remedial training (i.e. speed regulators, accelerometers) (link to Strategy 12).
- Explore ways to improve consistency of driver training and opportunity for hands-on training across the organization
    - Re-evaluate the implementation of a centralized driving program for the County.
- Continue to evaluate and improve processes for the documentation of driver training and assessment.

Responsibility

Lead

- Transportation and Agriculture Services
- Human Resources (OHS)
- Fleet Services

Support

- All departments

Human Resource Requirements

- To be determined based on initiatives implemented

Estimated Annual Cost

- To be determined based on initiatives implemented

Key Performance Indicators

- Number of work-related vehicle incidents
- Number of employees receiving driver training

7.0 Overview

This updated TSSP 2020 presents new vision and mission statements for the County, entrenching the belief that it is unacceptable for any road user to be injured or killed on our roadways. These vision and mission statements are based on international best practices in traffic safety. Consistent with national and provincial traffic safety policy, Strathcona County's TSSP 2020 is based on the Safer System approach.

This document presents thirteen strategies that will help the County to meet its traffic safety vision and mission statements. With the Safer System approach in mind, the following Guiding Principles apply to all traffic safety strategies and programs in the County: integration, collaboration, shared responsibility, evidence-based decision making, evaluation and knowledge transfer, inclusion, and prevention.

This TSSP 2020 outlines the leadership and support role for each County department in the implementation of the strategies, as well as the expected resources that will be required. This Traffic Safety Strategic Plan is intended as an internal document to guide traffic safety decision-making in Strathcona County through 2020.

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