



Administrative Report

To: Warden MacDonald and Members of Essex County Council

From: Jerry Behl, P.Eng., Manager, Transportation Planning and Development

Date: Wednesday, April 16, 2025

Subject: Road Safety Management Program

Report #: 2025-0416-IPS-R09-JB

Purpose

The purpose of this report is to provide Council with information regarding a proposed Road Safety Management Program, the Corporation's approach to monitoring and improving our vast network of 1084 intersections and 1085 interconnecting road segments.

Background

With numerous requests for safety reviews at locations throughout the County, resources must be directed to respond as required. The Director of Infrastructure & Planning Services, in consideration of legislated requirements/compliance, Council direction, best management practices, and recommendations from engineers, is responsible for how and when to respond.

In support of orderly responses and good governance, County Administration is developing a Road Safety Management Program to identify opportunities and enact road safety improvements along road segments and at intersections. The program will be systematic, based on data, and recommend meaningful improvements in a fiscally responsible manner.

Discussion

Tools, strategies and techniques available to address and/or mitigate safety concerns are referred to as "countermeasures". Countermeasures range from the addition of flashing beacons to grade separated interchanges.

Categories of countermeasures and examples are:

1. Design and Geometric Improvements
 - a. turn lanes
 - b. roundabouts
 - c. signal timings
 - d. widenings
 - e. grade separations
 - f. widening
 - g. approach curves
 - h. pavement marking
2. Traffic Control
 - a. signals
 - b. signage
 - c. speed limit
3. Traffic Management
 - a. speed enforcement
 - b. alternative modes of transportation
4. Education
 - a. driver training
 - b. safety campaigns

The proposed Road Safety Management Program is based on industry best practices and will follow these four stages:

1. Identify Safety Opportunities – Now Complete

A screening of the County road network has been completed by a specialized consultant. The screening utilized available collision data to analyze all road segment links and intersections. The analysis then considered severity of collisions, traffic volume and predicted collisions in comparison with similar sites. The outcome of the screening is a ranked list of locations based on their "Potential for Safety Improvement" (PSI). Ranking of locations by PSI is industry best practice and gives our engineering team direction in where to focus when producing a road safety program.

There are a total of 1085 road segments and 1084 intersections. All have been reviewed and ranked for Potential for Safety Improvement.

A memorandum summarizing the network screening methodology and results is attached as Appendix A. The 100 highest ranked Road Segments are presented in Appendix B, and the 100 highest ranked Intersections are presented in Appendix C.

2. Develop Potential Safety Solutions

Administration will review the top ranked locations and develop potential safety solutions. The review will include:

- An analysis of the collision history to look for patterns, such as time of day (night time), weather (rain), and collision type (head on or side swipe);
- An onsite review of the existing conditions; and
- A review of speed and road geometry.

3. Select and Implement Strategies

An estimate of economic benefits and costs associated with the recommended modifications will be calculated. Benefits will be based on estimating the reduction in collisions. Costs will be based on collision category (i.e. fatal, injury, and property damage only) and include property, design and construction of the modifications. The analysis will help Administration prioritize and budget for projects.

Administration will develop a priority list of projects with budget estimates, and recommended timelines for implementation. Design and implementation will be carried out in line with the priority list.

4. Safety Measure Evaluation

Following implementation of any changes or counter measures, road segments and intersections will continue to be monitored for collisions to assess the effectiveness of the modifications.

Outcome

The desired outcome will be a multi-year Road Safety Program with budgets and timelines. In 2025 Administration will carry out design work on priority locations and complete some smaller road safety improvements that can be implemented quickly. This program will be updated each year. A Network Screening will be carried out by a consultant at 3 to 5 year intervals to reset priorities as the region develops.

County Council may direct Administration to review any location in the network, however, due to budget approvals and available resources, priority projects may be delayed or pushed to subsequent years. As an alternative to impacting annual priority projects, Council may approve additional project specific funding for a consultant. If Council chooses to proceed with the consultant request for 2025 only, it could be funded as a one-time expense through the Rate Stabilization Reserve. However, if this type of support is expected to continue beyond the current budget year, it would be wise to consider adding consulting services as a dedicated line item in the 2026 budget. This would provide flexibility for future add-on location reviews,

particularly in cases where internal capacity may not be sufficient to meet Council's expectations.

Estimated costs, provided in Table 1 for discussion, are a sample of consultant fees and select countermeasure projects.

Table 1

ITEM	TYPICAL CONSULTANT FEE
Traffic Counts	
For Signal Analysis	\$1,000
For Stop Control	\$1,000
For Speed Review	\$1,000
For Pedestrian Crossing	\$1,000
Analysis including appropriate Warrant	
For Signal Analysis	\$3,000
For Stop Control	\$3,000
For Speed Review	\$3,500
For Pedestrian Crossing	\$4,000
Typical Road Safety Review	
For Intersection	\$9,500
For Road segment	\$8,500
Preliminary Design	
Traffic Signal	\$14,500
Pedestrian crossing	\$12,500
Roundabout	\$15,500
Countermeasures	TYPICAL CONSTRUCTION ESTIMATE
Speed Limit Signage	\$1,500 - \$2,500
Red Flashing Beacons (2 – Solar)	\$7,000 - \$10,000
Traffic Signal	\$500,000 - \$700,000
Roundabout	\$5,000,000 - \$15,000,000

Financial Implications

There are no immediate financial impacts. The 2025 Budget includes a total of \$400,000 for Road Safety Improvements, with \$300,000 allocated to Road Safety Improvement Consulting-analysis and design (levy funded), and \$100,000 allocated for construction (reserve funded). Approximately \$100,000 of this budget is dedicated to the analysis/design of improvements

at the County Road 20 and County Road 23 intersection. The remaining budget will be spent on the design of priority projects and the implementation of smaller modifications such as signs, markings, beacons, and street lighting, as informed by the network screening.

While the 2025 budget request aims for the program to be partially funded through a contribution from the Rate Stabilization Reserve, the ongoing and increasing demands for road safety improvements could strain reserve funds, which now have target percentages to be maintained. If there is a constant increase in these studies and designs, leading to more projects, funding will be shifted to the levy to build a stronger base for future work. Council should be aware that agreeing to these additional safety studies could lead to further cost pressures, potentially requiring more consistent levy based funding to ensure long-term program sustainability.

Consultations

Infrastructure and Planning Services have consulted with the Finance department.

Strategic Plan Alignment

Working as Team Essex County	Growing as Leaders in Public Service Excellence	Building a Regional Powerhouse
<input type="checkbox"/> Scaling Sustainable Services through Innovation <input checked="" type="checkbox"/> Focusing “Team Essex County” for Results <input type="checkbox"/> Advocating for Essex County’s Fair Share	<input type="checkbox"/> Being an Employer with Impact <input checked="" type="checkbox"/> A Government Working for the People <input checked="" type="checkbox"/> Promoting Transparency and Awareness	<input checked="" type="checkbox"/> Providing Reliable Infrastructure for Partners <input checked="" type="checkbox"/> Supporting Dynamic and Thriving Communities Across the County <input type="checkbox"/> Harmonizing Action for Growth <input type="checkbox"/> Advancing Truth and Reconciliation

Recommendation

That Essex County Council receive report number 2025-0416-IPS-R09-JB, Road Safety Management Program as information.

Approvals

Respectfully Submitted,

Jerry Behl

Jerry Behl, P.Eng., Manager, Transportation Planning and Development

Concurred With,

Allan Botham

Allan Botham, P.Eng., Director, Infrastructure and Planning Services

Concurred With,

Sandra Zwiers

Sandra Zwiers, MAcc, CPA, CA, Chief Administrative Officer

Appendix	Title
A	Memo – TNS Network Screening
B	Network Screening Results - Top 100 Road Segments
C	Network Screening Results - Top 100 Intersections