

REPORT TO COUNCIL



Date: November 28, 2012
File: 1350-70
To: City Manager
From: Supervisor, Traffic Operations
Subject: Springfield Rd Speeding - 3E Response Plan

Recommendation:

THAT Council receives for information the report from the Supervisor, Traffic Operations dated November 28, 2012 on an integrated response plan to increased speed control on Springfield Road.

AND THAT Council supports the implementation of the 2012 Engineering, Education and Enforcement plan for Springfield Road as outlined in the Report from the Supervisor, Traffic Operations dated November 28, 2012.

Purpose:

SR 161524 - On February 3, 2010, the following Service Request was received from the Mayor's Office: 'Please have staff develop a report of options that we could do in regards to speeding in different areas of our city. The Springfield concerns could be our first priority.'

SR 198893 - COUNCIL RESOLUTION FROM THE JUNE 13, 2011 P. M. REGULAR MEETING:
THAT Council receives, for information, the report from the Director of Infrastructure Planning dated June 7, 2011 with respect to reducing road speeding, especially on Springfield Road;

AND THAT Council directs staff to report back with an integrated response plan to increased speed control on Springfield Road.

Background:

In 2007, the City of Kelowna and ICBC undertook a Safety & Operational Study of Springfield Road between Durnin Road & Rutland Road S. The study identified numerous road safety issues and recommended mitigation measures to address them. The report found that many of the collisions that occur on the corridor were speed related. The city, with funding assistance from ICBC's Road Improvement Program (RIP), has since completed a number of recommended engineering improvements. Despite select engineering improvements that have been implemented at key locations targeting specific collision issues, the overall corridor collision frequency hasn't decreased (Annex 1). Speeding related public complaints continue.

To respond to the speed issue, it was recognized that changing driver behavior requires an integrated '3E' approach (Engineering, Education and Enforcement). "Engineering" measures are structural modifications made to the roadway geometrics, roadside environment and traffic control devices to encourage motorists to drive at posted speeds. "Education" measures are public awareness & information dissemination to make motorists more attentive to their operating speeds and to modify their driving behavior. "Enforcement" measures include use of fines & other punitive measures to

A handwritten signature, likely of the City Manager, consisting of a stylized letter 'K'.

reduce speed related infractions. A working group of City staff, RCMP & ICBC has subsequently put together a response plan.

ENGINEERING

Initiative	Purpose	Timing
A 'Green Wave' ¹ system will be implemented for the Springfield Corridor between Hollywood Road & Ziprick Road	Traffic signal timings will be coordinated in order to allow continuous flow of traffic through the corridor, receiving green lights at intersection, subject to travelling at the posted speed limit.	Launch December 5, 2012
Four speed reader boards will be placed along the corridor (west of Ziprick Road & Gerstmar Road for eastbound traffic; east of Hollywood Road S & Gerstmar Road for westbound traffic)	Speed reader boards will raise awareness to the motorists' speed relative to the posted speed limit, and whether they are 'catching the wave'.	Launch December 5, 2012
Pavement markings will be painted at the start of the 50 Km/hr section	Pavement markings consisting of a big red box with the number of 50 in it will remind motorists that the speed limit through the corridor is 50 Km/hr	Launch December 5, 2012
Continued implementation of the 2007 Safety and Operational Study's recommendations	The City in partnership with ICBC has completed improvements at the following intersections: <ul style="list-style-type: none"> • Leckie Road (2008) • Graham Road (2008) • Rutland Road S (2009) • Gerstmar Road (2009) Plans are underway for the following intersections subject to funding: <ul style="list-style-type: none"> • Ziprick Road (Design 2012, Construction 2013) • Durnin Road (Conceptual Design 2012, Detailed Design 2013, Construction 2014) 	On-going & Future Phase

¹ Traffic signals on Springfield Rd between Hollywood Road S & Ziprick Road are going to be coordinated such a way that motorists do not encounter red lights if they drive at or below posted speeds in the direction of primary peak flow. This essentially creates a continuous 'Green Wave' of traffic that will see a progressive cascade of green lights and not have to stop at intersections. In 'Green Wave' systems, speed is self-regulated; drivers traveling too fast will arrive on a red indication and end up stopping, drivers traveling too slowly will not arrive at the next signal in time to continue through the intersection. Any vehicle following green wave will be rewarded with continuous green lights.

The coordination will be arranged to correspond with rush hours to move the heavier volume direction based on distances between intersections & posted speed limits. Four speed reader boards, installed west of Ziprick Road & Gerstmar Road for eastbound traffic and east of Hollywood Road S & Gerstmar Road for westbound traffic, will direct traffic to follow the 'Green Wave'.

'Green Wave' systems have been used nationally and found to improve speed compliance, increase road capacity, reduce travel time, reduce fuel consumption, air pollution, noise, vehicle wear & tear and reduce driver frustration. However, 'Green Wave' also has its limitations. It may not be effective for both direction movements, if the traffic flow is significantly disproportional, posted speeds are not consistent or the intersections are spaced too close or too far. It is also possible that congestion can throw off any coordination. With 'Green Wave', cross street motorists are more likely to suffer delays.

	dependent on budget availability)	
Implementation of Speed Sensitive Traffic Signals to protect law-abiding motorists, cyclists & pedestrians from harm	This initiative would change a downstream traffic signal to red if a motorist's speed exceeded a pre-determined target, such as 50 Km/hr in our case. Budget for the implementation has been approved. Further technical options are being evaluated prior to implementation.	Early 2013

EDUCATION

Initiative	Purpose	Timing
Public Awareness	The overall program will be launched with a news release on December 3 rd and will provide awareness of the program and why it is being undertaken	December 3, 2012
'Green Wave' Signage (Annex 2)	Signage will be erected to raise awareness of the Green Wave and encourage motorists to Catch the Wave	Launch December 5, 2012
Web page development	The City and the RCMP web sites will describe the Springfield program. In particular, the Green Wave concept will be described.	Launch December 3, 2012
Increased SpeedWatch activities	The City's SpeedWatch volunteers will be on-site more frequently to bring awareness to motorists' speed	Launch December 5, 2012

ENFORCEMENT

Initiative	Purpose	Timing
Enhanced enforcement plan	The RCMP will increase the level of enforcement throughout the corridor, targeting locations and times where speed related collisions occur.	Launch December 5, 2012
'3 Strikes and You're Out' program	The RCMP will coordinate enforcement with the SpeedWatch group to provide the 3 rd Strike: Strike 1 - Speed limit sign & marking Strike 2 - SpeedWatch warning Strike 3 - RCMP ticket	Launch December 5, 2012

The City will conduct a 'Before & After' Study to evaluate the effectiveness of '3E' measures over the next three years. The following criteria will be used for the evaluation purpose.

Criteria	Targets	Data
Reduction in Collision Rate	Decrease in collision rate by 15% over three year period	ICBC collision data
Reduction in Traffic Speed	Decrease in 85 th percentile speed by 15% over three year period	City Tube counts & Speed Reader Boards

Internal Circulation:

Manager, Transportation Services
 Traffic Technicians, Traffic Operations
 Traffic Technician, Infrastructure Planning
 Senior Communication Consultant, Communications

Financial/Budgetary Considerations:

The first phase of 3E initiatives is estimated to cost approximately \$50,000. The expenses include costs for hiring a consultant for signal coordination, conducting traffic counts, purchasing / installing speed reader boards and staff time (City, RCMP & ICBC). The majority of these costs will be paid by ICBC (approximately, \$43,000). Shortfall amounts, mainly for staff time, will be borne by respective departments & agencies. Annual capital & operations budget required for the next phase of engineering improvements will be submitted to Council for consideration in 2013 & following years.

External Agency/Public Comments:

The ICBC & RCMP have reviewed and support the recommendations of this report.

Considerations not applicable to this report:

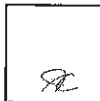
Legal/Statutory Authority
Legal/Statutory Procedural Requirements
Existing Policy
Personnel Implications
Alternate Recommendation

Submitted by:



F. Wollin, Supervisor, Traffic Services

Approved for inclusion:



J. Creron, Director, Civic Operations

Attachments:

Annex 1: Collision Risk Rates at Springfield Road Intersections
Annex 2: 'Green Wave' Sign

cc: General Manager, Community Services
Director, Infrastructure Planning
A/Director, Communications
Director, Financial Services
Director, Design & Construction Services
RCMP

Annex 1: Collision Rates on Springfield Road Corridor

Intersections at Springfield Rd	Number of Collisions		Average Collisions/Year		AADT Entering Intersections		Total Collisions/Million Vehicles Entering Intersections	
	2002-2006	2006-2010	2002-2006	2006-2010	2002-2006	2006-2010	2002-2006	2006-2010
	84	91	16.8	18.2	36,592	36,533	1.25	1.36
58	78	11.6	15.6	29,391	35,213	1.08	1.21	
24	17	4.8	3.4	16,249	17,832	0.81	0.52	
26	42	5.2	8.4	25,926	25,724	0.55	0.89	
31	40	6.2	8	37,914	37,018	0.45	0.59	
13	8	2.6	1.6	27,184	27,531	0.26	0.16	
7	43	1.4	8.6	21,638	23,535	0.18	1.00	
4	8	0.8	1.6	19,595	No Data	0.11	No Data	
Total	247	327	49.4	55.4	194,994	209,386	0.68	0.85

Annex 2: 'Green Wave' Sign



SPRINGFIELD 3E RESPONSE PLAN

ENGINEERING, EDUCATION & ENFORCEMENT MEASURES



COLLISION RATES

Intersections	# of Collisions		Average Collisions/Year		AADT Entering Intersections		Collisions/Million Vehicles Entering Intersections	
	2002-2006	2006-2010	2002-2006	2006-2010	2002-2006	2006-2010	2002-2006	2006-2010
Leckie Rd	84	91	16.8	18.2	36,692	36,533	1.25	1.36
Ziprick Rd	58	78	11.6	15.6	29,391	35,213	1.08	1.21
Rutland Rd S	24	17	4.8	3.4	16,249	17,832	0.81	0.52
Gerstmar Rd	26	42	5.2	8.4	25,926	25,724	0.55	0.89
Durnin Rd	31	40	6.2	8	37,914	37,018	0.45	0.59
Graham Rd	13	8	2.6	1.6	27,184	27,531	0.26	0.16
Hollywood Rd S (West)	7	43	1.4	8.6	21,638	23,535	0.18	1.00
Quigley Rd	4	8	0.8	1.6	19,695	No Data	0.11	No Data
Total	247	327	49.4	65.4	194,994	203,386	0.68	0.86

'3E' APPROACH

- ▶ Engineering
- ▶ Education
- ▶ Enforcement

ENGINEERING MEASURES

Initiative	Purpose	Timing
'Green Wave' system (Hollywood -Ziprick)	Allow continuous traffic flow, receive green lights at intersection, subject to travelling posted speed limit	Launch Dec. 5, 2012
4 speed reader boards	Raise awareness of drivers' speed and catch the 'Green Wave'	Launch Dec. 5, 2012
50 Km/hr pavement markings	To remind motorists that the speed limit through the corridor is 50 Km/hr	Launch Dec. 5, 2012
2007 Safety and Operational Study's recommendations	<p>Completed projects (Leckie Road, Graham Road, Rutland Road S & Gerstmar Road)</p> <p>Planned intersection improvements:</p> <ul style="list-style-type: none"> • Ziprick Road (Des 2012, Construct 2013) • Durnin Road (Des 2012-13, Construct 2014) 	On-going & Future (dependent on budget approval)
Speed Sensitive Traffic Signals	Red traffic signals triggered by excessive speed	Early 2013

EDUCATION MEASURES

Initiative	Purpose	Timing
News release	To raise awareness for public	Launch December 3, 2012
'Green Wave' signage (Annex 2)	To raise awareness for drivers	Launch December 5, 2012
Web page development	To provide 3E project description for public	Launch December 3, 2012
Increased SpeedWatch activities	To engage SpeedWatch volunteers	Launch December 5, 2012

ENFORCEMENT MEASURES

Initiative	Purpose	Timing
Enforcement plan	To increase the level of enforcement at key locations & times	Launch December 5, 2012
'3 Strikes and You're Out'	To coordinate RCMP enforcement with SpeedWatch group: Strike 1 - Speed limit sign & marking Strike 2 - SpeedWatch warning Strike 3 - RCMP ticket	Launch December 5, 2012

