The City of Surrey's "P3 Approach" to Municipal Road Safety Planning

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ABSTRACT

The City of Surrey, further to its 2008 Transportation Strategic Plan, has embarked on the development of a Safe Mobility Plan (SMP). The SMP was developed with the objective of reducing the crash risk on Surrey's roads for all travel modes, and to reduce the subsequent costs to the community and society at large that result from crashes and injuries. The City of Surrey is the first municipality in BC to develop an SMP that involves the three P's: Partnership, Policy and Process: The "partnership" approach included the engagement of key stakeholders, including multiple City departments, partner agencies and the general public. The "policy" part of the approach consisted of developing City-wide policies that would implicitly strengthen the safety culture of the institution. The "process" part of the approach was aimed at making the explicit consideration of safe mobility prominent in project and programming decisions at the City across departments, from the project planning and design stages through to construction and operations.

The City partnered with agencies from the policing, insurance, health, emergency services and training sectors to steer the development of the SMP and explore common objectives and collaboration opportunities. The review included 1) a cross-departmental audit of all activities related to road safety and the identification of gaps, 2) a detailed review of the City's crash and injury trends and causes, 3) workshops engaging a diverse group of stakeholders, and 4) surveys and discussions with the public. The result was the identification of a list of short-term and long-term strategies and supporting actions that the City and its partners could pursue with the objective of achieving a continuous reduction in crashes and injuries.

City staff will be seeking the support of its Council and the public towards the adoption of the plan and increased and ongoing investment in partnerships, policies and processes that support safe mobility.

BACKGROUND

The City of Surrey is the 12th largest municipality in Canada by population (468,251 based on 2011 Census), with one of the most extensive road networks, and growing at a rapid pace. It contains a significant youth, senior and immigrant population and a vast road network. These factors, among others, make it increasingly challenging to maintain and improve the level of safety on its roads and sidewalks.

The City's Transportation Strategic Plan states "Safer, Healthier Communities" as its third principle and contains supporting actions. While the City currently addresses road safety in several ways within its current activities, the development of a more pro-active and comprehensive Safe Mobility Plan presented a prime opportunity to help the City set out on a path towards upholding this stated principle, taking it to the next level, adopting a safety "consciousness" and continuing to be an example for other municipalities.

The traditional approach to road safety planning for municipalities in BC has typically involved screening of the road network for "hotspots", the identification of engineering countermeasures (supplemented by some enforcement and educational opportunities), and applications of cost-sharing for road improvements from Insurance Corporation of British Columbia (ICBC) and/or other levels of government. Since ICBC has been pro-active in assisting municipalities to conduct studies, municipalities have typically followed and not developed or led their own safety programs. The Surrey approach has been for the City to clearly take ownership for road safety within its jurisdiction, with the support of other partners as required, including - but not limited to - ICBC.

VISION

The City and its partners articulated a vision for road safety. This started with the acknowledgement of the need to provide for the "safe mobility" of its citizens, workers and visitors. The concept of Safe Mobility recognizes that Surrey is a growing municipality with a strong economy and a mixture of modes ranging from large commercial vehicles and buses to bicycles, pedestrians and motorcycles, all of which need to be safely accommodated regardless of one's choice of transportation mode.

The development of the SMP was directed by following a set of key principles. The SMP was to be:

- Holistic: treat road safety as a multi-disciplinary issue
- Evidence-based: based on local data as well as approaches that have proven successful elsewhere
- Surrey-specific: support local strategic and organizational objectives, appropriate for local culture and road environment
- Multi-modal: address safety issues for all travel modes, including the more vulnerable users
- Innovative: include solutions that are based on new research, including the use of modern technologies and digital and electronic media
- Sustainable: take a long term approach consistent with the City's emphasis on social, economic and environmental sustainability

The City's ultimate vision is for a transportation system where crashes and injuries are rare, by aiming for a continual year-to-year reduction.

"SAFE MOBILITY PLAN" DEVELOPMENT

The SMP development consisted of four phases, depicted in FIGURE 1. The first phase consisted of the formation of a Steering Committee, further described in the "partnerships" section of this paper; and a detailed review of both the City's activities related to road safety, and trends in the City's road crashes.

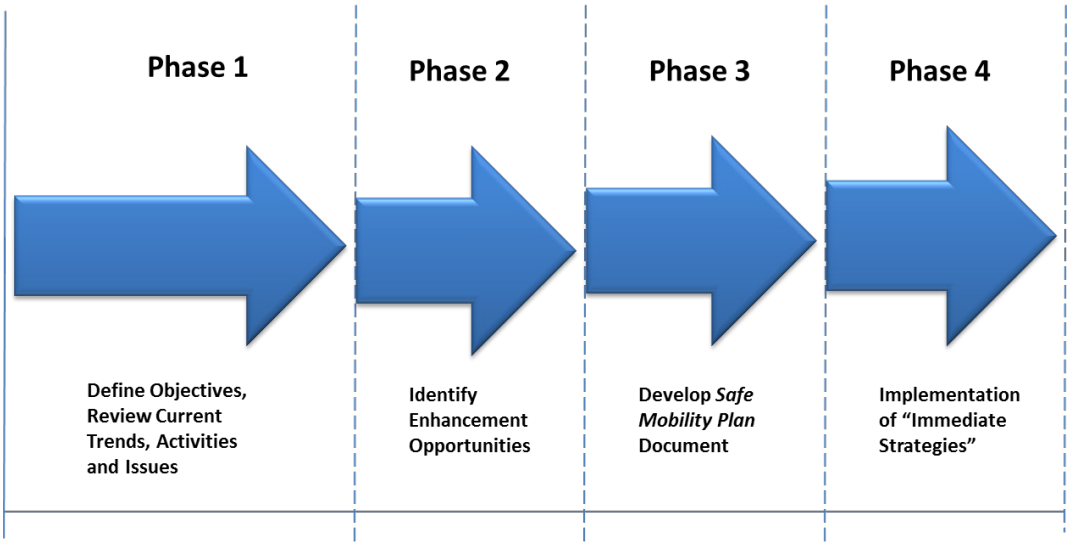

FIGURE 1 PHASES IN THE DEVELOPMENT OF SURREY'S SAFE MOBILITY PLAN

Stakeholder engagement of key agencies and the public was a feature throughout the process, and was used to both guide and test the ideas generated in the Plan.

PARTNERSHIPS

The City recognized at the outset that several other agencies are also engaged in improving road safety in the community, and therefore reached out to them in a spirit of collaboration towards achieving a more significant and measurable impact.

Steering Committee

A Steering Committee was formed that included representation from several City departments (including Engineering, Planning and Development, Parks, Recreation and Culture, and Surrey Fire Services), the Surrey RCMP, the Insurance Corporation of BC (ICBC), Fraser Health (which delivers health services in the Fraser Valley region that includes Surrey), the British Columbia Automobile Institute (BCAA), and the Justice Institute of BC (JIBC). These agencies represent the multi-disciplinary nature of road safety, and collectively bring expertise in engineering, education and enforcement. The role of the Steering Committee was to articulate a common vision for road safety in Surrey, to provide input at key stages of the development of the SMP, and to support its implementation.

Stakeholder Engagement

Several groups were engaged to provide input to the SMP at various stages, including government agencies, NGO's, associations and the private sector. Stakeholders included:

- BC Ministry of Transportation and Infrastructure
- BC Office of the Superintendent of Motor Vehicles
- TransLink (BC South Coast Transportation Authority)
- WorkSafe BC
- BC Trucking Association
- BC Trucking Safety Council
- Surrey School District #36
- Surrey Board of Trade
- MADD
- Drop It and Drive
- Coast Mountain Bus Company
- HUB and BEST (Cycling Groups)
- BC Motorcycle Association
- BC Taxi Association
- Parachute (injury prevention)
- Preventable (injury prevention)

Discussions with stakeholder groups revealed that we are each approaching road safety from our own mandates but with the same ultimate goal. There is already some degree of collaboration, but there is also some duplication of effort, and in most cases it's hard to know the overall difference we are making. It was also evident that most partners' mandate went well beyond Surrey's borders, but that they recognized that there's a big opportunity to expand or customize what we are doing in Surrey, given its significance within the Region, and the willingness of the municipality to bring everyone together to aggressively address this issue.

Public Engagement

As the City's customers and road users, the public was a key partner. A survey of public attitudes and behaviours related to road safety was conducted early on in the development of the plan. It was advertised on the City's website, and sent to several of the stakeholders, including groups that represented the range of travel modes, as well as seniors, youth and new immigrant groups in the City. Nearly 600 people responded to the survey, representing more than 0.1% of the City's resident population.

The survey results demonstrated that a strong degree of passion for road safety exists in Surrey; that the public care about their roads, that they are knowledgeable about various aspects of road safety, and that there are behaviours that they are still engaging in, in spite of knowing the risks involved. This implies that while there is the foundation for change, a fundamental paradigm shift may be required. When asked to identify some of the key road safety issues, the public most commonly mentioned: poor driving skills/lack of driver training and re-testing, the lack of police enforcement, and the prevalence of jaywalking. Some of the specific improvement suggestions included: providing more realistic and consistent speed limits, more police enforcement, more bicycle lanes, and improvements to sidewalks.

Further public engagement is being conducted of the first draft of the contents of the Plan.

KEY ACTIVITES, TRENDS AND ISSUES

Crash Trends

Crash data, while imperfect, is the most reliable source of information on road safety performance in British Columbia. Therefore, data for crashes in Surrey was provided by ICBC was analyzed extensively in order to inform the development of strategies for Surrey's SMP. Note, this database may not capture all crashes, because they only include incidents for which there was an insurance claim. There were two sets of crash data: 1)crashes reported directly to ICBC, and 2)crashes reported to the police (then passed on to ICBC). Police report to between 10 and 15 percent of crashes in Surrey (typically those that result in moderate to major injury); therefore, the police-reported data are limited and may not reflect overall crash trends. Analysis was conducted of total crashes, police-reported crashes, fatal crashes, serious injury crashes; and vulnerable road user (i.e. pedestrian, bicycle and motorcycle) crashes. The past five full years of data available, i.e. 2007 to 2011 were used, with the understanding that changes to police crash reporting requirements in 2008 may affect the quality of the data. Time trends should be interpreted in this context; however, all other trends are still considered sufficiently reliable for broad-level decision-making. Some of the key trends were as follows:

- Approximately 15,500 crashes occur in Surrey each year (excluding parking lots)
- Over 4,000 of these crashes occur on Provincial highways
- Total crashes per population have been trending downwards over the past five years, but injury crashes per population have remained constant
- Based on unit costs of crashes recently developed for the Capital Region in Edmonton, crashes in Surrey cost society nearly $1 billion per year, including health care costs (about 45%), lost productivity, legal and insurance costs, damage to City property and traffic delays
- Nearly 60% of crashes occur at intersections (70% of these are at signalized intersections)
- The most prevalent types of crashes are rear end and right-angle
- 88% of crashes involve vehicles only (i.e. exclude pedestrians, cyclists or motorcycles)

- Male licensed drivers are more prone to crashes than females, and young drivers (age 16-25) are by far the highest-risk group, approximately twice as likely to crash as the average driver
- The most commonly reported factor was “driver inattention”, followed by “driver error”, “following too closely” and “failure to yield”
- According to police reports, approximately one in three crashes involved some type of driver distraction, while slightly less than one in three involved “high-risk” driving behaviours (such as failure to yield, following too closely and ignoring traffic control device)

Policies and Processes

The City’s activities related to road safety were audited by extensively reviewing documents and conducting interviews. Documents reviewed included strategic planning and policy reports, engineering and planning standards and guidelines and previous road safety reports. Interviews were held with over 20 staff from various departments, to gain and appreciation for how road safety is considered as part of their processes and decisions and what barriers may exist.

The internal audit revealed that road safety was identified in high-level strategic and community plans as an important community objective, but that it was referred to more in the context of pedestrian safety and personal security. The City’s 2008 Transportation Strategic Plan identified several specific actions in support of road safety, which became the starting point for the development of the SMP. The overall finding from interviews was that road safety was important to staff, but there were widely varying degrees of awareness and approaches to the consideration of safety, few to none explicit processes, and no particular management function or accountability framework for road safety. Furthermore, many projects contained safety features but few projects were specifically carried out with the specific objective of reducing crashes, and hence evaluations were rarely conducted by the City. As a result, while the City was engaged in some road safety activities, staff did not have a good handle on the effectiveness of these activities. In contrast, the City has developed specific policies and process around sustainability, including explicit consideration and reporting and greater accountability, including the signing of a Charter (policy level) and the use of a Sustainability Checklist (and the process/project level).

STRATEGIC AREAS

Strategies were developed to address current crash trends, gaps in policies and processes, and issues brought forth by internal and external stakeholders, including the public. While the strategies of the City of Surrey’s Safe Mobility Plan are not yet final, some of the key areas that have arisen and are being investigated include:

Road Safety Management

- Use of data analytics to direct initiatives
- More systematic and advanced estimation of existing road network safety performance and the likely effect of interventions
- Establish improved sources of safety related data, including the health and fire/emergency services sectors, and video footage and traffic conflict information collected by Engineering
- A more systematic approach to road safety management, including management accountabilities
- Annual screening of the road network for improvement opportunities and road safety audits at key stages for select planning and design projects

- A speed management plan, that emphasizes street designs that promote lower speeds where appropriate, and more realistic and consistent
- Dedicated transportation funding for road safety projects
- Establishment of longer-term funding arrangements with key partners

Safer Roads

- More systematic identification, monitoring and evaluation of safety-related transportation projects
- More formalized policies to promote the more widespread implementation of proven road safety engineering countermeasures, such as roundabouts and protected-only left-turn signal phasing
- A shift towards real-time and responsive traffic control devices that are more intuitive for pedestrians and other road users
- Congestion relief through expanded traffic signal coordination and a mode shift from passenger cars to public transit vehicles, walking and cycling
- Lead or support research regarding the relationship between land use, network planning, neighbourhood design elements and road safety
- Pilot newer technologies and treatments that are considered promising

Safer Road Users And Vehicles

- Building of institutional safety culture, through awareness, training, and employee policies
- Encouragement of partners and other major employers in Surrey to also adopt such programs
- Ongoing engagement of the public via a more expanded website (containing information, tools, and opportunities for the public to comment and partake in challenges), and the increased use of both local traditional media and social media; supplemented by more regular surveys
- More strategic traffic safety enforcement in support of the City's known crash trends
- Models for the direction of additional resources for proactive traffic enforcement
- Increased coordination and quality of road safety education delivered in the elementary and secondary school system
- Specific educational campaigns to address distracted driving
- Specific educational campaigns to reach the newer immigrant and youth populations
- Encouragement of employers and the public to use more roadworthy and crashworthy vehicles

CONCLUSION

The City of Surrey is one of the fastest-growing and diverse municipalities in Canada. However, the benefits of growth and diversification have been accompanied by challenges for the City in maintaining a desirable level of safety and efficiency in its road network. To this end, Surrey has embarked, as the first municipality in BC, on an investigation of all aspects of its management of road safety, in collaboration with its partners and stakeholders and the public. The result of this exercise will be the development of a *Safe Mobility Plan* that will include enhancements to road safety data; stronger links with the RCMP and more strategic enforcement; expanding the implementation of proven and promising road safety engineering countermeasures; exploring new and innovative traffic management concepts; and providing opportunities for enhancement public education, targeting schools, youth, seniors and newer immigrants. The City is looking at several of its internal policies and processes to make the consideration of safety a more systematic activity, and create a stronger culture of safety at the City that will consequently extend from its Council and staff to its partners, employers throughout the City and ultimately the public. The City recognizes that many of its partners also have strong road safety mandates as well as the data, information and subject matter expertise that can address the road safety problem from various angles, and are seeking to strengthen these partnerships. With this support, the City is confident in its vision to continuously reduce injuries and crashes in the long term, and in doing so, continuing to make Surrey a leading, safe and healthy community, where the future lives.