

Safe Journeys to School: A St. Albert Community Initiative

Raheem Dilgir, President, TranSafe Consulting Ltd.

Brian Brost, Manager of Utilities, City of St. Albert

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ABSTRACT

In 2014, the City of St. Albert launched the Safe Journeys to School Initiative. This consisted of the formation of a Joint Public Steering Committee to oversee the review of traffic safety at all of its 26 existing and two planned schools. The Steering Committee included representation from the City, the four School Boards, the RCMP, and members of the general public.

TranSafe Consulting was retained to conduct engagement of parents, students and the general public through a series of open houses, survey questionnaires, focus groups and on-line engagement tools. Engineering reviews were conducted at each school, covering the site, the street frontage and the surrounding neighbourhood, and observations were conducted at each school during the peak pick-up and drop-off periods. Collisions involving pedestrians, cyclists and school buses were analyzed. Research of best practices in Alberta and elsewhere was also conducted.

This extensive research, observation and analysis led to the identification of opportunities for enhancements to City policies, programs, standards and practices, as well as specific engineering interventions at each school. Key opportunities included the accommodation of active travel modes, crosswalk safety, speed management, improved efficiency in pick-up / drop-off operations, effective management of winter conditions, and the implementation of student education emphasizing respectful behaviours.

BACKGROUND

The City of St. Albert (City), in conjunction with its partners in school traffic safety, commissioned a comprehensive review of traffic safety for its schools, to minimize the risk of collisions and injuries involving students by identifying specific strategies and programs through a holistic 4-E approach (Engineering-Education-Encouragement-Enforcement). The City accessed funds from its automated speed enforcement program and reinvested them into traffic safety through this initiative.

Safe Journeys to School (SJ2S) was an initiative of the City, overseen by a Joint Public Steering Committee (JPSC). The JPSC was chaired by a City Councillor and composed of members of the City administration, all four School Divisions, the RCMP and five members of the public. The objectives of the initiative were to:

- Gather information and feedback through extensive community engagement at all 26 St. Albert schools (including Elementary, Junior High and High School), towards identifying enhancements that will mitigate student traffic safety risks.
- Identify the most effective engineering, education, enforcement and encouragement strategies to enhance student travel safety among all schools.
- Develop recommendations and specific action plans to enhance student and school traffic safety at each of the 26 existing schools and two new school sites.

REVIEW METHODOLOGY

The review methodology is summarized in FIGURE 1.

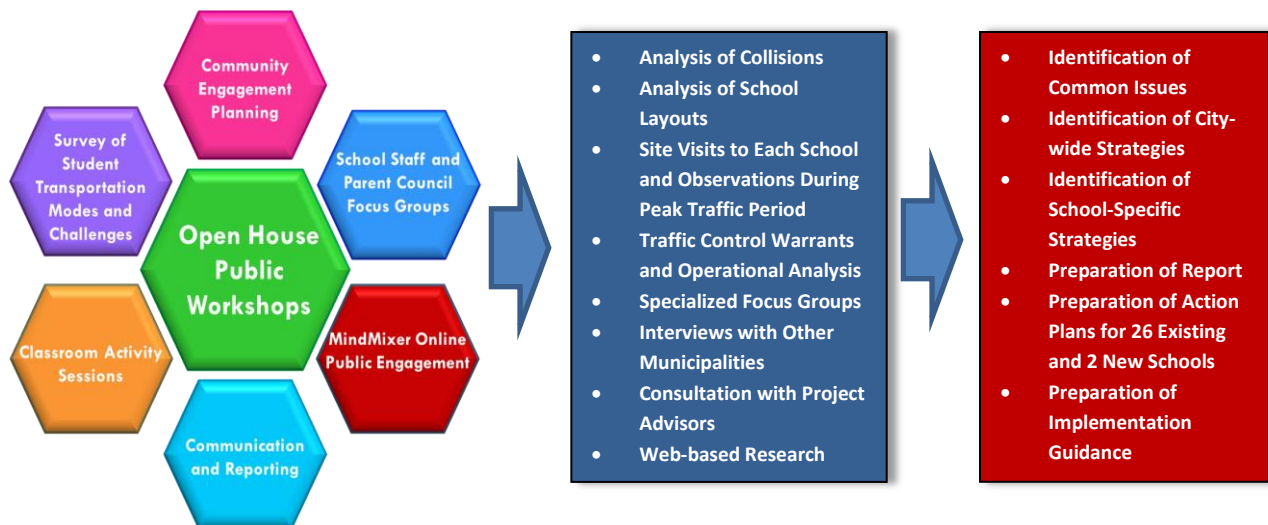


FIGURE 1 REVIEW METHODOLOGY

REVIEW FINDINGS

Community Engagement

Community engagement was the cornerstone of this initiative, and brought members of the community together to share their concerns regarding school travel safety. Participation in the community engagement activities was wide and varied, and provided a diverse range of input methods and participants:

- Open house public workshops: A total of 24 workshops were held for the 26 schools (two were combined sessions with adjacent schools). 819 parents attended, and several hundreds of issues were noted by the project team.
- MindMixer: An on-line engagement tool, “MindMixer” was set up as another convenient source for input for the wider community. This platform drew 1,520 identified users and 7,350 total hits.
- Focus Groups: Facilitated discussions were held with school staff, parent councils, RCMP, School Bus Transportation providers and School District senior management. A total of over 100 individuals participated in these focus groups.

From the above engagement methods, seven common themes of traffic safety concerns emerged:

1. Pedestrian Crossing Control
2. Availability of Safe Walking Routes
3. Availability of Parking
4. Impact of Snow / Weather
5. Traffic Violations
6. Student Behaviours
7. School Bus Transportation Services

To provide an even wider and more statistically significant sample of parent and student inputs, questionnaires were developed and distributed by the engagement team and completed separately by parents and students:

- Parent questionnaire: 772 completed questionnaires were received between June 9 and September 30, 2014, including at least one from each school.
- Student questionnaire: 1,773 completed questionnaires were received between September 1 and November 7, 2014 from Grade 4 to 12 students at 12 schools.

One of the key objectives of the questionnaires was to obtain a profile of student travel mode and the distance of the journey. The following trends were noted from the parent responses:

- Mode split is presently estimated at 47% school bus, 33% car, 16% walk and 3% bicycle;
- 16% of trips are within 1 km and 47% of trips are within 2.5 km; and
- The leading reason cited for mode choice was “convenience”, followed by “safety” and “speed”.

The student questionnaire responses indicated similar trends, with the exception that “fun” was a more prominent factor in student mode choice than “safety”. The above trends indicate two mode shift opportunities:

- A shift from car trips to bus trips for distances over 2.5 km/h; and
- A shift from car to foot and bicycle trips for shorter distances.

Weather was also determined to be a significant barrier to walking or cycling, with a significant drop of 11% in winter (from 24% of trips to 13% of trips), as compared to fall and spring. The top three traffic safety issues and challenges mentioned in the parent questionnaire responses were:

- The failure of drivers to see and yield to pedestrians;
- Vehicle speeding; and
- Crossing the street safely.

The first and third responses both reflect concerns regarding being seen by drivers and crossing the street in safety. The student questionnaire also solicited issues and potential solutions identified by students. The top three issues on the journey were:

- Crossing the street;
- Bus or car accidents; and
- Busy roads.

The concerns regarding pedestrian safety while crossing the street echo the top issues identified through the other engagement methods. The other issues are related, but reflect other perceptions. For example, “bus or car accidents” suggest that there is a prevailing fear among students regarding the potential consequences of their journeys. “Busy roads” may suggest the lack of crossing opportunities, particularly across the arterial or collector roads that may or may not be in the vicinity of their school, but are still along their journey to school.

The project team prepared resources for arranged for the direct engagement of students in the classroom. This has been packaged as a “Classroom Activity Toolkit” (CAT) which teachers can utilize. It contains resources provided by Alberta Transportation, Green Communities Canada, the Alberta Motor Association and other organizations.

Engineering Reviews

The engineering reviews consisted of a City-wide collision analysis and reviews of each school.

The collision analysis was based on pedestrian, bicycle and school bus collisions reported in the City between January 2009 and April 2014 (a period of 5 years and 4 months). Due to the difficulty in establishing which collisions in the City were school-related trips, as well as to address concerns regarding safety for pedestrians and cyclists, the analysis was focused on collisions involving pedestrians, cyclists and school buses. The following trends were noted:

- *Transportation Mode:* Nearly half of the extracted sample of collisions involved school buses; about one-third involved pedestrians; and about one-fifth involved bicycles.

- *Severity:* Pedestrian/cyclist collisions typically result in injury; most school bus collisions resulted in property damage only.
- *Annual Trend:* There was a drop in 2010 and a slight increase in the past two years.
- *Hourly Distribution:* Most collisions occur between 7 and 9 am, and between 2 and 4 pm, with a slight noon peak. These peaks are just prior to and after school hours.
- *Road Surface:* Nearly half of the collisions for which the road surface condition was indicated were reported during adverse (snow, ice or wet) road surface conditions.
- *Driver Action:* The most common “improper” driver action was “Failed to Yield to Pedestrian” (one-third of crashes for which an improper driver action was reported).

Due to the limitations of collision data, the engagement methods and site visits were aimed at identifying collision risks through anecdotal experiences such as “traffic conflicts” (close-calls).

Site visits were conducted to each and every school, during the pick-up or drop-off period, and during off-peak times. The site visits covered on-site characteristics, on-street characteristics and a review of the surrounding roadways. Notes were made of parking utilization, pedestrian facilities, traffic controls, driver and pedestrian behaviours and “close-calls”. Concerns raised during the community engagement were specifically investigated and reported on.

During the individual school visits, engineering team members noted several effective practices and common issues. The common issues are summarized in TABLE 1.

TABLE 1 COMMON SCHOOL TRAFFIC SAFETY ISSUES

Driver-Related Issues	Pedestrian/Cyclist – Related Issues	Infrastructure-Related Issues
<ul style="list-style-type: none"> • Parked Vehicles Blocking View Of Pedestrians • Speeding In School Zones Outside Peak Periods • Inefficient Use Of Pick-Up And Drop-Off Facilities • Aggressive / Inappropriate Driving Behaviour 	<ul style="list-style-type: none"> • Pedestrian Conflicts In Parking Lots • Pedestrians Jaywalking In Front Of School • Poor Crosswalk Awareness / Compliance • Pedestrian And Cyclist Routing Between Street And School 	<ul style="list-style-type: none"> • Conflicts Between Bus And Parent Loading Activities • Short Term Demand For Pick-Up Drop-Off Exceeds Facilities • Winter Conditions Impact Accessibility • Inconsistent Application Of Standards

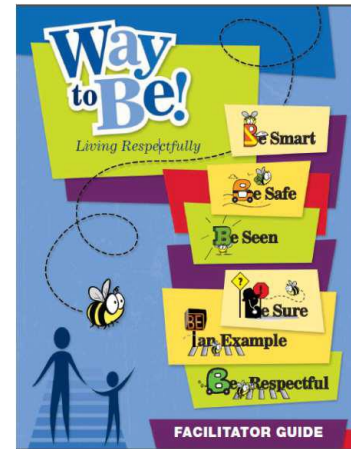
Plans for the two schools in development were audited. Planning and design principles regarding safe access, on-site circulation and parking layout, vehicle speeds, pedestrian desire lines and possible conflict points were applied. Suggestions were made for revising cross-sections, access locations and links in the sidewalk network, in order to proactively address some the issues observed at other schools.

Current and Best Practice Review

The current and best practice review aimed to bring the best of other jurisdictions to St. Albert, and to spread the best of St. Albert across the City. Research and consultations were conducted in five specific areas:

- School Bus Transportation
- Crosswalk Safety / Patrols
- Active Transportation / Safe Routes to School
- Enforcement and Encouragement
- Provincial Regulations and Programs

The consultations included specialized focus groups, interviews with other Alberta municipalities, consultation with project advisors (subject-matter experts). The discussions with other municipalities suggested St. Albert is among the provincial leaders for similar-sized municipalities in its traffic safety programming.



An example of a program that emerged from the best practice review is the Alberta Motor Association / Safe and Caring Communities of Alberta's *Way to Be! – Living Respectfully* program, which includes a student curriculum aimed at building a stronger traffic safety culture in which all road users respect one another in their interactions. This program is being piloted in Alberta in Fall 2015 at interested schools.

RECOMMENDATIONS

City-Wide Strategies

The recommended City-wide approach to improving the safety of journeys to school is depicted graphically in FIGURE 2. This holistic framework (nicknamed the “Safer Journeys Wheel”) illustrates the key principles, strategies, tools and approaches that can be leveraged in support of safer journeys, with the perpetual goal of safer journeys, and the need for a cultural transformation among all stakeholders in order to achieve this ultimate goal.

This framework reflects the *Safer Systems* concept, in which success is achieved by realizing the co-dependency of and interactions between the various elements; and by recognizing that the most vulnerable users of the system must be placed at the highest priority and protected through measures such as improved facilities and lower vehicle speeds. The framework includes eight safer journeys principles (the blue boxes), which if adhered to can have a significant impact on school traffic safety. For each of the eight areas, multi-disciplinary strategies (incorporating the 4 E's) were developed, and are summarized in TABLE 2.

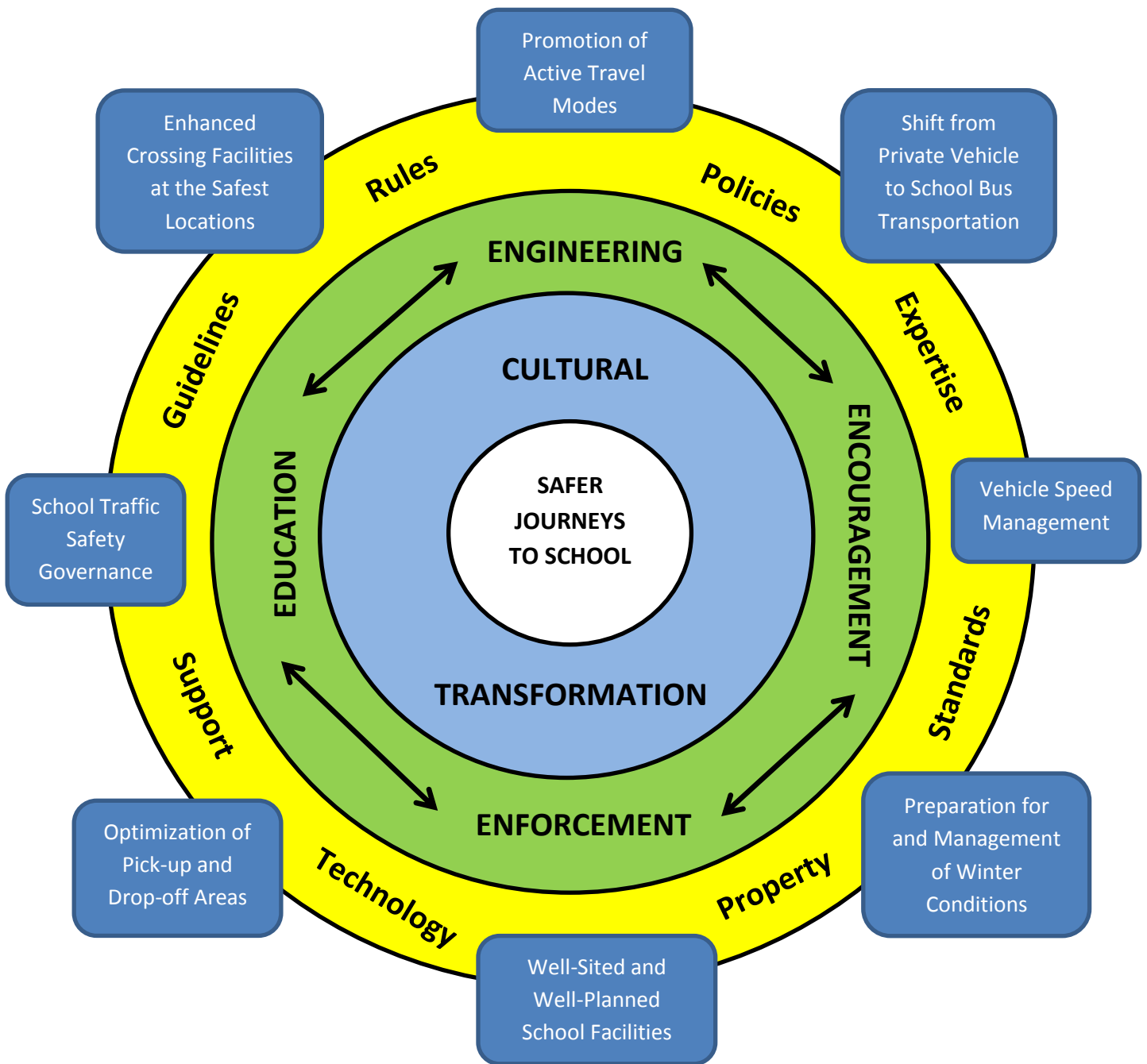


FIGURE 2 HOLISTIC FRAMEWORK (“WHEEL”) FOR SAFER JOURNEYS TO SCHOOL

TABLE 2 CITY-WIDE STRATEGIES FOR SAFER JOURNEYS TO SCHOOL

Principle #1: Promotion of Active Travel Modes	Strategies/Programs
<p>For students living closer to school, the promotion of walking and cycling will lead to a more sustainable reduction in congestion and safety issues around schools. This can be pursued both through encouragement, by understanding the barriers and providing resources, collaborating with advocacy groups, and providing infrastructure that more safely accommodates these modes, particularly for cyclists. An enhanced walking and cycling culture would make their presence more visible, predictable and acceptable.</p>	<ul style="list-style-type: none"> • “Walking/Cycling School Buses” • Theme days and contests • Discuss weather barriers • Walkabouts/cycle-abouts • Safe routes to school maps • Work with cycling groups • Pilot bike lanes / road diets • Rear pathways / alternate entrances • Keep facilities free of snow
Principle #2: Shift from Private Vehicle to School Bus Transportation	Strategies/Programs
<p>For students living further from school, a shift from private vehicle to school bus transportation is expected to reduce congestion and the associated safety issues <i>provided</i> there is sufficient space for buses on-site, that no additional buses would be required (i.e. increase in utilization), and that improvements are made to attract more riders. The key measures to encourage this shift include increasing cost-effectiveness, improved on-bus safety and a superior on-board performance. Restoring a culture of safety on school buses will be a critical first step, which depends on the reliability and efficiency of the system, as well as the implementation of improvements to school bus transportation.</p>	<ul style="list-style-type: none"> • Driver Training programs • More flexible cost structure • On-board storage • On-board surveillance • Address issues at bus stops • Optimize routes to avoid congestion • Proximity to school entrances • Collision avoidance technology • Winterization of school buses/tires • Spacious passenger waiting areas
Principle #3: Vehicle Speed Management	Strategies/Programs
<p>Lower vehicle speeds typically result in higher yielding rates at crosswalks, make pedestrians and cyclists more comfortable when crossing the roadway, and reduce the risk of injury in the event of a collision. Compliance with school zone speed limits is best achieved through a combination of engineering speed reduction measures and education, encouragement and enforcement efforts. The most effective speed reduction measures are physical in nature (such as road narrowings); these can be supplemented by temporary measures such as patrols and cones during peak school traffic. Measures such as reader-boards can both educate and enforce.</p>	<ul style="list-style-type: none"> • Gateway treatments • Real-time flashers • Speed zone reminders • Speed reader-boards and follow-up enforcement • Rewards for compliance • Raised crosswalks/curb extensions • Targeted speed enforcement • Automated speed enforcement
Principle #4: Preparation for and Management of Winter Conditions	Strategies/Programs

<p>Since the school year coincides with the most adverse weather conditions and walking and cycling trips are relatively rare in the winter, an approach needs to be taken to both prepare students/parents/vehicles for journeys to/from school during winter conditions, as well as to minimize the impact of these conditions on journeys to school, including the preservation of facilities in the vicinity of schools. An emphasis on geometric measures and signage rather than pavement markings will increase the chances that facilities can remain effective during winter conditions.</p>	<ul style="list-style-type: none"> • Discuss concerns with students • Reflective/climate-appropriate clothing • Snow blading policy • Sidewalk clearing policy • Windrow clearance policy • “Winter app” to report windrows • Enhanced signage and warning • Enhanced crosswalks
<p>Principle #5: Enhanced Crossing Facilities at the Safest Locations</p>	<p>Strategies/Programs</p>
<p>Crossing facilities should be provided at locations where sight lines are clear, away from speed transitions and where sufficient demand for crossing exists - and not at other locations. The City has a policy for providing crossing facilities, which should be reviewed given the concerns raised during the engagement opportunities. Where crossing facilities are provided, they can be enhanced to make them more visible, to provide real-time controls, to ease the crossing manoeuvre, and to encourage lower vehicle speeds. Geometric enhancements such as curb extensions and raised crosswalks are expected to be more effective than just traffic control upgrades. Each of these has advantages and disadvantages. Keeping sight lines clear is a critical function and should also be carried out right away for locations with identified obstructions.</p>	<ul style="list-style-type: none"> • Revised hierarchy of controls • No Stopping within 10 m of crosswalks • Curb extensions/in-street signs • Use of zebra/ladder markings at school crossings • Raised crosswalks • Higher visibility markings • Enhanced Student Patrols • Temporary measures (e.g. cones) • Illumination of pathways/crosswalks • Advance warning measures, including RRFB’s, yield lines and crosswalk warning signs • Maintenance of shrubs • Automated pedestrian detection • Adult guards for unique situation
<p>Principle #6: Well-Sited and Planned School Facilities</p>	<p>Strategies/Programs</p>
<p>The majority of safety and operational issues take place on the road with frontage to the school. Therefore, most of these could be prevented by moving some of the pick-up and drop-off facilities onto the school site and managing access and conflict points. Facilities that are new or being redeveloped should include features that support Principles 7 and 8. One of the most notable features is to make the school accessible from the rear for pedestrians and cyclists, to decentralize some of the activity from the front of the school. This may, however, require additional staff supervision to manage multiple student access points.</p>	<ul style="list-style-type: none"> • Multiple frontage roads • Separates access points for buses and vehicles/staff • Staff parking in central part of lot • Location of school entrances • Fences to prevent jaywalking • Stacking at the downstream end • One-way on-site circulation • Sidewalks outside of driveways • Reverse-in staff parking • Consistent on-site sign content and format • Staggered hours for nearby schools
<p>Principle #7: Optimization of Pick-up and Drop-off Areas</p>	<p>Strategies/Programs</p>
<p>It is not possible to significantly re-design most school sites;</p>	<ul style="list-style-type: none"> • Separation of buses and vehicles

<p>therefore, the pick-up and drop-off operations have to be optimized within the available space. Where possible, private vehicles and buses should be separated, with higher priority for buses (closer to school entrance or a dedicated school entrance), as well as revising the parking/stopping regulations to clarify the difference between stopping and parking and to give priority for immediate drop-off closer to the school entrance. Encouraging parking and walking from further away would also relieve congestion.</p>	<ul style="list-style-type: none"> • Institute “No unattended vehicles” regulation • Shorter times for pick-up/drop-off parking • Restrict parking across the street • Possibility of shared zones outside of peaks • Use of positive/symbolic signing • Busing / parking patrols • Approach from/park on same side • Use of City parking lots where available
<p>Principle #8: School Traffic Safety Governance</p>	<p>Strategies/Programs</p>
<p>The success of the above strategies will depend on the governance structures are put in place or maintained. School traffic safety will need to remain high on the City and School District priority list to continue the momentum and implement the findings of the review. The collaboration between the partners should be mirrored as much as possible at the School District and individual school levels. Besides increasing the chances of successful implementation, solid governance and leadership will set a good example for parents and students, which in turn will support the building of a stronger and more sustainable traffic safety culture. Keeping the public informed about school traffic safety initiatives may increase their support through improved behaviours, and continue to build a sense of community.</p>	<ul style="list-style-type: none"> • Public traffic safety committee • School-based traffic safety committees • Dedicated funding for traffic safety • Continued and expanded collaboration between all partners • Standardized student newsletter content • Traffic fines that better reflect risk • RCMP members dedicated to school safety • Maintain Safe Journeys website • Implement/enhance curriculum • Review locations/corridors raised as concerns • Traffic Conflict monitoring program • Coordination with Alberta Traffic Safety Plan member

These strategies were developed based on all of the analyses and research conducted, including concerns raised in the engagement activities that were validated by the study team or reflect perceptions that negatively affect student behaviours.

To make journeys to and from school as safe as possible, a cultural transformation must accompany the identified strategies. A key opportunity identified is the *Way to Be! – Living Respectfully* Program of the Alberta Motor Association and Safe and Caring Communities of Alberta.

School-Specific Strategies

Reports outlining a blueprint or “plan” for safer journeys to school for the 26 existing and 2 proposed schools were completed as part of the project. Each plan contained detailed findings, photographs and suggested short, medium, and long-term and enhancements, and the suggested “lead” for each one, for the consideration of the JPSC. An example of a list of strategies from one of the school plans is as follows:

SCHOOL	STRATEGY	TYPE	TIME FRAME	LEAD
Richard S. Fowler Catholic Junior High School	Encourage walking and cycling to reduce parking demand	Encouragement	Short	School
	Provide pick-up / drop-off area on street	Engineering	Long	City
	Create pedestrian route to parking stalls	Engineering	Medium	District
	Create staff only parking area	Engineering	Short	District
	Replace no parking with no stopping signs	Enforcement	1 st Priority	District
	Provide “road diet” with bicycle lanes on SWCA	Engineering	Long	City
	Create pedestrian/cycling routes around perimeter of lot	Engineering	Medium	District
	Assign yielding priority to the school buses	Engineering	Short	District
	Upgrade crosswalk at Fairview Drive	Engineering	Short	City

CONCLUSION

The St. Albert Safe Journeys to School review featured:

- Over 75 City-wide strategies
- Over 300 School-specific strategies
- A framework for continuous improvement

The project was unique and particularly effective in its:

- Proactive approach;
- Re-investment of funds in traffic safety;
- Comprehensive and holistic methodology; and
- Extensive community involvement.



The Safe Journeys to School initiative of the City of St. Albert and its partners set forth a blueprint for further enhancing traffic safety for students travelling to and from school. More than anything, it brought the community together on a common issue and empowered parents, students and the general public. Continued engagement and cooperation from all involved will ensure the success of the initiative.