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## **Association of School Transportation Services of British Columbia Executive Summary of Mass Casualty Incident Best Practices and Recommendations**

As late as the 1960's, driver liability and due diligence was not common terminology used by School District Transportation Supervisors across British Columbia. Due to the lack of understanding and sharing of information transportation districts got together to share experiences, ideas and solutions that would improve bus transportation safety. In 1965, the Association of School Transportation Services of British Columbia was formed and began to address these important issues.

Almost 50 years later the Association of School Transportation Services of British Columbia has established a broad coalition from across British Columbia to evaluate best practices to ensure the highest degree of safety in the transportation of school children. It is important to note that school bus transportation remains the safest means of moving school aged children across Canada.

The Association of School Transportation Services of British Columbia's motto has remained consistent: *"Your Child's Safety Is Our Business"*

### **Purpose**

The intent of the Association of School Transportation Services of British Columbia is to enhance and foster new relationships with local emergency responders in the sharing of plans and procedures in response to a transportation incident within their jurisdictions.

The Association of School Transportation Services of British Columbia proposes best practice guidelines for response to a mass casualty incident involving bus transportation that provides for rapid assessment, accountability, and notification to parents. As provincial law states, each school district within British Columbia will adopt a workable student accountability system that will provide the district with accurate student transportation manifests that are transferable to emergency responders for the purpose of parent notification and reunification.

To that end the Association of School Transportation Services of British Columbia has been working diligently with the 60 Board of Education transportation departments in British Columbia to ensure the safety of their students and drivers if this type of event was to occur.

The report looks into seven specific areas for improvement and offers specific recommendations related to them.

- Development of Community Contacts
- Student/Driver Tracking and Accountability Systems
- Managing Risks Related to Bus Transportation
- Emergency Communications
- Certification Training for Drivers and Staff
- Student/Parent Orientations and Training
- Plan Development, Operating Guidelines and Exercises

### **#1 Development of Community Contacts**

Among the first steps to be taken by the individual transportation department is to initiate contact with local emergency responders for the purpose of assessing local capabilities and conditions that would improve the district's planning for transportation incidents.

The establishment of strong working relationships is a critical first step in this collaborative planning process.

Recommendations:

1. That each Board of Education Transportation Department identifies community contacts representing police, fire, emergency medical services, emergency management, hospitals, and other key agencies.
2. That each Board of Education Transportation Department assesses the resources, vulnerabilities and capabilities of their community emergency agencies.
3. That each Board of Education Transportation Department establishes a working group to develop a comprehensive response and recovery plan for transportation emergencies.
4. That each Board of Education Transportation Department validates their plan with either real world events or exercises and revises as needed annually.
  - a. This would occur prior to the start of each school year.

### **#2 Student/Driver Tracking and Accountability Systems**

Each Board of Education transportation department must incorporate the use of student manifests for each school bus route. There are a number of options available to board administrators. Examples include the use of tracking products such as *Zonar Z-Pass*, *Mobile Witness*, and *Salamander Student Trax*. These examples utilize Radio Frequency Identification (RFID) chips or linear barcode badges that are assigned to each student. Tracking may be passive or active. Information may be real-time depending upon the software. Some vendors provide the ability to use tablet and smart phone technology to monitor student ridership, eliminating the need for paperwork. As the student boards or leaves the bus they are automatically recorded in a data base. There is no action required of the driver or the student other than to carry the card on their person or in a backpack. Information may be recorded real time for rapid assessment when needed most. Some of these referred systems allow access to parents to receive text messages

when their child boards or leaves the bus and alerts when they are left on a bus at the end of a run.

Some software incorporates a panic button option for the driver to use in an emergency, expediting the notification process.

RFID technology can be incorporated into route tracking where a transmitter is installed on the bus and passive RFID tags are attached to objects along the bus route. In the event of an accident the dispatch center could identify the last known location of the bus directing first responders to an approximate address.

The *Yellow Dot* program provides for the storage of detailed medical information that may be critical for medical care following a bus accident where the patient is incapacitated. Yellow Dot is utilized by the State of Alabama and many other school districts for their school bus drivers but has applications to assist with storing medical information for special needs students as well. Medical information collected on the Yellow Dot form is carried on the bus in the driver's compartment. Buses are marked with a yellow dot to alert first responders to the presence of critical medical information. The use of Yellow Dot is gaining popularity across the United States as a means of providing personal medical information after a vehicle accident. Participation in this program is voluntary.

Another option available is to provide a bright yellow paper manifest that is carried in the driver's compartment for ready access by the driver and emergency responders. This paper option will require diligence on the part of the school and transportation managers to ensure accuracy of each printed manifest. Transportation lists should correspond to attendance records developed at each school and education facility.

#### Recommendations:

1. That each Board of Education Transportation Department will evaluate their ability to acquire and support a student accountability program.
2. That each Board of Education Transportation Department will provide the means of maintaining medical information retrievable by the drivers and first responders in the event of a medical emergency involving the driver, students and vulnerable populations.
3. That each Board of Education Transportation Department provide current and reliable passenger manifests for each bus for daily routes and special transportation events in accordance with the *British Columbia Motor Vehicle Act Regulations, Division 11, School Buses, section 11.06: Passenger List Required*,

### **#3 Managing Risks Related to Bus Transportation**

Regardless of the jurisdiction of any Board of Education, guideline development related to actions to be taken by drivers and staff in the event of a transportation emergency should be provided. Operational guidelines should be specific enough to ensure proper actions but broad enough to provide flexibility based upon the type and extent of the emergency. Guidelines should be discussed in staff training, validated and reviewed annually. Provisions should be made to include emergency action training as part of new employee orientation as well as part of recurrent drivers training. It is recommended that training should include a performance element allowing the drivers to demonstrate an understanding of action guidelines. Guidelines and training modules should be written to address a wide variety of emergency scenarios, including evacuation, collisions, fires, weather hazards, bullying, violence and unauthorized intrusion. Evacuation drills should be incorporated into driver training and drills scheduled on a regular basis. Board of Education guidelines should include provisions for allowing the transportation director, to suspend or cancel a route based upon local hazards such as severe weather or an event that has potential life safety hazards within their jurisdiction. Provisions should be in place identifying sheltering locations for buses drivers and students during any of these possible events.

Action check lists, flip charts, tri-fold pocket aids or waterproof spiral bound pocket books are suggested methods of providing reminders for drivers during an emergency. Another option is to download this information into a tablet or iPhone.

#### Recommendations:

1. Each Board of Education Transportation Department will review, revise or develop guidelines to address predictable bus transportation emergencies.
  - a. A best practice would require the driver to notify the local 911 public safety answering point of an incident prior to notification of the District Transportation Dispatch center if able to do so.
2. Each Board of Education Transportation Department will evaluate their current drivers training program for gaps. Driver training programs should include performance measurements, and recurrent or annual training reflective of the district's transportation emergency guidelines.
3. Each Board of Education Transportation Department will conduct bus evacuation drills utilizing the students who ride the particular bus.
4. Each Board of Education Transportation Department will develop and maintain driver's checklists, carried on the bus for use in an emergency.

## **#4 Emergency Communications**

Student tracking, parent notification and reunification are recognized as critical components of a transportation incident plan. As stated, the district has options to facilitate this area of support based on individual district's needs, capabilities and resources. Fundamentally, the Association of School Transportation Services of British Columbia recommends that the notification and reunification plans include the assessment and evaluation of communication capabilities within each individual Board of Education district. Methods and technology for communicating with buses vary across the districts. Many rural districts face unique challenges. Communications systems within each district should be tested to identify gaps and dead areas affecting communications. Gaps identified require the development of strategies to eliminate them. The Association of School Transportation Services of British Columbia recommends that districts who are experiencing communication issues in the field work with local law enforcement, fire and emergency medical service providers to determine what options and technology they may use to ensure wide area communications capability. Smaller districts who may be looking at cellular communications as a means of providing communications to their drivers should contact their cellular provider to see if there are programs to assist them in obtaining cell phones.

Providing community feedback and information during a transportation or school emergency instills and promotes trust between Boards of Education, staff and parents. Social media and cell phones, in the hands of most students, all play a role in a communication network that provides the public with almost instantaneous and at times misleading information. It is critical that Boards of Education, schools and staff establish single source information providing accurate and timely community feedback to established media outlets.

The Association of School Transportation Services of British Columbia understands the impact of contemporary methods of social media contact and strongly encourages the timely transmission of accurate, validated information.

### Recommendations:

1. Each Board of Education will evaluate their ability to communicate by electronic means to their bus drivers.
2. Board of Educations who are looking for assistance to improve cell phone communications should contact their local area provider.
3. Where gaps are identified each Board of Education will consult with community emergency response agencies to determine their best communication practices.
4. Where gaps are not readily remedied, each Board of Education should explore the feasibility of establishing phone trees within the community, evaluating amateur radio or other means to fill communication dead space or gaps.
5. Each Board of Education should establish a single source of disseminating critical information to the public in the event of an emergency.
  - a. A best practice would be that each Board of Education District establish or utilize the services of an established Public Information officer contact for the purpose of developing and coordinating messages related to an emergency event.

## **#5 Certification and Training of Drivers and Staff**

The Province of British Columbia has developed and adopted a standard approach to the organization and management of emergency incidents. This incident management system (IMS) is known as the British Columbia Emergency Response Management System (BECERMS) and provides responders with a tool to unify and coordinate all-hazard response.

The Association of School Transportation Services of British Columbia recognizes a critical need for Boards of Education, schools, drivers and transportation contractors to become familiar with the principles and practices of emergency incident management. In the course of a transportation or school emergency staff, drivers and transportation contractors should understand their roles within the incident management system and be prepared to participate where required.

While an understanding of BECERMS provides a basis on which to develop guidelines, Boards of Education should participate with community law enforcement, fire and EMS providers and emergency management agencies to conduct workshops, table top and functional exercises to reinforce an understanding of their roles and functions within a unified command structure. The Justice Institute of British Columbia and the British Columbia Fire Training Officers Association are resources for this training. Local law enforcement, fire and emergency medical and emergency management agencies are helpful resources to guide Boards of Education in this area as well.

The delivery of training to drivers and dispatchers should follow a standardized format incorporating current safety practices and conform to Provincial and national health and safety standards. Training should address the needs of new hire drivers and experienced drivers as well. There are a number of resources available to Boards of Education to assist Transportation Directors in identifying curriculum. National Association for Pupil Transportation, Natural Resources Canada offers the *Fleetsmart* program; a wealth of information may be found on British Columbia Work Safe website offers information related to driver safety. The Association of School Transportation of British Columbia also provides options related to driver training development.

When an accident does occur, it is critical that the investigation process is followed per provincial law. Training for transportation staff can be obtained from a variety of sources such as Work Safe British Columbia, British Columbia Ministry of Transportation (CVSE), Canada Safety Council, and the Justice Institute of British Columbia. Other sources of training include private vendors and paid consultants.

### Recommendations:

1. Each Board of Education identifies individuals to receive training in incident management utilizing BECERMS principals.
  - a) A best practice would include the identification of specific individuals, who are trained in the principles of the emergency incident management system and who can respond to the emergency scene to act as the Board of Education liaison to the Unified Command

2. Each Board of Education will evaluate their current drivers training program to ensure that it provides a comprehensive, all hazard curriculum.
3. Each Board of Education will routinely validate their guidelines through the use of emergency exercise, or real world events.
4. Each Board of Education will provide accident management training to fleet dispatchers, Transportation supervisors and Transportation Directors.
5. Each Board of Education will provide curriculum related to student transportation safety.

## **#6 Student/Parent Orientations and Training**

During an emergency, parents need to know the health, status, location and process of reunification with their child. Each Board of Education district, should share instructions to parents and students of their roles and responsibilities in the event of a transportation emergency. This information may be shared with parents and the community through a variety of different methods. Some examples may include; parent/district forums, websites, webinars, student assemblies, parent/teacher conferences, media outlets, information bulletins, and social media.

The first step in parent/child reunification is the maintenance of accurate emergency contact information. Parent contact information must be accurate and include multiple points of contact. Contact information should be up dated regularly.

The Association of School Transportation Services of British Columbia strongly supports the establishment of a parent notification guideline. They urge that this information is communicated with the parents and community and is consistent across the Province ensuring reliability in the parent notification and reunification process.

### **Recommendations:**

1. Each Board of Education Transportation Department will maintain contact information for each student, including alternative phone numbers when the primary parents cannot be contacted.
2. Each Board of Education Transportation Department will adopt a crisis notification protocol that is consistent across the Province. The Association of School Transportation Services of British Columbia, in cooperation with the Ministry of Education should establish the forum for the development of a provincial crisis notification program for bus transportation emergencies.
3. Upon adoption of a provincial crisis notification protocol, each Board of Education Transportation Department will validate their program through real world emergencies or exercises. Gaps identified will be included in a written after action report to provide the basis for correction. This after action plan will be presented to the Transportation Director, Superintendent and other key directors of the district.

## **#7 Plan Development: Operating Guidelines and Exercises**

Emergency plan development, validation and testing are considered critical outcomes for managing potential transportation risks and optimizing bus passenger safety. The development of emergency plans should reflect district recommended operating guidelines, in turn; these foundation guidelines should reflect the consensus of the collective Boards of Education Transportation departments based upon agreed best practices.

The steps that follow the validation of an emergency plan include incorporating guidelines into district training programs for drivers, dispatchers, students and parents. Boards of Education providing training should consider using a mixture of classroom, on-line, self study and manipulative skills activities to deliver their message to staff. Periodic skill assessment based upon checklists will be helpful in maintaining staff proficiency.

The last step in skill reinforcement is to exercise the emergency plan through workshops, tabletop, functional and full scale tests. Validation of specific portions of the emergency plan will ensure that plan content remains relevant to district needs and appropriate to address bus transportation risks.

## **#8 Summary**

Managing risks that pertain to bus passenger safety and security require that Boards of Education invest time in identifying potential threats. A transportation safety profile should look at potential risk involving mechanical, human, weather and transport related variables. Community resources, contacts and allied agencies provide information and advice that can assist Boards of Education in this effort. Student/Driver tracking and accountability systems, emergency communication, driver and dispatcher training and certification, and parent/student orientation and training are important pieces of managing risks to bus transportation.

While the development of working guidelines, training programs and emergency plans constitute the basis of managing transportation risks it is important that the Boards of Education Transportation departments establish the means by which the plans or portions of the plans are tested, validated and revised on a regular basis.

## **Resources**

Act First Training, (2014) *Online Accident Investigation Program*.

<http://actfirstsafety.ca/training/elearning-online-training/incident-investigation-online-training/>

Association of School Transportation Services of British Columbia: <http://www.astsbcc.org/bus-safety/>

British Columbia Ministry of Education: <http://www.gov.bc.ca/bced/>

British Columbia Ministry of Transportation and Infrastructure: <http://www.gov.bc.ca/tran/>

British Columbia Fire Training Officers Association: <http://bcftoa.com/>

Canada Safety Council: <https://canadasafetycouncil.org/home>

Canada Safety Council; Accident Investigation:

<https://canadasafetycouncil.org/training/incident-investigation>

Canadian Center for Occupational Health and Safety:

<http://search.ccinfoweb.ccohs.ca/ccohs/jsp/search/metasearch.jsp?QueryText=bus+drivers&MaxDocs=500&ResultStart=1&SortSpec=Score%20desc&hTab=2&vTab=0>

DeAnnuntis C., & Morris W., (2012). *Best Practices in Bus Dispatching (Tech. Report BDK85 977-25)*. Tallahassee, FL: National Center for Transit Research, University of South Florida.

Crown Publications Inc. (n.d.). British Columbia Motor Vehicle Act: *British Columbia Motor Vehicle Act Regulations, Division 11, School Buses, section 11.06: Passenger List Required.*, Retrieved September 5, 2014, from <http://www.qp.gov.bc.ca/statreg/>

*Emergency Management BCERMS Orientation* [PowerPoint slides]. Retrieved from [http://embc.gov.bc.ca/em/bcerms/BCERMS\\_Orientation.pdf](http://embc.gov.bc.ca/em/bcerms/BCERMS_Orientation.pdf)

First Student, Incorporated, Canada: <http://www.firststudentinc.ca/transportation-management/school-bus-safety>

First Student, Incorporated, Canada: <http://www.firststudentinc.com/transportation-management/school-bus-safety/school-bus-safety-tips>

Governing 2014. *New Jersey Program Marks Cars for Emergency Responders (n.d.)*.  
<http://www.governing.com/news/headlines/gov-new-jersey-program-marks-cars-for-emergency-responders.html>

Justice Institute of British Columbia: <http://www.jibc.ca/search/gss/incident%20command>

Kamloops, (BC), Safer City; *School Bus Safety*. Retrieved September 11, 2014, from  
<http://www.kamloops.ca/safercity/pdfs/SchoolBusSafety.pdf>

The Department of Homeland Security Exercise and Evaluation Program (HSEEP):  
<https://www.llis.dhs.gov/hseep/>

United States Department of Homeland Security. 2013. *The Department of Homeland Security Exercise and Evaluation Program (HSEEP)*: Retrieved October 21, 2014 from  
[http://www.fema.gov/media-library-data/20130726-1914-25045-8890/hseep\\_apr13\\_.pdf](http://www.fema.gov/media-library-data/20130726-1914-25045-8890/hseep_apr13_.pdf)

Ministry of Public Safety and Solicitor General. (2008) *British Columbia Emergency Response Management System, Standards for BCERMS Training Providers and BCERMS Training Materials*; 2008. <http://embc.gov.bc.ca/em/bcerms/bcerms.html>

The National Highway Traffic Safety Administration: <http://www.nhtsa.gov/>

The National Highway Traffic Safety Administration. 2011. *School Bus Driver In-Service Safety Series, Pupil Transportation Supervisors Guide*. Retrieved October 28, 2014 from  
<http://www.nhtsa.gov/search?q=bus+safety&x=0&y=0>

The National Safety Council:  
<http://www.nsc.org/search/results.aspx?k=bus%20drivers&start1=11>

The National Safety Council (n.d.). *Student Safety Tips*. Retrieved October 21, 2014 from  
[http://www.nsc.org/safety\\_home/SafetyObservances/Documents/Back%20to%20School/First%20Student%20-%20School%20Bus%20Safety%20Tips.pdf](http://www.nsc.org/safety_home/SafetyObservances/Documents/Back%20to%20School/First%20Student%20-%20School%20Bus%20Safety%20Tips.pdf)

Natural Resources Canada/Fleetsmart: <http://fleetsmart.nrcan.gc.ca/index.cfm>

New Haven Unified School District. 2011. *Lead Bus Driver Behind the Wheel Trainer/Dispatcher*. Retrieved October 31, 2014 from <http://www.nhusd.k12.ca.us/node/1623>

New York State Sheriffs Association (n.d.). *New York State Sheriffs Association Yellow Dot Program*. Retrieved October 21, 2014 from <http://www.nysheriffs.org/yellowdot>

North American Transportation Consultants, Incorporated: <http://natc-inc.com/>

North Carolina Bus Safety Web:

<http://www.ncbussafety.org/>

The Ontario Ministry of Transportation (n.d.). *School Bus Safety - Information for riders, parents and motorists*. Retrieved October 21, 2014 from

<http://www.mto.gov.on.ca/english/safety/schoolbus/safebus.shtml>

Ontario School Bus Association/P.R.I.D.E. program: <http://www.osba.on.ca/programs>

Operation Lifesaver. 2014. *Safety Tips for School Bus Drivers*. Retrieved October 21, 2014 from

<http://oli.org/training/safety-tips-for-school-bus-drivers>

Pennsylvania Department of Transportation (n.d.). *Student Safety Tips*. Retrieved October 21,

2014 from <http://www.dmv.state.pa.us/schoolBusCenter/busSafetyTips.shtml>

Safe Bus. 2007. <http://www.safebus.org/>

School Bus Fleet.com. 2014. <http://www.schoolbusfleet.com/default.aspx>

School Bus Fleet.com. 2014. *Steps to Improve Your Dispatch Operation*. Retrieved October 29,

2014 from <http://www.schoolbusfleet.com/channel/management-training/articles/2001/03/5-steps-to-improve-your-dispatch-operation.aspx>

School Bus Safety Canada: <http://schoolbussafety.ca/>

The Smart Exchange. 2012. *School Bus Safety for Students*. Retrieved October 21, 2014 from

<http://exchange.smarttech.com/details.html?id=25e01561-961c-4a86-af92-28b576c6d147>

Transport Canada. 2014, *School Transportation News*.

<http://stnonline.com/resources/government/school-transportation-in-canada>

Work Safe British Columbia:

[http://www.worksafebc.com/default.asp?\\_ga=1.199293294.159162305.1413919641](http://www.worksafebc.com/default.asp?_ga=1.199293294.159162305.1413919641)

## **Vendor Information**

Bridgeway Solutions, Salamander Student Trax software.

<http://www.bridgewaysolutions.com/pdf/SAL-STUDENT-TRAX.pdf>

Falken Secure Works.

[http://www.falkensecurenetworks.com/PDFs/0814\\_RFID\\_for\\_School\\_Buses\\_and\\_Student\\_Safety.pdf](http://www.falkensecurenetworks.com/PDFs/0814_RFID_for_School_Buses_and_Student_Safety.pdf)

Mobile Witness, Student Accountability Systems.

<http://www.mobilewitness.com/solutions/education/student-accountability-system/>

Zonar Connected, Electronic Fleet Management. <http://www.zonarsystems.com/>