



Hazard Resilience Strategies

Accidents

Airplane Crashes
Marine Accidents
Motor Vehicle Crashes
Train Derailments

Airplane Crashes^{1 2 3}

- Ensure airplanes flying in the vicinity of the airport use “ground proximity warning systems” (systems that notify pilots when their aircraft is at risk of colliding with the ground or an obstacle).
- Ensure community-based airplane crash exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure control operations are in place to prevent bird strikes (for example, wildlife hazard assessment, management, removal, etc.). For more information see Best Management Practices for Airport Wildlife Control by the Bird Strike Committee USA (2007).
- Ensure flight paths over the community are minimized.
- Ensure local airport operators follow safe workplace practices and have a clean safety record.
- Ensure local airport operators have an up-to-date Emergency Response Plan.
- Ensure local airport operators have conducted a Hazard Identification and Risk Management assessment as recommended by Transport Canada.
- Ensure local airport operators have tested their Emergency Response Plan.
- Ensure local airport operators use and practice “System Management Systems” as approved by Transport Canada.
- Ensure pilots check regularly with weather and storm forecasting agencies such as Environment Canada
- Ensure the community has in place regulations to limit tall buildings in the vicinity of an airport.

Marine Crashes ^{4 5}

- Ensure boaters and fishers check regularly with weather and storm forecasting agencies such as Environment Canada
- Ensure community-based marine crash exercises have taken place in the community-at-large (e.g., table-top or full-scale exercises)
- Ensure dangerous areas to boats (e.g., submersed rock outcroppings) are well marked on charts and have buoys or other visible devices to indicate the danger to boaters.
- Ensure, if applicable, that harbour masters are familiar with the harbour and are available to board and navigate ships.
- Ensure marinas and communities have warning system in place to notify boat operators of potential heavy fog or storms.
- Ensure most boat owners have taken a boat safety course and boating test for the Canadian Boating License or Pleasure Craft License as mandated by Transport Canada.
- Ensure most boat owners keep their boats well maintained.
- Ensure most boaters and fishers check regularly with weather and storm forecasting agencies such as Environment Canada.

Motor Vehicles Crashes ⁶

- Ensure centre line guardrails, safer intersections and wider road shoulders are in place in problematic areas.
- Ensure community-based motor vehicle (including school buses) accident exercises have taken place in schools and the community-at-large (e.g., table-top or full-scale exercises)
- Ensure local bars practice adequate monitoring of patrons who may be driving.
- Ensure most motorists check regularly with weather and storm forecasting agencies such as Environment Canada especially before venturing out on isolated and rural roads.
- Ensure reduced speed limits and/or lower speed zones are in place where appropriate.
- Ensure there is a warning system in place to notify police, fire and ambulance personnel of poor driving conditions.
- Ensure there is a warning system in place to notify residents of poor driving conditions.
- Ensure there is police enforcement which targets impaired drivers.
- Ensure young drivers are adequately supervised and “dry” graduations are promoted by the local schools.

Train Derailments ^{7 8}

- Ensure community-based train derailment exercises have taken place in and the community-at-large (e.g., table-top or full-scale exercises).
- Ensure contrasting materials are in place to clearly mark rail crossings.
- Ensure people do not play or walk along railroad tracks. Furthermore, access to tracks is limited and secure.
- Ensure railway companies have avoided operating trains in areas subject to avalanches, landslides, ice jam flooding and other potential hazards.
- Ensure railway warning systems are visible prior to reaching the crossing.
- Ensure the community is working with *Operation Lifesaver*, a national public education program for railway safety, which works with communities to reduce rail collisions.
- Ensure trains are not overloaded with too many railway cars (longer train loads result in great risk of accident).
- Ensure there is a warning system in place to notify train operators of poor operational conditions.

References

¹ Australian Government: Civil Aviation Safety Authority. (1999).

² Transport Canada. (2004). TP 14135 - Safety Management Systems for Small Aviation Operations - A Practical Guide to Implementation. Retrieved May 15, 2011 from <http://www.tc.gc.ca/eng/civilaviation/publications/tp14135-1-menu-2078.htm>

³ Plane Crash Info. Statistics. Retrieved May 20 2011 from <http://www.planecrashinfo.com/cause.htm>

⁴ Wang, J.(2006). Maritime Risk Assessment and its Current Status. *Quality and Reliability Engineering International*, 22, 3-19.

⁵ Transport Canada. (2010). National Pleasure Craft Operator Competency Program. Retrieved May 30 2011 from http://www.tc.gc.ca/eng/marinesafety/debs-obs-paperwork-paperwork_operator-360.htm

⁶ Transport Canada. (2005). Road Safety 2010: Making Canada's Roads the Safest in the World. Retrieved May 2, 2010, from <http://www.tc.gc.ca/media/documents/roadsafety/rsv2005se.pdf>

⁷ Transport Canada (2007, September). Pedestrian Safety at Grade Crossing Guide. Retrieved May 2, 2011, from <http://www.tc.gc.ca/eng/railsafety/publications-53.htm>

⁸ Operation Lifesaver. (2010). Train Safety FAQs. Retrieved June 15 2011 from <http://www.operationlifesaver.ca/facts-and-stats/train-safety-faq/>