



Improving Safety & Sustainability in Transportation: A Swedish Approach

OUTCOMES

26 / 09 / 2016

PREPARED BY CANADIAN URBAN INSTITUTE www.canurb.org

INTRODUCTION

In Toronto about 10 collisions happen each day between cars and pedestrians or cyclists. This is over 1000 since June 1¹. Greenhouse gas emissions from transportation contribute about 40% of Toronto's carbon emissions² and so must be reduced significantly to reach the City's and Province's ambitious GHG-reduction targets.

Sweden confronted the need to improve safety and sustainability in transportation many years ago, through the Vision Zero Initiative and through advances in vehicle technology. In order to learn from their experiences, the Canadian Urban Institute, the Embassy of Sweden, Business Sweden and Vision Zero convened a panel discussion on safety and sustainability in transportation.

Keynote: Dr. Matts-Ake Belin, Sweden Transport Administration, Vision Zero

Welcome: Per Sjogren, Swedish Ambassador

Moderator: Oliver Moore, The Globe and Mail

Panel: Jean-Yves Vallee, Director of Product Planning, Nova Bus, A Division of the Volvo Group of Canada

Roger Browne, Traffic Safety Unit Manager, City of Toronto

Michael Sutherland, Director, Urban Solutions, Hatch

DESIGNING FOR SAFETY

Dr. Matts-Ake Belin introduced the discussion with a keynote presentation on the Vision Zero initiative and successes in reducing road traffic injuries and deaths in Sweden. The Swedish government adopted Vision Zero in October 1997. A values statement, "It can never be ethically acceptable that people are killed or seriously injured when moving within the transport system" has created the new mindset that Vision Zero empowers. Their research has found that 90% of traffic incidents are due to human factors, so their solutions accept that it is inevitable that humans will make mistakes, and road infrastructure and transit systems designs have to reduce the opportunity for them.

Examples of design improvements used in Sweden included installing physical road barriers, reducing speed limits in urban and rural areas, using roundabouts, increasing the number of speedbumps, as well as improving the sidewalks and the pedestrian aspect of the streetscape.

SAFETY IS KEY TO SUSTAINABILITY

Michael Sutherland of Hatch explained how the Vision Zero mission has impact well beyond road safety. It creates places where people are happy to live and creates an intersection of economy, environment and society. Mr. Browne discussed the importance of improving the safety of walking and cycling to makes these modes the most attractive

¹ <http://www.cbc.ca/news/canada/toronto/cars-hit-1-083-toronto-pedestrians-cyclists-since-june-1.3776779>

² <http://www.toronto.ca/legdocs/mmis/2016/pe/bgrd/backgroundfile-87697.pdf>

way to travel in the City. Opportunities include elements such as advanced green lights for pedestrians, no right turn on red for vehicles, separating cyclist traffic from vehicle traffic and initiating pilot projects like the cycle track along Bloor Street.

Thinking differently about road accidents leads to strategies that are amazingly effective. For example, low speed collisions are rarely fatal. Therefore designing roads so that if collisions do occur they occur at low speed effectively eliminates fatal collisions.

TECHNOLOGY CAN SUPPORT SAFETY AND SUSTAINABILITY

Technology is changing rapidly in the transportation industry. Autonomous vehicles, electric buses and road side technologies are just a few examples of how technology can improve safety and sustainability. Dr. Belin reported that roadside technologies such as safety cameras in Sweden have been effective through monitoring and enforcing speed limits. Built-in breathalyzers designed to prevent driving under the influence of alcohol ensure the protection of the driver and others on the road; 30% of Swedish government fleets have these installed. Offenders are allowed to keep their licence if they install this technology in their vehicle for two years. (Interestingly, this program has also produced better results for alcohol addiction recovery than any other.)

Jean-Yves Vallee of NovaBus described the potential for improving transportation safety and sustainability by using electric buses. They reduce CO₂ emissions, reduce road noise and enable indoor bus stops. He indicated that having an indoor bus stop that is comfortable, has amenities and a place for the bus to recharge will entice more users and help make bus transportation more attractive. To mitigate the risk associated with silence, technology is being used to create some noise to warn pedestrians about the bus and to provide pedestrian detection systems in the bus.

Autonomous vehicles will eventually aid in reducing congestion or improving the flow of traffic and aid in decreasing the number of road collisions. Councillor Jaye Robinson noted that the City is being proactive in preparing for autonomous vehicles by being involved in a pilot project for autonomous vehicles in Stratford and hiring a project lead to oversee the evolution of this technology.

TAKE ACTION TO START THE DISCUSSION

Initiating change through action can start the necessary discussions for improving road safety and sustainability. Dr. Belin said that doing first, discussing later was an effective and appropriate way of making the transition to safe and sustainable transportation. One example was the Euro NCAP car safety ranking system. Posting the rankings based on traits and performance started changing the mindset for vehicle demand of European cars.

Roger Browne from the City of Toronto agreed with the importance of building the conversation through action. Inspired by the Swedish Vision Zero initiative, the City has created a Road Safety Plan which includes a focus on distributing information to local communities to create as broad a discussion as possible. He stressed the importance of engaging the public in the process to ensure there is a broader understanding of the importance of these issues. He also noted that the City is taking action by committing to safety improvements along 14 prioritized corridors.