Safety Trends and Opportunities

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Executive Director and CEO
Institute of Transportation Engineers
Overview

• Safety Trends
• Road to Zero Coalition
• Opportunities to Save Lives
• Discussion
Grant Baldwin, PhD, MPH
Director, Division of Unintentional Injury Prevention
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention
TIMELINE
Motor Vehicle Safety Policies

1966
- Motor Vehicle Safety Act

1974
- Universal Motorcycle Helmet Law in 45 States

1975
- 55 MPH Maximum Speed Limit

1982
- Alcohol Traffic Safety Incentive Program

1984
- National Minimum Legal Drinking Age

1986
- Child Restraint Laws in all 50 States

1992
- BAC 0.1 in all 50 states

1995
- Primary or secondary seat belt law in 49 states

1999
- State incentive grant program encourages adoption of safety measures

2005
- Graduated Driver Licensing Laws set in 45 States

2006
- BAC lowered to 0.08 in all 50 states

2008
- In person renewal of license for older drivers in 18 states

2015
- Talking on handheld cellphones banned in 14 states
- Texting is banned for all drivers in 46 states

Motor vehicle-related fatality rate decreased by almost 50% since 1966

ADPTED: Dellinger et al., 2007; Bandi et al. 2015; and IIHS 2015.
Motor Vehicle Related Deaths Decreased Significantly in Last 25 Years

Motor Vehicle Deaths Decreased 31% 1980-2015

Our Goal

TRENDING UP AGAIN

IIHS 2015.

- Mileage Death Rate
- Motor-Vehicle Fatalities

* 2016 estimates are preliminary
2016 FARS DATA – 37,461 Lives Lost

Fatalities increase 5.6% from 2015

- Distraction-related – down 2.2%
- Drunk-driving – up 1.7%
- Speeding – up 4.0%
- Unbelted – up 4.6%
- Motorcyclist – up 5.1%
- Pedestrian – up 9.0% (highest since 1990)
- Bicyclist – up 1.3% (highest since 1991)
# Northeast States 2015

<table>
<thead>
<tr>
<th>State</th>
<th>Fatalities</th>
<th>Fatals/100 MVM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>295</td>
<td>0.84</td>
</tr>
<tr>
<td>Maine</td>
<td>156</td>
<td>1.07</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>306</td>
<td>0.52</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>114</td>
<td>0.87</td>
</tr>
<tr>
<td>New York</td>
<td>1121</td>
<td>0.88</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>45</td>
<td>0.57</td>
</tr>
<tr>
<td>Vermont</td>
<td>57</td>
<td>0.78</td>
</tr>
<tr>
<td>US Average</td>
<td></td>
<td>1.13</td>
</tr>
</tbody>
</table>
Crash Pyramid 2015

- 32,166 Fatal Crashes
- 1,715,000 Injury Crashes
- 4,548,000 Property Damage Only
- 6,296,000 Police-Reported Crashes
- ~13,000,000 Crashes

$242 Billion in Economic Cost
$836 Billion in Societal Harm

35,092 Fatalities
2,443,000 Injuries

NHTSA DOT HS 812 349 – Sept 2016
### Leading Causes of Injury Death by Age Group

**Highlighting Motor Vehicle Traffic Crash**

<table>
<thead>
<tr>
<th>Rank</th>
<th>&lt;1</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unintentional Suffocation</td>
<td>991</td>
<td>368</td>
<td>345</td>
<td>384</td>
<td>6,531</td>
<td>9,334</td>
<td>9,116</td>
<td>11,009</td>
<td>7,013</td>
<td>27,044</td>
</tr>
<tr>
<td>2</td>
<td>Homicide Unspecified</td>
<td>119</td>
<td>293</td>
<td>125</td>
<td>225</td>
<td>3,587</td>
<td>5,856</td>
<td>4,308</td>
<td>5,024</td>
<td>4,554</td>
<td>6,373</td>
</tr>
<tr>
<td>3</td>
<td>Homicide Other Spec., Classifiable</td>
<td>83</td>
<td>149</td>
<td>15</td>
<td>174</td>
<td>3,492</td>
<td>3,260</td>
<td>2,830</td>
<td>3,953</td>
<td>3,910</td>
<td>5,367</td>
</tr>
<tr>
<td>4</td>
<td>Unintentional MV Traffic</td>
<td>61</td>
<td>120</td>
<td>58</td>
<td>115</td>
<td>2,270</td>
<td>2,829</td>
<td>2,057</td>
<td>2,321</td>
<td>2,558</td>
<td>4,590</td>
</tr>
<tr>
<td>5</td>
<td>Unintentional Suffocation</td>
<td>40</td>
<td>117</td>
<td>36</td>
<td>105</td>
<td>2,010</td>
<td>2,402</td>
<td>1,835</td>
<td>1,795</td>
<td>1,529</td>
<td>3,692</td>
</tr>
<tr>
<td>6</td>
<td>Unintentional Drowning</td>
<td>29</td>
<td>107</td>
<td>34</td>
<td>49</td>
<td>507</td>
<td>800</td>
<td>1,274</td>
<td>1,340</td>
<td>1,509</td>
<td>1,993</td>
</tr>
<tr>
<td>7</td>
<td>Homicide Suffocation</td>
<td>26</td>
<td>73</td>
<td>22</td>
<td>49</td>
<td>363</td>
<td>575</td>
<td>637</td>
<td>1,132</td>
<td>698</td>
<td>48,295</td>
</tr>
<tr>
<td>8</td>
<td>Unintentional Natural / Environment</td>
<td>17</td>
<td>47</td>
<td>18</td>
<td>33</td>
<td>314</td>
<td>430</td>
<td>504</td>
<td>4,402</td>
<td>539</td>
<td>1,161</td>
</tr>
<tr>
<td>9</td>
<td>Unintentional Struck by or Against</td>
<td>16</td>
<td>38</td>
<td>18</td>
<td>33</td>
<td>229</td>
<td>399</td>
<td>363</td>
<td>452</td>
<td>538</td>
<td>1,028</td>
</tr>
<tr>
<td>10</td>
<td>Unintentional Fire / Burn</td>
<td>15</td>
<td>36</td>
<td>14</td>
<td>19</td>
<td>177</td>
<td>285</td>
<td>313</td>
<td>442</td>
<td>530</td>
<td>880</td>
</tr>
</tbody>
</table>
Alcohol was involved in 31% of U.S. motor vehicle crash deaths in 2013

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent of Fatalities Where Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>34%</td>
</tr>
<tr>
<td>UNITED STATES</td>
<td>31%</td>
</tr>
<tr>
<td>New Zealand</td>
<td>31%</td>
</tr>
<tr>
<td>Australia</td>
<td>30%</td>
</tr>
<tr>
<td>Slovenia</td>
<td>30%</td>
</tr>
<tr>
<td>France</td>
<td>29%</td>
</tr>
<tr>
<td>Belgium</td>
<td>25%</td>
</tr>
<tr>
<td>Finland</td>
<td>22%</td>
</tr>
<tr>
<td>Sweden</td>
<td>19%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>19%</td>
</tr>
</tbody>
</table>

10,197 Deaths in United States

A total of 87% of U.S. drivers were restrained in 2013.

- **12,584** Lives saved by restraints in U.S.
- **2,800** More lives that could have been saved if ALL restrained in U.S.

NHTSA Traffic Safety Facts. DOT HS 812 153
Speeding was involved in 29% of U.S. motor vehicle crash deaths in 2013.

9,696 Deaths in United States

SPEED - Percent of Fatalities Where Involved

- 42% - Finland
- 40% - Denmark
- 39% - Slovenia
- 35% - Germany
- 33% - Australia
- 33% - New Zealand
- 30% - Netherlands
- 29% - United States
- 28% - Austria
- 26% - Switzerland

Deaths to pedestrians, bicyclists, and motorcyclists increased in the last decade

<table>
<thead>
<tr>
<th>Category</th>
<th>2006</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Cars</td>
<td>42%</td>
<td>36%</td>
</tr>
<tr>
<td>Light Trucks</td>
<td>30%</td>
<td>28%</td>
</tr>
<tr>
<td>Motorcyclists</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>Ped, Bike, and Other</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>LG Truck, Buses, and Other</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Percentage Increase/Decrease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PASSENGER CARS – Decreased 6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIGHT TRUCKS – Decreased 2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOTORCYCLISTS – Increased 3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PED, BIKE and OTHER – Increased 5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LG TRUCK, BUSES and OTHER – Increased 1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Someone’s…
mother, father, 
sister, brother, 
spouse, 
child….dies on 
America’s 
highways 
every

FOURTEEN
MINUTES
What more can we do?
Road to Zero Coalition
Road to Zero Coalition Members

As of 10.2.17

<table>
<thead>
<tr>
<th>Type</th>
<th># of Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocacy organization</td>
<td>88</td>
</tr>
<tr>
<td>Association</td>
<td>109</td>
</tr>
<tr>
<td>Automotive</td>
<td>6</td>
</tr>
<tr>
<td>Business</td>
<td>74</td>
</tr>
<tr>
<td>Education</td>
<td>30</td>
</tr>
<tr>
<td>Government</td>
<td>67</td>
</tr>
<tr>
<td>Insurer</td>
<td>8</td>
</tr>
<tr>
<td>Survivor/Advocate</td>
<td>24</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>406</strong></td>
</tr>
</tbody>
</table>
Why Zero?
Can we eliminate traffic fatalities within 30 years?
What’s Different about Vision Zero?

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Vision Zero</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Fatalities are Inevitable</td>
<td>- Zero is possible</td>
</tr>
<tr>
<td>- Reduce Collisions</td>
<td>- Reduce Fatalities</td>
</tr>
<tr>
<td>- Perfect Humans</td>
<td>- Humans Fail/Frail</td>
</tr>
<tr>
<td>- Focus on Individual</td>
<td>- System Thinking</td>
</tr>
</tbody>
</table>
Many Opportunities for Improving Safety

Collaboration
Pedestrian
Engineering/Infrastructure
Distraction
Culture
Impairment
Seatbelt/Occupant Protection
Speeding
Technology

Data
Training/Education
New Driver/Teen Policy/Advocacy
Drowsy/Fatigue
Enforcement
Motorcycle Helmet
Funding
EMS

ROAD TO ZERO

But other High Income Countries saw sharper declines.
Just imagine if the United States had the same motor vehicle crash death rate in 2013 as:

**Second Highest Death Rate**
- **Belgium**
  - Lives Saved: 12,000
  - Direct Medical Costs Averted: $140 Million

**Average of 19 Comparison Countries**
- Lives Saved: 18,000
- Direct Medical Costs Averted: $210 Million

**Best Performing Country**
- **Sweden**
  - Lives Saved: 24,000
  - Direct Medical Costs Averted: $281 Million
Safer Roads
Safer Vehicles
Safer Road Users
Improved Post Crash Response
Road Safety Management

Safe System Approach
How will we get to Zero?

- Double down on proven countermeasures
- Aggressively advance new technologies
- Create a Safety Culture
Double Down on Proven Safety Countermeasures

We know how to save lives, but that knowledge is often not fully implemented.

ITE Safety Resources Toolbox
• Fully Searchable Database
• Over 700 resources available electronically

www.ite.org/visionzero
Aggressively Advance New Technologies

The delivery of transportation in the U.S. is at the beginning of a period of rapid and radical transformation that will save lives.

Technological and business model changes will disrupt the way transportation is delivered and consumed in the United States.
Create a Safety Culture

As transportation professionals, we must embrace a safe systems approach and a mindset that fatalities and serious injuries are not the price of mobility.

Road to Zero Coalition
www.nsc.org/roadtozero
Road Safety Professional (RSP) Certification

• Transportation Professional Certification Board (TPCB)
• Guided by a US & Canadian coalition of transportation and safety organizations
• RSP Goals:
  – Recognize road safety as a profession
  – Identify core and advanced competencies
  – Create incentive for academia to expand on road safety formal learning
  – Provides a mechanism for continuing education
Road Safety Professional (RSP) Certification

• A RSP... is a professional that during a typical work day makes decisions that directly or indirectly impact the future frequency and severity of traffic collisions and knows how to explicitly consider it (and quantify, when possible) and reduce negative safety impacts.

• RSP Status - Under Development
  – Level 1 – Transportation Professionals - 2018
  – Level 2 – Safety Specialists - 2019
    • Behavioral
    • Engineering
Closing Thought

“When you save one life, you save someone’s world”

To make a difference you don’t have to save:
• The world – 1.25 million fatalities, annually
• The country – 37,471 fatalities, annually
• Just save one.