Reporting on
Korean Road Safety

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The Ministry
of Land, Infrastructure and Transport
&
Korea Transportation Safety Authority
## OECD vs. KOREA Statistics

### Traffic Conditions (2010 Yr)

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (thousand)</th>
<th>Number of Vehicles (thousand)</th>
<th>Land Area (km²)</th>
<th>GDP per capita (US $)</th>
<th>Road Extension (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>48,875</td>
<td>21,449</td>
<td>100,210</td>
<td>28,797</td>
<td>104,983</td>
</tr>
<tr>
<td>U.S</td>
<td>309,350</td>
<td>257,515</td>
<td>9,631,418</td>
<td>46,588</td>
<td>6,545,326</td>
</tr>
<tr>
<td>U.K</td>
<td>62,027</td>
<td>34,918</td>
<td>244,061</td>
<td>35,687</td>
<td>419,881</td>
</tr>
<tr>
<td>France</td>
<td>62,799</td>
<td>39,026</td>
<td>551,208</td>
<td>34,256</td>
<td>1,027,716</td>
</tr>
<tr>
<td>Germany</td>
<td>81,802</td>
<td>50,184</td>
<td>357,039</td>
<td>37,430</td>
<td>688,243</td>
</tr>
<tr>
<td>Sweden</td>
<td>9,341</td>
<td>5,453</td>
<td>450,295</td>
<td>39,346</td>
<td>219,862</td>
</tr>
<tr>
<td>Japan</td>
<td>128,059</td>
<td>82,770</td>
<td>377,944</td>
<td>33,785</td>
<td>1,207,867</td>
</tr>
</tbody>
</table>
OECD vs. KOREA Statistics

Comparative Results (2010 Yr) - traffic condition

- **Population**
  - U.S > Japan > Mexico > --- > Korea (9th among 34 OECD countries)

- **Number of Vehicles**
  - U.S > Japan > Germany > --- > Korea (9th)

- **Land Area**
  - Canada > U.S > Australia > --- > Korea (20th)

- **Road Extension**
  - U.S > Canada > Japan > --- > Korea (18th)
## OECD vs. KOREA Statistics

### Traffic Accidents (2010 Yr)

<table>
<thead>
<tr>
<th>Country</th>
<th>Traffic Accidents (per 100,000 pop)</th>
<th>Traffic Accidents (per 10,000 veh)</th>
<th>Fatalities (per 100,000 pop)</th>
<th>Fatalities (per 10,000 veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>464.2</td>
<td>105.8</td>
<td>11.3</td>
<td>2.6</td>
</tr>
<tr>
<td>U.S</td>
<td>508.3</td>
<td>61.1</td>
<td>10.6</td>
<td>1.3</td>
</tr>
<tr>
<td>U.K</td>
<td>258.1</td>
<td>48.6</td>
<td>3.1</td>
<td>0.7</td>
</tr>
<tr>
<td>France</td>
<td>107.1</td>
<td>17.2</td>
<td>-</td>
<td>1.0</td>
</tr>
<tr>
<td>Germany</td>
<td>352.4</td>
<td>57.4</td>
<td>4.5</td>
<td>0.7</td>
</tr>
<tr>
<td>Sweden</td>
<td>174.0</td>
<td>29.8</td>
<td>2.8</td>
<td>0.5</td>
</tr>
<tr>
<td>Japan</td>
<td>566.7</td>
<td>87.7</td>
<td>4.5</td>
<td>0.7</td>
</tr>
</tbody>
</table>
OECD vs. KOREA Statistics

Comparative Results (2010Yr) - traffic accidents

- OECD average of traffic accidents per 100,000 population: 330.4
  - Mexico 27.5 < Denmark 63.2 < Turkey 161.0 < --- < Korea 464.2

- OECD average of traffic accidents per 10,000 vehicles: 55.9
  - Denmark 12.1 < --- < Korea 105.8

- OECD average of fatalities per 100,000 population: 7.0 persons
  - Iceland 2.5 persons < Netherland 3.2 persons <--- < Korea 11.3

- OECD average of fatalities per 10,000 vehicles: 1.1 persons
  - Iceland 0.3 persons < Japan 0.7 persons < --- < Korea 2.6
OECD vs. KOREA Statistics

Comparative Results(2010Yr)-pedestrian fatalities

- OECD average of pedestrian fatalities per 100,000 population: 1.6 persons
  - Netherlands 0.4 < U.S. 1.4 < Japan 1.6% < --- < Korea 4.3
- OECD average pedestrian fatality rate of total fatalities: 18.3%
  - Netherlands 11.7% < U.S. 13.0% < Japan 34.6% < --- < Korea 37.8%
## Road Accidents in Korea (2010 vs. 2011)

### Short-term Trends of Road Accidents

<table>
<thead>
<tr>
<th>Year</th>
<th>Registered Vehicles (thousand)</th>
<th>Population (thousand)</th>
<th>Accidents</th>
<th>Killed</th>
<th>Injured</th>
<th>Killed per 10,000 Vehicles</th>
<th>Killed per 100,000 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>18,437</td>
<td>48,989</td>
<td>221,711</td>
<td>5,229</td>
<td>341,391</td>
<td>2.8</td>
<td>10.7</td>
</tr>
<tr>
<td>2010</td>
<td>17,941</td>
<td>48,875</td>
<td>226,878</td>
<td>5,505</td>
<td>352,458</td>
<td>2.6</td>
<td>11.0</td>
</tr>
<tr>
<td>2009</td>
<td>17,325</td>
<td>48,747</td>
<td>231,990</td>
<td>5,838</td>
<td>361,875</td>
<td>2.8</td>
<td>12.0</td>
</tr>
<tr>
<td><strong>2010 vs. 2011</strong></td>
<td><strong>+496 (+2.7%)</strong></td>
<td><strong>+114 (+0.2%)</strong></td>
<td><strong>-5,167 (-2.2%)</strong></td>
<td><strong>-276 (-5.0%)</strong></td>
<td><strong>-11,067 (-3.1%)</strong></td>
<td><strong>+0.2 (+7.6%)</strong></td>
<td><strong>-0.3 (-2.7%)</strong></td>
</tr>
</tbody>
</table>

The number of road fatalities fell in 2011 to 5,229, about 5% decrease compared to 2010.
## Road Accidents in Korea (2010 vs. 2011)

### Short-term Trends in Pedestrian Fatalities

<table>
<thead>
<tr>
<th>Year</th>
<th>Killed</th>
<th>Injured</th>
<th>Killed per 100,000 Population</th>
<th>Killed per 10,000 Vehicles</th>
<th>% of total fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2,044</td>
<td>51,289</td>
<td>4.17</td>
<td>1.10</td>
<td>39.8% (5,229)</td>
</tr>
<tr>
<td>2010</td>
<td>2,082</td>
<td>50,899</td>
<td>4.25</td>
<td>1.16</td>
<td>37.8% (5,505)</td>
</tr>
<tr>
<td>2009</td>
<td>2,137</td>
<td>51,381</td>
<td>4.30</td>
<td>1.23</td>
<td>36.6% (5,838)</td>
</tr>
<tr>
<td>2010 vs. 2011</td>
<td>-38 (-1.8%)</td>
<td>+390 (+0.7%)</td>
<td>-0.08 (-1.8%)</td>
<td>-0.06 (-5.1%)</td>
<td></td>
</tr>
</tbody>
</table>

The number of pedestrian fatalities fell in 2011 to 2,044, about 1.8% decrease compared to 2010.
**Long-term Trends in Road Accidents**

**Number of Accidents**: 260,579 (2001) → 221,711 (2011), -14% (annual average -1.5%)

**Fatalities**: 8,097 people (2001) → 5,229 people (2011), -35% (annual average -4.2%)
7th National Traffic Safety Master Plan (2012~2016)

Progressing Strategies to Accident Causes

<table>
<thead>
<tr>
<th>Accident Causes</th>
<th>5 Progressing Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Pedestrian Accident Rates</td>
<td>Improvement of Road Users’ Behavior</td>
</tr>
<tr>
<td>Higher Traffic Violation Accidents by Human Errors</td>
<td>Safe Transportation Infrastructure</td>
</tr>
<tr>
<td>Increase of Elderly Traffic Accidents</td>
<td>The Operation of Smart Transportation</td>
</tr>
<tr>
<td>Gradual Increase of Motorcycle, Bicycle Accidents</td>
<td>Strength of Safety Management System</td>
</tr>
<tr>
<td>Higher Accident Rates by Commercial Vehicles</td>
<td>Advancement of Emergency Response System (Common)</td>
</tr>
<tr>
<td>Increase of Narrow Living Roads</td>
<td></td>
</tr>
<tr>
<td>Increase of Accidents on Urban Roads and Rural Roads</td>
<td></td>
</tr>
</tbody>
</table>
7th National Traffic Safety Master Plan (2012~2016)

Vision and Goal: 2012~2016

GLOBAL TOP 10

OECD AVERAGE SAFETY LEVEL

Road  | Rail  | Aviation  | Marine

Traffic Accident deaths reduced by 40%

IMPROVEMENT OF ROAD USERS’ BEHAVIOR
SAFE TRANSPORT INFRASTRUCTURE
OPERATION OF SMART TRANSPORT
STRENGTH OF SAFETY MANAGEMENT SYSTEM
ADVANCEMENT OF EMERGENCY RESPONSE SYSTEM
# 7th National Traffic Safety Master Plan (2012~2016)

## Main Target

### Road

Fatalities per 10,000 Vehicles: \[2.64 \rightarrow 1.30\]

\((2010) \rightarrow (2016)\)

## Secondary Target

<table>
<thead>
<tr>
<th>Planned Indicators</th>
<th>2010 Y</th>
<th>2016 Y</th>
<th>2021 Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic Accident Fatalities</td>
<td>5,505</td>
<td>3,000</td>
<td>1,200</td>
</tr>
<tr>
<td>Pedestrian Fatalities</td>
<td>2,082</td>
<td>900</td>
<td>360</td>
</tr>
<tr>
<td>Accident Fatalities by Commercial Vehicles</td>
<td>979</td>
<td>440</td>
<td>170</td>
</tr>
</tbody>
</table>
Strategy 1. Improvement of Road User’s Behavior

Strength of Safety for Children on School route

- **Goal**: Reduction over 30% of Children Fatalities
- **Trainings and Dispositions of School Route Walking Bus Tutors and Volunteers**
- **Ways to Vitalize School Bus Reporting and Effectiveness of School Zone**
- **Safety devices for school bus**

Search of Change for Child-oriented Traffic Safety Education

- **Goal**: Traffic Safety Education Class hour more than 12 hours
- **Selection, Support and Operation of Traffic Safety Model School**
- **Having more than 12 hours through Class hour Assignments**
**Strategy 1. Improvement of Road User’s Behavior**

**Strength of Traffic Safety for Elderly Drivers**

- **Goal:** Fatalities of Elderly Drivers 547 persons → 250 persons Reduction

- **Requirement of Taking Aptitude Test (a cognitive function test) of Elderly Drivers (more than 65 years old)**
  - Aptitude Test Cycle: 7 Year → 5 Year, License Cancellation

- **Training Program Development to build Cognitive Processing Speed, Short-term Memory Capacity for Elderly Drivers**

**Strengthening of Penalty for Traffic Law Violators**

- **Goal:** Drunken Driving Fatalities 781 persons → less than 350 persons
  - Speeding Fatalities 138 persons → less than 65 persons

- **Up-warding Levels of Penalties and Fines for Traffic Violations that can cause fatal accidents**

- **Inducing Installations of Stat-up Locking Device in Vehicles of License cancelled Drunken Drivers**
Strategy 1. Improvement of Road User’s Behavior

**Advancement of Automobile Insurance System**

- **Goal**: Improving Car Insurance System (Discount Rate, Additional Rate) in Those Levels of Advanced Countries
  - Extending Discount Rates for vehicles with Safety Devices
  - Implementation of Regional Differential Insurance Systems
  - Improvement of Commercial Vehicle Insurance Premium Rates
  - Giving Responsibilities of Renters with Traffic Accidents of Rent Car

**Setting Time Limits of Driving & Working for Commercial Vehicle Drivers**

- **Goal**: Improving Working Conditions including Maximum Work Hours and Continuous Driving Hours
  - Improving Related Regulations of Labor Standards Act
  - Beginning a Study about Working and Driving Hours per day by Transport Industry
  - Making “the Commercial Vehicle Traffic Accidents Reduction Master Plan” including traffic accidents and business managerial improvement etc.
Reserving Safe, Comfortable Pedestrian Space

- **Goal:** Pedestrian Fatalities 2,082 persons → less than 800 persons

- **Maintenance of Residential Living Road Sidewalks**
  - Separation of sidewalks and driveways, Illegal Stop & Parking Enforcement, Extension of One-way street

- **Extending Designation and Operation of Pedestrian Priority Zone**

- **Sidewalk Maintenance reflecting Pedestrian Patterns**

- **Installation of Crosswalk LED Lights**

- **Foundation and Operation of the Pedestrian Traffic Research Center.**
Goal: intersections fatalities 1,449 persons → less than 700 persons,
Night fatalities 2,996 persons → less than 1,500 persons
Maintenance of Road Signs with many destinations
Securing Visibility of Road Stripes at Night or in case of Rain
Enhancing Road safety when entering and living towns
Strategy 2. Safe Transportation Infrastructure

Preparation of Traffic Safety Countermeasures for Bicycles

- **Goal**: Bicycle Fatalities 297 persons → less than 200 persons
- **Conducting Special Safety Inspection for Bike Lanes**
- **Preparing Safety Driving Standards for Bike Users**
  - Mandatory Helmet Wearing, Drink-Driving Ban etc.
- **Introduction of Safety Sign and Enhancing its Visibility**
  - Colored Pavement of Intersection, Installation of Bollard Lightening
Strategy 2. Safe Transportation Infrastructure

**Regional Road Safety Improvement Projects**

- **Goal**: Traffic Safety Model City and Vulnerable Areas, Fatalities 50% Reduction

- **Choice of Traffic Safety Model Cities** selected by big local governments that can give great impact on safety projects.

- **Every year two Municipalities with higher accident rates** are selected as traffic safety vulnerable areas and should take special investigations.

- After accident cumulative points and interval incident scene investigation, supporting improvements of traffic safety projects.
Prevalence of Automobile Advanced Safety Devices

**Goal**: Car to Car Accident Fatalities 2,407 persons → 1,500 persons

Supplying the Adaptive Cruise Control (ACC) for the sake of long-distance commercial vehicles

Support of Supplying Safety Action Devices in Collisions
- Pedestrian Protection Airbag, Automobile Side Airbags

Active Accident Prevention Safety Devices
- Blind Spot Sensing Device, Lane Breakway Warning Device, Emergency Brake etc.

Visibility Enhancing Devices for Drivers
- Drowsiness Alarm System, Forward Obstacle Warning Device
Prevalence of Safety Devices of Commercial Vehicles

- **Goal**: Fatalities by Commercial vehicles 979 persons → 440 persons
- Revision of Related Regulations to expand objects of vehicles that should install top speed limiters.
- Installation, Analysis and Use of Standardized Digital Tachograph
- Induction of Installing the Underlying Structure of Large Vehicles

Other General Projects

- Induction of Installing Side and Rear Cameras for New Heavy Vehicles
- Development of Safety Evaluation Technology for Advanced Safety Automobile
Strategy 4. Strengthening of Safety Management System

Human-centered Speed Management Systematic Change

- **Goal**: Metropolitan Cities Fatalities 1,345 persons $\rightarrow$ 650 persons
- Road with less than 9m width, Fatalities 3,185 persons $\rightarrow$ 1,450 persons
- (in Secondary Trunk Roads) Regulated less than 60km/h
- (in Living Roads) Adjust to less than 30km/h
- (in Traffic Accident Frequent Roads) Installation of Speed Enforcement System and Adjustment of the Current Speed Limit by reducing least more than 10km/h

Scientific Investigation of Traffic Accident Cause

- **Goal**: Serious Traffic Accidents, Fatalities 161 persons $\rightarrow$ 80 persons
- Joint Large Traffic Accident Analysis Center including Related Organizations
- Introduction of Road Safety Assessment Program (KoRAP)
**Strategy 5. Advancement of Emergency Response System**

**Installation of e-Call System**
- **Goal**: Road Accidents Response time in 10 minutes
- Research, Infrastructure development about e-Call system
- Smartphone Application service for prevention additional accidents

**Installation of Road Weather Information System**
- **Goal**: Serious weather Traffic Accidents, Fatalities rates 10% → 3%
- Development of Infrastructure for Realtime Monitoring on road weather condition
- Forecasting service for Road weather condition
Thank you so much!!!