HELLO!

I am Tugsu

- PhD Student
- Member of JcoMaaS

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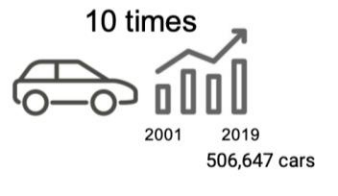
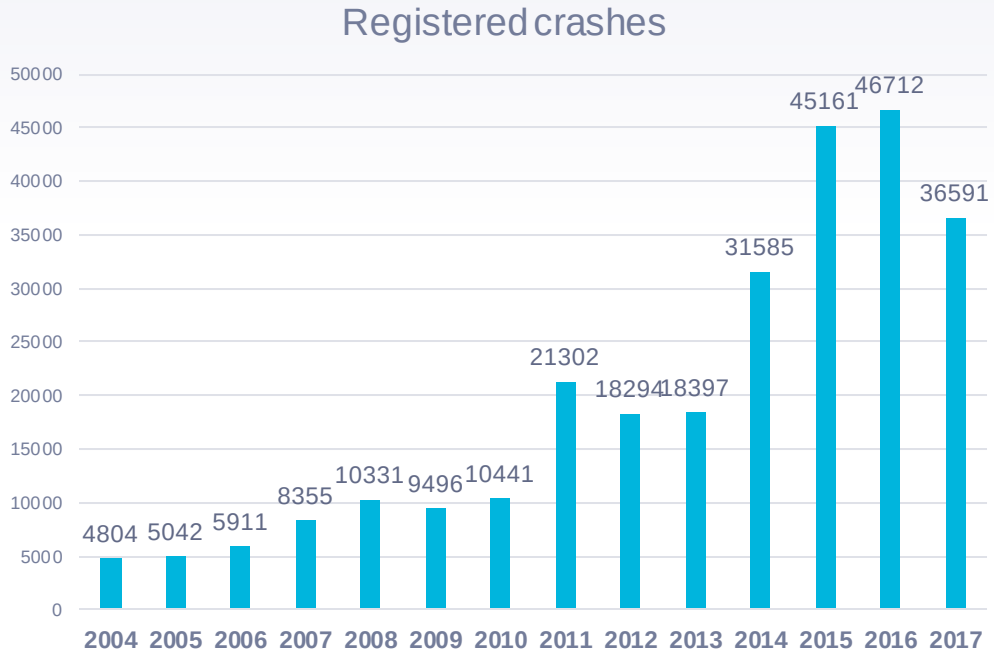
Background

- ✓ The fatal crash rate per capita of 16.5 deaths per 100,000 inhabitants





Objectives

1. To understand more about the causes and characteristics of rural road crashes in Mongolia
2. To identify the main knowledge gaps across the 5 pillar in Mongolia
3. To identify key steps for Mongolia in promoting road safety

91 % of all crashes occur in Ulaanbaatar, 73% of fatal crashes occur in rural areas.

Source: MRTD

Pillar 1: Road safety management	Pillar 2: Road infrastrucrture	Pillar 3: Vehicle safety	Pillar 4: Road user behavior	Pillar 5: Post crash care

1 Data collection and use
Collaboration mechanism among different department

Knowledge gaps

- Robust and informative data collection
  Q: What relevant data are not recorded?
- Fill the knowledge gap of member of committee
  Improvements in the coordination, legislation, road safety engineering, and data systems.

Knowledge gaps

- Data collection
- Collaboration mechanism among different department.

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MRTD perspectives

- Quality of data
- Number of traffic police is not enough

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Further detailed research

- Minimum crash data elements by MMUCC, CADAS, WHO, APRSO
- Data center which MRTD proposed

2 Safer roads and road network via engineering solutions
Black spots, Road Safety Audits and Assessments

Knowledge gaps

- Road Safety Audit: Black spots
  No certification system for road safety auditors
  Weak legal foundation
- Lack of gathering information and data in the rural areas

Knowledge gaps

- Road safety audit
- Data on rural roads

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MRTD perspectives

- Road safety audit is still new concept
- Quality of road infrastructure

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Further detailed research

- Safety barrier: flexible barrier, semi-rigid barrier, **rigid barrier.**
- Roadside hazard management: Safety barrier can be a hazard

(Source: APRSO, 2020)

3 Vehicle Inspection Protective Equipment

Knowledge gaps

- Vehicle inspection: More than 70% of the vehicle fleet is more than 10 years old.
  Left-side/right side steering wheel position, almost at 50% distribution.
- Information and awareness campaigns
  Q: What is the challenge collaborating education and police enforcement to arise awareness?

Knowledge gaps

- Vehicle inspection
- Information and awareness campaigns

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MRTD perspectives

- 60% distribution RHD
- Taxation: import tax, usage tax
- Risk management: risk of getting into crush.

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Further detailed research

- Convert steering wheel right to left (3000$ per car)
- Australia, Bangladesh, Kenya, New Zealand, and Singapore
- Georgia or Kyrgyzstan, changing the traffic side as in the case of Sweden

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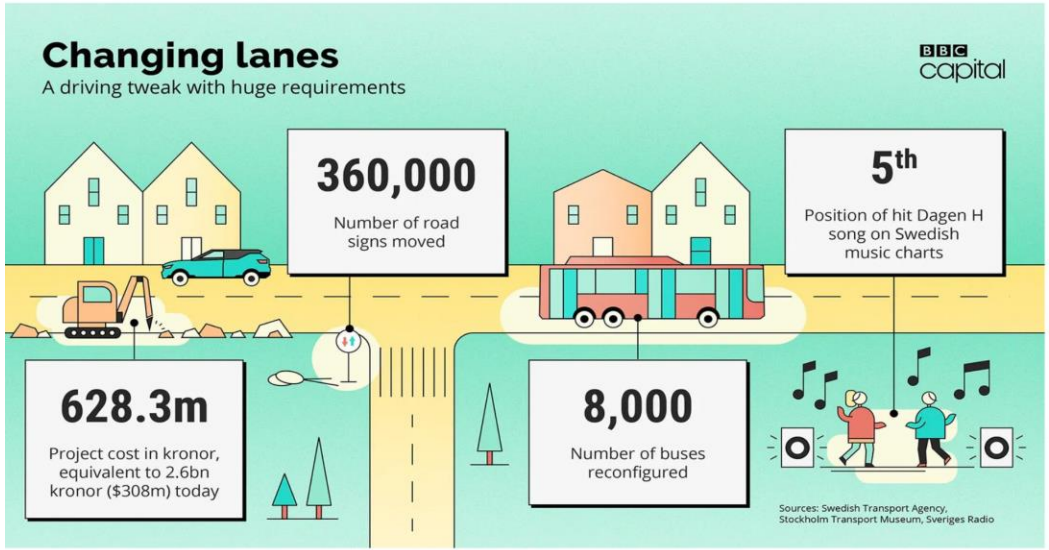
Sweden:

- Left hand traffic and Left-hand drive vehicles- switched from left to right traffic in 1967.
- Results show that right-hand traffic decreased road fatality, injury and accident risk by approximately 30 percent



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4 Enforcement: Together with engineering and education
Safe Drivers: Educating and re-educating the existing road users
Campaigns and Awareness

Knowledge gaps

- There is a lack of coordinated effort: enforcement + education + engineering
- Driving Instructor's training syllabus: examination system, law and centralization of systems.

Knowledge gaps

- Coordinated effort
- Driving Instructor's training syllabus
- Education system

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MRTD perspectives

- The role of local government within the community is lacking.
- Corruption in an enforcement/examination of driving license system
- Education on road safety

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Further detailed research

- What makes enforcement effective?
- Speed camera and automated enforcement
- ADB Teacher Manual for junior class
- Education pack EASST

5 Emergency treatment and long-term rehabilitation for crash-victims.

Knowledge gaps

- Ambulance response time: submission rate
- Quality of the emergency service

Knowledge gaps

- Ambulance response time
- Quality of the emergency service

+

MRTD perspectives

- In 2020, first aid service in the rest stops
- Develop and build standardized rest areas
- Telephone box in rural areas

+

National center for public health

- Improve first aid courses in order to obtain driver's license
- Training courses for police officers
- Infrastructure is absent

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National center for public health

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Further detailed research

- Advanced Driver-Assistance Systems
- First aid training system in Mongolia
- Training combined with legislation or policy

What Mongolia and ADB have been done?

Road Safety Policy and Action Plan

White paper | Standards | Manuals 2018

National Road Safety Council

Under MRTD | Headed by PM 2019

Asian-Pacific Road Safety Observatory

Membership| Road Safety 2020

Institutional Strengthening for Road Safety

Road safety Council | Road safety management 2020

What Mongolia and ADB have been done?

- Far from optimal
- Setting up the mechanism to the council
- Safe system approach to addressing road safety issues

Road Safety Policy and Action Plan

White paper | Standards | Manuals 2018

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Recommendations

SAFE SYSTEM

Safe System Approach

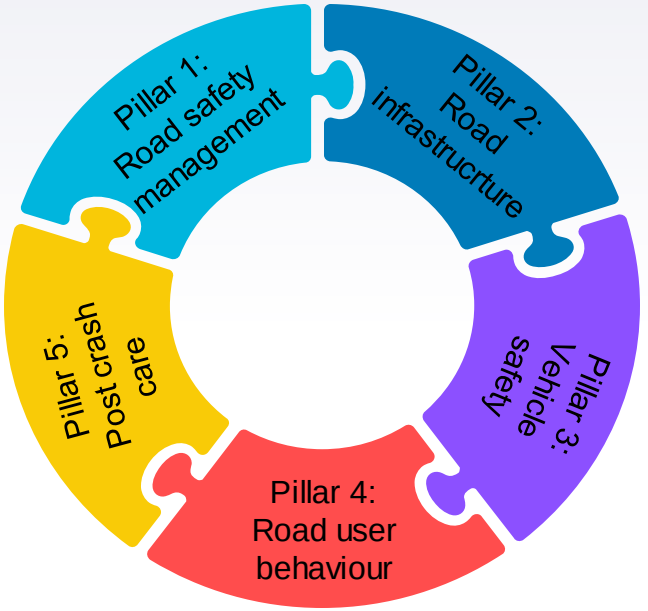
Accept people's mistakes

Crashes might potentially happen in the future and

Multiple contributing factors

Identify all possible ways how such crashes can be prevented.

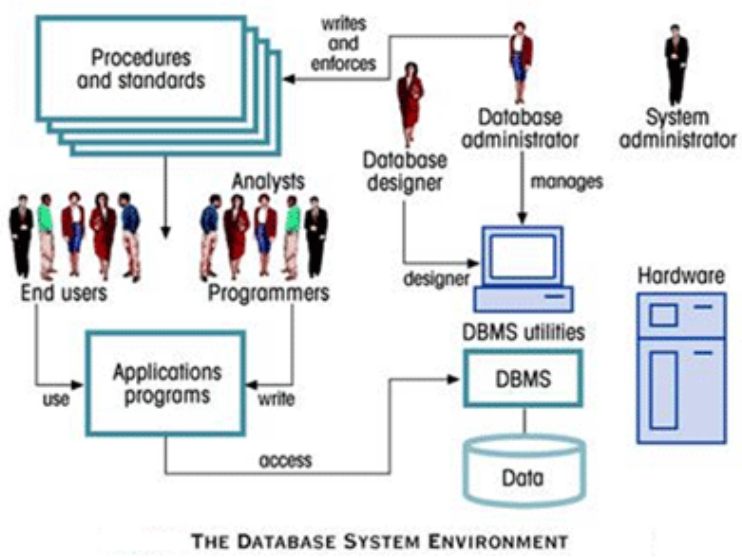
Understanding and managing the complex and dynamic interaction between operating speeds, vehicles, infrastructure and road user behavior



Summary of Recommendations

- Robust data collection
- Collaboration among different department
- Actively track and follow up on black spots
- Legislation of road safety audit
- Improving road safety infrastructure
- RHD and old car Vehicle inspection
- Education and training Enforcement efforts Awareness Campaigns
- Introduce first aid courses

- Work on improving data sharing as both entities collect relevant accident data
- Development of data center with data crash elements
- Practical operating procedure to work in a systematic way



THE DATABASE SYSTEM ENVIRONMENT

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Safety issues	Message	Recommendations
Safety barrier	Much of the benefit from the use of barriers comes from a reduction in crash severity	Safety barrier can be a hazard Replace or ensure all rigid bollard
Alignments	Improper alignments lead to accident in unknown and unfamiliar areas for the drivers	Actively track and follow up on black spots keep H and V alignments as consistent as possible, and watch intersection layouts
Confusing signage	Driver confusion, cause significant damage	
Speed management	Two cameras have been installed.	Add speed check cameras in rural areas and black spots. Use regulatory speed restriction signs consistently

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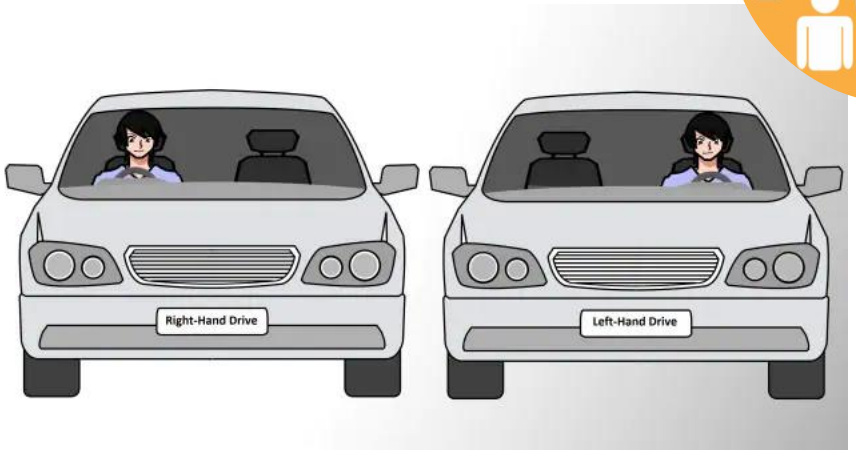
  Awareness Campaigns
- Introduce first aid courses

- High taxation
- Convert steering wheel right to left
- Raise awareness of danger of driving RHD
- Change the traffic direction
- Adding vehicle inspection centers



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Case study: Improve road safety for school children in Ger area.

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- Improving education system on road safety
- Joint media and enforcement campaigns (YOUTH driven)
- Keep the training section regularly
- Enforcement + Education + Engineering
  Speed camera
- Driving Instructor's training syllabus

Summary of Recommendations

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- Actively track and follow up on black spots
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- Improving road safety infrastructure
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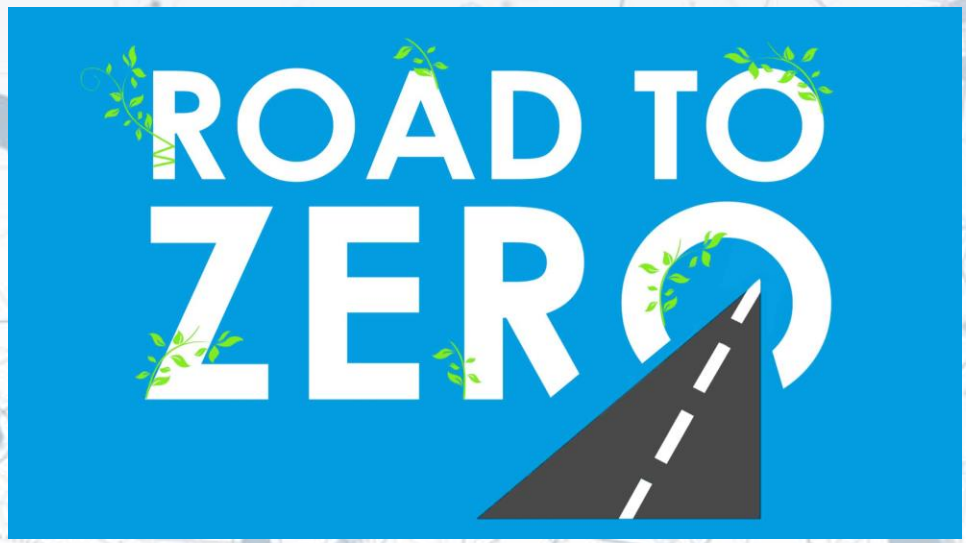
- Education and training
  Enforcement efforts
  Awareness Campaigns
- Introduce first aid courses

- Training the first responders such as traffic police
  Training combined with policy, legislation, or certification
- Driving Training syllabus: first aid course
- Telephone box in rural areas
- Develop rest areas and supply with first aid tools, and introduce training courses


ROAD TO
ZERO

THANK YOU FOR YOUR ATTENTION!

Any questions?

APPENDIX

List of data required by MRTD

a. Ministry of health

1. Name, age, gender, education, address, workplace
2. Accident date, date of arrival to the hospital, alcohol related accident
3. location of the accident, reason of the accident, type of vehicle
4. Pedestrian or driver, Seatbelt and helmet used
5. Injury severity, Type of medical services provided

b. Ministry of social welfare

1. List driving school
2. Information about driving instructor
3. Driving test center's practice site information

c. Department of Police

List of data that could add to data center (MRTD)

1. Driver's registration information
2. Traffic accident and case registration information
3. Registration and information on damage caused by traffic accidents
4. Information on the actions taken in accident

List of data required by MRTD

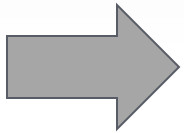
1. Vehicle-related registration and information
2. Vehicle inspection information
3. Qualified driver information
4. Local bus transportation information
5. State and local road information
6. Road sign information
7. International and local railway transport information

d. National Center for Road Transport

1. Intercity passenger information
2. Local freight information
3. Local freight and passenger traffic control data
4. Auto service registration information /Local/

List of data required by MRTD

1. Information on national road signs, markings and location of damage
2. Traffic accident and case registration information
3. Driver registration information
4. Information on international and local railway passenger planning



	Crash Data Elements	WHO	MMUCC	CADAS	APRSO Task Force
	Time of Roadway Clearance				
Reason of the crash	First Harmful Event				
	Location of First Harmful Event Relative to the Trafficway				
With more detailed numbers	Number of Motor Vehicles Involved				
	Number of Motorists				
	Number of Non-Motorists				
	Weather conditions				
	Hit and Run				
Road related	Bridge/Structure identification number				
	Roadway curvature				
	Road functional class (e.g. national road, local road, among others)				
	Road surface conditions				
	Type of intersection				
	Carriageway type				
	Junction (e.g. at-grade crossroad, at-grade roundabout, among others)				
	Traffic control at junction (e.g. traffic police, traffic light, among others)				
	Road curve (e.g. tight curve, open curve, among others)				
	Road segment grade (e.g. steep gradient or not)				
Vehicle related	Vehicle model year of manufacture				
	Vehicle maneuver				
	Vehicle steering wheel position				
	Traffic unit manoeuver (includes vehicle and pedestrian)				
	Seating position				
	Air bag deployed				
Crash related	First point of impact				
	First object hit in carriageway				
	First object hit off carriageway				
	Speeding related				
	Impact type/ Collision Type (e.g. Rear end, Head on, Angle Impact, among others)				