ROAD TRAFFIC ACCIDENT DATA COLLECTION AND ANALYSIS WORKSHOP
COUNTRY: MONGOLIA

TA-6763 REG: Accelerating Innovation in Transport

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PART 4:

CRASH DATA ANALYSIS – CASE STUDY

Breaking down a crash to identify the contributing factors using the Haddon Matrix

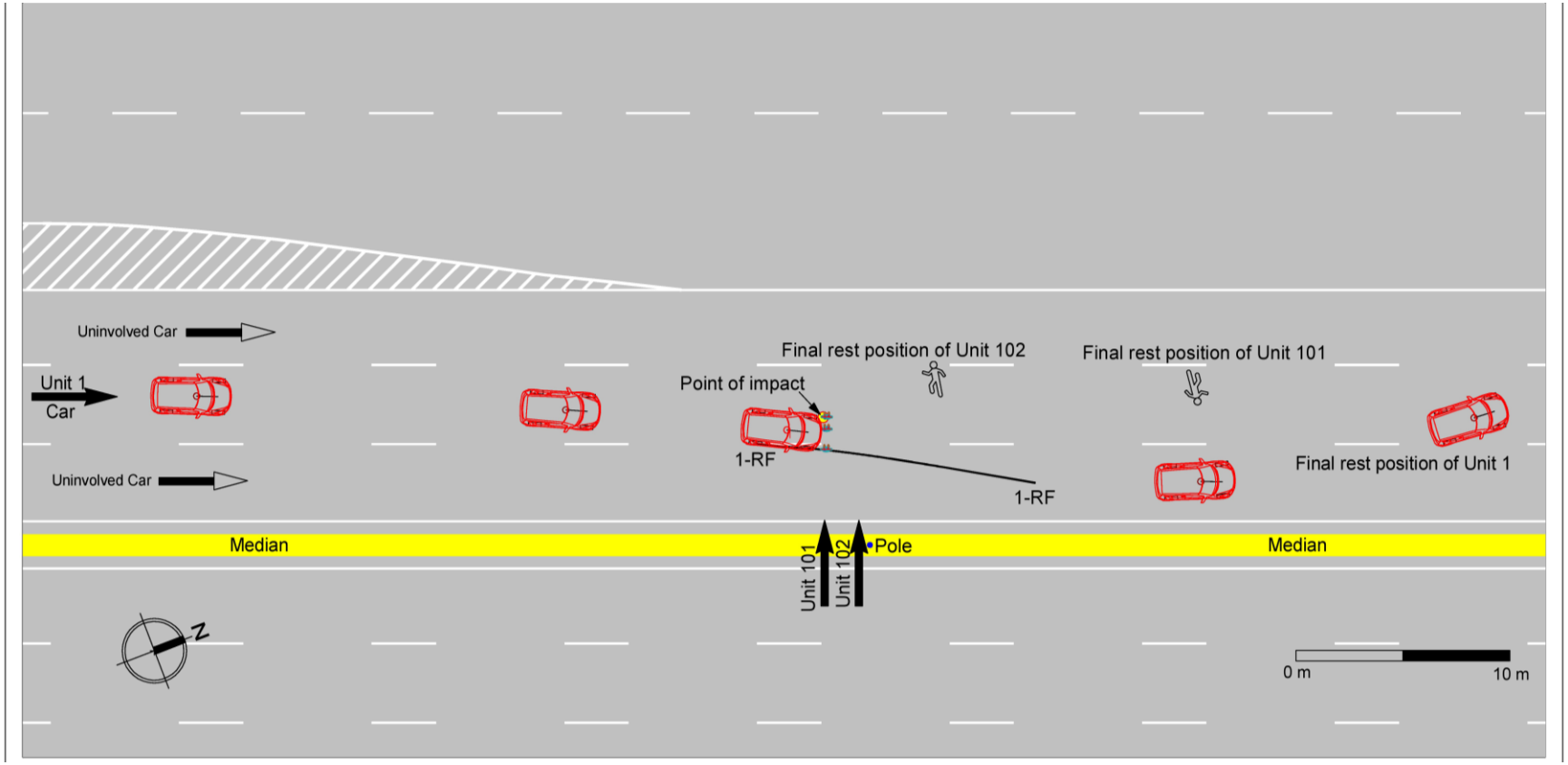
PEDESTRIAN ACCIDENT

Car travel speed:
70 kmph (+/- 10 kmph)

Car Impact Speed:
70 kmph (+/- 10 kmph)

Posted Speed Limit: 50 kmph

SCENE DIAGRAM



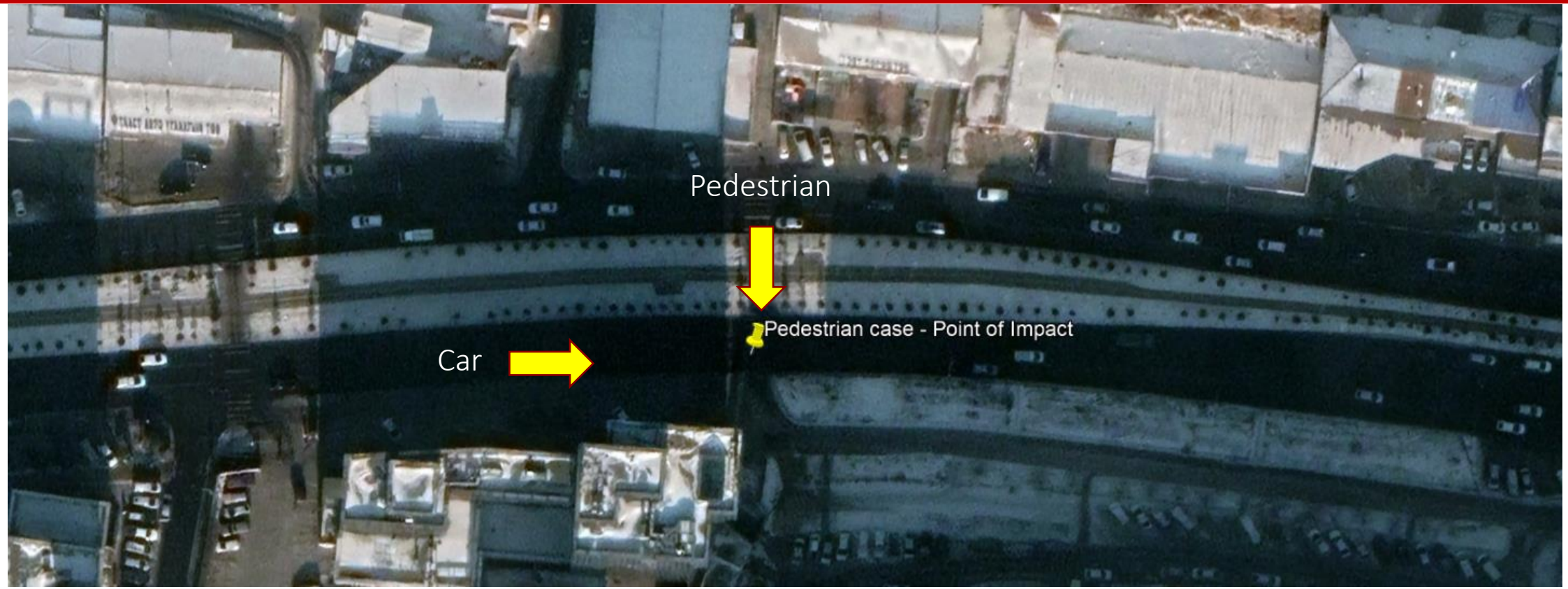
HADDON MATRIX APPROACH

		FACTORS		
PHASES		HUMAN	VEHICLE	INFRASTRUCTURE
PRE-CRASH	Crash prevention	Car: • Speeding Pedestrian • Dangerous behaviour	Car: • Vehicles blocked driver vision	Pedestrian • Wide road. • Poor pedestrian crossing infrastructure.
CRASH	Injury prevention during the crash	None found	Car: • Knocked down pedestrian	None found
POST-CRASH	Life Sustaining	None Found	None Found	None found

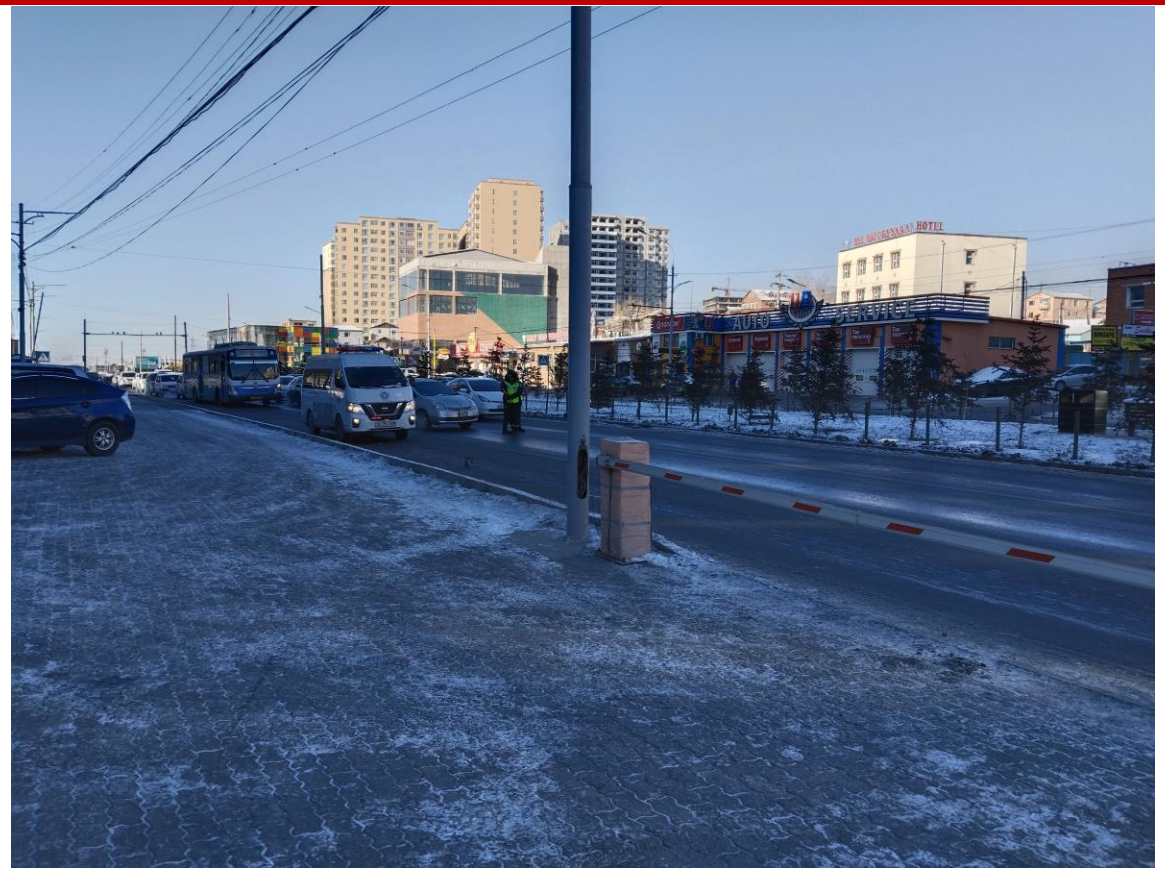
PEDESTRIAN ACCIDENT

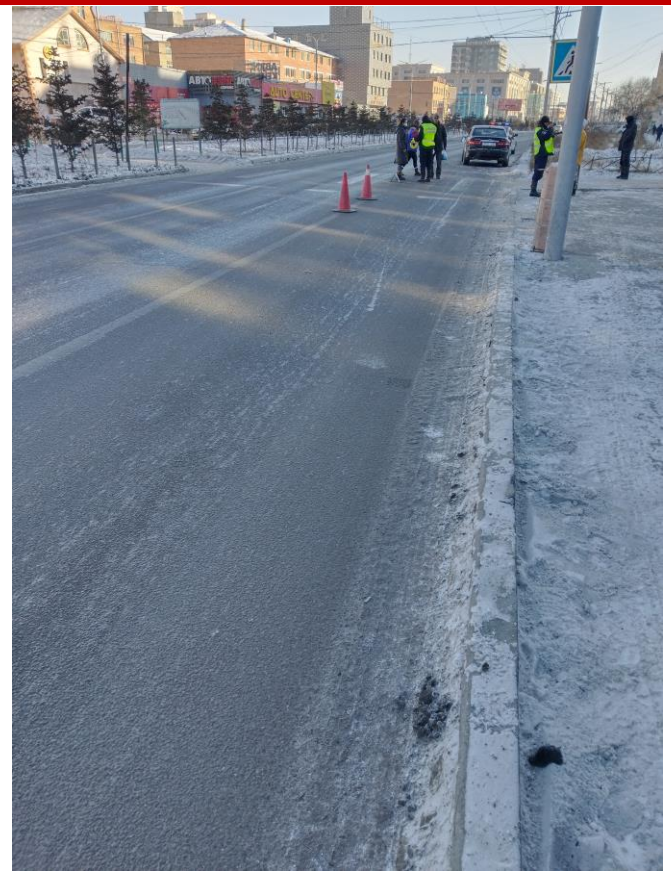
- Accident Date: 27 Nov 2022
- Accident Time: 10:00 AM
- Notification Time: 10:15 AM
- Road: Ard Ayush Avenue (Ард Аюушийн өргөн чөлөө 29, Ulaanbaatar, Mongolia)
- GPS: 47.922103, 106.862886
- Summary: Pedestrian was impacted by a car while crossing the road at a pedestrian crossing.

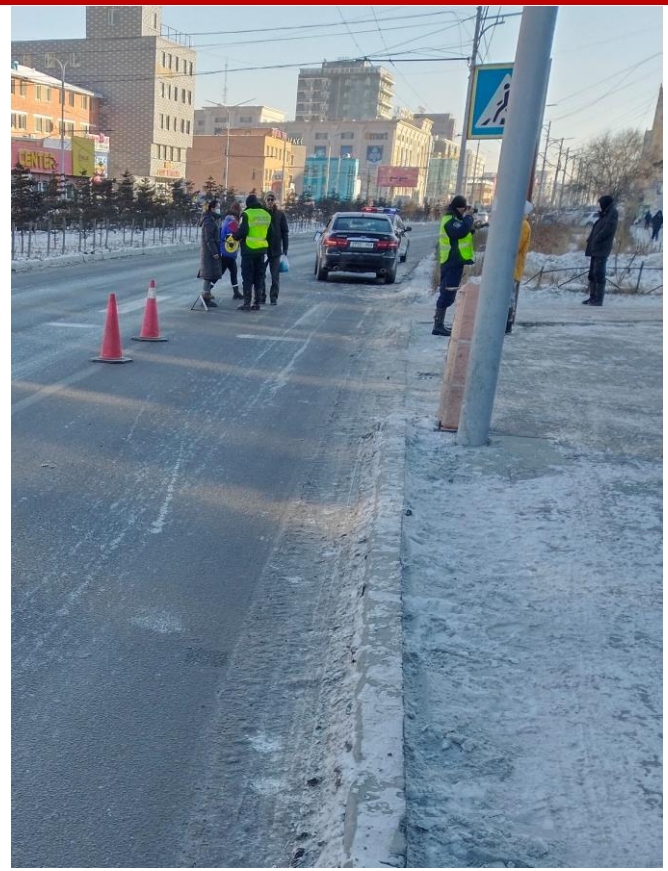
SCENE



SCENE – CAR APPROACH AND TRAVEL
3-LANES, CAR TRAVELLING ON RIGHT LANE







SCENE - PEDESTRIAN POINT OF VIEW

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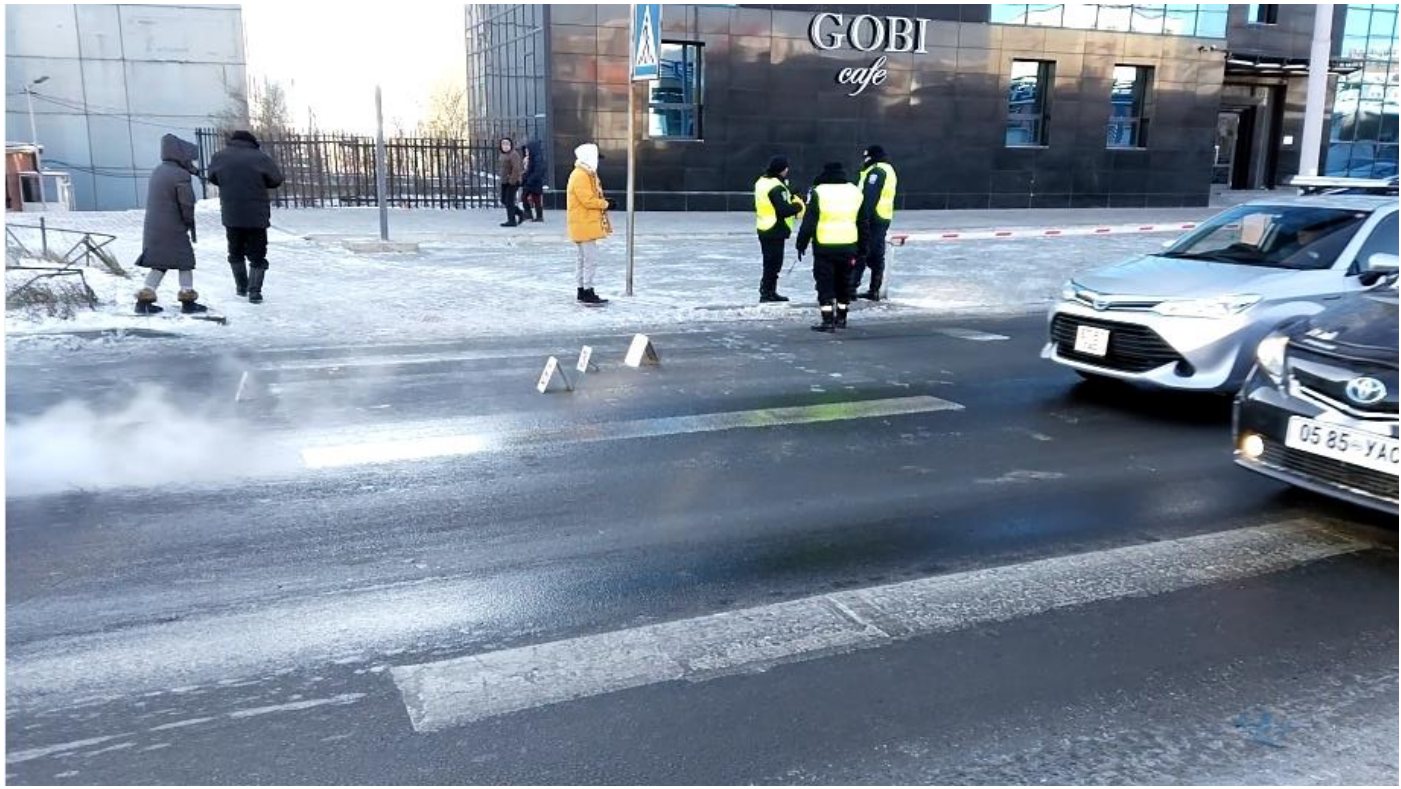


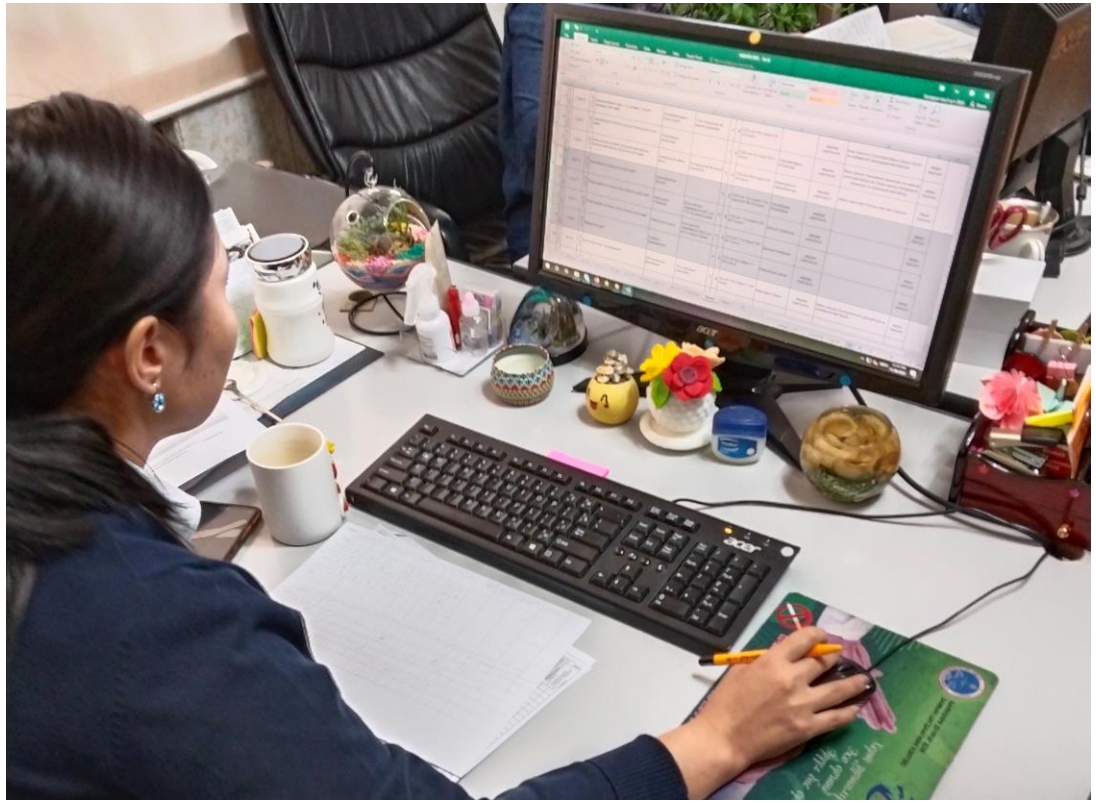
VEHICLE

ROAD TRAFFIC ACCIDENT DATA COLLECTION
ACTIVITY 1: DATA REQUIRED

- Determine the data variables you will need.
- What is the purpose?
- What is the data type? What sort of values will it have?
- Mention the source of each data point.

S. No	Data Variable	Purpose/Description	Data Type	Values	Source
1					
2					
…					
n					

ROAD TRAFFIC ACCIDENT DATA COLLECTION
ACTIVITY 2: GET THE DATA



- Vehicle speed?
- Posted speed limit?
- Number of travel lanes?
- Pedestrian action?
- Pedestrian orientation?
- Pedestrian infrastructure?
- Driver perception issues?

ROAD TRAFFIC ACCIDENT DATA ANALYSIS
ACTIVITY 3: HADDON MATRIX ANALYSIS

		FACTORS		
PHASES		HUMAN	VEHICLE	INFRASTRUCTURE
PRE-CRASH	Crash prevention	1 • Information • Attitudes • Impairment • Police enforcement	2 • Roadworthiness • Working lights • Good brakes • Handling • Speed control	3 • Road design and layout • Speed limits • Pedestrian Facilities
CRASH	Injury prevention during the crash	4 • Use of safety systems	5 • Crash worthiness • Crash protective design • Occupant restraints • Other Safety devices	6 • Crash protective roadside objects
POST-CRASH	Life Sustaining	7 • First-aid skill • Access to medics	8 • Ease of access • Fire risk	9 • Rescue facilities • Congestion

ASIA-PACIFIC ROAD SAFETY OBSERVATORY

ROAD TRAFFIC ACCIDENT DATA ANALYSIS
ACTIVITY 4: CHECK FOR MISSING DATA

- Is the data sufficient to identify safety issues in each cell of the Haddon Matrix?
- Is there any data that you could not get?
- Can you get the missing data?

If yes, then complete the Haddon Matrix. If not, then why?

SUMMARY OF DAY 1

1. Crash Data Review Priority areas for Mongolia.
2. 5 phases of a collision
3. Crash investigation and reconstruction techniques
4. Crash data analysis using Haddon Matrix
5. Activity: Pedestrian crash data collection and analysis
   A. Preparation of a data dictionary.
   B. Crash data collection and identification of missing data.
   C. Crash analysis using Haddon Matrix.

PART 4:

CRASH DATA ANALYSIS – CASE STUDY

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