CAREC Road Safety and Sustainable Mobility Course

February 2024

1.1: Setting the Scene
Safe System Analysis of a Crash

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Safe System Analysis of a Crash

STEP 1

- Observe the crash in the video. Watch at least twice.

- Write down the major causes of death and injury.

- Discuss your observations with the person next to you.

NZ **TRANSPORT**
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Safe System Analysis of a Crash

STEP 2

- Observe the crash in the video once more.

- Write down what could have prevented the death and injury.

- Discuss your observations with a different person than in Step 1.

What caused the death and injury?

GROUP DISCUSSION

What could have prevented the death and injury?

The Haddon Matrix

PHASES		FACTORS		
		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

Safe System Analysis of a Crash

FINAL STEP – Watch the full video

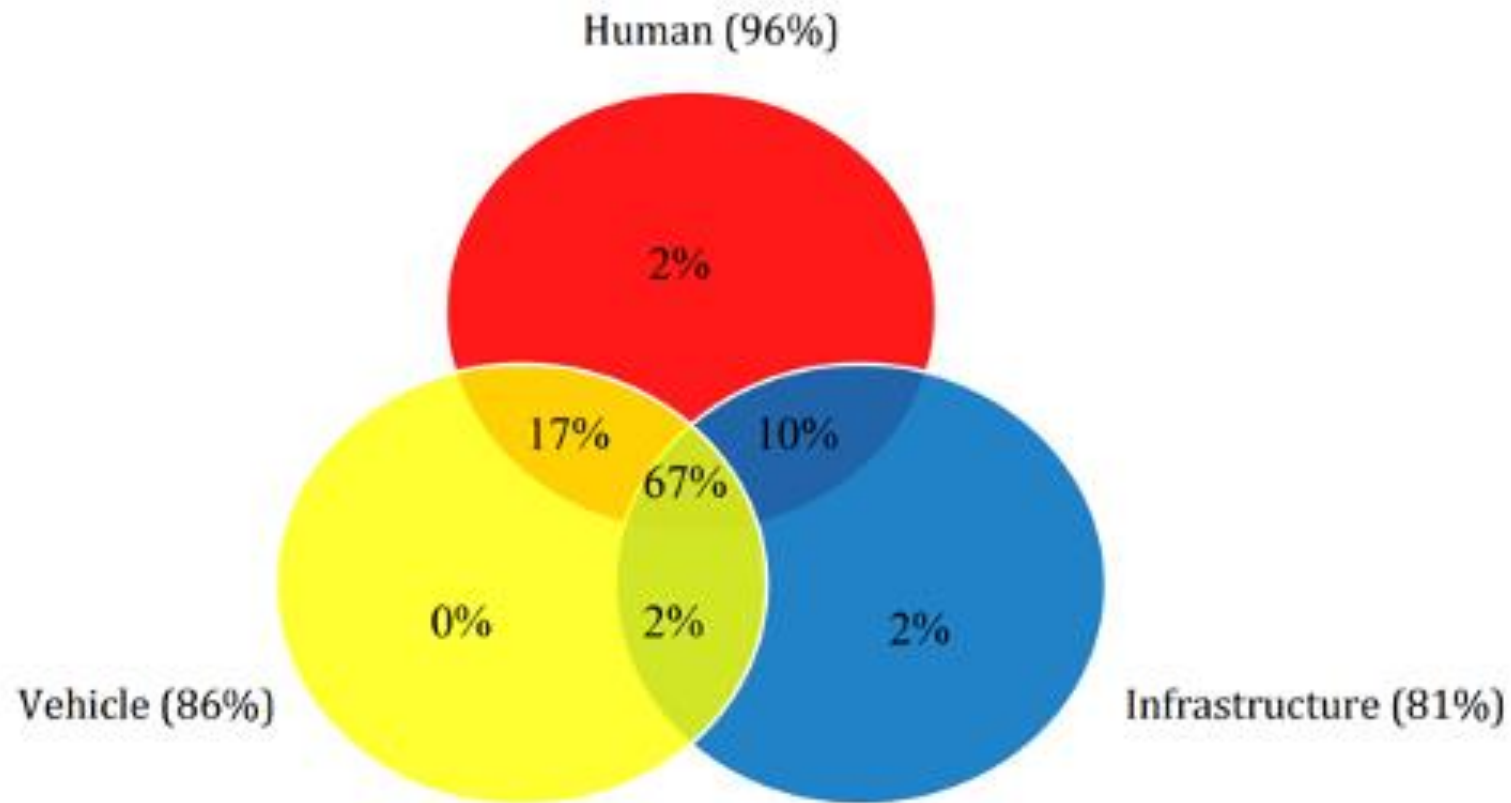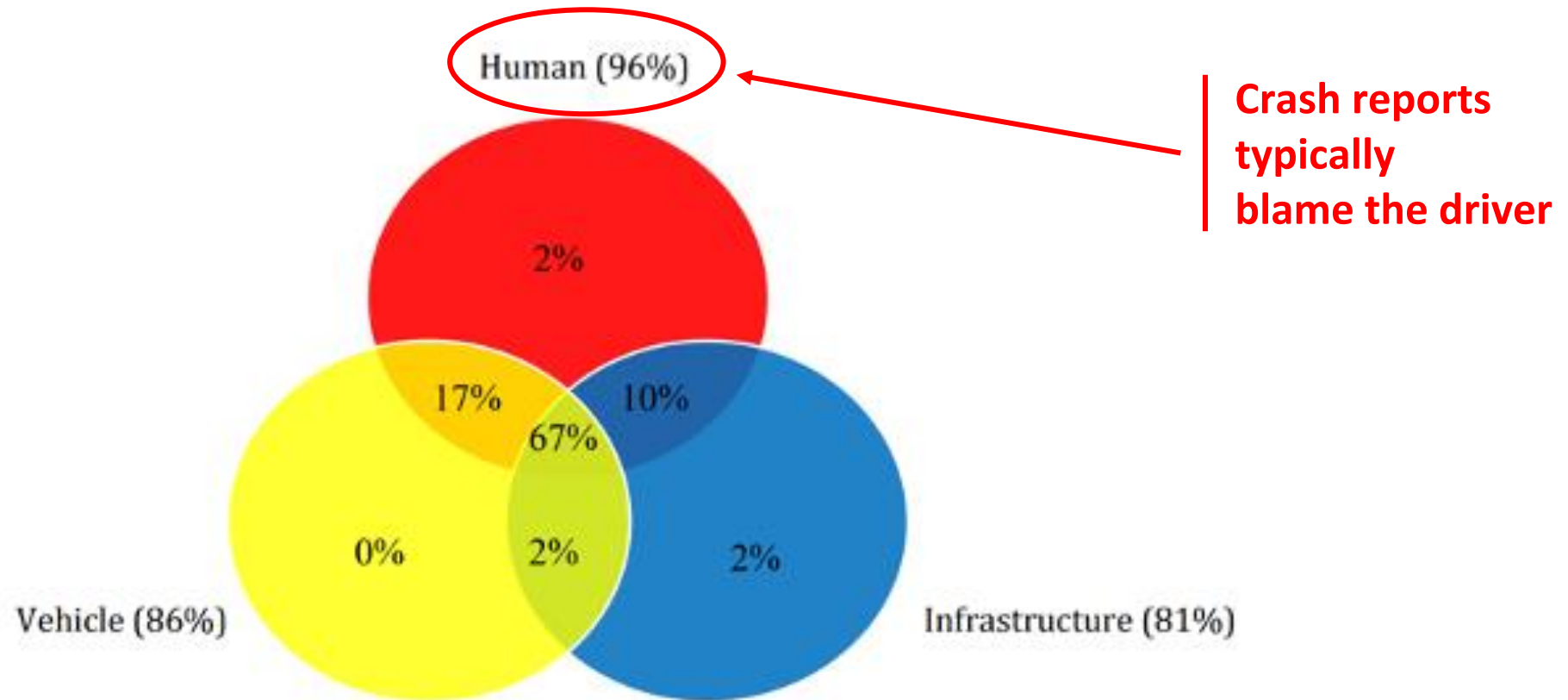# Most crashes are multi-causal

FIGURE 22: VENN DIAGRAM ANALYSIS FOR 125 CRASHES IN KOLKATA CITY

Source: JP Research Kolkata City Accident Study - 2018
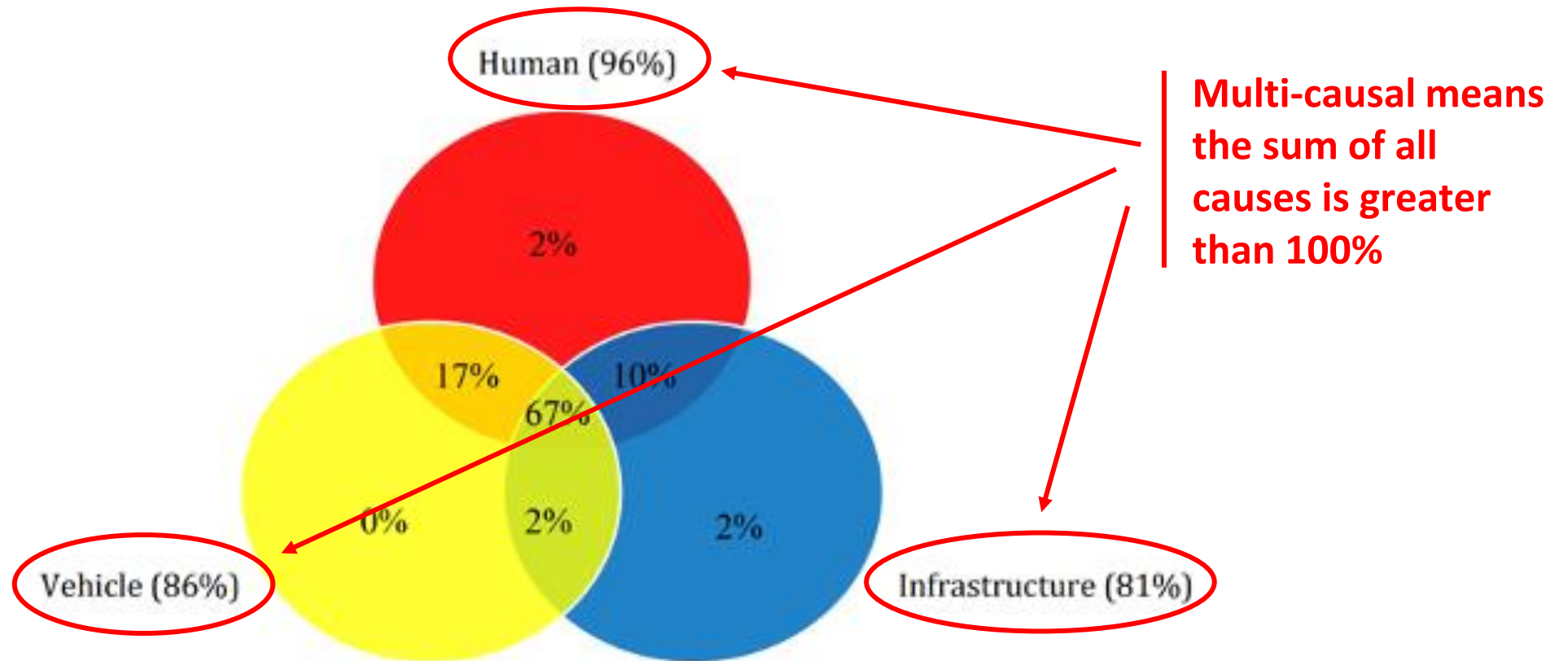
Most crashes are multi-causal

FIGURE 22: VENN DIAGRAM ANALYSIS FOR 125 CRASHES IN KOLKATA CITY

Crash reports typically blame the driver

Source: JP Research Kolkata City Accident Study - 2018

Most crashes are multi-causal

FIGURE 22: VENN DIAGRAM ANALYSIS FOR 125 CRASHES IN KOLKATA CITY

Multi-causal means the sum of all causes is greater than 100%

Source: JP Research Kolkata City Accident Study - 2018

Safe System Analysis of a Crash

KEY INSIGHTS

- Every crashes has multiple causes

- While crashes happen, death and injury is preventable

- Road system managers are ultimately responsible for user safety

- The Safe System uses interacting strategies to prevent death and injury

- The Haddon Matrix aids Safe System analysis of crashes

Thank You!