Safety of Vulnerable Road Users

SDG target 3.6

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Future Directions-SDG Targets

• SDG 3.6 : Halving RTI fatalities by 2020/2030

• Challenge in India+China ~470,000 out of 1.4 million total fatalities

• Pedestrian, MTW, bicycle remain challenges in all countries (HICs, LMICS)

*HICs have witnessed reduction in pedestrian trips and reduced pedestrian exposure to motorized traffic. We can question the effectiveness of known pedestrian safety strategies in these countries!*
100 years Learnings (1920-2020)

• Empirical observational studies to understand road user behavior and vehicle dynamics

• Important results (What questions to be answered?)

  Limitations of cognitive skills

  Human frailty, tolerance to impacts

  Consistency in human behavior

  Gap acceptance, risk taking, “preference”
Progress: Data collection technique/Statistical methods

• Manual observational studies – GPS, GIS, Big data, VR, Computer simulations
  To understand road user behavior

Vehicle Dynamics

• Important Questions

  Limitations of cognitive skills: Wrong behavior or wrong environment?

  Human frailty, tolerance to impacts: Age specific

  Consistency in human behavior: Constant

  Gap acceptance, risk taking, “preference”
Future Directions

• Focus VRUS: Pedestrians, MTW, 3WMV, Elderly population
• Data: Combined many sources, open data base
• Technology impact in different regions/context
• AEBS, Autonomous vehicles, Electric vehicles
• Interdisciplinarity (Technology & social sciences)
• Technical understanding & methods for social acceptance/implementation road maps
Examples

• Lower speed limits (aging population); Road map and methods for successful implementation

• MTW and 3WMV: (in rural areas) Helmets? crashworthiness?
Collaborations for new knowledge generation

*Interdisciplinary, inter regional, intercountry*

A challenge for 2030?
Challenge

Strong reliance on “intuition”

Conflicts between short term perceived benefits vs long term health benefits