



UMTRI

Challenges of Technology- Based Exposure Assessment in Teenage Drivers

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Person-based Measurement Devices (e.g., cell phones, personal GPS)

- Reliant on participant to have device with them
- Difficulty determining when the travel consists of participant driving versus being a passenger

Vehicle-Based Measurement Devices

- Difficulty linking driving with the target driver
- Participant might drive multiple vehicles
- Establishing reliable link between participant driving and data segments

Automation Versus Dependence on Participant

- Completely passive data collection ideal
- More reliance on participant = poorer quality data
- Confounded by vehicle sharing
- Technology must identify the driver who is the participant.

Participant Willingness

- Installation of devices
 - Time
 - Fear of damage
- Drive a strange vehicle
- Being monitored and recorded
- Invasion of privacy
- Expression of mistrust

Reactivity to Being Monitored

- Apparently quickly forget about device
- May modify behavior
 - Influence driving choices
 - Where to drive
 - Who to have as passengers
 - When they drive
 - What to do in the vehicle
 - Change behavior to be observed

Data Management and Analysis

- Large amounts of data
 - Data reduction
 - Identification of events of interest
 - Continuously recorded data must be searched
 - Event-triggered
 - results in many irrelevant events
 - many relevant events don't trigger
 - separate exposure capture technology

The End