Drug-Impaired Driving

- You can't drive safely if you're impaired. Reducing the number of drivers impaired by drugs improves the safety of all road users by reducing crashes.

- Many substances can impair driving, including alcohol, some over-the-counter and prescription drugs, and illegal drugs.

- Driving impaired by any substance—alcohol or drugs, whether legal or illegal—is against the law in all 50 states and the District of Columbia.

KEEP OUT OF REACH OF CHILDREN

MEDICATION MAY CAUSE DROWSINESS OR DIZZINESS DO NOT OPERATE HEAVY MACHINERY

Broad Range of Research Topics

- Presence of alcohol and other drugs among drivers
- Data collection methods
- Field tests of drug impairment & field test devices for use by law enforcement to detect drivers impaired by drugs, with a focus on marijuana
- Prosecution of drug-impaired drivers
- Messaging and communication strategies
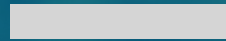
1   **Alcohol versus Other Drugs**

2   **Prevalence of Alcohol and Other Drug Use Among Motor Vehicle Crash Victims Admitted to Select Trauma Centers**

3   **Feasibility of a Field Test for Detecting Drivers Impaired by Cannabis**

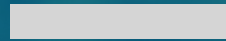# Alcohol vs. Other Drugs

Dereece Smither

Background

- A Complex Problem
    - Effects of alcohol on driving performance fairly well-known
    - 30+ years of research and programmatic efforts on drugs

	Alcohol	Other Drugs
Size of Effort	One type of drug	Many (illegal, OTCs, prescription)
Research Efforts	Well-studied	Many, disparate
Metabolism	Processes understood	Variable; many possibilities
Effect on Driving Behavior	Strong correlation to poor performance	Uncertain Correlation
Effect of High Doses	Greater decrements in performance	Unpredictable

Specific drug concentration levels **cannot** be reliably equated with effects on driver performance.

Prevalence of Alcohol and Other Drug Use Among Motor Vehicle Crash Victims Admitted to Select Trauma Centers

Amy Berning

Approach

- Work with trauma centers and medical examiners
- Gather data from roadway users involved in motor vehicle crashes (drivers, motorcyclists, pedestrians, etc.)
- Obtain blood samples during routine patient care; de-identify them; send to independent study laboratory
- Test for broad array of over-the-counter, prescription, illegal drugs
- Determine number of people positive for specific drugs, drug categories, and in combination with alcohol

Feasibility of a Field Test for Detecting Drivers Impaired by Cannabis

Dereece Smither

Approach

- THC dosing study with regular users—lab setting

- Participants inhale THC-dosed vapor—5 Visits

- Evaluate a range of tests (assessing several cognitive domains)

  - Reliably demonstrate decrements of performance

- Test battery → further lab testing→ field testing
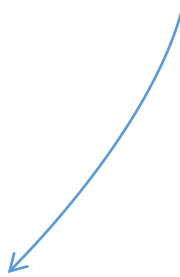
Approach (cont.)

Test Domains	Example Tests
General Cognition/ Working Memory	Time Estimation Maze Learning
General Motor Coordination	One Leg Stand Finger-to-Nose
Hand/Eye Coordination	Pursuit Task Critical Tracking
Inhibitory Processing	Stop Signal RT
Emotional Processing	Emotional Cognition Test

Blood & Oral Fluid collection

Cognitive Testing

THC Dose

Clarification or Questions?