



Enhancing Pedestrian Safety through Design & Countermeasures

**NTSB Forum on Pedestrian Safety
May 10, 2016**

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The Bureau of Good Roads**

**No Match
for Moving
Vehicle**

PHYSICAL VULNERABILITY



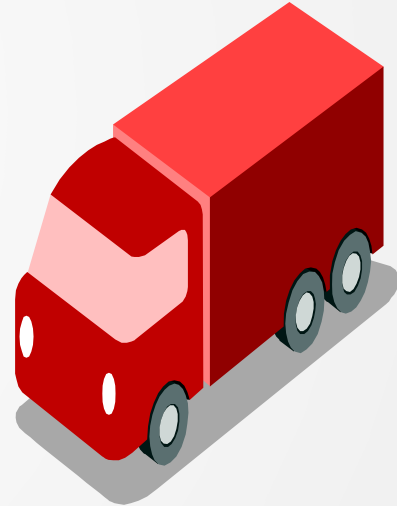
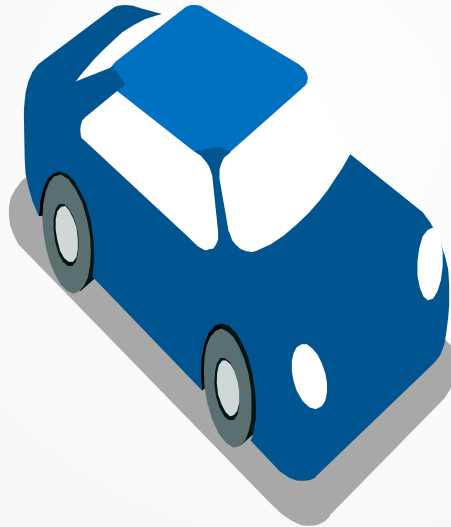
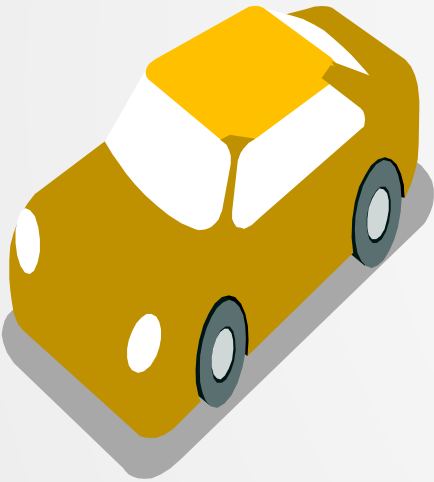


Streets Designed from Perspective of Vehicular Drivers

←SPEED

GEOMETRY

SKILLS↗



Behind The Wheel

Distance?

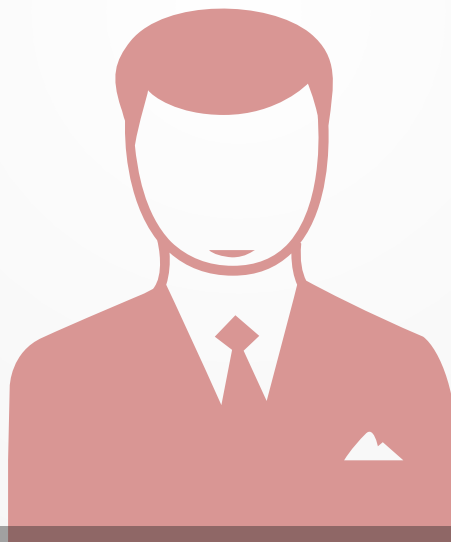
**I'm
late**

**Can't
drive..**

Safety?

**I've
limited
vision**

3' tall



Broad Range of Skills & Attitudes & Characteristics



REDUCE

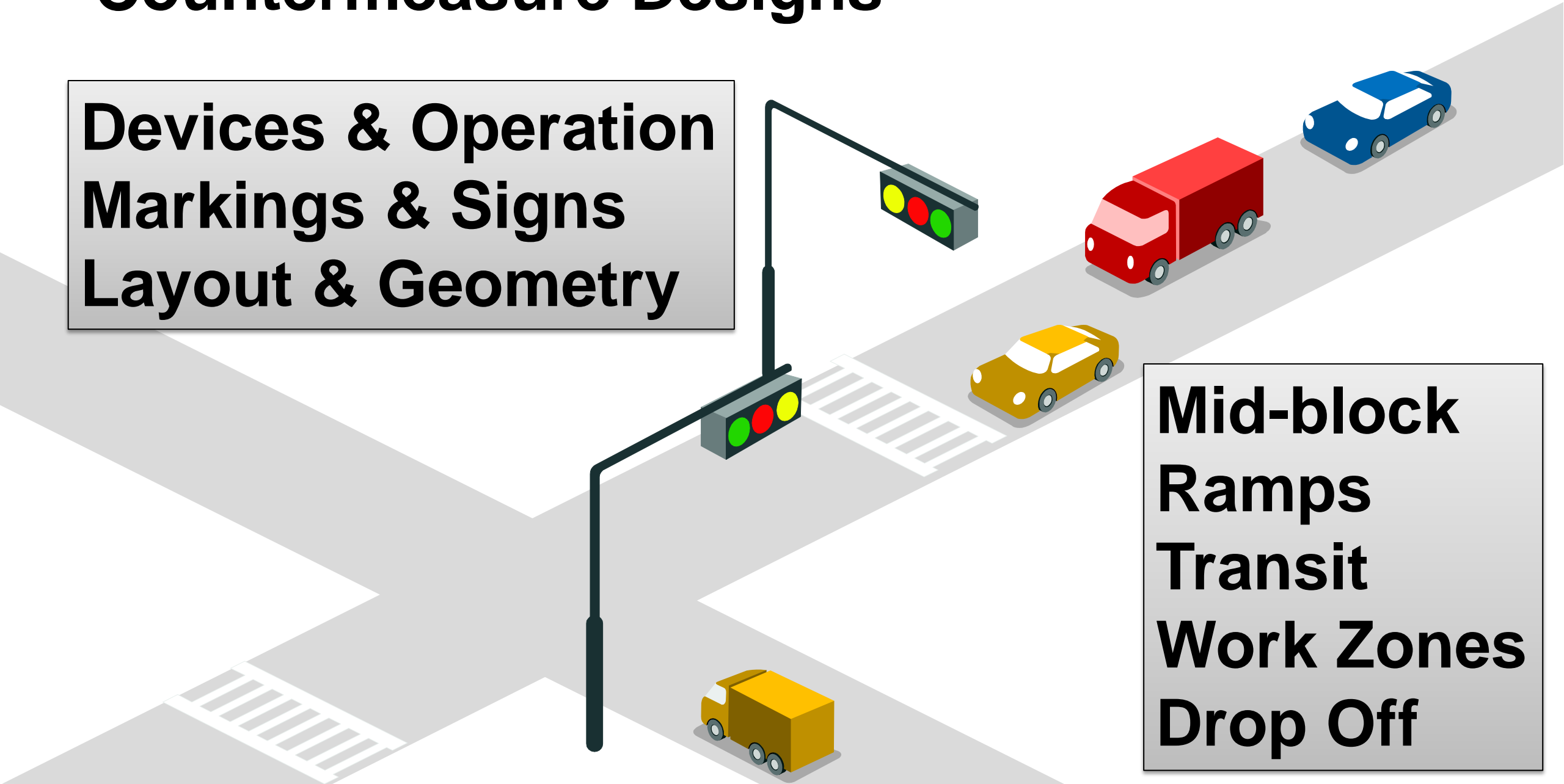
INCREASE

EXPOSURE
RISK
CONFLICT POINTS
LANES
WIDTHS
WAIT TIMES
DETOURS
WALK DISTANCES
SPEED

SEPARATION
PROTECTION
LIGHTING
MAINTENANCE
INFORMATION
CONNECTIONS
BUFFERING
EDUCATION
AWARENESS

Countermeasure Designs

**Devices & Operation
Markings & Signs
Layout & Geometry**



**Mid-block
Ramps
Transit
Work Zones
Drop Off**

Pedestrianization

Separation & Mixing

Prioritization

Under & Above Ground

Speed Zones

Temporary

Reclaiming Space





Underlying
Design Speed?

Children's Education as Countermeasure

Outdoor Activities

3-D Models

Traffic Gardens

Safety Towns



Many Programs Playing Roles



Safe Routes to School
Walking School Buses
Safe Routes for Seniors
Walk Friendly Community Awards



Thank You