

# Data-Driven Safety Analysis in the Project Development Process

DDSA National Peer Exchange  
July 10, 2018



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# Agenda

- Overview of Data-Driven Safety Analysis
- DDSA in Project Development
  - Planning
  - Alternatives Analysis
  - Design
  - Construction, Operations, and Maintenance
- Assistance Available

every day counts 



# Innovation Overview

# Interesting Times

- Shrinking budgets
- Growing lists of needs
- Increasing fatalities
- Establishing Safety (and other) performance measures
- We need to know how a roadway will perform in terms of safety



# What is DDSA?

- The application of the latest **evidence-based** tools and approaches to safety analysis
- Provides reliable **estimates** of an **existing or proposed** roadway's **expected safety performance**
- Helps agencies **quantify** the **safety impacts** of **transportation decisions**, similar to the way agencies quantify:

- traffic growth
- environmental impacts
- traffic operations
- pavement life
- construction costs



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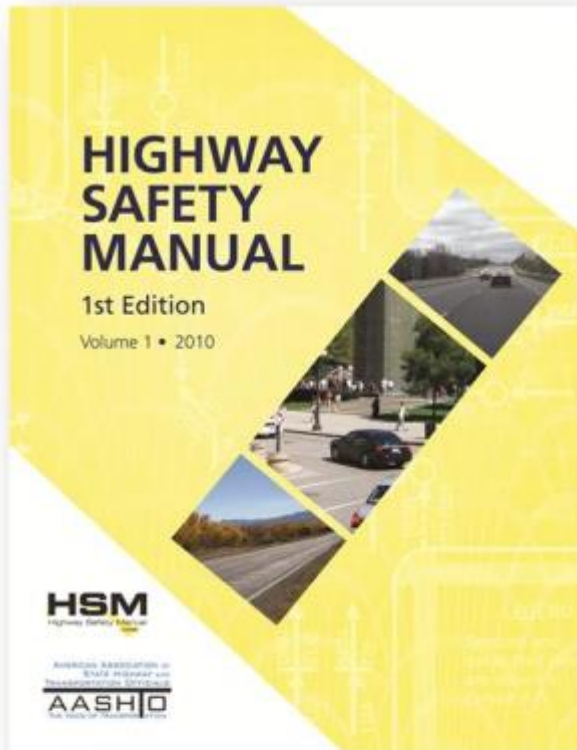
# The EDC Data-Driven Safety Analysis Initiative...

Goal: Integrate **safety performance** into **ALL** transportation investment decisions



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# Foundational DDSA Methods: the AASHTO Highway Safety Manual, first edition



Source: AASHTO

2010 Release:

- Rural Two-Lane Roads
- Multilane Rural Highways
- Urban/Suburban Arterials

2014 Supplement:

- Freeway Segments
- Ramps
- Ramp Terminals

# The Vision for the HSM

## A Document Akin To the HCM...

1

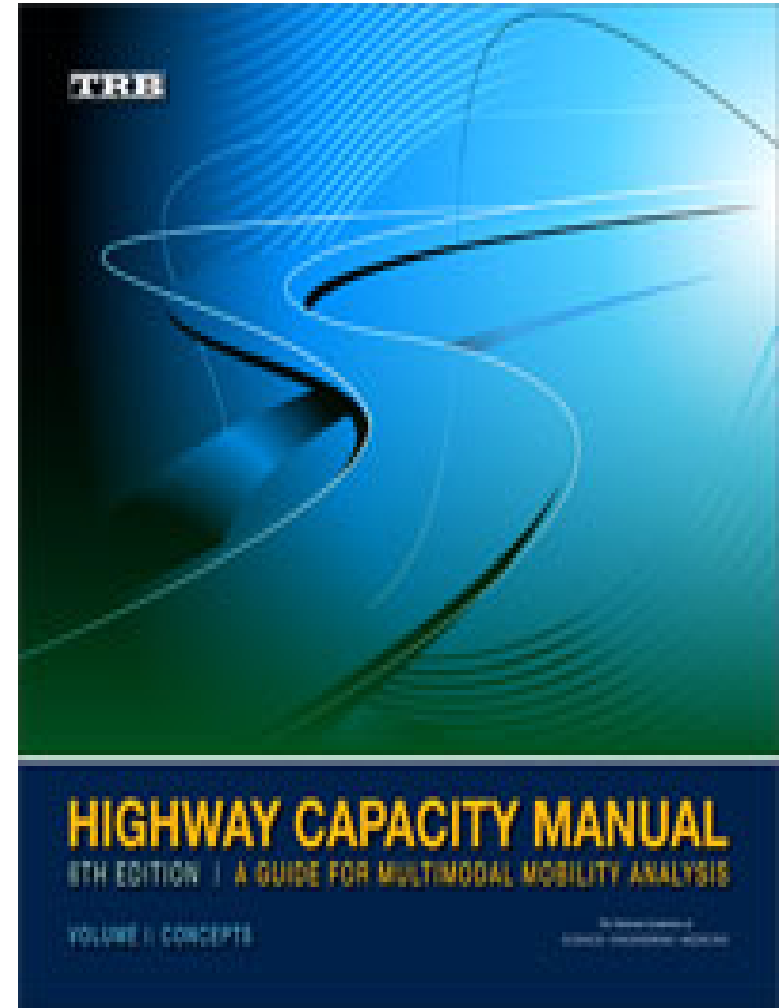
Definitive; represents quantitative 'state-of-the-art' information

2

Widely accepted within professional practice of transportation engineering

3

Science-based; updated regularly to reflect research





# The HSM has resulted in the development of:



- Spreadsheets
- Software Products
- Guidance Documents
- Crash Modification Factors Clearinghouse

# An Illustration of DDSA...

All three of these meet design standards...



Source: CH2MHILL

but DDSA tells us they would perform very differently from a safety perspective.

# Where can DDSA be applied in the Project Development Process?

Use Data. Target Investments. Save Lives.



Planning



Alternatives Analysis

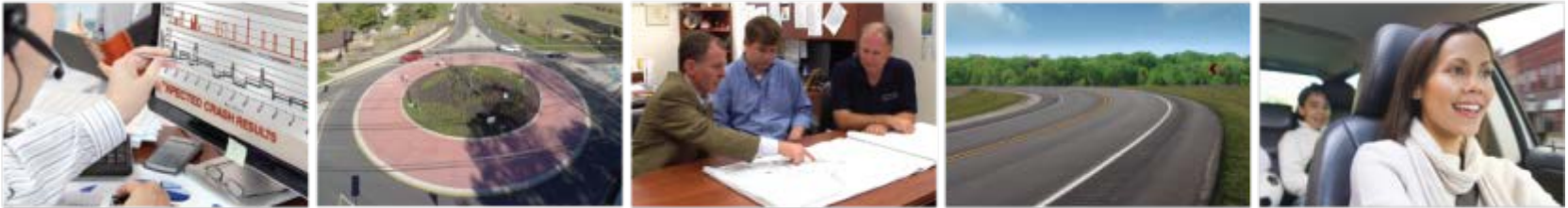


Design



Construction, Operations & Maintenance

every day counts 



# Applying DDSA in Project Development Process