



WORK ZONE DATA INITIATIVE

FHWA Office of Operations Work Zone Management Program

WZDI Project Overview

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U.S. Department of Transportation
Federal Highway Administration



MOTIVATION FOR WZDI

Work Zone Activity Data (WZAD)

Information on when, where, and how work zones are deployed

WZAD is increasingly critical for agency operations

WZAD lacks consistency in data type and quality

FHWA identified need for national WZAD standard

Work Zone Data Initiative (WZDI)
FHWA-led national initiative to standardize work zone activity data across the country

Challenges

- Data management processes vary
- Differing maturity levels
 - Understanding requirements
 - Recognizing benefits

Current State

- Data collection, analysis, and evaluation requires multiple interfaces and significant processing to standardize

WZAD Specification

- Standardization results in seamless data sharing
- Examples of Benefits:
 - Current use - enhance WZ traveler info across regions
 - Future benefit - support CAV operations across regions

WZDI PROJECT OVERVIEW



VISION

Better harmonization of work zone activity data for current and future uses through development of a national **WZAD Specification** that will result in real-time, accurate, and comprehensive data in a standard format allowing for seamless data communication across jurisdictional boundaries



OBJECTIVES

- Specify WZAD elements
- Conduct stakeholder engagement around WZAD
- Show utility of WZAD in various applications



OUTCOMES

- Agreed-upon stakeholder-driven WZAD structure
- Examples of use cases/applications for WZAD use

WHAT IS WORK ZONE ACTIVITY DATA?

- »» The “what,” “where,” and “when” of work zone activities
- »» WZAD has many existing and potential uses; exactly what WZAD “elements” may be needed likely depends on each particular use
 - Example 1: active lane closure data needed for a traveler information website vs. for an agency lane closure management and approval process
 - Example 2: WZAD needed when coordinating a 3-year TIP in a region versus coordinating MOT phase changes between two back-to-back projects on a facility
- »» WZAD needs also likely depend on:
 - Duration
 - Type of facility
 - Type of work
 - Type of TTC/MOT used

USE THEMES

1

Work Zone Planning and Project Coordination

Assess impact on operations (loss of capacity)

2

Safety and Mobility Performance Measurement

Track progress towards identified WZ objectives

3

Construction and Maintenance Contract Monitoring

Track compliance to specifications, policies, etc.

4

Real-time System Management/ Traveler Information Provision

Support real-time/near real-time travel and operations

5

Work Zone Impact Analyses

Estimate impacts of planned activities and mitigate accordingly

6

CAV Hardware Needs and System Readiness to Accommodate

Support CAV technology in and around WZ

7

Inspection and Asset Management

Ensure proper set up of inspections and assets

8

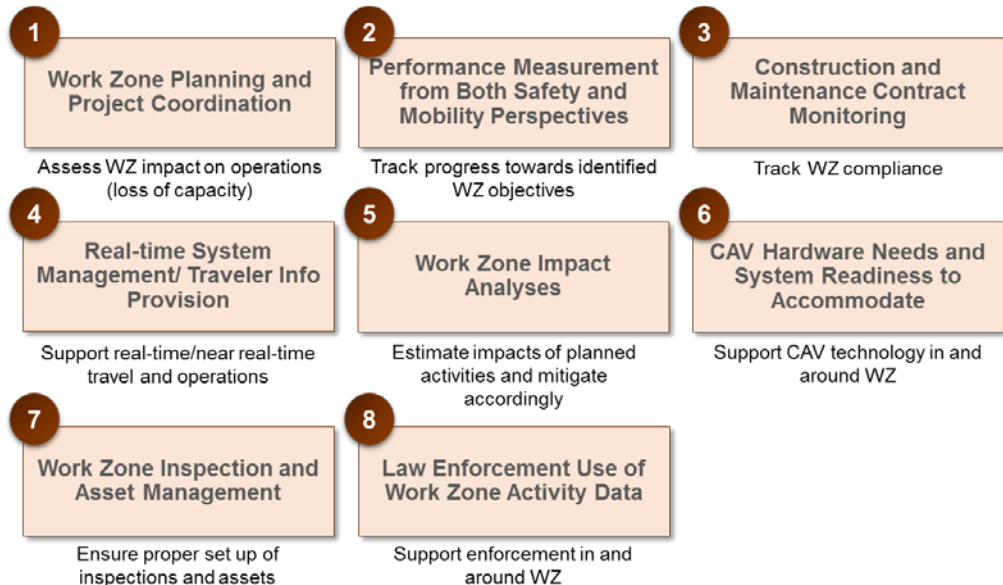
Law Enforcement Use of Work Zone Activity Data

Support enforcement efforts in and around WZ

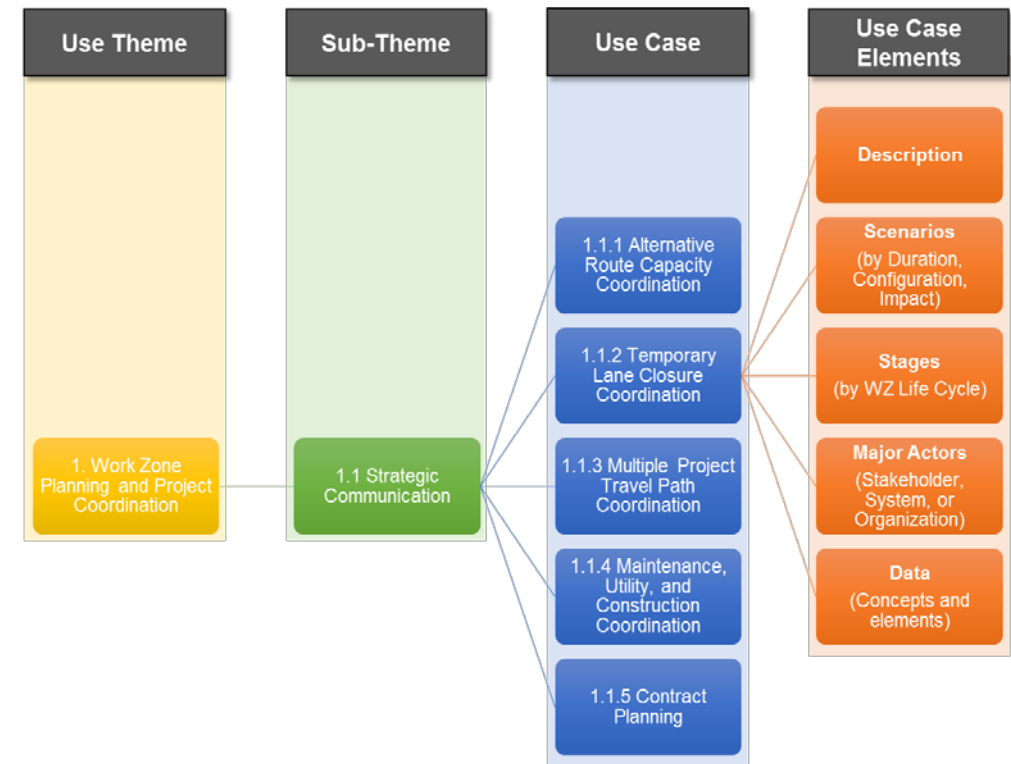
USE CASES

USE CASES - Comprehensive list of current and future applications for WZAD.
Several use cases are currently occurring in limited deployments or not at all.

Use Themes



Use Case Structure



RELATED INITIATIVES

Multiple USDOT supported data sharing efforts in progress to support development and promotion of:

- ››› Core WZAD requirements
- ››› WZAD sharing processes
- ››› Functional WZAD applications

Local Data Harmonization Effort

- Proof-of-concept data specification used by set of early adopters
- Development and adoption of non-regulatory specifications

WZDE Development

- Development of a national USDOT-sponsored WZAD data aggregator

V2I Safety Apps Deployment Guidance

- Updating Reduced Speed Zone / Lane Closure Warning Application
- Developing Work Zone Maps from connected vehicle input.

Probe Data Case Study Booklet

- Guidelines for using CV data for real-time mobility dashboards to improve uniformity of work zone mobility performance measurement

WZAD Record Keeping Guidance Document

- Determining state-of-practice, identifying recommendations for WZAD collection and use cases, and creating guidance document

WZDI APPROACH

- »» WZAD State-of-the-Practice
- »» Concept of Operations for Standardized WZAD
- »» WZAD Data Definitions
- »» Stakeholder Engagement/Workshops
- »» Implementation Guide
- »» Informational Materials
- »» WZAD Pilots
- »» Symposium
 - National Work Zone Safety & Management Conference
 - September 11- 13th

