

WORK ZONE MANAGEMENT PROGRAM



U.S. Department
of Transportation
**Federal Highway
Administration**

JOIN THE WORK ZONE DATA INITIATIVE

The Need

Work Zone Activity Data (WZAD)—information regarding when, where, and how work zones are deployed—is in the transportation operations spotlight. Once the sole purview of transportation agencies, timely and accurate information on work zones has become a focal point in an evolving ecosystem of public and private sector stakeholders with roles in transportation management.

Currently, WZAD collection is ad-hoc and limited in scope to address a specific need within agency workflows. Accordingly, it is not easily shared outside of proprietary or agency-specific systems and is difficult to use for purposes other than which it was originally designed. A standardized definition is needed to lift these constraints and facilitate sharing of critical work zone-related information seamlessly across multiple jurisdictions, regions, and information delivery platforms, and to convey ongoing benefits and added value; wherein WZAD generated for one purpose will have enduring utility in many other applications. This is a necessary step to advance the work zone management state of the practice as we prepare for the next generation of transportation operations.

FHWA's Response

In response to this need, the Federal Highway Administration (FHWA) is conducting the Work Zone Data Initiative (WZDI). The purpose of the WZDI is to develop a recommended practice for managing WZAD and to create a consistent language, through the development of a data dictionary and supporting implementation documents, for communicating information on work zone activity across jurisdictional and organizational boundaries. The effort promotes a stakeholder-driven and systems-driven perspective for WZAD that allows for a better understanding of user needs from the practitioners' perspective and ultimately, a better approach to collecting national WZAD.



Standardized WZAD is being developed across seven comprehensive work zone activity categories. (Source: FHWA)

What Is Work Zone Activity Data?

Digital data on when, where, and how work zones are deployed, including:

- Identification attributes
- Location attributes
- Time attributes
- Impact attributes

RESOURCES

You can access several FHWA reference documents relating to planning and deploying standardized WZAD.

Visit FHWA's WZDI Collaboration Site:
<https://collaboration.fhwa.dot.gov/wzmp/>

Contact: WZDI@dot.gov

www.fhwa.dot.gov

WZAD Stakeholders

There are a number of internal agency functions and external stakeholders who can actively use and benefit from standardized WZAD.

Internal Agency Functions

- Work zone planning and coordination
- Roadway design and engineering
- Work zone data systems
- Construction and maintenance management
- External coordination
- Transportation management center and traveler information
- Work zone performance and impact analysis

External Stakeholders:

- Regional partner agencies
- Construction and maintenance contractors
- Third party traveler information
- Utilities
- Law enforcement
- Travelers
- Freight haulers
- Connected and automated vehicles (CAVs)
- State agencies and federal agencies

WZAD Implementation and Benefits

Implementation of standardized WZAD will facilitate communication and development of business processes to provide stakeholder benefits throughout the project delivery life cycle.

Planning and Design

- Better integration of construction maintenance staff, construction contractors, utilities, and other entities in the planning process.
- Improved prioritization and coordination of planned projects to minimize cumulative impacts to motorists.
- Improved inter-departmental and cross-jurisdictional coordination of construction activities.
- Improvements to oversize vehicle permitting process through vetting of traffic control strategies with temporary weight and size limitations.
- Agency staff will have better information on past work zone performance to estimate mobility and safety impacts and to support rationale for proposed traffic control strategies.
- Archived historical WZAD, in conjunction with other data sets, can be used for justification of preferred traffic control phasing schemes or supplementary traffic operations strategies such as integration of work zone intelligent transportation systems (ITS).



Work Zone Life Cycle Stages

(Source: FHWA)

Real-Time Operations

- Agency traveler information officers and third-party providers can more easily add active work zone information to dynamic message signs, 511, traveler information websites, and mobile applications given the accurate and verified data within the standardized WZAD.
- Agency construction engineers and maintenance staff will have a better source of data on construction activity, contractor presence, and timing of temporary traffic control installations for tracking compliance with contract specifications or restrictions, including performance-based safety and mobility specifications.
- Construction inspectors and asset managers can more easily track variations from project plans, and the proper operation of dynamic assets such as ITS infrastructure.
- Law enforcement will benefit from improved quality of information on active work zones for response and enforcement purposes.
- Future deployment of CAVs will require up-to-date and highly accurate information on work zones to facilitate safe navigation by self-driving vehicles.
- First responders will have detailed information to enhance response time or to get information on how to access areas that may be affected by construction activity.

Historical Work Zone Activity Records

- After a construction project is complete, agencies and researchers will be able to generate better performance measures for exposure and identify characteristics and treatments that improve work zone mobility and safety.
- The standardized WZAD will also allow for better comparison of estimated versus actual mobility impacts on the project, regional, or programmatic level.
- National deployment of standardized WZAD will inform the developing state of the practice for work zone management in terms of effective strategies for managing work zone safety, mobility, and constructability, and will provide a basis for assigning resources to support those strategies at the local, state, and federal level.