Where are all the work zones?

- How many active work zones were there in the US last year?
- How many active work zones are there in the US right now?
- How many lane miles of the National Highway System were actively under construction on September 2, 2016?
- How many work zone crashes were due to traffic queues forming upstream of a lane closure?
What is WZAD?

Digital data on when, where, and how work zones are deployed
WZAD Over the WZ Life Cycle

PLANNING / DESIGN

“Estimated” work zone activity
Data is dynamic, ephemeral
Uses:
- Project coordination / scheduling of closures
- Predictive travel times
- Fleet routing
- Anticipated capacity reduction
- Less detail regarding work zone configuration

CURRENT

“Actual” work zone activity
Data is dynamic, ephemeral
Uses:
- Traveler information
- Work zone management
- Situational awareness
- Inspection
- Asset management
- Contract monitoring
- Automated vehicle navigation

POST-CONSTRUCTION

“Historical” work zone activity
Data is static, persistent (“read-only”)
Uses:
- Permanent record of prior activity, serving:
  - Performance management
  - Contract monitoring
  - May be overlaid with other historical information such as crashes, traffic probe data, etc. to establish correlation between work zone activity and other operational information.
Work Zone Data Initiative (WZDI)

Purpose
Creating a consistent language for communicating WZAD across organizational boundaries and throughout project life cycles

• Simplify and accelerate the adoption of WZAD standard

• Advance development of processes and applications around availability of standardized WZAD.
## WZDI Components

<table>
<thead>
<tr>
<th>Products / Activities</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of the Practice review</td>
<td>Complete</td>
</tr>
<tr>
<td>WZAD Framework (50 specific use cases)</td>
<td>v1 Feb 2019</td>
</tr>
<tr>
<td>WZAD Data Dictionary</td>
<td>v1 Feb 2019</td>
</tr>
<tr>
<td>Work Zone Data System Pilot</td>
<td>ongoing through September 2020</td>
</tr>
<tr>
<td>Work Zone Activity Data Implementation Guide</td>
<td>Draft March 2020</td>
</tr>
</tbody>
</table>

**Work Zone Data Exchange**

v1 concurrence 9/10/2018
Use Categories of WZAD

1. Work Zone Planning and Project Coordination
2. Work Zone Impact Analyses
3. Construction and Maintenance Contract Monitoring
4. Real-time System Management and Traveler Information Provision
5. Safety and Mobility Performance Measurement
6. Law Enforcement and Emergency Service Providers
7. CAV Hardware Needs and System Readiness
WZ Data Dictionary Content

- **Identification attributes**
  - Nomenclature for project, phases, activities, etc.
  - Owner agency
  - Contractor/subcontractors
  - Work type

- **Location attributes**
  - Roadway
  - Direction of Travel
  - Work zone geometry
  - Road type

- **Time attributes**
  - Start/end dates/times
  - Duration
  - Recurring time periods

- **Impact attributes**
  - Impact to lanes -- (number of lanes closed/open, travel path effect)
  - Restrictions by lane
  - Planned lane closures
Work Zone Data Exchange (WZDX)

- Active deployment of WZAD data standard by participating organizations
- Data generators deploy real-time feed (JSON) following current WZDx specification (v1 as of 9/10/2018)
- Data feeds practical uses in addition to “sandbox” applications for WZDI pilots.

Data Generators

WZDI Data Dictionary

Data Consumers

- DOT managers
- Traveler Information Systems
- Third-party app developers
- Partner agencies
- Research institutions
- …
WZDI Pilot Sites

Deployment stages:
1. Agency expression of interest to FHWA
2. Inventory of current WZAD management practices*
3. Identify and prioritize use cases that are of interest to the agency*
4. FHWA / agency collaborative development of work plan / MOU
5. Implementation and technical support (6-12 month deployment timeframe)

* Workshop facilitated by FHWA

All pilots include providing data per the Work Zone Data Exchange (WZDX) specification as a priority use-case
How to Get Involved

• Register your interest to WZDI@dot.gov

• Keep in touch via WZDI Collaboration site https://collaboration.fhwa.dot.gov/wzmp

• Submit your success story to highlight as a work zone data Best Practice or Case Study

• Sign up to be a WZAD Pilot Deployment site
  • Participate in collaborative development of evolving data standard.
  • Free technical assistance on implementing WZAD standard in your organization
  • Explore benefits of participating in shared, standardized WZAD environment with other participants
Questions?

Todd Peterson, P.E., PTOE
WZDI Project Manager
FHWA Office of Operations
Work Zone Management Team

todd.peterson@dot.gov
202-366-1988