Smarter Work Zones
Overview of Variable Speed Limits

Efficiency through technology and collaboration
Smarter Work Zones

OVERVIEW
What are Smarter Work Zones?

_Innovative strategies designed to optimize work zone safety and mobility_

- Policies and practices used to incrementally and continuously improve WZ operations
- Tools to reduce WZ crashes and delays
- Tools to enhance WZ management strategies
### What are Smarter Work Zones (cont.)?

<table>
<thead>
<tr>
<th><strong>Project Coordination</strong></th>
<th><strong>Technology Applications</strong></th>
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<tbody>
<tr>
<td>Coordination within a single project and/or among multiple projects within a corridor, network, or region, and possibly across agency jurisdictions</td>
<td>Deployment of Intelligent Transportation Systems (ITS) for dynamic management of work zone traffic impacts, such as queue and speed management</td>
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</table>

**Today’s Focus**
Types of Technology Applications Include...

- Real-Time Traveler Information
- Queue Warning
- Dynamic Lane Merge
- Incident Management
- **Variable Speed Limits**
- Automated Enforcement
- Entering/Exiting Construction Vehicle Notification
- Performance Measurement

For more information check out the SWZ TA website
https://www.workzonesafety.org/swz/swztechnology-application/types-of-applications/
Most States are already Utilizing SWZ!

• Over **40 states** have implemented technology applications, including:
  ▪ Formalizing processes for planning and operating technology applications
  ▪ Implementing “on-call” regional ITS SWZ contracts
  ▪ Implementing steps towards institutionalizing technology:
    o Developing systems engineering documents
    o Developing specs to bid on technology
    o Piloting technology applications
    o Evaluating pilot to determine effectiveness for wider implementation
    o Fully implementing technology applications
    o Utilizing project funds to implement ITS – leading to institutionalization
Why Implement SWZ?
Capabilities of Technology Application

- **Improved driver awareness**
  - Changing traffic patterns
  - Downstream congestion
  - Construction vehicle ingress/egress
  - Expected delay / travel time

- **Dynamic and actionable guidance to drivers**
  - “Road work ahead” vs “Traffic Stopped 1 mile ahead”
  - “Road work – expect delays” vs. “Road Work I-95 past Exit 52 Use Alternate Routes”

- **Enhanced tools for on-site traffic management**
  - Speed monitoring
  - Automated speed enforcement
  - Queue formation
Why Implement SWZ?
Benefits of Technology Application

• **Empowers drivers to be proactive in responding to work zones**
  - Awareness of downstream hazards
  - Facilitates real-time decision-making and trip planning

• **Streamlines traffic management functions through partial automation**
  - Speed enforcement
  - Data collection
  - Performance measurement

• **Information increases customer satisfaction**
  - The More you Know...
Smarter Work Zones
VARIABLE SPEED LIMIT SYSTEMS
Variable Speed Limits (VSL)

- Multiple speed trailers in & approaching work zone
- Each unit monitors prevailing speed – relays information to upstream units.
- Posted speed limit dynamically adjusted to reduce downstream speed differential
Implementation Guidance

Work Zone ITS Implementation Guide

- Provides guidance on implementing ITS in work zones to assist public agencies, design and construction firms, and industry stakeholders

- Presented through a 6-step Systems Engineering Approach to WZ ITS implementation

Implementation Guidance
Work Zone ITS Implementation Guide Steps

1. Assessment of Needs
2. Concept Development & Feasibility
3. Detailed System Planning & Design
4. Procurement
5. System Deployment
6. System Operation, Maintenance, and Evaluation

Applies to any WZ ITS deployment regardless of scale
## Funding Opportunities

<table>
<thead>
<tr>
<th>State Transportation Innovation Councils (STIC) Incentive Program</th>
<th>Accelerated Innovation Deployment (AID) Demonstration Program</th>
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<tbody>
<tr>
<td>• Funds activities which turn innovations into standard practices</td>
<td>• Projects may be any aspect of highway transportation</td>
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<tr>
<td>• All states are eligible</td>
<td>• Max of $1,000,000 (up to full cost of project)</td>
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<tr>
<td>• Up to $100,000 available to each STIC annually</td>
<td>• Monitoring, assessment, and technology transfer commitments</td>
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<tr>
<td>• Can be used to fund multiple initiatives</td>
<td>• Current grants include ABC, high surface friction treatments, and ATMS/A.</td>
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<tr>
<td>• Use to pay consultants to develop standards, specifications, design manuals, evaluations, implementation plans, workshops, training, and more!</td>
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[www.fhwa.dot.gov/stic](https://www.fhwa.dot.gov/stic)  
[https://www.fhwa.dot.gov/accelerating/grants/](https://www.fhwa.dot.gov/accelerating/grants/)
Visit FHWA’s SWZ Interactive Toolkit

https://www.workzonesafety.org/swz/
Utilize Various Learning Opportunities!

- In-Person Workshops
- Virtual Peer Exchanges
- In-Person Peer Exchanges
- Demonstration Site Visits

Free educational opportunities are available!

Contact Jawad Paracha for more information
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What Are Smarter Work Zones?

In-Person & Virtual Workshops

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In-Person Workshops

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