

FLEXROAD
LESS STOP. MORE GO.

I-80/94 BORMAN EXPRESSWAY

Transportation Systems Management and Operations (TSMO)

July 28, 2021

Dan Prevost, Parsons
Joseph Brahm, Parsons

1

AGENDA

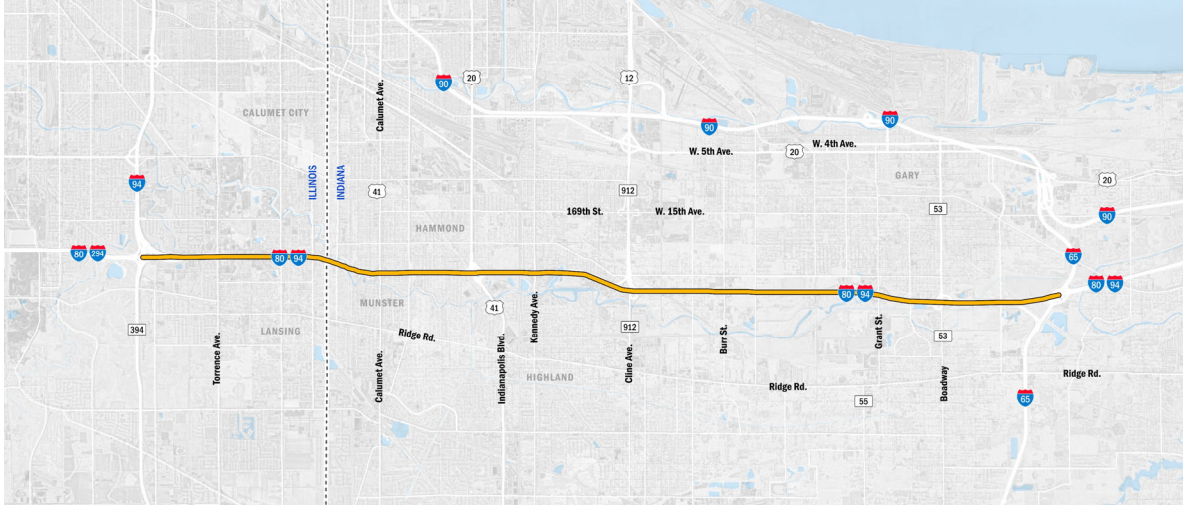
- Project Area and Goals
- What is TSMO
- Study Process and Schedule
- Getting Involved

FLEXROAD LESS STOP. MORE GO. © 2021 INDOT

2

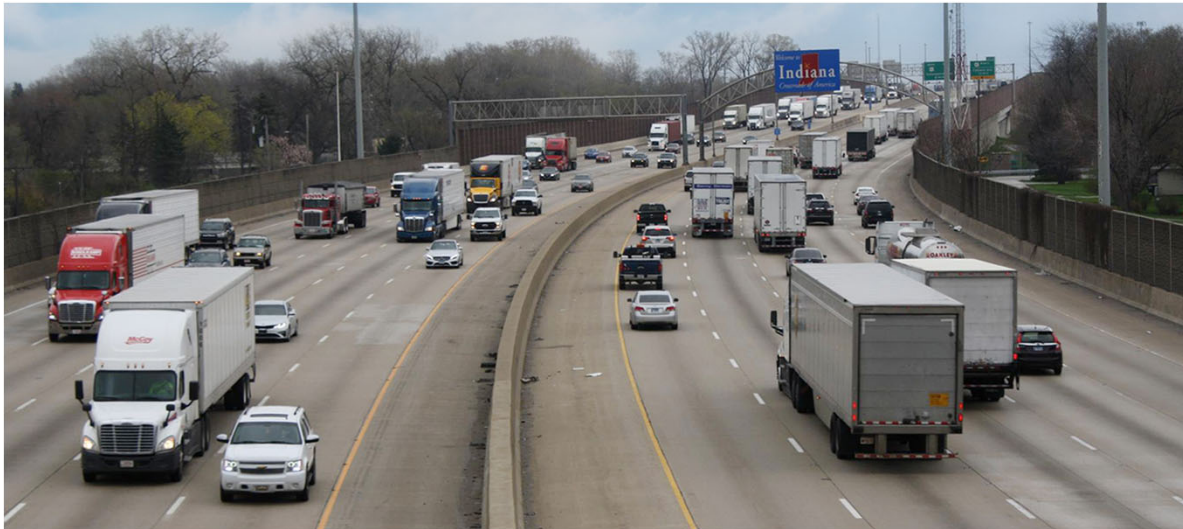
The Borman Expressway

IL 394 to I-65



3

The Borman Expressway



4

The Borman Expressway



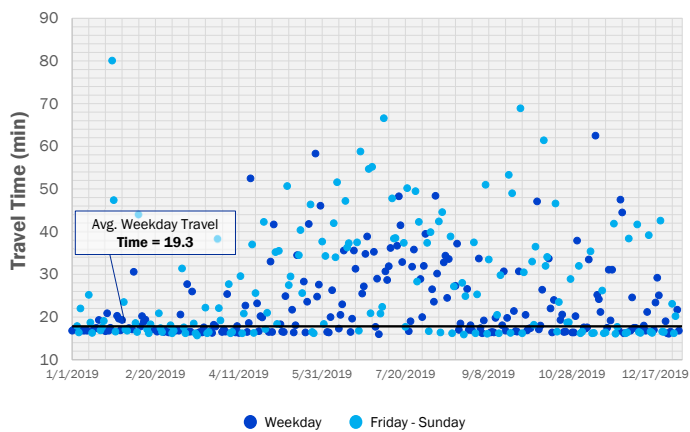
Photo: Northwest Indiana Times

5

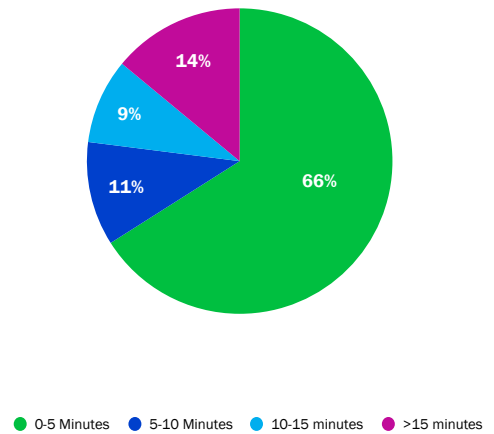
Current Conditions

Traffic – Corridor Travel Times

Travel Times – Westbound – PM Peak Period

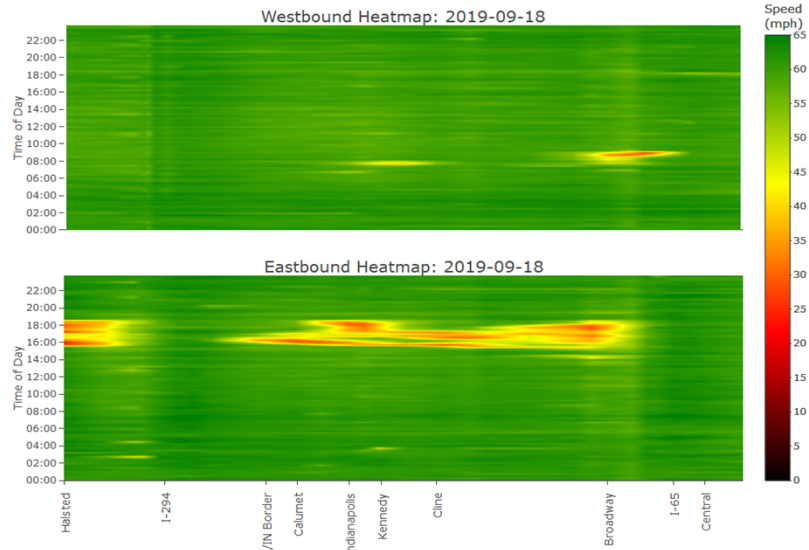


Delay for Weekdays



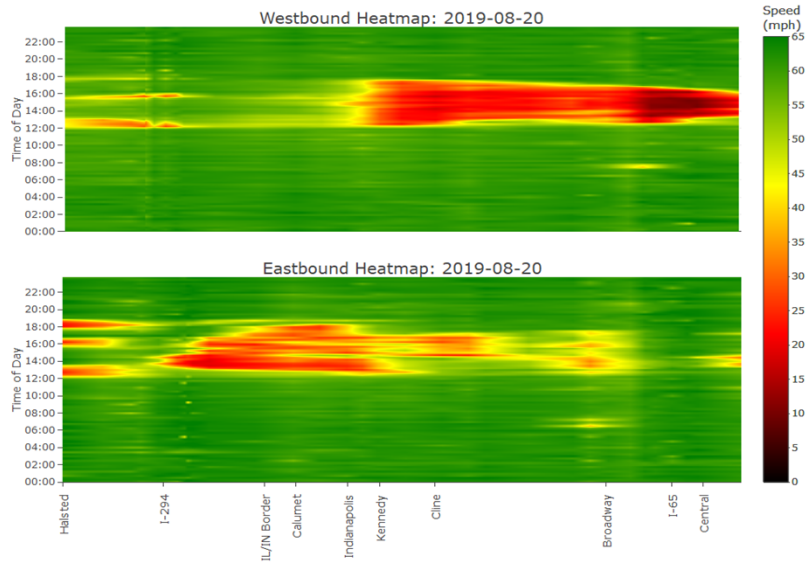
6

Current Conditions
Traffic – Typical Weekday



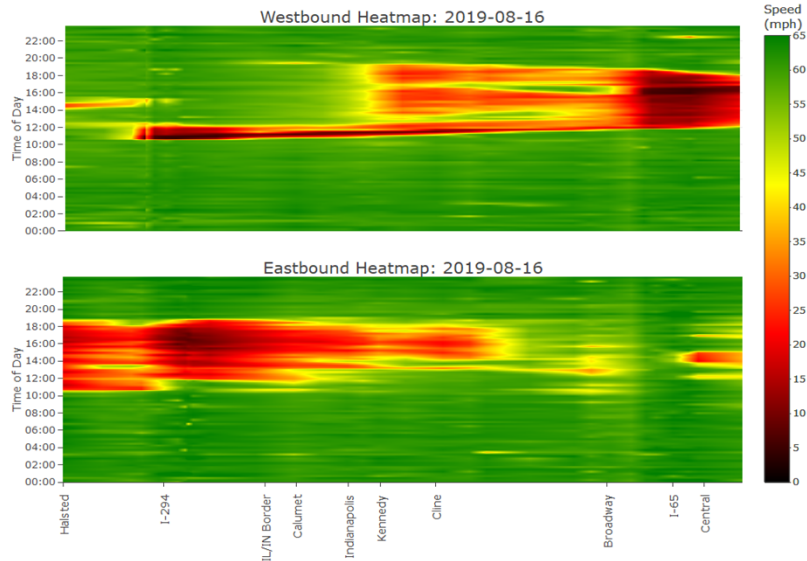
7

Current Conditions
Traffic – Weekday Incident



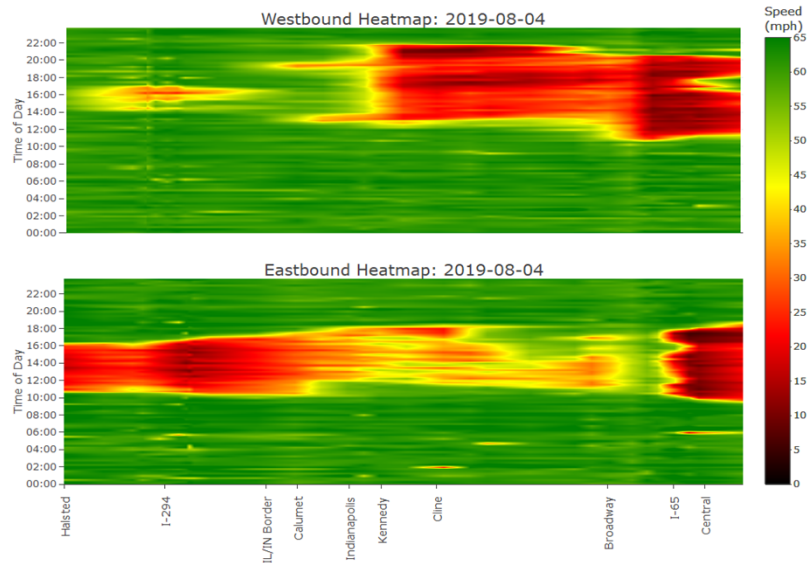
8

Current Conditions
Traffic – Typical Friday



9

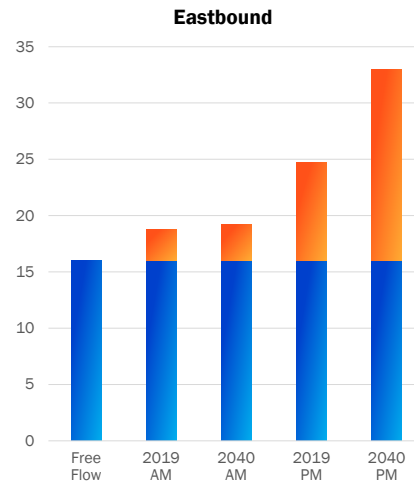
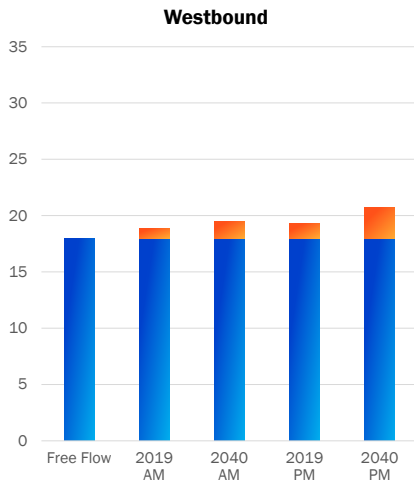
Current Conditions
Traffic – Typical Sunday



10

Current Conditions

Traffic – Corridor Travel Times & Delay



11

Upcoming Traffic Analysis

Evaluation of TSMO Strategies

- Weekday and weekend conditions
- Lane-by-lane evaluation
- Various “packages” of strategies
- Effects on local street network
- Simulate incidents (e.g., crashes) to observe response

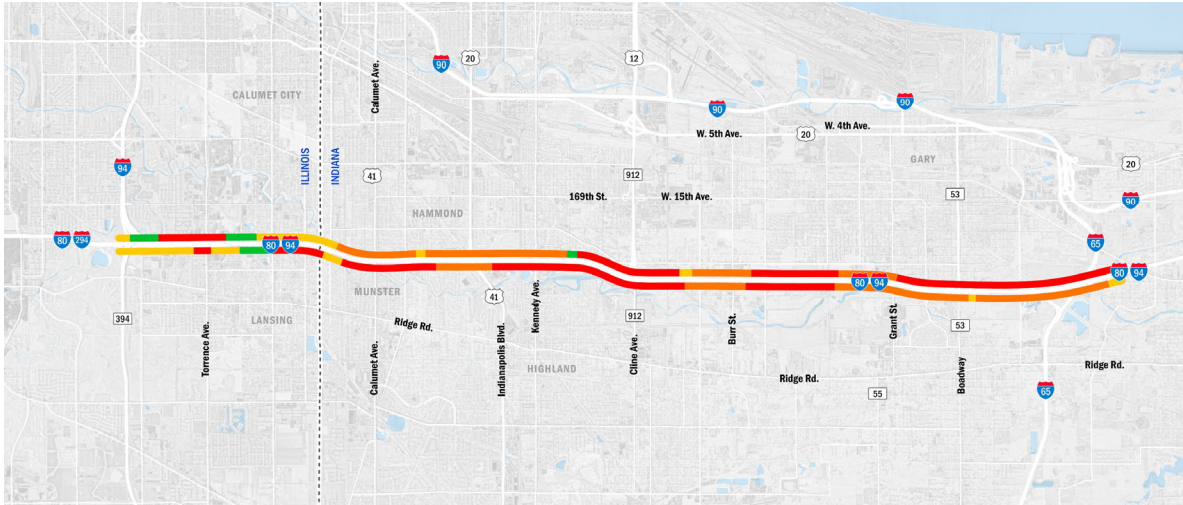


12

Current Conditions

Safety

- Crash Frequency Below Statewide Average
- Crash Frequency not High, but High Severity Location
- Crash Frequency Above Statewide Average
- High Crash Frequency Location



13

Preliminary Purpose and Need

- Congestion
 - Peak periods, including weekends
 - Minimize impact of incidents
- Safety
 - Reduce crash rates in the corridor



QUESTION #1

What do you think are the biggest problems in the corridor?

- What?
- Where?
- When?

Ways to Comment:

- Comment Form
- Map Board
- Website

14

Increasing Efficiency Without Adding Pavement

More Lanes is Not the Answer for the Borman



15

FlexRoad

A New Approach at INDOT

- Strategic Approach
- Congested Urban Corridors
- First Comprehensive TSMO Study

FLEXROAD LESS STOP, MORE GO

16

TSMO in 80/94 Corridor

High Level Assessment

Stakeholder Outreach

- DOT operations teams
- DOT maintenance staff
- DOT traffic engineering
- State Police
- Incident responders

Information Gathered

- Operational policies and procedures
- Existing systems
- Existing roadway conditions
- Traffic and incident data

Short Listed Strategies

- Dynamic Shoulder Lanes
- Lane Control
- Variable Speed Limits
- Ramp Metering
- Queue Warning
- Work Zone Management
- “Behind the Scenes” strategies

17

What is TSMO?

Transportation Systems Management and Operations

- TSMO is a set of strategies that focus on operational improvement
- Get the most out of the existing transportation facilities.
- Real-Time Monitoring and Response
- Flexibility: Demand-Responsive Roadways



18

TSMO in the Region

TSMO Strategies in Operation Today

- Illinois Tollway – I-90
 - Bus on Shoulder
 - Dynamic Shoulder Lane
 - Lane Control
- Chicago Area (IDOT)
 - Ramp Metering
- Indiana Toll Road
 - Queue Warning
 - Variable Speed Limits
- US 23 (Michigan)
 - Dynamic Shoulder Lane
 - Lane Control
 - Queue Warning
 - Variable Speed Limits



19

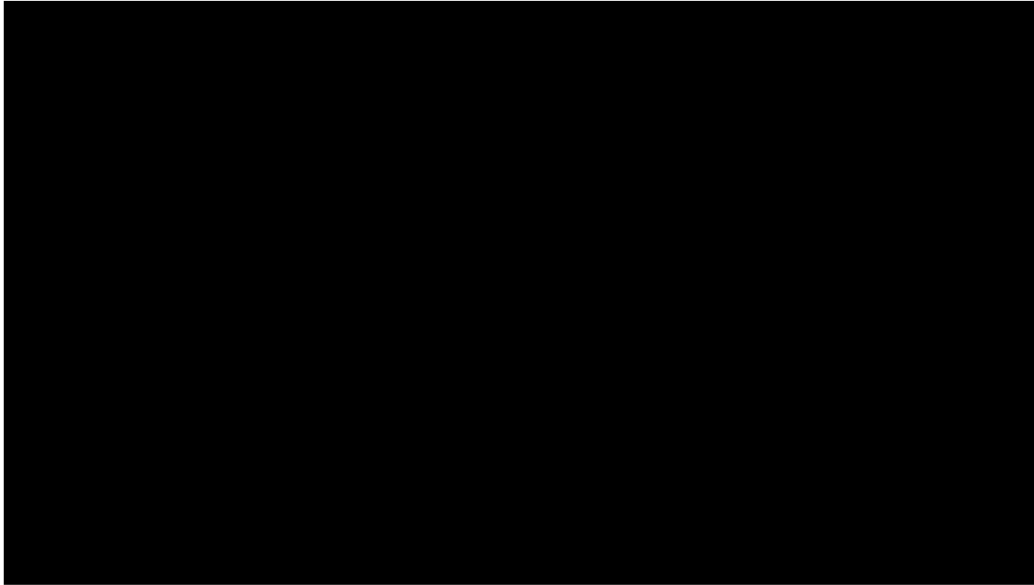
Dynamic Shoulder Lane/Hard Shoulder Running

- Temporary use of shoulders
- Location
 - Inside shoulder
 - Outside shoulder
- Use Conditions
 - Peak periods
 - Demand response
 - Incident response
- Considerations
 - Physical obstructions (e.g., bridges)
 - Shoulder debris/snow
 - Drainage



20

Dynamic Shoulder Lane/Hard Shoulder Running



21

Variable Speed Limits

- Temporary reduction in speed limit
 - Congestion
 - Incidents
 - Work Zones
 - Weather
- Speed harmonization
- Dynamic monitoring and adjustment
- Advance signing and gantry spacing



22

Queue Warning

- Avoid secondary incidents
- Real-time monitoring of speeds
- Detect issues
- Dynamic Message Signs (DMS)



23

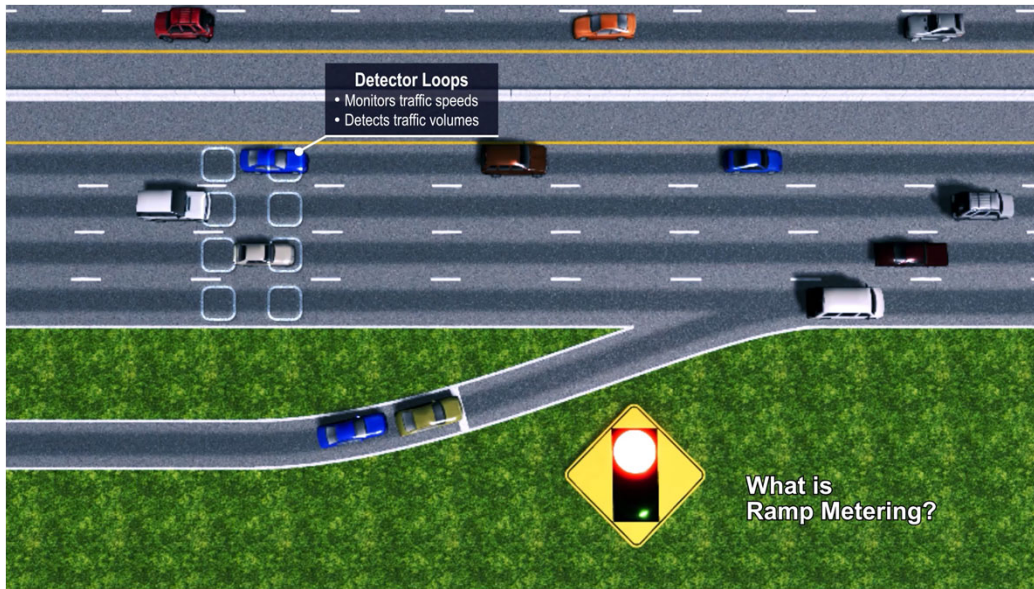
Ramp Metering

- Control rate of flow of entering vehicles
- Sensors monitor traffic on both highway and ramps
 - Trigger metering system
 - Select appropriate flow rate
 - Prevent impacts to local streets
- Single lane and multiple lane



24

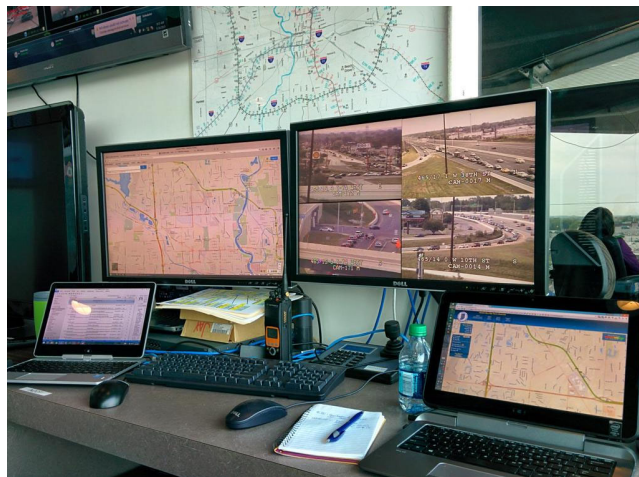
Ramp Metering



25

Behind the Scenes Strategies

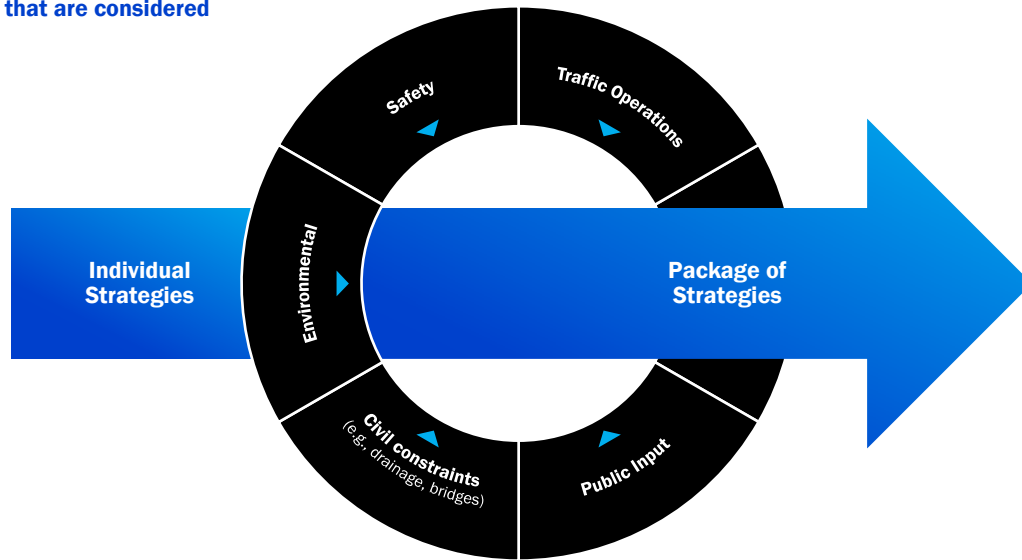
- Improved incident management
 - Incident detection
 - Automated responses
 - Improved coordination between agencies
 - Quick Clearance



26

Identifying an Integrated Solution

Factors that are considered



27

Initial Strategies Summary

- Dynamic Shoulder Lanes/Hard Shoulder Running
- Variable Speed Limits
- Ramp Metering
- Queue Warning
- Work Zone Management
- Behind the Scenes Strategies



QUESTION #2

What do you like/dislike about the strategies?

Are there other strategies that you think we should be considering?

Ways to Comment:

- Comment Form
- Website

28

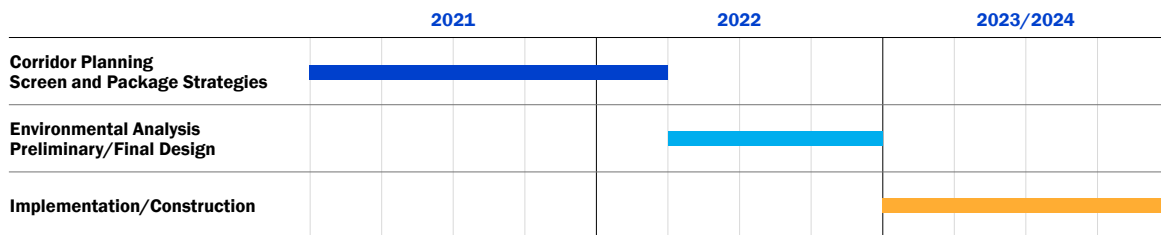
Study Process and Schedule

Planning & Environment Linkages (PEL) Process



PEL products that will be carried into NEPA:

- Draft Purpose and Need
- High Level Environmental Evaluation
- Agency Coordination
- Public Outreach
- Alternatives Screening

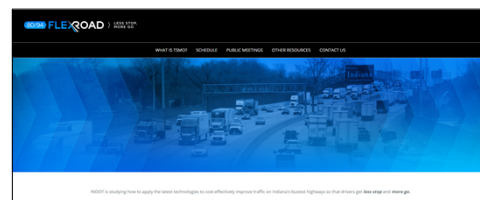


29

How Can You Get Involved

Your Feedback Makes the Study Better

- Learn
 - Tonight
 - Project Website: www.indianaflexroad.com
- Provide Feedback
 - Purpose and Need
 - Strategies
- Stay Up To Date
 - Sign up for email updates
- Share With Others
 - Friends, neighbors, organizations



30

80/94 FlexRoad Outreach Program

Continued Engagement Throughout the Study

- Public Meetings
 - More meetings this Fall
 - Throughout the project development process
- Community Advisory Committee
 - Local government
 - Environmental justice organizations
 - Community Organizations
- Resource Agency Committee
 - State/Federal environmental agencies
- Transportation Organizations
 - Transportation Agencies
 - Metropolitan Planning Organization
 - Law Enforcement



QUESTION #3

What groups or organizations should we be reaching out to?

How can we spread the word effectively?

Ways to Comment:

- Comment Form
- Website
- Email

31

THANK YOU

www.indianaflexroad.com

FLEXROAD
LESS STOP. MORE GO.

32