MEETING SUMMARY

I-80/I-94 Traffic Systems Management and Operations (TSMO) Study Community Advisory Committee (CAC) Meeting Summary

Des. No. 1901643

April 30, 2021, 2:00 PM, Microsoft Teams

ATTENDANTS

Name	Organization	Email
Vanessa James	City of Gary	vjames@gary.gov
Mark Knesek	Town of Highland	mknesek@highland.in.gov
Scott Weber	NIRPC	sweber@nirpc.org
Stephen Cox	IN DHS	scox@dhs.in.gov
Kari Carmany-George	FHWA	k.carmanygeorge@dot.gov
Amber Thomas	INDOT	athomas2@indot.in.gov
Jim Poturalski	INDOT	jpoturalski@indot.in.gov
Laura Hilden	INDOT	lhilden@indot.in.gov
Alex Lee	Parsons	alexander.lee@parsons.com
Dan Prevost	Parsons	daniel.prevost@parsons.com
Joseph Brahm	Parsons	joseph.brahm@parsons.com
Junell O'Donnell	Parsons	junell.odonnell@parsons.com
Keaton Veldkamp	Parsons	keaton.veldkamp@parsons.com

MEETING SUMMARY

Presentation

Welcome and introductions – Amber Thomas, INDOT Project Manager, introduced herself. Dan Prevost, Parsons Environmental and Public Involvement Lead facilitated self-introductions of all attendees.

Junell O'Donnell, Parsons Project Manager, gave an overview of the project setting and schedule.

- One of the first Planning and Environment Linkages (PEL) Studies and Traffic Systems Management & Operations (TSMO) projects in Indiana
- The PEL Study and evaluation of TMSO strategies will largely be completed in 2021. NEPA and final design would occur in 2022-2023 with construction planned for 2024.
- This is a tight corridor, with complicated ramp geometry, the study is not looking to expand the roadway

Dan Prevost explained the role of the CAC and who are included in the group

- There is also a Resource Agency Committee (RAC) as well and explained its role

- The PEL process brings stakeholders into the earliest phase of the planning process and streamlines the overall project development process
- Needs for the project are recurring congestion and the number of crashes in the corridor
- Logical Termini explained – where does the project logically stop?
    - Where are the congestion and safety issues along this corridor?
    - Proposed project limits are from IL 394 in Illinois to I-65 in Indiana

Joseph Brahm, Parsons TMSO Manager, explained what TSMO is

- Overview of common TSMO strategies was explained
- Over 30 interviews were performed to learn about the corridor and develop strategies
    - Key strategies from the interviews were explained
- The project schedule overview was explained
    - End of April – high level overview will be submitted

Dan Prevost explained the remainder of the schedule

- Public involvement will be in three phases during the PEL process; will meet with the CAC during each phase, public meetings during the 2nd and 3rd phases.
- Environmental investigations have begun, including the Red Flag Investigation, noise barrier inventory, and identification of Environmental Justice (EJ) populations
- A Noise Barrier Inventory was taken to determine what noise barriers already exist
    - A qualitative analysis will be completed during the PEL process as different TSMO strategies have different noise and cost implications. Helps identify potential impacts as the project moves forward.
- Dan asked for input from the attendees in their areas of specialization
    - Help identify sensitive resources in the area, groups, neighborhoods that should be targeted for outreach

Questions

Dan Prevost opened the presentation up for questions regarding the project. Responses given by Dan Prevost, Junell O'Donnell, and Joseph Brahm.

Question: Steve Cox (Indiana Department of Homeland Security) asked about whether the project design has taken into consideration emergency service routes and whether EMS personnel were interviewed.

Response: Dan explained that Traffic Management plans will be discussed later down the road during NEPA and design phases.

- Joseph Brahm said that he participated in a coordinating meeting where potential EMS systems were discussed and addressed for the project (post construction). More cameras will probably be installed as a result of the TSMO solutions selected which can lead to a better understanding of current traffic conditions and routes for EMS personnel.
- Junell asked that if Steve knows any EMS personnel that would have concerns/input, please let them know about the project and the CAC so their thoughts can be used during the design phase
- Steve will bring this to the attention of the regional EMS meeting in May

Question: Scott Weber (Northwestern Indiana Regional Planning Commission) asked about the fidelity of the heatmaps (shown during the presentation) and whether they alone can be used for lane by lane analysis and justification of the project.

Response: Dan explained that the heatmaps in the presentation are just a small example from the whole data set and only used for basic reference during the presentation.

- Joseph explained that there is more modeling going on and other methods of analysis of the corridor being used for justification
- Junell offered to put Scott in contact with Ken Curry (Traffic Modeling Manager, Parson) if he had more specific questions

Question: Scott Weber asked if there are potential solutions under consideration to alert motorists what corridor to use during travel.

Response: Joseph explained that coordination with the Indiana Department of Transportation (INDOT) and Illinois Department of Transportation (IDOT) is going on so they can utilize their knowledge and technology to help alert motorists based on the systems needs

Dan Prevost introduced the FlexRoad brand which will be used for this project and other INDOT projects in the near future.

Concluding statements were made, including further requests for feedback, identifying people and groups who should be a part of the CAC, and reiterating the project team will remain available for any questions or concerns.

The above summary represents our recollection of the pertinent discussion points, decisions, and action items from the meeting. Please contact the preparer, Keaton Veldkamp, at Keaton.veldkamp@parsons.com, within three days from your receipt of this document if you wish to make any additions or corrections. If revisions are made, the updated summary will be re-sent to all the attendants. Otherwise, this summary shall stand as the official record of the meeting.

MEETING SUMMARY

I-80/I-94 Traffic Systems Management and Operations (TSMO) Study Community Advisory Committee (CAC) Meeting Summary

Des. No. 1901643

May 26, 2021, 10:00 AM, Microsoft Teams

ATTENDANTS

Name	Organization	Email
Joey DeLeon	City of Gary Schools	jdeleon@garycsc.k12.in.us
Jesse Elam	Cook County Highway	jesse.elam@cookcountyil.gov
Stella Simpson	Urban League NW Indiana	ssimpson@ulofnwi.org
Joe Alamillo	Hammond Hispanic CC	joe@nspconsulting.com
Rev. Octavious Wilson	Israel Metropolitan Church, Gary	Isrealcme.garyin@gmail.com
Kari Carmany-George	FHWA	k.carmanygeorge@dot.gov
Amber Thomas	INDOT	athomas2@indot.in.gov
Junell O'Donnell	Parsons	junell.odonnell@parsons.com
Dan Prevost	Parsons	daniel.prevost@parsons.com
Alex Lee	Parsons	alexander.lee@parsons.com

MEETING SUMMARY

Presentation

Welcome and introductions – Dan Prevost, Parsons Environmental and Public Involvement Lead facilitated self-introductions of all attendees. Amber Thomas, INDOT Project Manager, introduced herself.

Junell O'Donnell, Parsons Project Manager, gave an overview of the project setting and schedule.

- One of the first Planning and Environment Linkages (PEL) Studies and Traffic Systems Management & Operations (TSMO) projects in Indiana
- The PEL Study and evaluation of TMSO strategies will largely be completed in 2021. NEPA and final design would occur in 2022-2023 with construction planned for 2024.
- This is a tight corridor, with complicated ramp geometry, the study is not looking to expand the roadway

Comment: Joe Alamillo- Hammond Hispanic Community Committee stated that he got back from Denver; I-70 is under construction; they have a great outreach and website. Dan: noted, Parsons was involved in one of the I-70 segments; project team will take a look.

Dan Prevost explained the role of the CAC and who are included in the group

- There is also a Resource Agency Committee (RAC) as well and explained its role

- The PEL and NEPA process brings stakeholders into the earliest phase of the planning process and streamlines the overall project development process

Joe Alamillo-asked if this project is part of the Fixing America's Surface Transportation Act (FAST) Act which ended in 2020. Dan stated that we are currently not in the NEPA phase. Kari Carmany-George, FHWA stated that there is currently no new bill, the current FAST Act has been extended by a year.

- Needs for the project are recurring congestion and the number of crashes in the corridor
- Logical Termini explained – where does the project logically stop; limits of the study
    - Intersecting roadways and adjacent areas that could affect the roadway
    - Proposed project limits are from IL 394 in Illinois to I-65 in Indiana

Dan, explained what TSMO is

- Overview of common TSMO strategies was explained, strategies to improve the operations of the corridor.
    - Managing what you have. Look at efficiencies within the existing roadway
    - Improve the safety of the corridor, smoother traffic flow
- Explained the potential TSMO strategies
    - Performed interviews with operations, traffic and maintenance staff, 20+ interviews to date
    - Hard shoulder running, ramp metering, lane control, and managed lanes
- TSMO will be an integrated set of strategies, IDOT and INDOT traffic operation centers

Jesse Elam-Cook County Highway, can you discuss more about the Traffic Management Centers (TMC) for INDOT, expand upon. Junell, discuss the TMC in Gary and the coordination with them; interviewed the key folks within the TMC. Ed Cox/INDOT is the central person within INDOT Central Office.

Jesse Elam- Can you let me know, what level of analysis will you be doing with these different strategies; you can go down a rabbit hole. Junell stated that there are so many puzzle pieces, developing and analyzing these strategies. Looking at a cluster analysis, whittle down the list that makes sense in the corridor. With the simulations, we will look at what limitations within the corridor. Dan stated, we are looking at a closer design year, future traffic model for 2040.

Jesse Elam- Pricing as a strategy. Dan-we are not looking at a toll base solution or a high occupancy toll (HOT Lanes) at this point in the corridor. Junell- we are not looking at tolling solutions at this point.

Joe Alamillo- Who makes/made that determination? Dan-policy decision at this point. Amber Thomas/INDOT, stated this decision was made at INDOT/Central Office in Indianapolis.

Joey DeLeon- City of Gary Schools, How does the new INDOT CARS and with TrafficWise going away affect what is the study going with, in terms of the integration with the TMCs. Junell-aware that TrafficWise is going away; we are in the process of getting data from multiple sources. How CARS will be implemented and if the study will be utilizing CARS; we can follow up with you.

Internet of Things (IOT), trucks reporting with real-time data and are we working with them, report real time data. Is the project tying into IOT. Following up with Joey on this.

- The project schedule overview was explained
    - End of April – high level overview will be submitted

Dan Prevost explained the remainder of the schedule (study introduction this spring)

- Public involvement will be in three phases during the PEL process; will meet with the CAC during each phase, public meetings during the 2nd and 3rd phases.

- Environmental investigations have begun, including the Red Flag Investigation, noise barrier inventory, and identification of Environmental Justice (EJ) populations; detailed EJ populations, identify populations, currently in process but we want the CAC members to help us.
- Dan asked for input from the attendees in their areas of specialization. Help identify sensitive resources in the area, groups, neighborhoods that should be targeted for outreach

Dan revealed the new INDOT brand- 80/94 FLEXROAD. See that logo as we move forward on materials and the upcoming project website.

Questions

Dan Prevost opened the presentation up for questions regarding the project. Responses given by Dan Prevost, Junell O'Donnell

Question: Joe Alamillo- Some acronyms that we did not elaborate on. Glossary of acronyms.

Response: Dan Prevost-future presentations, potentially posting on website.

Question: Joey DeLeon-Follow up, am I on the list now; forward to him from his boss.

Response: Alex Lee/Parsons, stated that Joey was added to the list.

Dan stated that the CAC, intent is identifying people and groups who should be a part of the CAC, and to get the word out within your networks as we move forward later this summer with the public meeting.

The above summary represents our recollection of the pertinent discussion points, decisions, and action items from the meeting. Please contact the preparer, Alex Lee, at Alexander.Lee@parsons.com, within three days from your receipt of this document if you wish to make any additions or corrections. If revisions are made, the updated summary will be re-sent to all the attendants. Otherwise, this summary shall stand as the official record of the meeting.

I-80/I-94 TSMO Study

Community Advisory Committee (CAC) Meeting

April 30, 2021

NextLevel INDIANA

1

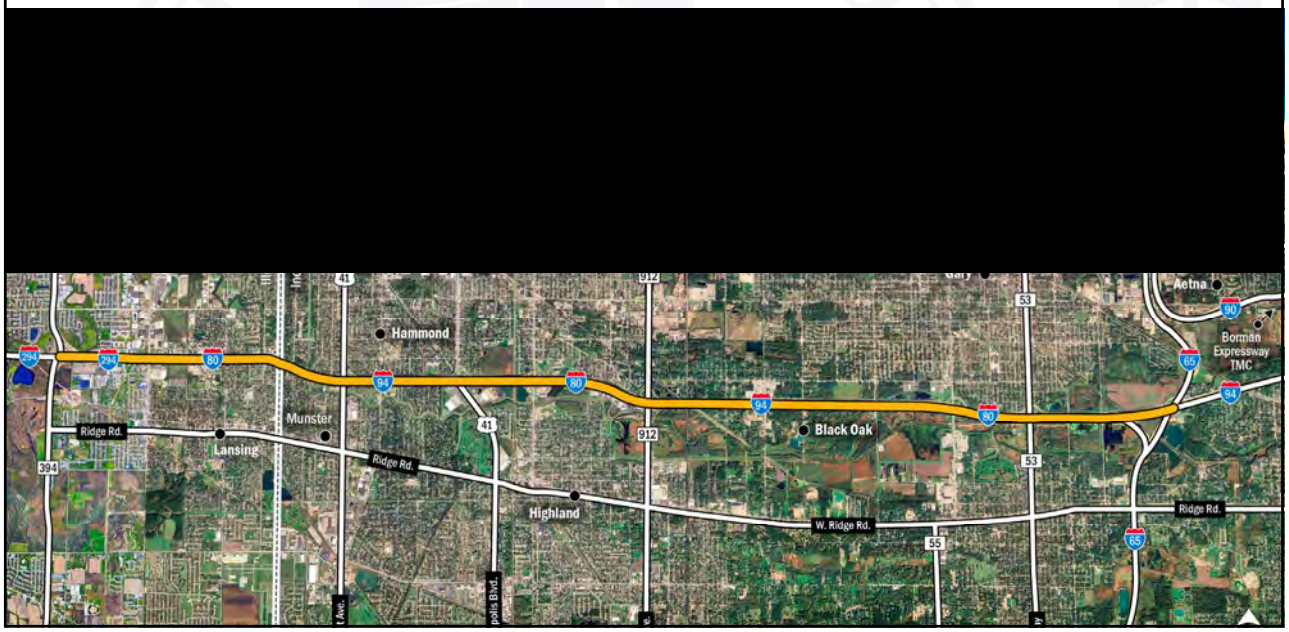
Welcome

- Introduction of Project Team
- Group Introductions

NextLevel INDIANA

2

Project Location – I-80/94 - Indiana / Illinois



3

Project Scope/Schedule

Indiana's First Transportation System Management and Operations (TSMO) Study

Project Initiation	Tier 1 PEL Study	Tier 2 NEPA & Final Design	Construction
	2021	2022/2023	2024

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4

CAC Members

- Transit
- Businesses
- Emergency services
- Schools
- Community Organizations
- Elected & Local officials
- Northwest Indiana Regional Planning Commission and Chicago Metropolitan Agency for Planning
- Indiana and Illinois Departments of Transportation
- Federal Highway Administration, Indiana and Illinois Divisions

5

Role of the CAC

- Provide input at earliest phase of the process
- Serves as a sounding board for study information and choices
- Serves as link to community, sharing project information
- Facilitates collaborative problem solving, discussion of specific issues

6

Benefits of the CAC

- Consistent communication and feedback
- Better understanding of stakeholder issues
- Detailed discussion of key issues
- Opportunity to hear differing perspectives
- Promote collaborative problem solving
- Build understanding and support throughout the study

7

What is Planning and Environment Linkages (PEL)

PEL is a study process that is used to identify transportation issues, along with environmental concerns, in a corridor. PEL studies can be used to make planning decisions and for planning analysis.

Benefits of PEL Studies:

- Enables agencies to be more effective players in the transportation decision-making process
- Improves efficiencies by minimizing potential duplication of planning and NEPA processes
- With coordination with resource agencies and the public, transportation agencies are able to design transportation programs and projects that serve the community's transportation needs more effectively

8

PEL and NEPA

PEL Process
- Develop Purpose & Need
- Identify environmental resources and issues
- Alternative development and screening
- Scope/funding uncertain

NEPA Process
- Finalize Purpose & Need
- Detailed Environmental Surveys
- Assess environmental impacts
- Satisfy all regulatory requirements (Section 106, Section 7, etc.)
- Determine scope and funding

9

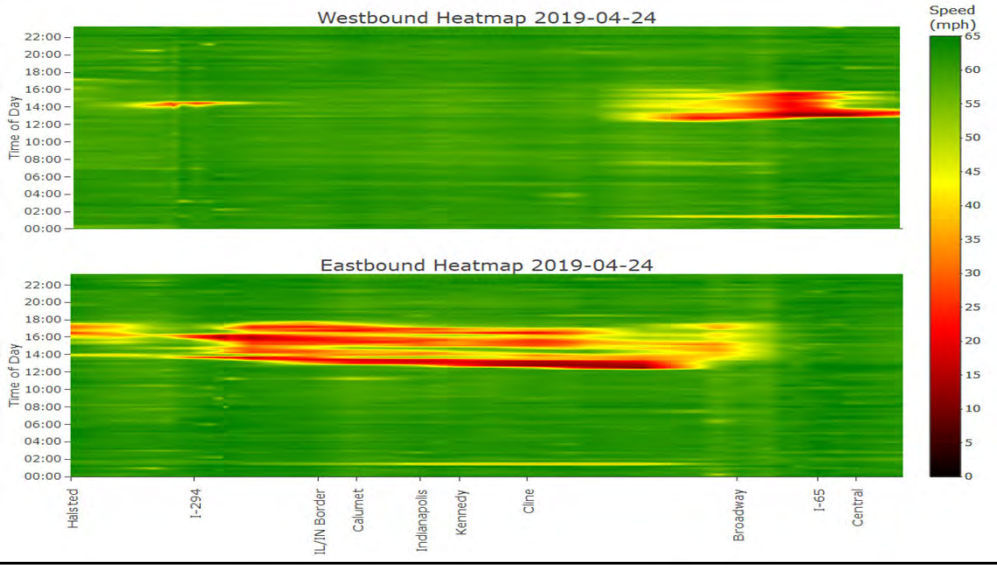
Reasons for the Project (Needs)

- Congestion – recurring peak hour/weekend congestion
  - Improve traffic operations
  - Ease the ability to carry out maintenance of the facility
- Safety – 4,075 crashes occurred between 2017 and 2019. The primary types are rear end and same direction sideswipe approximately 75%.
  - Capacity, merging, and weaving movements likely contribute to the safety issues
  - Approximately 38% of collisions involve trucks; whereas truck form 20-25% of the traffic stream

10

Congestion

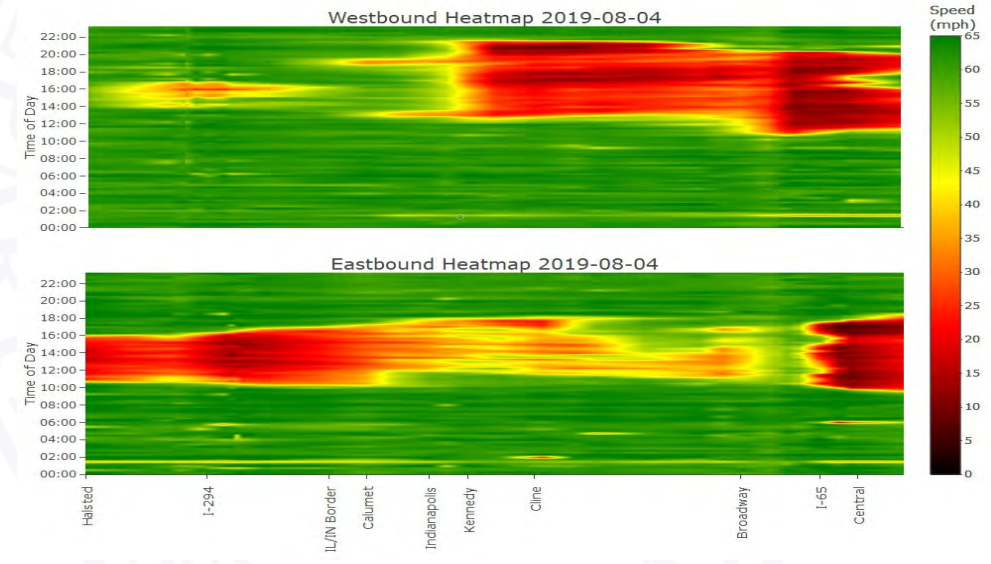
Average Travel Speeds – Wednesday April 24, 2019



11

Congestion

Average Travel Speeds – Sunday August 8, 2019



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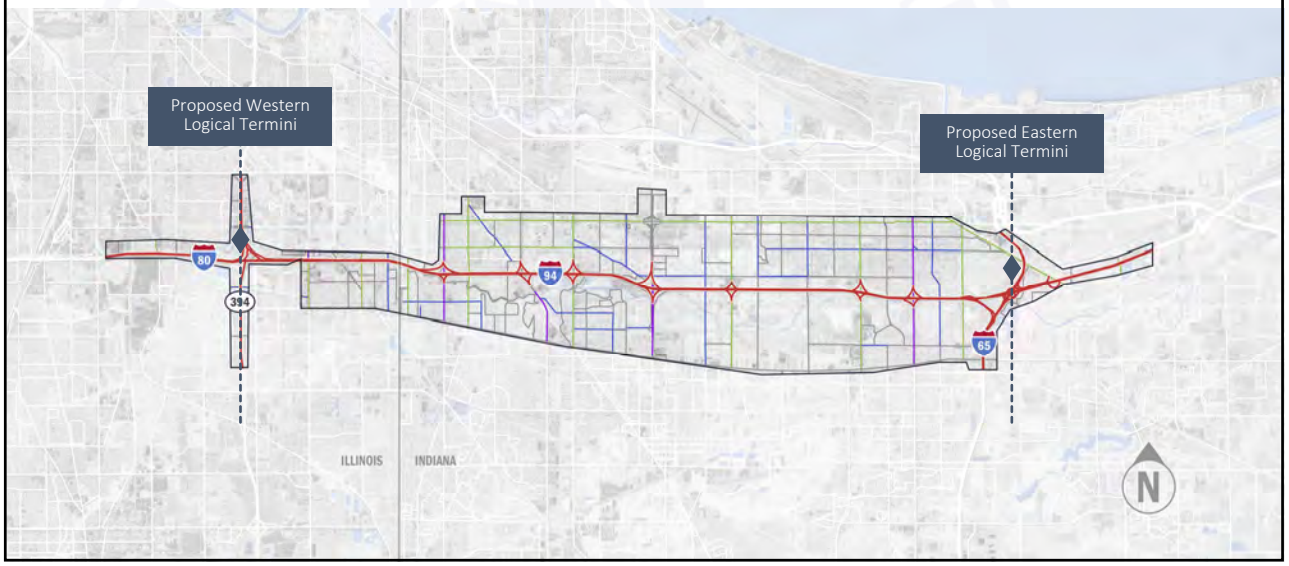
Proposed Logical Termini



13

What is TSMO

Transportation Systems Management and Operations (TSMO) is a set of strategies that focus on operational improvements that can maintain the performance of the existing transportation system.

- TSMO helps agencies provide flexible solutions that can adapt to changing traffic conditions

Benefits to TSMO can include:

- Optimize efficiency of the existing roadway
- Smoother and more reliable traffic flow
- Improved safety
- Less wasted fuel and cleaner air
- More efficient use of resources (funding and facilities)

NextLevel INDIANA

14

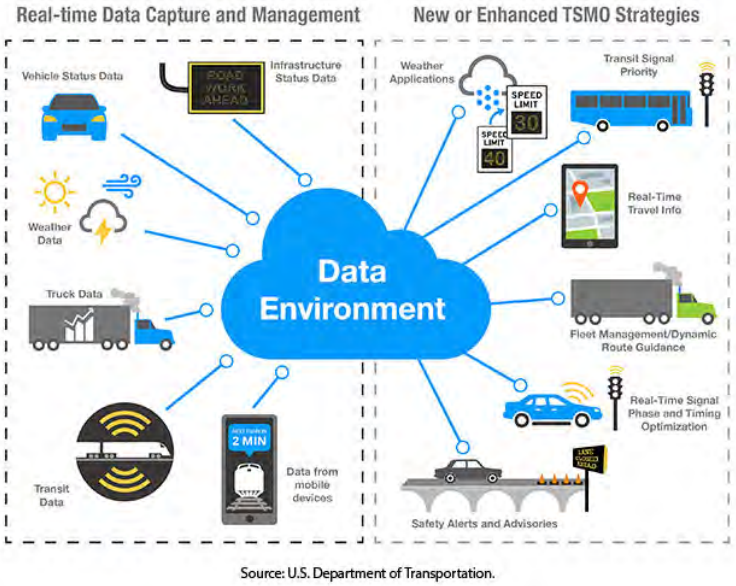
Potential TSMO strategies

- Reviewing all reasonably applicable TSMO strategies
- Performing interviews with operations, traffic and maintenance staff
  - Ensure we understand all the regional issues, priorities and considerations
  - Mostly through these interviews
- TSMO Strategy highlights from initial interviews
  - Hard Shoulder Running (HSR)
  - Variable Speed Limits (VSL)
  - Queue warning
  - Ramp metering
  - Lane control
  - Managed/special purpose lanes
  - Many other ITS or operational strategies / Improvements
  - Changeable lane assignment
  - Freeway/arterial Integrated Corridor Management (ICM)

15

Integrated Set of Strategies

- TSMO typically deployed as set of strategies
- Integration can happen on multiple levels:
  - System
  - Operational
  - Institutional
  - Technical



Source: U.S. Department of Transportation.

16

Schedule

17

Public Involvement Phases

	Phase Description
Spring 2021 Study Introduction/ Scoping	Collect information from the public, agencies and other stakeholders regarding: • transportation issues in the corridor (e.g., recurring congestion, safety concerns, etc.) • proposed study limits, and • assessment of impacts that may result from the alternatives.
Summer 2021 Purpose and Need/Alternatives Development	Collect feedback on: • draft purpose and need • long list of alternatives.
Summer/Fall 2021 Alternatives Screening/PEL Study	Provide stakeholders with: • results of the alternatives screening process and impact evaluations • overview of the findings and outcomes of the PEL Study.

18

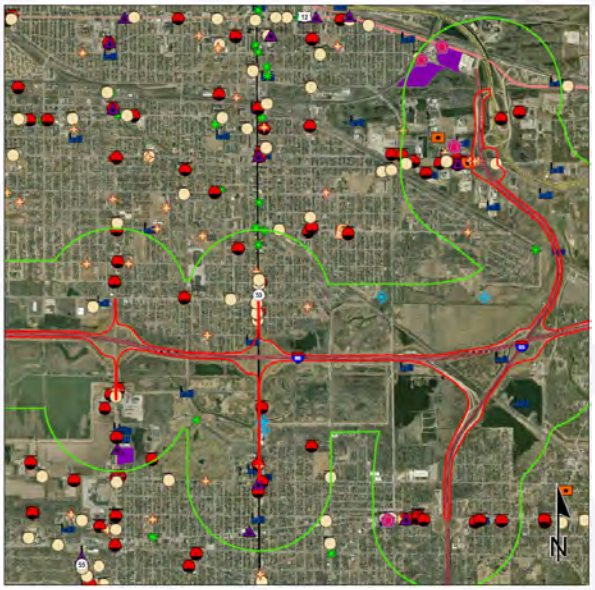
Environmental Analysis during PEL

- Red Flag Investigation/Environmental Survey Request
  - Limited potential for impacts outside of right-of-way
  - Wetland/Stream/Floodplain impacts unlikely
- Noise Barrier Inventory/Qualitative Evaluation
- Environmental Justice Analysis
- Public Involvement including Community Advisory Committee and Resource Agency Committee
- PEL Study Report

19

Red Flag Investigation

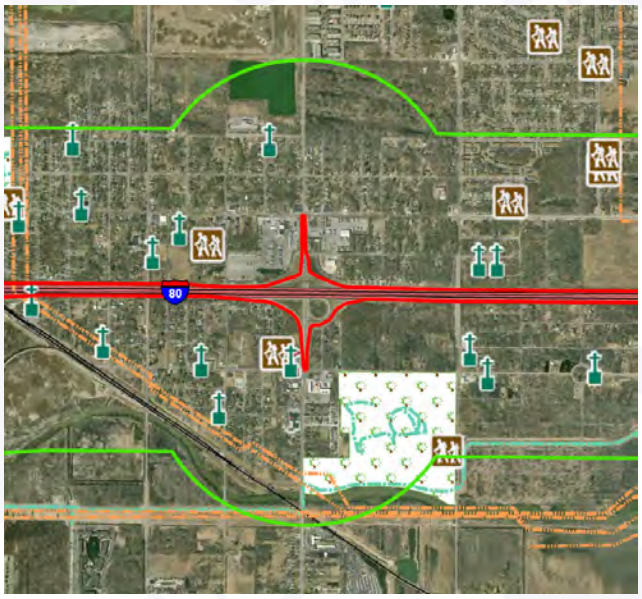
- Religious Facilities
- Airports
- Cemeteries
- Schools
- Recreational Facilities
- Pipelines
- Railroads
- Trails
- Wetlands/Streams/Floodplains
- Contaminated Materials Sites



20

Red Flag Investigation – How It's Used

- Avoid or reduce impacts to sensitive resources
- Reduce risk to the States
- Identify stakeholders



21

Noise Barrier Inventory

- Data collection
  - INDOT and IDOT records
  - Windshield survey
- FHWA views dynamic shoulder lanes as added capacity – requires noise impact evaluation
- Qualitative only during PEL phase

22

Environmental Justice

- Executive Order 12898: Directs federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations
- Identify EJ Populations – in process
- Assess potential impacts

23

Your Input

- Corridor Needs
- Project Limits/Logical Termini
- Sensitive resources in the area
- Groups/neighborhoods that should be targeted for additional outreach

24

Coming Soon: A New INDOT Brand

FLEXROAD

25

Questions & Discussion

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26

Thank You

Project Website: Under development

INDOT Next Level Customer Service

855-INDOT4U (855-463-6848)

www.indot4u.com

indot@indot.in.gov

855 INDOT4U

855-463-6848

Please mention "80/94 TSMO Study" in your comments.

NextLevel INDIANA

27

MEETING SUMMARY

Date: July 28, 2021

Time: 10:00 AM – 11:00 AM CST

Meeting: 80/94 FlexRoad Community Advisory Committee (CAC) Meeting #2 Summary

Location: Best Western Hotel in Hammond, Indiana and Microsoft Teams

Name	Organization	Email
Vanessa James	City of Gary	vjames@gary.gov
Joe Horn	City of Hammond	jhorn@hammond.k12.in.us
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Jesse Elam	Cook County Transportation and Highways	Jesse.Elam@cookcountyil.gov
Kari Carmany-George	FHWA	k.carmanygeorge@dot.gov
Joe Alamillo	Hammond Hispanic Community Committee	joe@nspconsulting.com
Laura Hilden	INDOT	lhilden@indot.in.gov
Adam Parkhouse	INDOT	aparkhouse@indot.in.gov
Jim Poturalski	INDOT	jpoturalski@indot.in.gov
Freddie Batchelor	NAACP	enterpriseanddestiny@yahoo.com
Rose Joshua	NAACP Chicago Southside Branch	president@naacpcss.org
Scott Weber	NIRPC	Sweber@NIRPC.org
Alex Lee	Parsons	alexander.lee@parsons.com
Dan Prevost	Parsons	daniel.prevost@parsons.com
Joseph Brahm	Parsons	Joseph.brahm@parsons.com
Junell O'Donnell	Parsons	junell.odonnell@parsons.com
Keaton Veldkamp	Parsons	Keaton.veldkamp@parsons.com

Meeting Summary

Welcome and introductions - Dan Prevost, Parsons Environmental and Public Involvement Lead, and Junell O'Donnell, Parsons Project Manager, welcomed the members of the CAC and facilitated self-introductions.

- Dan Prevost covered the study area for the project, 15 miles from IL 394 in Illinois to I-65 in Indiana
    - Why these termini? – Traffic data shows that most issues occur between these two interchanges.

  - The Borman Expressway is an urban interstate that has undergone multiple widenings and reconstructions. Lots of traffic travels through this corridor. ~25-30% of vehicles are trucks.
  - Because of the volume of vehicles and dynamics of the roadway, it does not take much for backups and slow-downs to occur.

- Dan Prevost covered the current conditions of the corridor – travel times
  - Average westbound travel time through the corridor is approximately 20 minutes.
    - Data shows travel times higher than 20 minutes though
    - ~35% of weekday delays are >5 minutes.
  - Dan Prevost explained the traffic speed heat maps for a typical weekday, Friday, and Sunday.
    - Typical weekday shows that evening traffic traveling eastbound is much slower than the morning.
    - One incident can cause far-reaching congestion and backups.
    - Recurrent congestion on Fridays and Sundays associated with people traveling between the Chicago area and northern Indiana and Michigan.
  - The team is evaluating both existing conditions (2019) and future conditions (2040).
- Upcoming Traffic Analysis
  - Evaluation of different traffic systems management and operations (TSMO) strategies is based on data coming from different sources. Some of the data that is being taken into consideration is:
    - Weekday and weekend conditions
    - Lane-by-lane evaluation as different lanes can experience different speeds
    - How does TSMO strategies could affect the local street network
  - TSMO strategies will be evaluated individually and in combination
- Current Conditions – Safety
  - 2017-2019 data used for crash analysis – where are the crashes occurring?
    - How does the actual crash rate compare to the expected?
    - Joe Alamillo, Hammond Hispanic Community Committee, asked how the crash rates on the Borman Expressway compared to other corridors in Indiana?
      - Adam Parkhouse, INDOT LaPorte District Communications Director, mentioned that this is the most traveled corridor in the state.

Dan Prevost introduced the preliminary purpose and need of the project

- Address congestion and safety within the corridor
  - Dan Prevost asked “What do you think are the biggest problems in the corridor?”

- Freddie Batchelor, NAACP, said that when trains cause backups, they cause travelers to try and "make up" that time which causes unsafe conditions. Additionally, she asked how other DOT projects in the area tie-in together. Many projects are adding new train tracks and increasing traffic along the corridor. The more building that occurs leads to more traffic and congestion.
    - Dan Prevost stated that the project team and organizations in the area, like NIRPC, look at future growth models. They base these models on local data, plans, and growth to try and predict how these projects will affect the future.
    - Joe Alamillo stated that these areas are growing substantially. Illinois growth is spreading to northwest Indiana.
    - Junell O'Donnell stated that the project team looks ahead and uses technology to inform corridor users on how they can travel efficiently.

Dan Prevost explained that it's not practical to add more lanes to the Borman Expressway due to the cost and community impacts.

- INDOT is looking to maximize the effectiveness of the corridor through the use of different TSMO strategies.
- FlexRoad – a new approach at INDOT
    - This is the first FlexRoad project. INDOT plans to use FlexRoad as a brand for similar style projects in the future

Joseph Brahm, Parsons TSMO Strategy Lead, introduced himself and his role in the project

- TSMO is not entirely technology. It is a group of strategies that can be used to optimize roadways.
- The project started with a high level assessment to narrow down the most likely applicable strategies for this corridor. Nothing is finalized yet, but some strategies have been shortlisted.
- TSMO deals with real-time monitoring and response. Focus on where the issues are and how can they be dealt with. Flexibility is key.
- Joseph Brahm showed several areas in the Midwest that use TSMO strategies currently.
    - Illinois Tollway, Chicago Area, Indiana Toll Road, and US 23 (Michigan)
- Dynamic Shoulder Lane/Hard Shoulder Running
    - This strategy involves temporary use of the shoulders. There is a likelihood that the inside shoulders would be used within this corridor for peak periods. However, several considerations need to be addressed, physical obstructions, shoulder debris/snow, and drainage.
    - A video was shown about the I-90 corridor in Chicago where hard shoulder running is used.
        - Joe Alamillo said that videos and graphics like these are good to show to the public.

- Variable Speed Limits (VSL)
    - Bulk of accidents on the Borman are rear-end accidents. This can cause secondary accidents as well
    - VSL would be used to step down speed in the area around accidents, increasing safety.
    - This could be used in combination with other strategies.
- Queue Warning
    - Expanding signage and gantries to inform motorists of incidents/advisories in the area.
- Ramp Metering
    - Already introduced in the Chicago area.
    - Controls the rate of flow of entering vehicles into the corridor.
    - End of Queue Detectors used so traffic does not back up onto arterial streets.
- Behind the Scenes Strategies
    - Agencies use Traffic Management Centers to monitor traffic and respond to incidents
    - The project team wants to ensure that these agencies are working together to improve safety and efficiency throughout the area.
    - Agencies are utilizing Intelligent Traffic Systems (ITS) to detect incidents and issue automated responses.

Question #2: What do you like/dislike about the strategies? Are there other strategies that you think we should be considering?

- Freddie Batchelor commented that it appears there could be a gap in coordination between agencies, entities, and departments that have vested interest in transportation. Seems like these strategies need greater coordination for it to work effectively.
    - Joseph Brahm responded that ITS requires greater coordination and communication between entities. Sharing of information between these entities allows for quicker response to incidents and a better understanding of the situation.
    - Dan Prevost reminded the committee that there is coordination between entities now, but there is room for improvement.
- Joe Alamillo asked if the coming transition to electric cars is being taken into consideration. Smarter vehicles, lower environmental impact due to decreased air pollution.
    - Joseph Brahm said that the technology is there with these vehicles, leading to a greater amount of data for a better understanding of how motorists travel. It will be quite some time until connected autonomous vehicles are available, but they can bring about more intelligent travel.
    - Joe Alamillo asked if autonomous cars are being anticipated in roadway design.
        - Joseph Brahm stated that the vehicles should be able to receive information from traffic management systems, but autonomous vehicles are not specifically being planned for.

- Joseph Brahm stated that special purpose lanes are being looked at as a potential strategy, but they do not always operate as well as one would think.
- Adam Parkhouse wants to ensure that the public becomes familiar with these different strategies before they are implemented.
- Joseph Brahm talked about the Minnesota Ramp Metering study where they turned off their ramp meters to show that they do work effectively.

Dan Prevost talked about the study process and schedule of the project

- The process of gathering data, developing the purpose and need, and how it all relates to the overall environmental process.
- Planning and Environmental Linkages (PEL) Study blends the early planning process into NEPA. The public is brought into the process sooner to gather public input as the earliest planning decisions are being made.
- The schedule is hard to define as design/construction is still far away but implementation is planned for 2023/2024.
    - Junell O'Donnell explained that an alternatives analysis study is being developed to show the potential alternatives and their associated impacts.
        - There is potential that a 'No Build' alternative could happen. This scenario will be assessed with the others.
        - Joe Alamillo stated that we should convey to our elected officials that projects like these are important.
        - Adam Parkhouse stated that the public involvement process is crucial. He asked that the participants here could share this project and others with their friends, neighbors, constituents, etc. and bring their feedback to the attention of the project team.

Dan Prevost explained that the public can get involved with this project through a variety of ways.

- Public Meetings
- Project website: www.Indianaflexroad.com
- Provide feedback on the purpose and need and strategies
- Email updates are provided through gov.delivery through the project website

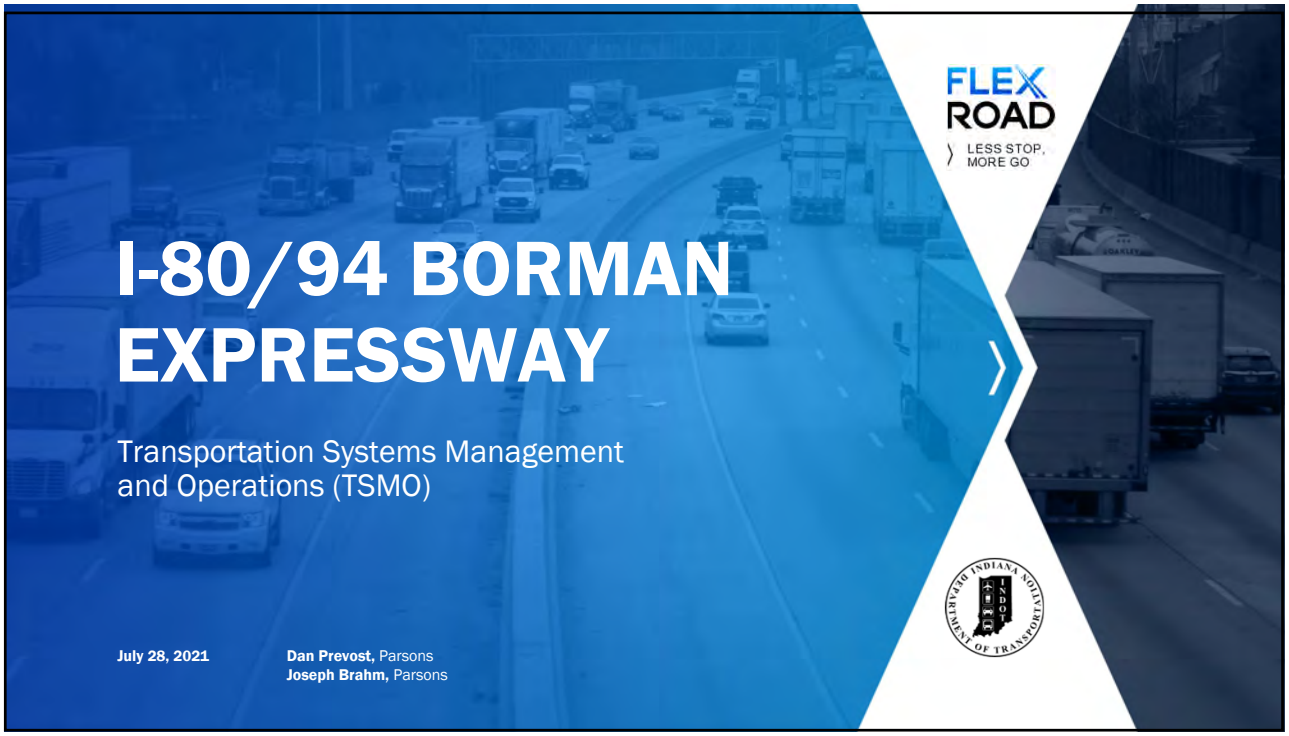
Question #3 What groups or organizations should we be reaching out to?

Vanessa James, City of Gary, asked if the current construction on I-80/94 is related to this project.

- The 80/94 FlexRoad project is not related to the current construction. Any potential construction/implementation would not start until 2023/2024.

Dan Prevost closed out the meeting and thanked everyone for coming

The above summary represents our recollection of the pertinent discussion points, decisions, and action items from the meeting. Please contact the preparer, Keaton Veldkamp, at Keaton.Veldkamp@parsons.com, within three days from your receipt of this document if you wish to make any additions or corrections. If revisions are made, the updated summary will be re-sent to all the attendants. Otherwise, this summary shall stand as the official record of the meeting.



1

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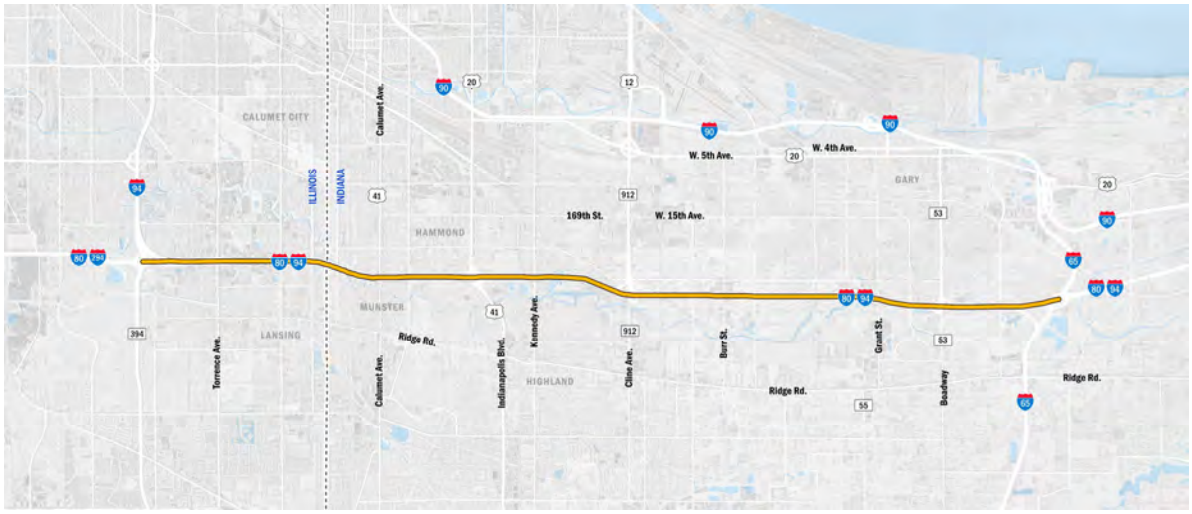
The Borman Expressway

IL 394 to I-65



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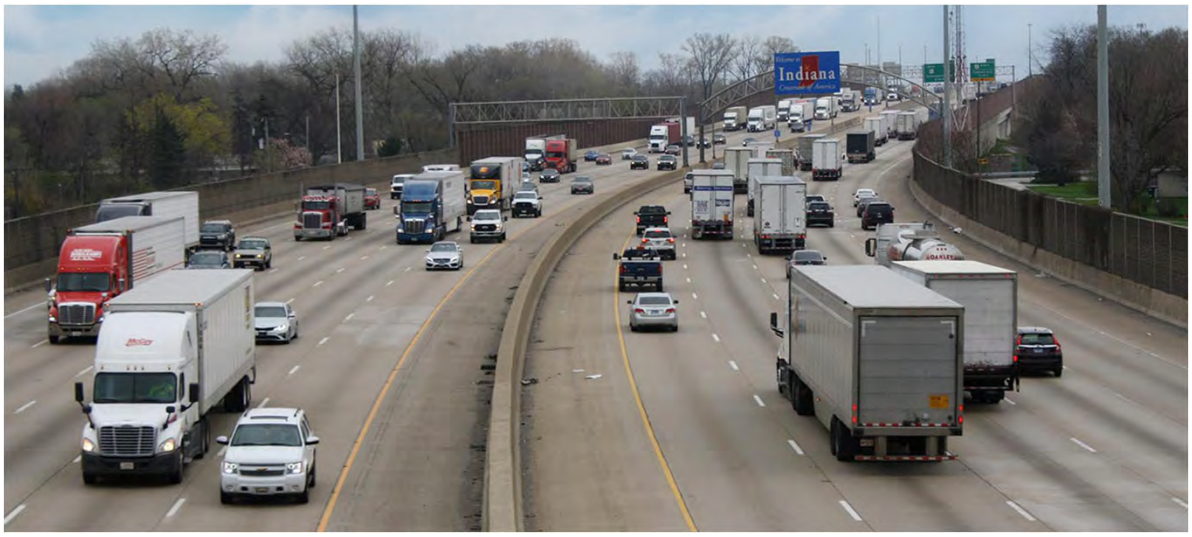

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Photo: Northwest Indiana Times

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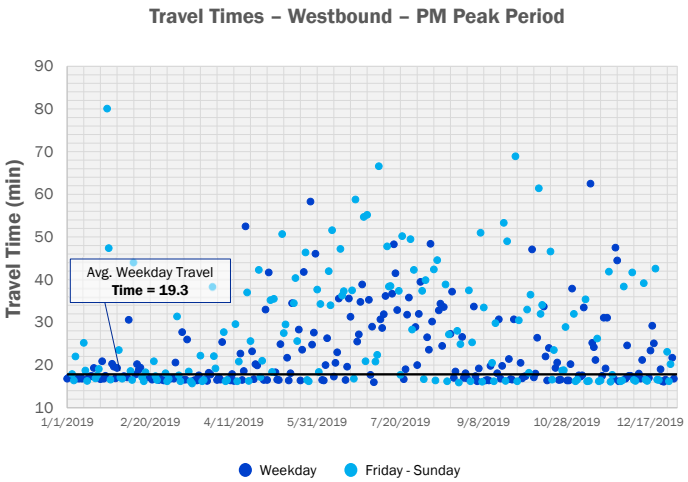
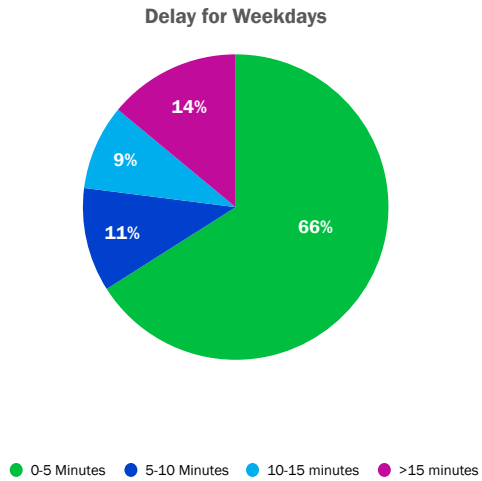
Traffic – Corridor Travel Times





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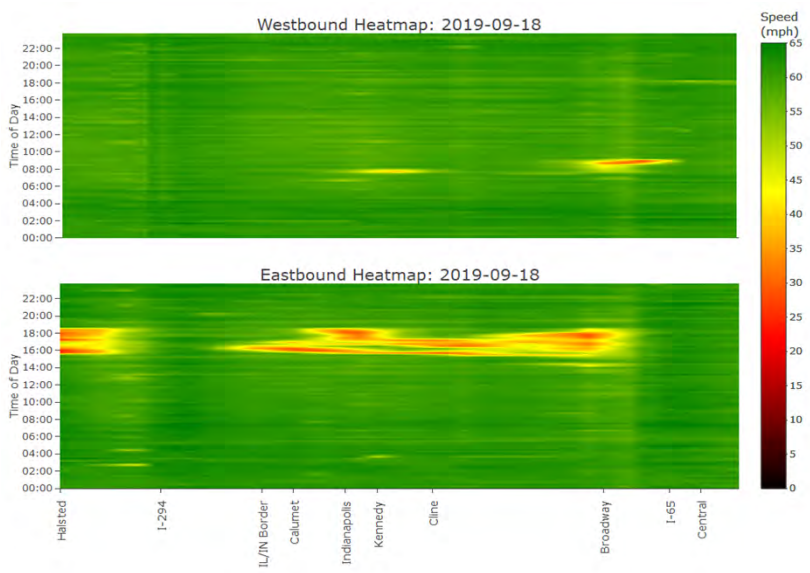

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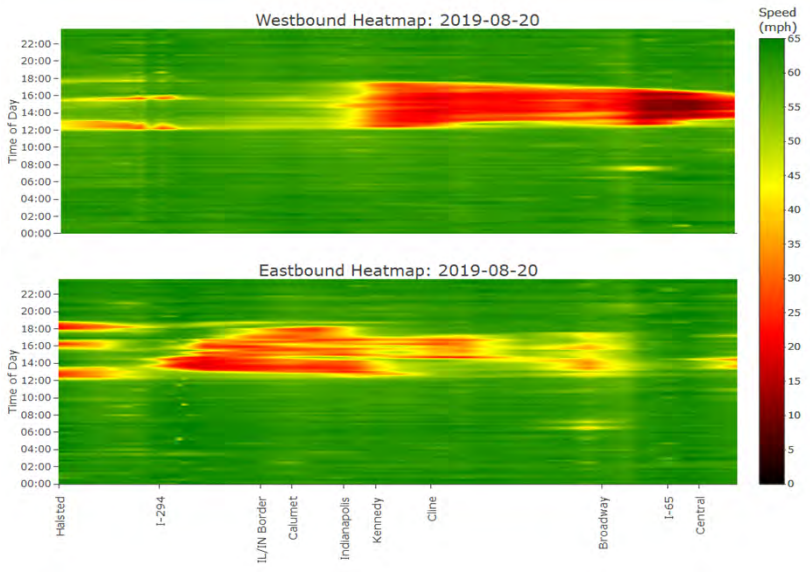

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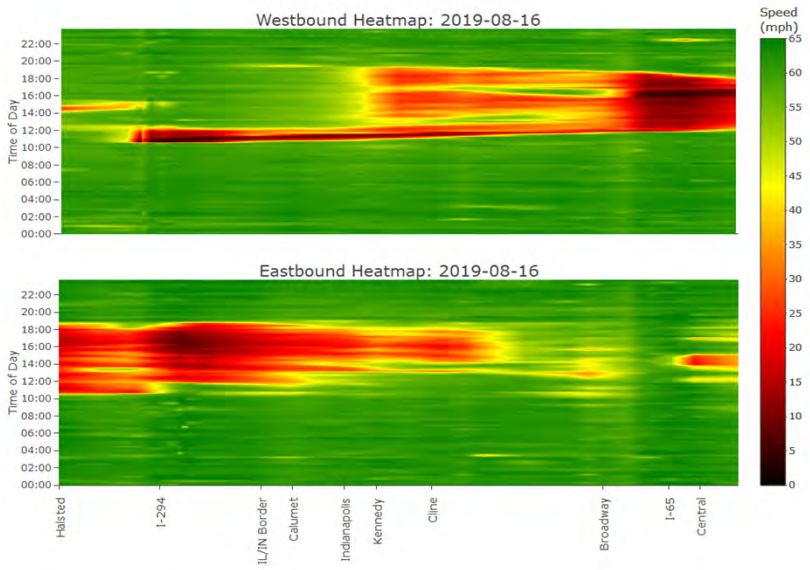

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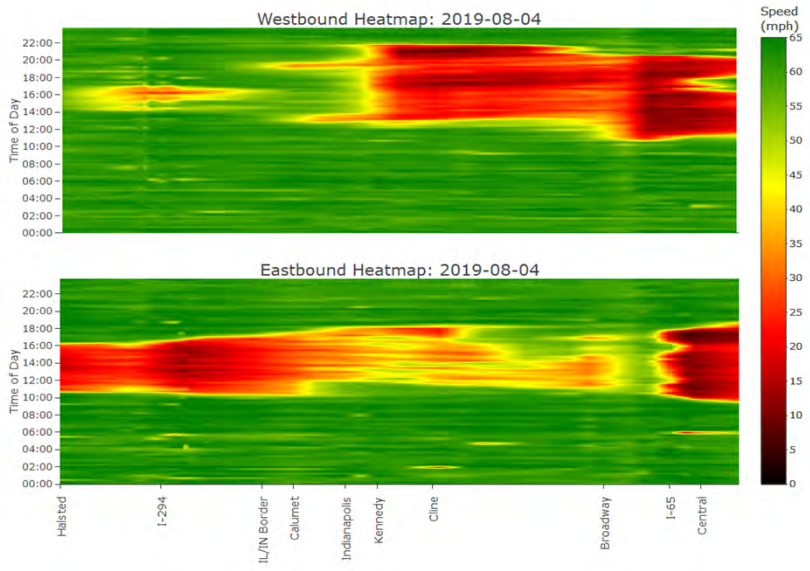

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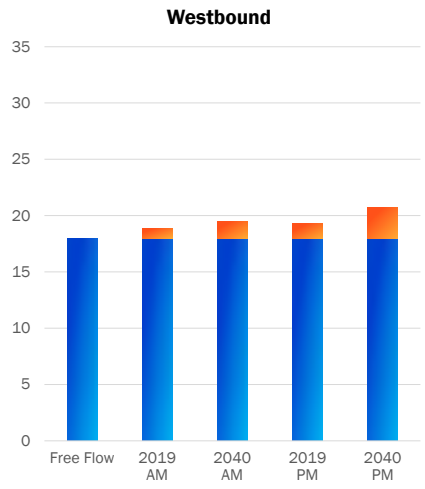
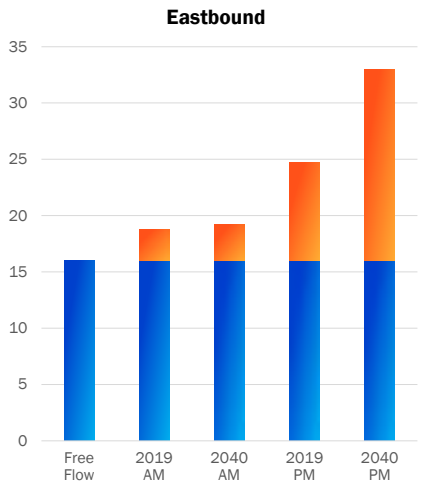
Traffic – Corridor Travel Times & Delay





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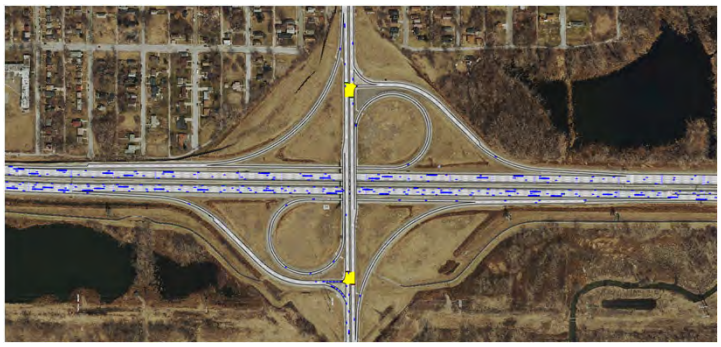

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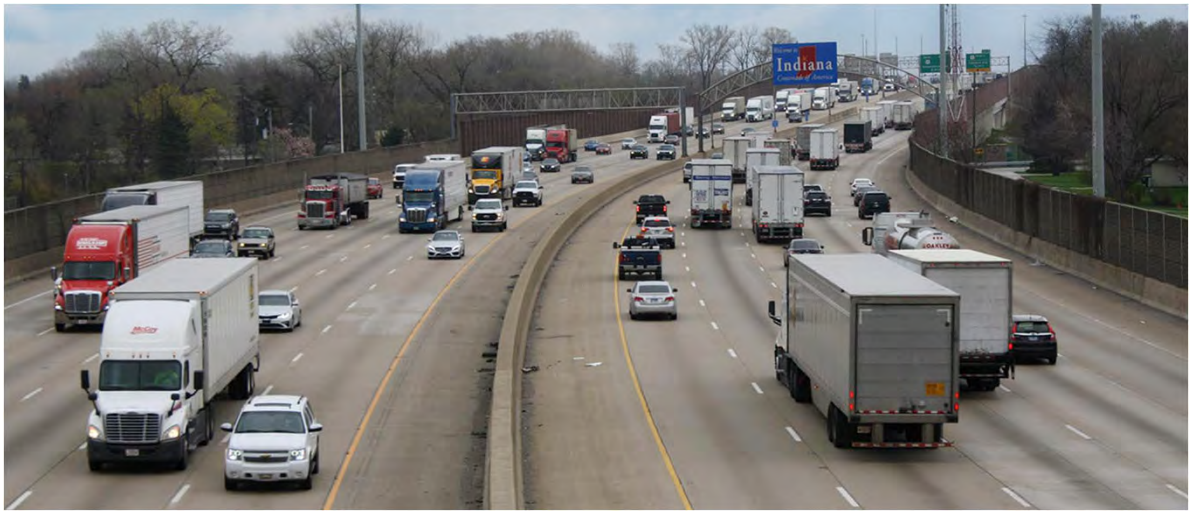

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FLEXROAD | LESS STOP, MORE GO

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TSMO in 80/94 Corridor

High Level Assessment

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- 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
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- Variable Speed Limits
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Dynamic Shoulder Lane/Hard Shoulder Running

- Temporary use of shoulders
- Location
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- Use Conditions
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- Considerations
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Dynamic Shoulder Lane/Hard Shoulder Running

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- Temporary reduction in speed limit
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- Speed harmonization
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Queue Warning

- Avoid secondary incidents
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Ramp Metering

- Control rate of flow of entering vehicles
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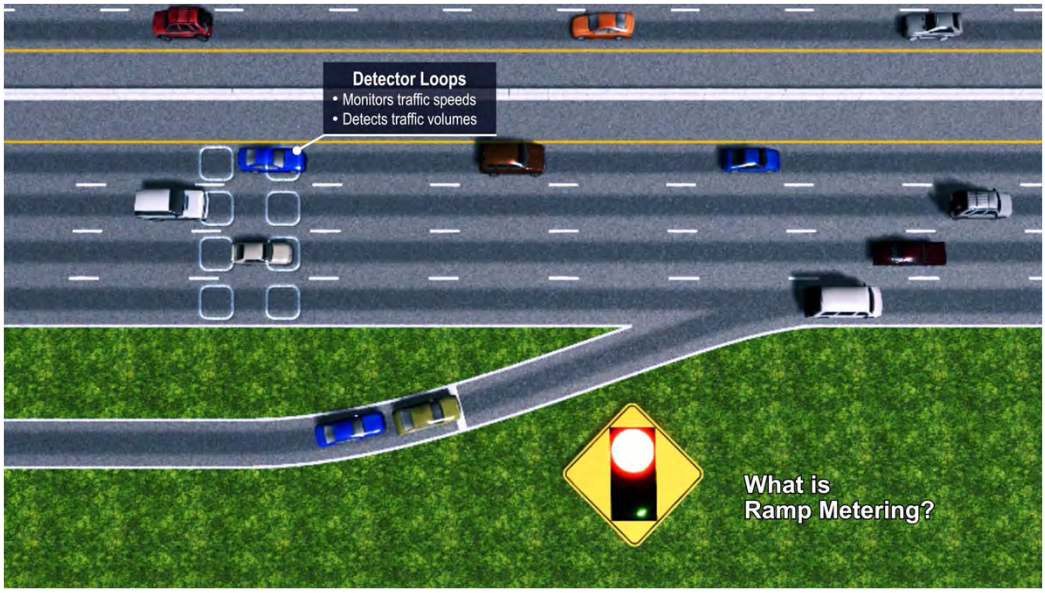
Ramp Metering



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Behind the Scenes Strategies

- Improved incident management
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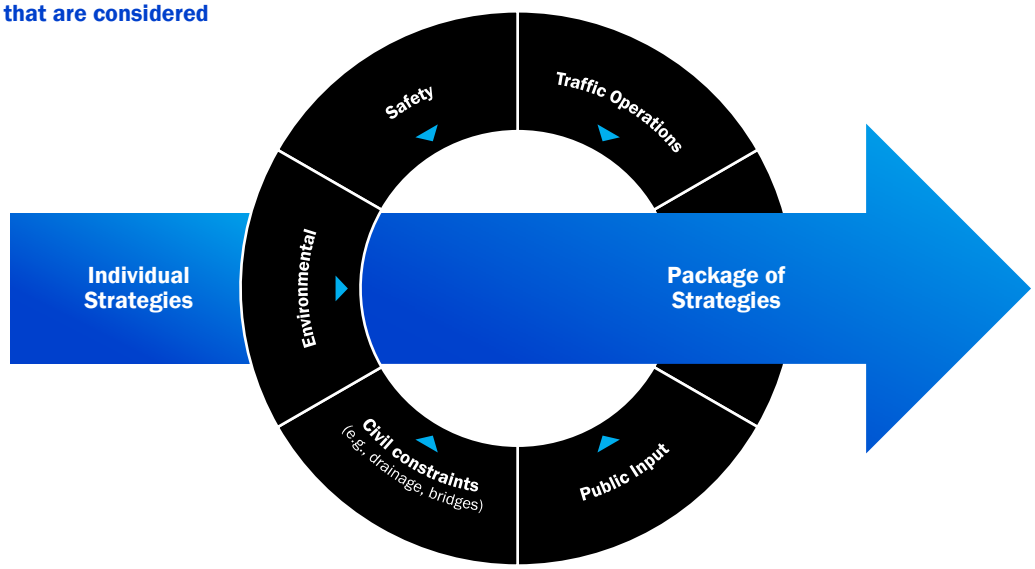
Identifying an Integrated Solution

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

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Study Process and Schedule

Planning & Environment Linkages (PEL) Process

PEL products that will be carried into NEPA:

- Draft Purpose and Need
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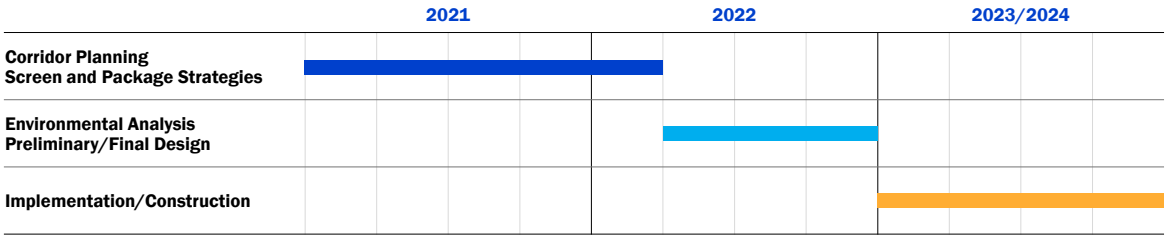

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Continued Engagement Throughout the Study

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What groups or organizations should we be reaching out to?

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THANK YOU

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LESS STOP, MORE GO

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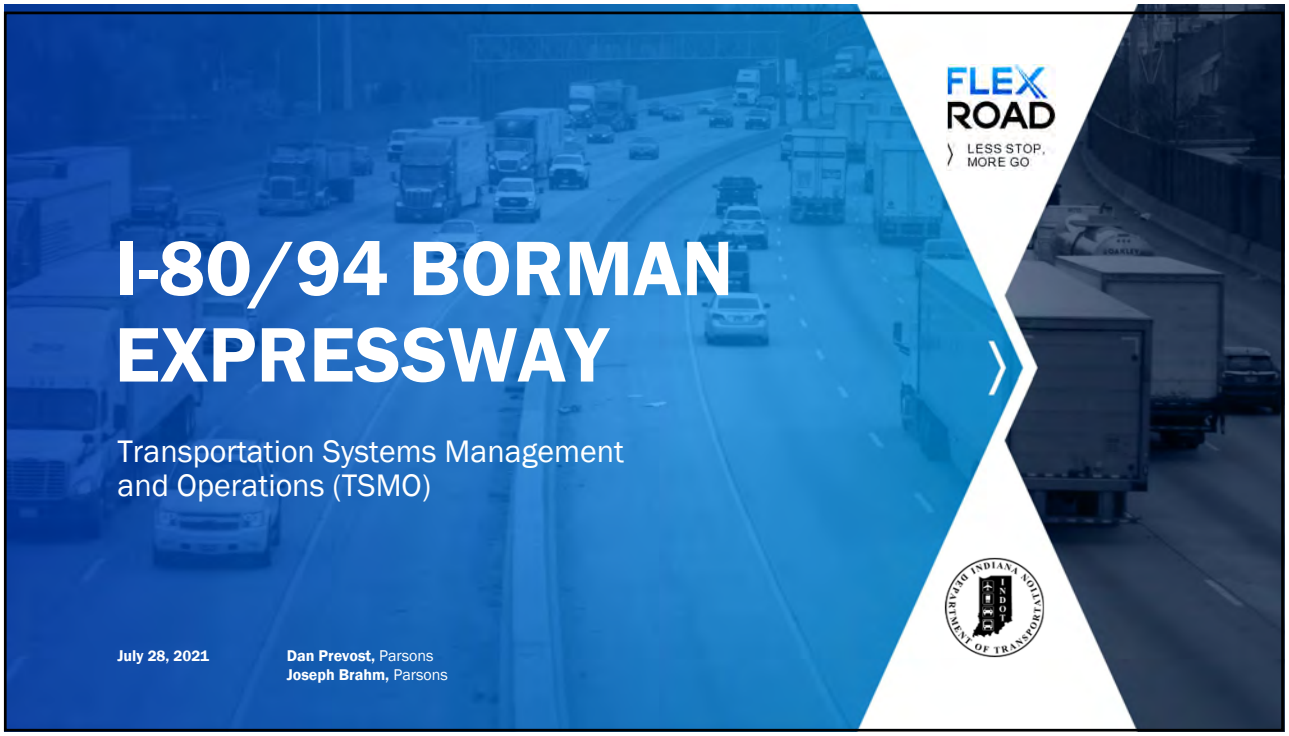

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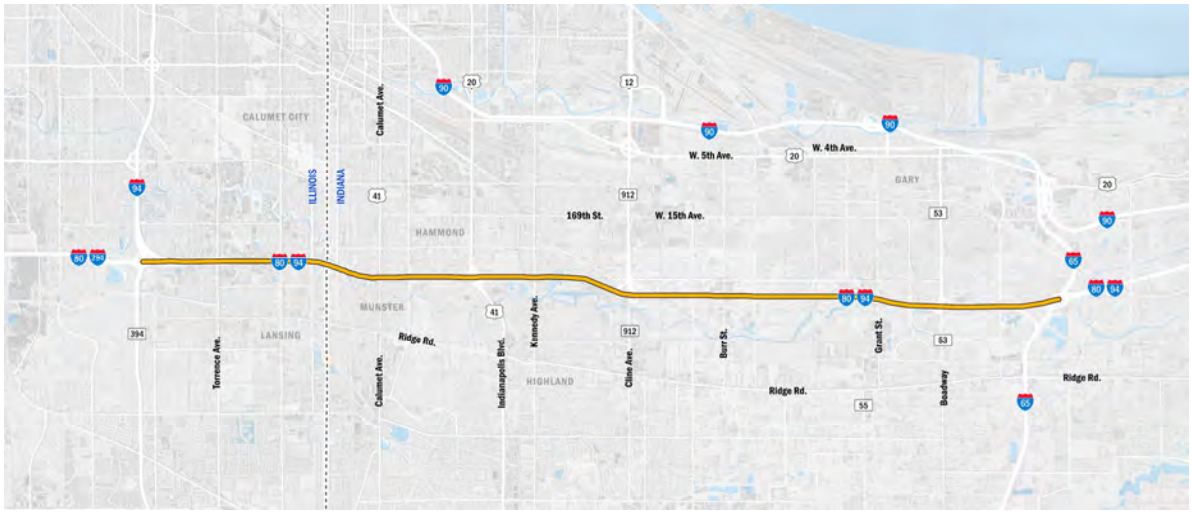

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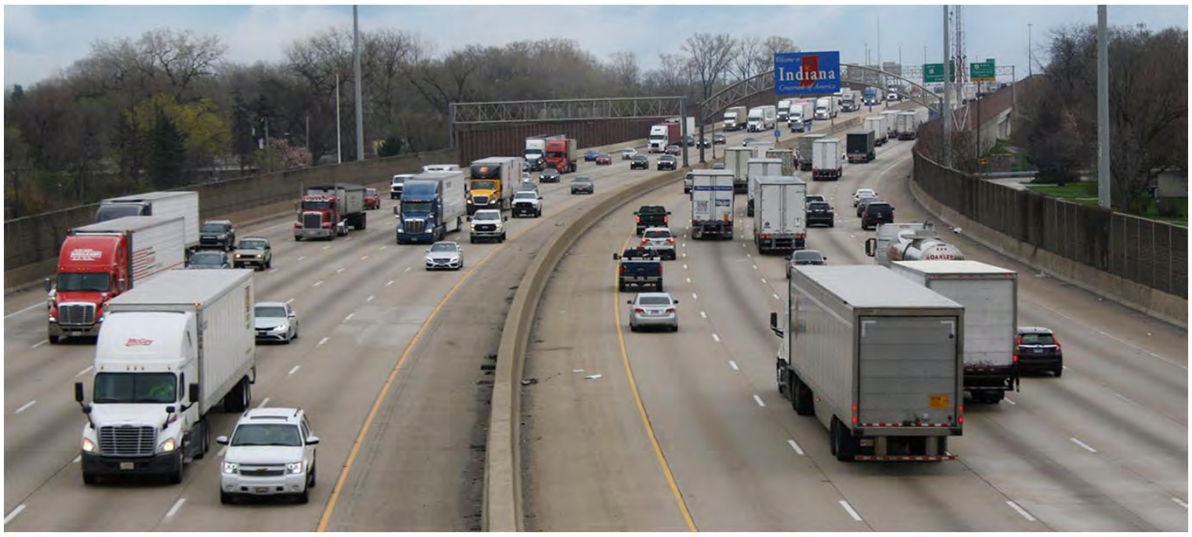

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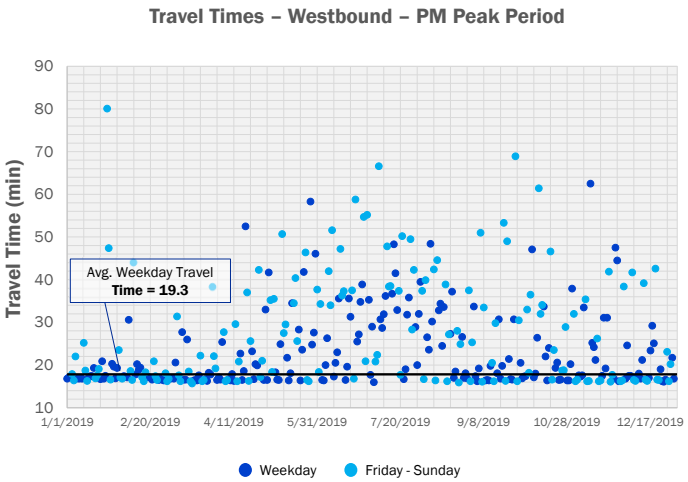

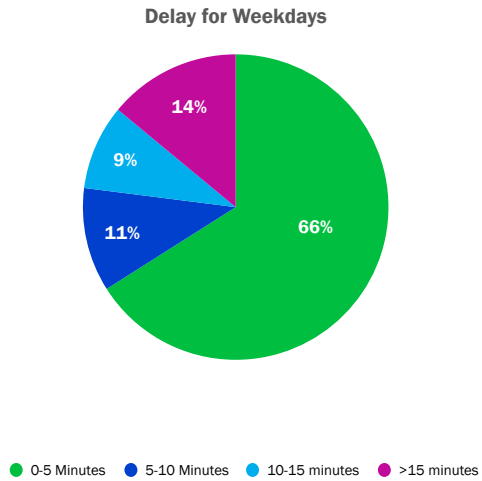

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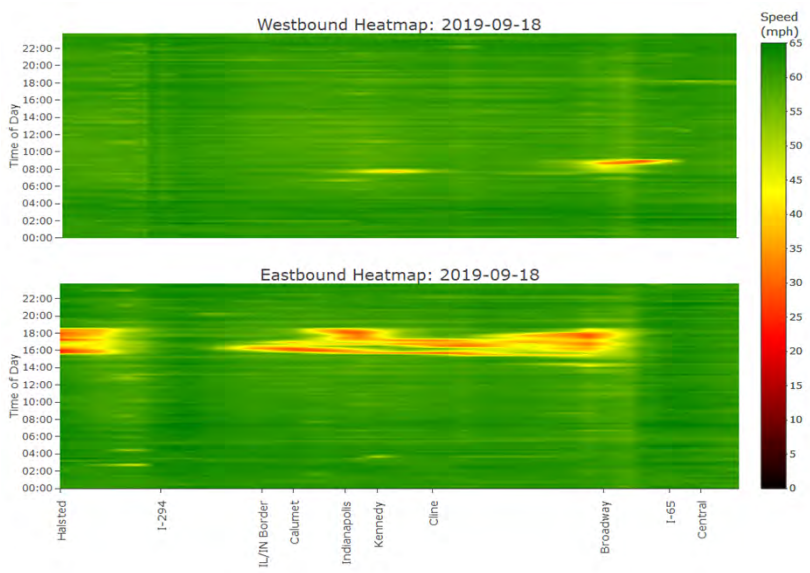

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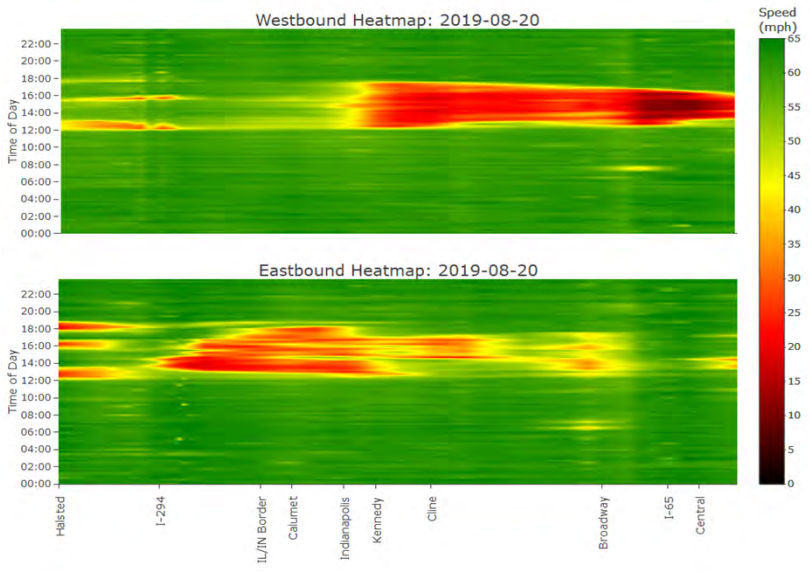

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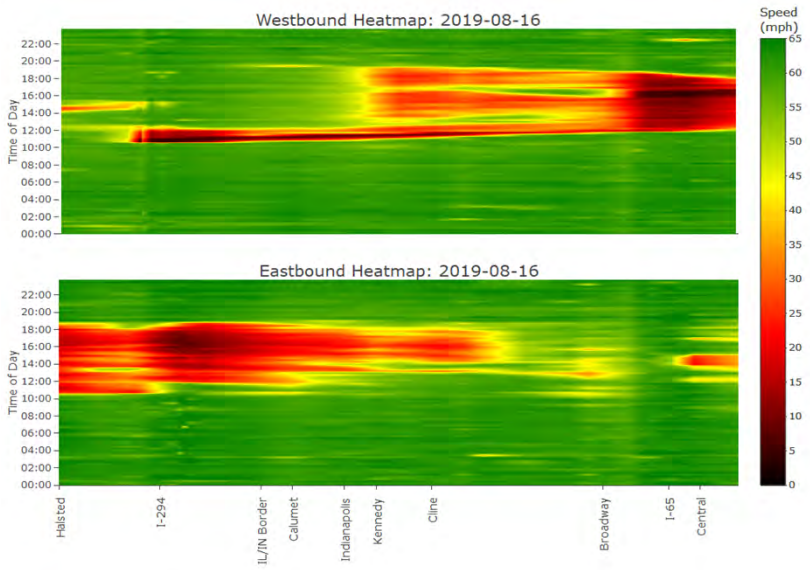

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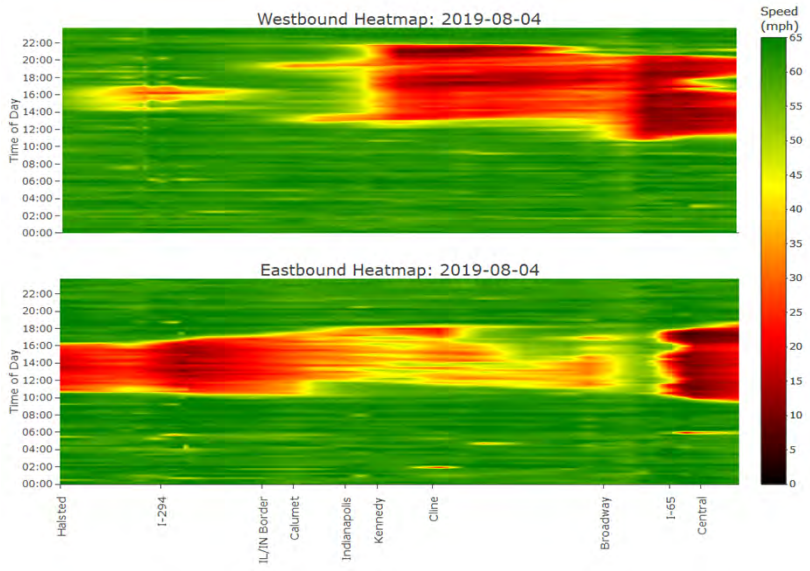

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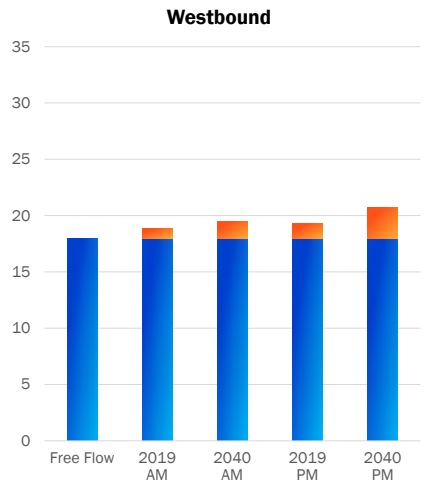

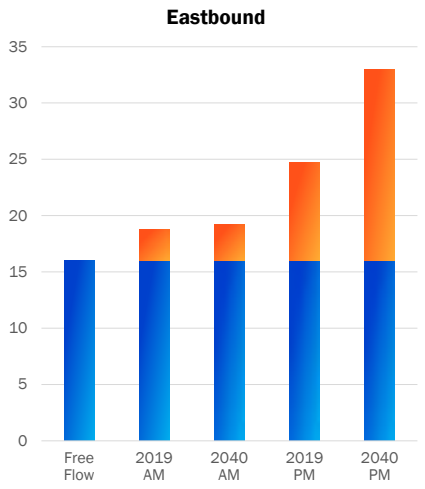

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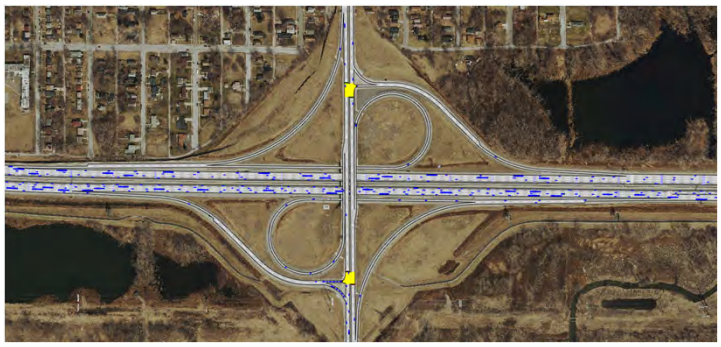

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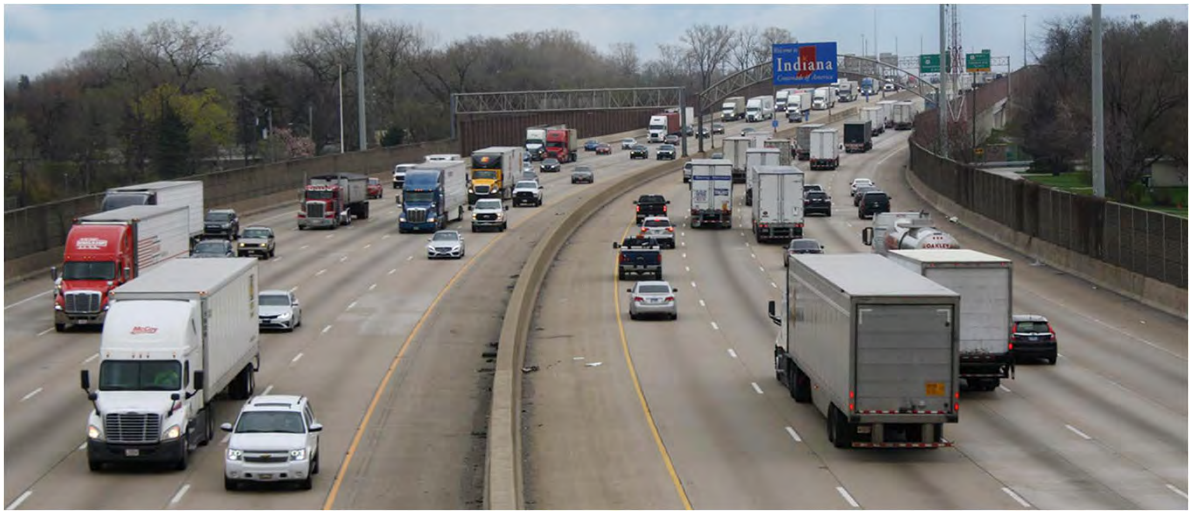

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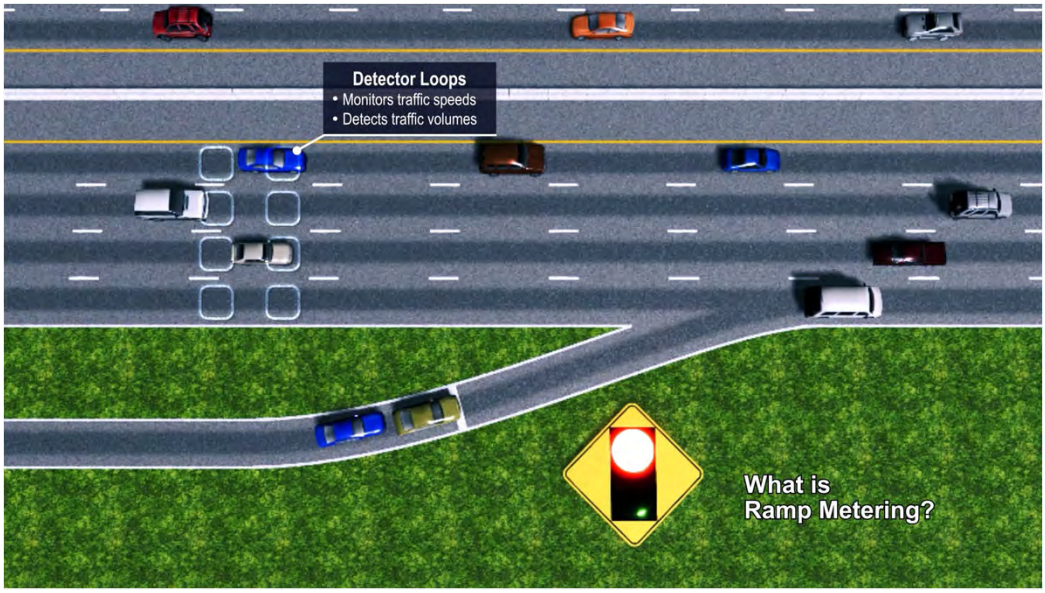

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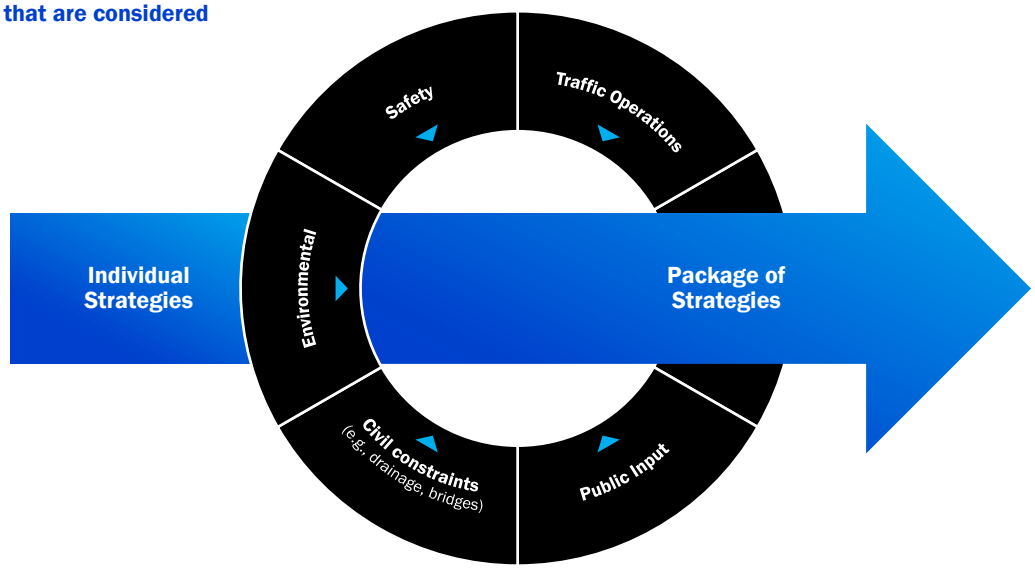

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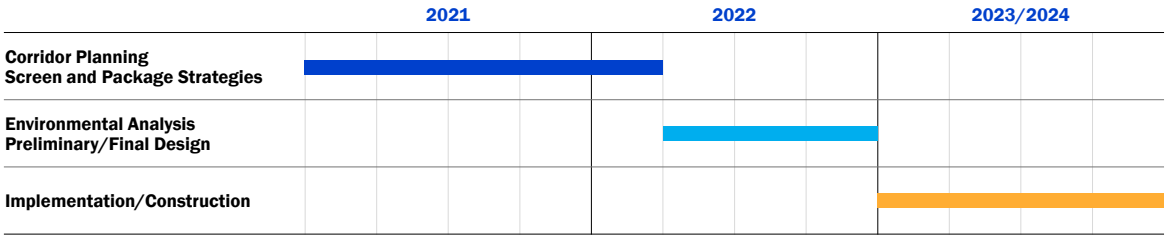

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31

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LESS STOP, MORE GO

32

MEETING SUMMARY

Date: October 19, 2021

Time: 10:00 AM – 11:00 AM CST

Meeting: 80/94 FlexRoad Community Advisory Committee (CAC) Meeting #3 Summary

Location: Purdue Northwest Student Union Building in Hammond, Indiana, and Microsoft Teams

Name	Organization	Email
Scott Weber	NIRPC	Sweber@NIRPC.org
Rhoderick Poats	Hammond Schools Transportation	repoats@hammond.k12.in.us
Kari Carmany-George	FHWA	k.carmanygeorge@dot.gov
Laura Hilden	INDOT	lhilden@indot.in.gov
Brandon Miller	INDOT	bramiller1@indot.in.gov
Adam Parkhouse	INDOT	aparkhouse@indot.in.gov
Jim Poturalski	INDOT	jpoturalski@indot.in.gov
Amber Thomas	INDOT	athomas2@indot.in.gov
Joseph Brahm	Parsons	Joseph.brahm@parsons.com
Alex Lee	Parsons	alexander.lee@parsons.com
Craig Moore	Parsons	Craig.Moore@parsons.com
Junell O'Donnell	Parsons	junell.odonnell@parsons.com
Dan Prevost	Parsons	daniel.prevost@parsons.com
Keaton Veldkamp	Parsons	Keaton.veldkamp@parsons.com

Meeting Summary

Welcome and introductions - Dan Prevost, Parsons Environmental and Public Involvement Lead, welcomed the members of the CAC and facilitated self-introductions.

Dan Prevost gave a reminder of what the last CAC meeting covered.

- The study limits are from I-294 in Illinois east to the I-65 interchange in Indiana, approximately 15 miles.
- The Illinois DOT and Indiana DOT are working together cooperatively.
- The PEL Study and evaluation of TMSO strategies will be completed in early 2022. NEPA and final design would occur in 2022 with construction planned for 2023-2024. The construction schedule will be dependent, in part, on the alternative selected.
- The project limits are based on a relatively consistent number of lanes and geometry, makes sense to study the entire area.

Dan Prevost described the current conditions of the Borman Expressway by showing heatmaps of eastbound and westbound traffic.

- The project looks at 2040 future conditions to accommodate the future.
- We are also looking at safety. Crashes plays an important role on the corridor's operations. Summary of three years of crash data. Most of the corridor is above the state-wide average for frequency and/or severity.

In the Summer, the project team asked three questions to the public through meetings and the project website.

- The first question asked what the public thought the biggest problems in the corridor are.
    - Over 100+ comments received in the summer public comment period.
- The project team compiled the comments and incorporated them into the purpose and need document. This is considered a living document and will be updated throughout the project as needed.

We discussed last time, the concept of FlexRoad, a new approach at INDOT. -How can INDOT maximize the current road system, squeeze as much out of the system. Transportation system management and operations (TSMO) is a set of strategies that includes monitoring real time travel conditions and taking actions within the corridor.

The initial strategies covered were: Dynamic Shoulder Lanes/Hard Shoulder Running, Variable Speed Limits, Ramp Metering, Queue Warning, Work Zone Management, and Behind the Scenes Strategies.

- The second question asked what the public liked/disliked about the strategies the project team was studying.
- Input from the public is crucial as well. We have been fine tuning these strategies and what other DOTs have implemented. We have been analyzing their performance, fine tuning the costs and evaluating environmental impacts.

Dan discussed the grouping of strategies into four buckets for evaluation.

The project team has been running traffic analysis, researching experience elsewhere, evaluating engineering needs, estimating cost, and analyzing environmental impacts for the potential strategies.

Craig Moore, Parsons Traffic Analysis Lead, covered the different groups of alternatives

- The project team studies both peak periods but has simplified it to only the PM peak period for the presentation.
- The project team looks at travel time, average speed, travel time reliability, vehicle hours traveled within the study area, safety, and cost for each potential alternative.
- Dynamic Shoulder Lane (Inside Shoulder) showed 7 minutes faster travel time and 10 mph faster average speed during peak period compared to current condition. Overall costs of $45-90 million to implement.
- Ramp metering showed 3 minutes faster travel time and no faster average speed during peak period compared to current conditions. Cost to implement would be $3-5 million.
    - Ramp metering would help reduce congestion-related crashes in the ramp merge areas.
- Variable Speeds limits would result in about a minute saved in travel time and 3 mph faster speed during peak periods. Cost to implement would be $30-35 million.
    - Variable speed limits would be used via new gantries over the roadway and would step down speed near congested areas.
- These strategies can be good on their own but work better in a packaged system. Incremental improvements occur as more strategies are combined.

- Queue Warning could result in 16% crash reduction. Primarily aimed at reducing rear-end crashes in congested areas.
- Traffic Event Management focuses on communication of information once a crash occurs.
    - How would it affect an incident if the project combines multiple event management strategies?
    - Examples were provided for a minor and major event and the result if traffic event management was utilized and in combination with dynamic shoulder lanes.

Craig Moore covered additional non-TSMO improvements that are under consideration.

- I-65/Broadway geometric improvements, adding an option lane to exit to I-65 southbound and limiting access at Broadway. In the PM peak, we see 3,000 cars trying to get off onto I-65.
    - The existing exit ramp is formed after the Broadway entrance ramp requiring all exiting vehicles change lanes. This puts a lot of stress on the system prior to I-65.
    - The result is congestion starting west of Broadway, which is projected to substantially increase by 2040.
    - This change will provide three exit lanes instead of two.
    - At the Broadway interchange, we are also looking at combining the ramps to eastbound I-80/94 onto the existing loop ramp.
    - These improvements are estimated to cost $3-5M.
- Seeing a big improvement with the geometric improvement at I-65 and Broadway.

Dan Prevost posed three questions to the CAC members

- What do you think about the strategies/results?
- Are the benefits worth the costs?
- What additional factors need to be considered? Any specific concerns?

Adam Parkhouse, INDOT Communications Director, asked about travel time reliability vs. vehicle hours traveled for ramp metering and variable speed limits. Why are we not seeing a reduction of hours?

- Craig Moore explained that the measures are focused on the mainline travel, while the vehicle hours traveled looks at the mainline and the surrounding road network. When you consider those arterial streets and ramp systems, the gain is lost.
- In the case of variable speed limits, we are seeing an overall corridor, helping a portion but not a corridor-wide improvement. Showed a chart of the travel time corridor, that shows the high peak delays but a lot of travel time near the norm. What we are trying to do, smooth out the high/low peak.

Junell O'Donnell asked what the difference between travel time minutes saved and travel time reliability was.

- Craig Moore stated travel time reliability is an indication of the time that you need to plan for to arrive on time 95% of the time.

Scott Weber, NIRPC, asked whether the queue warning would increase the number of gantries along the corridor or utilize existing signage? The price tag was only $1 million to implement.

- Joseph Brahm, Parsons TSMO Strategist, explained that queue warning would only use existing gantries.

Adam Parkhouse asked if the gantries (blue lines) shown on the graphic were existing or proposed.

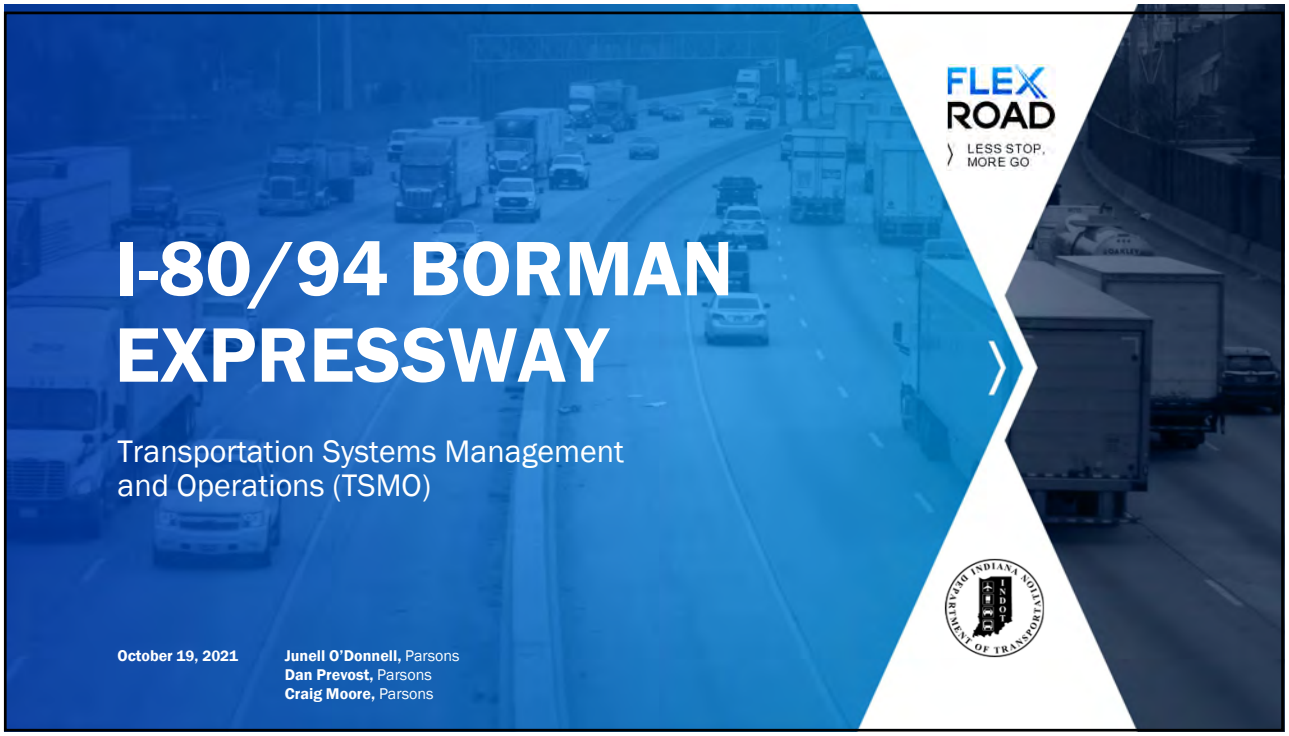
- Junell stated that the blue lines indicate proposed gantries. There is a benefit to adding gantries with VSL or other strategies as they can be used for multiple purposes.

Dan Prevost provided an overview of next steps and how the public can provide feedback. The study is being conducted through the Planning and environment linkages (PEL) process, which facilitates public feedback early in the process. At the end of the phase, we will develop a report and move forward into the NEPA process. The general schedule is that the PEL Study will be finalized in January 2022, design and environmental approvals would occur in 2022 and construction could potentially begin in 2023.

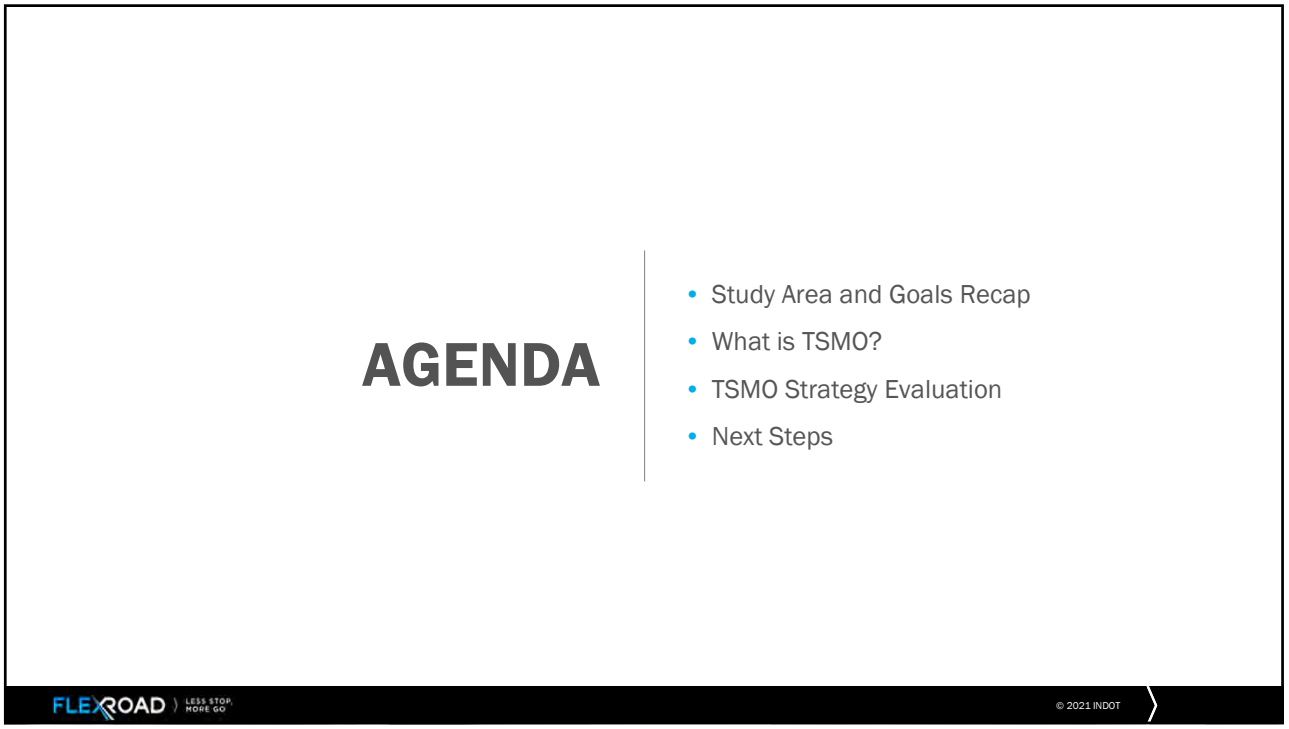
Dan stated in person public meeting is tonight with a virtual option on Thursday. Point your stakeholders to our project website. Sign up for email updates. Are there other groups or organizations that we need to do some additional outreach to? As part of the feedback, we briefed the Indiana Trucking Associations. Adam Parkhouse has been out to brief NIRPC, and, on the recommendation of Joe Alamillo (Hammond Hispanic Committee), Alex Lee participated in the Hammond Hispanic Resource Fair that was attended by over 300 families. The project website (www.indianaflexroad.com) can be used to provide feedback and see all of the project related documents.

Dan Prevost closed out the meeting and thanked everyone for coming

The above summary represents our recollection of the pertinent discussion points, decisions, and action items from the meeting. Please contact the preparer, Keaton Veldkamp, at Keaton.Veldkamp@parsons.com, within three days from your receipt of this document if you wish to make any additions or corrections. If revisions are made, the updated summary will be re-sent to all the attendants. Otherwise, this summary shall stand as the official record of the meeting.


FLEX ROAD
LESS STOP, MORE GO
I-80/94 BORMAN EXPRESSWAY
Transportation Systems Management and Operations (TSMO)
October 19, 2021
Junell O'Donnell, Parsons
Dan Prevost, Parsons
Craig Moore, Parsons

1


AGENDA
Study Area and Goals Recap
What is TSMO?
TSMO Strategy Evaluation
Next Steps
FLEXROAD LESS STOP, MORE GO
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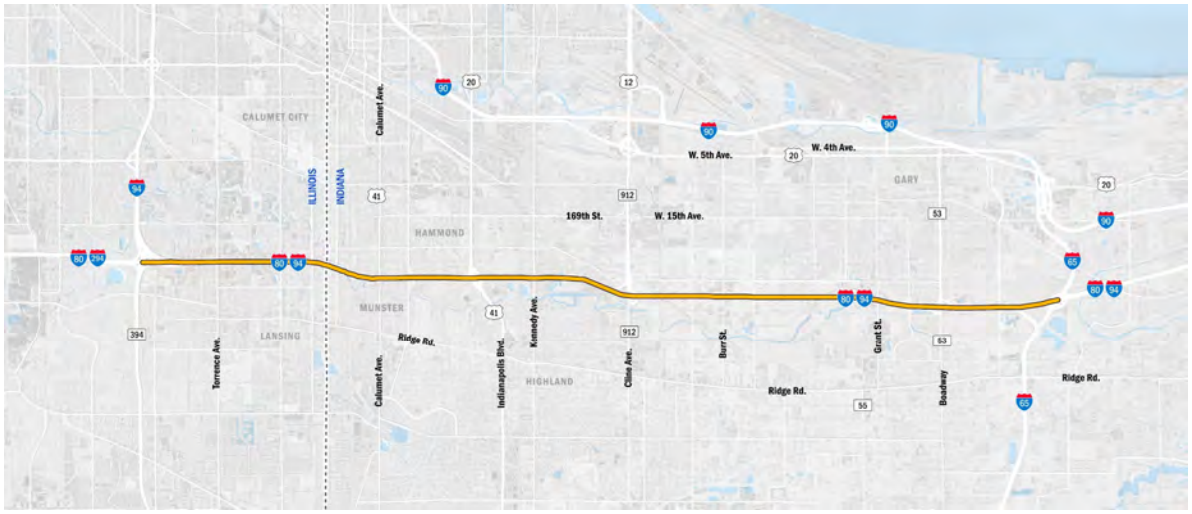
2

The Borman Expressway

IL 394 to I-65



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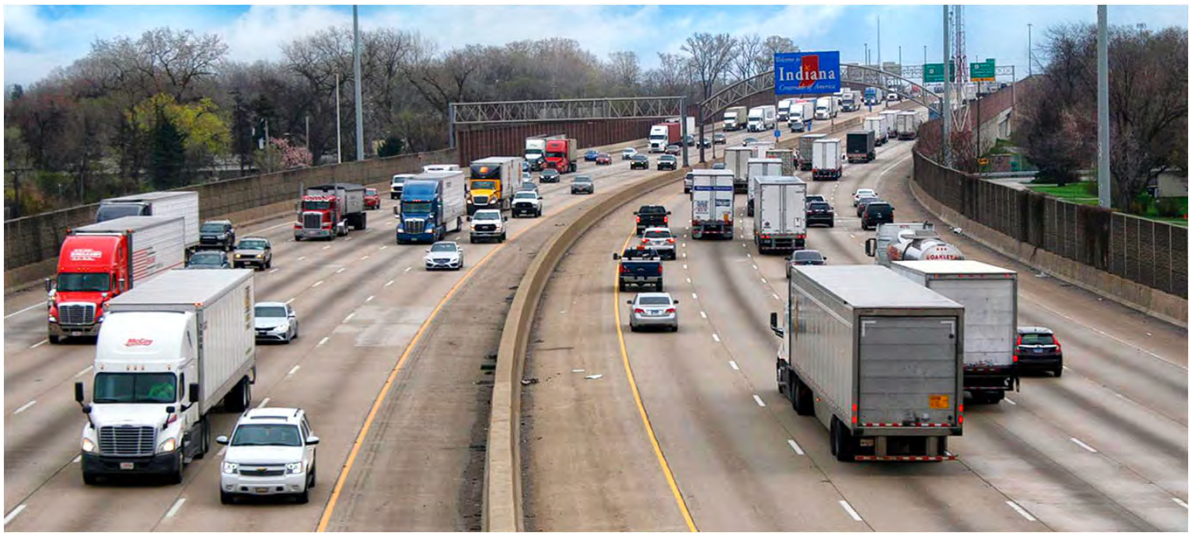
The Borman Expressway



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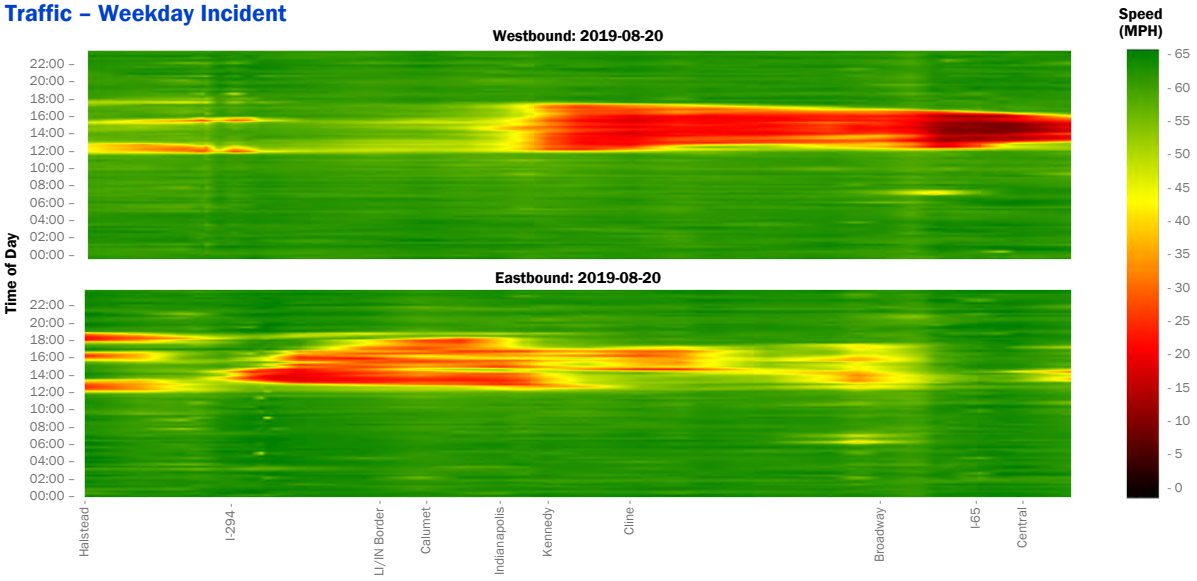
Current Conditions

Traffic – Weekday Incident



5

Current Conditions

Safety

6

FOCUS AREA: Purpose & Need

QUESTION #1

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

What We Heard

- 100+ comments
- Problem areas and issues identified
- Issues identified:
  - Weaving motorists
  - Volume of traffic
  - Trucks in left lanes
  - Interchange specific issues
  - Continuous construction/lane closures

What We Did

- Incorporated feedback into Purpose and Need document

The full Draft Purpose and Need is available on the project's website.

7

FlexRoad

A New Approach at INDOT

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

FLEXROAD | LESS STOP, MORE GO

8

What is TSMO?

Transportation Systems Management and Operations

- 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

9

Initial Strategies Summary

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

10

FOCUS AREA: TSMO Strategies

QUESTION #2

What do you like/dislike about the strategies? Are there other strategies that you think we should be considering?

What We Heard

- People wanted:
  - Keep trucks and cars separate
  - Greater speeding enforcement
- People liked:
  - Ramp metering
  - Dynamic shoulder lanes
    - Drainage, debris, and emergency space issues noted
  - Queue warning and work zone management

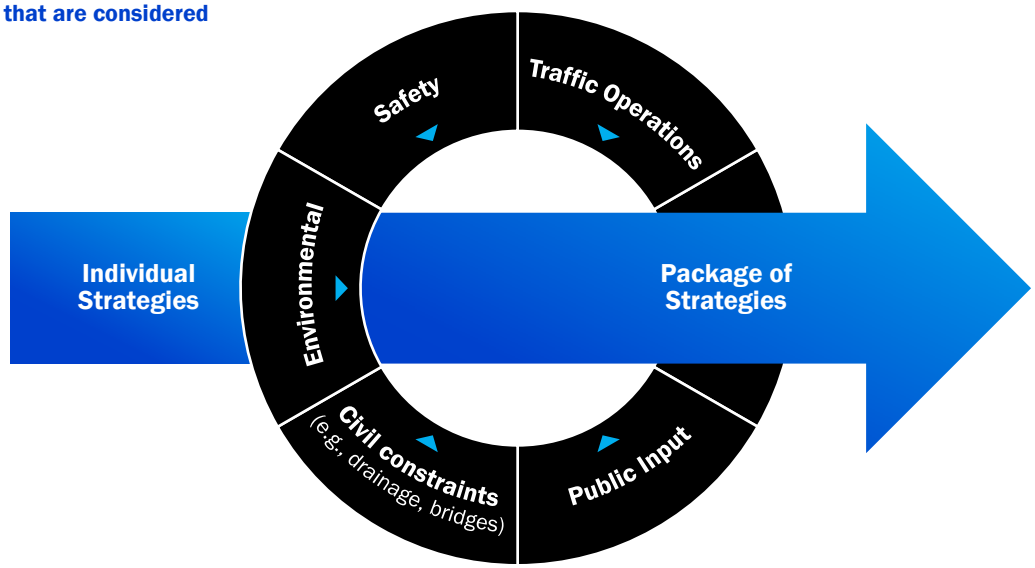
What We Did

- Continued development of TSMO strategy details
- Developed performance measures
- Analyzed shoulder issues for DSL

11

Identifying an Integrated Solution

Factors that are considered

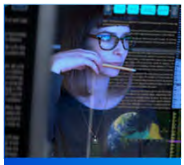


12

TSMO Strategy Development and Evaluation

What we've been doing

Traffic Analysis



Literature Research

Engineering Evaluations - Drainage, etc.

Cost Estimation

Environmental Impact Analysis

13

Alternatives Grouping

A Blend of Approaches and Strategies

TSMO Program Areas	Strategies	
Traffic Operations	• Ramp Metering • Dynamic Shoulder Lanes • Variable Speed Limits	
Traffic Safety	• Queue Warning System • Variable Speed Limits • Lane Control	
Traffic Event Management	• Computer Aided Dispatch (CAD) Integration • Towing & Recovery Incentive Program • Maintenance / Emergency Response CCTV Access	• Center to Center Interfaces • CCTV Enhancements
Infrastructure Improvements	• Guide Sign Enhancements • Geometric Improvements (EB ramp to I-65)	

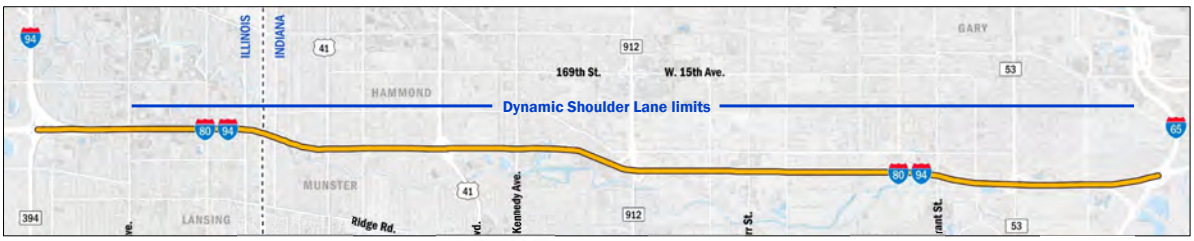
Purpose and Need Goals and Objectives

- Alleviate Congestion
- Increase Safety
- Increase Reliability
- Optimize Efficiency

14

Traffic Operations – Dynamic Shoulder Lane (Inside Shoulder)

Enables the use of shoulders as travel lanes based on congestion levels or in response to incidents



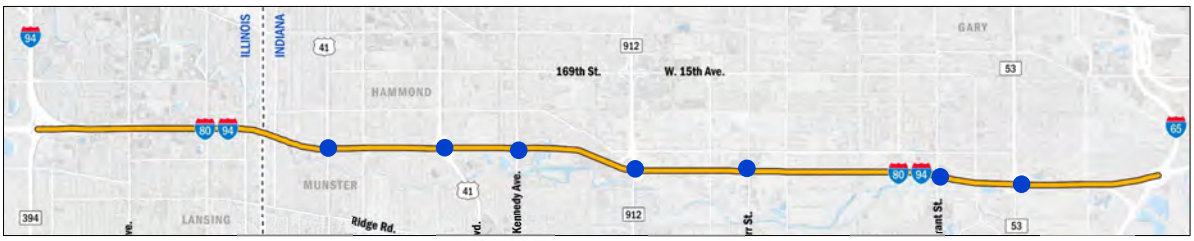
Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
7 minutes saved	**10** mph faster during peak periods	**25** minutes with strategy **31** minutes without strategy	**9%** reduction in vehicle hours traveled	Reduced congestion-related crashes	**$45-90** million

15

Traffic Operations – Ramp Metering

Controls the flow of traffic at entrance ramps to break up platoons and facilitate smooth/safe merging.

Ramp Metering Sites =



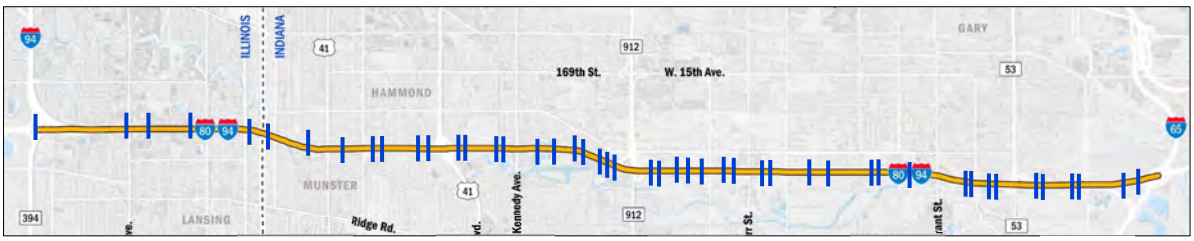
Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
3 minutes saved	**0** mph faster during peak periods	**28** minutes with strategy **31** minutes without strategy	**0%** change in vehicle hours traveled	Reduced congestion-related crashes; Safer merging operations	**$3-5** million

16

Traffic Operations – Variable Speed Limits

Temporarily reduces the speed limits in order to smooth traffic flow and reduce secondary accidents.

Variable Speed Limit Gantries =



Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
<1 minutes saved	3 mph faster during peak periods	31 minutes with strategy 31 minutes without strategy	5% reduction in vehicle hours traveled	Reduced congestion-related crashes	$30-35 million

17

Traffic Operations Combinations

Dynamic Shoulder Lanes + Other Strategies

	Dynamic Shoulder Lanes	Dynamic Shoulder Lanes + Variable Speed Limits	Dynamic Shoulder Lanes + Ramp Metering	Dynamic Shoulder Lanes + Ramp Metering + Variable Speed Limits
Travel Time	7 minutes saved	8 minutes saved	8 minutes saved	8 minutes saved
Average Speed	10 mph faster	11 mph faster	11 mph faster	11 mph faster
Travel Time Reliability (95% Travel Time)	25 minutes	23 minutes	23 minutes	23 minutes
Study Area Vehicle Hours Traveled	9% reduction	9% reduction	8% reduction	9% reduction
Safety	++	+++	+++	++++
Cost	$45-90 million	$50-95 million	$48-75 million	$55-100 million

18

Traffic Safety – Queue Warning

Warns drivers of slowdowns ahead

Safety	Cost
16% Reduction in crashes	**$1** million

19

Traffic Safety – Lane Control

Controls lane usage by alerting drivers to which lanes are open

Safety	Cost
4-9% Reduction in crashes	**$25-30** million

20

Traffic Event Management

- **Computer Aided Dispatch (CAD) Integration**
- **Towing & Recovery Incentive Program (TRIP)**
- **Maintenance / Emergency Response CCTV Access**
- **Center to Center Interfaces**
- **CCTV Enhancements**

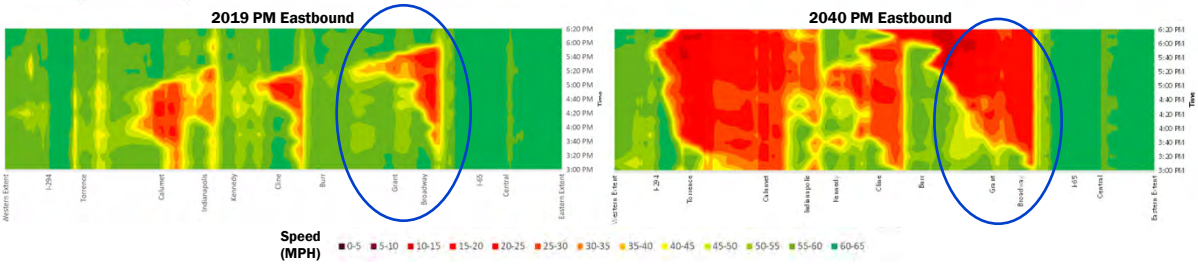
Setup Cost	Annual Cost
$1 million	**$400** thousand

	Event Management Strategies	Event Management Strategies + Dynamic Shoulder Lane (DSL)
Minor Event Example: fender bender 1 lane closed for 60 minutes 700 hours of total delay	Clear incident 5 minutes faster 100 hours of delay avoided per event (14% reduction)	Clear incident 5 minutes faster + open DSL 500 hours of delay avoided per event (71% reduction)
Major Event Example: overturned semi-truck 2 lanes closed for 120 minutes 11,500 hours of total delay	Clear incident 1 hour faster 1,900 hours of delay avoided per event (17% reduction)	Clear incident 1 hour faster 6,100 hours of delay avoided per event (53% reduction)

21

I-65/Broadway Geometric Improvements

Existing Geometry



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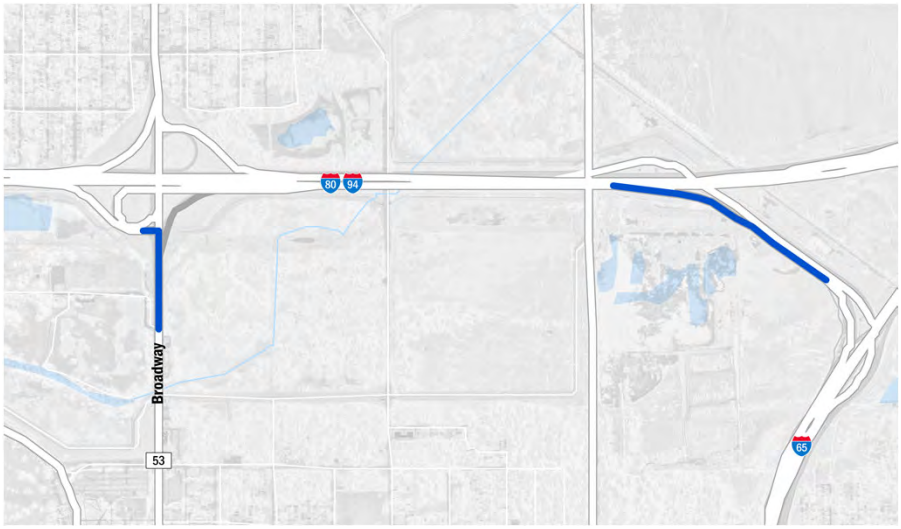
I-65/Broadway Geometric Improvements

Cost

$3 million



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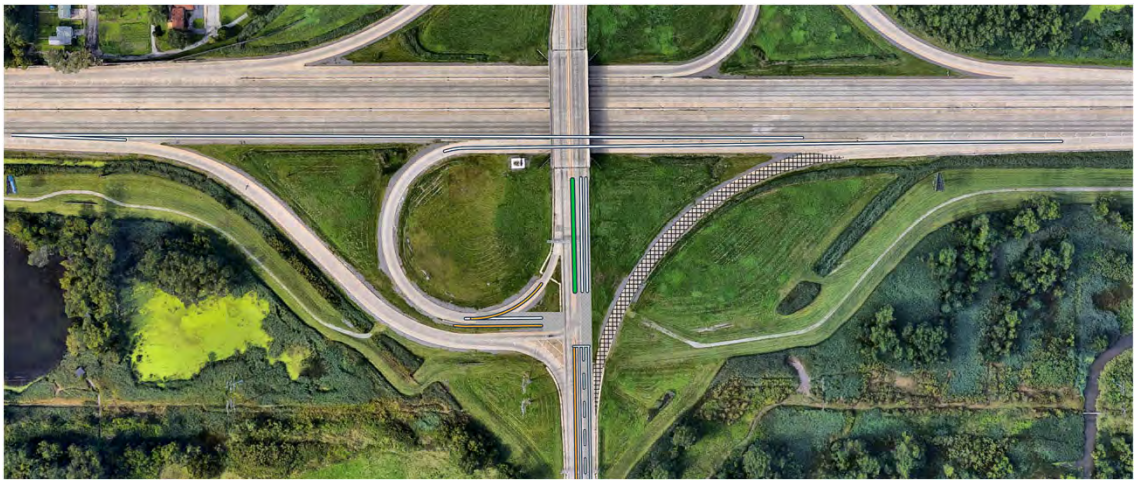
I-65/Broadway Geometric Improvements

FLEXROAD LESS STOP, MORE GO

24

24

I-65/Broadway Geometric Improvements



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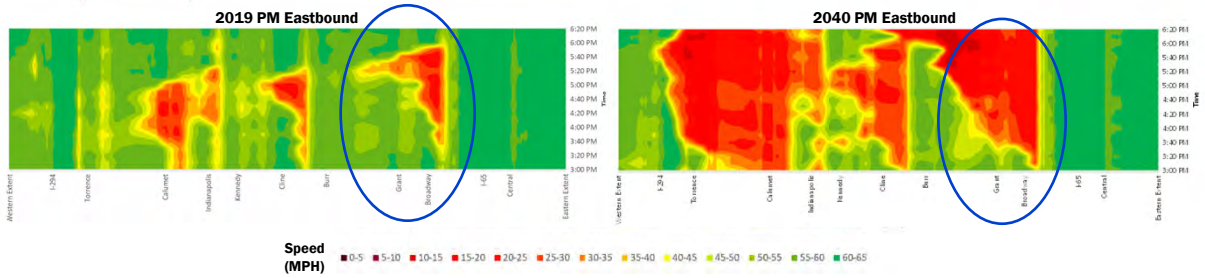
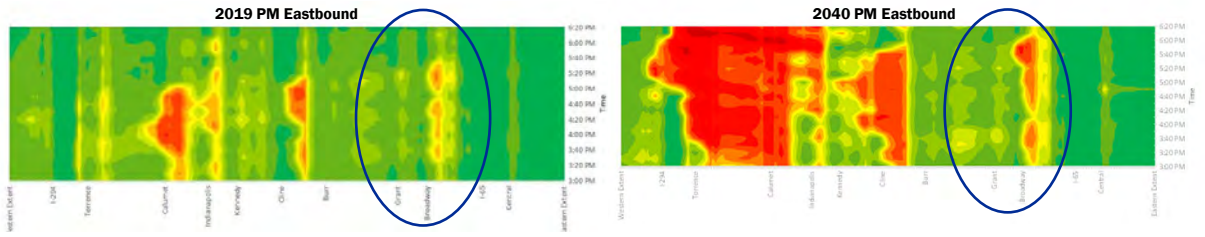
I-65/Broadway Geometric Improvements

Existing Geometry



Proposed Geometry



26

Questions for the Public

27

Next Steps

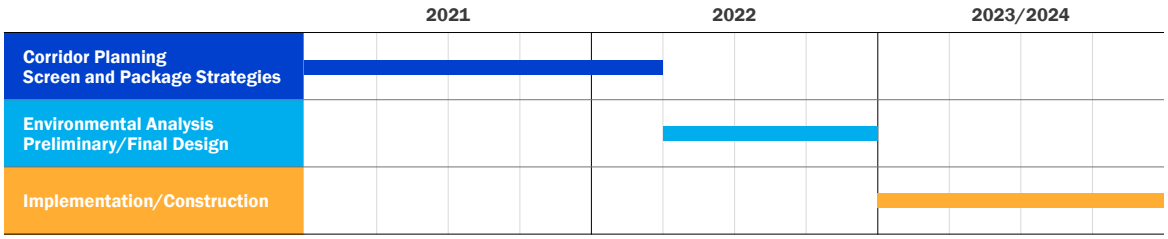
28

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



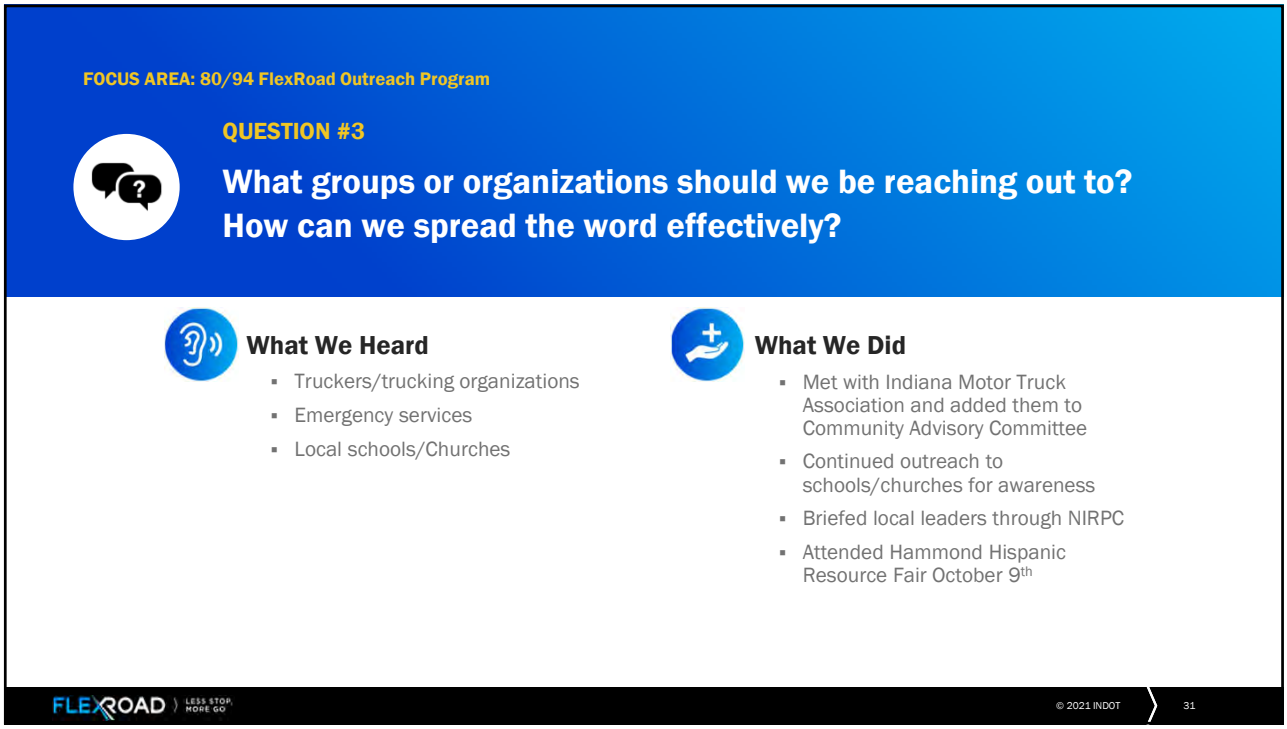
29

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


FOCUS AREA: 80/94 FlexRoad Outreach Program
QUESTION #3
What groups or organizations should we be reaching out to? How can we spread the word effectively?
What We Heard
Truckers/trucking organizations
Emergency services
Local schools/Churches
What We Did
Met with Indiana Motor Truck Association and added them to Community Advisory Committee
Continued outreach to schools/churches for awareness
Briefed local leaders through NIRPC
Attended Hammond Hispanic Resource Fair October 9th
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31

31


THANK YOU
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32

32

PUBLIC MEETING AND COMMENT PERIOD SUMMARY

Meeting: 80/94 FlexRoad Public Information Meetings

Dates/Locations:

July 28, 2021, 5:00-7:00 p.m.: 21st Century Charter School, 556 Washington Street, Gary IN 46402

July 29, 2021, 5:00-7:00 p.m.: Purdue Northwest Campus, Student Union Library Building, 2233 173rd Street, Hammond, IN 46323

August 3, 2021, 6:00 p.m.: Virtual Meeting via WebEx

Attendees

July 28, 2021 Meeting

Name	Organization	Email
Charles Bradksy	NIRPC	
Warren G. Blackmon	Resident	
Kurt Horton	Quigg Engineering Inc.	
Kari Carmany-George	FHWA	
Amy Stanley	INDOT	
Cassy Bajek	INDOT	
Jessica Miller	INDOT	
Adam Parkhouse	INDOT	
John Lablonde	Parsons	
Junell O'Donnell	Parsons	
Craig Moore	Parsons	
Alex Lee	Parsons	
Dan Prevost	Parsons	
Joseph Brahm	Parsons	
Keaton Veldkamp	Parsons	

July 29, 2021 Meeting

Name	Organization	Email
Rex Sherrard	Resident	
John Cengel	Resident	
Bicycle Frank	Resident	
Dennis Ogden	Resident	
Beverly Holeman	Resident	
David Holeman	Resident	

Terry Pierson	Resident	
Steve Euvino	The Times	
Jessica Miller	INDOT	
Cassy Bajek	INDOT	
Adam Parkhouse	INDOT	
Junell O'Donnell	Parsons	
Craig Moore	Parsons	
Alex Lee	Parsons	
Dan Prevost	Parsons	
Joseph Brahm	Parsons	
Keaton Veldkamp	Parsons	

August 3, 2021 Meeting

Name	Organization	Email
Kyle Armstrong		
Joseph Brahm	Parsons	
Kari Carmany-George	FHWA	
Terry Heffron		
Laura Hilden	INDOT	
Cyril Huerter		
Jackson Hurst		
Alex Lee	Parsons	
Brandon Miller	INDOT	
Jessica Miller	INDOT	
Raquel O		
Dennis Ogden		
Dan Prevost	Parsons	
Jay Seaburg		
Michael Siffer		
Amber Thomas	INDOT	
Keaton Veldkamp	Parsons	
Ty Warner	NIRPC	
Tim Werner	INDOT	
Joseph Wszolek		
4 Call-In Users		

Meeting Summary (Identical Presentations at 6:00 PM CST)

For the in-person meetings, the doors opened at 5:00 PM and the meeting space was setup in an open-house style. Members of the public were asked to sign-in at a front table, and were provided with comment forms and fact sheets. Members of the project team interacted with the public answering any questions they may have had. Two sets of five graphic boards were displayed with project team members stationed at either set. A four

minute video providing an overview of the project was played on loop at one station. Another station had a laptop setup with the indianaflexroad.com interactive comment map available.

The presentations began at 6:00 PM CST. Dan Prevost, Parsons Environmental and Public Involvement Lead, welcomed those in attendance.

Dan Prevost explained the study area for the project and explained the reasoning for the termini. He then covered the current travel time conditons for the corridor, explaining the graphics representing average travel times and traffic speed on different days. Dan Prevost introduced the preliminary purpose and needs for the project and asked those in attendance to think about what the biggest problems are in the corridor.

Joseph Brahm, Parsons TSMO Strategy Lead, introduced himself and his role in the project. He then explained what Transportation Systems Management & Operations (TSMO) is and the potential strategies that are being evaluated for this corridor. Those in attendance were asked to think about what strategies they liked/disliked and if there were other strategies that the project team should consider.

Dan Prevost explained the the Planning and Environmental Linkage (PEL) study process and the tentative schedule for the project. He then explained that the project team is looking for the public's input and involvement through a variety of means, meetings, project website, feedback, and email updates. He asked those in attendance to think of other groups and organizations the project team should reach out to.

Dan Prevost concluded the presentation and asked that anyone with questions or comments stick around and the members of the project team would be willing to answer them. Following the presentation, the project team facilitated a question and answer session. A summary of the questions and comments received is included in the attached comment summary.

The virtual meeting followed the same format with a presentation at 6:00 p.m. followed by a question and answer session. Attendees were directed to access the public meeting boards, fact sheet, and other materials on the project's website.

Meetings ended at approximately 7:15 PM, 8:45 PM, and 7:15 PM, respectively.

The deadline for comments during this phase of outreach was September 3, 2021, and was indicated on all materials and in the presentations.

Attachments:

A. Summary of Notification Efforts
B. Meeting Location Map
C. Meeting Sign In Sheets
D. Meeting Presentation
E. Fact Sheet
F. Public Meeting Display Boards
G. Comment Summary

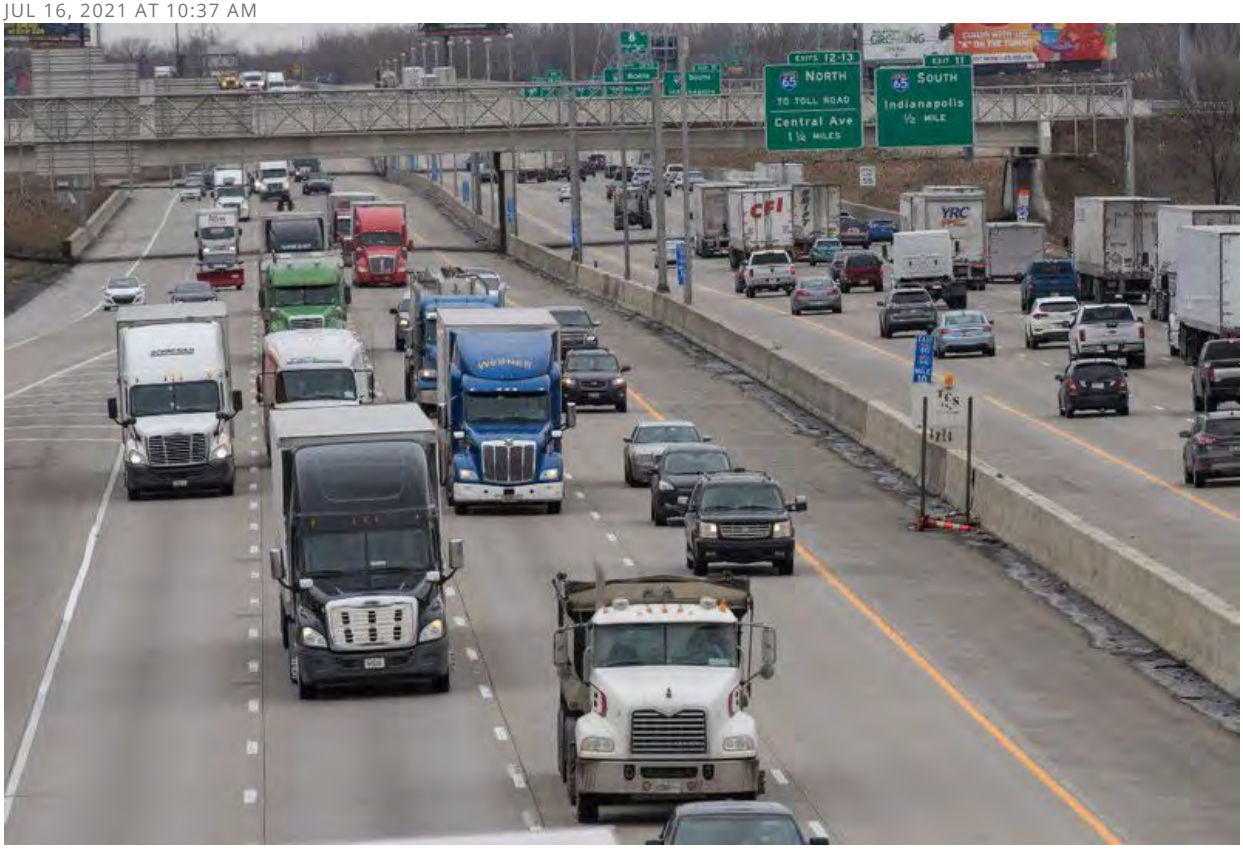
From: Prevost, Daniel
To: Lee, Alexander; Veldkamp, Keaton
Subject: Chicago Tribune article - 7/16/2021
Date: Sunday, August 1, 2021 9:41:28 PM
Attachments: image001.png
image008.png
image009.png
image010.png
image011.png

Highway officials plan public sessions for Borman Expressway improvements, ideas

By TIM ZORN

POST-TRIBUNE |

JUL 16, 2021 AT 10:37 AM



Vehicles travel on the westbound Borman Expressway near the intersection with northbound Interstate 65 on Thursday, Feb. 14, 2019. (Kyle Telechan/Post Tribune) (Kyle Telechan/Post-Tribune)

The state's highway department is looking for comments and suggestions on new ways to cut congestion and boost safety on the Borman Expressway, Indiana's busiest highway.

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The study will include the Illinois portion of Interstate 80/94, up to Illinois 394.

The first meeting will be July 28 at 21st Century Charter School of Gary, 556 Washington St.

The next one will be July 29 at Purdue University Northwest's Student Union and Library Building, 2233 173rd St., Hammond.

[Most read] 'I didn't want to leave him.' A gunshot on the Green Line, a life lost and a plea that something be done about the 'insanity' »

Each meeting will start at 5 p.m., with a presentation beginning at 6 p.m.

A virtual public meeting will begin at 6 p.m. Aug. 3. To reach the website, go to **indianaflexroad.com** and click on "public meetings."

INDOT's study is beginning about a decade since a multiyear project to widen the Borman to four lanes in each direction was completed.

Since then, the highway has become busier and more congested.

Another Borman widening project is not on the horizon, INDOT spokesman Adam Parkhouse said, because there's essentially no room to add more lanes.

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"We're looking at other strategies to try to ease congestion," he said.

Those strategies, as outlined in the 80/94 Flex/Road study's website, could include limiting on-ramp traffic at busy times, allowing cars to use the road shoulder, and other ideas.

The study's site says 75% of the crashes on the Borman between 2017 and 2019 were rear-end crashes or same-direction sideswipes, and 58% involved trucks although trucks are 20% to 25% of the highway's traffic.

Parkhouse said the Borman study is Indiana's first Planning and Environmental Linkage (PEL) study, which focuses on public involvement before beginning a major highway project.

Another future PEL study will look at U.S. 30 from Valparaiso to the Ohio line, but no consultant has been picked for that yet.

Tim Zorn is a freelance reporter for the Post-Tribune.

LATEST POST-TRIBUNE

- Potempa: From BBQ to bakeries, it's a dining adventure at Branson's Silver Dollar City

JUL 30, 2021

- Hammond's Polka Party offered upbeat tunes, dancing and hearty Polish fare

JUL 30, 2021

Indiana highway officials plan public sessions for Borman Expressway improvements, ideas

Tim Zorn, Freelance Reporter, (Merrillville) Post-Tribune

Tuesday, July 20, 2021 12:05 PM

Vehicles travel on the westbound Borman Expressway near the intersection with northbound Interstate 65 on Thursday, Feb. 14, 2019. (Kyle Telechan/Post Tribune)

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Indiana Department of Transportation

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INDOT hosting public meetings regarding I-80/94 corridor

Indiana Department of Transportation sent this bulletin at 07/22/2021 01:44 PM EDT

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Indiana Department of Transportation

News Release

INDOT hosting public meetings regarding I-80/94 corridor

Des. No. 1901643

NOTICE OF PUBLIC MEETING

The Indiana Department of Transportation (INDOT) will hold two public information meetings and one virtual meeting:

- Wednesday, July 28, 2021, starting at 5:00 pm at the **21st Century Charter School**, 556 Washington Street, Gary, IN 46402.
- Thursday, July 29, 2021, starting at 5:00 pm at the **Purdue Northwest Campus**, Alumni Hall, Student Union Library Building, Room 360, 2233 173rd Street, Hammond, IN 46323.
- Tuesday, August 3, 2021, starting at 6:00 pm via **WebEx**; please register in advance here: https://bit.ly/3w2rRTb

For each in-person meeting, the doors will open at 5:00 pm; a presentation will be held at 6:00 pm. Displays and representatives will be available prior to and following the presentation. The same information will be presented at all of the meetings. Note all times are Central Standard Time.

The purpose of the information sessions is to offer all interested parties an opportunity to comment on the I-80/I-94 corridor between Illinois 394 in Cook County, IL and I-65 in Lake County, Indiana. A variety of Transportation System Management Operations (TSMO) strategies are under consideration including temporary use of shoulders, variable speed limits and ramp metering. The project is in the planning phase and is being developed through the Planning and Environment Linkages (PEL) process. Detailed environmental studies would be completed during preliminary design if the project moves forward.

Project information may be viewed by visiting www.indianaflexroad.com

Persons with limited internet access may request project information be mailed. In accordance with the Americans with Disabilities Act (ADA) and with advance notice, INDOT will coordinate accommodations for persons with disabilities requiring auxiliary aids including, but not limited to sign language interpretation, alternative format documents and other ADA supportive services. In addition, and in accordance with Title VI of the Civil Rights Act of 1964, INDOT will coordinate accommodation for persons of Limited English Proficiency (LEP) requiring auxiliary aids and/or supportive services including, but not limited to alternative format documents and other services as needed. Should accommodation be required please contact Alex Lee of Parsons, alexander.lee@parsons.com, 101 West Ohio Street, Suite 2121, Indianapolis, IN, (317) 616-1011.

Stay Informed
Motorists in Northwest Indiana can monitor road closures, road conditions, and traffic alerts any time via:

- Facebook: facebook.com/INDOTNorthwest
- Twitter: @INDOTNorthwest
- CARS 511: indot.carsprogram.org
- Mobile App: iTunes App Store and the Google Play store for Android

About the Indiana Department of Transportation
Over the past 100 years, INDOT has transformed the state of Indiana into the Crossroads of America we know today. With six district offices and 3,500 employees, the agency is responsible for constructing and maintaining more than 29,000 lane miles of highways, more than 5,700 bridges, and supporting 4,500 rail miles and 117 airports across the state. Indiana once again ranked #1 in the U.S. for infrastructure in CNBC's 2019 "America's Top States for Business" ranking. Learn more about INDOT at in.gov/indot.

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On July 1, 2020, Governor Eric J. Holcomb signed the Indiana Hands-Free Law to reduce distracted driving across the state. Since then, drivers have been prohibited from holding a mobile device while their vehicles are in motion. With help from the Indiana State Police and other law enforcement agencies, over 5,400 citations and more than 10,500 warnings have been issued. For more information on Indiana's Hands-Free Law, visit www.HandsFreeIndiana.com.

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indot@indot.IN.gov

NextLevel INDIANA

https://www.nwitimes.com/news/local/lake/state-seeking-input-on-borman-congestion-issues/article_d13e9d78-fb3e-5553-9119-e70008ec7fc7.html

ALERT URGENT

State seeking input on Borman congestion issues

Steve Euvino
Jul 31, 2021

The interchange between I-80/94, the Borman Expressway, and Cline Avenue is seen from above. The Borman is currently the subject of a study identifying ways to reduce congestion.

Kale Wilk, file, The Times

Steve Euvino

HAMMOND — The Indiana Department of Transportation is collecting comments on an issue with which many drivers of the Borman Expressway are all too familiar — congestion and safety, especially during peak commuting periods.

INDOT accepted comments Thursday at a public session at Purdue University Northwest. A similar session took place Wednesday in Gary, with a WebEx presentation scheduled for next Tuesday.

The Interstate 80/94 FlexRoad Study Area extends more than 14 miles from the Illinois 394 interchange in Cook County to the I-65 interchange. The Borman can daily hold as many as 200,000 vehicles, with 250,000 during peak times of the year, INDOT officials said.

INDOT has commissioned the Indianapolis civil engineering firm of Parsons for preliminary studies. Strategies will be developed through early 2022, with environmental analysis and design through 2022 and implementation and construction through 2023.

Parsons staff is analyzing existing traffic conditions and future growth to determine the needs to guide the development of solutions.

“We know there is a problem,” said Junell O’Donnell, project manager for Parsons. “INDOT understands how important this is.”

According to INDOT, the need for the project is based on recurring corridor congestion and elevated crash rates on that stretch of expressway. Motorists in the corridor experience recurring congestion during peak commuting periods and Sunday afternoons and evenings. The congestion results in poor travel and lower driving speeds.

Dan Prevost, environmental and public outreach lead for Parsons, said the Borman is at a “tipping point,” with a single incident clogging the busy highway, creating longer-than-usual delays.

Join Tristan DeFord, Jami Rieck, and Nancy Zakutanksky on a shift working for Superior Ambulance in Merrillville.

Prevost explained the FlexRoad approach adopted by INDOT seeks to “squeeze” all the efficiency the Borman corridor now provides while creating a roadway system with flexibility and utilizing technology for improved operations and safety.

Various strategies are under consideration, including dynamic shoulder lanes and lane control, variable speed limits, ramp metering and queue warning signage.

Other strategies include improved incident management and operational procedures.

“We’re looking at different strategies and different benefits ... for what is the best solution,” said Joseph Brahm, operations and management lead for Parsons.

Public recommendations at the PNW meeting included keeping the Borman at four lanes longer through the year; concerns with merging car-semi traffic; new lane striping; developing another highway with a more direct route to Chicago; and the difference in lanes in Indiana and Illinois.

INDOT reported 4.075 crashes along the Borman between 2017 and 2019, 75% of which are rear-end and direct side swipes. Also adding to safety problems, state officials say, are drivers merging and weaving.

According to state accident figures, about 38% of collisions involve trucks, while trucks account for 20-25% of the Borman traffic stream.

Additional public meetings will be held this fall. More information on the project is available at **www.indianaflexroad.com**. Tuesday's online forum is at 6 p.m.; register in advance at **bit.ly/3w2rRTb**.

INDOT Northwest
@INDOTNorthwest

Have thoughts about the Borman? Visit indianaflexroad.com to learn about a FlexRoad study we have commissioned and provide input about problem areas along the corridor. You can also register here bit.ly/3w2rRTb for a virtual public meeting being held Tues, Aug 3.

10:00 AM · Aug 2, 2021 · Twitter Web App

INDOT Northwest
@INDOTNorthwest

REMINDER: INDOT is hosting three public meetings regarding the I-80/I-94 corridor starting this week! Project information may be viewed by visiting indianaflexroad.com. Learn more about the public meetings here: content.govdelivery.com/accounts/INDOT...

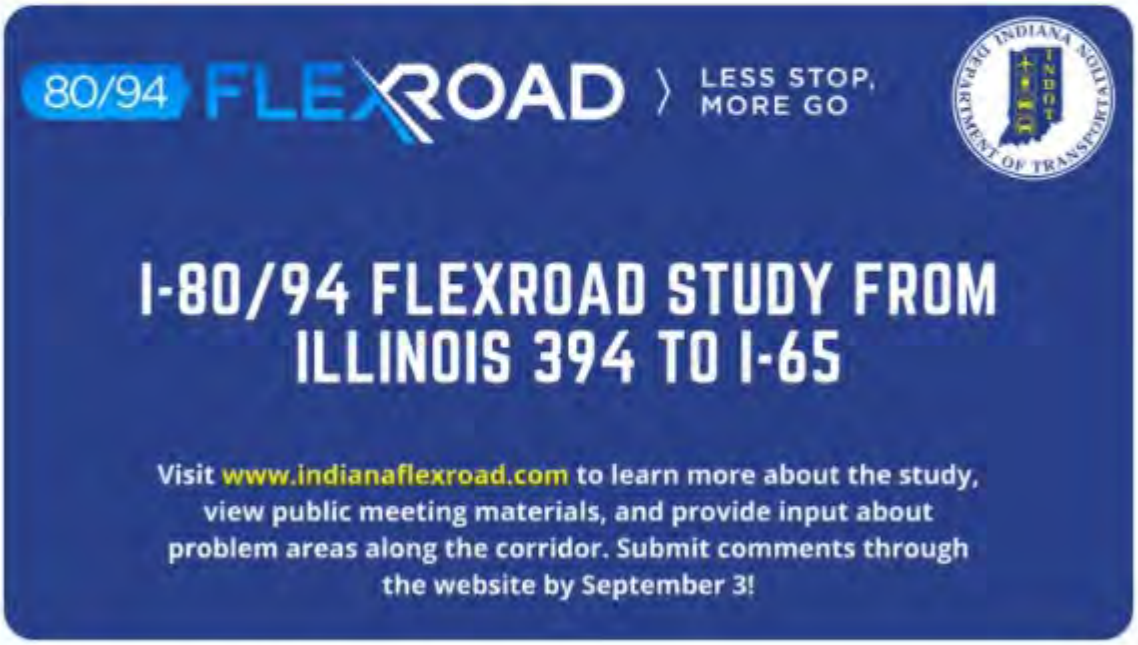
9:30 AM · Jul 26, 2021 · Twitter Web App

INDOT Northwest
@INDOTNorthwest

‼️ I-80/94 FlexRoad Study – Submit comments by Sept 3! ‼️

We still want to hear from you about your experiences using the Borman and the potential strategies we're considering to make it work better. Visit the project website to provide input!

➡️ indianaflexroad.com ⬅️



1:10 PM · Aug 12, 2021 · Twitter Web App

1 Retweet

Indiana Department of Transportation

INDOT seeking comments on the I-80/94 Borman Expressway

Indiana Department of Transportation sent this bulletin at 08/26/2021 10:19 AM EDT

Indiana Department of Transportation

News Release

INDOT seeking comments on the I-80/94 Borman Expressway

NORTHWEST INDIANA - The Indiana Department of Transportation has commissioned a Planning and Environment Linkages (PEL) study to determine how to apply the latest technologies to cost-effectively improve traffic on I-80/94 between Illinois 394 and I-65 so that drivers get ***less stop*** and ***more go.***

INDOT hosted two public information meetings July 28 and 29 and a virtual meeting August 3 regarding this study. All materials from the meetings, including a recording of the virtual meeting, are available on the project website: www.indianaflexroad.com.

INDOT is seeking input from the public regarding their experiences using this corridor and the potential strategies being considering to make it work better. Comments are being accepted on the project website through September 3, 2021. The website includes an interactive map where users can review the project area and leave comments on areas needing potential review.

More public meetings will be scheduled this fall to provide an update on the study's progress as a result of the comments provided. Information about those meetings will be provided on the project website, through email, and on the INDOT Northwest Facebook and Twitter pages.

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indot@indot.IN.gov


80/94 FlexRoad Public Meeting Locations
ILLINOIS
INDIANA
Public Meeting #1
21st Century Charter School
Public Meeting #2
Purdue Northwest Campus
KENNEDY AVE
169TH ST
W 15TH AVE
GRANT ST
912
294
80
94
83
53
CALUMET AVE
41
CAC Meeting #2
Best Western NW Indiana Inn
BURR ST
65
394
RIDGE RD
Gary/Chicago Airport
Lansing Municipal Airport
N

Public Information Meeting July 28, 2021

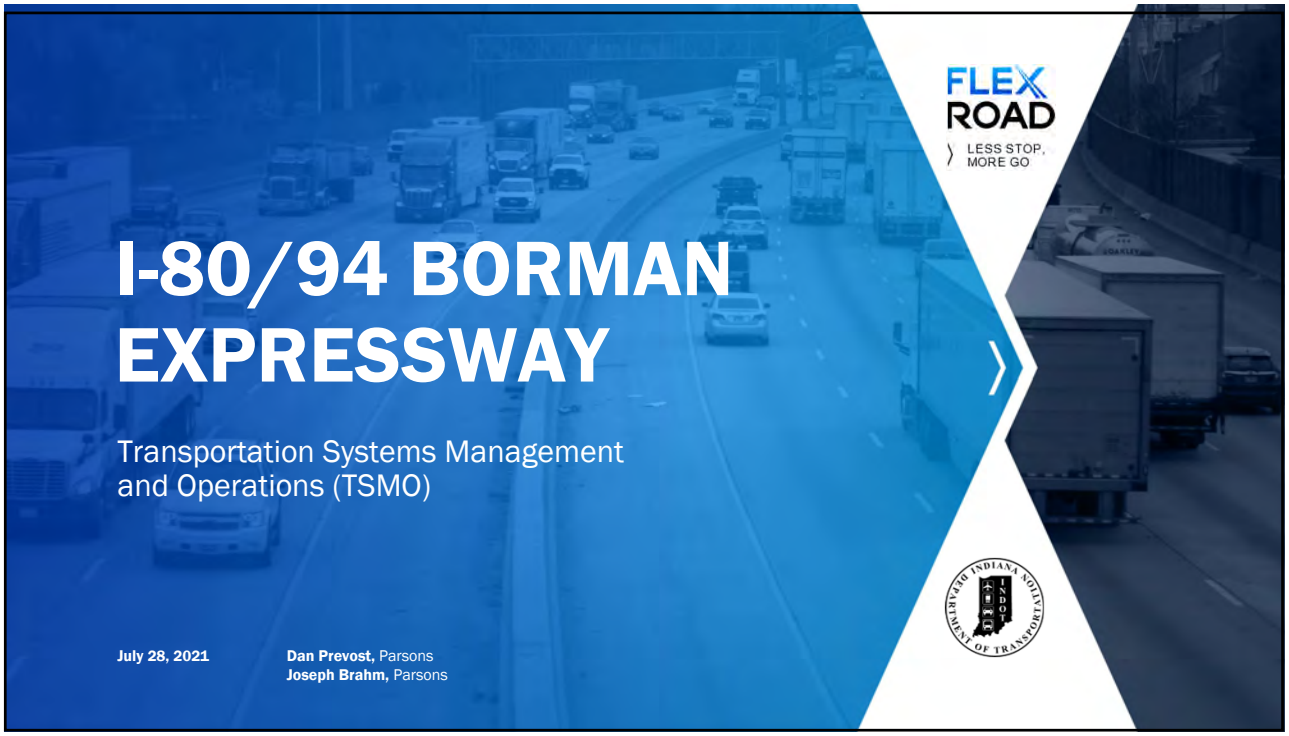
Number	First Name	Last Name	Organization	Email	Street Address	City	State	Zipcode	Mailing List?
1	Warren G.	Blackmon	Resident						
2	Charles	Bradsky	NIRPC						
3	Kurt	Horton	Quigg Engineering Inc.		1				

Public Information Meeting July 29, 2021

Number	First Name	Last Name	Organization	Email	Street Address	City	State	Zipcode	Mailing List?
1	John	Cengel	Resident						
2	Steve	Euvino	The Times						
3	Bicycle	Frank	Resident						
4	Beverly	Holeman	Resident						
5	David	Holeman	Resident						
6	Dennis	Ogden	Resident						
7	Terry	Pierson							
8	Rex	Sherrard	Resident						

Virtual Public Information Meeting August 3, 2021

Number	First Name	Last name	Email
1	Kyle	Armstrong	
2	Kari	Carmany-George	
3	Terry	Heffron	
4	Laura	Hilden	
5	Cyril	Huerter	
6	Jackson	Hurst	
7	Brandon	Miller	
8	Jessica	Miller	
9	Raquel	O	
10	Dennis	Ogden	
11	Jay	Seaburg	
12	Michael	Siffer	
13	Amber	Thomas	
14	Ty	Warner	
15	Tim	Werner	
16	Joseph	Wszolek	
17-21	4 call in users		



1

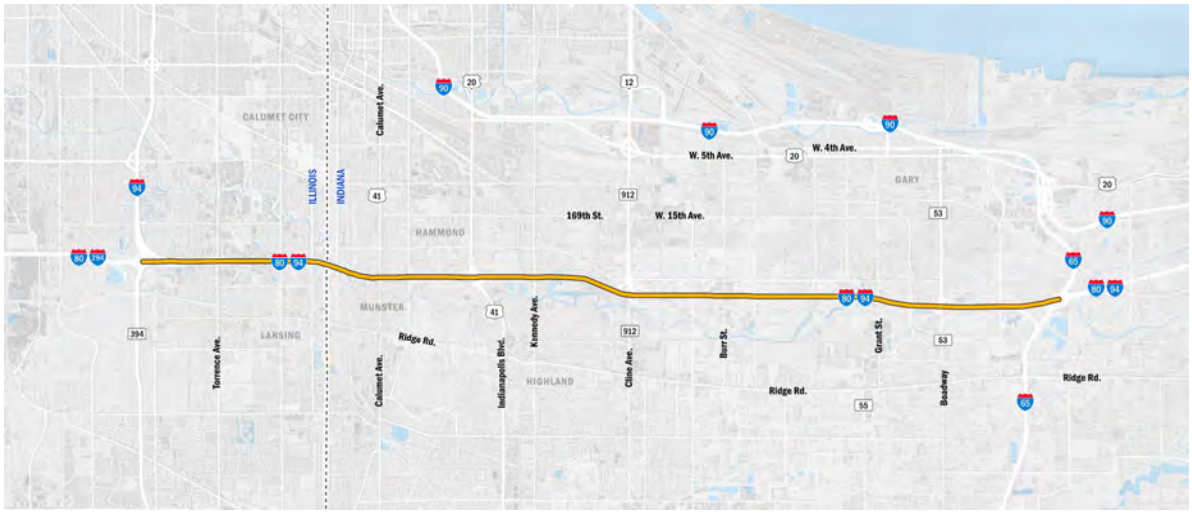
AGENDA

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

2

The Borman Expressway

IL 394 to I-65



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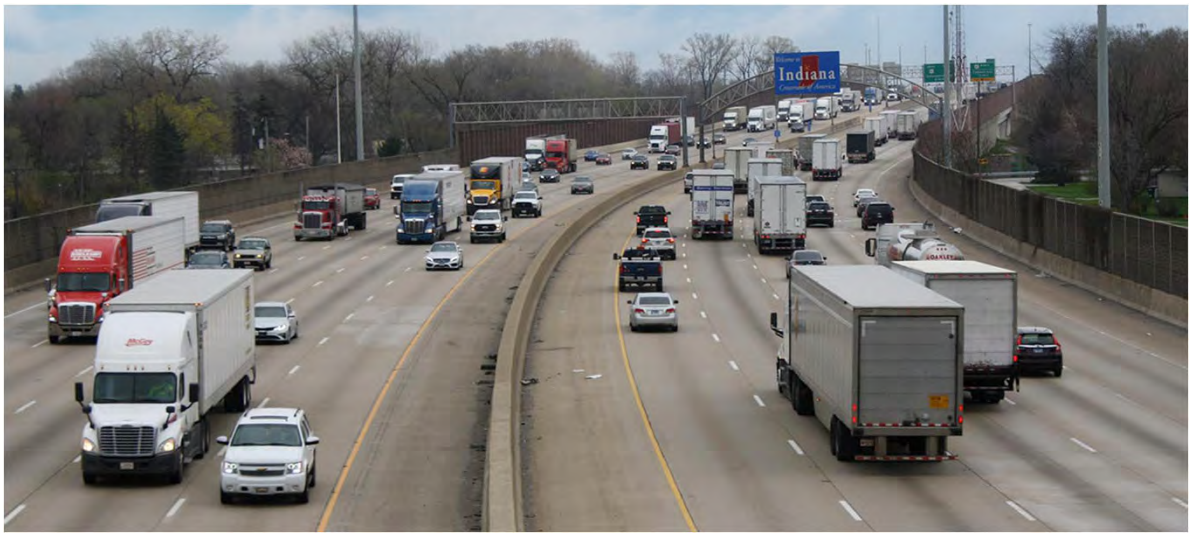
The Borman Expressway



4

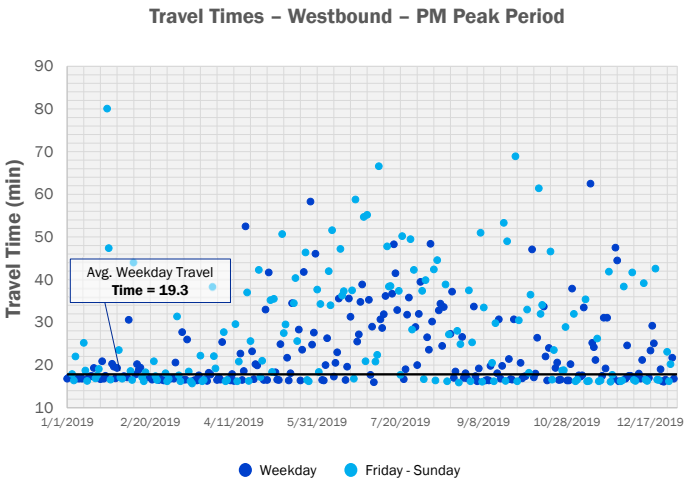
The Borman Expressway

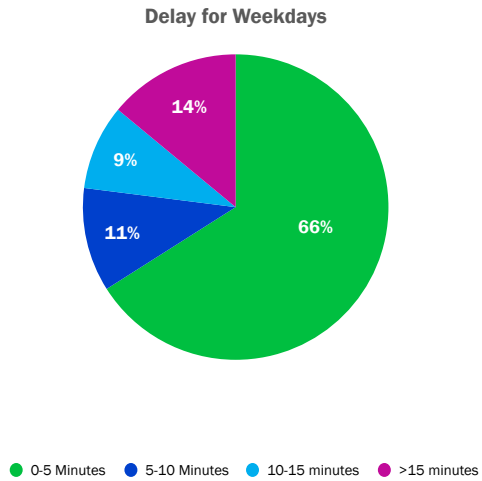
Photo: Northwest Indiana Times

5

Current Conditions

Traffic – Corridor Travel Times





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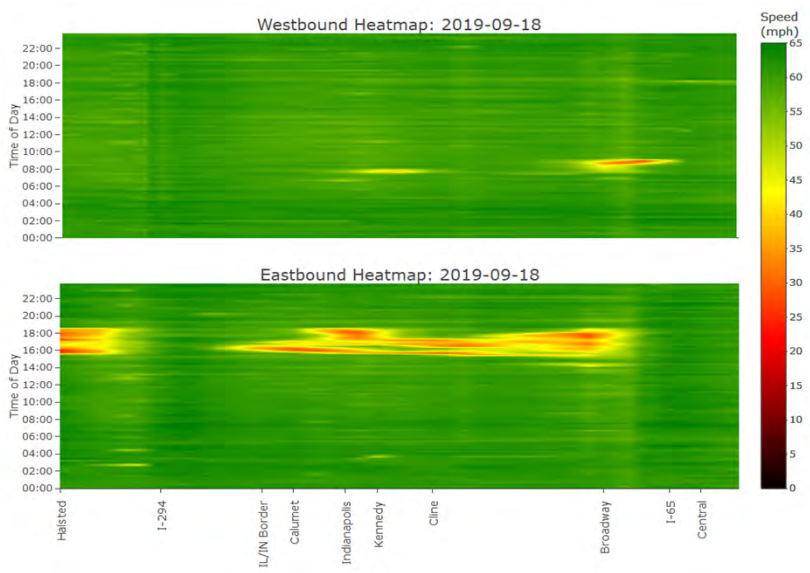
Current Conditions

Traffic – Typical Weekday



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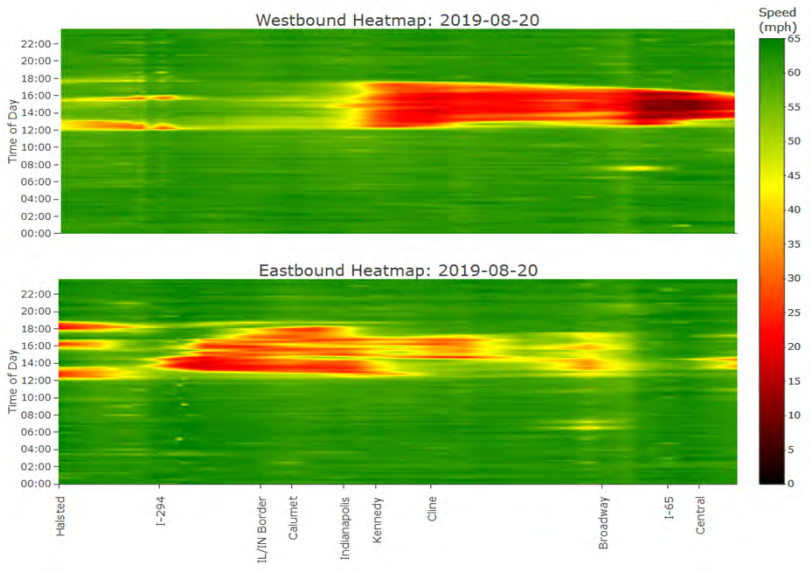
Current Conditions

Traffic – Weekday Incident



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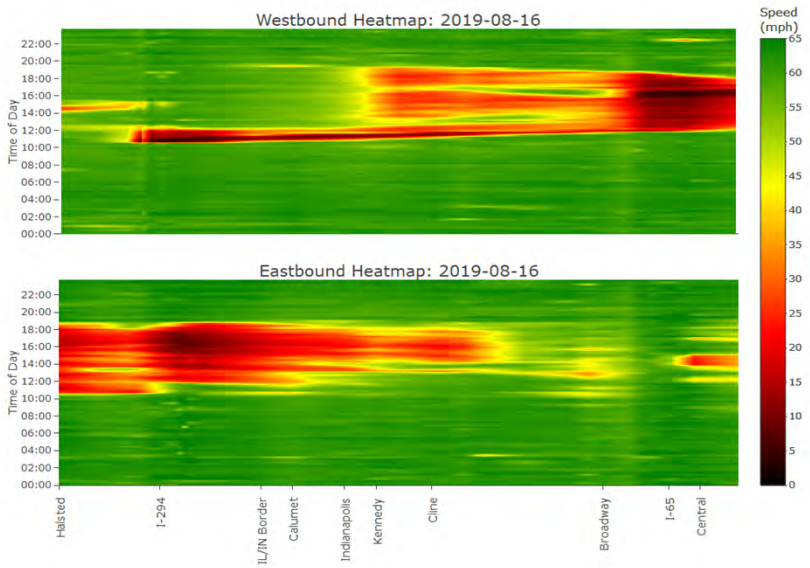
Current Conditions

Traffic – Typical Friday



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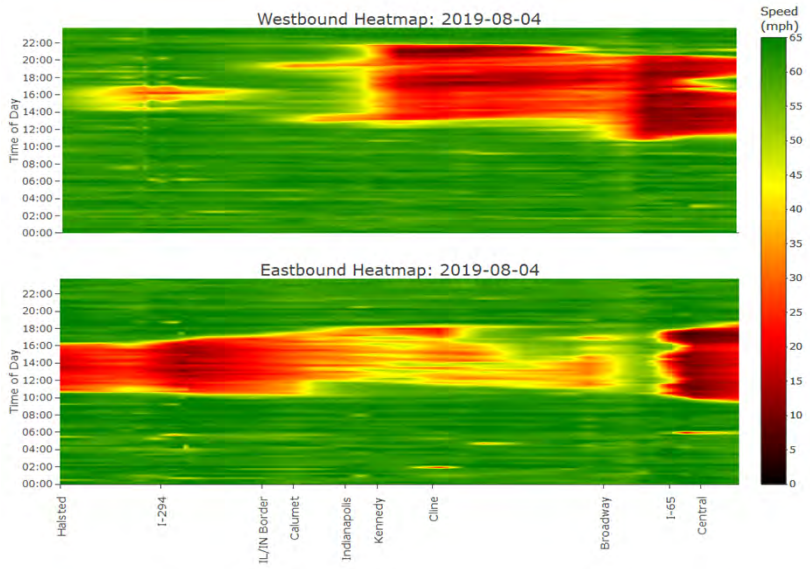
Current Conditions

Traffic – Typical Sunday



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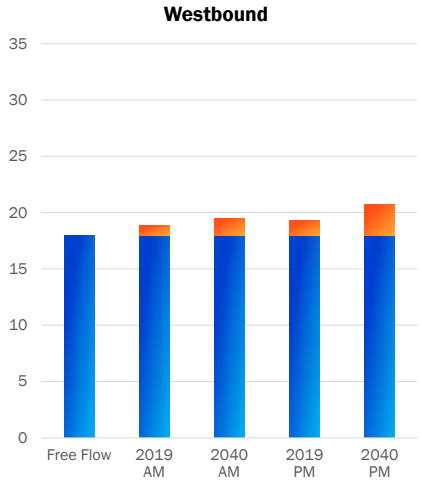
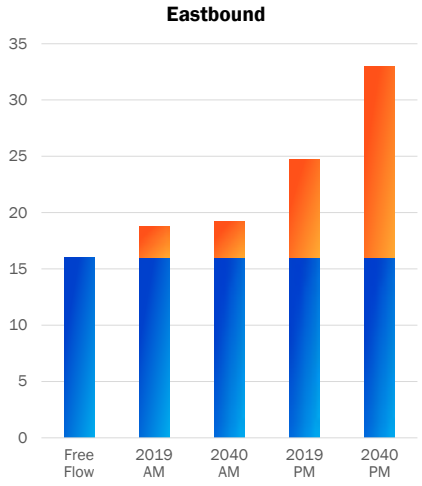
Current Conditions

Traffic – Corridor Travel Times & Delay





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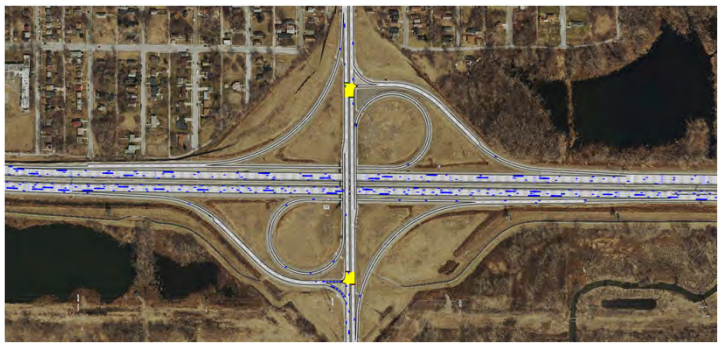
11

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



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12

Current Conditions

Safety

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

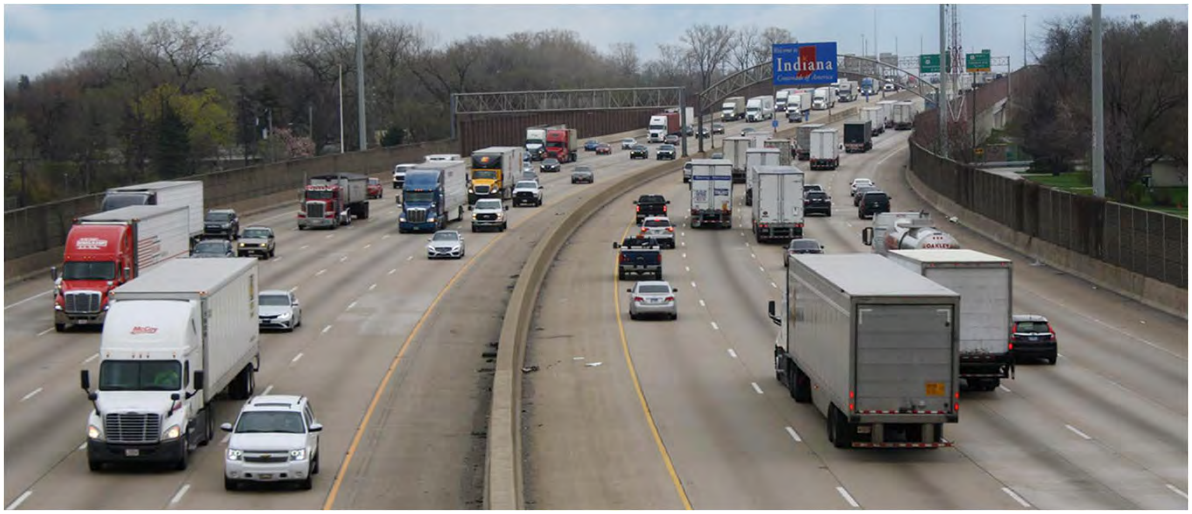
Ways to Comment:

- 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

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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)

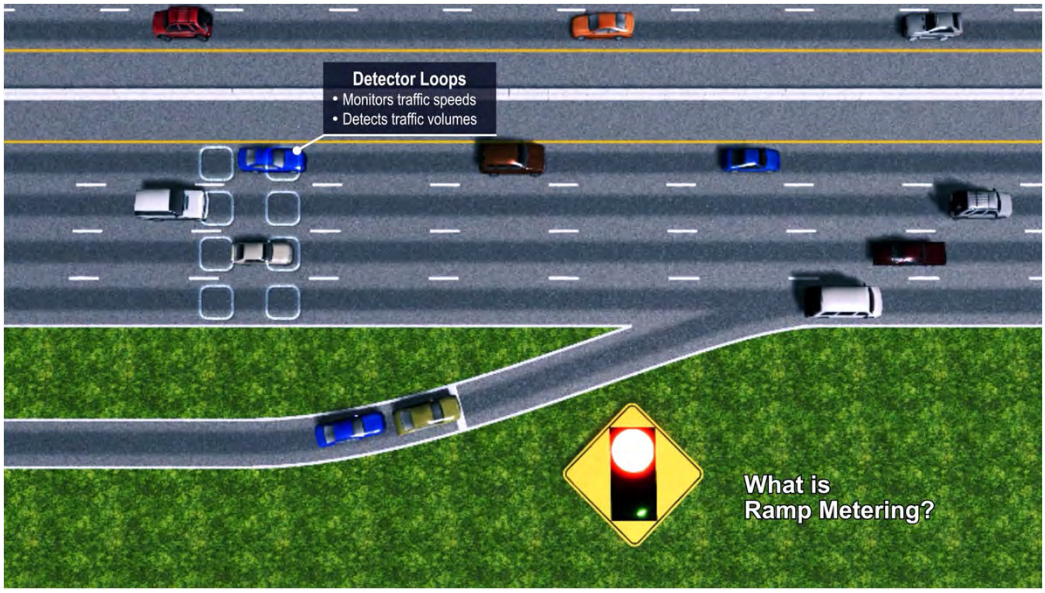
23

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

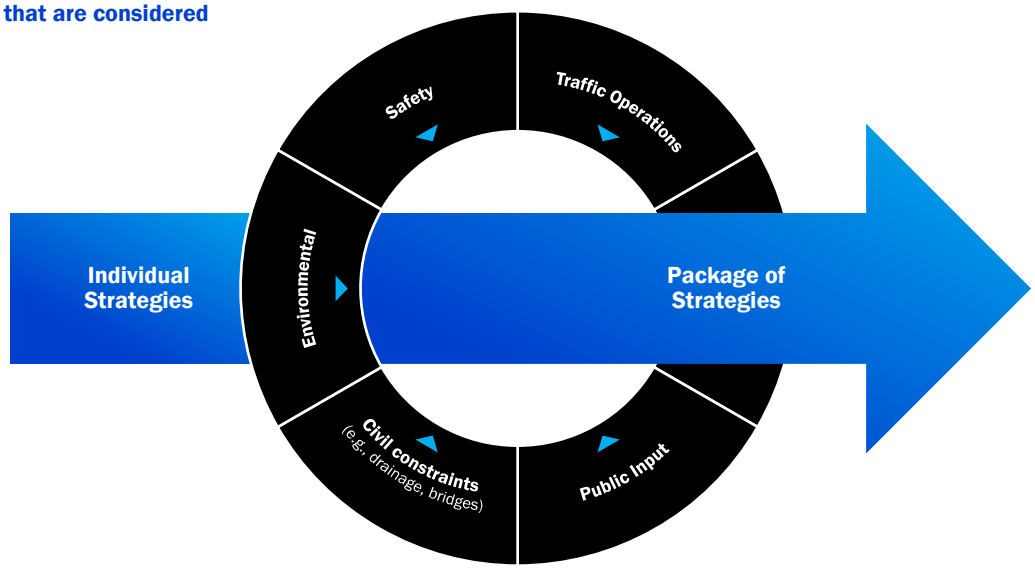
Behind the Scenes Strategies

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

26

Identifying an Integrated Solution

Factors that are considered



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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

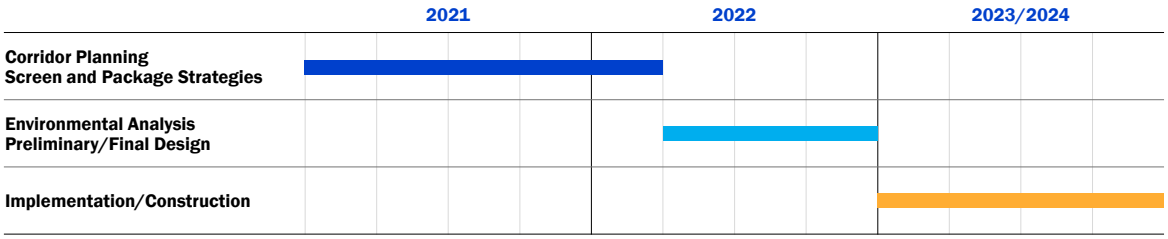
28

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

31

THANK YOU

www.indianaflexroad.com

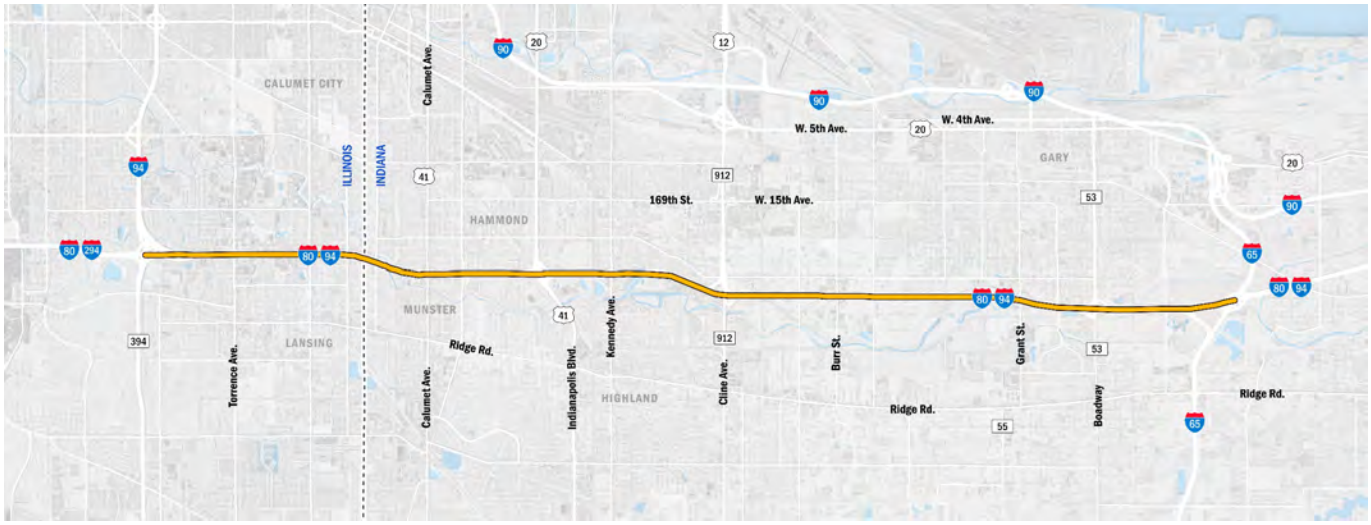
32

32

80/94 FLEXROAD

July 2021 Public Meeting

I-80/94 BORMAN EXPRESSWAY
Transportation Systems Management and Operations (TSMO)



THE STUDY

The Indiana Department of Transportation (INDOT) is leading a study in cooperation with the Illinois Department of Transportation (IDOT) and the Federal Highway Administration (FHWA) of the I-80/94 corridor from I-65 to IL 394. This corridor, also known as the Borman Expressway, is one of the most heavily traveled in the state of Indiana and is a critical route for commuters, travelers, and freight.

Current Conditions

The I-80/94 corridor carries over 204,000 vehicles per day with 31% of those being trucks. If there are no incidents, traffic typically operates efficiently. Except for the eastbound PM peak period, which is typically slower, speeds in the corridor on a "good" day are typically 50+ mph. But all it takes is a broken-down vehicle or a fender bender to disrupt traffic flow and cause speeds to drop, often taking more than hour to recover. With peak-period traffic expected to increase by up to 18% by 2040, the frequency of these disruptions is expected to increase.

The study team has identified a preliminary purpose and need to serve as a guide for the development and evaluation of alternatives:

- Address congestion during peak periods, including weekends
- Minimize the impact of incidents
- Reduce crash rates in the corridor

DID YOU KNOW?

The Borman expressway was named for Frank Borman a former astronaut from Gary Indiana, who commanded the Gemini 7 and Apollo 8 missions.

Stay connected to the study!

We want your input, please visit:
www.indianaflexroad.com

Using Technology to Improve Efficiency

With development abutting the highway on either side and bridges and interchanges that would require reconstruction, it's not practical to add lanes to the corridor. Instead, INDOT is looking at strategies that will allow them to manage the highway more efficiently, providing a more reliable and safer trip for drivers. Transportation Systems Operations and Management (TSMO, pronounced "tiz-mo") includes a range of strategies that utilize technology to improve the operations and safety of highways.

Over the last several months, the study team has been gathering data about the I-80/94 corridor, talking to those who maintain and serve the corridor (e.g., maintenance staffs and state police), and reviewing the full range of TSMO strategies to identify which strategies – either individually or as part of a package of strategies – would be most effective.

DYNAMIC SHOULDER LANES/LANE CONTROL

Temporary use of the shoulders to provide additional capacity during peak periods or when a lane is closed due to an accident or maintenance activity

VARIABLE SPEED LIMITS

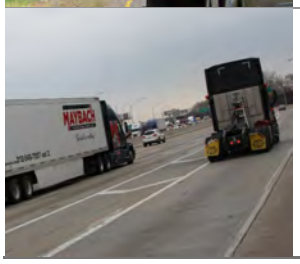
When traffic conditions start to break down, speed limits are lowered in order to reduce the stop-and-go conditions that often lead to accidents.

RAMP METERING

Traffic signals control – or meter – the flow of vehicles entering the highway so that they can more effectively merge with traffic.

QUEUE WARNING

Sensors in the roadway detect congestion and warn drivers ahead of time so that they can safely reduce their speed.

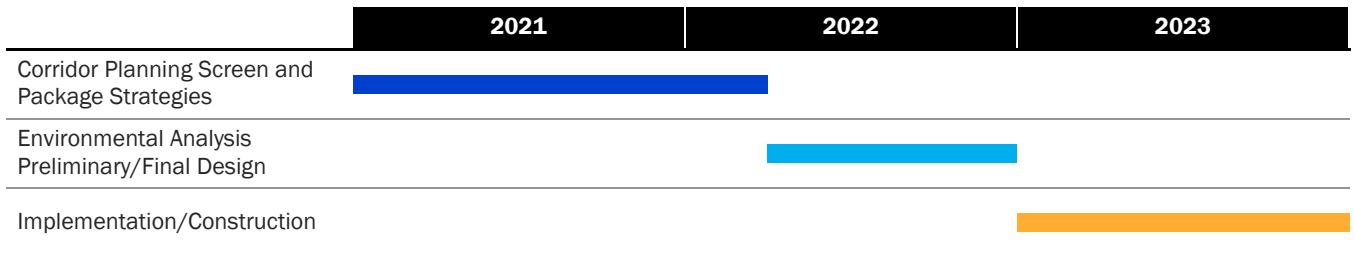


BEHIND THE SCENES STRATEGIES

The study team is also looking at several less noticeable strategies designed to improve roadway operations and shorten incident response and clearance times. For example, cameras and sensors that monitor the highway can be used to identify incidents and congestion. This data is sent in real-time to INDOT's Traffic Management Center (TMC), where it is analyzed by computers and reviewed by TMC staff. The study team is looking at strategies to enhance the computer systems at the TMC to more quickly dispatch emergency responders to incidents and improve data sharing with other transportation agencies in the region, including IDOT, the Indiana Toll Road, and Illinois Tollway.

Study Process and How You Can Get Involved

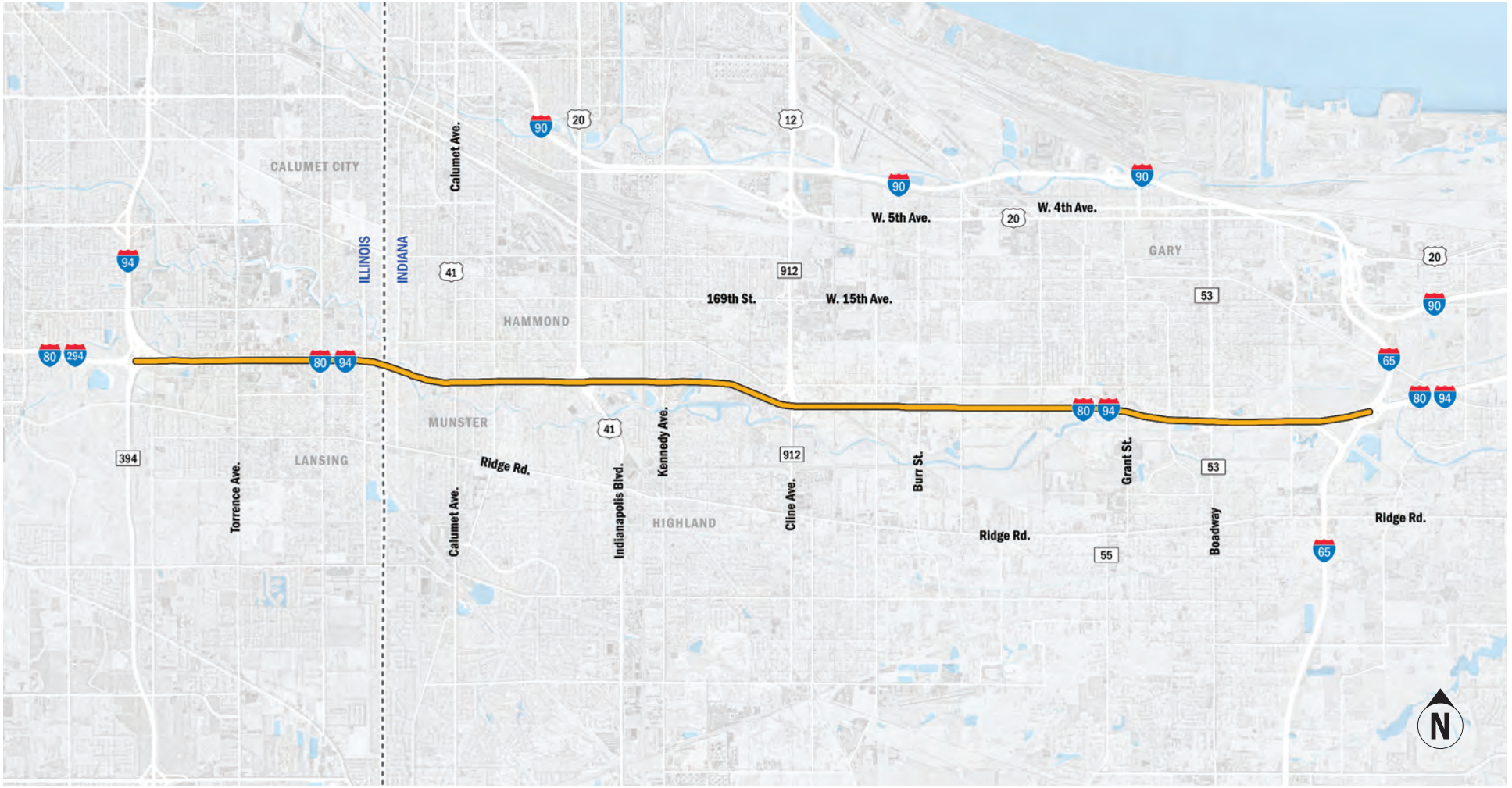
Over the next 6 months, the study team will be working to define the problem, evaluate potential TSMO solutions, and identify any environmental or community concerns. We're reaching out to other transportation agencies, state and Federal agencies, and the general public for input. You can participate by reviewing study information available tonight and at **www.indianaflexroad.com,** completing the comment form, and sharing the information with friends and neighbors.



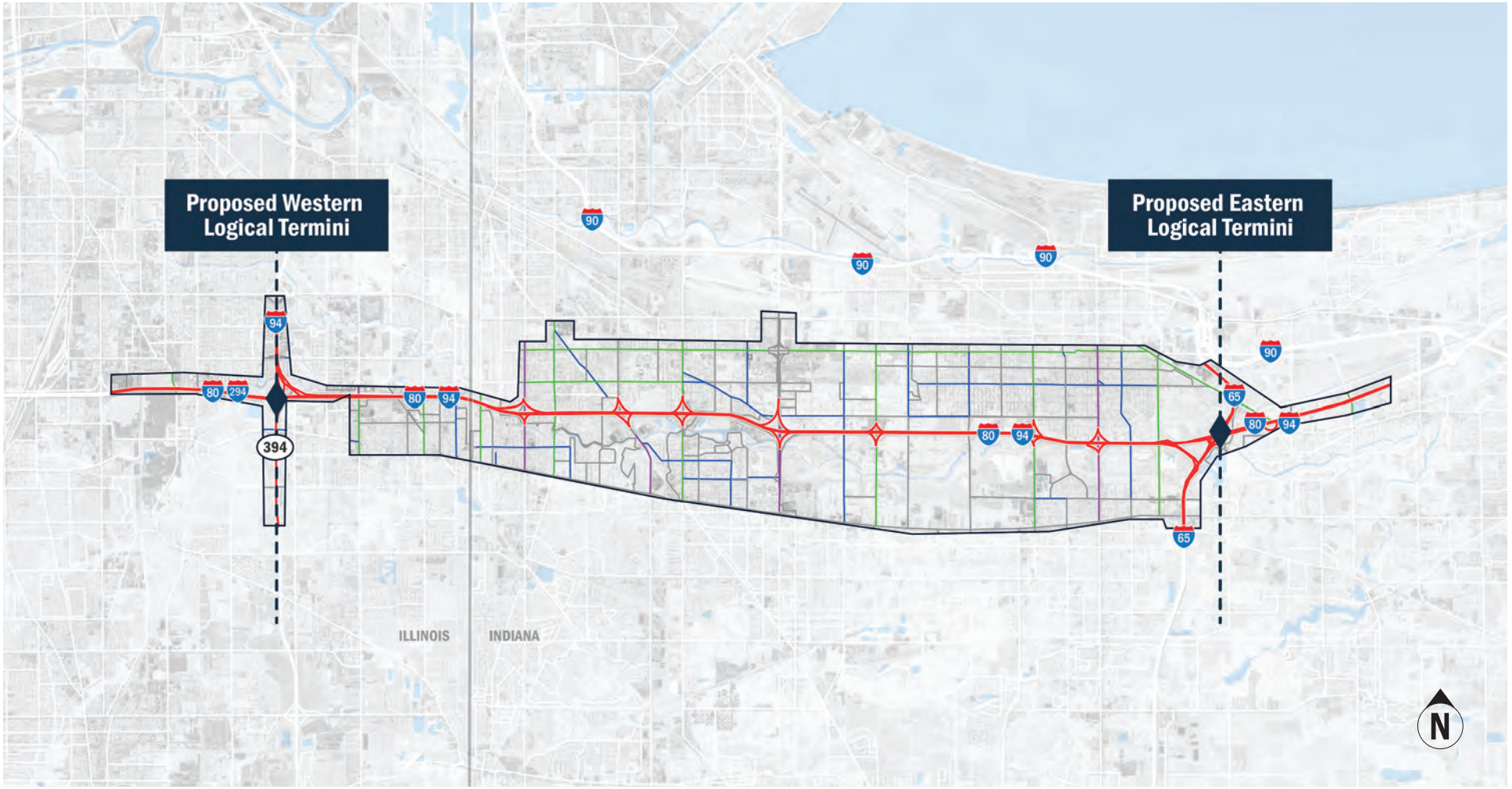
For more information or to sign up to receive study updates via email, go to **www.indianaflexroad.com**

I-80/I-94 Expressway Study Limits

IL 394 to I-65



Help us Define the Study's Purpose and Need

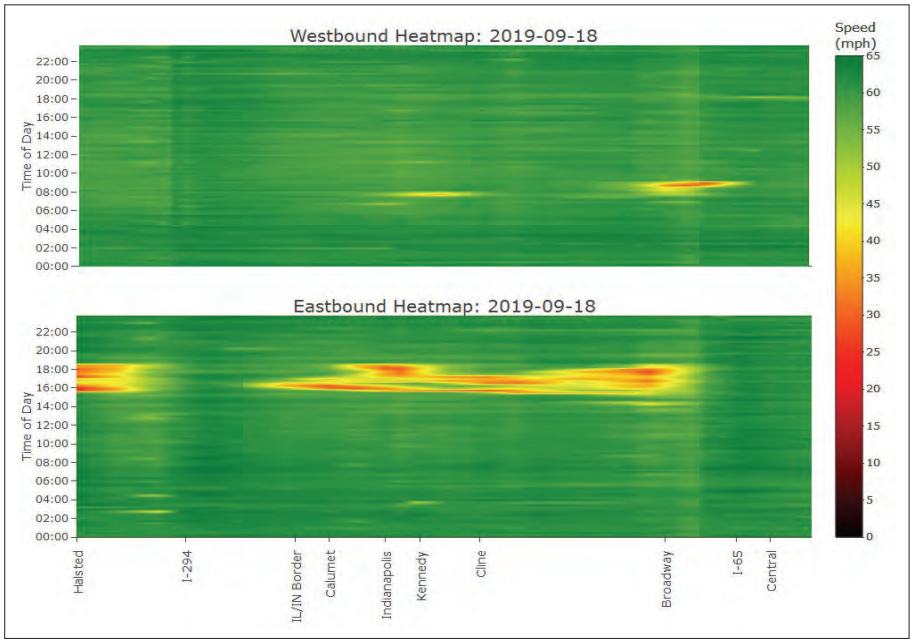


Corridor wide congestion issues/causes

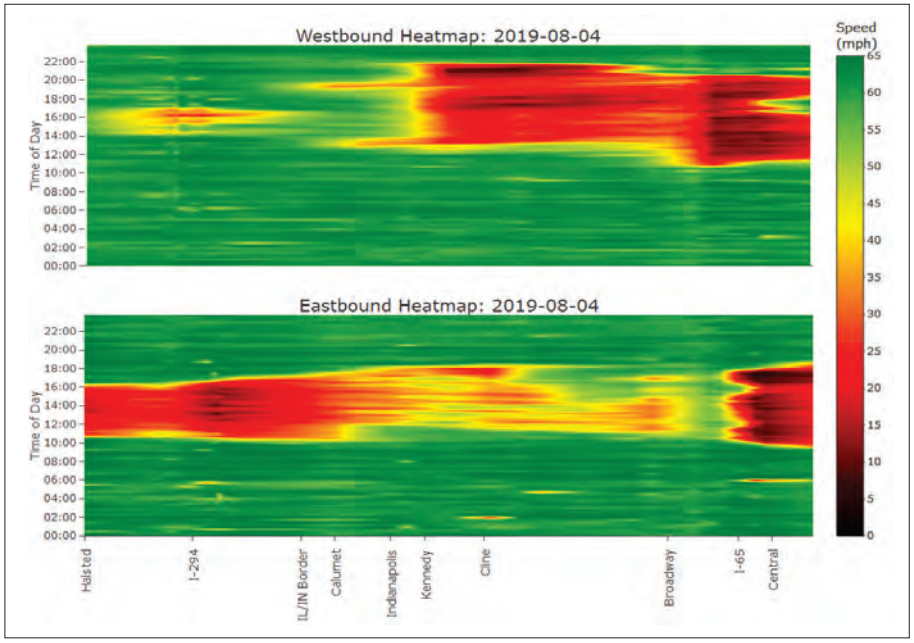
Recurring Congestion

Current Observed Speeds, Travel Times

Typical Weekday



Typical Sunday



- Average daily traffic (AADT) ranges from 204,000 at the state line to 158,000 at I-65
- Trucks comprise up to 31% of daily traffic and up to 25% of peak-hour traffic

I-80/I-94 Average Weekday Peak-Period Travel Time, Delay (Compared to Free-Flow Conditions)

		Travel Time *(Minutes)*				
	Travel Time Route	**Free-Flow Travel Time**	**AM Travel Time**	**AM Delay**	**PM Travel Time**	**PM Delay**
2019	WB from I-65 to IL 394	18	18.9	+0.9	19.3	+1.3
	EB from IL 394 to I-65	16	18.8	+2.8	24.7	+8.7
2040	WB from I-65 to IL 394	18	19.5	+1.5	20.7	+2.7
	EB from IL 394 to I-65	16	19.2	+3.2	33.0	+17.0

Improving Safety Along the Corridor

Current Crash Data

High Crash Segments

11 of 22 westbound segments are identified as either high-crash frequency of high-crash severity segments

13 of 20 eastbound segments are identified as either high-crash frequency of high-crash severity segments

Transportation Systems Management & Operations (TSMO) Strategies

How to Increase Efficiency Without Adding More Lanes? Technology and Operational improvements

Potential TSMO Strategies

- Dynamic Shoulder/Hard Shoulder Running (HSR)
- Dynamic Lane Control
- Variable Speed Limits (VSL)
- Queue Warning
- Ramp Metering

A combination of lane control, hard shoulder running, and variable speed limits

Queue Warning

Ramp Metering

Variable Speed Limits and Queue Warning

Comment Summary

The 80/94 FlexRoad project (Des. 1901643) had an open comment period from July 12 to September 3, 2021. During this time, comments were received through the project's website (www.indianaflexroad.com), the two in-person public meetings, one virtual public meeting, the project survey, and via email. The public was asked to provide comments on the project pertaining to congestion, safety, ramps, and any general comments. A three-question survey was also handed out during the public meeting and made available electronically on the project website.

During the public comment period, the project's website had over 3,500 visits, of which were 1004 unique visitors. Users left 62 comments on the project map and submitted nine surveys electronically. Over 30 people attended the three public meetings, provided the project team with over 40 comments, and completed two surveys. The content of the public comments is summarized below.

Congestion Hotspots – 16 Comments

Specific areas of congestion were noted on the project website and are summarized below. Comments generally mentioned areas where lanes began or ended which led to cars moving around and leading to slow downs. Trucks using the left lanes was mentioned in multiple comments.

- Lanes feel tighter and more restrictive when crossing into Indiana due to the high sound barriers and the curve in the road. The perception of a constricted roadway leads to slowdowns.
- Eastbound I-294/94 merges two lanes into one. Also have people moving across lanes to exit to Calumet Avenue.
- Merging traffic from Torrence Avenue to eastbound 80/94 disrupts traffic because of a short auxiliary lane causing traffic to cut in front of mainline travel.
- Eastbound congestion approaching I-65 as motorists decide too late to move lanes to exit. The ramp is also not wide enough even after the original expansion. Three lanes on the exit ramp are recommended.
- Westbound 80/94 traffic slows down before Broadway.
- Section of roadway near Torrence Avenue is congested, especially westbound 80/94.

Safety Issues – 21 Comments

Specific areas where safety issues arise were noted on the project website and are summarized below. Comments ranged from line of sight, bottlenecks, speeding, cars moving back and forth, drainage, and asking for dedicated police patrols. Primarily, safety issues mentioned were from cars and trucks moving back and forth between lanes. Additionally, comments noted potholes, and drainage issues and debris in the shoulders along the corridor.

- Motorists use the exit ramp lanes to cut into traffic at the last minute at the 294 interchange.
- The entrance ramp to eastbound 80/94 from Bishop Ford has cars moving across all lanes when entering from 159th Street.
- There is a dip in the road on westbound 80/94 close to Torrence Avenue in the first lane.
- The Illinois/Indiana border has different lanes and there is a curve in the road.
- Trucks are using all lanes near the I-65 interchange causing unsafe conditions.

Ramp Issues – 17 Comments

Specific ramp issue areas were noted on the project website and are summarized below. Primary issues noted were concerning bottlenecks and cars moving across lanes to exit or enter quickly causing slowdowns and safety issues. Cars enter onto 80/94 without adequate spacing between them. The ramps and auxiliary lanes associated with entrances and exits were also noted to be long which caused more safety issues.

- The Calumet Avenue on-ramp to westbound 80/94 holds water which can block traffic during heavier rain events.
- The piers on the Cline Avenue on-ramp bridge to eastbound 80/94 are large and will limit the use of the inside shoulder for potential TSMO strategies.
- There is not enough space for people to merge onto eastbound 80/94 from Cline Avenue as people are also exiting to Burr Street.
- Entrance ramp from Burr Street to westbound 80/94 needs two lanes. The merged lanes on the ramp are unsafe.
- Traffic volume at the Burr Street interchange is too great with the new casino. There needs to be a combined westbound exit for Burr Street and Cline Avenue.
- The eastbound entrance ramp from Broadway and I-65 exit ramp is difficult to navigate.
- The signage on northbound I-65 to 80/94 is not clear and the ramp design to westbound 80/94 is difficult to navigate.

General Comments – 43 Comments

General comments ranged from a variety of topics, but many mentioned trucks using left lanes, speeding, and amount of congestion due to lack of other routes through the area. Multiple comments mentioned pursuing dedicated truck, express, or high occupancy vehicle lanes to ease traffic. Updating signage was also mentioned multiple times.

Survey Responses – 11 Responses

Question 1 – Answers mentioned weaving cars, trucks, and traffic volume as the primary problems in the corridor.

Question 2 – Ramp metering and queue warning were the most liked strategies but also had mixed reactions from other comments. Comments noted that ramp metering with the current ramp design does not seem like a good idea. People would not know how to adjust to a new system of driving on the shoulder or using ramp meters. Additionally, one comment expressed that ramp metering should only be considered for smaller interchanges, not Cline Avenue, as most people will not likely abide. Drainage should be considered if the inside shoulder may be used for hard shoulder running. Strategies that keep trucks in the right lanes and out of the left were mentioned multiple times.

Question 3 – Answers mentioned contacting trucking organizations, Indiana Constructors Inc., and cities in the area. Additionally, one comment mentioned school parent associations and churches to help spread information.

Number	Date Received	Comment(s)	Category	Response	Email	Name
1	7/19/2021	Eastbound at I-65 merge, Broadway EB ramp traffic conflicting with I-65 entrance lanes. Close the ramp, that way EB traffic can merge earlier.	Ramp Issue	Online Map		
2	7/21/2021	Too many cars entering the highway without adequate spacing in between. This comment applies to almost all the entrances in the corridor study area. I would like to see use of metered lights (red/green) to allow better timing and spacing of traffic entering the highway	Ramp Issue	Online Map		
3	7/21/2021	Along the whole corridor I would like to see dedicated police patrols to cut down on speeding and erratic lane changes. Enforce the speed limits	Safety Issue	Online Map		
4	7/22/2021	People are merging onto 80/94 EB from Cline the same time people are trying to exit Burr. The space to do this in is comical. Add on top a flashy new casino sign soon and more drivers will be distracted.	Ramp Issue	Online Map		
5	7/22/2021	Several cars use the exit ramps as a way to cut into traffic at the last minute causing the far right lane to be sig slower. More police/cameras to catch this. Another idea would be to have the inner median lane in both directions be an 'express' lane so that you cannot enter/exit until past a certain point.	Safety Issue	Online Map		
6	7/22/2021	Start looking again into building the Illiana expressway from Illinois to I 65, get the trucks off the Borman and save gas!!	General Comment	Online Map		
7	7/22/2021	Sorry folks down here, what ever happened to the proposed road here between 65 and 394? With the south shore line moving south seems like it would be a nice idea to accommodate everyone else moving south as well. Here's looking at you Hoosiers and Chicago folks! :)	General Comment	Online Map		
8	7/22/2021	All ramps at Burr street need to have two lanes going in each direction. Two lanes that turn into one lane going West on the Borman is a accident waiting	Ramp Issue	Online Map		
9	7/22/2021	There needs to be an eastbound combined exit for Cline and Burr street. There is too much traffic coming off of Cline and exiting at Burr with the new casino. Entrance/exit is too short for that volume.	Ramp Issue	Online Map		
10	7/22/2021	There needs to be a westbound combined exit for Burr and Cline. With the new casino, the traffic volume is too much for the current configuration.	Ramp Issue	Online Map		
11	7/23/2021	Drive many years. Fridays and Sunday’s are awful. Coming into Indiana. And going into Chicago. Rush hours are congested 7 am -9am. 2pm-7pm. Monday-Friday. Worse now that so many commute to Chicago from Indiana.	General Comment	Online Map		
12	7/23/2021	While we are studying this project, why don't we expand to include the possibility of restudying the Illiana corridor? That would be the first small step towards making the Borman a better and safer corridor!	General Comment	Online Map		
13	7/26/2021	Congestion has been a problem for years. I355 was supposed to relieve this but, that will never happen. The suggestions I've read are a waste of time & money. This problem won't be addressed until alternate routes are built!	General Comment	Online Map		

Number	Date Received	Comment(s)	Category	Response	Email	Name
14	7/28/2021	Send outreach to truckers for the CAC Why not use HOV lanes? What will emergency response look like during/after construction? will there be turnarounds for them? How does ramp meter detection work? the animation makes it seem like the cars are being released when there is an opening, not necessarily at regular intervals.	General Comment	In-Person		
15	7/28/2021	Traffic slows approaching I-65 exit from EB 80/94 partly because many drivers wait until last minute to enter exit lanes causing slowdown for everyone. Dedicated exit lane(s) with barrier for Broadway and I-65 starting near Grant Street.	Ramp Issue	Online Map		
16	7/28/2021	Express lane(s) with barrier for through traffic	General Comment	Online Map		
17	7/29/2021	Wesbound I-65 Ridge merging onto ramp leading to 80/94 needs arrows notifying merge Lane marking need to be darker. EB Kennedy-Cline Lanes 1,2 EB Kennedy-Burr all lanes SB WB Cline Bridge - Kennedy Road Issues: EB Lane 1 right at Torrence Merge, EB 94 merge with 80/294 merge results in a do or die because no one gives. Plus jumping to the Calumet Avenue lane., WB lane 1 horrible between Cline bridge to Kennedy Ramps: Lane ends merge left, WB Cline - Calumet, EB Blvd	Road, Lane, Ramp issues	In-Person		
18	7/29/2021	Is this corridor comparable to US 23 corridor in Michigan?	General Comment	In-Person		
19	7/29/2021	There are not many people at this meeting. Have you advertised the project on social media?	General Comment	In-Person		
20	7/29/2021	Do you have a budget?	Budget	In-Person		
21	7/29/2021	Is I-90 as bad as the Borman?	General Comment	In-Person		
22	7/29/2021	This roadway has long auxiliary lanes, so will ramp meters work? People merge in vs people using the auxiliary lane to pass trucks.	General Comment	In-Person		
23	7/29/2021	Are these exit lanes unique as they are so long? They can be a problem with people using them as through lanes	Safety Issue	In-Person		
24	7/29/2021	The right lane is under-utilized, most traffic is in the middle lane. Trucks are in the right lane, people don't want to ride with them	Safety Issue	In-Person		
25	7/29/2021	Are you using traffic/travel data when there is no construction on the Borman? There is a lot of construction throughout the year	General Comment	In-Person		
26	7/29/2021	Is the project team from Illinois?	General Comment	In-Person		
27	7/29/2021	Lane wiggle near the border of Illinois slows traffic in that area	Safety Issue	In-Person		
28	7/29/2021	How many gantries would there be?	General Comment	In-Person		

Number	Date Received	Comment(s)	Category	Response	Email	Name
29	7/29/2021	Sometimes the information signs display non-relevant information	General Comment	In-Person		
30	7/29/2021	Will wrecker services bid to be the responder for the incentivized clearing?	Incentivized Recovery	In-Person		
31	7/29/2021	Cary you split the EB lane at the 294 merge?	General Comment	In-Person		
32	7/29/2021	New lane striping is needed, especially when it is raining you cannot see the lane lines.	Safety Issue	In-Person		
33	7/29/2021	What is the cost estimate for 1 mile of pavement repair? I see a lot of large spots being replaced throughout the year. Wy not just replace it all at once?	General Comment	In-Person		
34	7/29/2021	If this road is a high priority it should have the best pavement to avoid recurring maintenance.	General Comment	In-Person		
35	7/29/2021	Build a bridge across Lake Michigan to break up the 2 interstates on one road.	General Comment	In-Person		
36	7/29/2021	Maximize the time there are 4 open lanes along the road	Congestion Issue	In-Person		
37	7/29/2021	Is it possible to toll the Borman at different times?	General Comment	In-Person		
38	7/29/2021	Are truck idling emissions factored into construction times?	General Comment	In-Person		
39	7/29/2021	What is the driving force behind the 80/94 project? How did it get started?	General Comment	In-Person		
40	7/29/2021	Does Illinois contribute a relative percentage of funds to their percentage of roadway within the project area?	Budget	In-Person		
41	7/29/2021	For the incentivized recovery, is there freeway service patrol looking for broken down vehicles?	Incentivized Recovery	In-Person		
42	7/29/2021	Example shown for ramp metering are for SHORT on-ramps. Borman on-ramps are quarter-mile long. Clearing on-ramps using singlas will enourage more use by drivers using them to pass right through-lane traffic. Need to discourage misuse of existing lanes.	Ramp Issue	In-Person		
43	7/29/2021	Get drivers out of exit-only lanes ASAP. Arrows/chevron alternate markings. Short-dash lane lines. Rumble strips, spots, etc. Flashing lights. Enforcement personnel. People use them as passsing lanes, speeding up, then slam on brakes at last moment and merge.	Safety Issue	In-Person		
44	7/29/2021	Luminous surface marking 24/7/365 is essential for both safety and driver operational and navigational clarity. Re-mark every 2 years need it or not. No defferred maintenance for surface marking.	Safety Issue	In-Person		
45	7/29/2021	Trucks too many!	Congestion Issue	In-Person		
46	7/29/2021	Speed cameras underneath the bridge - mail out tickets!	Safety Issue	In-Person		
47	7/29/2021	better signage at lane drop	General Comment	In-Person		
48	7/29/2021	Keep I-65 NB traffic merging into WB 80/94 to right lanes for about 0.4 mile	General Comment	In-Person		
49	7/29/2021	Sight line of bridge at Cline and jog of lanes. Bottleneck	Safety Issue	In-Person		
50	7/29/2021	EB 294/94 merge two lanes become one and you have people merging across to get to Calumet Ave lane	Congestion Issue	In-Person		
51	7/29/2021	WB 80/94 close to Torrence by 94 split there is a dip in the road in the 1st Lane	Safety Issue	In-Person		
52	7/29/2021	IL/IN has different lanes. Bottleneck	Safety Issue	In-Person		

Number	Date Received	Comment(s)	Category	Response	Email	Name
53	8/2/2021	I have been driving this corridor for the past 20 years. Eastbound ramp to I65 south was never wide enough from original expansion years ago. You need at least 3 lanes. Also ridge road lane exit is wasteful and causes confusion to some drivers. Bottle necks occur frequently at lane merge at central. This needs to be extended further to at least the toll road.	Congestion Hotspot	Online Map		
54	8/2/2021	Enforce truck lane restrictions and/or make signage more visible along the entire corridor. Always multiple trucks in the two left lanes.	Safety Issue	Online Map		
55	8/2/2021	I believe the problem is that the Borman is the only eway to get from IL to IN. So drivers are stuck taking the same roadway to Michigan, Porter counties, or mid to southern lake IN counties. I think making an additional eway connecting US-231 to 394 would alleviate some overcrowding on Borman. Also there is never any cops on the Borman so during rush hour you have cars weaving in and out of traffic at high speeds. Ultimately I feel other alternative routes are needed for IN folks to go east.	General Comment	Online Map		
56	8/2/2021	The confusion and congestion for the I-65 split begins back here. Many people switching lanes frantically to get in/out of the I-65 driving lanes in time.	Congestion Hotspot	Online Map		
57	8/2/2021	Bad spot morning rush/afternoon, Friday afternoon rush	Congestion Hotspot	Online Map		
58	8/2/2021	An awkward merge from the left lane, the lane ends about a mile before the I-80 / I-90 interchange. Makes for lots of congestion.	Congestion Hotspot	Online Map		
59	8/2/2021	Consider a carpool or high occupancy lane the entire route!	General Comment	Online Map		
60	8/2/2021	ramp to Eastbound Borman from Bishop Ford is too loose. Cars cutting across all 4-5 lanes when entering from 159th.	Safety Issue	Online Map		
61	8/2/2021	Truck lane enforcement! No reason there should be a semi doing 50 in the inside lanes!	General Comment	Online Map		
62	8/2/2021	The merge from EB 94 on to SB 65 is a mess when going on to the ramp. Individuals cut people off regularly and others can't seem to find their accelerators so overall it is ripe for an accident	Ramp Issue	Online Map		
63	8/2/2021	Truck lane enforcement as well as continuing the lane restrictions so the trucks don't run in the 2 far left lanes. Generally speaking, the trucks run too fast thru the area and don't consider their load (frequently steel coils) nor what they can control in the congested space.	Safety Issue	Online Map		
64	8/2/2021	I think they need to have one shoulder and use the far left as a fifth lane in and out of 94 until they can make an extension from 69 to 55.	General Comment	Online Map		
65	8/2/2021	North bound I 65 to westbound 89/94 ramp design difficult to navigate, bottleneck at end causes slow down in acceleration lane. Then lane drop due to exit only at Broadway causes more merging. Create truck only lane. Add HOV lanes.	Ramp Issue	Online Map		
66	8/3/2021	Other strategies that could work: managed lanes, HOV lanes, HOT (high occupancy toll) lanes, truck only lanes, cordon pricing, corridor tolling. Would there be a mailing list for the project?	General Comment	In-Person		
67	8/3/2021	Because of the (generally) longer entrance ramps on the Borman, ramp metering is not going to provide much benefit here.	Ramp Metering	In-Person		

Number	Date Received	Comment(s)	Category	Response	Email	Name
68	8/3/2021	Is separating lanes into express and local an option? or separating truck VS auto lanes an option?	General Comment	In-Person		
69	8/3/2021	I've pushed for specific I-65 bypass routes since the early 90s, running from I-94 just East of Michigan City, going South of Valparaiso, then near Lowell, then swinging West into Illinois with the recommendation that they run it West of Joliet, West of O'Hare to connect again to I-94 in the vicinity of Kenosha, WI. In '06 and '08 when the Borman was completely shut down from flooding for extended periods, I really thought there would be a smart look at an I-65 bypass plan. I strongly suggest you consider that now.	General Comment	In-Person		
70	8/3/2021	The issue with increased traffic is greatly due to the high cost of the SkyWay/Indiana Toll Road. Costs have tripled in the last 15 years which pushes more traffic onto the Borman. Cline Avenue now being a toll bridge did not help the situation. Without a second low cost E/W path through the region, the Borman will continue to bear the brunt of the traffic load. We need to take a wholistic look at the area and either lower the cost of the Skyway route or create an additional southern route.	General Comment	Online Map		
71	8/3/2021	Piers size on these ramps will limit use of shoulder	Ramp Issue	Online Map		
72	8/3/2021	Median shoulder has many drainage issues that should be addressed if used as a managed lane. These issues come up during MOT conditions already. Discuss with LaPorte Area Engineer	Safety Issue	Online Map		
73	8/4/2021	I used to live in East Chicago and took Cline Ave to Chicago Skyway daily. When this road was removed I had to take 80/94 daily. Paying off Skyway debt, and making it a low cost alternative to 80/94 for Chicago bound traffic would make the Borman less congested. For non-Chicago bound traffic we need additional East West corridors, perhaps another route south of US30 that routes from I-65 to 80 West and I-355 would improve the entire regioal traffic flow.	Congestion Hotspot	Online Map		
74	8/5/2021	INDOT needs to learn how to implement option lanes on multi-lane exit ramps. INDOT's old design of parallel exit lanes requires more lane changing than necessary. INDOT needs to change the exit ramp from I-80/94EB to I-65SB to an option lane configuration, with arrow per lane (APL) signage. This is common in other states such as Utah and Florida. INDOT is always last to implement low-cost improvements such as this to improve traffic operations.	Ramp Issue	Online Map		
75	8/5/2021	Poor, out of date signage on I-65 NB approaching I-80/I-94/US 6. When the interchange was reconfigured, the movement between I-65 and I-80/94 should have been made the "mainline" and not still an exit ramp. The current exit ramp should be changed to an option lane ramp to reduce lane changing, and the approach signing should be changed to APL signing.	Ramp Issue	Online Map		
76	8/5/2021	INDOT should change their name to Indianapolis Dept of Transportation, since NW IN gets constantly screwed over! The Borman is perhaps the heaviest truck corridor in the US, yet gets no improvements!	General Comment	Online Map		

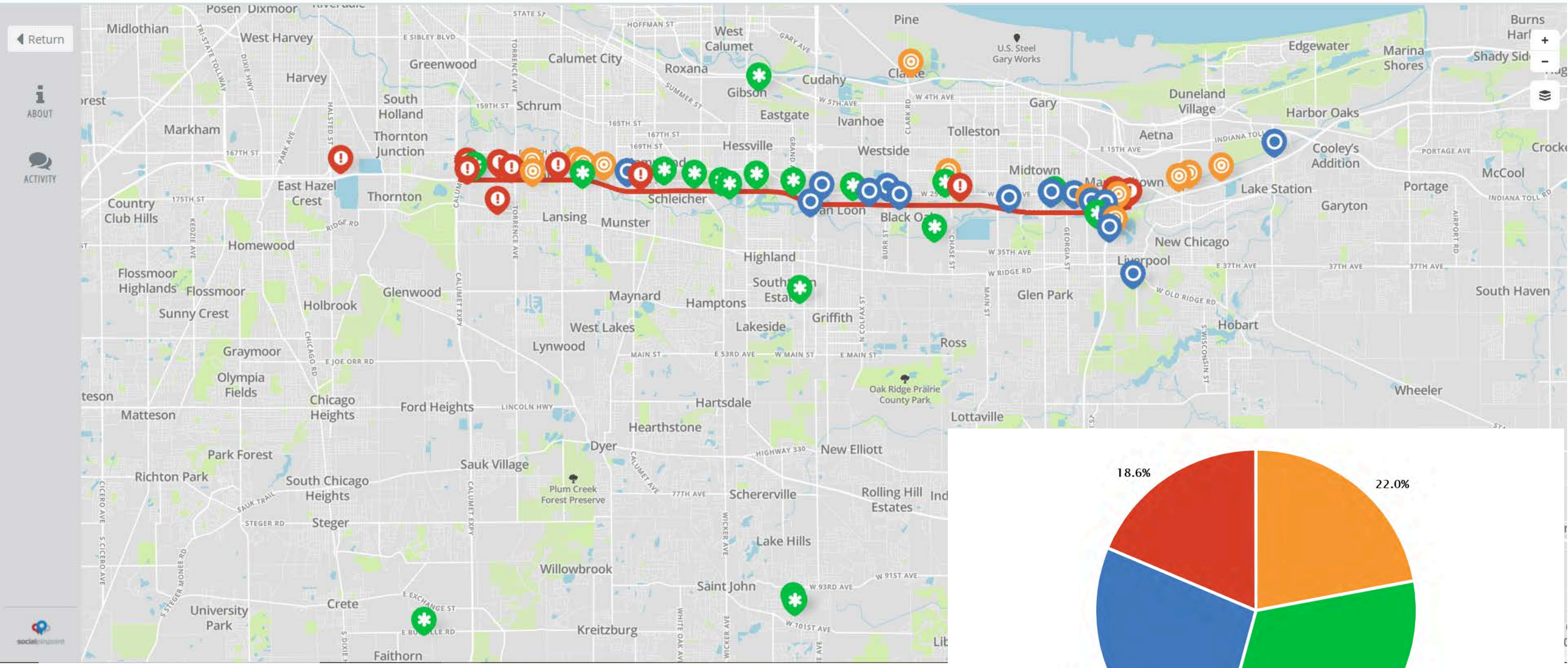
Number	Date Received	Comment(s)	Category	Response	Email	Name
77	8/5/2021	The environmental wackos shot down the Illiana Expressway project. The current transportation system in NW Indiana is killing economic growth. The congestion and truck traffic on the Borman is a total joke. I-355 should be extended south and to the east into Indiana, tying into upgrading US 30 to freeway standard all the way to Fort Wayne. There isn't an east-west freeway across the entire northern half of IN. The Toll Road is basically on the Michigan border!	General Comment	Online Map		
78	8/5/2021	Florida built elevated lanes (piers in the median) of the Selmon Crosstown Expressway in Tampa that are WB in the morning and EB in the afternoon. Texas builds elevated lanes in the median to add capacity on their freeways without having to acquire right of way. INDOT is simply too incompetent and cheap to do innovative ways of adding capacity like these.	General Comment	Online Map		
79	8/6/2021	I don't think I have been on this stretch of road without grinding to a halt or slow roll in years, especially going westbound.	Congestion Hotspot	Online Map		
80	8/6/2021	This stretch of highway might be a good candidate for piloting a dedicated truck lane. https://www.hw-lawfirm.com/resources/blog/dedicated-18-wheeler-truck-lanes-will-it-ever-happen/. Also, I was I70 in Colorado recently, and they had an "Express" toll lane that switched directions different times of the day. Not sure how much the toll was, however.	General Comment	Online Map		
81	8/11/2021	One of my most memorable 5 days a week commute on 80/94 was coming off of the Tri-State to the Calumet Ave. exit. It seemed like the volume and speed of traffic increased greatly...trucks especially. The condition of the pavement also deteriorated as I entered Indiana.	General Comment	Online Map		
82	8/12/2021	The left lane ending 1 mile before the I-80/90 Indiana toll road exit is silly and dangerous. Adding an additional travel lane so that the Borman is atleast 8 lanes from the Indiana Toll Road exit to the Illinois state line would reduce congestion significantly and make for a safer trip to Chicago.	Congestion Hotspot	Online Map		
83	8/12/2021	Find a way for traffic to merge Eastbound from Torrence without disrupting traffic. The right land ends and everyone keeps cutting in front of everyone. Also, many people have been using the shoulder to speed through and it’s getting dangerous. Many cars cannot merge properly because traffic is backed up.	Congestion Hotspot	Online Map		
84	8/12/2021	Enforce trucks use 2 right lanes. So many times I have been getting cut off by truck drivers while in the left lane and they ride it for as long as possible, usually until they see a cop.	Congestion Hotspot	Online Map		
85	8/18/2021	Truck drivers need to stay out of the two left lanes. They cause cars to change 2 lanes over to pass them on the right, and cause huge congestion every single day the past 6 years I've been driving this. I'm tired of it	Congestion Hotspot	Online Map		

Number	Date Received	Comment(s)	Category	Response	Email	Name
86	8/20/2021	People decide what to do far too late approaching 65, especially eastbound. This causes congestion the closer you get to 65 because people cut across multiple lanes of traffic and eventually have to stop, even if in the wrong lane, because eventually they realize they have to get over and they're at the point of no return. If the left lane was a barricaded express lane for 3-4 miles from 65 on back, at least through traffic would continue to flow.	Congestion Hotspot	Online Map		
87	8/26/2021	There's a forced inside merge at the end of the ramp from SB Bishop Ford to EB Kingery/Borman. The ramp has two lanes at this point, and the left one is forced to merge with the right main lane, while the right ramp lane becomes a fifth mainline lane for a bit. It seems to me it would be safer to end the rightmost ramp lane before the merge and have the remaining lane continue as the fifth lane on the expressway proper.	Safety Issue	Online Map		
88	8/26/2021	The sudden drop from a wide open right-of-way surrounding the highway in Illinois to a narrow right-of-way with high sound barriers close to the shoulders in Indiana, combined with the reduction in visibility due to the curve, causes a general slowing of traffic EB in this area. The lanes feel much tighter once you cross the state line. Regardless of whether the narrowing is truly on the highway or not, the perception of constriction leads to slowdowns.	Congestion Hotspot	Online Map		
89	8/26/2021	The speed limit of 55 on this entire stretch is absurd. When traffic flows normally, most vehicles are going 65-75 without issue. Trying to maintain a speed of 55 even in the right lane feels downright dangerous.	General Comment	Online Map		
90	8/26/2021	This on and off ramp on the east and west bound sides is not safe. It gives you no time to get up enough speed. At that same time you are dealing with people trying to get off the freeway. People have to slow way down which causes back up.	Ramp Issue	Online Map		
91	8/26/2021	EB 80/94: Combine Broadway exit ramp with I-65 exit with clear signage for both. This would keep the exit ramp to Broadway and considerably extend the I-65 ramp. A divider would help make that exit clearer to drivers. To avoid congestion on that ramp it needs to be 3 lanes going to I-65.	Ramp Issue	Online Map		
92	8/26/2021	During lane closures for construction, signage to instruct on "Zipper Merge" i.e. remain in the lane which is closing and then adjoining lane traffic allow space for smooth merges, rather than traffic backing up in the lane next to the closing lane.	General Comment	Online Map		
93	8/26/2021	Since the Illiana is dead, would it be possible to add a lane to the Borman and create express lanes from the Michigan line to the Illinois state line with possible bailouts at 65, Burr (for the casino) and Indianapolis?	General Comment	Online Map		
94	8/26/2021	Both locations mentioned are relatively snow-free and infrequently experience ice. Elevated roadway on bridge structures would form a great skating rink in northwest Indiana. Such structures are therefore used in this area only when absolutely necessary.	General Comment	Online Map		
95	8/26/2021	Complete fail ! Most days West bound traffic is slowing down before Broadway, your motto is backward, less go and more slow is what it should be !!	Congestion Hotspot	Online Map		
96	8/27/2021	Getting on EB from Broadway is difficult with all the traffic trying to get onto I65 They cut across Lanes Truly scary especially on Fridays	Ramp Issue	Online Map		

Number	Date Received	Comment(s)	Category	Response	Email	Name
97	8/27/2021	Something needs to be done. Semis flying all over the several lanes. You can't drive the speed limit. Put trucks in left hand lane.	Safety Issue	Online Map		
98	8/28/2021	I agree 100%	General Comment	Online Map		
99	8/30/2021	Constantly holding water which during heavier rains blocks lanes of traffic.	Ramp Issue	Online Map		
100	8/30/2021	Most of the congestion starts here. The merge from Halsted onto the Tri-State going eastbound creates a bottleneck that goes past the quarry and towards the state line.	Safety Issue	Online Map		
101	8/30/2021	Shoulders needs to be cleaned of debris weekly. The shoulders are not safe to pull into with all the debris.	Safety Issue	Online Map		
102	8/30/2021	Make Ridge Road from I65 to Grant street a 4 lane road with a center turn lane. This would be a great bypass when an accident occurs on 80/94.	General Comment	Online Map		
103	8/31/2021	Giant pothole on in second to right lane on eastbound side. Hot patched yearly and tears up yearly. Will this ever be properly fixed?	Safety Issue	Online Map		

Number	Date Received	#1 - What do you think are the biggest transportation problems in the corridor?	#2 - What do you like/dislike about the strategies? Are there other strategies that you think we should be considering?	#3 - What groups or organizations should we be reaching out to? How can we spread the word effectively?	Response	Email
1	7/28/2021	North of I-65 to westbound 80/94 a little scary merging with traffic already at speed limit & keeping an eye with the traffic trying to merge as you are trying to do. Times are during the mornings & afternoons.	Ramp metering/Queue Warning very, very good.	Contact trucker & Teamsters Union. Police & Fire Departments	In-person	
2	7/29/2021		Variable speed limits & queue warning sound like positive ideas. Ramp metering with the current CD design just does not seem like a good setup.	City websites, INDOT website, Trucking Association, Motor Carrier Services - IFTA/IRP/Oversize overweight websites	In-person	
3	8/2/2021	Always bottlenecks between Kennedy Avenue and I65, then where it looses a lane near Ripley.	Work zones have been terrible this year. No warning about ramp closures, etc. would like to see flex lanes, controlled shoulder riding (not speeding) and controlled ramp entry.	School parent associations and churches could help get the word out.	Website	
4	8/3/2021	Large piers in Cline interchange limit shoulder width for use as lane Left shoulder vary in width from 11'9 to 14 feet Left shoulder cross slope problems with trucks hitting bridges drainage	Will drainage revisions be considered to improve median drainage so traffic can run more often Reconstruct median shoulder for cross slope improvement to raise inlets and improve drive ability of lane and allow more headwater on drainage Rain must be addressed if using median shoulders for traffic	Trucker outreach on a regional basis. Interview truckers	Website	
5	8/4/2021	There's just too much traffic that has to move pass Hammond and Gary to get to I-65, build the Lowell by-pass so those trucks don't have to come all the way north to head east and back south. This is especially during 1:30pm to 4:00pm heading east and 3:30-6:00pm heading west when truckers hit the road. Plus putting the Hard Rock on Burr Street really didn't help the situation.	I don't like the strategy because most people won't know how to adjust their driving to the new system of driving on the shoulder and ramp metering. I see in Chicago at the ramp meters people stopping when the light is green and people not accelerating fast enough to merge. The other problem with drivers here is they don't plan ahead or look ahead when driving and they over react when there's construction that requires all the lanes to shift. People seem to freak out and stop inside of just steering through the lane shifts. The latest example of this is the construction on I-80/94 over US 41. All four west bound lanes shifted to the left and instead of maintaining the speed limit and staying in the solid white line lanes people slammed on the brakes. INDOT has to be aware most drivers are drive with fear and most can't seem to understand traffic patterns.	I'm not sure about what agency can fix the above problem but driver's education comes to mind and make license testing harder.	Website	
6	8/4/2021	The biggest issue I have is Friday Afternoon and evening traffic. Unfortunately it isn't limited to just this corridor but impacts the entire Chicagoland Region. If at all possible I try to avoid traveling long distance on a Friday Afternoon and Evening through the Chicagoland Area. I will gladly wait until Saturday morning to travel through the Chicagoland area.	Queue Warning is nice but only warns me of the slow / stopped traffic a mile ahead. Need to have message signs that indicate travel times using various routes to popular destinations or well known interchanges. Ramp Metering is good for ramps that seem to receive a platoon of cars then there is a period of no vehicles. If the volume of cars is high and consistent then need to be careful of queuing onto the feeding roadway. Is there a dedicated Emergency Response Patrol for the I-80/94 corridor that can relocate disabled vehicles from the corridor? Presence of enforcement officers for speed limits and ramp metering enforcement. Are your weigh stations up to date to help reduce the number of unsafe trucks on the highway? Has your Over size over weight permit issuers put restrictions on when loads can be transported on the corridor? Was an HOV lane considered?	Truckers Associations, Illinois State Agencies such as IDOT and State Police. Greyhound and other transit companies that use the corridor.	Website	
7	8/4/2021	Drivers using on/off lanes as through traffic lanes. Drivers weave in and out of ramp lanes and back into through traffic lanes causing stoppage on exit lanes to merge back into through lanes.			Website	
8	8/12/2021	Yearafter year same zones crippled with construction between state line and Cline. Also Semis using 2 left lanes to travel from Michigan City to Illinois state line east and west bound. All hours.	Figure a way to keep semis out of left 2 lanes, WITH OR WITHOUT CONSTRUCTION.		Website	
9	8/12/2021	The two biggest problems are the total volume of traffice and the semi's. These result in accidents etc.	There are only two solutions to the problems i mentioned. For semi's, keep them in the appropriate lane(s). The other solution is not specific to the corridor, we need other routes in Lake county to get east/west as well as north/south that arent filled with stoplights etc.		Website	
10	8/26/2021	Congestion due to the limited number of INDOT maintained limited access routes with East and West travel. This is assuming ITRCC & Cline Ave bridge limit traffic due to tolls. Without diverting traffic away from this area TSMO will have limited success. When main Interstates become too land-locked and congested, bypasses are developed, adding to the overall capacity of the system. A-la I-465, I-294, I-290, I-355. As I'm sure you area aware of: - All traffic heading to or from Michigan from NWI/Illinois must use this zone. This volume appears to be unavoidable. - A significant amount of traffic heading to and from Ohio from NWI/Illinois must use this zone. traffic without access to the Skyway (south suburbs) has no option but to travel this zone to get to 80/90. - All traffic heading to or from central Indiana via I-65 from NWI/Illinois must use this zone. This appears to be where the biggest opportunity for diversion is possible.	Shoulder running is a good option but it assumes that drivers will not need to utilize the shoulders for emergencies. Queue warning should and work zone management should be handled by the existing ITS. Ramp metering should only be considered for the smaller interchanges, mainly not Cline Ave. Most folks likely will not abide. I don't know enough about variable speed limits, I've seen them around Cleveland and NYC, in stop and go traffic. Until a time where traffic can be diverted, TSMO appears to be a low cost, quick fix.	Indiana Constructions, Inc.	Website	
11	8/31/2021	Trucks are all over the lanes for the whole section being studied.	Keep the trucks to their own lanes. They slow things down when in the left lanes. Use express lanes for cars and auto ticket/toll semi trucks in them		Website	

80/94 FlexRoad Project Website Comment Map



PUBLIC MEETING AND COMMENTS SUMMARY

Meeting: 80/94 FlexRoad Public Information Meetings #2

Dates/Locations:

October 19, 2021, 5:30-7:30 PM: Purdue Northwest Campus, Student Union Library Building, 2233 173rd Street, Hammond, IN 46323

October 21, 2021, 6:00 PM: Virtual Meeting via WebEx

Attendees

October 19, 2021, In-Person Meeting

Name	Organization	Email
Caroline Loughren		
Stan Penner		
Terry Velligan	Cline Ave Bridge	
Michelle Quinn	Post-Tribune	
Beverly Holeman		
David Holeman		
Dennis Ogden		
Akhtar Zaman	Advanced Engineering Services	
Nathan Reeder		
Elena Cruz		
Josh Zatorski		
Joselin Jimenez	Indiana University Northwest	
Amaria Collins		
Khalifa Adiob	Indiana University Northwest	
Khakier Khan		
Sarah Wilson	Indiana University Northwest	
William Romanchek		
Alec Siurell	Indiana University Northwest	
Adnan Arkharrat	Indiana University Northwest	
Darline Pleasant	Indiana University Northwest	
Jessica Miller	INDOT	
Cassy Bajek	INDOT	
Adam Parkhouse	INDOT	
Amber Thomas	INDOT	
Alex Lee	Parsons	
Dan Prevost	Parsons	

Joseph Brahm	Parsons	
Craig Moore	Parsons	
Junell O'Donnell	Parsons	
Keaton Veldkamp	Parsons	

October 21, 2021, Virtual Meeting

Name	Organization	Email
Alan Bruggeman		
Brian Umbright		
"Call-In User"		
Carolyn Dillon		
Doug Beechman		
Jacqueline Burke		
Jay Seabrig		
Tim Zorn		
Terri Fair		
William Radell		
Tim Whalen		
MG		
Amber Thomas	INDOT	
Alex Lee	Parsons	
Dan Prevost	Parsons	
Joseph Brahm	Parsons	
Craig Moore	Parsons	
Junell O'Donnell	Parsons	
Tony Pakeltis	Parsons	

Meeting Summary

INDOT held two public information meetings (PIMs) in October 2021. For the in-person meeting, the doors opened at 5:30 PM and the meeting space was setup in an open-house style. Members of the public were asked to sign-in at the front table and were provided with comment forms and fact sheets (both handouts were available in English and Spanish). Members of the project team interacted with the public answering any questions they may have had. One set of eight graphic boards were displayed with the project team around. Another set of boards was setup in an adjoining room while a video explaining traffic systems management and operations (TSMO) and potential strategies played on a loop.

The presentation began at 6:00 PM CST. Dan Prevost, Parsons Environmental and Public Environmental Lead, welcomed those in attendance.

Dan Prevost gave a brief recap of the July public meetings. Dan reintroduced 'FlexRoad' as a new approach at INDOT that seeks to maximize the current road system using TSMO strategies. He then covered current traffic and safety conditions. Dan explained that feedback taken from the first public meeting and website was incorporated into the project's purpose and need. The TSMO strategies being evaluated are: Dynamic Shoulder Lanes, Ramp Metering, Variable Speed Limits, Queue Warning, Lane Control, and Traffic Event Management.

Craig Moore, Parsons Traffic Analysis Lead, explained the different strategies the project team evaluated. The project team analyzed how each strategy would affect travel time, average speed, travel time reliability, overall travel within the study area, safety, and how much it would cost to implement. While the strategies alone could improve various aspects within the corridor, they work best together. In addition to the various TSMO strategies, the project team is also looking at geometric improvements at the Broadway and I-65 interchanges. This would include changing access from Broadway to 80/94 and adding a third option lane on the eastbound ramp to I-65 southbound.

Dan Prevost asked the public what they thought of the strategies, whether the benefits were worth the costs, and what additional factors need to be considered. He then explained the next steps for the project. The project team will continue to gather and evaluate feedback, develop strategy packages, and then identify what packages should be carried forward into the National Environmental Policy Act (NEPA) phase of the project. A summary of the schedule moving forward was then explained.

Following the presentation, the project team facilitated a question-and-answer session. A summary of the questions and comments received is included in the attached comment summary.

The virtual meeting followed the same format with a presentation at 6:00 PM. Followed by a question-and-answer session. Attendees were directed to access the public meeting boards, fact sheet, and other materials on the project's website.

The meetings ended at approximately 7:30 PM and 7:15 PM, respectively.

The deadline for comments during this phase of outreach was November 22, 2021.

Attachments:

A. Meeting Location Map
B. Meeting Sign-In Sheets
C. Meeting Presentation
D. Public Meeting Display Boards
E. Fact Sheet
F. Comment Form
G. PIM Comment Summary

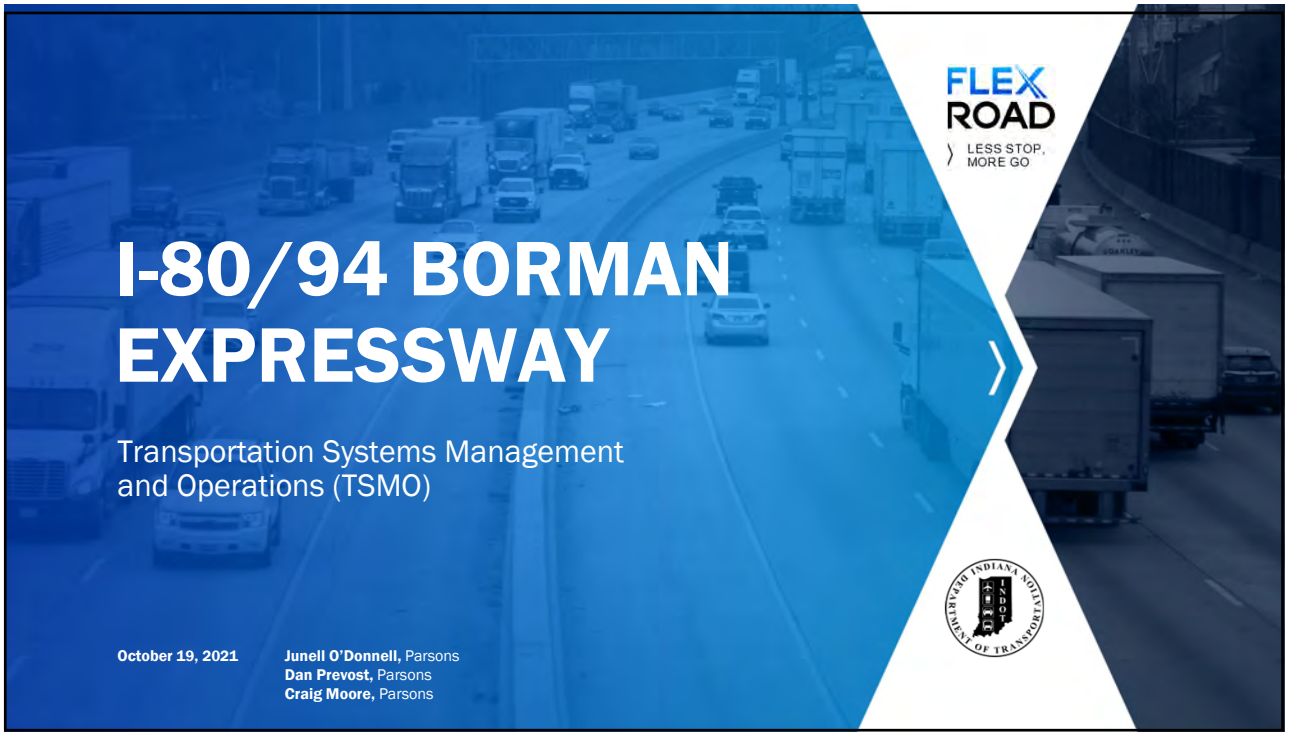
80/94 FlexRoad Public Meeting Location

Public Information Meeting October 19, 2021

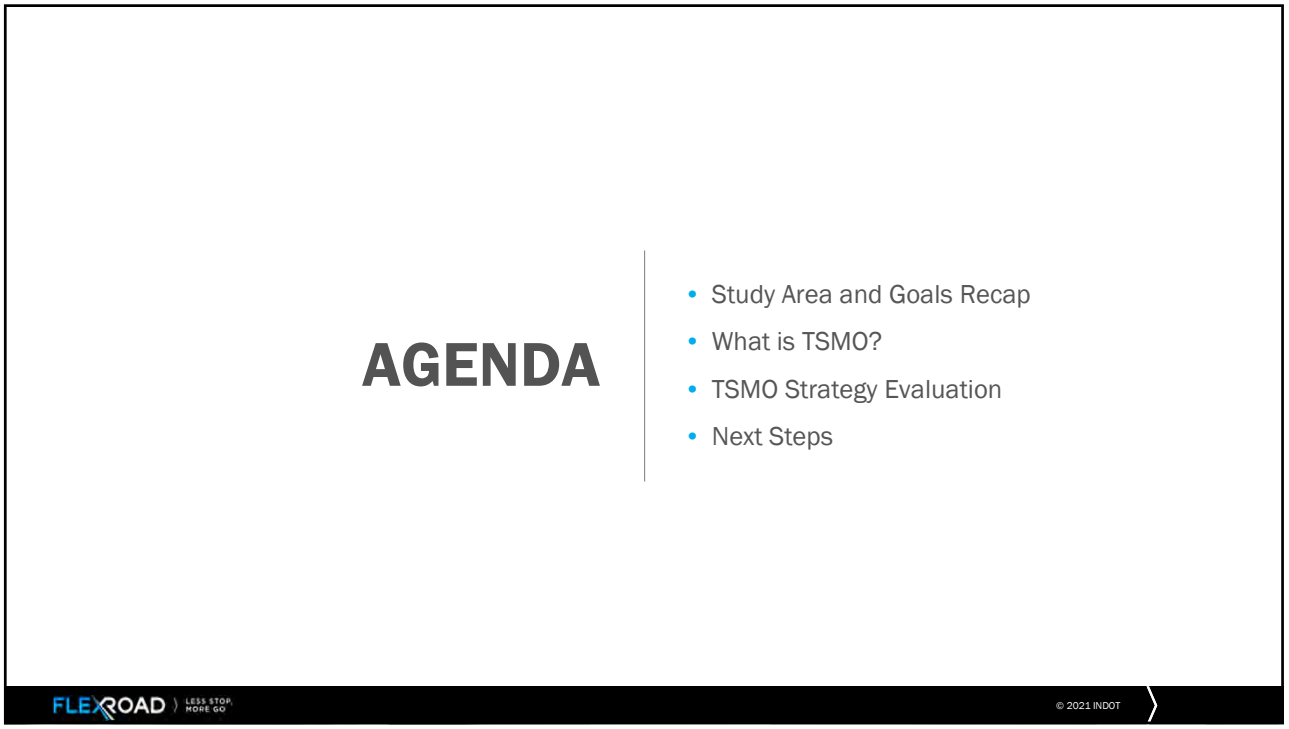
Number	First Name	Last Name	Organization	Email	Street Address	City	State	Zipcode	Mailing List?
1	Caroline	Loughren							
2	Stan	Penner							
3	Terry	Velligan	Cline Ave Bridge						
4	Michelle	Quinn	Post-Tribune						
5	Beverly	Holeman							
6	David	Holeman							
7	Dennis	Ogden							
8	Akhtar	Zaman	AES						
9	Nathan	Reeder							
10	Elena	Cruz							
11	Josh	Zatorski							
12	Joselin	Jimenez	IUN						
13	Amaria	Collins							
14	Khalifa	Adiob	IUN						
15	Khakier	Khan							
16	Sarah	Wilson	IUN						
17	William	Romanchek							
18	Alec	Siurell	IUN Geology Club						
19	Adnan	Arkharrat	IUN						
20	Darline	Pleasant	IUN Geology						

Virtual Public Information Meeting October 21, 2021

Number	First Name	Last name	Email
1	Alex	Bruggeman	
2	Brian	Umbright	
3	Carolyn	Dillon	
4	Doug	Beechman	
5	Jacqueline	Burke	
6	Jay	Seabrig	
7	Tim	Zorn	
8	Terri	Fair	
9	William	Radell	
10	Tim	Whalen	
11	MG		
12	Call-In User		


FLEX ROAD
LESS STOP, MORE GO
I-80/94 BORMAN EXPRESSWAY
Transportation Systems Management and Operations (TSMO)
October 19, 2021
Junell O'Donnell, Parsons
Dan Prevost, Parsons
Craig Moore, Parsons

1


AGENDA
Study Area and Goals Recap
What is TSMO?
TSMO Strategy Evaluation
Next Steps
FLEXROAD LESS STOP, MORE GO
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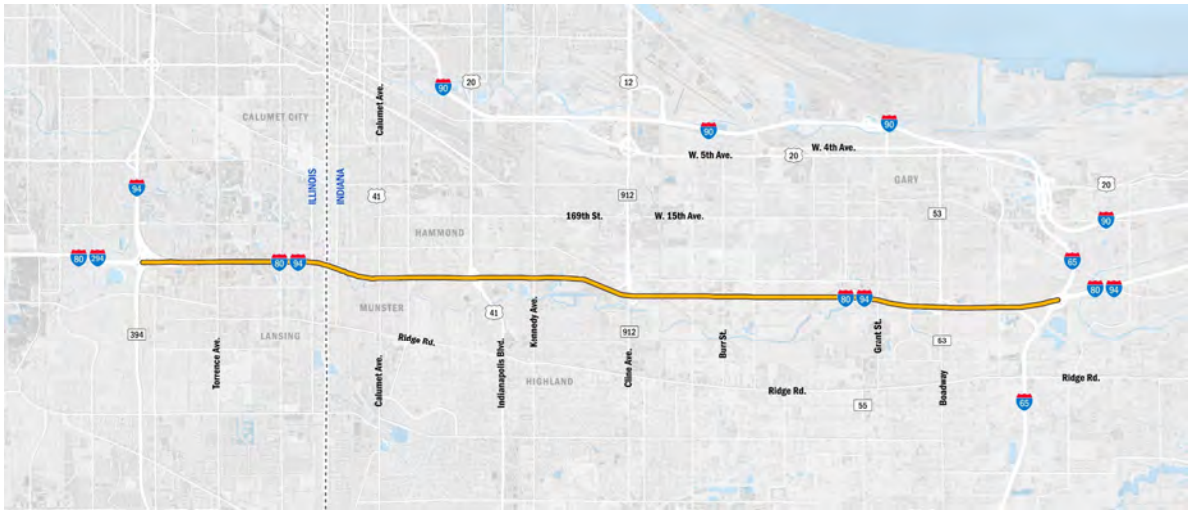
2

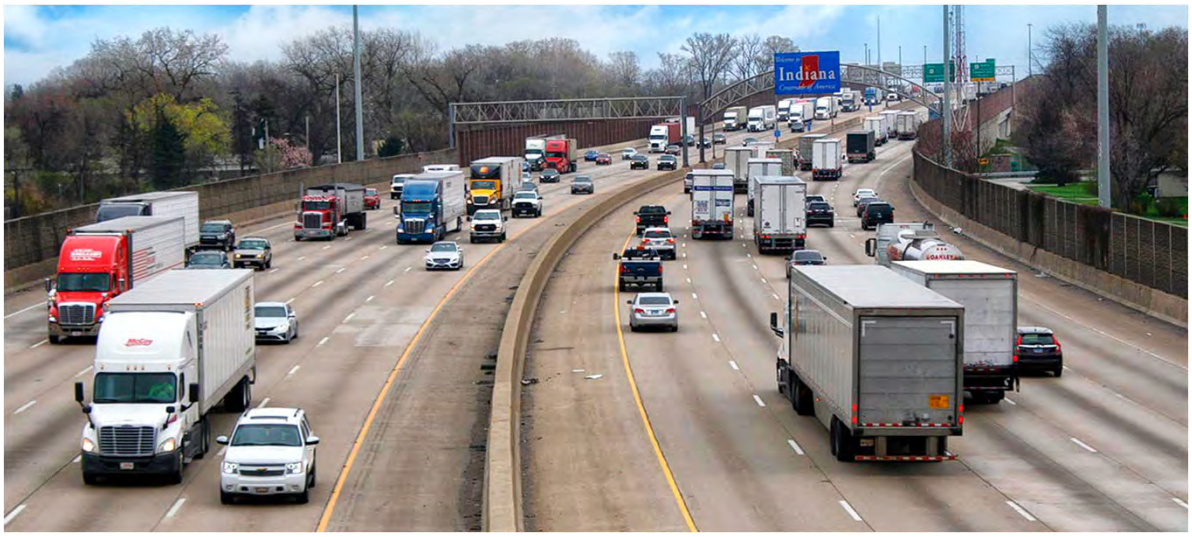
The Borman Expressway

IL 394 to I-65



3

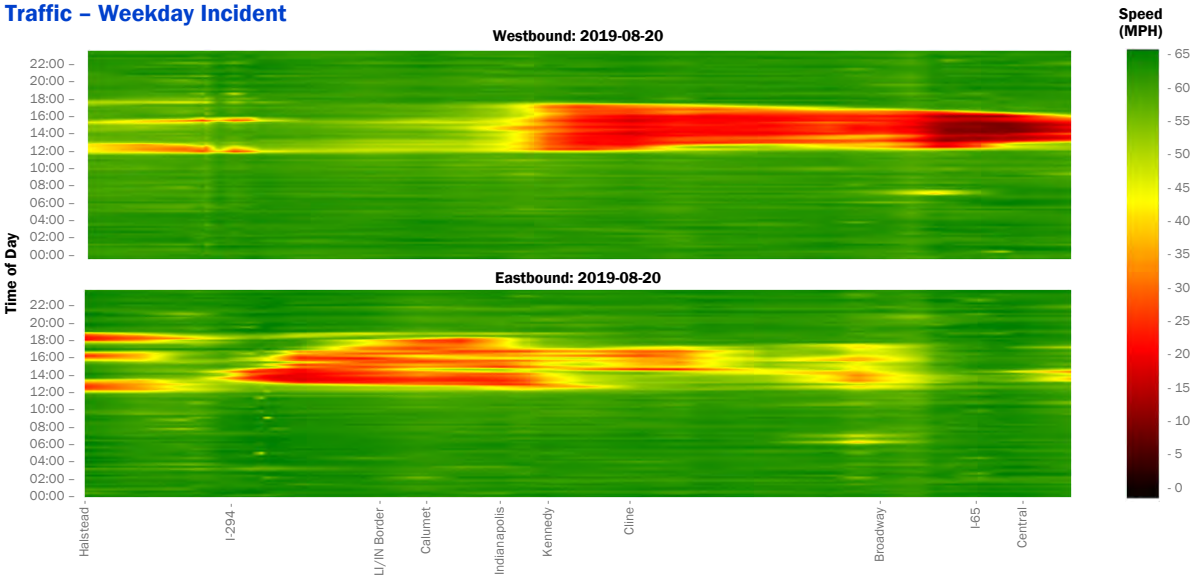
The Borman Expressway



4

Current Conditions

Traffic – Weekday Incident



5

Current Conditions

Safety

6

FOCUS AREA: Purpose & Need

QUESTION #1

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

What We Heard

- 100+ comments
- Problem areas and issues identified
- Issues identified:
  - Weaving motorists
  - Volume of traffic
  - Trucks in left lanes
  - Interchange specific issues
  - Continuous construction/lane closures

What We Did

- Incorporated feedback into Purpose and Need document

The full Draft Purpose and Need is available on the project's website.

7

FlexRoad

A New Approach at INDOT

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

FLEXROAD | LESS STOP, MORE GO

8

What is TSMO?

Transportation Systems Management and Operations

- 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

9

Initial Strategies Summary

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

10

FOCUS AREA: TSMO Strategies

QUESTION #2

What do you like/dislike about the strategies? Are there other strategies that you think we should be considering?

What We Heard

- People wanted:
  - Keep trucks and cars separate
  - Greater speeding enforcement
- People liked:
  - Ramp metering
  - Dynamic shoulder lanes
    - Drainage, debris, and emergency space issues noted
  - Queue warning and work zone management

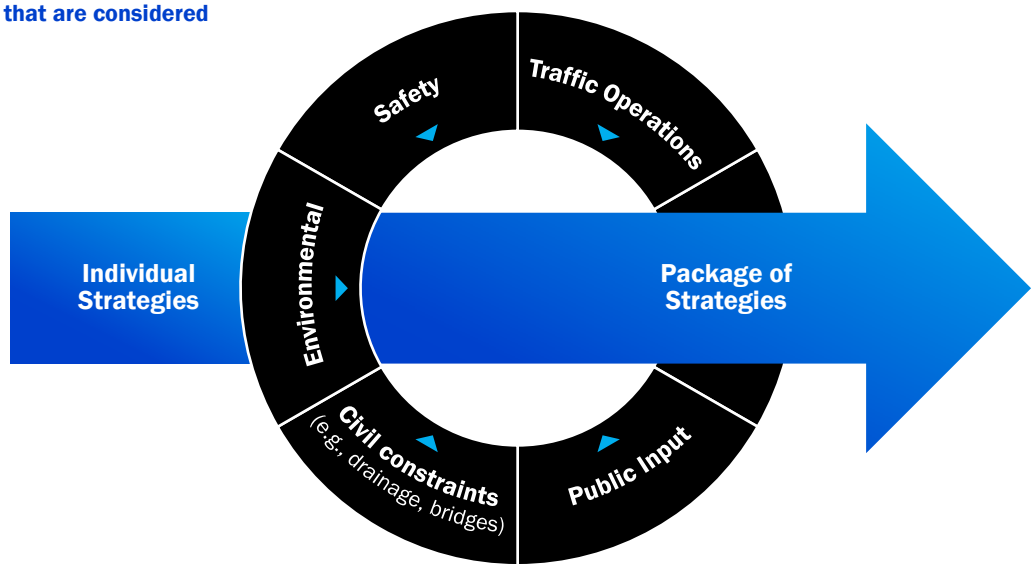
What We Did

- Continued development of TSMO strategy details
- Developed performance measures
- Analyzed shoulder issues for DSL

11

Identifying an Integrated Solution

Factors that are considered

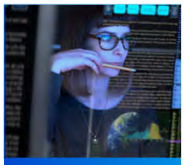


12

TSMO Strategy Development and Evaluation

What we've been doing

Traffic Analysis



Literature Research

Engineering Evaluations - Drainage, etc.

Cost Estimation

Environmental Impact Analysis

13

Alternatives Grouping

A Blend of Approaches and Strategies

TSMO Program Areas	Strategies	
Traffic Operations	• Ramp Metering • Dynamic Shoulder Lanes • Variable Speed Limits	
Traffic Safety	• Queue Warning System • Variable Speed Limits • Lane Control	
Traffic Event Management	• Computer Aided Dispatch (CAD) Integration • Towing & Recovery Incentive Program • Maintenance / Emergency Response CCTV Access	• Center to Center Interfaces • CCTV Enhancements
Infrastructure Improvements	• Guide Sign Enhancements • Geometric Improvements (EB ramp to I-65)	

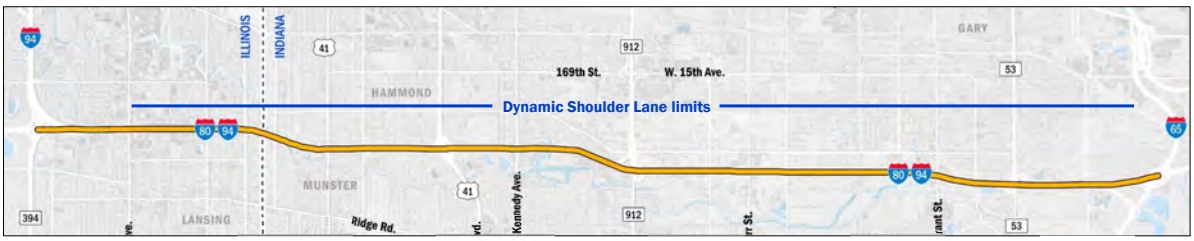
Purpose and Need Goals and Objectives

- Alleviate Congestion
- Increase Safety
- Increase Reliability
- Optimize Efficiency

14

Traffic Operations – Dynamic Shoulder Lane (Inside Shoulder)

Enables the use of shoulders as travel lanes based on congestion levels or in response to incidents



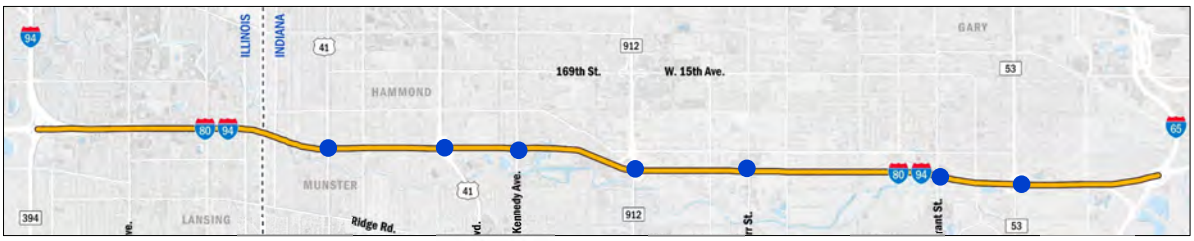
Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
7 minutes saved	**10** mph faster during peak periods	**25** minutes with strategy **31** minutes without strategy	**9%** reduction in vehicle hours traveled	Reduced congestion-related crashes	**$45-90** million

15

Traffic Operations – Ramp Metering

Controls the flow of traffic at entrance ramps to break up platoons and facilitate smooth/safe merging.

Ramp Metering Sites =



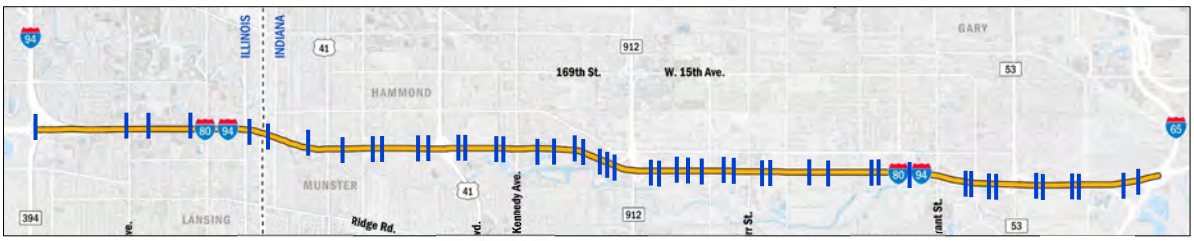
Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
3 minutes saved	**0** mph faster during peak periods	**28** minutes with strategy **31** minutes without strategy	**0%** change in vehicle hours traveled	Reduced congestion-related crashes; Safer merging operations	**$3-5** million

16

Traffic Operations – Variable Speed Limits

Temporarily reduces the speed limits in order to smooth traffic flow and reduce secondary accidents.

Variable Speed Limit Gantries =



Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
<1 minutes saved	3 mph faster during peak periods	31 minutes with strategy 31 minutes without strategy	5% reduction in vehicle hours traveled	Reduced congestion-related crashes	$30-35 million

17

Traffic Operations Combinations

Dynamic Shoulder Lanes + Other Strategies

	Dynamic Shoulder Lanes	Dynamic Shoulder Lanes + Variable Speed Limits	Dynamic Shoulder Lanes + Ramp Metering	Dynamic Shoulder Lanes + Ramp Metering + Variable Speed Limits
Travel Time	7 minutes saved	8 minutes saved	8 minutes saved	8 minutes saved
Average Speed	10 mph faster	11 mph faster	11 mph faster	11 mph faster
Travel Time Reliability (95% Travel Time)	25 minutes	23 minutes	23 minutes	23 minutes
Study Area Vehicle Hours Traveled	9% reduction	9% reduction	8% reduction	9% reduction
Safety	++	+++	+++	++++
Cost	$45-90 million	$50-95 million	$48-75 million	$55-100 million

18

Traffic Safety – Queue Warning

Warns drivers of slowdowns ahead

Safety	Cost
16% Reduction in crashes	**$1** million

19

Traffic Safety – Lane Control

Controls lane usage by alerting drivers to which lanes are open

Safety	Cost
4-9% Reduction in crashes	**$25-30** million

20

Traffic Event Management

- **Computer Aided Dispatch (CAD) Integration**
- **Towing & Recovery Incentive Program (TRIP)**
- **Maintenance / Emergency Response CCTV Access**
- **Center to Center Interfaces**
- **CCTV Enhancements**

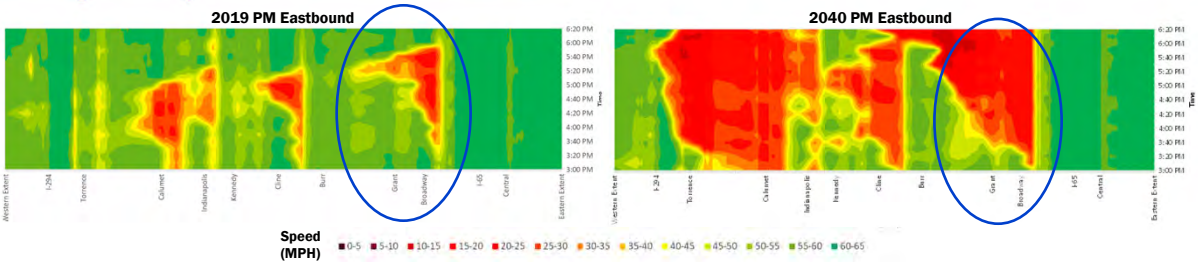
Setup Cost	Annual Cost
$1 million	**$400** thousand

	Event Management Strategies	Event Management Strategies + Dynamic Shoulder Lane (DSL)
Minor Event Example: fender bender 1 lane closed for 60 minutes 700 hours of total delay	Clear incident 5 minutes faster 100 hours of delay avoided per event (14% reduction)	Clear incident 5 minutes faster + open DSL 500 hours of delay avoided per event (71% reduction)
Major Event Example: overturned semi-truck 2 lanes closed for 120 minutes 11,500 hours of total delay	Clear incident 1 hour faster 1,900 hours of delay avoided per event (17% reduction)	Clear incident 1 hour faster 6,100 hours of delay avoided per event (53% reduction)

21

I-65/Broadway Geometric Improvements

Existing Geometry

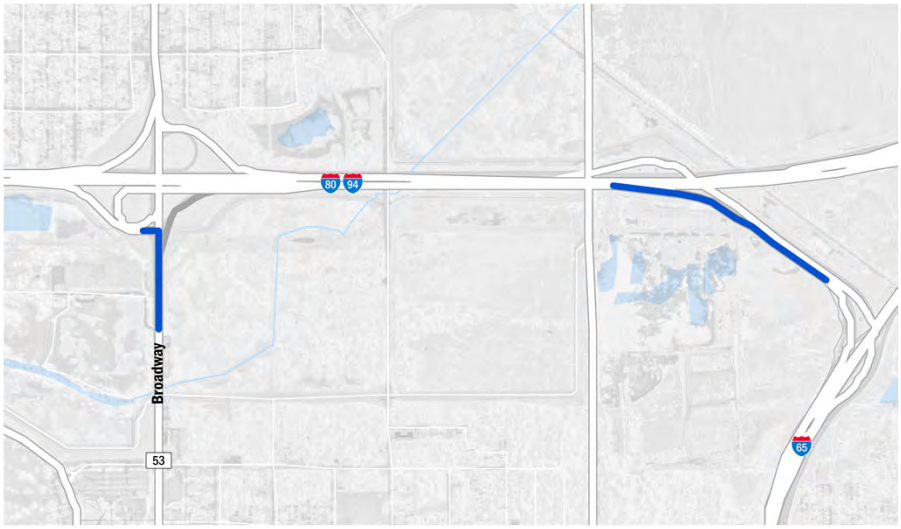


22

I-65/Broadway Geometric Improvements

Cost

$3 million



FLEXROAD LESS STOP, MORE GO

23

23

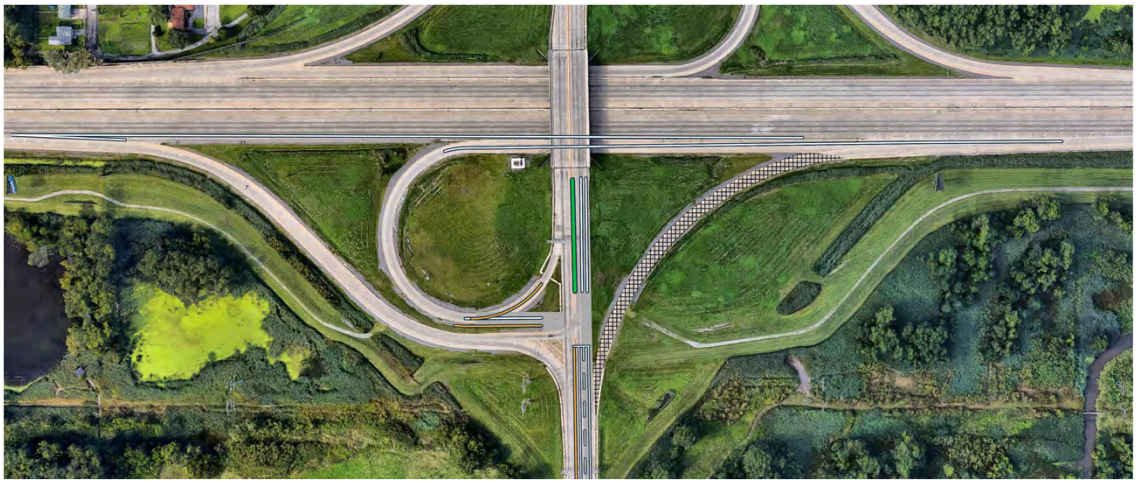
I-65/Broadway Geometric Improvements

FLEXROAD LESS STOP, MORE GO

24

24

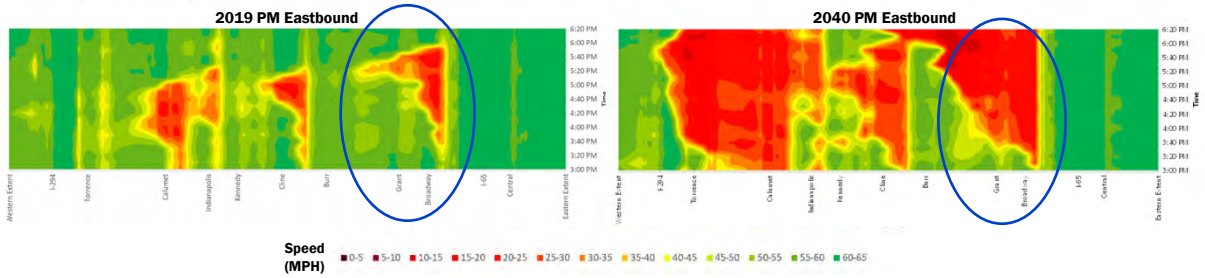
I-65/Broadway Geometric Improvements



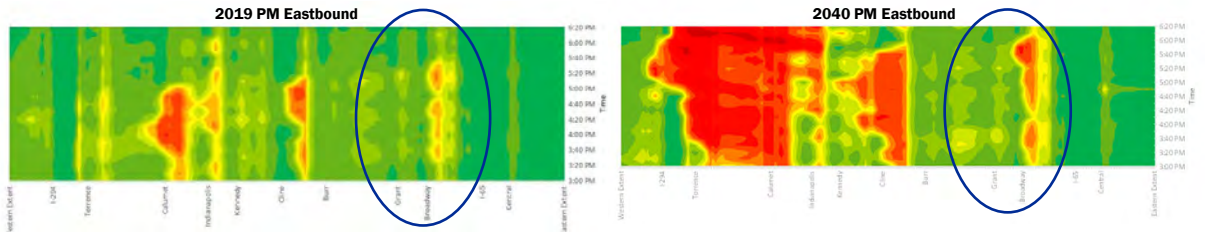
25

I-65/Broadway Geometric Improvements

Existing Geometry



Proposed Geometry



26

Questions for the Public

27

Next Steps

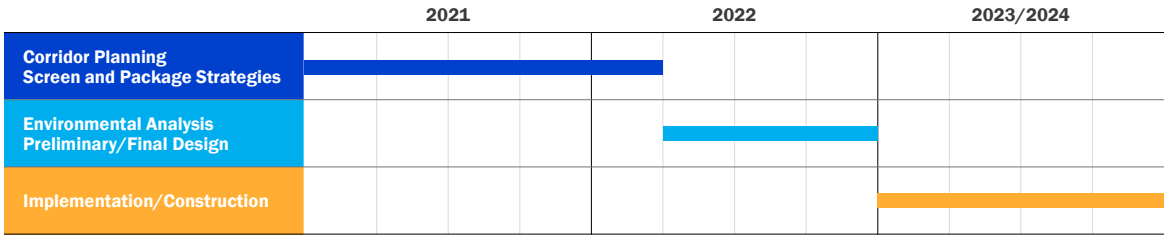
28

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



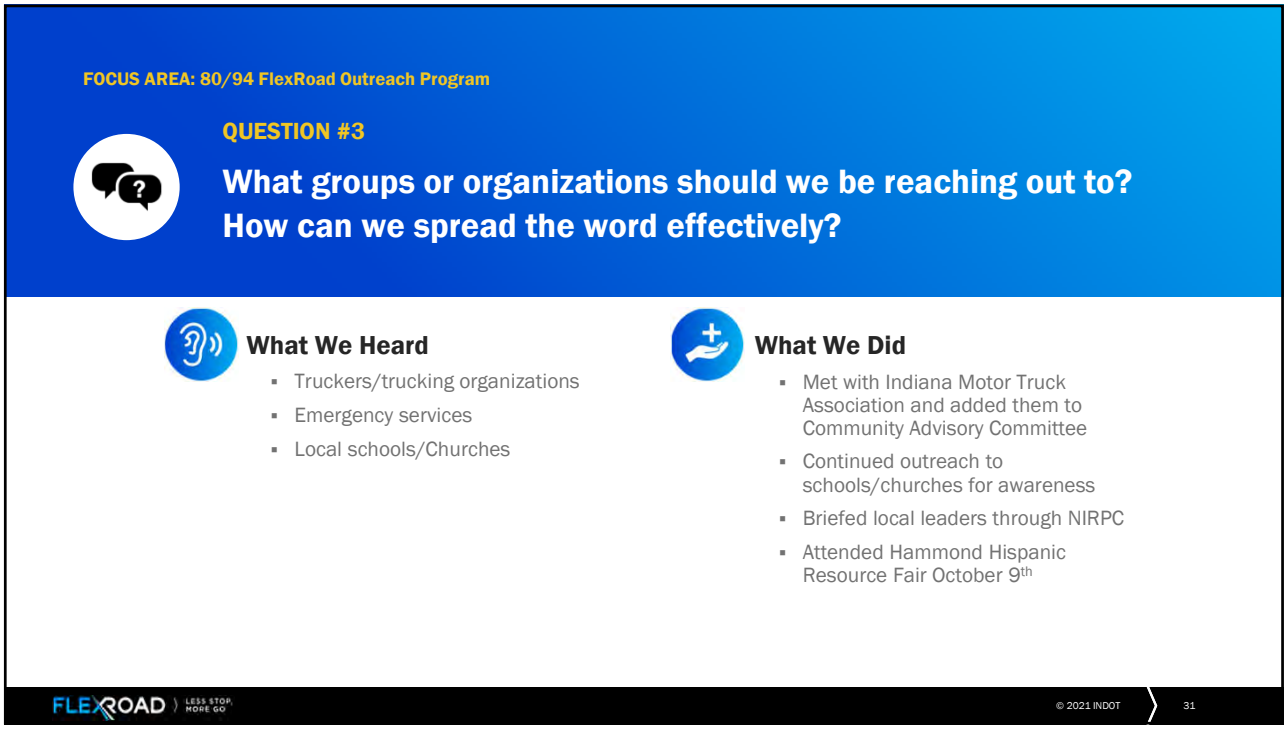
29

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


FOCUS AREA: 80/94 FlexRoad Outreach Program
QUESTION #3
What groups or organizations should we be reaching out to? How can we spread the word effectively?
What We Heard
Truckers/trucking organizations
Emergency services
Local schools/Churches
What We Did
Met with Indiana Motor Truck Association and added them to Community Advisory Committee
Continued outreach to schools/churches for awareness
Briefed local leaders through NIRPC
Attended Hammond Hispanic Resource Fair October 9th
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31

31


THANK YOU
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32

32

Alternatives Grouping

A Blend of Approaches and Strategies

TSMO Program Areas

Strategies		
Traffic Operations	• Ramp Metering • Dynamic Shoulder Lanes • Variable Speed Limits	
Traffic Safety	• Queue Warning System • Variable Speed Limits • Lane Control	
Traffic Event Management	• Computer Aided Dispatch (CAD) Integration • Towing & Recovery Incentive Program • Maintenance / Emergency Response CCTV Access	• Dynamic Shoulder Use • Variable Speed Limits
Infrastructure Improvements	• Guide Sign Enhancements • Geometric Improvements (EB ramp to I-65)	

Purpose and Need
Goals and Objectives

- **Alleviate Congestion**
- **Increase Safety**
- **Increase Reliability**
- **Optimize Efficiency**

TSMO Strategy Evaluation Results

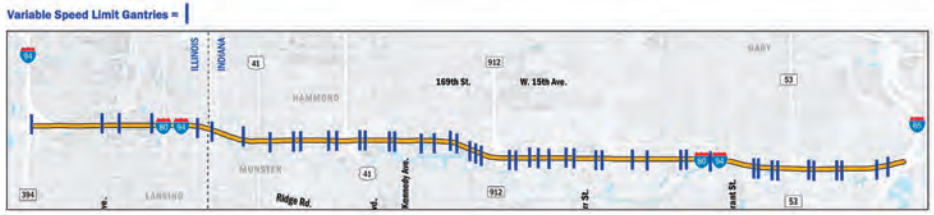
Dynamic Shoulder Lane

Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
7 minutes saved	10 mph faster during peak periods	25 minutes with strategy 31 minutes without strategy	9% reduction in vehicle hours traveled	Reduced congestion-related crashes	$45-90 million

Ramp Metering

Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
3 minutes saved	0 mph faster during peak periods	28 minutes with strategy 31 minutes without strategy	0% change in vehicle hours traveled	Reduced congestion-related crashes	$3-5 million

Variable Speed Limits



Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
<1 minutes saved	3 mph faster during peak periods	31 minutes with strategy 31 minutes without strategy	5% reduction in vehicle hours traveled	Reduced congestion-related crashes	$30-35 million

Dynamic Shoulder Lane + Ramp Metering + Variable Speed Limits

Combining strategies saves on implementation costs and maximizes performance improvements

Travel Time	Average Speed	Travel Time Reliability	Study Area	Safety	Cost
8 minutes saved	11 mph faster during peak periods	23 minutes with strategy 31 minutes without strategy	9% reduction in vehicle hours traveled	Reduced congestion-related crashes	$55-100 million

Event Management

- Computer Aided Dispatch (CAD) Integration
- Towing & Recovery Incentive Program
- Maintenance / Emergency Response CCTV Access
- Center to Center Interfaces
- CCTV Enhancements

Setup Cost	Annual Cost
$1 million	$400 thousand

	Event Management Strategies	Event Management Strategies + Dynamic Shoulder Lane (DSL)
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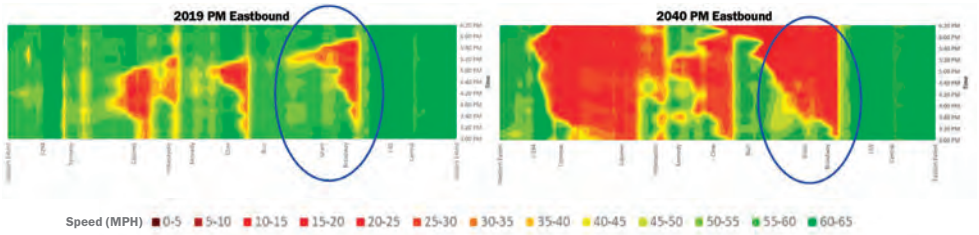
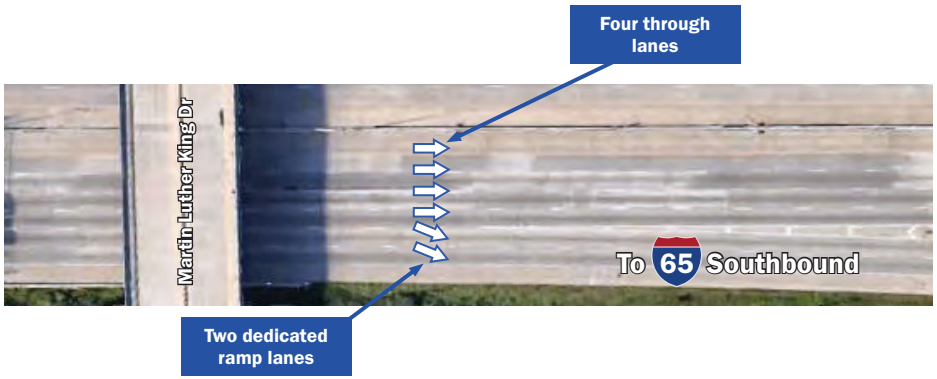
Minor Event Example: overturned semi-truck 2 lanes closed for 120 minutes 11,500 hours of total delay	Clear incident 1 hour faster 1,900 hours of delay avoided per event (17% reduction)	Clear incident 1 hour faster 6,100 hours of delay avoided per event (53% reduction)

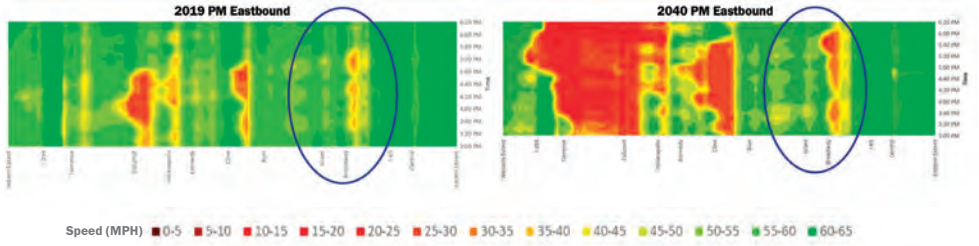
I-65/Broadway Geometric Improvements

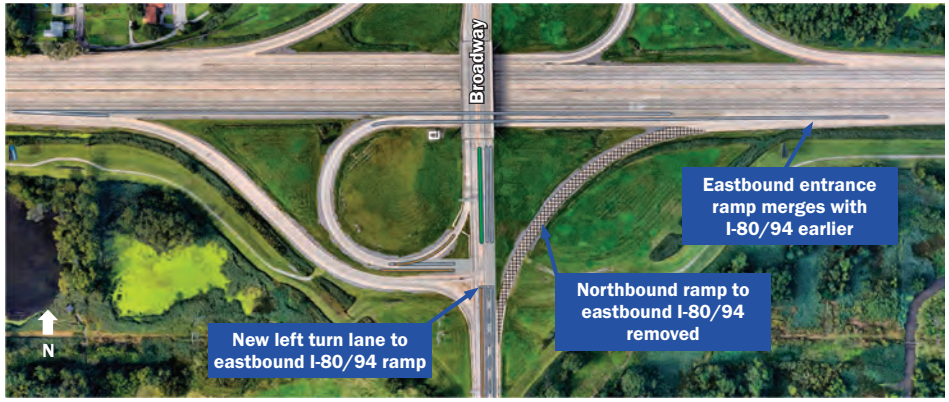
Existing Geometry

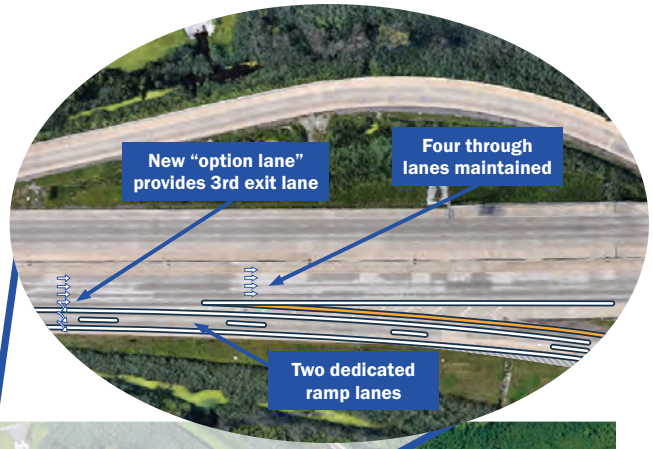


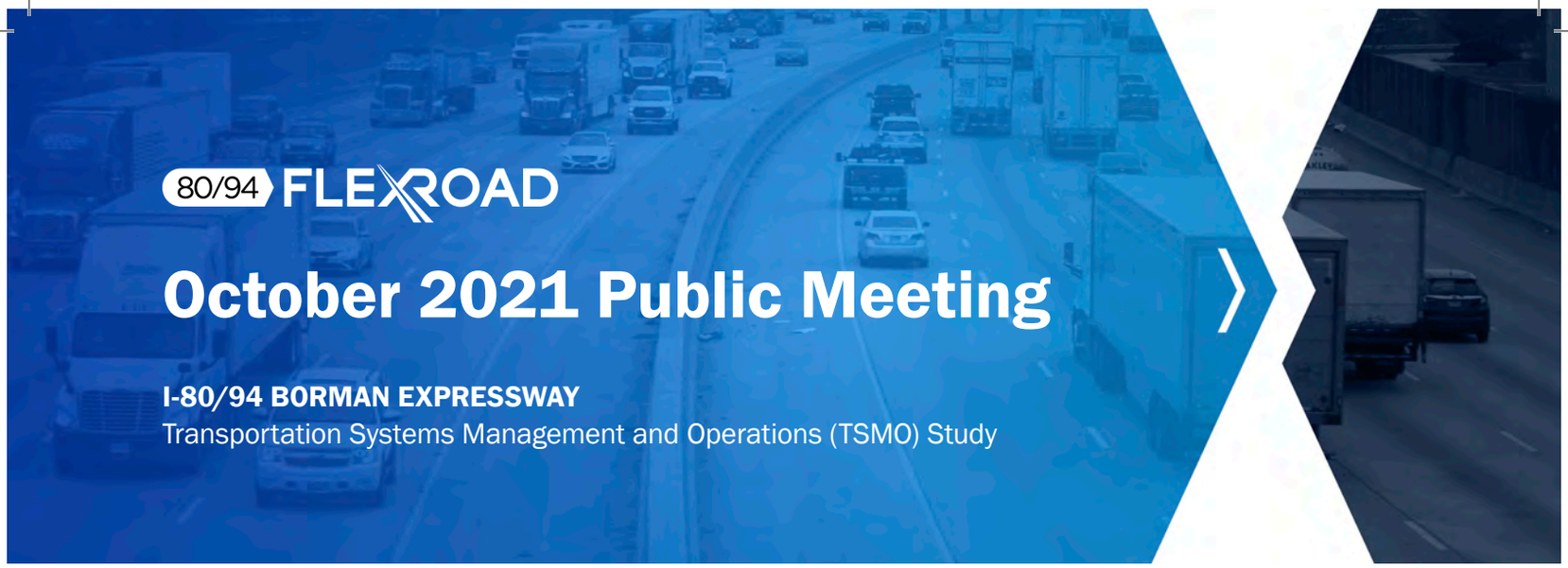


Proposed Geometry









80/94 FLEXROAD

October 2021 Public Meeting

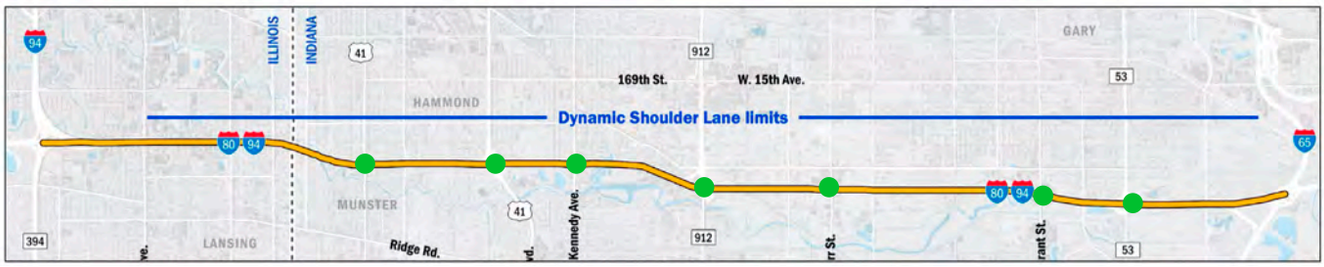
I-80/94 BORMAN EXPRESSWAY
Transportation Systems Management and Operations (TSMO) Study

Transportation Systems Management and Operations (TSMO)

Transportation Systems Management and Operations (TSMO) are strategies that focus on improving the performance of an existing transportation system and are often used in areas where additional travel lanes are not practical.

TSMO strategies including Dynamic Shoulder Lanes, Variable Speed Limits, and Traffic Event Management Systems are evaluated – both individually and in combination – to develop a comprehensive strategy package.

Variable Speed Limits, Queue Warning, and Lane Control are being considered throughout the corridor. Dynamic Shoulder Lanes and Ramp Metering are being evaluated as shown in the map below.



Ramp Metering Locations

	Travel Time minutes saved one-way	Average Speed mph faster in peak periods	Travel Time Reliability minutes with/ without strategy	Study Area reduced vehicle hours traveled	Safety change in crash rates	Cost in million
Dynamic Shoulder Lanes	7	10	25/31	9%	Reduced congestion-related crashes	$45-90
Ramp Metering	3	0	28/31	0%	Reduced congestion-related crashes	$3-5
Variable Speed Limits	<1	3	31/31	5%	Reduced congestion-related crashes	$30-35
Queue Warning	N/A	N/A	N/A	N/A	16%	$1
Lane Control	N/A	N/A	N/A	N/A	4-9%	$25-30

Event Management

This group of strategies is designed to reduce the impact that an incident (for example, a crash or maintenance work) has on traf c delays.

- Computer Aided Dispatch (CAD) Integration
- Maintenance/Emergency Response CCTV Access
- CCTV Enhancements
- Center to Center Interfaces
- Towing & Recovery Incentive Program (TRIP)

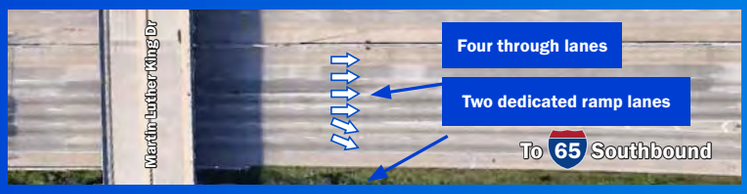
Cost
System Setup $1M | Annual Operation $400k

Incident Examples: The project team evaluated the vent management under two scenarios:

Minor Incident: Fender Bender
Implementing these strategies would clear this crash **5 minutes faster**, reducing user delay by 100 hours per event **(14% reduction)**.

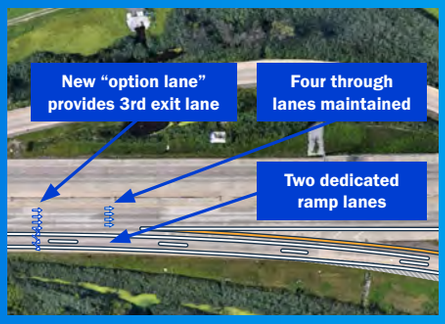
Major Incident: Overturned Truck
Implementing these strategies would clear this crash **60 minutes faster**, reducing user delay by 1,900 hours per event **(17% reduction)**.

I-65/Broadway Improvements



Existing Geometry
The existing exit to I-65 southbound creates congestion because the right lane is underutilized.

Proposed Geometry
Creating a 3rd lane and modifying the Broadway interchange would allow drivers to merge into the freeway sooner and would help address congestion in this area.



What congestion cost area drivers in 2019

The benefits of TSMO strategies extend beyond increasing safety along the Borman Expressway; they also play a role in saving drivers time and money. In 2019, the average commuter in Chicago, IL-NW IN area lost more than 3 full days and an estimated $1,587 in time and fuel costs[1] due to traffic congestion. TSMO strategies provide long-term environmental, economic, and quality of life dividends by improving air quality, increasing system reliability, and saving drivers time and money year after year.

The average driver lost **74 hours** due to congestion

The average driver lost approximately **$1,587 in time** and fuel costs

The average driver used an extra **30 gallons of fuel** sitting in traffic

[1] Texas A&M Transportation Institute, "2019 Urban Mobility Report." August 2019.

Stay Connected to the Study and Get Involved

We need your input! Your comments and insights will influence how the Borman Expressway operates in the future.
To learn more about study, upcoming meetings, and ways to submit comments, visit: **www xroad.com**

80/94 FLEXROAD

Octubre 2021, Reunion Publica

I-80/94 AUTOPISTA BORMAN (BORMAN EXPRESSWAY)
Gestion y Operaciones de Sistemas de Transporte (TSMO)

Gestion y Operaciones de Sistemas de Transporte (TSMO)

La Gestion y operaciones de Sistemas de Transporte (TSMO) son estrategias que se centran en mejorar el funcionamiento del sistema de transporte existente y son generalmente usadas en sitios donde la adicion de mas carriles no es practico.
Dentro de las estrategias de TSMO se incluyen: arcen-berma dinamico, limites de velocidad variable y sistemas de manejo de eventos de trafico son evaluados - individualmente y en combinacion - Para desarrollar un paquete comprensivo de estrategias. Limites de velocidad variables, advertencia de coches en fila y carriles de control serian implementados a travez del corredor. Arcen-berma dinamico y medicion de rampa serian implementados como se muestra en el siguiente mapa.

Ubicacion de medidores de rampa

	Tiempo de viaje minutos ahorrados en un trayecto	**Velocidad promedio** mph rapido en horas pico	**tiempo de viaje** minutos con/sin estrategia	**Area de estudio** disminucion en las horas viajadas por el vehiculo	**Seguridad** cambio en rata de accidentes	**Costo** en millones
Ancen-berma dinamico	7	10	25/31	9%	Reduccion de accidentes relacionados con congestion	$45-90
Medicion de rampa	3	0	28/31	0%	Reduccion de accidentes relacionados con congestion	$3-5
Limite de velocidad variable	<1	3	31/31	5%	Reduccion de accidentes relacionados con congestion	$30-35
Advertencia de coches	N/A	N/A	N/A	N/A	16%	$1
Carriles de control	N/A	N/A	N/A	N/A	4-9%	$25-30

Manejo de eventos

Este grupo de estrategias esta diseñado para reducir el impacto que un incidente (por ejempo, un accidente o trabajo de mantenimiento) tiene en demoras de tra co.

- Integracion de despacho de ayuda informatica (CAD)
- Mantenimiento/ Acceso de respuesta de emergencia (CCTV)
- Mejoras CCTV
- Interfaces centro a centro
- Programa de incentivos de remolque y recuperacion (TRIP)

Ejemplo de incidentes: El equipo de trabajo evaluo el ventos bajo dos escenarios:

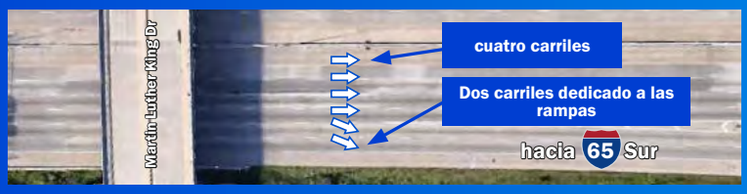
Incidente menor (Colision pequeña)
La implementacion de estas estrategias limpiaria el accidente 5 minutos mas rapido, reduciria la espera del usuario 100 horas por evento (Reduccion del 14%)

Incidente Mayor (Volteada de un camion)
Implementacionde estas estrategias limpiarian el accidente 60 minutos mas rapido, reduciria la espera del usuario 1,900 horas por evento (Reduccion de 17%)

Costo

tema $1.0M | Operacion anual $400k

Mejoras I-65/Broadway



Geometria existente
La salida existente de las lineas que van hacia el sur en I-65 crean congestion por que la linea de a derecha no esta bien utilizada.

Geometria propuesta
La creacion de una tercera linea y la modificacion del intercambio Broadway para permitir la union a la autopista mas rapido resolveria la congestion en esta area.

Cual sera el precio de la congestion para usuarios en 2019

Los beneficions de las estrategias TSMO se extienden mas alla del incremento de la seguridad a lo largo de la autopista Borman; ellos tambien juegan un papel importante en el ahorro de tiempo y dinero para los usuarios. En el año 2019, el usuario perdio mas de tres dias y un estimado de $1,587 en costos de tiempo y gasolina debido a congestion de trafico en el promedio de viaje diario al trabajo en Chicago y el area de IL-NW IN. Las estrategias TSMO proveen dividendos ambientales, economicos y de calidad de vida mejorando la calidad del aire, incrementando la confiabilidad el sistema y ahorrando tiempo y dinero a los usuarios año tras año.

El usuario promedio perdio74 horas debido a congestion

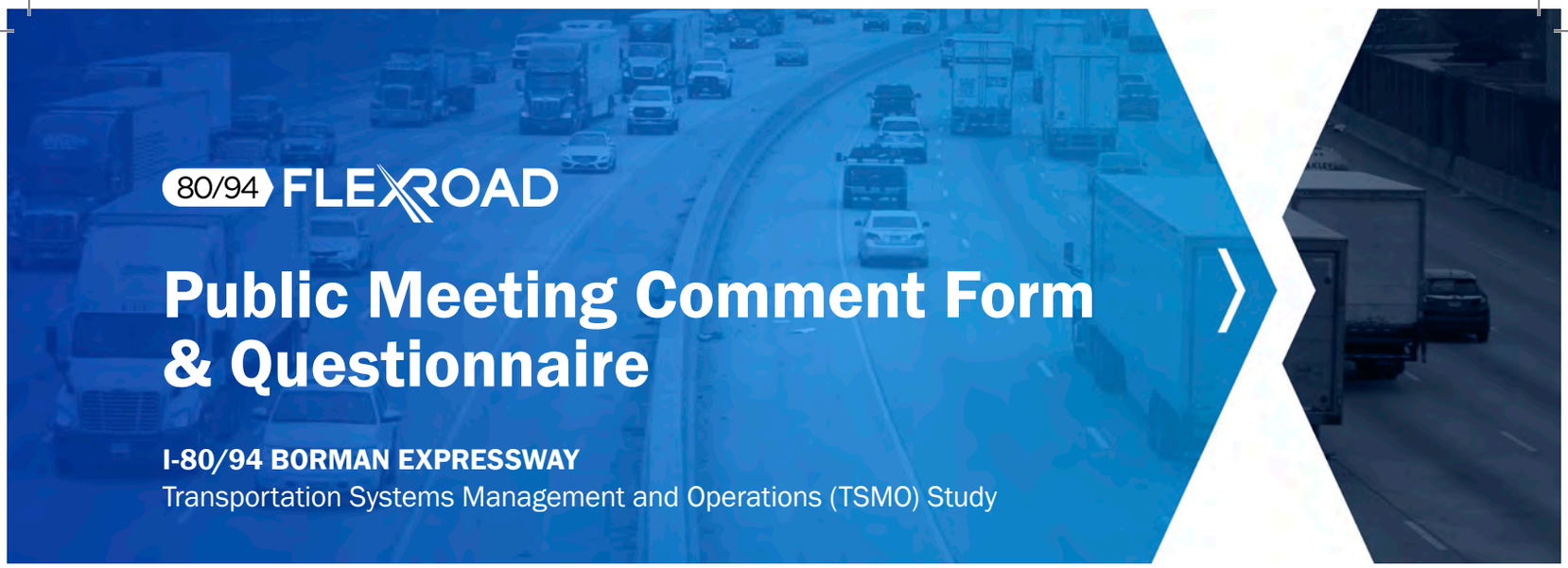
El usuario promedio perdio aproximadamente $1,587 en costos de tiempo y gasolina

El usuario promedio uso 30 galones adicionales de gasolina por estar sentado en trafico

1. Instituto de transporte Texas A&M “2019 reporte de mobilidad urbana” Agosto 2019

Este conectado con el estudio e involucrese

Necesitamos su opinion! Sus comentarios y conocimiento influenciara como la Autopista Borman operara en el futuro. Para aprender mas acerca del estudio, reuniones siguientes y formas de enviar sus comentariios, visite: **www xroad.com**



80/94 FLEXROAD

Public Meeting Comment Form & Questionnaire

I-80/94 BORMAN EXPRESSWAY
Transportation Systems Management and Operations (TSMO) Study

We want your feedback!

Let us know your thoughts on the TSMO strategies being considered to improve safety and reliability of the I-80/94 (Borman Expressway) corridor. Help us make this study a success!

Question #1 – What do you think about the strategies/results?

Question #2 – What additional factors need to be considered? Are there speci c concerns we should be aware of?

Question #3 - Are there groups or organizations that we should we be contacting? How can we spread the word more effectively?

Comments

Name _____

Address _____

City/State/Zip _____

Email _____

☐ Please add me to the project email list

Comments may be submitted in one of the following ways:

- Complete this form and return it at the meeting
- Complete this form and mail it to:

  80/94 FlexRoad
  Attn: Alex Lee
  c/o Parsons
  101 W. Ohio Street, Suite 2121
  Indianapolis, IN 46204

- Email your comments to:
  alexander.lee@parsons.com
- Submit your comments via the study website:
  www xroad.com

Please submit your comments by November 22, 2021

80/94 FLEXROAD

Reunion publica formato de comentario y cuestionario

I-80/94 AUTOPISTA BORMAN

Gestion y Operaciones de sistemas de transporte (TSMO) Estudio

Necesitamos sus comentarios!

Dejenos saber su opinion en las estrategias de TSMOque estan siendo consideradas para mejorar la seguridad y la confiabilidad del corredor I-80/94 (Autopista Borman). Ayudenos a hacer este estudio exitoso!

Pregunta #1 - Que piensa acerca de las estrategias y resultados?

Pregunta #2 - Que factores adicionales deben ser considerados? Hay alguna preocupacion especi ca que debemos conocer?

Pregunta #3 - Hay grupos u organizaciones que debamos contactar?Como podemos difundir informacion mas efectivamente?

Comentarios?

Nombre _____

Direccion _____

Ciudad/Estado/Codigo Postal _____

Correo electronico _____

☐ Favor anexarme a la lista de proyecto de correo electronico

Comentarion pueden ser enviados en una de las siguientes formas:

- Completando esta forma y entregandola el dia de la reunion
- Completando esta forma y enviandola a :

  80/94 FlexRoad
  Attn: Alex Lee
  c/o Parsons
  101 W. Ohio Street, Suite 2121
  Indianapolis, IN 46204

- Envie sus comentarios al correo electronico: **alexander.lee@parsons.com**
- Entregue sus comentarios a travez de la pagina web: **www xroad.com**

Por favor envie sus comentarion antes de Noviembre 22,2021

Fall 2021 Public Meeting Comments

Number	Date Received	Comment(s)	Category	Response	Email	Name
1	10/19/2021	This feels like a very real, achievable project that will benefit the Region as a whole. Best of luck!	General	In-person		
2	10/19/2021	When I80/94 was upgraded from 3 lanes to 4.5 lanes a third lane was added to I90 from Cline Ave to the Lake Station interchange. With the tolls on the toll road its under used. The tolls need to be removed west of the portage toll plaza to Illinois state line. Lack of lanes on I80/94 I think is the problem. 4.5 lanes are not enough. This study needed to include the I-80/I-90 and I-94 interchange in Lake Station.	Study Area	In-person		
3	10/19/2021	Westbound 80/94 @ Calumet, utilize shoulder @ 294/94/394 split when there is an issue. Add pavement markings at that entrance indicating 94 (lane close to wall) and 294 first lane. Burr WB great place for ramp metering.	Shoulder Running/Ramp Metering	In-person		
4	10/19/2021	What types of vehicles cause the most crashes?	Safety	In-person		
5	10/19/2021	Any consideration going into the models with the Illiana Expressway present?	Study Area	In-person		
6	10/19/2021	Anyway to reduce visibility to stop rubbernecking and gaper's delay?	Safety	In-person		
7	10/19/2021	Do you know how many secondary incidents are caused by gaper's delay?	Safety	In-person		
8	10/19/2021	Are there parallel/alternate routes that can take capacity from I-80/94?	Study Area	In-person		
9	10/19/2021	Is it possible to add lane markings near I-65 to help tell drivers where to go?	I-65 Improvements	In-person		
10	10/19/2021	How long would any of these projects take to implement and construct?	Project Cost	In-person		
11	10/19/2021	The shoulders and drains are not made to withstand the load of being driven on.	Shoulder Running	In-person		
12	10/19/2021	Is using improved construction materials (last longer, more durable) being assessed?	General	In-person		
13	10/19/2021	Where else in the country could someone see these strategies implemented?	TSMO Strategies	In-person		
14	10/19/2021	Can Illinois post travel times to the Indiana state line?	General	In-person		
15	10/21/2021	If we use the shoulders for a lane, and there is an accident, where would the traffic go?	Safety/Shoulder Running	In-person		
16	10/21/2021	How much would changing the eastbound Borman to I-65 and Broadway Interchange cost?	Project Cost	In-person		
17	10/21/2021	It is obvious that many motorists are using their cell phones in this traffic. I would suggest that cell signals get jammed and only emergency numbers can be used.	Safety	Online		
18	10/24/2021	A HUGE THANK YOU!!!!! Noticed WB 80/94 logged jammed at Calumet on 10/23/2021 on my way to 294. Got on anyway. I am SO GLAD I did. At the last meeting, everyone said "we listened to what you had to say at the first meeting." By golly you did. The "dip" by Torrence is fixed!!!! We talked about this at the first meeting. THANK YOU, THANK YOU. Not only did you listen, you put words into action. Added bonus: the EB pothole was also fixed. Thank you for reaching out to our neighbors!!!!!	General	Online		

Fall 2021 Public Meeting Survey Responses

Number	Date Received	Q1 - #1 - What do you think about the strategies/results?	Q2 - #2 - What additional factors need to be considered? Are there specific concerns we should be aware of?	Q3 - #3 - Are there groups or organizations that we should be contacting? How can we spread the word more effectively?	Response	Email	Name
1	10/19/2021	Overall, great! Well though out & several strategies in conjunction seem to work well together. Cost seems reasonable for safety improvements presented.	What environmental impacts will this bring? Proper drainages & considering potential pollutants/spills runoff would be great to consider.	Would be great to work with local colleges & organizations for students to get experience in the field, seeing what goes on first-hand and feeling like they're a part of the solution is great for state-community relations. For spreading the word, push these strategies & their proejcted benefits out to the public via social media! Public awareness is always appreciated.	In-person		
2	10/19/2021	Seems to be a half measure like taking the frosting off your cake to lose weight. Looking at the 2040 projections, we need to start the Illiana Expressway through south county ASAP.	Not sure this makes sense for your study, but I hug the right lanes from Indy Blvd to just before Burr St then I merge all the way left until just before I-65. When I bypass all the semi and shoot over to I-65, wouldn't a ramp from far left lane on EB 80/94 to I-65 south prevent those cross over issues?	Greater Northwest Indiana Association of Realtors GNIAR.com They promote betterment of NWI	In-person		
3	10/19/2021	Implement the strategies see what happens.	Why can't the tolls on I-90 west of portage be removed?		In-person		
4	10/19/2021	I-65 Broadway geometric improvements. Excellent idea. Can the 3rd lane be a hard shoulder lane? Can we add pavement markings indicating right 2 lanes are SB I-65?	Queue warnings on IL side (294 Souther heading into IN) @ Halstead on 80/294 merge alerting people of congestion @ IN/IL line. Variable speed limits @ Burnham Ave alerting traffic @ IN/IL line. Bring in hard shoulder @ IN/IL line.	Lake Truckers Association. Not sure if Indiana's oversize/overweight - IFTA-IRP websites offer newsletters	In-person		
5	10/19/2021	Very beneficial	Gapers delay increases travel times. Can you add opaque barriers in the median to reduce gapers delay. Barriers may be decorative. Also add signage about traffic backups on local roads before entering expressway.	Social org Professional org/association: ASCE	In-person		