

I-65 Downtown Closure:

Saving time, Enhancing Safety

Presenters:
Kyle Muellner
Jim Reilman
Tom Heustis



Agenda



- Introduction
- Scope and Timeline
- The Decision to Close
- Design Implications
- Agency Implications
- Maintenance of Traffic Plan
- Is Closure right for your project?

Introduction

Why Close the Interstate?

- Various Pros & Cons



Introduction

Why Close the Interstate?

- Various Pros & Cons



Introduction

Why Close the Interstate?

- Various Pros & Cons
- One of many options



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Introduction

Why Close the Interstate?

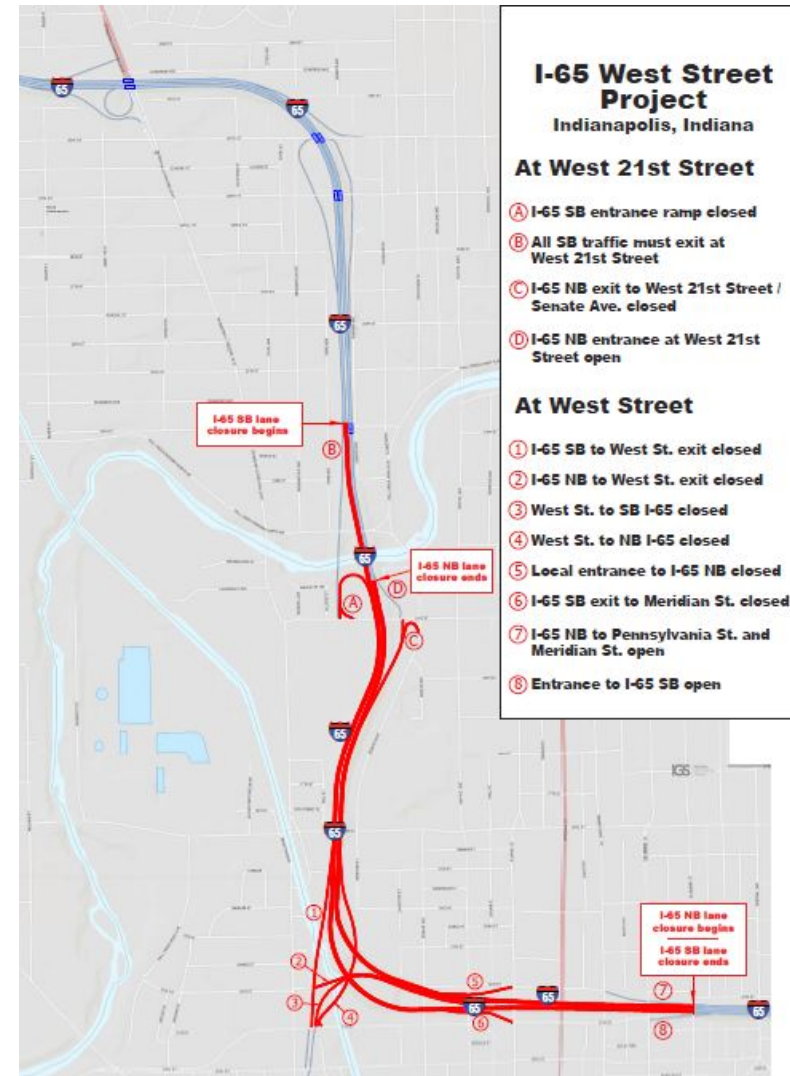
- Various Pros & Cons
 - One of many options
 - Not a new concept
 - Rural vs. Urban
-
- **Case Study:**
 - I-65 Marion County Bridge Rehab



Case Study: I-65 Marion County Bridges

Scope and Timeline

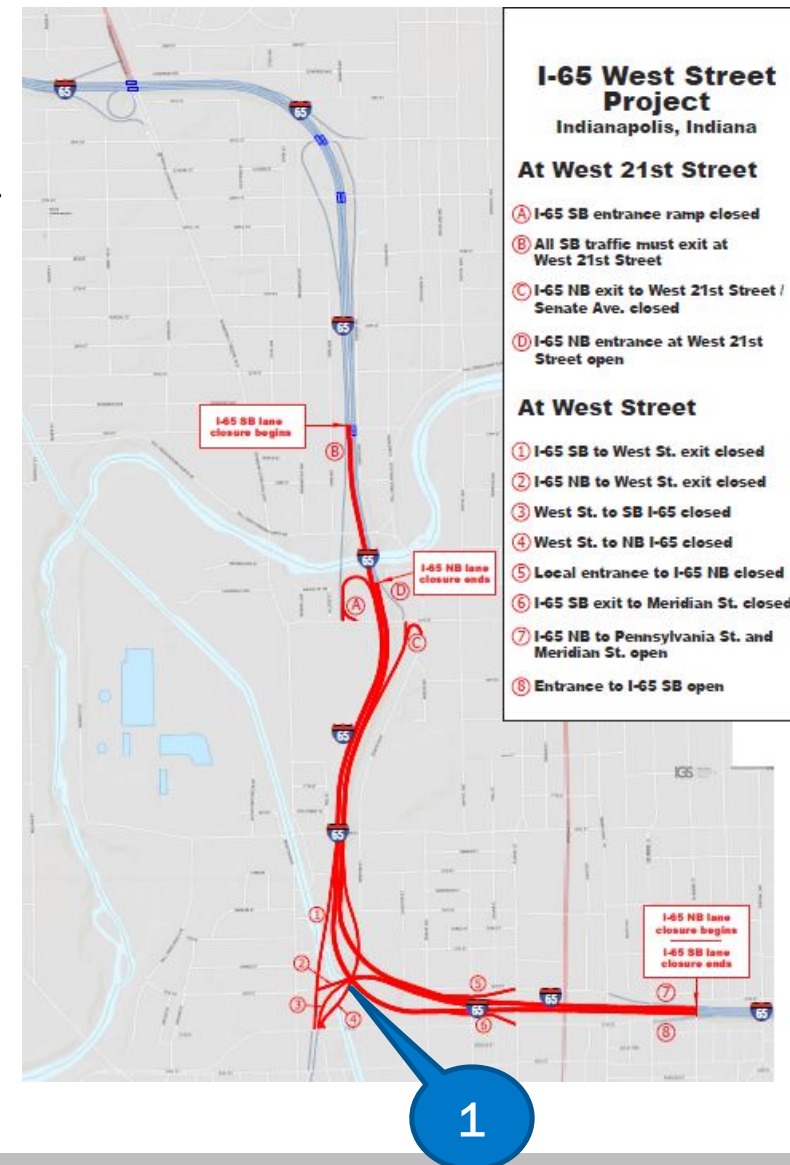
- On-call assignment for Greenfield District



Case Study: I-65 Marion County Bridges

Scope and Timeline

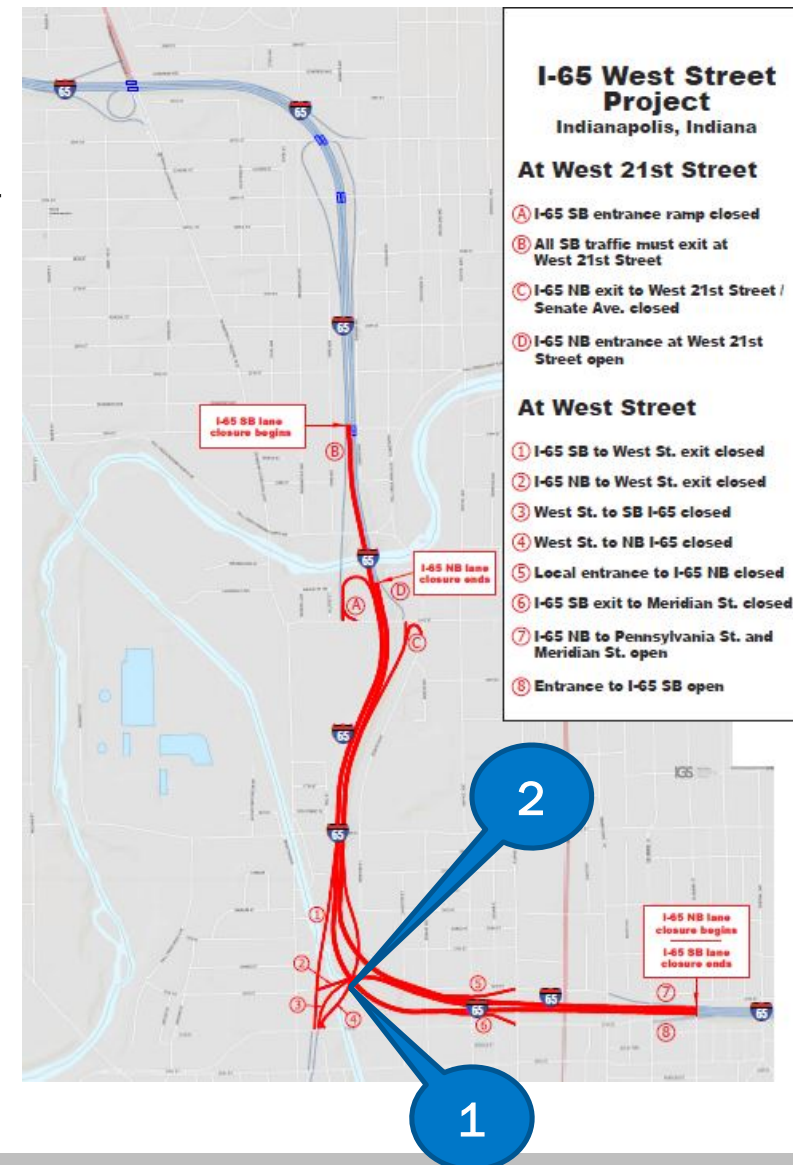
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 - Bridge 1. I65-113-05669B
 - I-65 SB over Ramps



Case Study: I-65 Marion County Bridges

Scope and Timeline

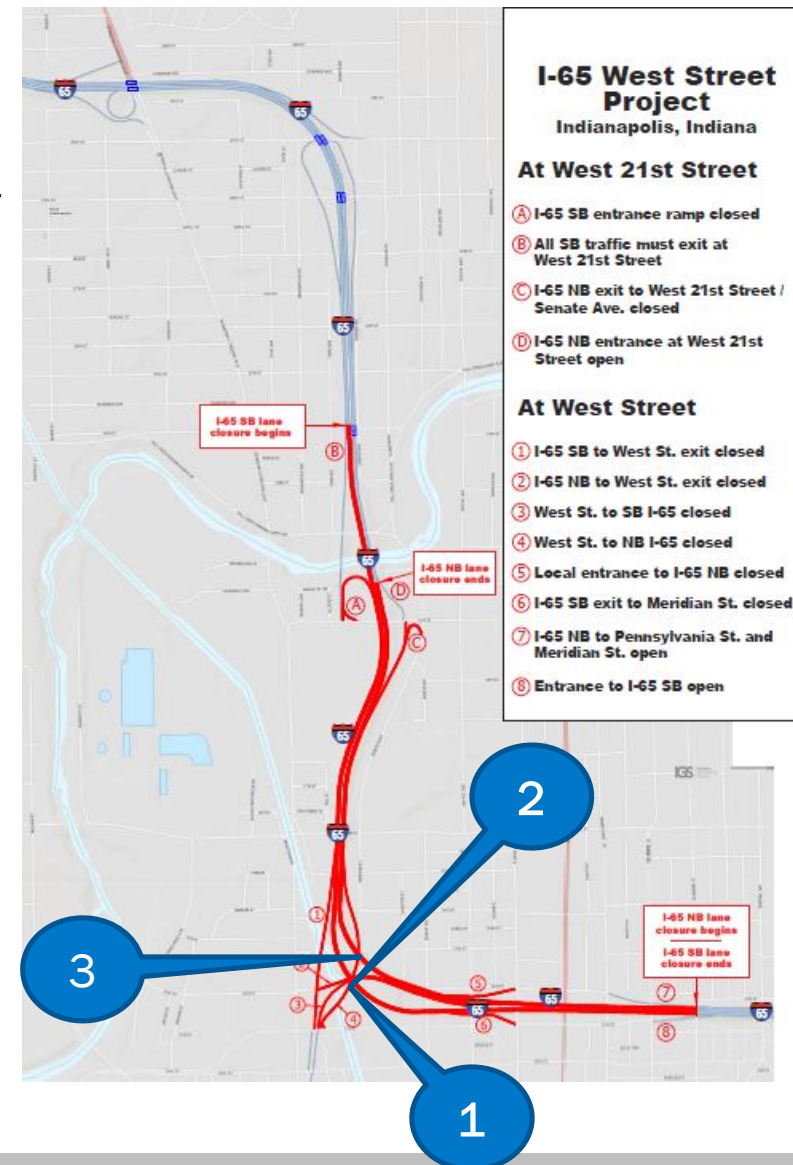
- On-call assignment for Greenfield District
 - Bridge 1. I65-113-05669B
 - I-65 SB over Ramps
 - Bridge 2. I65-113-05670B
 - I-65 Ramps (mid-level)



Case Study: I-65 Marion County Bridges

Scope and Timeline

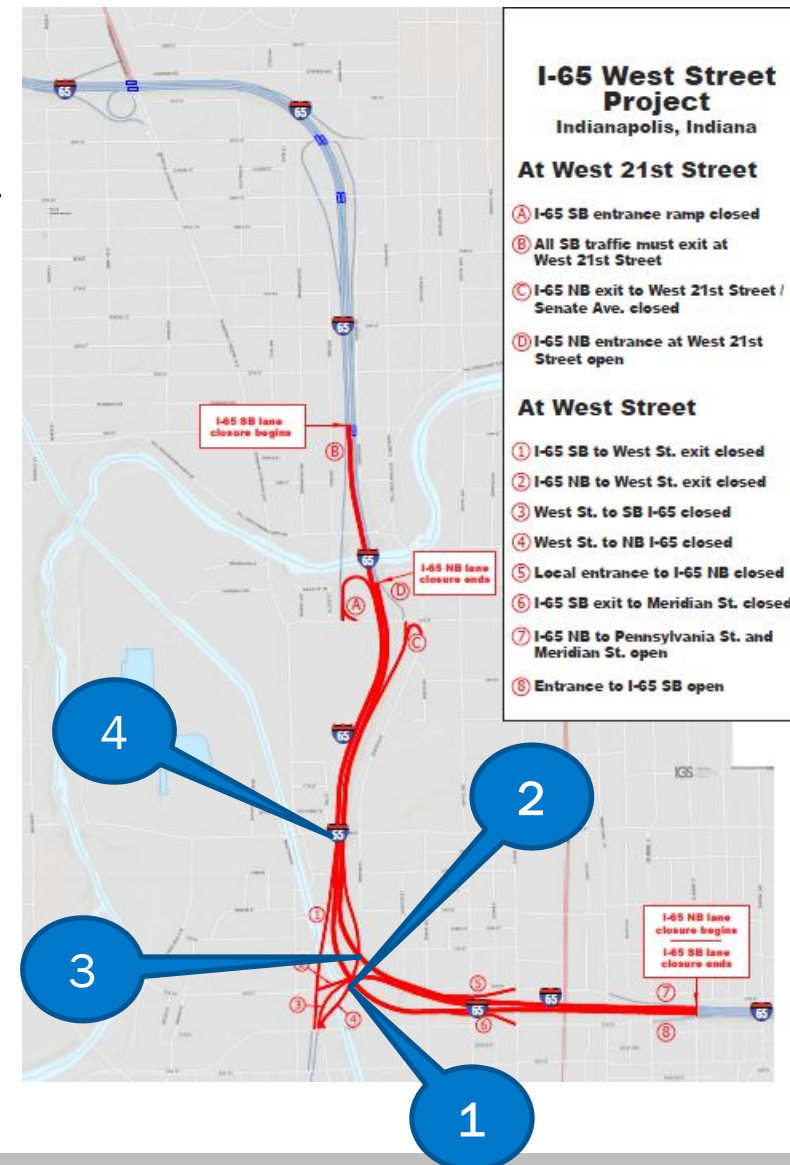
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 - Bridge 3. I65-113-05671B
 - I-65 NB over Ramps



Case Study: I-65 Marion County Bridges

Scope and Timeline

- On-call assignment for Greenfield District
 - Bridge 1. I65-113-05669B
 - I-65 SB over Ramps
 - Bridge 2. I65-113-05670B
 - I-65 Ramps (mid-level)
 - Bridge 3. I65-113-05671B
 - I-65 NB over Ramps
 - Bridge 4. I65-113-05673 DNBL & DSBL
 - I-65 over 16th Street
- AADT: approx. 120,000 vpd



Case Study: I-65 Marion County Bridges

Scope and Timeline

- On-call assignment for Greenfield District
 - Bridge 1. I65-113-05669B
 - I-65 SB over Ramps
 - Bridge 2. I65-113-05670B
 - I-65 Ramps (mid-level)
 - Bridge 3. I65-113-05671B
 - I-65 NB over Ramps
 - Bridge 4. I65-113-05673 DNBL & DSBL
 - I-65 over 16th Street
 - AADT: approx. 120,000 vpd
 - Bridge 5. (I65)I465-145-04567 DSBL
 - I-65 SB Lanes over NB Connector Ramp
 - AADT: 20,000 vpd



Case Study: I-65 Marion County Bridges

Scope and Timeline

- On-call assignment for Greenfield District
- Scope
 - Bridge Deck Overlays
 - Hydrodemolition
 - Patching
 - Joint Replacement
 - Replace Approach Slabs



Case Study: I-65 Marion County Bridges

Scope and Timeline

- On-call assignment for Greenfield District
- Scope
- Original Timeline:
 - NTP May 2017
 - Scoping Meeting May 2017
 - Joint and Overlays
 - Scoping Report June 2017
 - Preliminary MOT Plans July 2017
 - Final Plans October 2017
 - FFC November 2017
 - Tracings December 2017



Case Study: I-65 Marion County Bridges

Closure: Design Implications



To Close or Not to Close?



Considerations

- Safety of the Travelling Public



Considerations

- Safety of the Travelling Public
- Safety of Every Worker on Site



Considerations

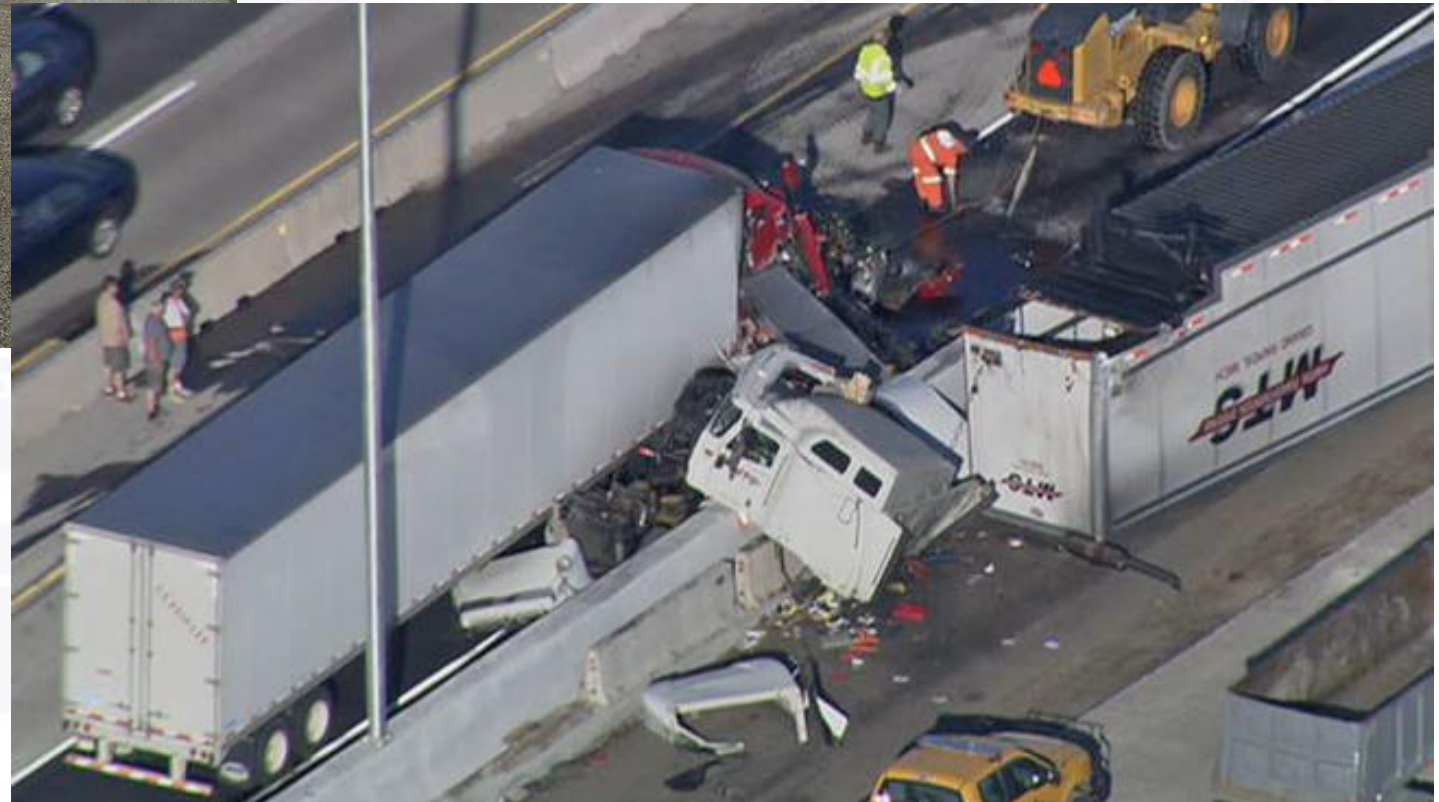
- Safety of the Travelling Public
- Safety of Every Worker on Site
- Quality Product that Will Last



Safety of the Travelling Public!



Concern: Accidents in the queue!



Safety of the Travelling Public!



Safety of Every Worker on Site!



Concentrate on the Work,
not the Errant Vehicle



Safety of Every Worker on Site!

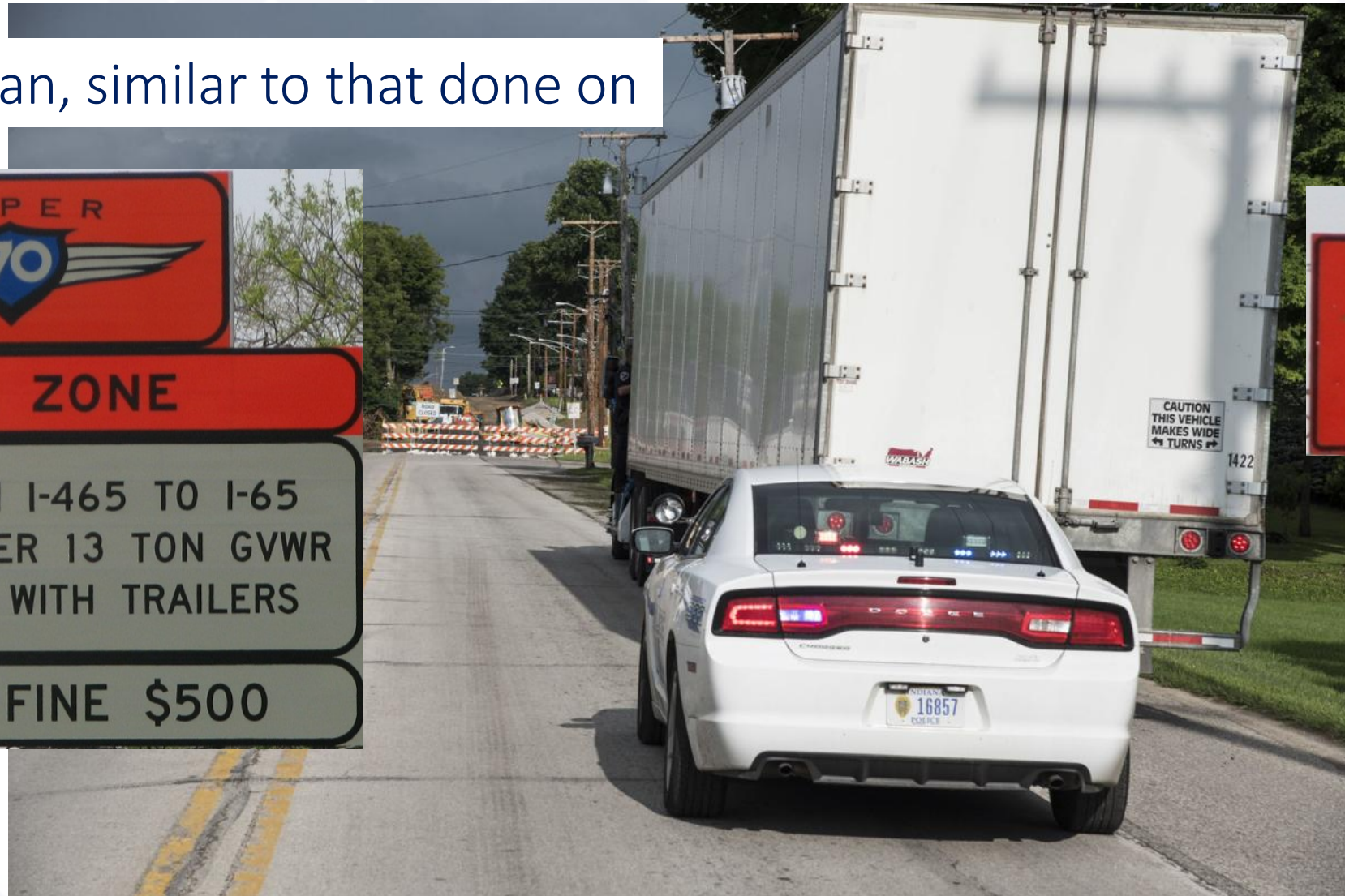
Truck Ban, similar to that done on

SUPER 70

WORK ZONE

I-70 WB FROM I-465 TO I-65
NO TRUCKS OVER 13 TON GVWR
NO VEHICLES WITH TRAILERS

MAXIMUM FINE \$500



Quality Product that will Last!



INDOT LETTING PREPARATION SCHEDULE 2017-2023

September 1, 2017

All District documents are due to Contracts Administration by the Ready For Contracts Date - including the Ten Week Letter and the Contract Requirements Worksheet.

| Bid Letting | Stage 3 Submittal | RoW Docs due to District | Final Tracings Submission Due | Ready for Letting Docs to CA | CIB Cert Returned to Contracts Administration | Notice Posted, Documents Released | Final Revisions Due to Contracts Administration (No Later Than 11:00 AM) |
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December 2017

December 2017

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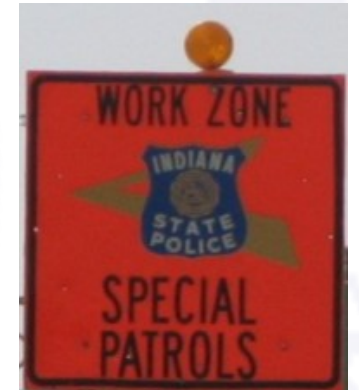
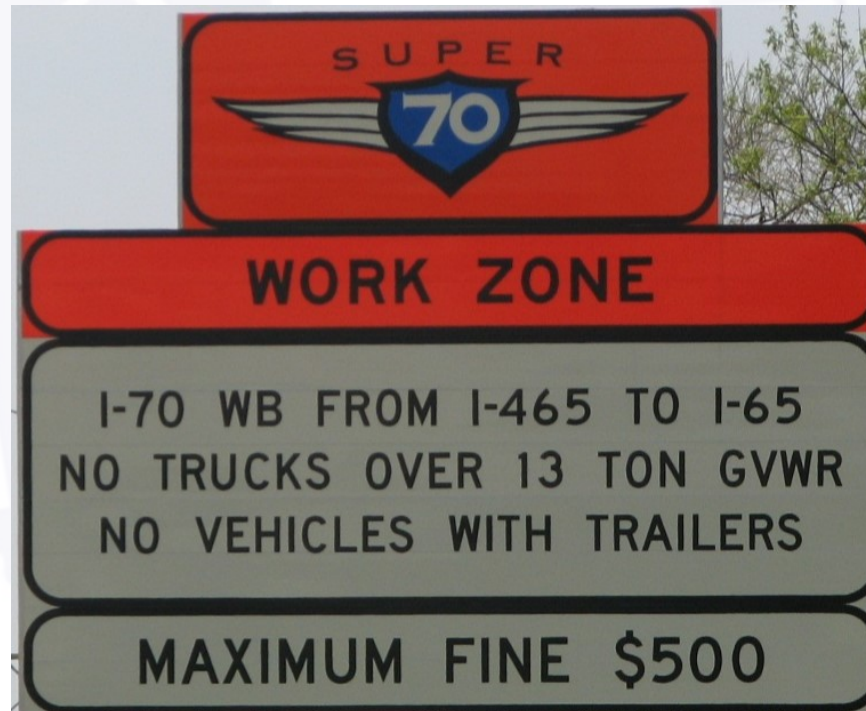
- December 4, 2017
- Final Tracing Submission Due

December 2017

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- December 7, 2017
- Meeting to Discuss Police Patrols of Work Zone and Enforcement of Truck Ban



December 2017

December 2017

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- December 11, 2017
- Meeting to Discuss Maintenance of Traffic and Construction Time Set Details

December 2017

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- December 11, 2017
- Meeting to Discuss Maintenance of Traffic and Construction Time Set Details
- Conclusion: It was worth pursuing the full closure option with INDOT Executive Staff
 - Length of Queue
 - Accident in Work Zone results in Closure

December 2017

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- December 12, 2017
- Discussed the Closure Option with INDOT Executive Staff

December 2017

December 2017

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- December 12, 2017
- Discussed the Closure Option with INDOT Executive Staff
- Received Approval from INDOT Executive Staff to Proceed with Plans to Close Interstate 65



December 2017

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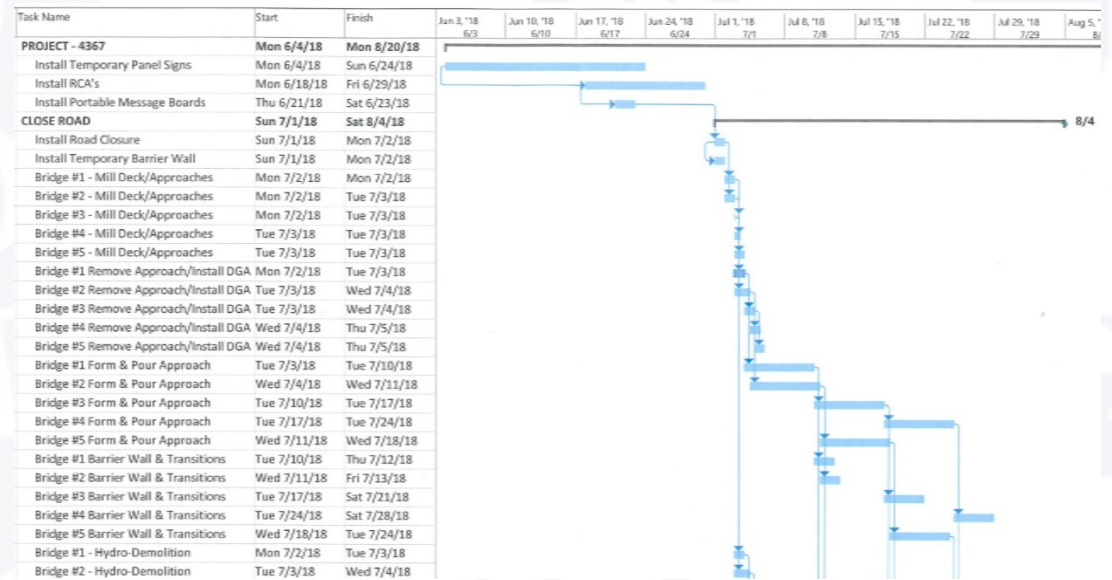
- Informed Designer of Change in Maintenance of Traffic Plan

December 2017

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- December 19, 2017
- Meeting to Discuss Estimated Construction Schedule and Duration



- Estimate Duration of Closure and Allowable Time of Year

December 2017 / January 2018

December 2017

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- January 3, 2018
- Ready for Letting Documents to Contract Administration
Deadline for March 14, 2018 Letting

December 2017 / January 2018

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December 2017 / January 2018

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- January 3, 2018
- Ready for Letting Documents to Contract Administration
Deadline for March 14, 2018 Letting
- Designer had three weeks to make significant changes to approximately 71 plan sheets
- Letting Date moved one month to April 11, 2018

INDOT LETTING PREPARATION SCHEDULE 2017-2023

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January 2018

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- January 31, 2018
- Ready for Letting Documents to Contract Administration
Deadline for April 11, 2018 Letting

January 2018

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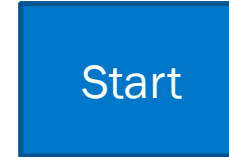
- January 31, 2018
- Ready for Letting Documents to Contract Administration Deadline for April 11, 2018 Letting
- This move provided more time for the designer to complete the plan & contract changes



Case Study: I-65 Marion County Bridges

Closure: Design Implications

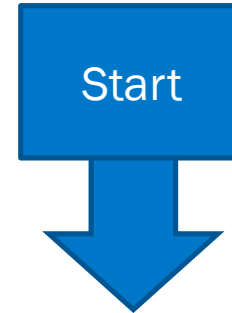
- Revised Traffic Modeling
 - Discussions with District



Case Study: I-65 Marion County Bridges

Closure: Design Implications

- Revised Traffic Modeling
- Revised IHCP Waiver



Case Study: I-65 Marion County Bridges

Closure: Design Implications

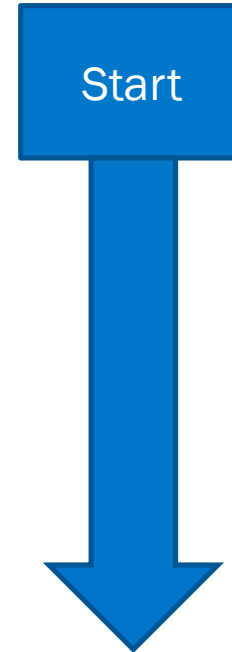
- Revised Traffic Modeling
- Revised IHCP Waiver
- MOT modifications
 - Plans
 - Quantities
 - Estimate



Case Study: I-65 Marion County Bridges

Closure: Design Implications

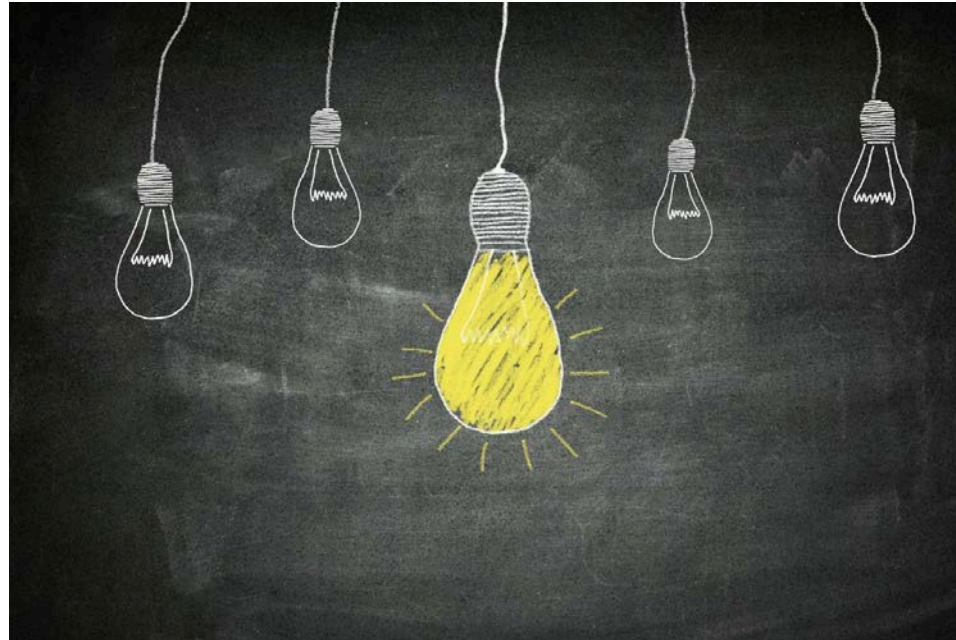
- Revised Traffic Modeling
- Revised IHCP Waiver
- MOT modifications
- Special Provision modifications
 - Timeset
 - A+B Bidding
 - 24-hour work
 - Lane and Ramp Closures
 - Sheet and Panel Signs
 - Black Tape to protect recent overlay



Case Study: I-65 Marion County Bridges

Closure: Design Implications

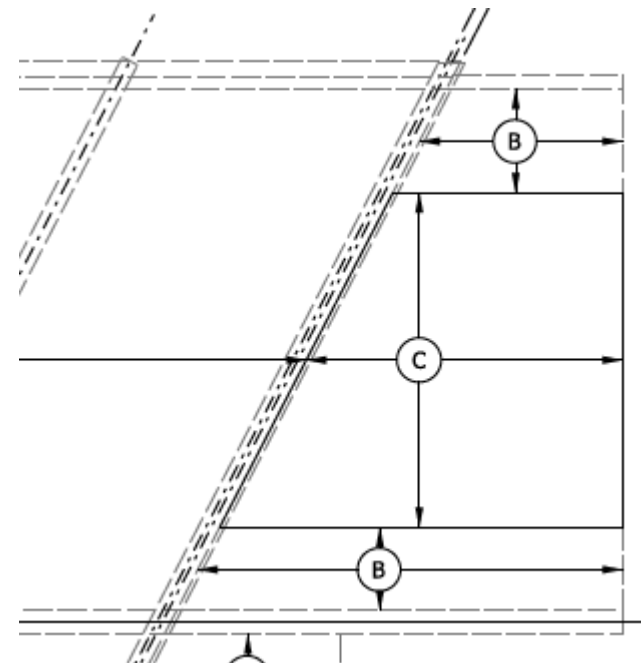
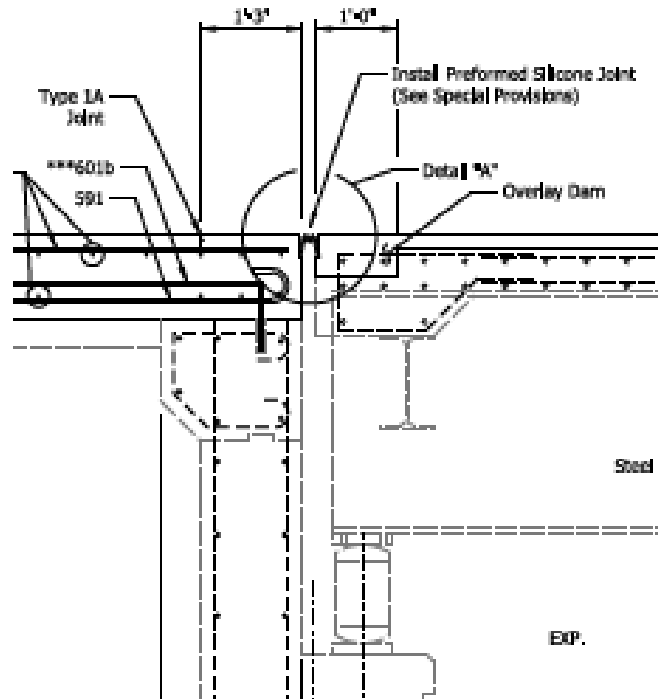
- Consider alternative concepts



Case Study: I-65 Marion County Bridges

Closure: Design Implications

- Consider alternative concepts
 - Goal: Aid in Contract Timeset
 - Goal: Maintain Quality
 - Reduce hand-work
 - Combine concrete elements
 - Provide Options (LMC vs. SFMA)



Concurrent Tasks

- Since the decision was made to close the interstate, several things needed to be addressed:

Concurrent Tasks

- Since the decision was made to close the interstate, several things needed to be addressed:
 - Check to see if Governor's Office needed to be informed



Concurrent Tasks

- FHWA Indiana Division Office



Concurrent Tasks

- FHWA Indiana Division Office



- INDOT District Environmental Services Office

ENVIRONMENTAL
SERVICES
INDOT



Concurrent Tasks

- INDOT District Construction (time set, work schedule, available manpower, time of year for closure, affect on other projects, and duration of the closure)



Concurrent Tasks

- INDOT District Construction (time set, work schedule, available manpower, time of year for closure, affect on other projects, and duration of the closure)



- City of Indianapolis Department of Public Works



Concurrent Tasks

- Traffic Modeling



Concurrent Tasks

- Traffic Modeling



Indianapolis - Marion County, IN Code of Ordinances

Sec. 391-302. - Unlawful noises.

- Noise Ordinance Waiver

- For purposes of this chapter, unreasonable volume, frequency, or pattern that poses a health, safety, welfare, prosperity, or community ordinary sensitivities within the city, which the sound is made.
- Except as otherwise provided in this

Concurrent Tasks

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City of Indianapolis
Department of Business and Neighborhood Services
Request for Extended Working Hours/Noise Ordinance Waiver

- Noise Ordinance Waiver

Concurrent Tasks

- Request to and Approval from FHWA to close part of the National Network



INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N758
Indianapolis, IN 46204

PHONE: 1-855-463-6848

Eric Holcomb, Governor
Joe McGuinness, Commissioner

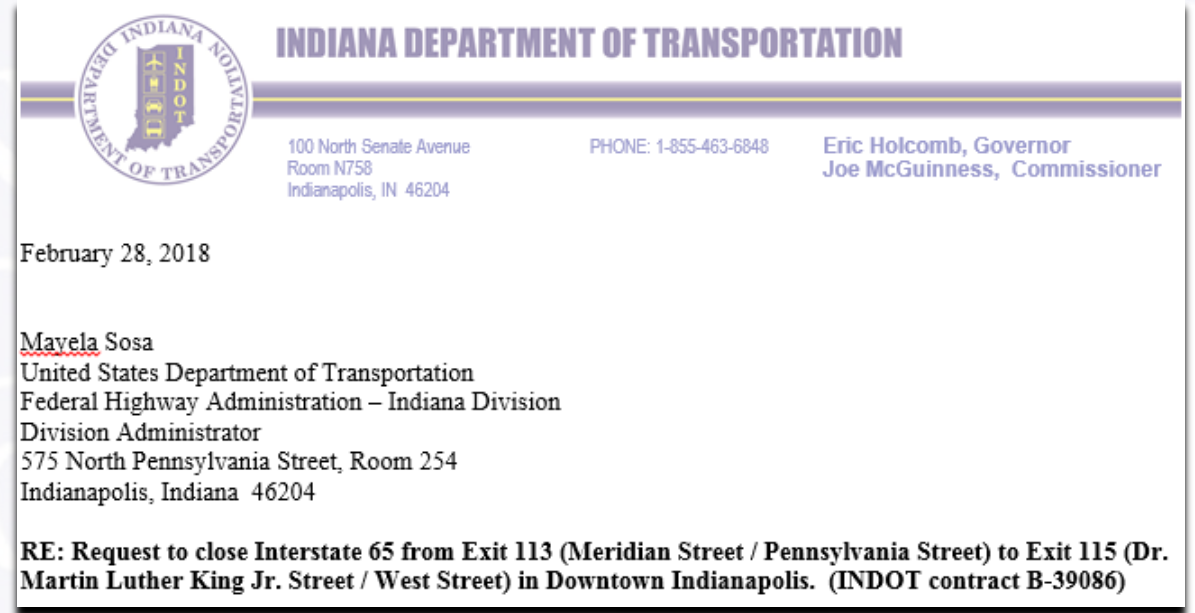
February 28, 2018

Mavela Sosa
United States Department of Transportation
Federal Highway Administration – Indiana Division
Division Administrator
575 North Pennsylvania Street, Room 254
Indianapolis, Indiana 46204

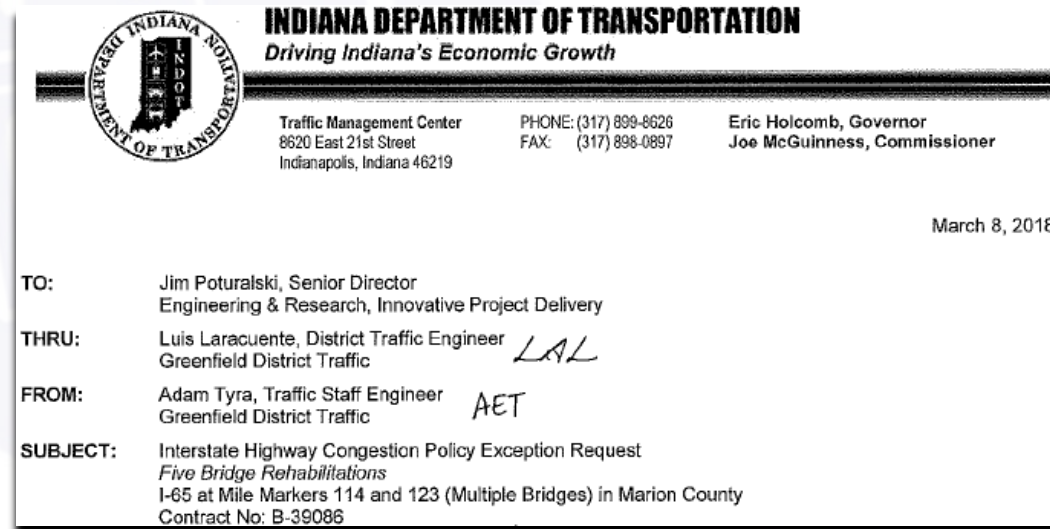
RE: Request to close Interstate 65 from Exit 113 (Meridian Street / Pennsylvania Street) to Exit 115 (Dr. Martin Luther King Jr. Street / West Street) in Downtown Indianapolis. (INDOT contract B-39086)

Concurrent Tasks

- Request to and Approval from FHWA to close part of the National Network



- Obtain waiver of the Indiana Highway Congestion Policy



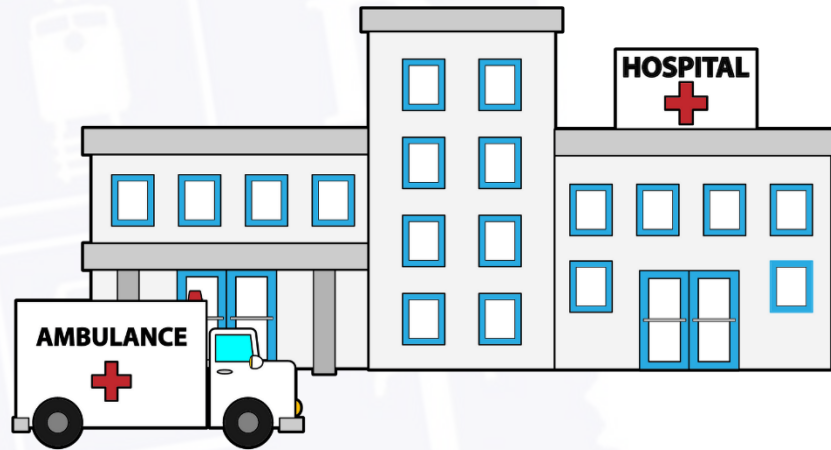
Concurrent Tasks

- Identify and meet with Key Stakeholders (schools, hospitals, emergency services, local agencies, elected officials) just to mention a few



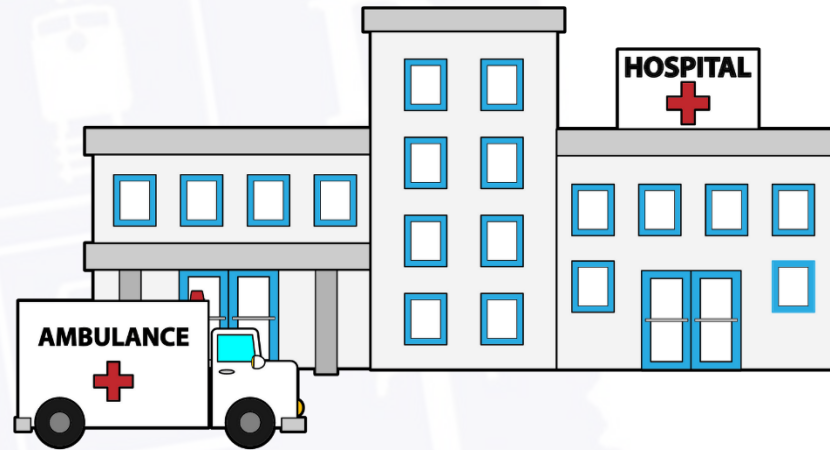
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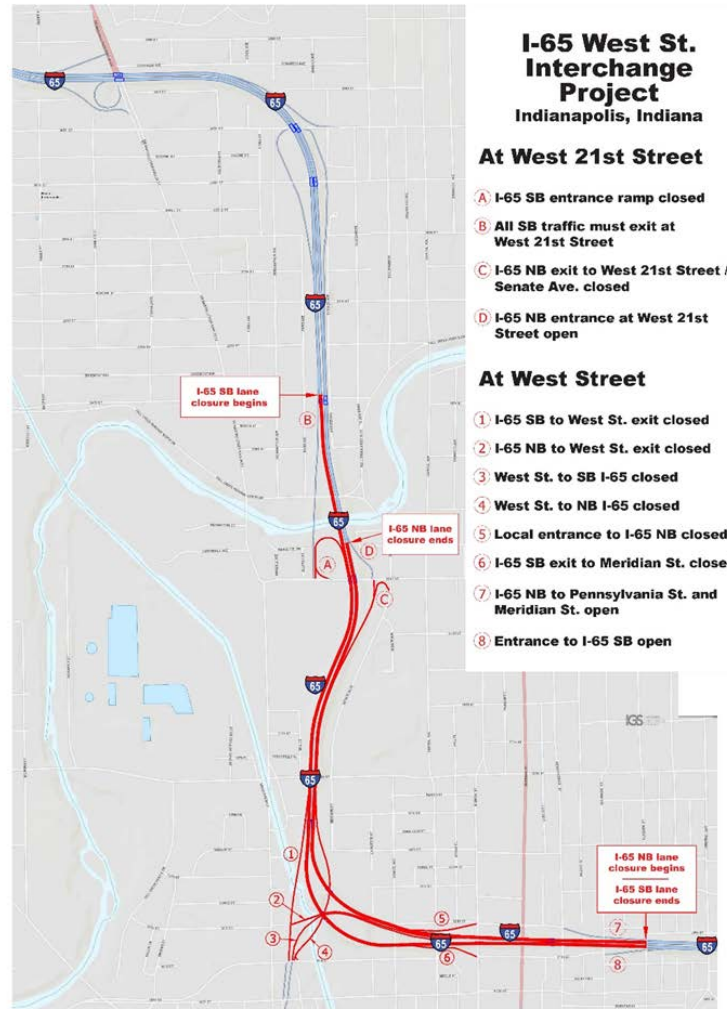
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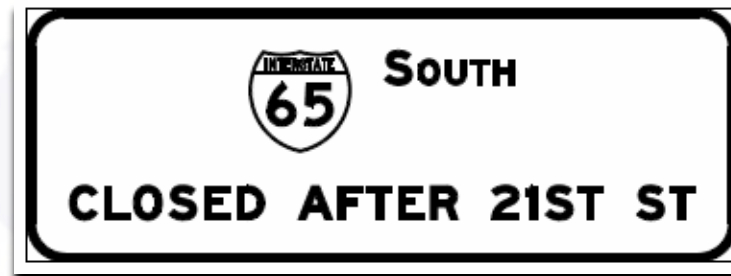
Concurrent Tasks

- Coordinate Public Involvement



Concurrent Tasks

- Contact the INDOT Freight Division
- Led the effort for early procurement of some materials
- Arranged and hosted pre-bid meeting
- Pre-letting questions
- Coordination with Indianapolis TMC and DPW regarding traffic signals



Original Maintenance of Traffic Plan

Design Goals

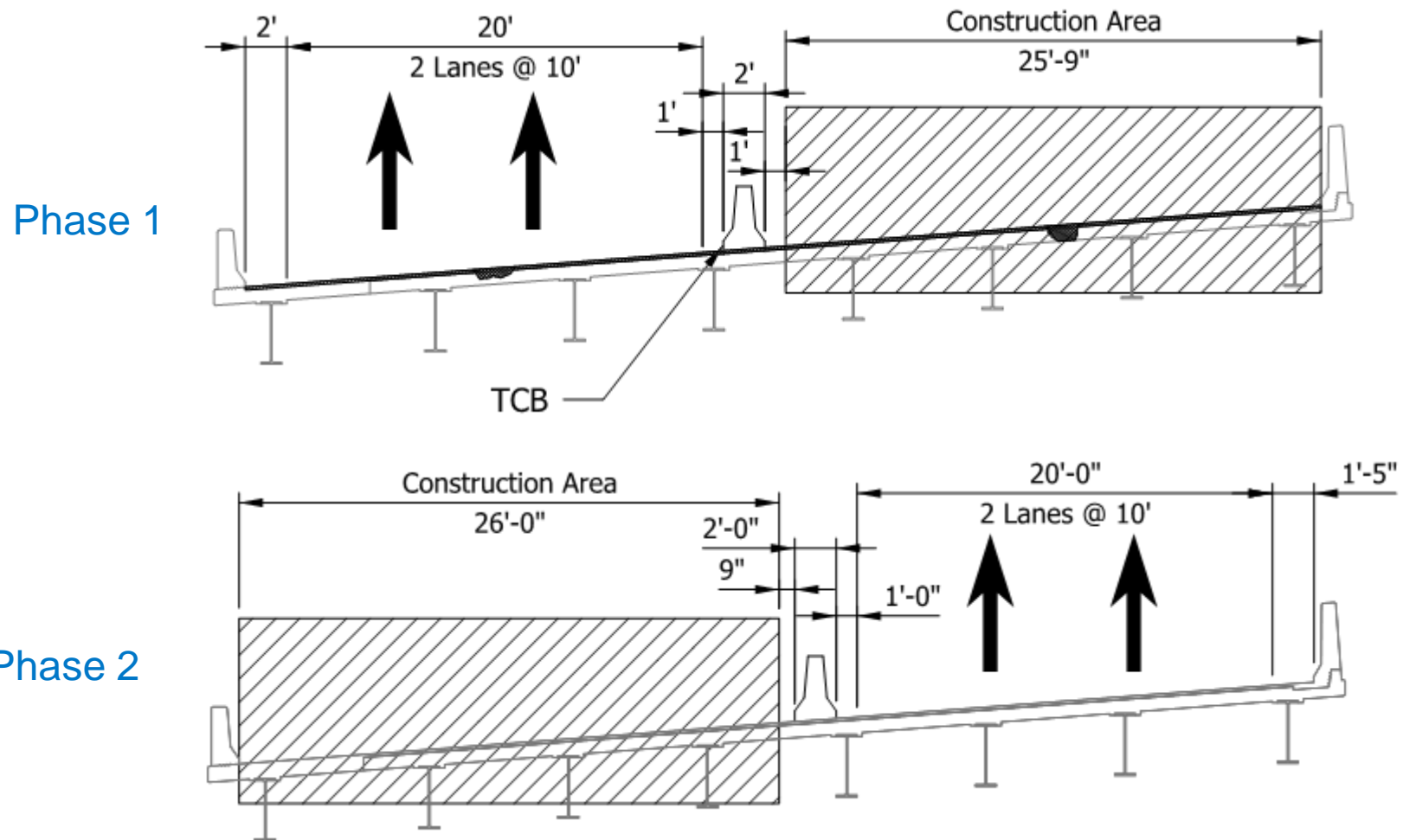
- Keep as many I-65 lanes open as possible
- Maintain ramp connection when feasible
- All work performed behind temporary concrete barrier (TCB)
- Reduce impacts to newly-constructed asphalt overlay of mainline

Design Results

- Two-phase construction sequence
- Single lane reduction on I-65
- Ramp closures in West Street interchange

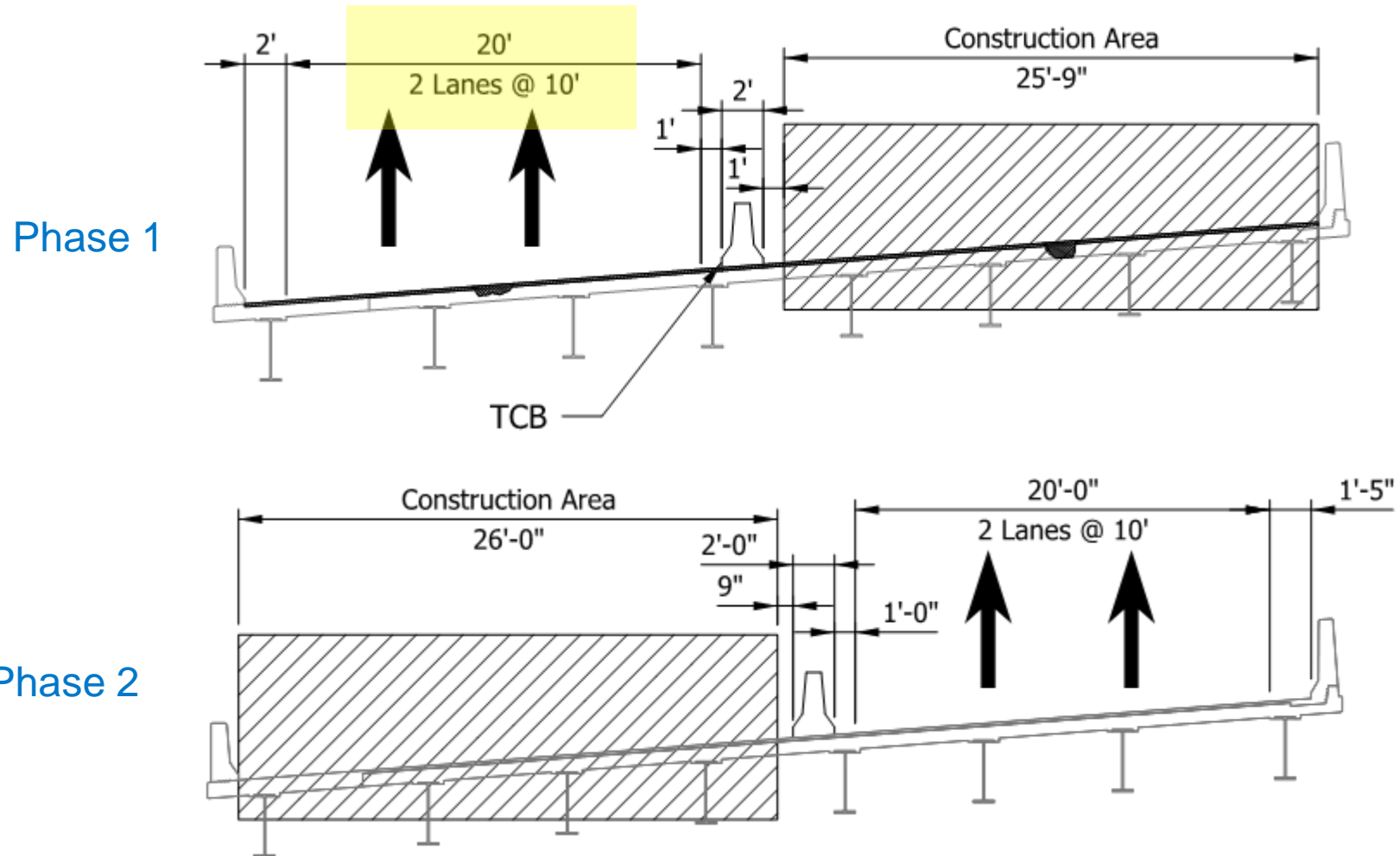
Original Maintenance of Traffic Plan

I-65 NB over West Street ramps (SB similar)



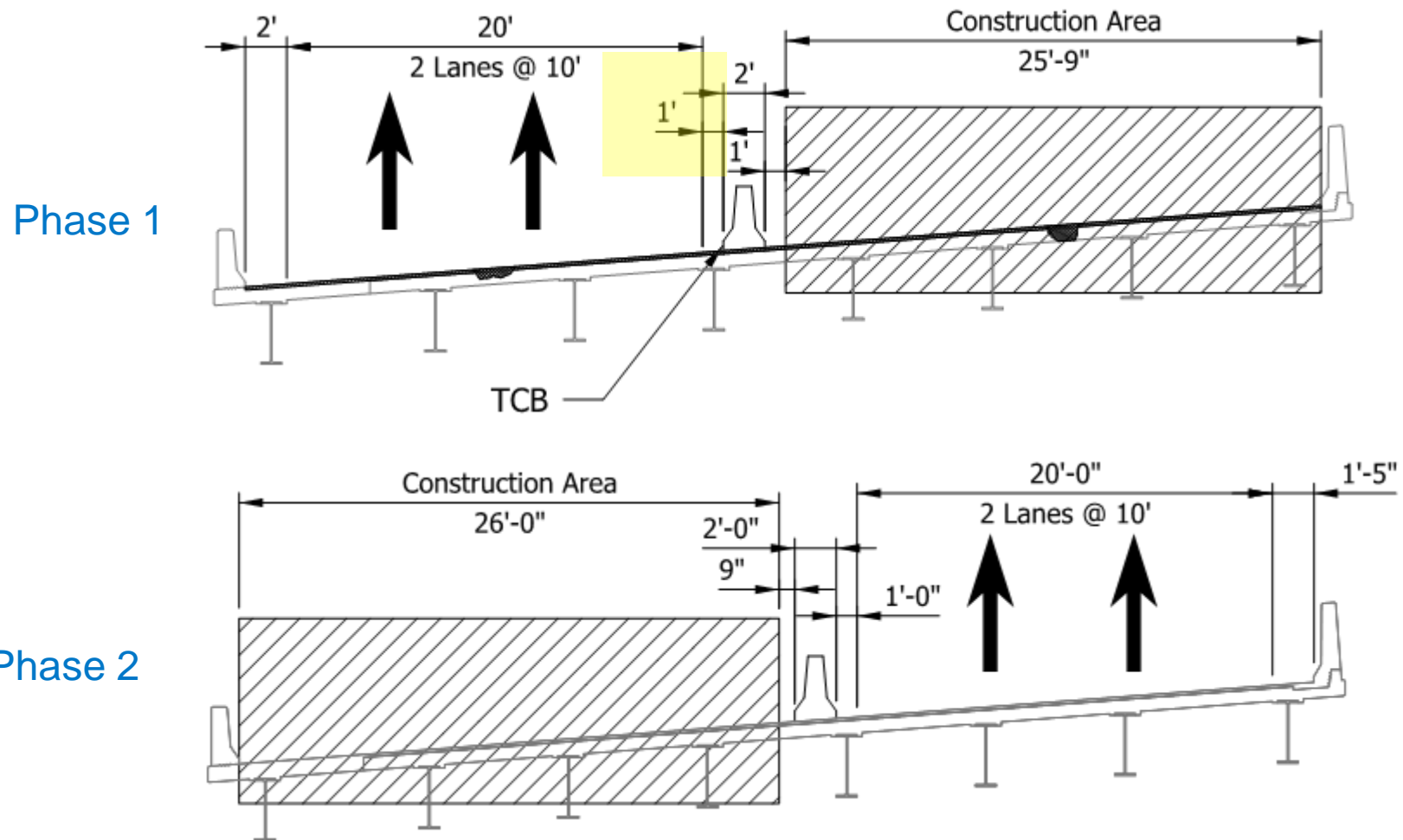
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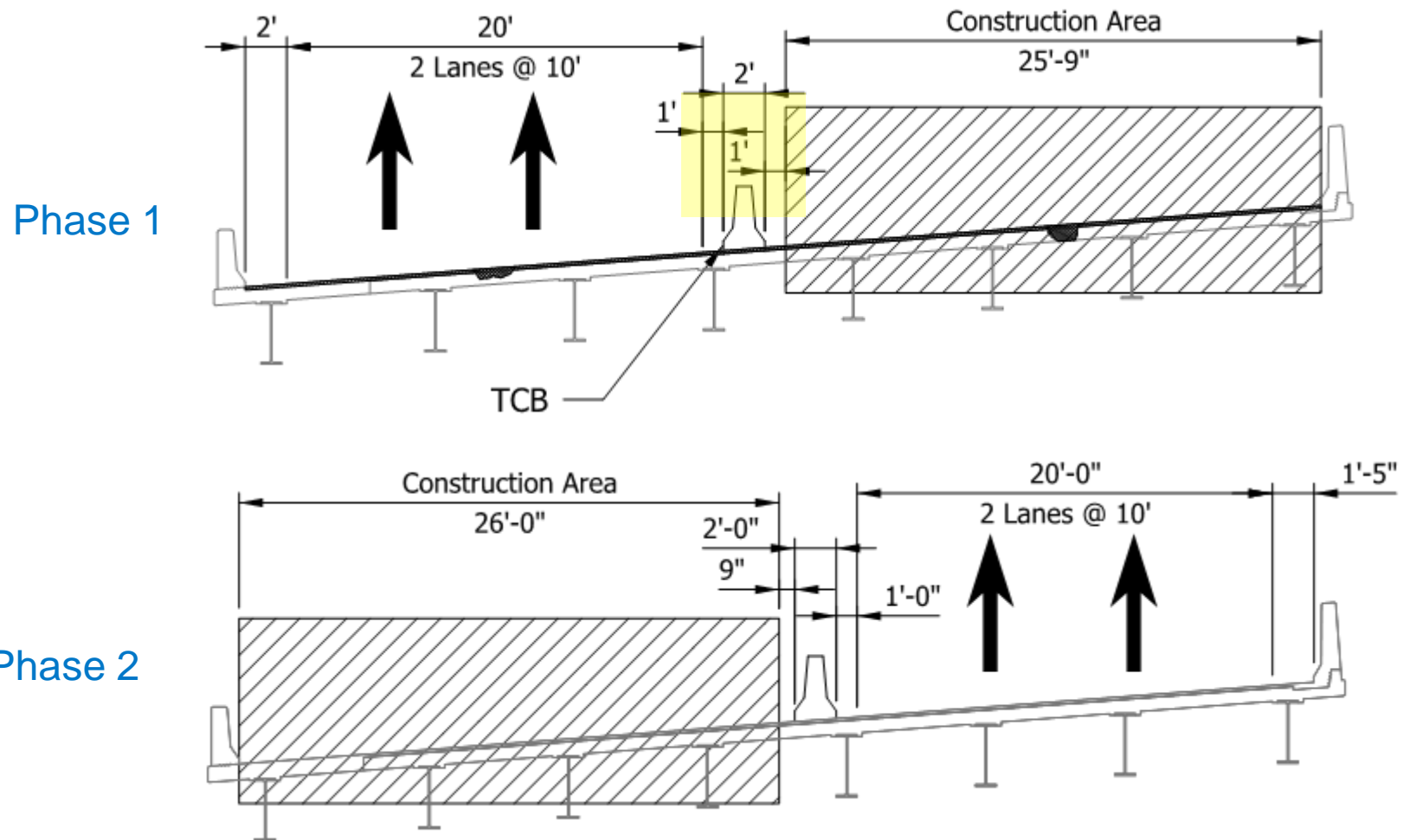
Original Maintenance of Traffic Plan

I-65 NB over West Street ramps (SB similar)



Original Maintenance of Traffic Plan

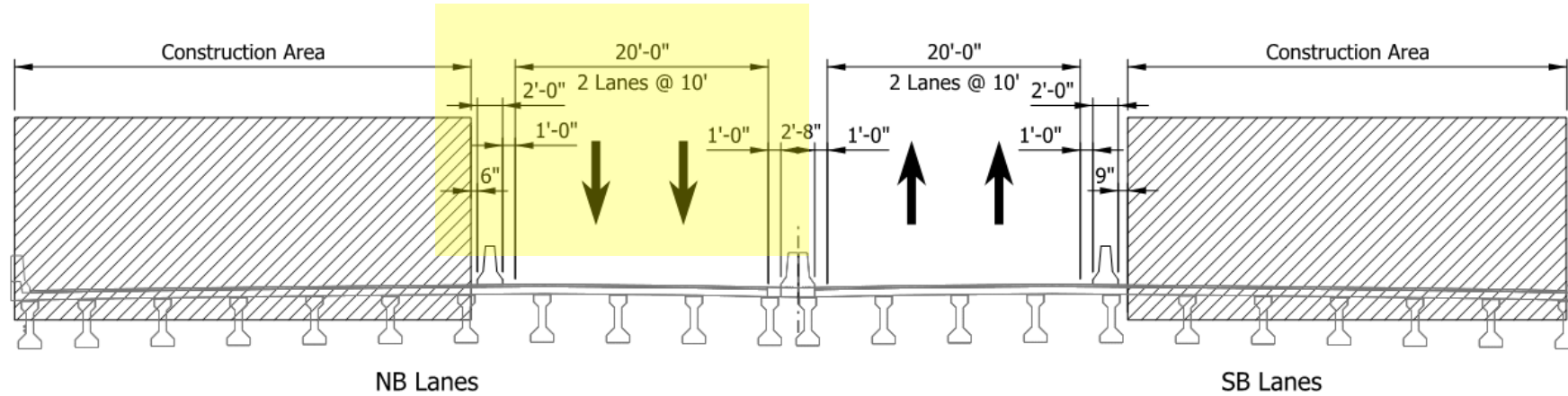
I-65 NB over West Street ramps (SB similar)



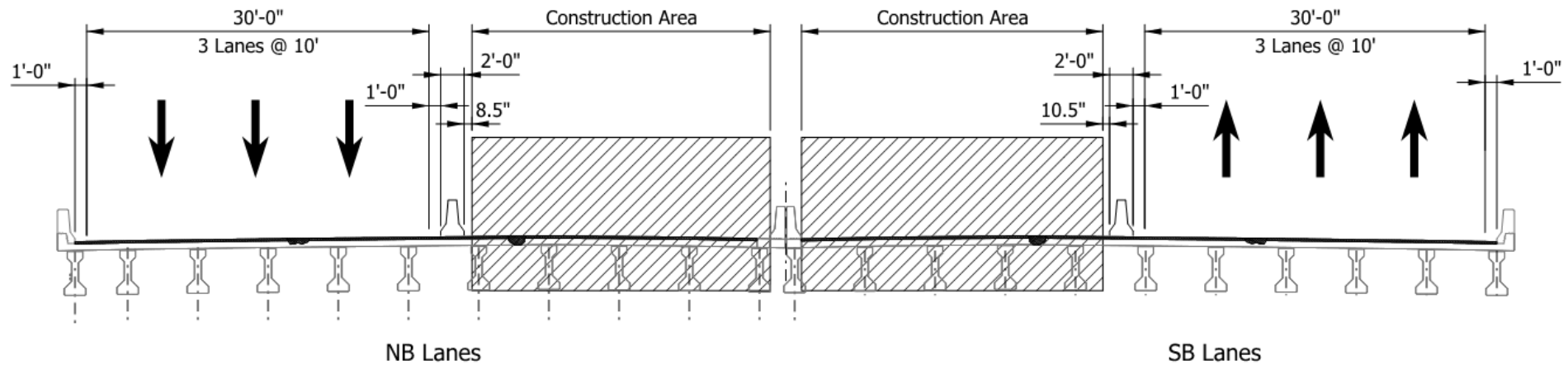
Original Maintenance of Traffic Plan

I-65 over 16th Street

Phase 1



Phase 2



Original Maintenance of Traffic Plan

Undesirable Design Features

- 10-ft lanes, 1-ft shoulder during construction
- Level 1 design exceptions required for shoulder width and horizontal stopping sight distance
- Truck detour required for 10-ft lane width (enforcement required for duration of construction)
- Narrow working room behind TCB for contractor
- Single-lane reduction of I-65 created large queueing entering downtown
 - 19+ mile queue lengths
 - 2+ mile queue from 7am to midnight Monday thru Friday
- Several on-ramps closed due to unsafe merging conditions in work zone

Full-Closure Maintenance of Traffic Plan

Necessary Design Changes

- Safely close the interstate and route traffic onto side roads



Full-Closure Maintenance of Traffic Plan

Necessary Design Changes

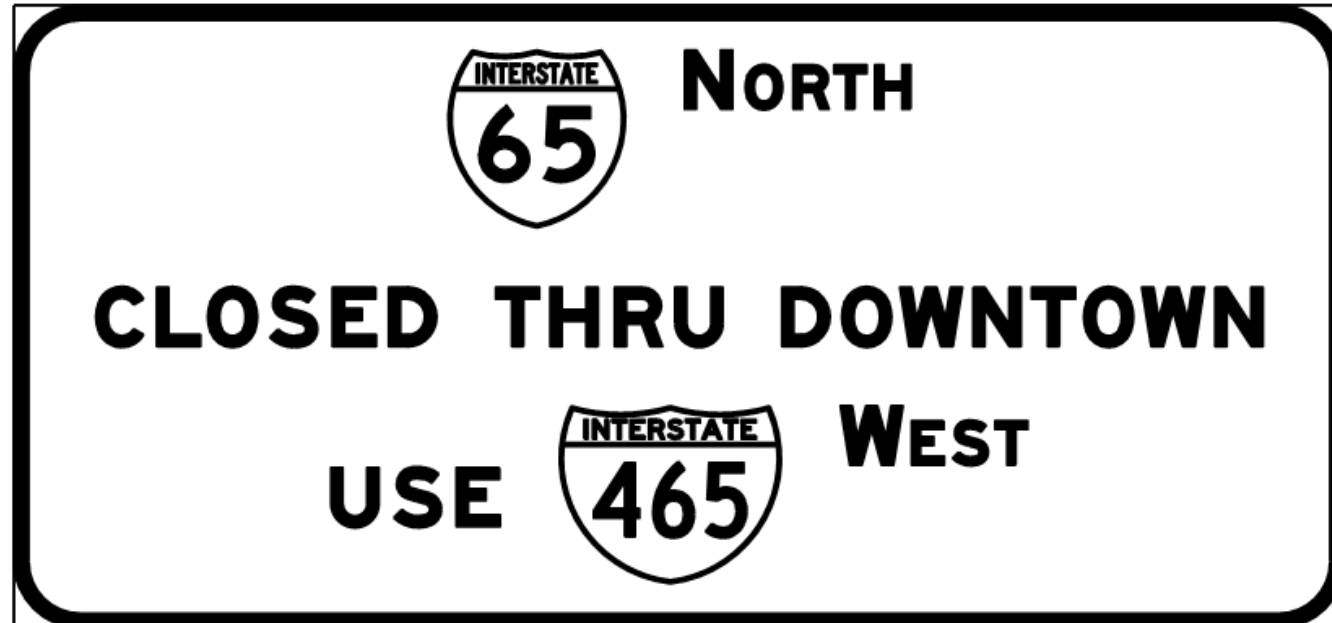
- Modify existing signage if necessary



Full-Closure Maintenance of Traffic Plan

Necessary Design Changes

- Detour traffic onto alternative major roadways



Full-Closure Maintenance of Traffic Plan



Is a Full Closure Right for Your Project?

- Not all projects should close the roadway (duh)
- Combination of issues led to this closure:
 - Several less-than-desirable MOT design features (lane/shoulder width)
 - Truck restriction enforcement
 - Traffic backups on high-volume commuter route
 - Construction inefficiencies
 - Worker safety concern
- Northern bridge (I-65 SB over I-465 on NW side of Indy) needed full closure, so traffic was metered entering the city

Is a Full Closure Right for Your Project?

- **Detour Route** – is there a logical posted detour route for through traffic?
- **Diversion Routes** – are there alternative routes for local traffic?
- **Construction Inefficiencies** – does phased construction result in a less-than-ideal product for the client?
- **Worker safety** – does the work zone design result in a potentially dangerous site for the contractor?
- **Traffic safety** – does the work zone design result in a potentially dangerous site for vehicles traveling through?
- **High MOT costs / long schedule** – reductions in costs and/or time could be significant benefits to the client.

Photos



Photos



Photos



Photos



Photos



Photos



Photos



Photos



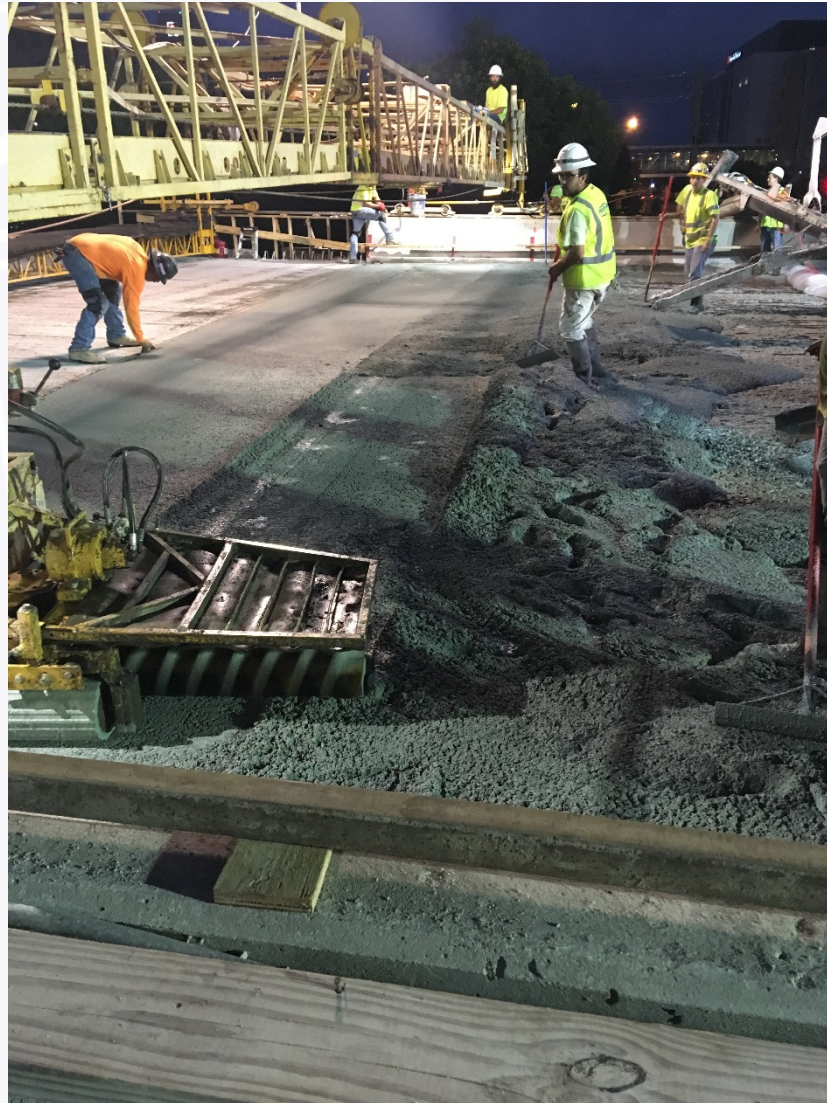
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We Thank You for your Time!

Questions??

