



**Bridge Rehab Projects:
Integrating TSMO into
Project Development**

Newman Abuissa & Matt McLaughlin

IOWADOT

© 2019 HDR, Inc. All rights reserved.

Agenda

01 US-30 Between I-380 and Edgewood Road

- Staging Alternatives Assessment
- Consolidating the Work
- Field Observations

03 General TSMO Lessons Learned

02 I-80 Over IMRL Railroad

- Staging Challenges
- TSMO Tools Guiding the Design
- Traffic Mitigations Planned

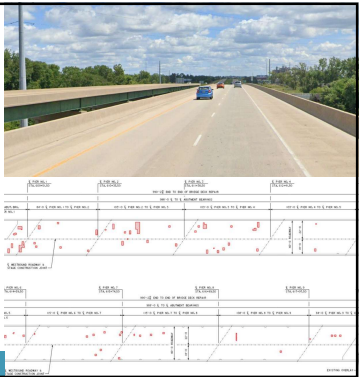
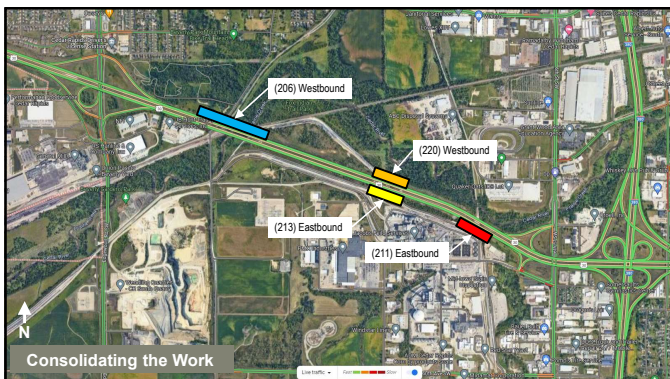
Learning Objectives

- How safety considerations, traffic impacts and construction requirements influence project development
- What TSMO tools are available to help you select the optimal staging to put in the plans
- Sharing field experiences and lessons learned for designers

Project #1: US-30 between I-380 and Edgewood Road

- Deck Overlay
- Class A & B Repairs (with sounding)
- Paving Notch Replacements
- Bridge Approach Replacements
- Paved HMA Shoulders
- Challenges: Commuter Traffic Volumes, Long Bridges, Railroad Coordination

AADT: 31,500

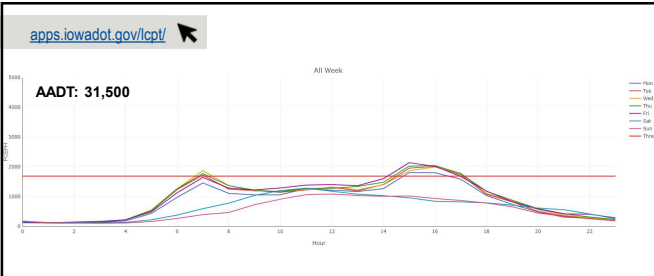
Consolidating the Work

Labels: (206) Westbound, (220) Westbound, (213) Eastbound, (211) Eastbound

apps.iowadot.gov/lcpt/

AADT: 31,500

All Week



Lane Closure Planning Tool (LCPT)
Anticipated Queuing – We Need 2-Lanes for Smooth Flow! But...how....

Staging Alternative A

Pros: Incident Management, Maintains Capacity, Less Impact to Over-width Loads

Cons: Safety, Quality Issues, Constructability Challenges

Eliminated due to Safety Concerns

Staging Alternative B

Pros: Maintains Capacity, Better Quality Product

Cons: Safety, Cost for Cross-overs, Shy Distance Deviations

Eliminated due to Safety and Cost

Staging Alternative C

Pros: Least Costly, Avoids Driver Confusion, Quality Control

Cons: Potential Traffic Delays, Incident Management

Selected Alternative (with mitigations planned)

TCP Checklist as a Guide

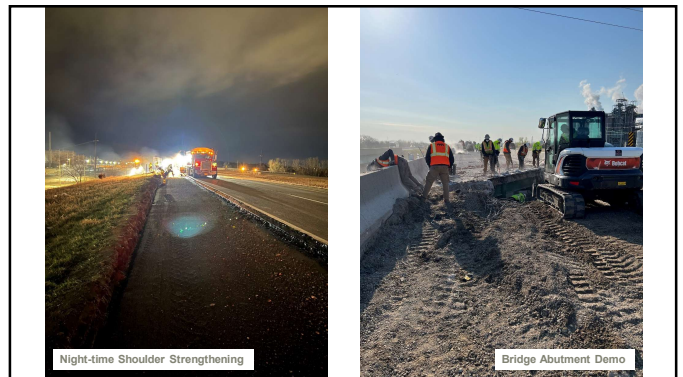
Iowa DOT TCP Checklist

- Consolidate Multiple into Single Contract
- Public Outreach / Press Release
- Highway Helper
- City coordination – detour route for on-ramp
- Intelligent Work Zones and ITS
- Road User Costs

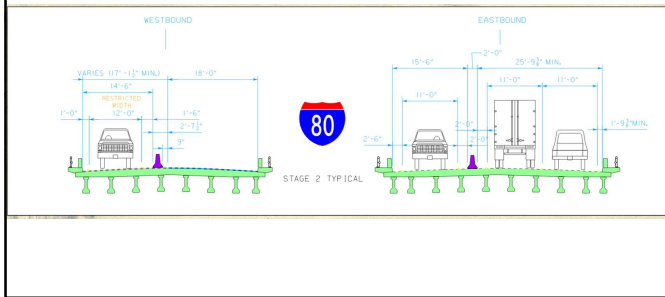
<https://webapps.srfconsulting.com/idotcp/>

Site ID	Site Details			Liquidated Damages
00	Late Start Date	04/03/2023	80 WORK DAYS	\$2,000.00
	Overall Site.			
01	No Start Date Specified		60 WORK DAYS	\$8,200.00
	For Stages 1B, 2, 3B, & 4. See description below.			

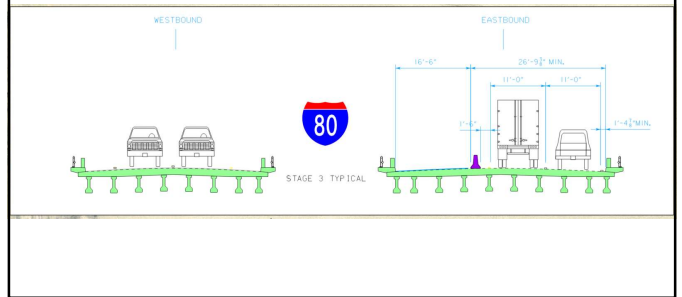
Incentive Amt per Day



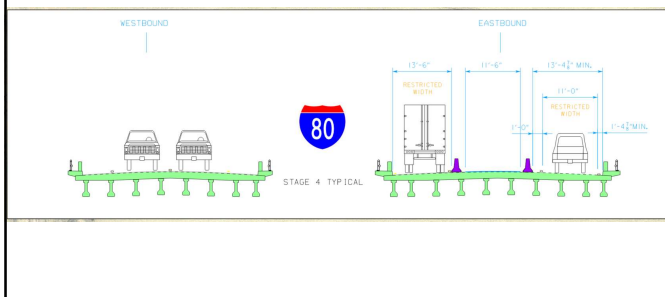
Stage 2 (work on WB)



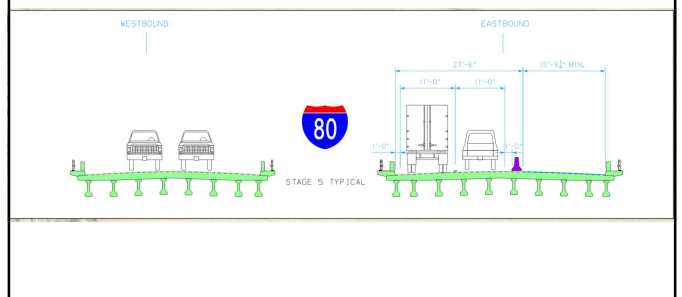
Stage 3 (work on EB)



Stage 4 (work on EB)



Stage 5 (work on EB)



TSMO Tools

- Lane Closure Planning Tool (LCPT)
 - Capacity Analysis with I-80 Study Data
- Highway Capacity Manual (HCM)
- Traffic Critical Project (TCP) Checklist
- Intelligent Work Zone Planning
- Traffic Split Static and Digital Signage
- Lessons Learned from Others



General TSMO Lessons Learned

- Pendulum moves from construction to traffic to construction to traffic, etc.

