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# Elmhurst Road Interchange Project – Lessons Learned

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# Agenda

## Elmhurst Road Interchange Project

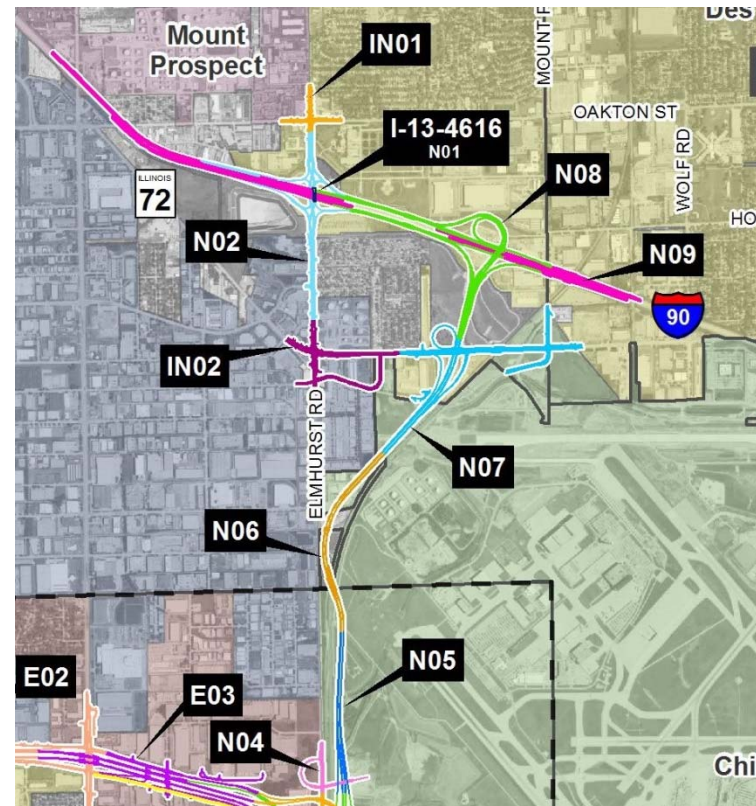
- Overview
- Challenges
- Lessons learned

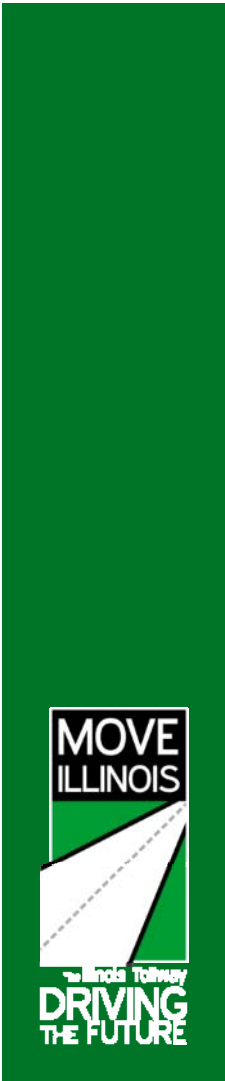
# Elgin O'Hare Western Access (EOWA) Project

Elmhurst Road Interchange part of the EOWA Project

Providing new entrance and exit to and from the west on the Jane Addams Memorial Tollway (I-90)

New bridge wide enough for C-D roads servicing the new interchange





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MWRD waste water treatment plant

MWRD deep tunnel reservoir

Estimated 1,000 mobile homes

Petroleum tank farm

# Elmhurst Road Interchange Project

## \$54 million project

Provides full interchange

Second diverging diamond interchange on the Tollway system

More than 20,000 vehicles a day travel through the interchange

Designed by a joint venture of Lochmueller Group and 2IM

Milhouse Engineering and Construction as construction manager

F.H. Paschen and Martam are general contractors



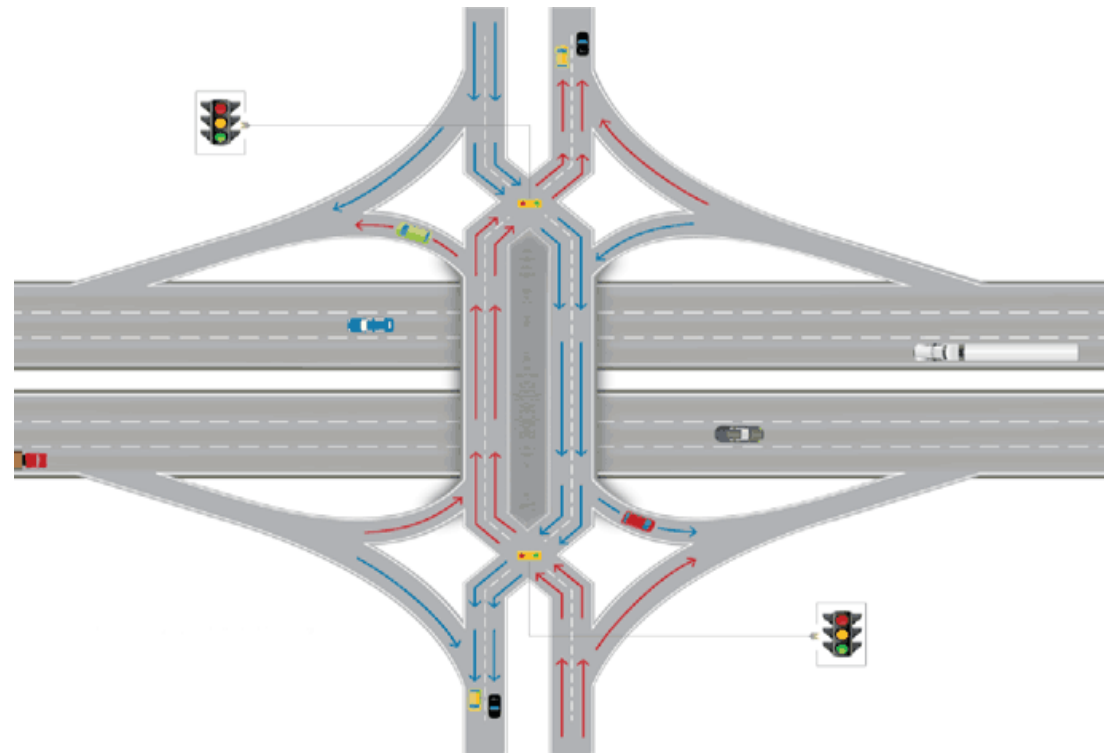
# Benefits of Diverging Diamond Interchange

Innovative design

Fewer traffic signal phases

Free-flow turning

Bicycle and pedestrian access



# Construction Overview

Two new bridge structures over I-90 and one over Higgins Creek, including a bicycle and pedestrian path

Existing ramps and new access to and from the west

Utility relocations to facilitate work

Elmhurst Road reconstruction and widening from Oakton Street to Higgins Road and Oakton Street intersection





# West Bridge (Northbound)



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# Structures Construction



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# Eastbound Exit Ramp



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# Lessons Learned

Utility conflicts

Settlement

Contractor coordination

Importance of partnership

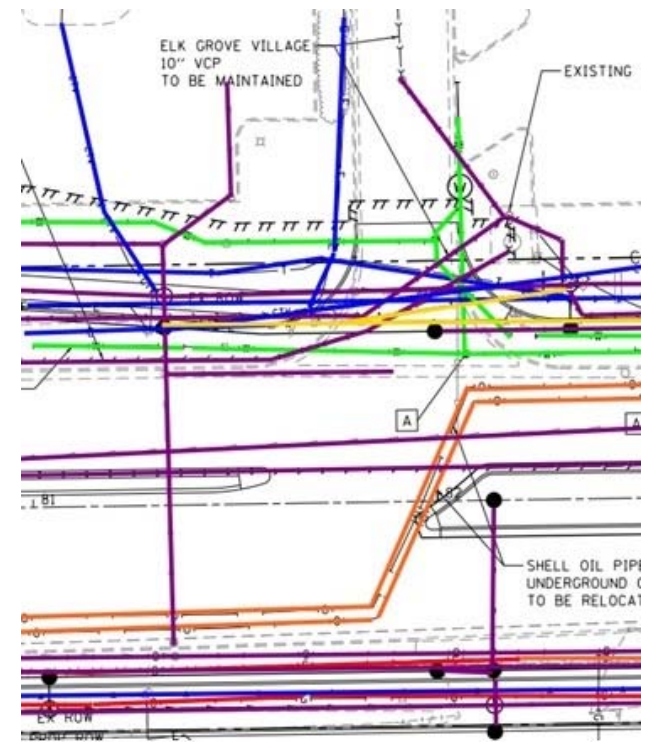
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# Utility Conflicts

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## 18 utility companies with 27 different lines

- MWRDGC sludge line relocation
- Shell gas lines serving O'Hare International Airport
- Nicor gas distribution line
- 90-inch Northwest Suburban Municipal Joint Action Water Agency (NSMJAWA) relocation for construction of southwest ramps



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## Utilities

Utility	Description
Shell	Two 6" petroleum pipes
Buckeye/Westshore	16" petroleum pipeline
Nicor	20" transmission 4" distribution 6" distribution
ComEd	Aerial and underground lines
AT&T and AT&T LNS	Aerial and underground lines
Comcast	Aerial and underground lines
Zayo	Underground lines



# Utilities Everywhere





## Utilities

Utility	Description
MWRD	Bubbler and cabinet relocation 18" solids pipeline
Des Plaines	Water main
Elk Grove Village	Water main 4" sanitary force main
Elk Grove Township	8" sanitary force main
BP	3" sanitary force main
NSMJAWA	90" water main 72" water main 60" water main



# NSMJAWA



## Lessons Learned

Close, constant and early coordination is key

Identify all utilities at the beginning of the project

Changes are bound to happen in the field

A defined, specific relocation plan delegates the space and schedule



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# Settlement

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# Elmhurst Road Bridge Embankment

## Diverging diamond required embankment widening

- RAP exclusively for the MSE and embankment fill
- Work performed during winter using winter protection
- Fill overlays a soil strata of stiff clays with granular lenses
- Embankment was over 30 feet high

## Settlement was noted shortly after completion of bridge

- Approach slabs were designed to span over bridge settlement behind the abutments
- Both sleeper slabs rested on fill, not on structure



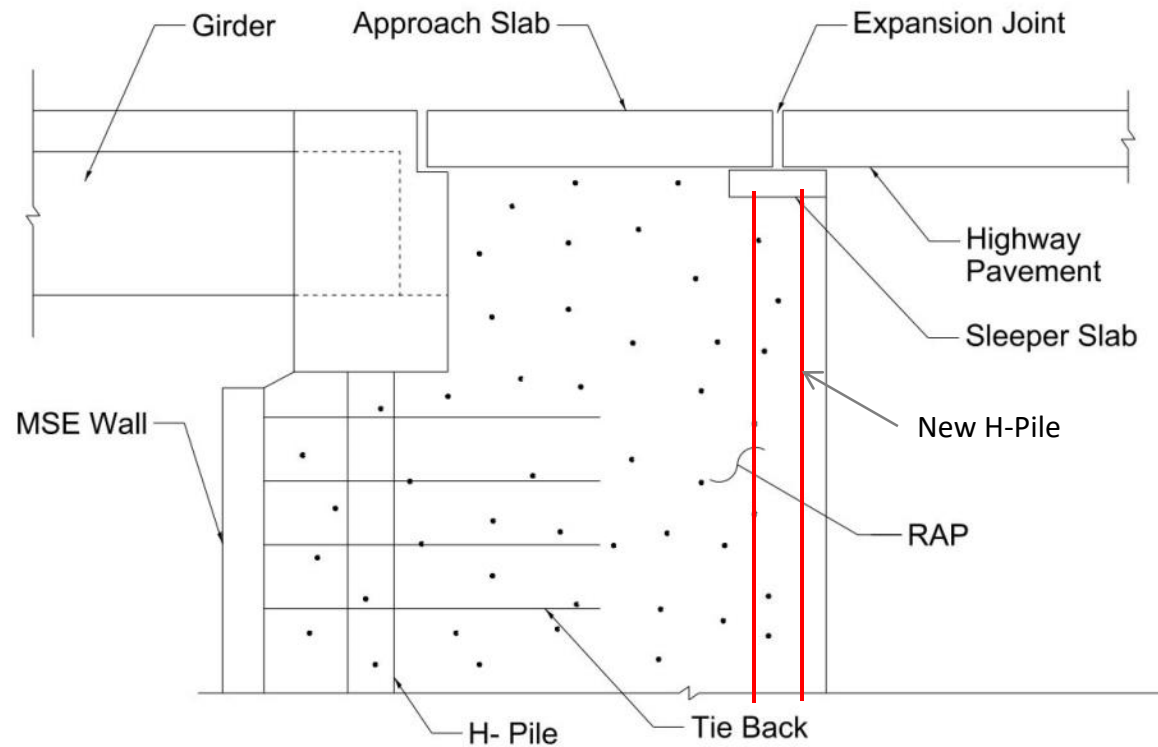
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# Approach Settlement



# East Bridge Approach Slab Settlement

Fix – the approach slabs were removed, pile bents were driven at the sleeper slabs and new approach slabs cast



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## Lessons Learned

**Allow for a settlement period or anticipate more settlement**

**Consider alternative material mixes**

**Consider design options to support sleeper slabs when settlement period is restricted**





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# Contractor Coordination

# Multiple People, Multiple Contracts

## Several people working in a small footprint

- Two general contractors performing the interchange work
- Four general contractors performing mainline work

## Three major contracts to rebuild this interchange



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## Elmhurst Road Center Pier

### Elmhurst Road center pier construction required I-90 mainline traffic to

- Shift tight to the center pier to accommodate removal and construction of the abutments
- Shift to the outside to accommodate removal and reconstruction of the center pier

### Mainline reconstruction required MOT to shift

- Moved traffic inside to construct outside lanes in 2015
- Moved traffic to new outside lanes to reconstruct inside lanes



## Mainline Coordination



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# Current Status



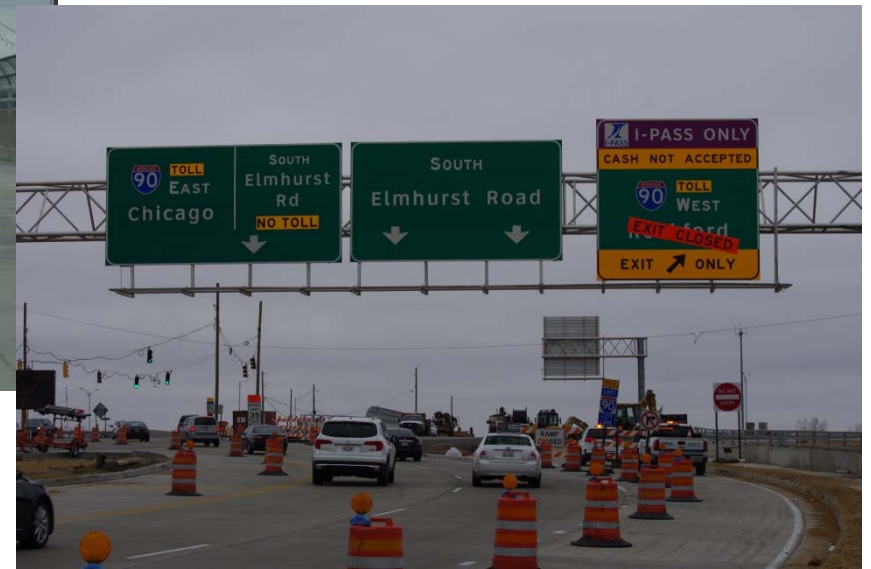
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## Current Status – Two New Ramps



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## Current Status – Both bridges done



## Current Status – Remaining Work



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# Lessons Learned

## Think big picture

- Work collaboratively with all parties
- Focus on your main objectives

## Every job stands on its own

## Consider contract packaging for future projects



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# Conclusion

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# Importance of Partnership and Communication

MWRD

Elk Grove Township

NSMJAWA

Cook County

Pace

Illinois Department of  
Transportation

FAA

Local businesses and  
utility companies

Des Plaines

Mount Prospect

CM, CCM, Contractor

Elk Grove Village

Adjacent contracts



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# Moving Forward

Committed to successful project delivery

Working with partners

Opening new ramp movements



# Getting Tollway Construction Information

[illinoistollway.com](http://illinoistollway.com)

- Construction/Planning section

**1-800-TOLL-FYI**

- Daily lane closure information

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# THANK YOU