

Proposed Diverging Diamond Interchange

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District Planning and Engineering Administrator

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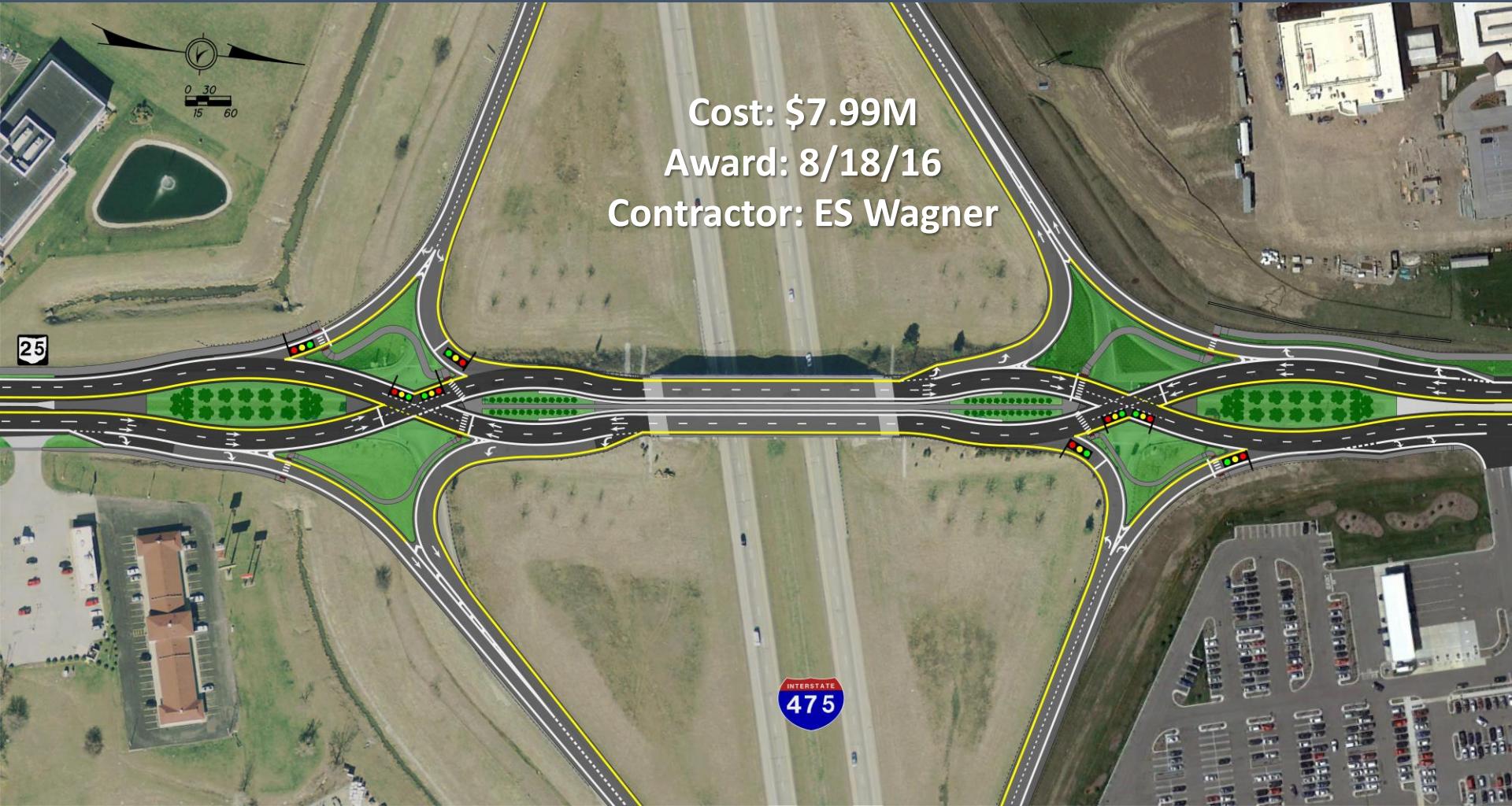
Director of Transportation

Agenda

- Diverging Diamond Interchange (DDI)
- DDI Benefits
- Public Participation
- Existing Conditions
- Key Design Concepts
- Schedule



SR 25 over I-475 Perrysburg, Ohio



Cost: \$7.99M
Award: 8/18/16
Contractor: ES Wagner

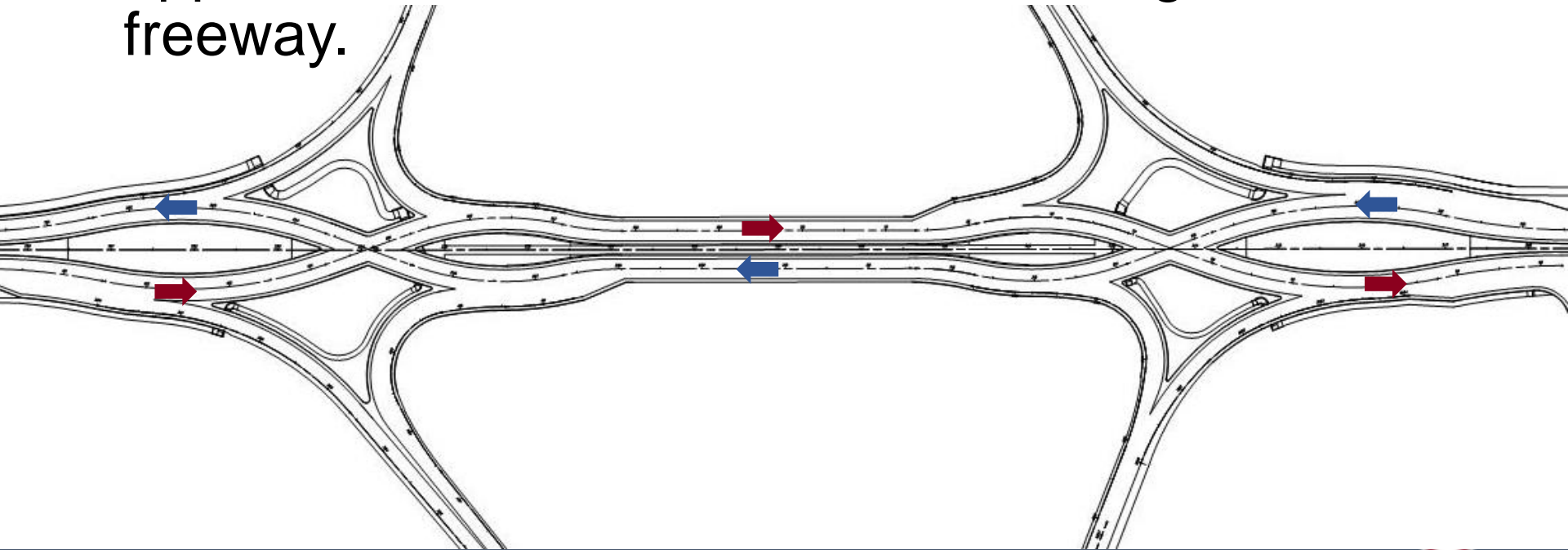


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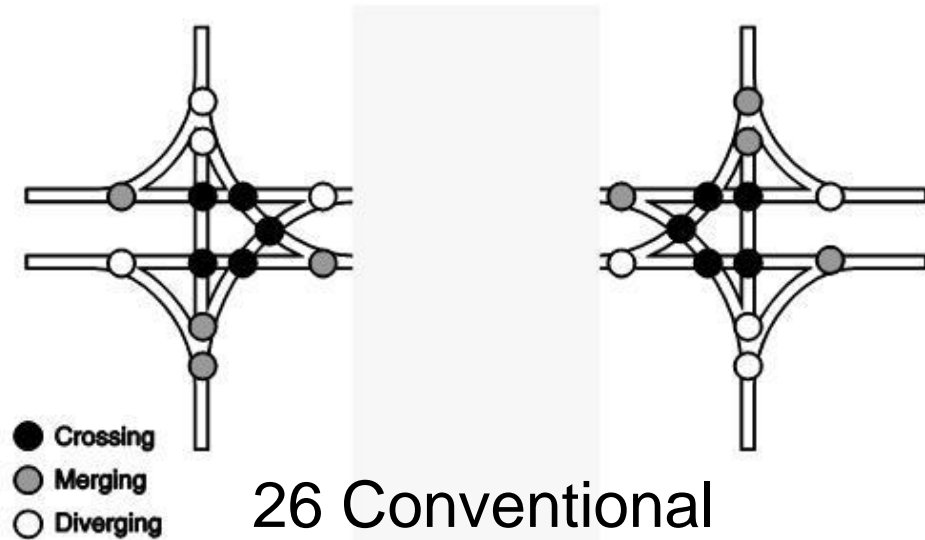
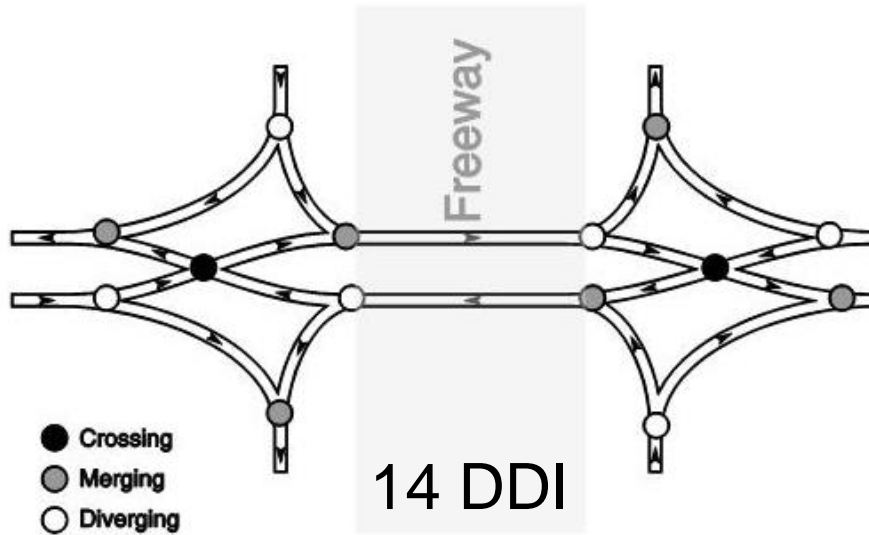
DDI definition

Diverging Diamond Interchange: a type of diamond interchange in which two directions of traffic on the non-freeway road cross to the opposite side on both sides of the bridge at the freeway.



DDI Benefits

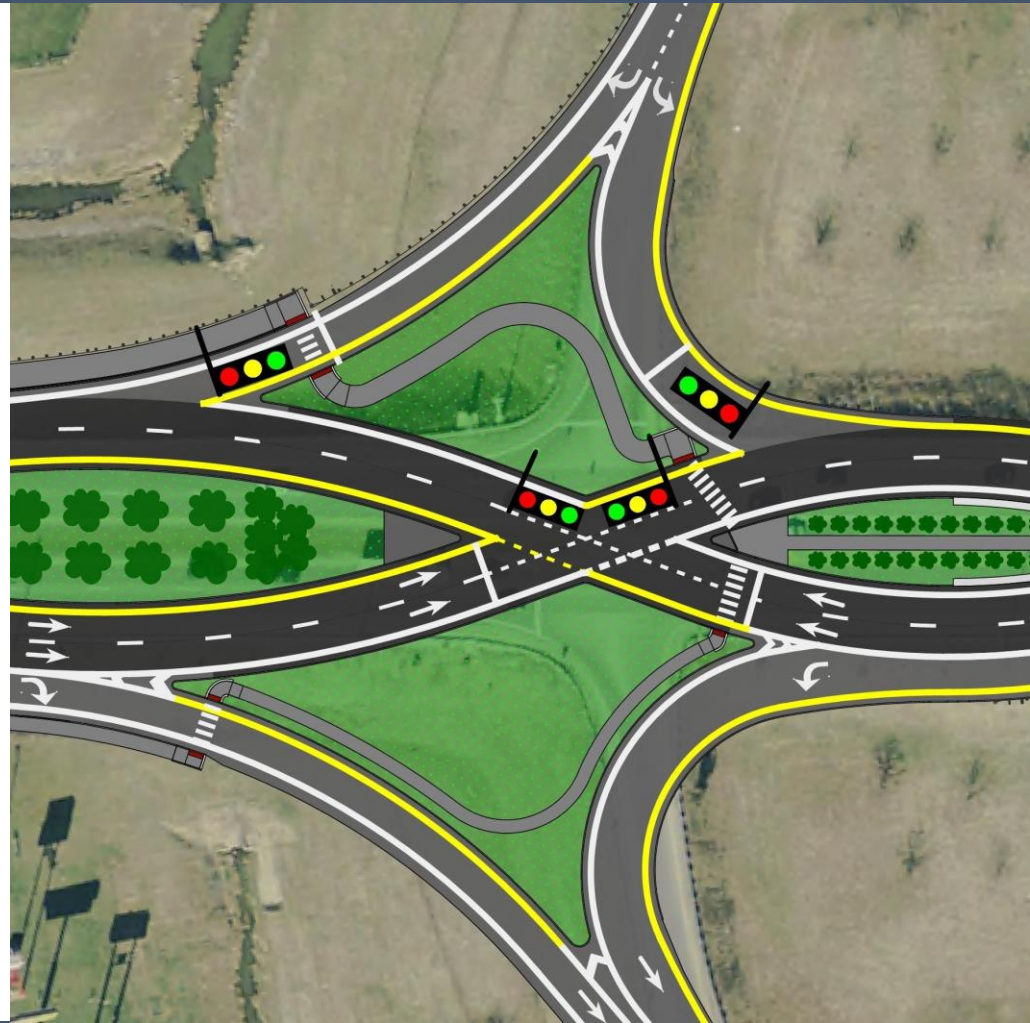
Safety ~ Fewer conflict points



DDI Benefits

Safety

- Better sight distance at turns
- Wrong way entry to ramps extremely difficult
- Shorter pedestrian crossings



DDI Benefits

Operational

- Two-phase signals reduce lost time at interchange
- Increased capacity
- Better storage between ramp terminals
- Left and right turns onto freeway may be free-flowing
- Reduce queue spillback potential



DDI Benefits

Cost Savings

- Minimal structure work
- Decreased construction time



SR 25 DDI History

- District Safety Review Team
- Funding
- City of Perrysburg Involvement

Existing Conditions



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Structure (77.5' f/f parapet)

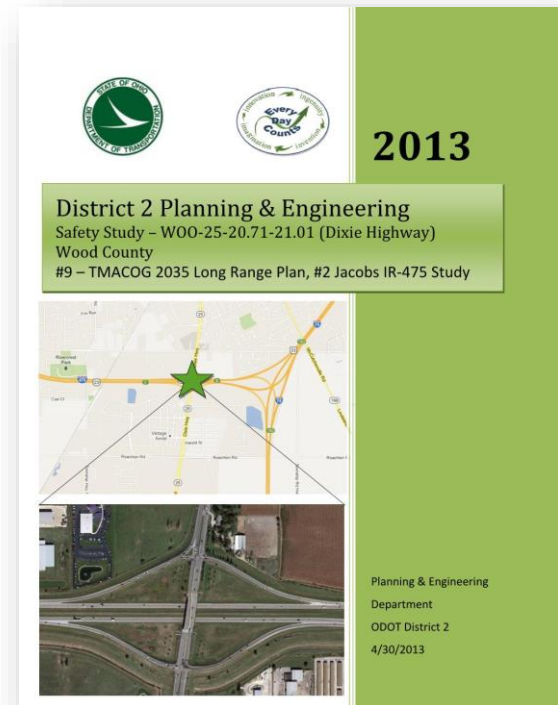


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Traffic

- Traffic backups onto mainline IR-475
- Traffic queues observed to back out of turn lanes
- Crashes ~ 60 per year (expected 42)



Interchange Options

- ODOT District 2 looking into interchange modification options late 2012
- Early planning level research they contacted Gilbert Chlewicki, PE (DDI)

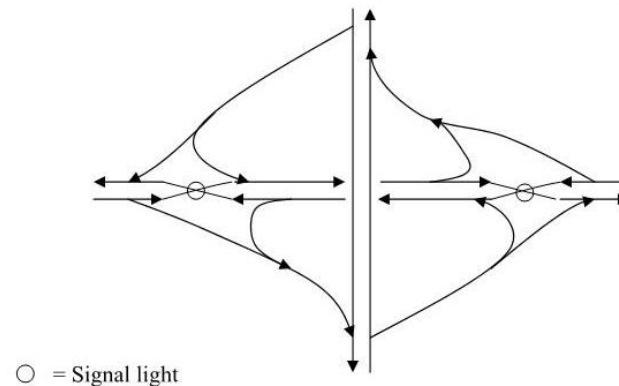
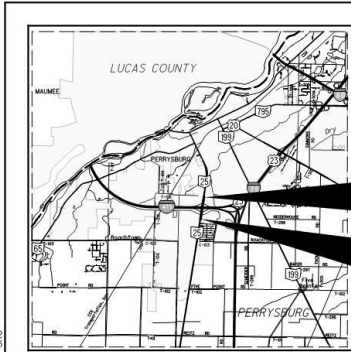


Figure 3. Diverging Diamond Interchange.

2nd Urban Street Symposium (Anaheim, California) — July 28-30, 2003

SR 25 over I-475 Perrysburg, Ohio



LOCATION MAP
 LATITUDE: 41°31'58" LONGITUDE: 83°38'10"
 SCALE IN MILES
 0 1 2 3 4

PORTION TO BE IMPROVED _____
 INTERSTATE HIGHWAY _____
 STATE & FEDERAL ROUTES _____
 COUNTY ROADS _____
 TOWNSHIP AND OTHER ROADS _____

DESIGN DESIGNATION SR 25

CURRENT ADT (2015)	30770
DESIGN YEAR ADT (2033)	36525
DESIGN HOURLY VOLUME (2033)	3653
DIRECTIONAL DISTRIBUTION	50%
TRUCKS (24 HOUR B&C)	4%
DESIGN SPEED	VARIABLES (40-30 MPH)
LEGAL SPEED	40 MPH
DESIGN FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL (URBAN)
NHS PROJECT	NO

DESIGN EXCEPTIONS
 HORIZONTAL ALIGNMENT (RAMPS A E-N, B S-E, C W-S & D N-W) 6/15/2015
 SUPERELEVATION RATES (RAMPS A E-N, B S-E, C W-S & D N-W) 6/16/2015

APPROVAL DATES SHEET NUMBERS
 2-3
 237-244

UNDERGROUND UTILITIES
 CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig
1-800-362-2764
 (Non-members must be called directly)

OIL & GAS PRODUCERS
 UNDERGROUND PROTECTION SERVICE
1-800-929-0988
 PLAN PREPARED BY:
 DGL CONSULTING ENGINEERS
 3455 BRIARFIELD BLVD - STE E
 MAUMEE, OH 43537
 419-535-1015

ENGINEERS SEAL:

SIGNED: *[Signature]*
 DATE: 4/29/2016

STATE OF OHIO
 DEPARTMENT OF TRANSPORTATION
W00-25-20.70
PART 1
 CITY OF PERRYSBURG
 WOOD COUNTY

INDEX OF SHEETS

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STANDARD CONSTRUCTION DRAWINGS

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS			
BP-2.1	7/17/15 HL-10.11 1/15/16	MCS-1.1	7/19/13 MT-95.41 7/18/14 TC-7.65 1/15/16	800	4/15/16
BP-2.2	7/18/08 HL-10.12 1/15/16	MCS-2.1	7/19/13 MT-98.29 7/19/13 TC-21.10 1/15/16	832	1/17/14
BP-3.1	7/18/14 HL-10.13 1/15/16	MCS-3.1	7/18/14 MT-100.00 1/15/16 TC-22.20 1/17/14	840	7/17/14
BP-5.1	7/18/13 HL-20.11 1/15/16	MCS-3.2	1/18/13 MT-101.70 1/17/14 TC-41.30 10/18/13	875	1/17/14
BP-6.1	7/18/13 HL-20.14 1/15/16	MCS-4.2	7/18/13 MT-101.90 7/17/15 TC-41.50 10/18/13		
BP-7.1	7/18/14 HL-30.11 1/15/16		MT-102.10 7/18/14 TC-42.10 10/18/13		
	HL-30.21 1/17/14	MH-1.2	1/15/16 MT-102.20 7/18/14 TC-42.20 10/18/13		
CB-2.2	1/15/16 HL-30.22 1/17/14		MT-105.10 7/19/13 TC-51.11 1/15/16		
CB-2.3	1/15/16 HL-30.33 7/17/14	RM-3.1	7/19/13		
DM-1.1	1/15/16 HL-30.41 7/18/14	RM-4.5	7/18/14 PCB-91 1/18/13 TC-65.11 7/18/14		
DM-1.2	1/18/13 HL-40.20 1/15/16		TC-71.10 1/17/14		
DM-4.3	1/15/16 HL-60.11 1/15/16		TC-72.20 7/18/14		
DM-4.4	1/15/16 HL-60.31 7/17/15		TC-81.21 1/15/16		
F-2.1	7/18/13		TC-83.10 1/15/16		
F-3.3	7/18/13 HW-2.2 1/15/16		TC-83.20 1/15/16		
F-3.4	7/18/13		TC-85.20 1/15/16		
		SBR-1.13	1/17/14		
			TC-88.10 1/15/16		
			TC-89.20 1/15/16		
			TC-95.20 1/15/16		

SPECIAL PROVISIONS
 WATERWAY PERMIT 8/18/15

PROJECT DESCRIPTION
 IMPROVEMENT OF 0.44 MILES OF STATE ROUTE 25 BY WIDENING ROADWAY TO CONSTRUCT A DIVERGING DIAMOND INTERCHANGE. WORK ALSO INCLUDES LIGHTING AND AND TRAFFIC CONTROL (PAVEMENT MARKING, SIGNING AND SIGNALS).

PROJECT EARTH DISTURBED AREA = 18.9 ACRES
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA = 3.25 ACRES
 NOTICE OF INTENT EARTH DISTURBED AREA = 22.15 ACRES

LIMITED ACCESS
 THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2013 SPECIFICATIONS
 THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 26, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED _____
 DATE _____ DISTRICT DEPUTY DIRECTOR

APPROVED _____
 DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. **E150 (188)**

FID NO. **96249**

CONSTRUCTION PROJECT NO. _____

RELATED INVOLVEMENT **NONE**

W00-25-20.70

1
345

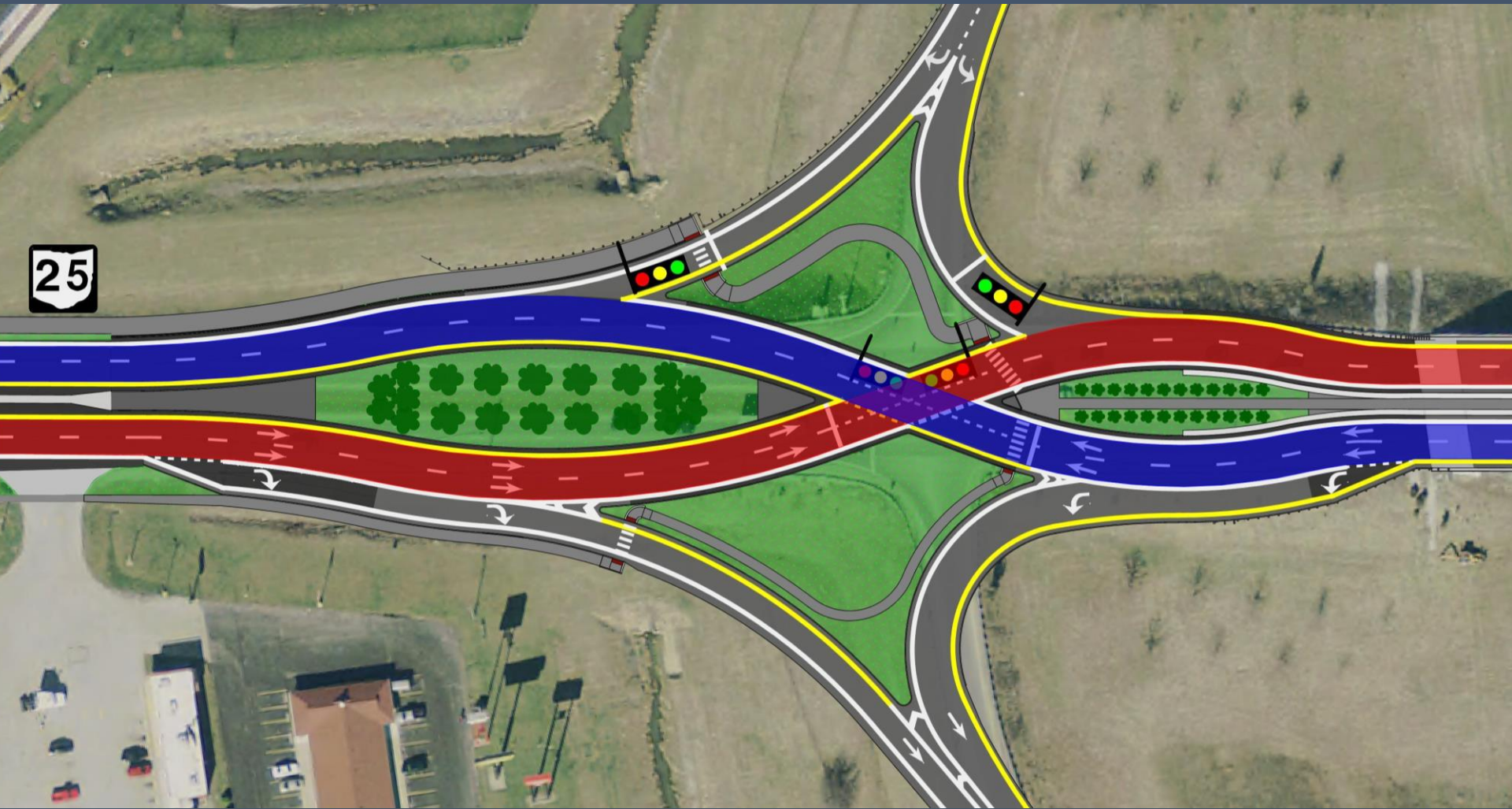
DDI & Key Design Concepts



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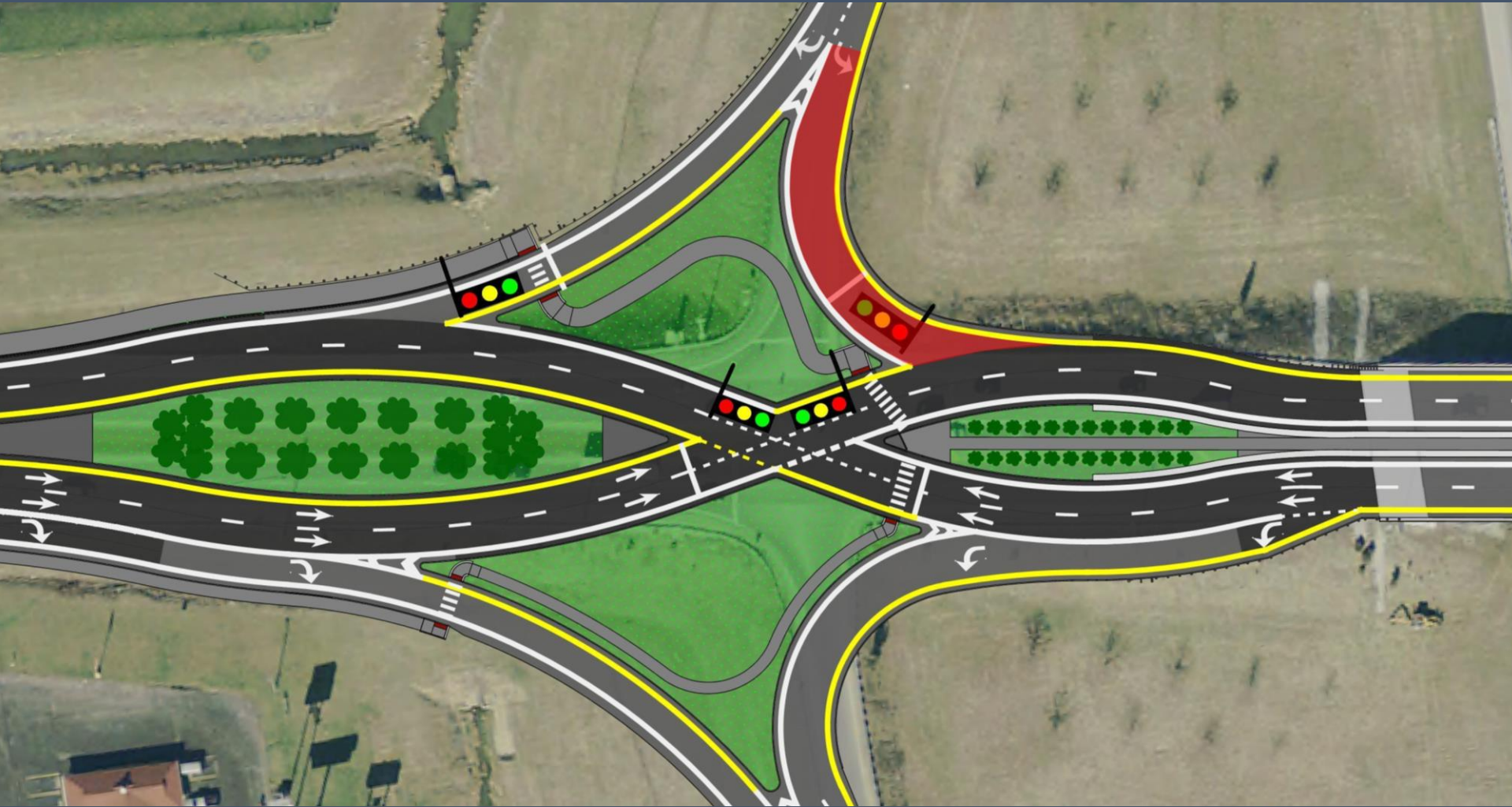
Through Movements at Crossover



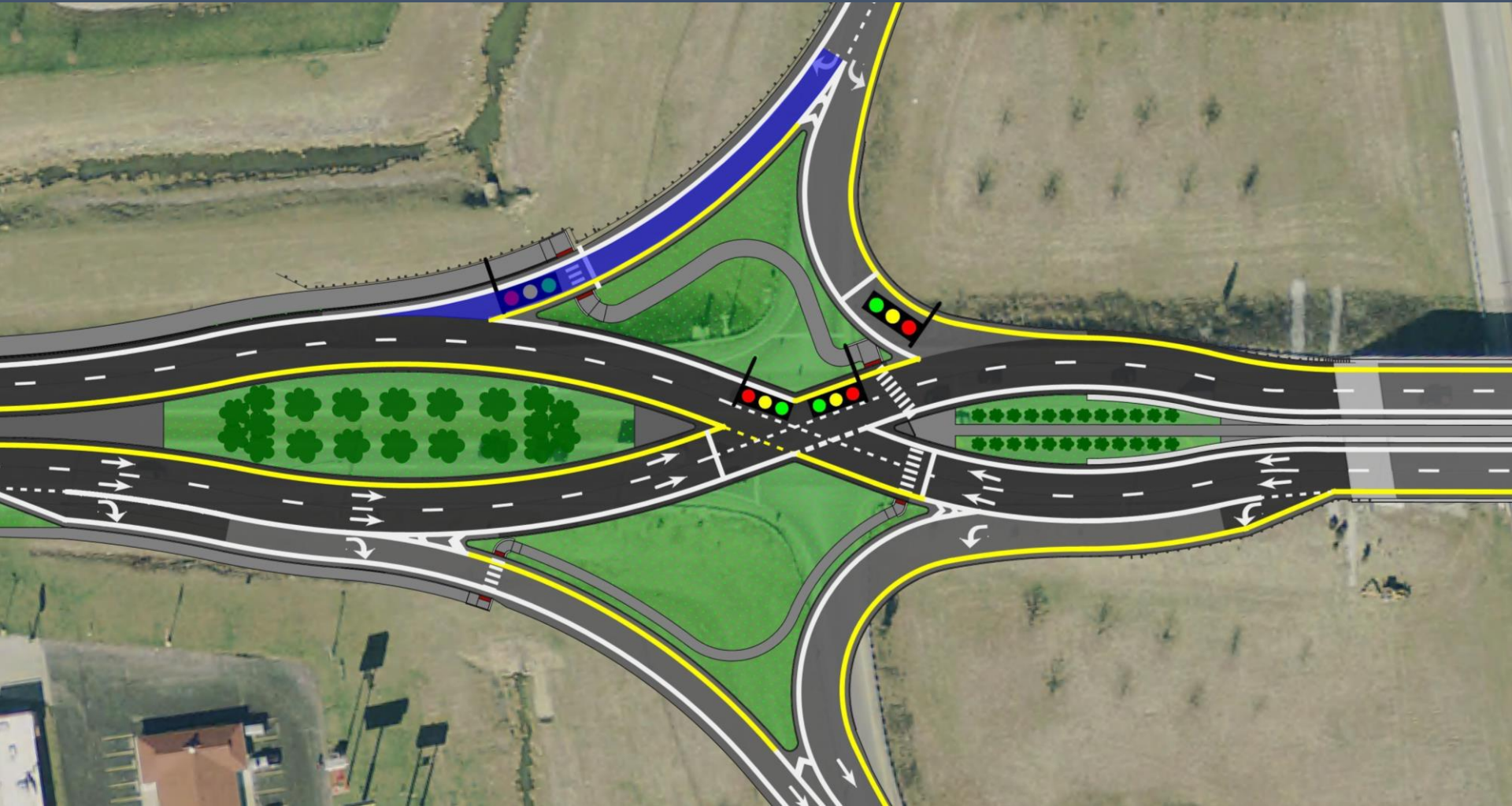
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Left Turns at Exit Ramp



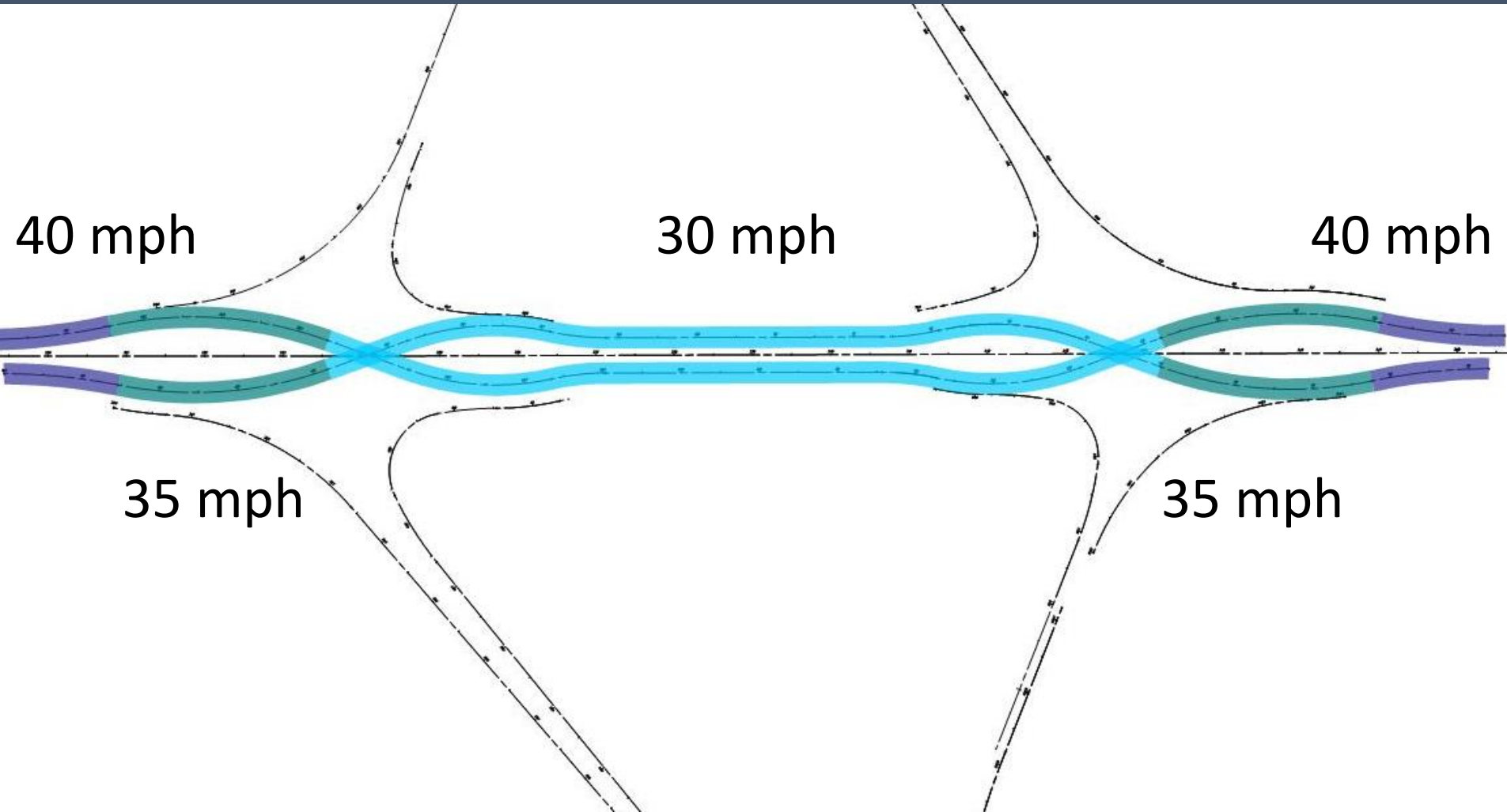
Right Turns at Exit Ramp



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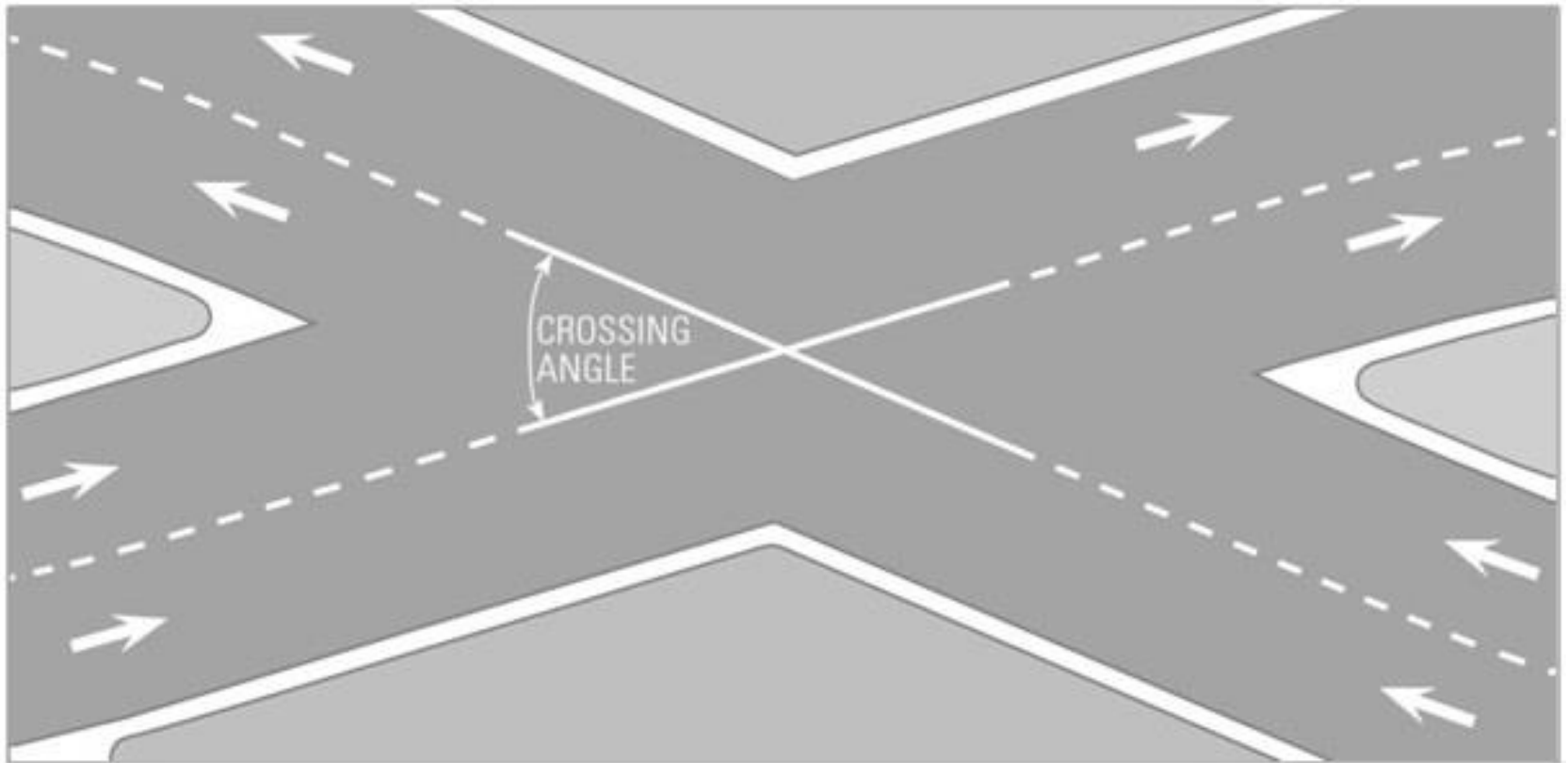


Design Speed (25 ~ 35 mph)

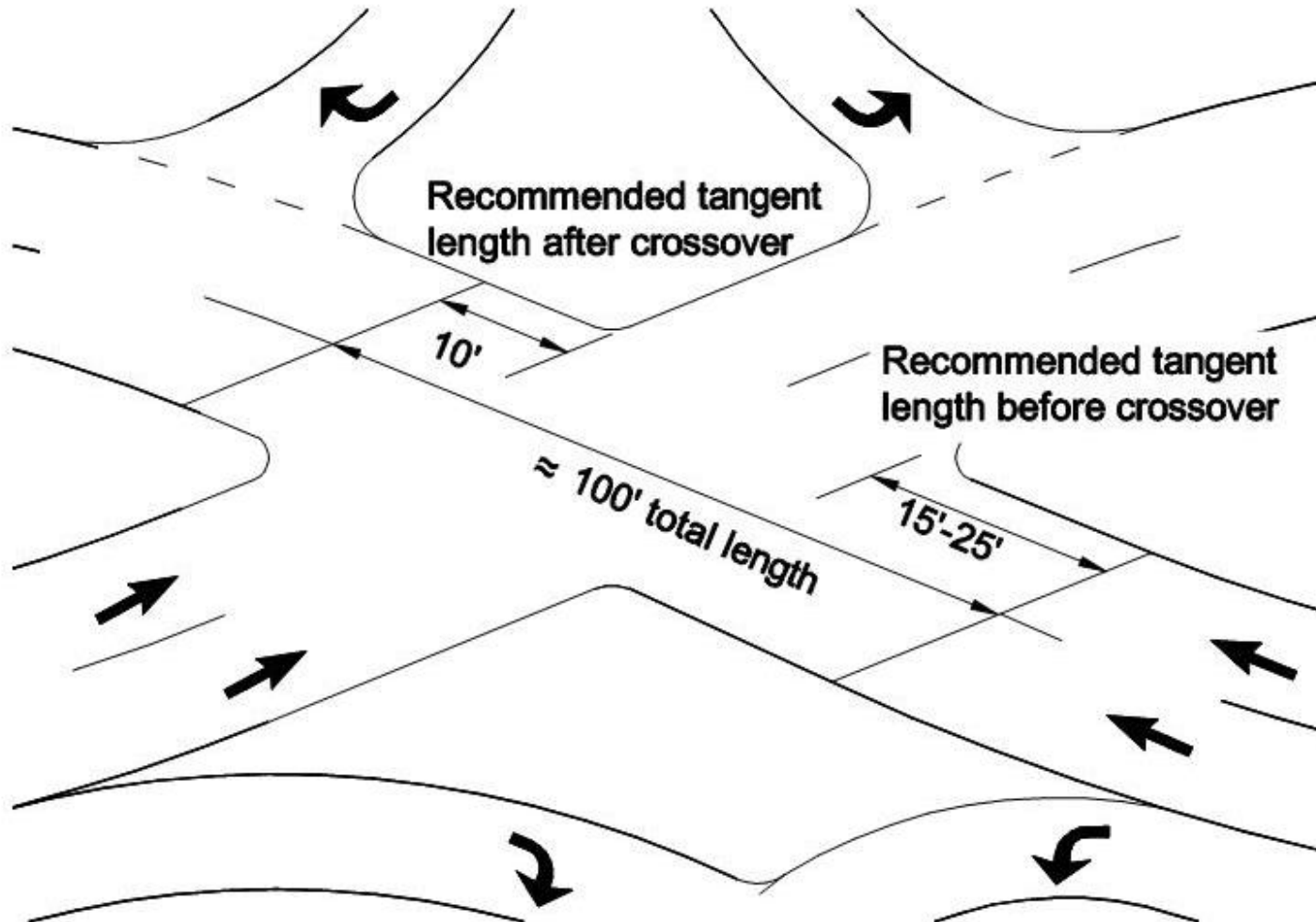


Crossover angle

Typically 30 to 60 degrees

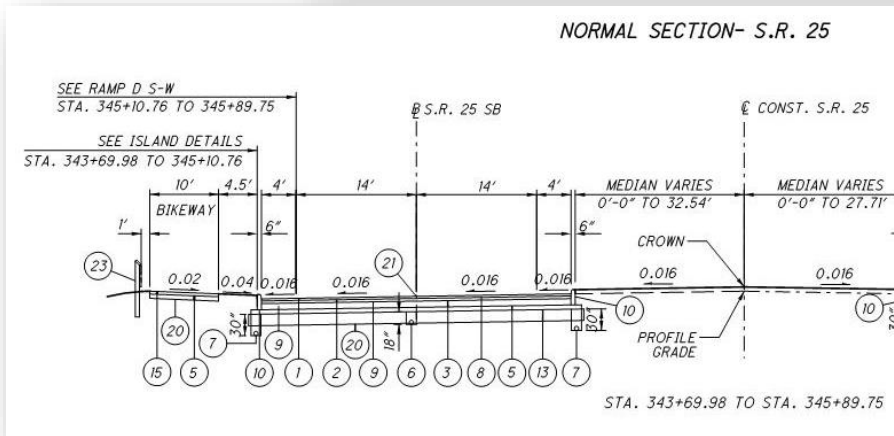
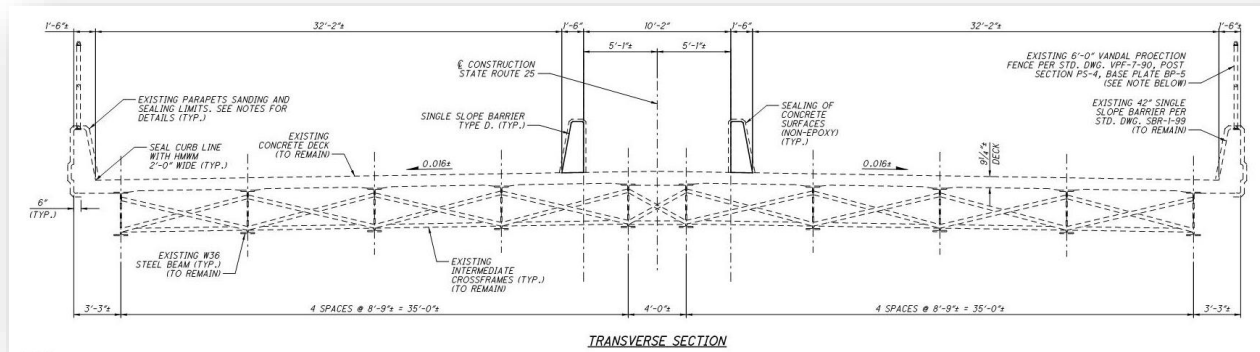


Crossover Tangent



Additional Features

Pedestrian and Bike Facilities



Additional Features

Pedestrian and Bike Facilities

A) Center Walkway, Single Structure
MO 13 - Springfield, MO



B) Center Walkway, Single Structure
Botts Rd. - Branson, MO



Additional Features

Landscaping

- Native flowering plants
- Spring flowers, green summer, fall color, winter berries



Schedule

Fall 2016

Embankment / retaining wall / temp. pavement
(no daytime lane closures)



Schedule

Spring 2017

- SR25 one lane each direction
- Bridge closure for one weekend
- 4 to 5 week off ramp closures

September 17, 2017 DDI Full Operation

October 15, 2017 Final Completion

