Darrell Road

Phase I Engineering Study

Vwdnhkroghu#
Iqyroyhp hqw#Jurxs
P hhwlqj#&7

Vhswhp ehu#44/#534;

LakeCounty
Division of Transportation

CIVILTECH

Purpose of Meeting

I. Review Project Purpose and Need

II. Recap of SIG Meeting #3, PIM #3

III. Discuss Recent Project Developments

IV. Present Preferred Alternative

V. Discuss Benefits of Preferred Alternative

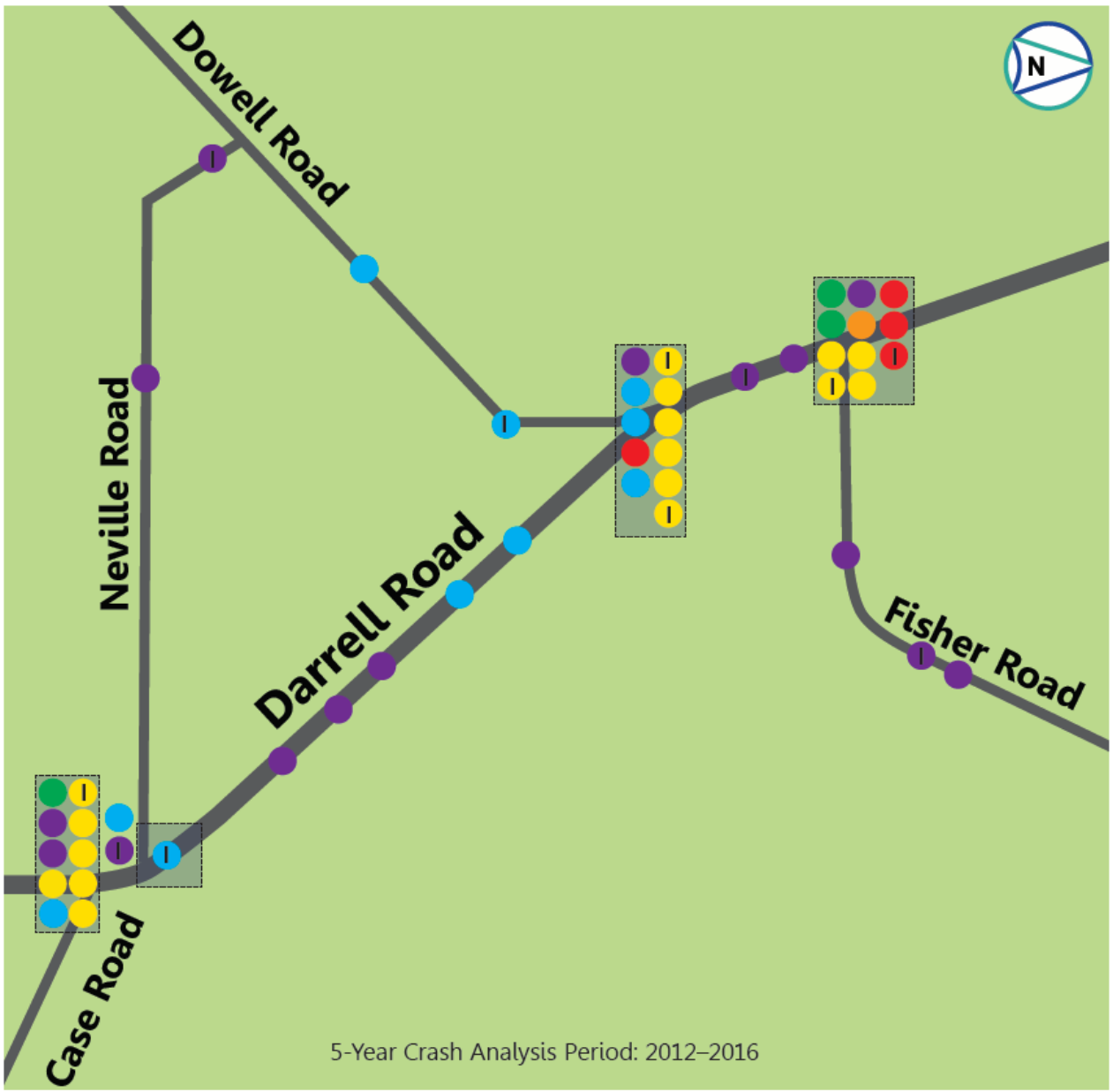
VI. Review Project Implementation Schedule

VII. Discuss next steps

Project Purpose and Need

- Address existing safety and operational improvement needs along Darrell Road
- Identify long range travel demand and transportation system improvement needs
- Develop a staged transportation improvement plan

Existing Crash Data



	Legend	Number
Crash Type	Right Angle	4
	Left Turn	1
	Rear End	16
	Sideswipe	3
	Fixed Object	15
	Other	10
Injury	Injury	11
	Property Damage Only	38

Binder Tab 12

Lake County 2040 Non-Motorized Plan

- Improve the viability of travel without the need for an automobile
- Complete Streets

LEGEND

PLANNED BIKEWAYS
- Lake County Division of Transportation
- Lake County Forest Preserve
- Other Jurisdiction

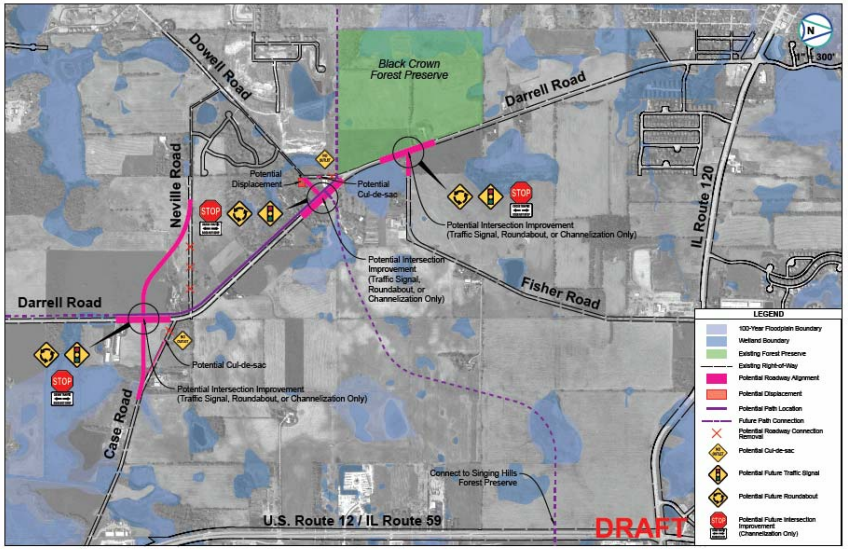
EXISTING BIKEWAYS
- Lake County Division of Transportation
- Lake County Forest Preserve
- Other Jurisdiction

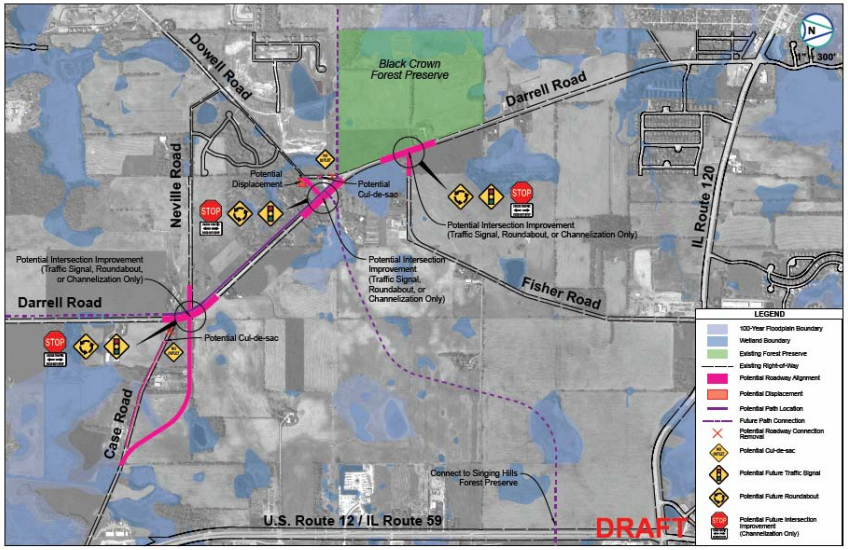
EXISTING ATTRACTIONS
- Metra Stations
- State Park
- Lake County Forest Preserve
- Other Parks

Binder Tab 5

Stakeholder Involvement Group Meeting #3

- Alternative A to be Carried Forward
- Potential Intersection Treatment Types
  - Traffic Signals
  - Roundabouts
  - ~~Minor Street Stop-Controlled~~ *(dropped from further study)*





SIG #3 – Alternative A

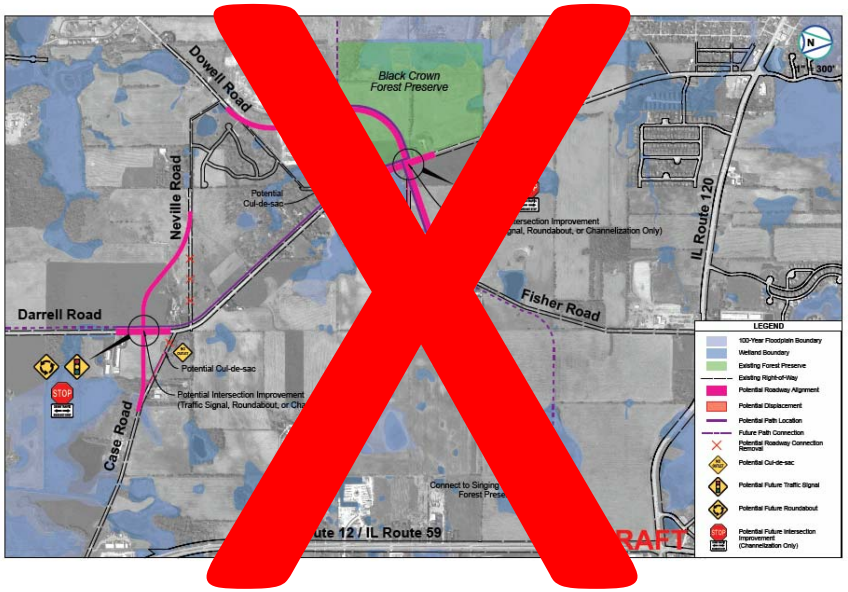
Minor Street Stop-Controlled Treatment

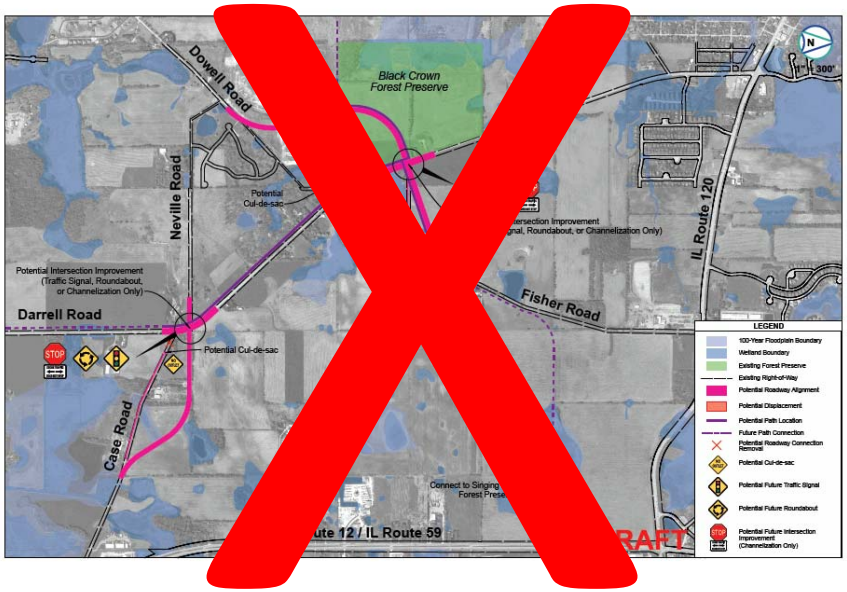
Dropped from further study

- All intersections result in unacceptable delay and levels of service by 2040
- Does not improve safety, delays may create more hazardous conditions; thus does not meet the purpose and need for the project.

Stakeholder Involvement Group Meeting #3

- Alternative B was dropped from further consideration
  - ***Feedback gathered from SIG #2 and PIM #2***
  - ***Feasible and reasonable alternatives exist with minimal anticipated impacts to the Black Crown Forest Preserve***





Public Information Meeting #3

- February 23, 2017
- 79 attendees
- 7 written comments received
- Comments:
  - Intersection Safety
  - Preference for particular intersection treatment
  - Preference for particular alternative
  - Location of shared-use path
  - Impacts of alternatives

Recent Project Developments

- Environmental Survey Request (ESR) submitted to IDOT in February 2017
  - Starts environmental coordination
    - Cultural (historic and archaeological)
    - Wetlands
    - Biological
    - Special Waste
  - 12+ month process
- Topographic survey of the project area completed in late 2017

Historical Resources

Two properties within the study area warrant
National Register of Historic Places (NRHP) consideration.

House and Farmstead
29940 N. Darrell Rd.

Barns
30125 N. Darrell Rd.

Historical Resources

- *Due to the historic nature of these resources, all feasible means of avoidance need to be considered.*

Coordination with IDOT Cultural Resources Unit is ongoing.

Proposed Shared-Use Path Location

- SIG 3/PIM 3 Frequent Comment:

  Location of the Shared-Use Path

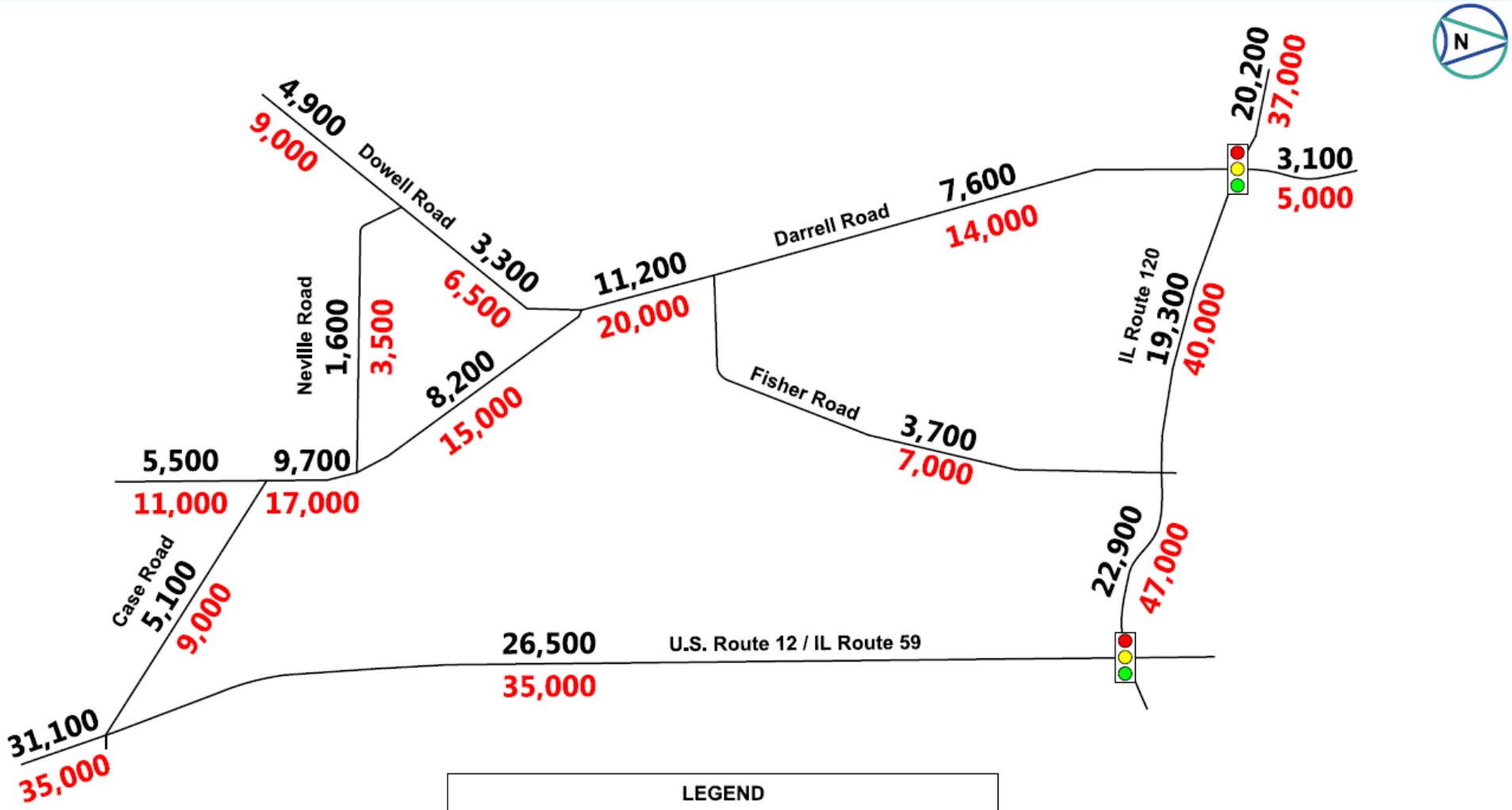
- Shared-Use Path Alternatives Analysis Completed: East and West of Darrell Road

Proposed Shared-use Path Location

- West side results in unavoidable impacts to the historical barns
- East side results in less tree and wetland impacts
- East side provides greater connectivity to the planned path to Singing Hills Forest Preserve

The shared-use path is proposed along the east side of Darrell Road

Average Daily Traffic

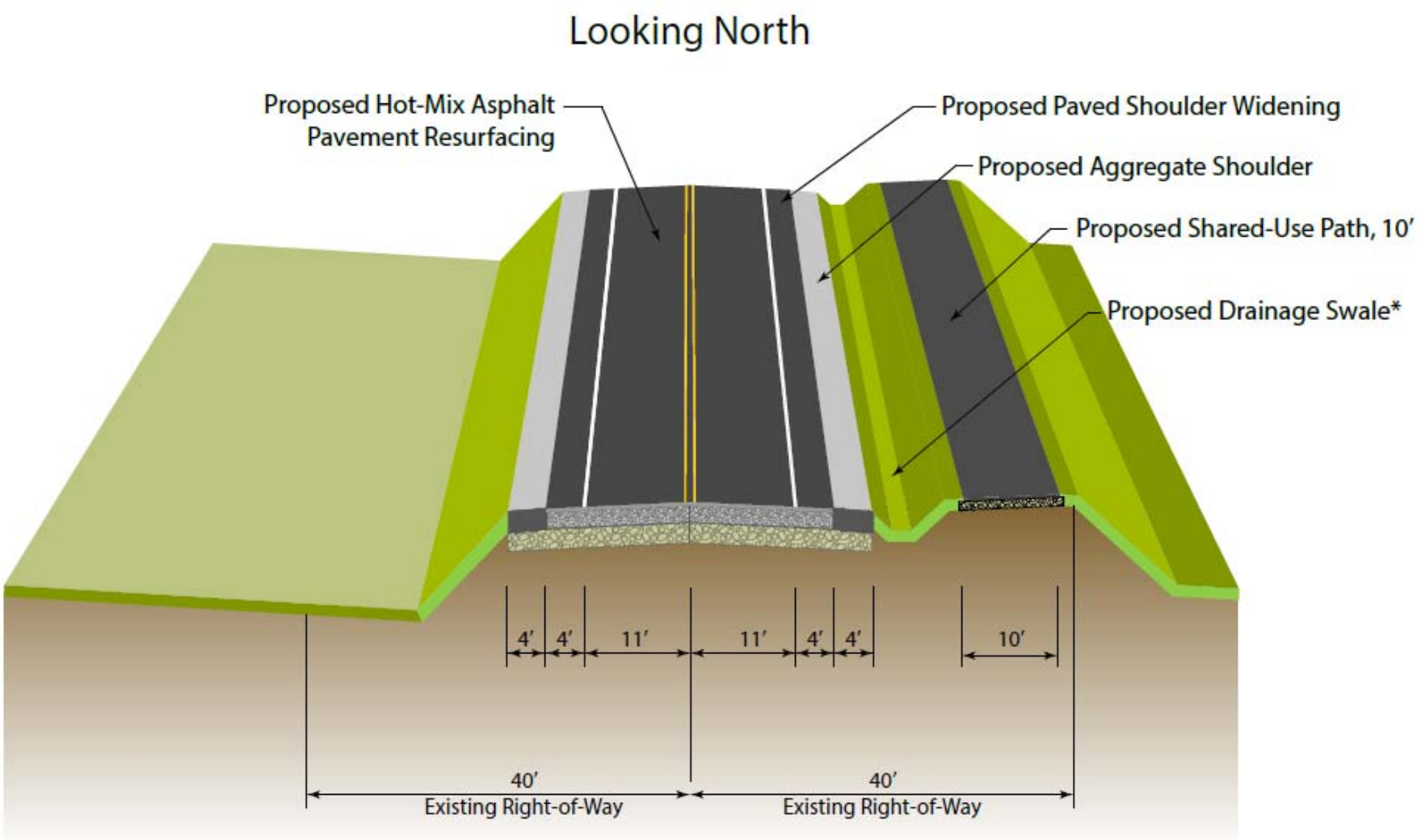


LEGEND	
0,000	Existing Average Daily Traffic (ADT)
0,000	2040 Projected Average Daily Traffic (ADT)

Binder Tab 17

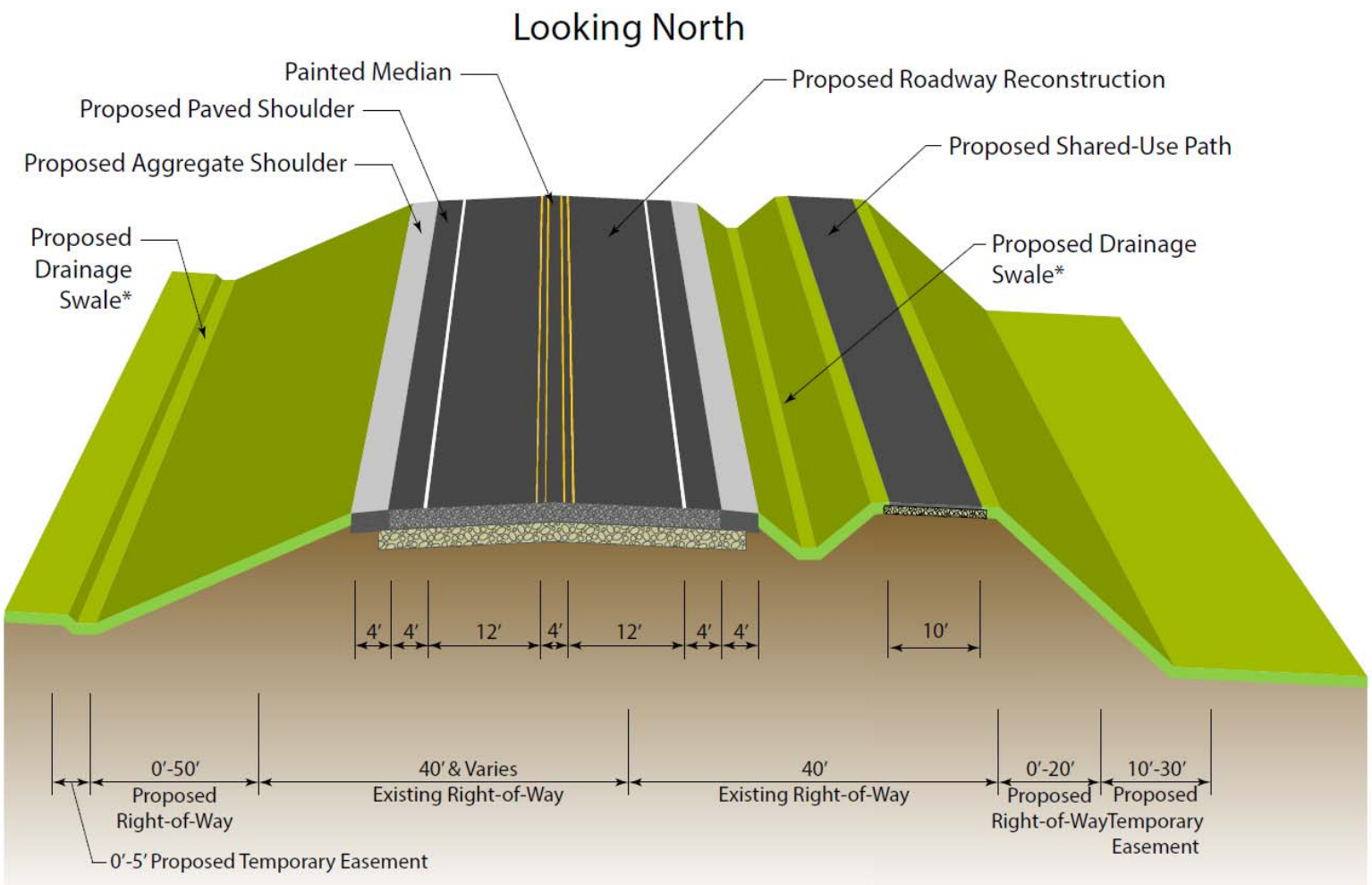
Proposed Typical Section

Case Road/Neville Road to Dowell Road



*Proposed Drainage Features will be refined as further detailed studies are completed

Proposed Typical Section
Dowell Road to Fisher Road



*Proposed Drainage Features will be refined as further detailed studies are completed

Underground Utilities

- Topographic Survey confirmed location of underground utilities

- Underground gas lines cross Darrell Road within and next to the ComEd right-of-way near the Darrell Road/Dowell Road intersection
  - 36” Nicor Natural Gas Pipeline
  - 16” Kinder Morgan Gas Pipeline
  - 24” Kinder Morgan Gas Pipeline

Recent Project Developments

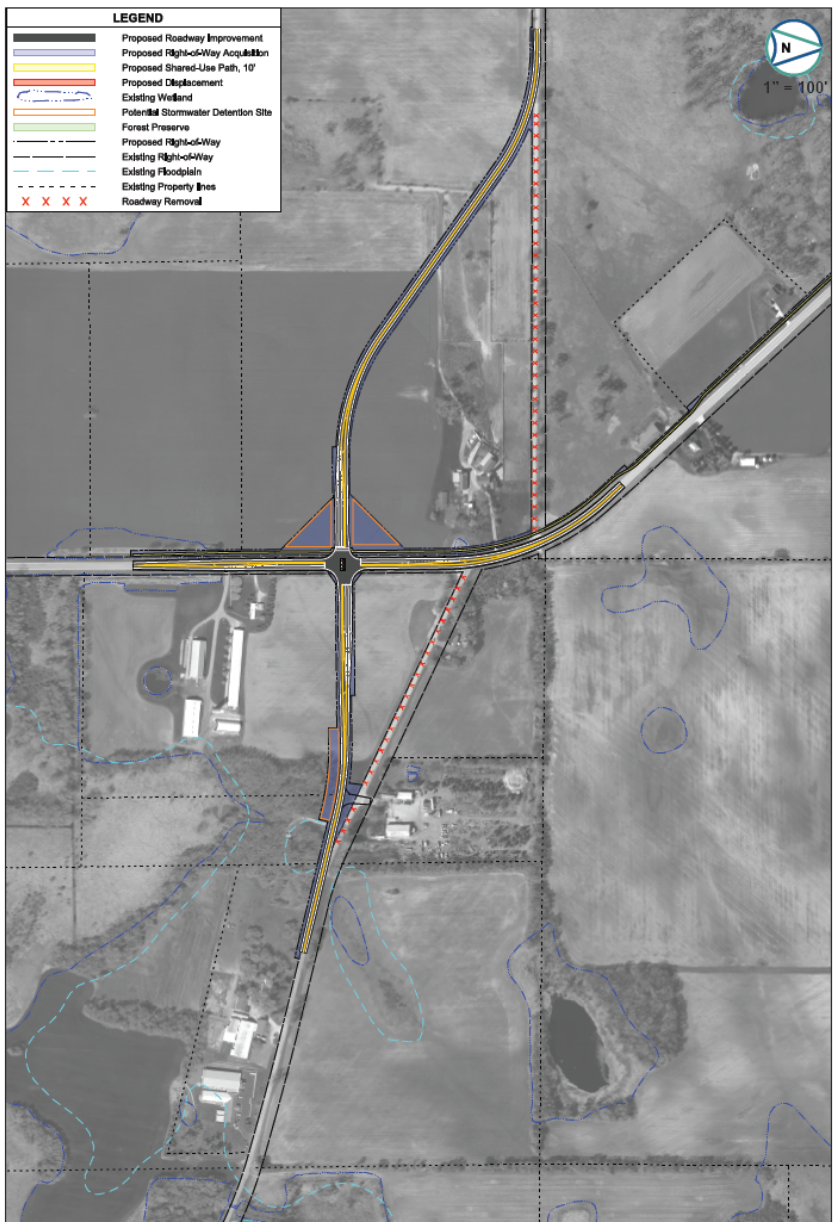
Pipeline Potholing

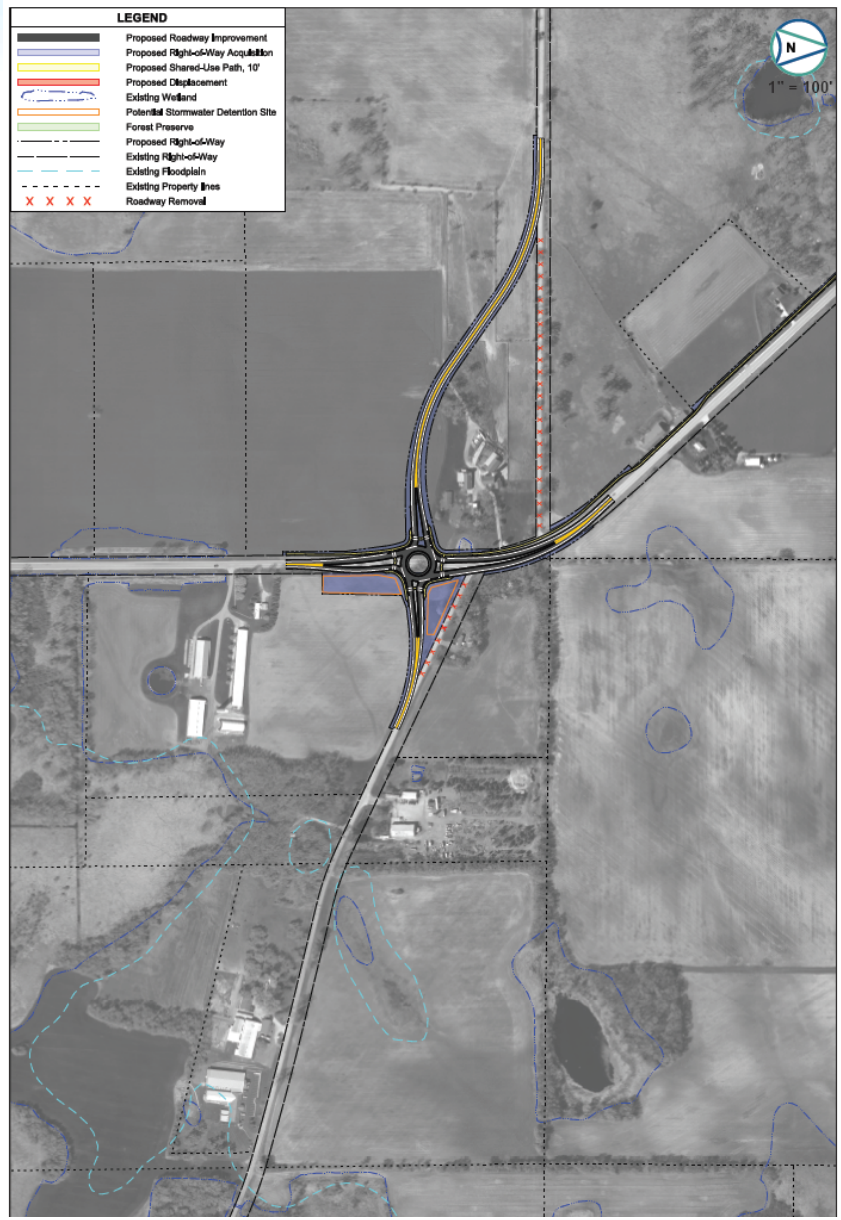
- In February 2018, the pipeline depths were potholed to aid in the selection of the Preferred Alternative
- Discovered that the pipelines are located at undesirable shallow depths

The Preferred Alternative roadway profile will be raised in the area of the pipelines to provide sufficient clearance and to avoid pipeline relocation

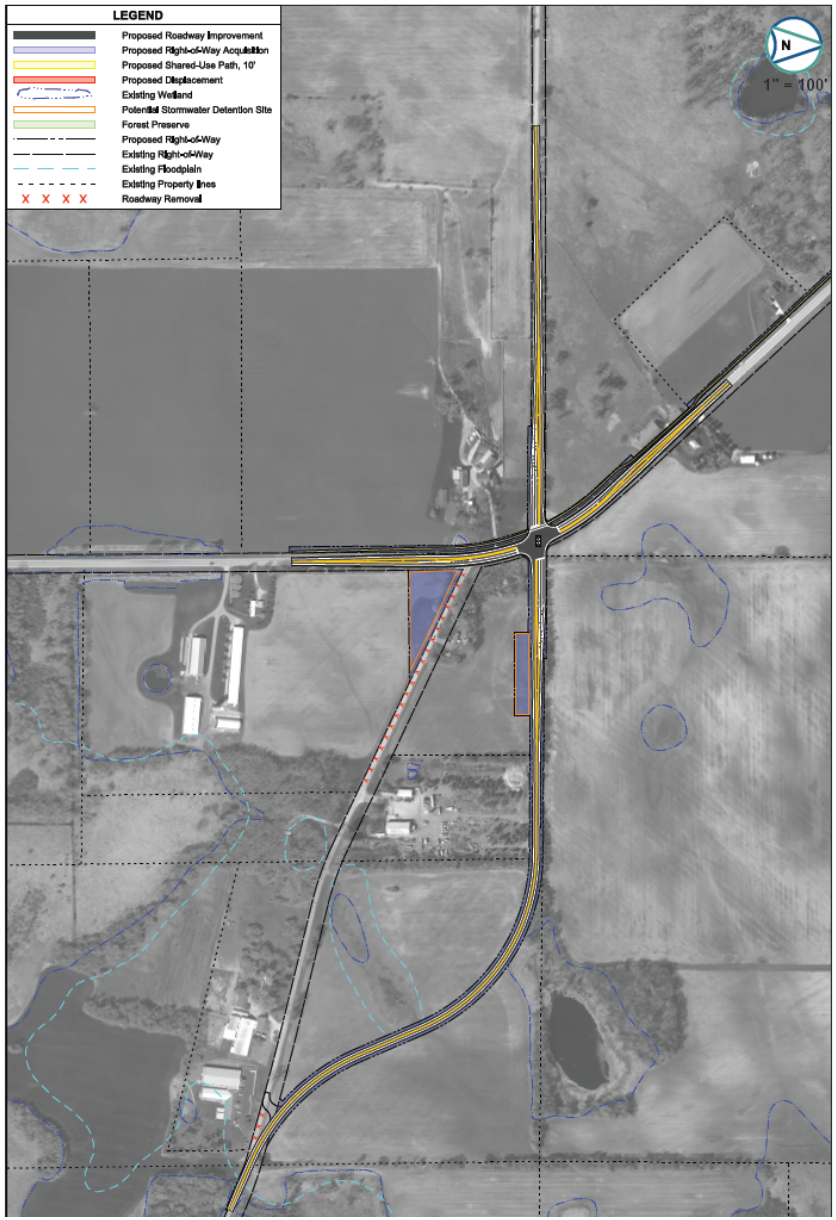
Preferred Alternative

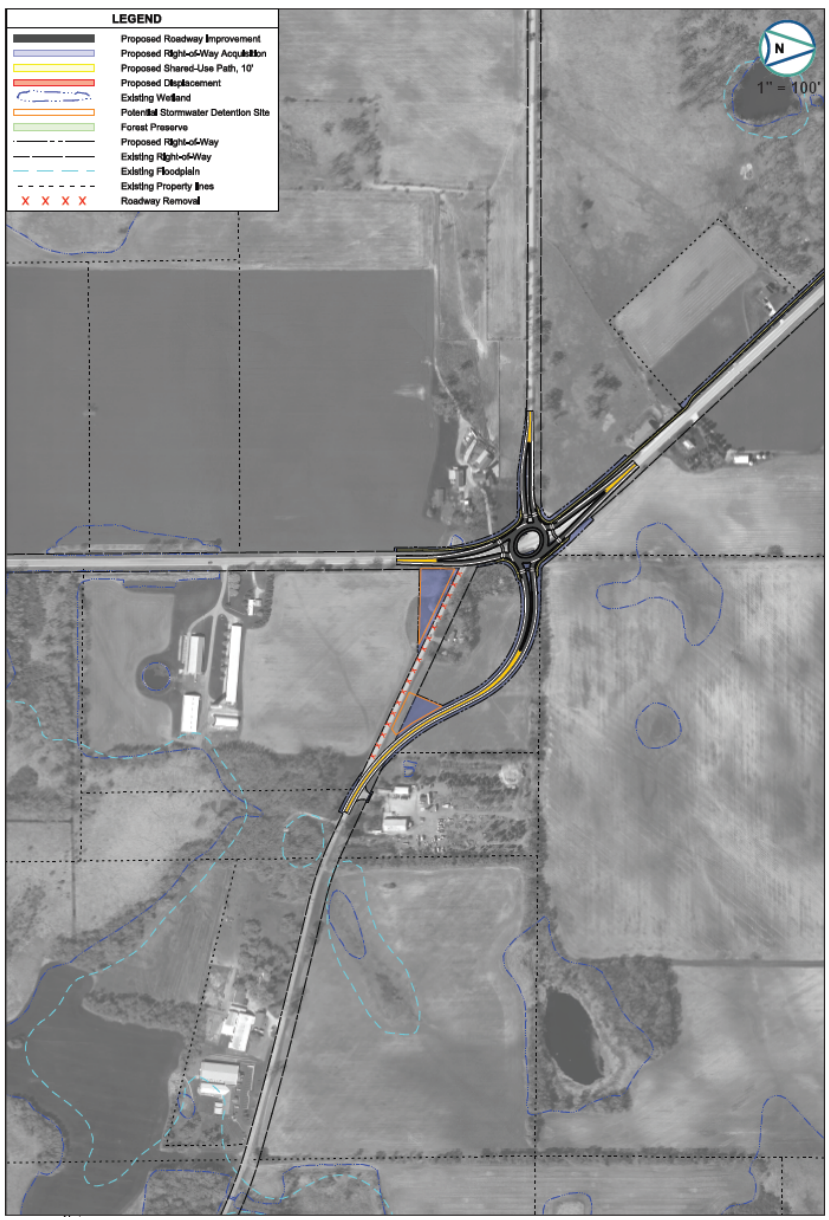
Case-Neville Road Shifted South (Alternative A-1)





Case-Neville Road Shifted North (Alternative A-2)





Preferred Alternative Intersection Treatment

Case Road/Neville Road

Intersection	Treatment Type	Property Impacts			Detention Needed	Potential Environmental Impacts		Preliminary Cost Estimate
		Potential Right-of-Way Black Crown Forest Preserve (acres)	Potential Right-of-Way Total Improvement (acres)	Displacements		Wetlands (acres)	Tree Removal (each)	($ million)
Case-Neville Road Shifted South at Darrell Road (Alternative A-1)	Traffic Signal	-	9.0	None	Yes	0.3	45	$11.3
	Roundabout	-	6.9	None	Yes	0.1	35	$7.4
Case-Neville Road Shifted North at Darrell Road (Alternative A-2)	Traffic Signal	-	8.0	None	Yes	0.1	105	$12.1
	Roundabout	-	5.6	None	Yes	0.1	55	$6.4

- Traffic signal concepts resulted in greater impacts and costs compared to roundabout concepts due to longer tangent approaches and project limits
- Additional Roundabout Safety Benefits
- Northern alignment roundabout resulted in fewer impacts and costs

Preferred Alternative – Case Road/Neville Road

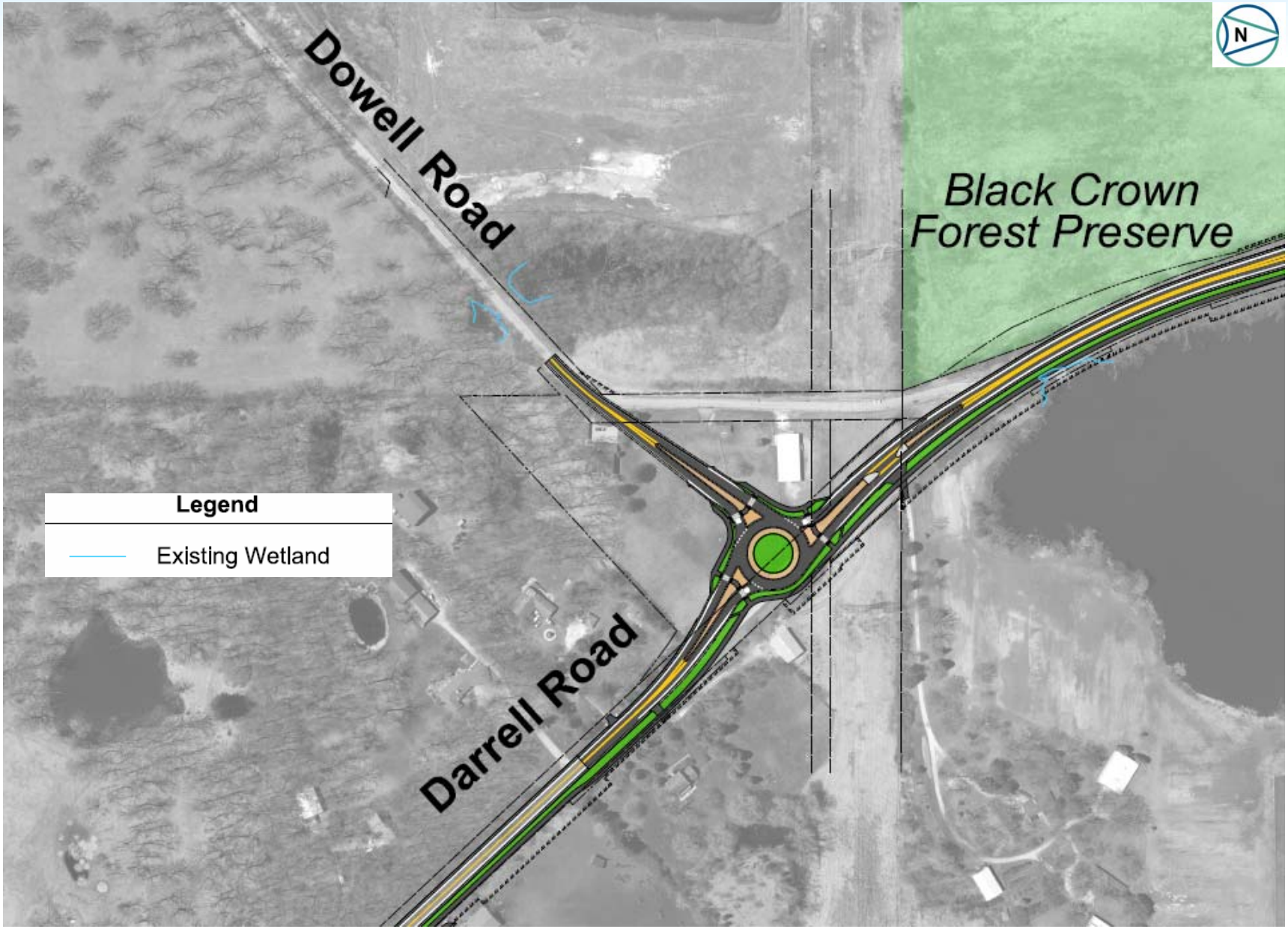
Preferred Alternative Intersection Treatment

Dowell Road

Intersection	Treatment Type	Property Impacts			Detention Needed	Potential Environmental Impacts		Preliminary Cost Estimate
		Potential Right-of-Way Black Crown Forest Preserve (acres)	Potential Right-of-Way Total Improvement (acres)	Displacements		Wetlands (acres)	Tree Removal (each)	($ million)
Dowell Road/ Darrell Road	Traffic Signal	-	2.0	1 Residence	Yes	0.4	35	$6.5
	Roundabout - Realigned Dowell	-	2.7	1 Residence	Yes	0.1	60	$5.9
	Roundabout - Existing Dowell	-	2.3	None	Yes	0.1	35	$4.2

- Traffic signal concepts resulted in greater impacts and costs compared to roundabout concepts
- Additional Roundabout Safety Benefits
- Maintaining the existing alignment of Dowell Road is eliminated due to the ComEd, Nicor, and Kinder Morgan utilities

Darrell Road at Dowell Road



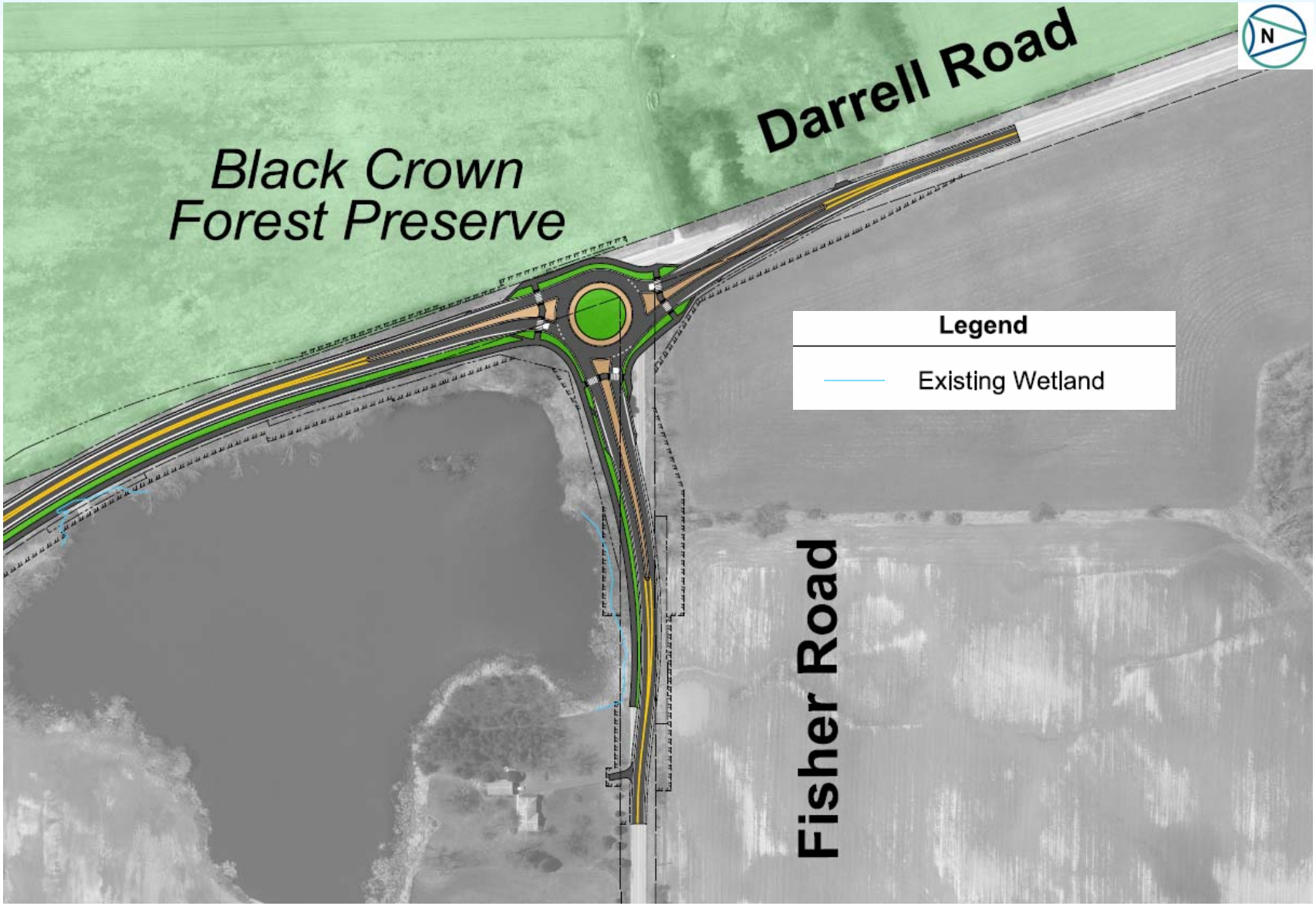
Preferred Alternative Intersection Treatment

Fisher Road

Intersection	Treatment Type	Property Impacts			Detention Needed	Potential Environmental Impacts		Preliminary Cost Estimate
		Potential Right-of-Way Black Crown Forest Preserve (acres)	Potential Right-of-Way Total Improvement (acres)	Displacements		Wetlands (acres)	Tree Removal (each)	($ million)
Fisher Road/ Darrell Road	Traffic Signal	0.5	1.0	None	Yes	0.1	35	$5.5
	Roundabout	1.1	2.5	None	Yes	0.1	60	$4.6
	Shifted Roundabout	0.8	2.2	None	Yes	0.1	70	$4.5

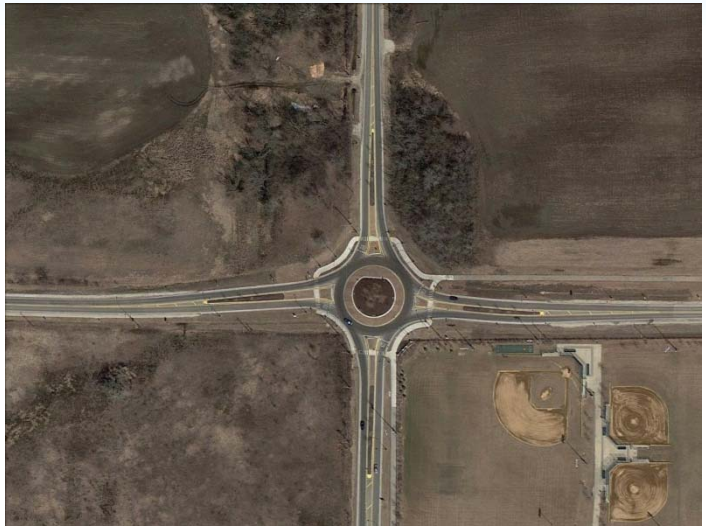
- Traffic signal concepts resulted in greater impacts and costs compared to roundabout concepts
- Additional Roundabout Safety Benefits
- The roundabout shifted south results in fewer impacts to the Black Crown Forest Preserve

Darrell Road at Fisher Road



Benefits of Roundabouts

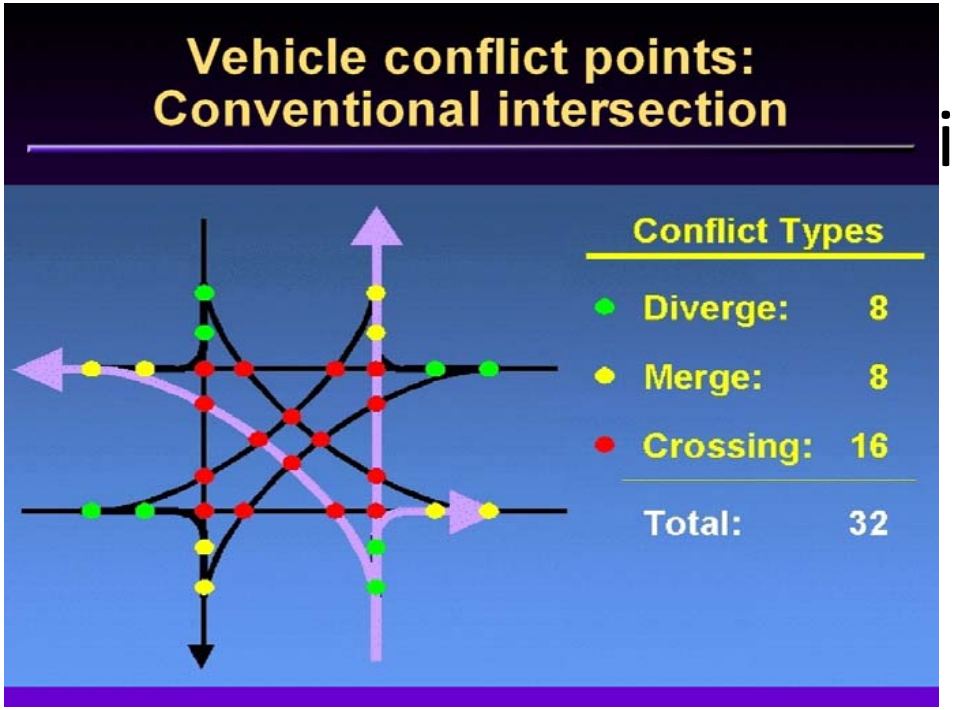
Lake County Roundabouts

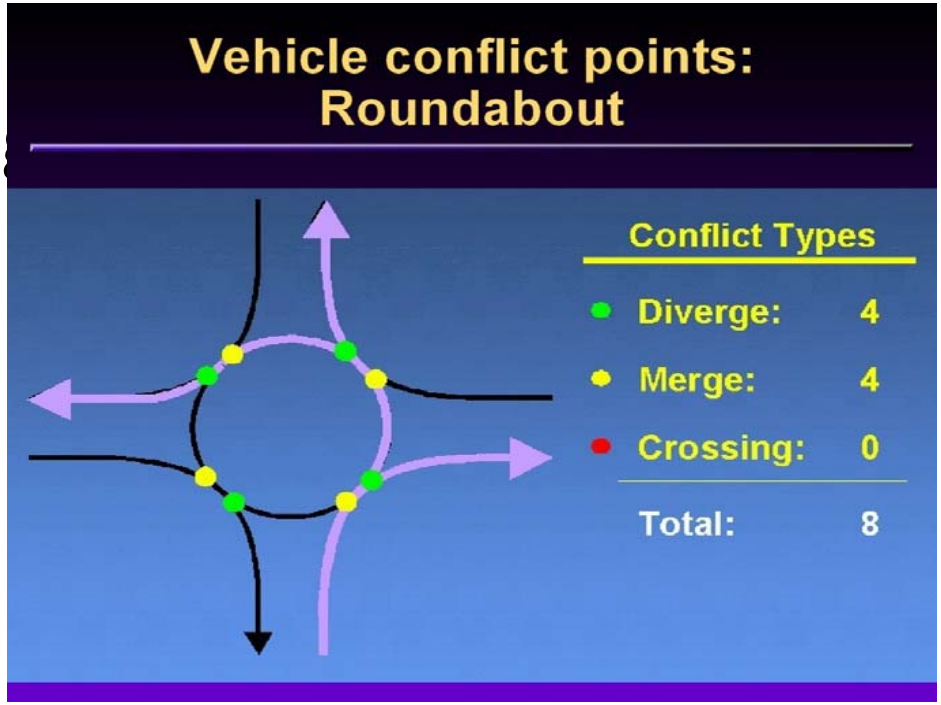


- Riverwoods Road and Everett Road
- Wadsworth Road and Hunt Club Road
- Hunt Club Road and Millburn Road

- Monaville Road and Cedar Lake Road
- River Road and Roberts Road (Multi-lane)

Safety of Roundabouts

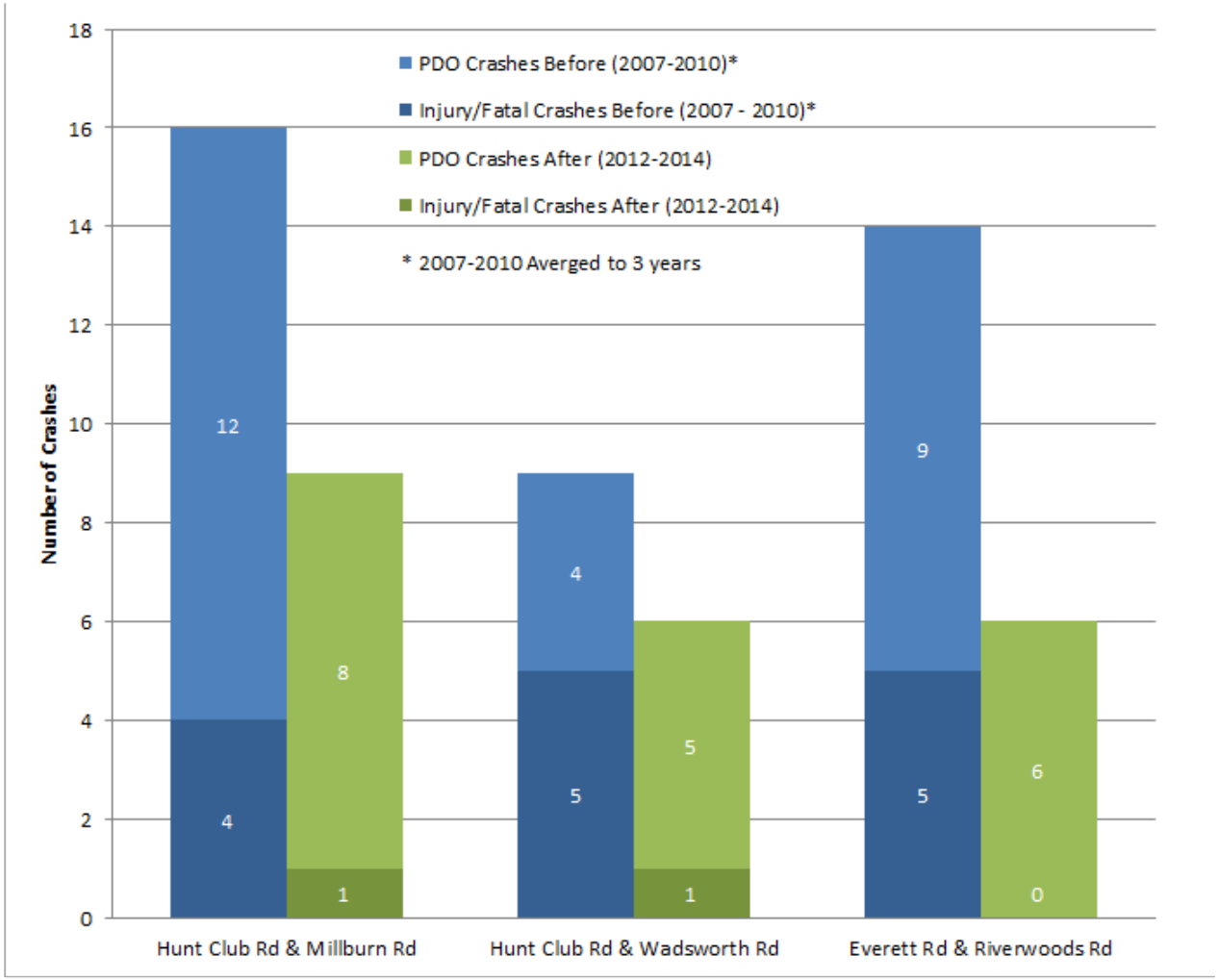




- Crashes of this type are more severe

LCDOT Safety of Roundabouts

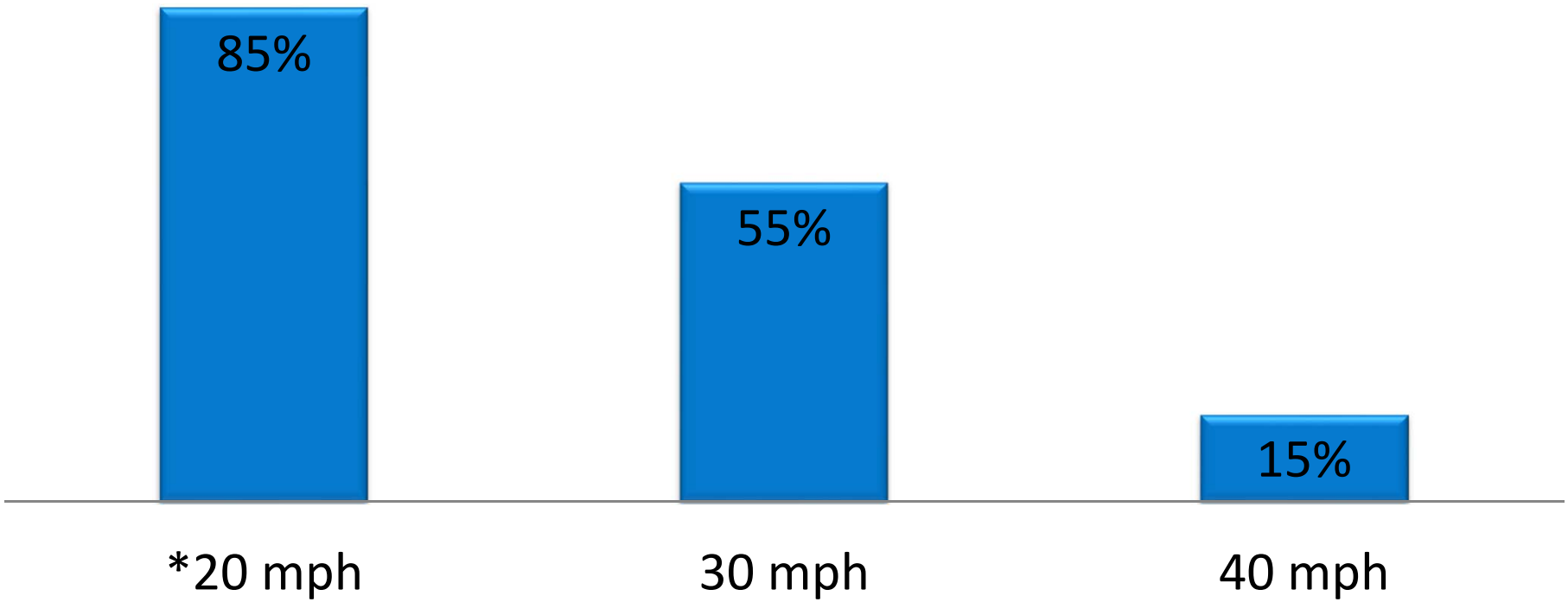
Before and After Comparison



- All crashes reduced by 46%
- Injury and fatal crashes reduced by 85%

Consistent with National Statistics

Safety of Roundabouts

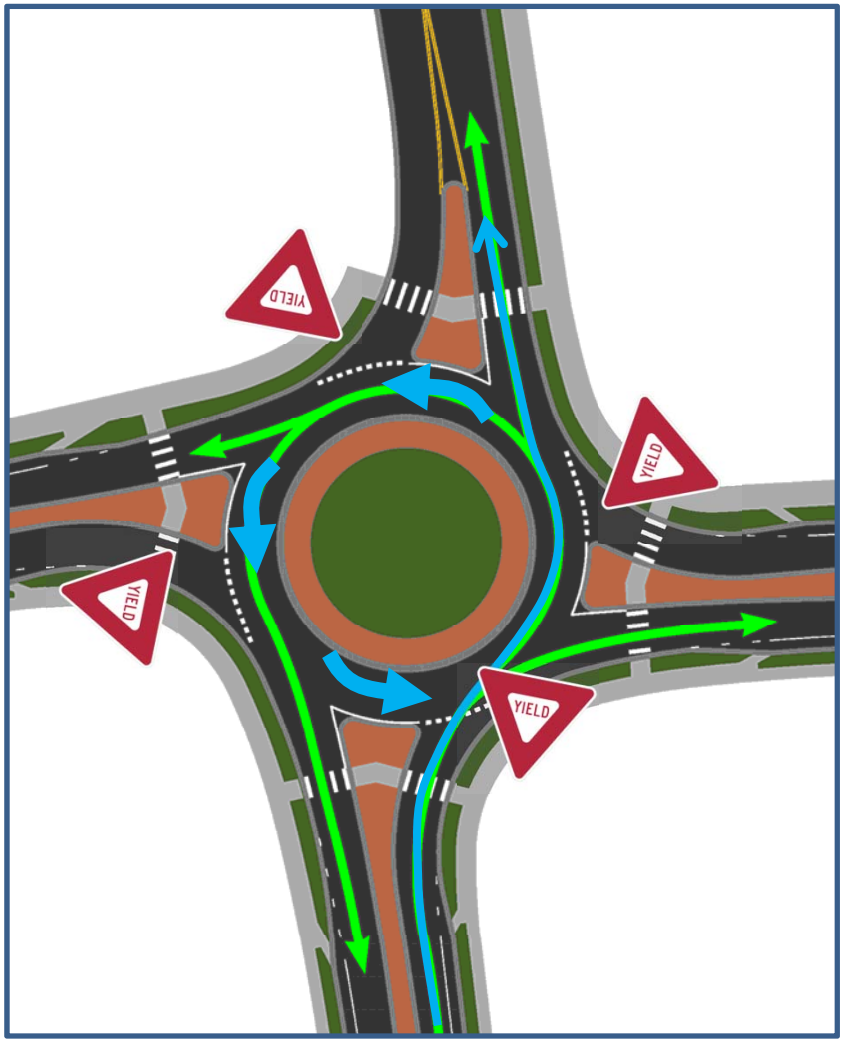


Pedestrian's chances of survival if hit by a motor vehicle

Source: Oregon Department of Transportation

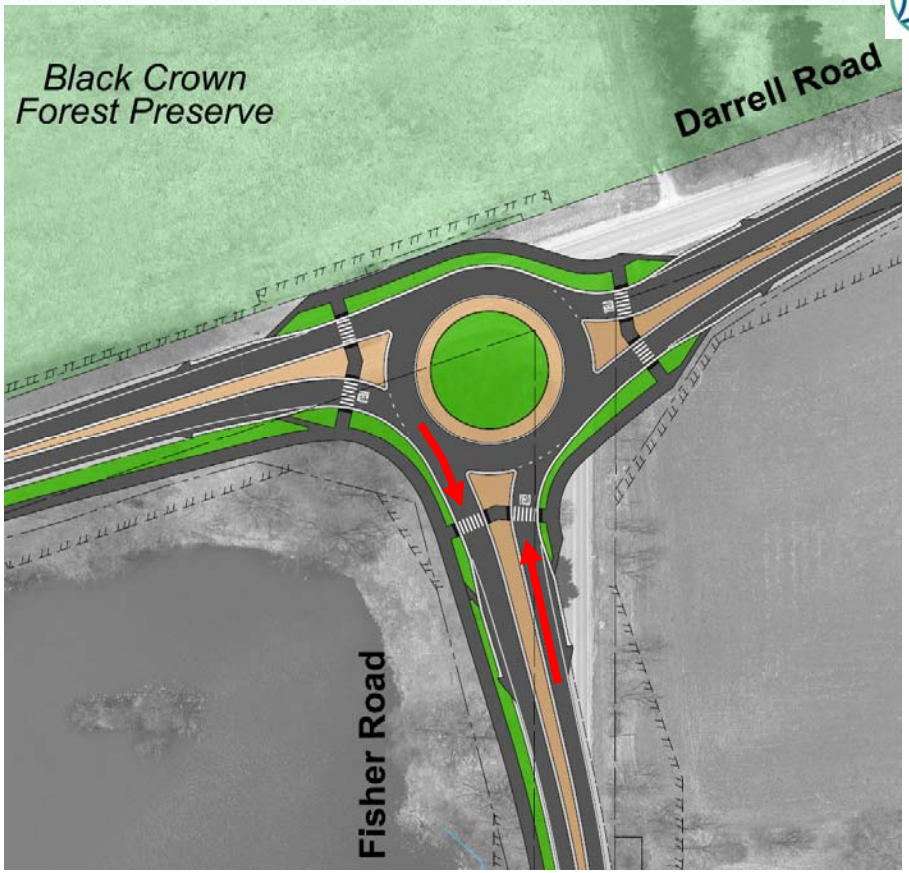
What is a Modern Roundabout?

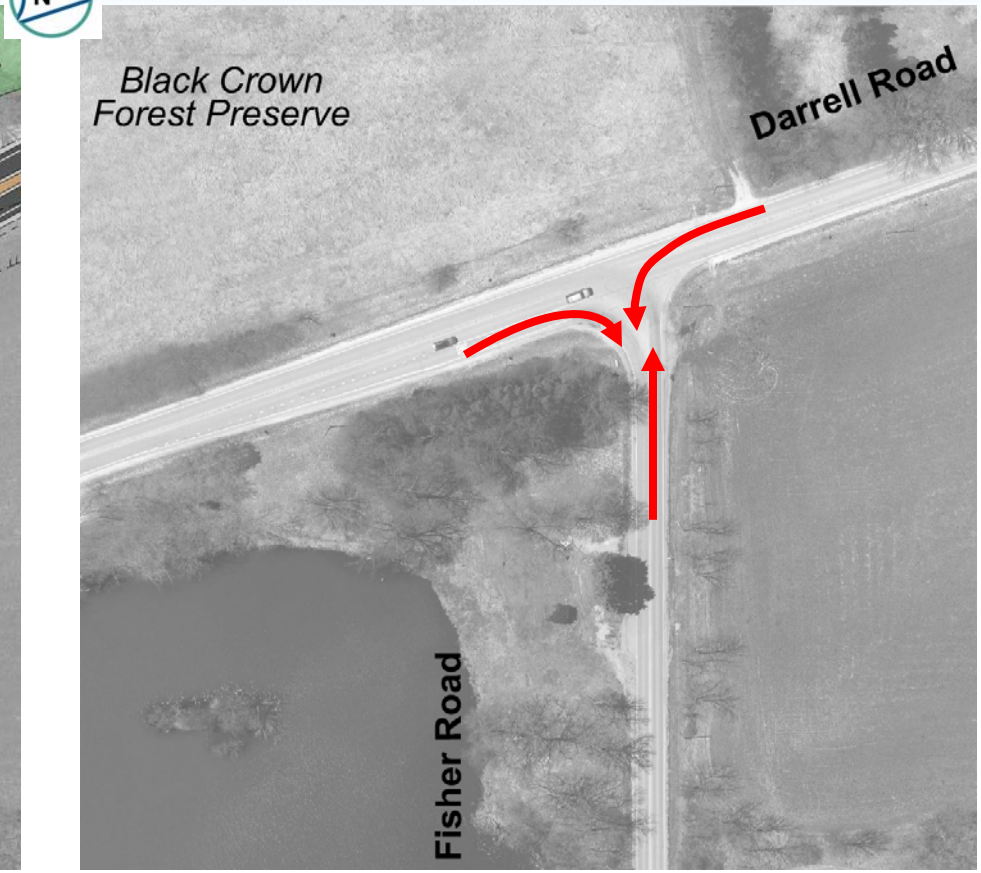
- A compact circular intersection in which traffic flows counter-clockwise around a center island.
- Entering traffic yields to circulating cars
- Designed to slow the speed of vehicles



Roundabouts How To (Yield)

Roundabouts How To (Pedestrians)



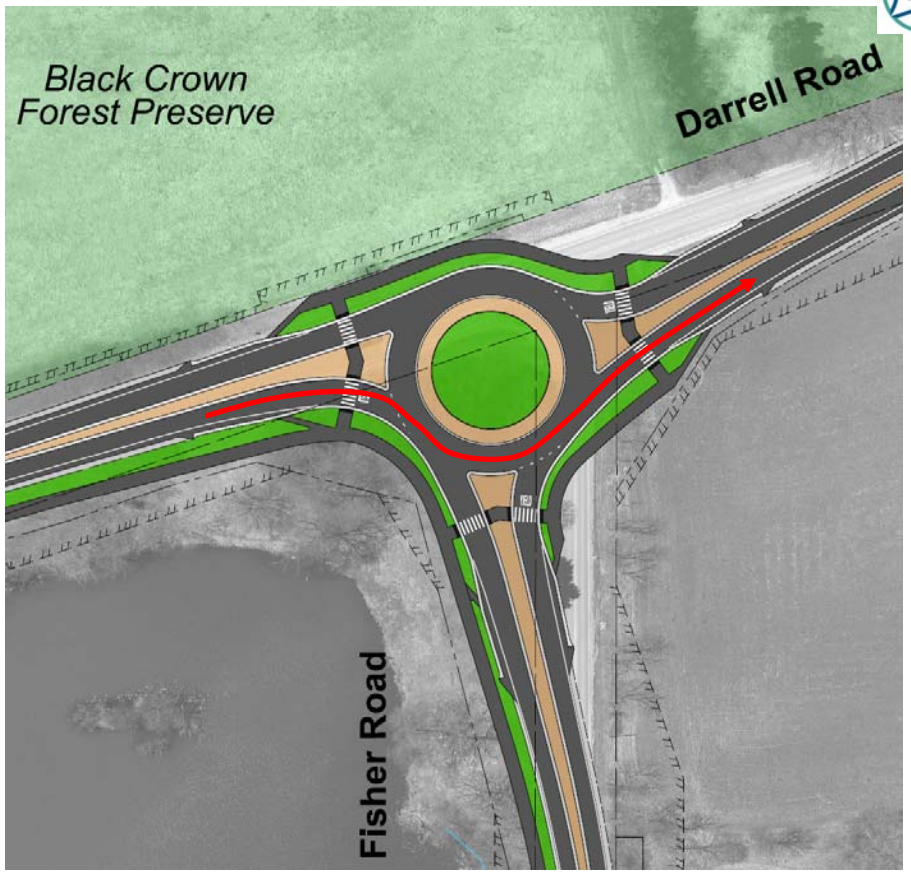


- Staged Crossing
- Defined Crossing Conflict Location

- Crossing All Lanes
- Vehicles From Multiple Directions

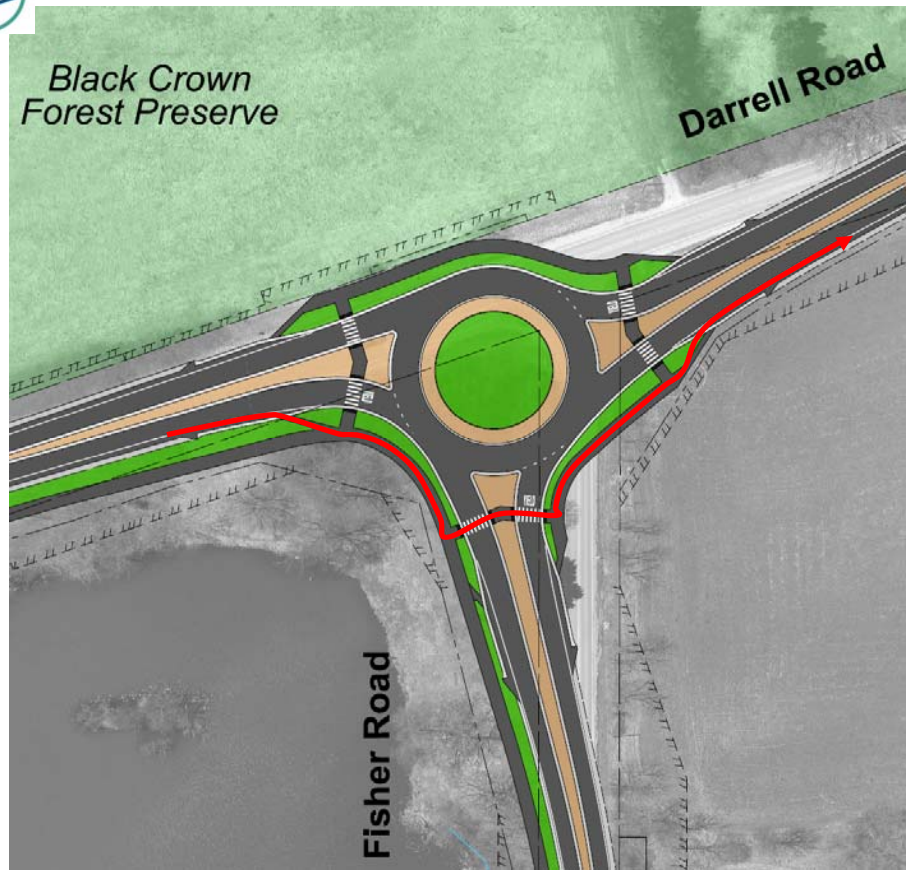
Roundabouts How To (Cyclist)

On road as a vehicle



Use center of lane (be visible)

As a pedestrian



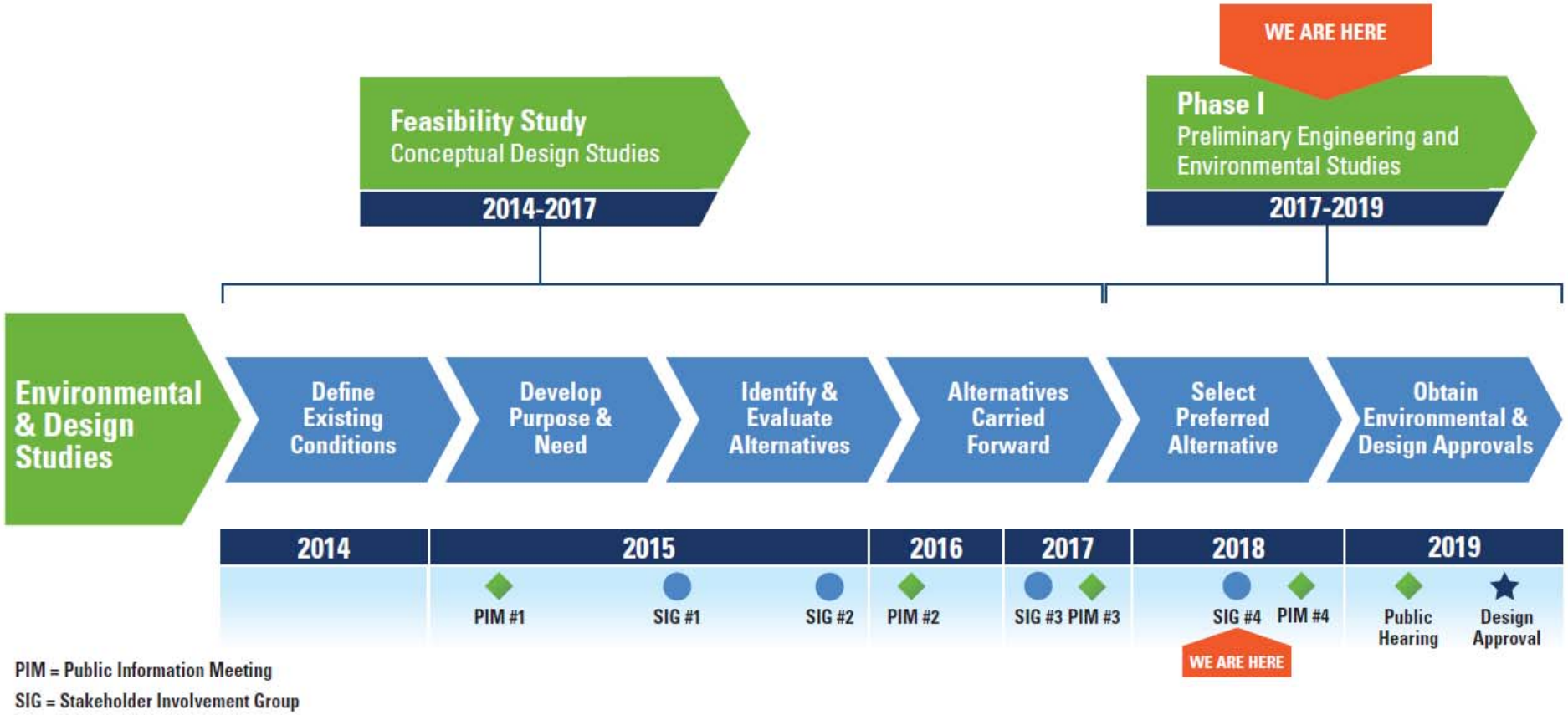
Walk your bike and follow the same rules as pedestrians

Project Development Process

Next Steps

- Present the Preferred Alternative at Public Information Meeting #4 and Gather Input
- Finalize Detailed Design for Preferred Alternative and Obtain Required Approvals
- Hold Public Hearing
- Complete Phase I, Design Approval

Next Steps



PIM = Public Information Meeting

SIG = Stakeholder Involvement Group

Thank you for your participation!

McHenry County Division of Transportation

River Road and Dowell Road

New Roundabout Under Construction

Estimated Completion November 2018