



Illinois Department
of Transportation

IL 23 at Chicago Road Intersection

Phase I Study
DeKalb County



Agenda

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51 H{ lwqj #Frgglwqv

61 SumfwQhgg

71 Donuqdwyh#Vroxwqv

81 Odgg#Dftxlvwqv

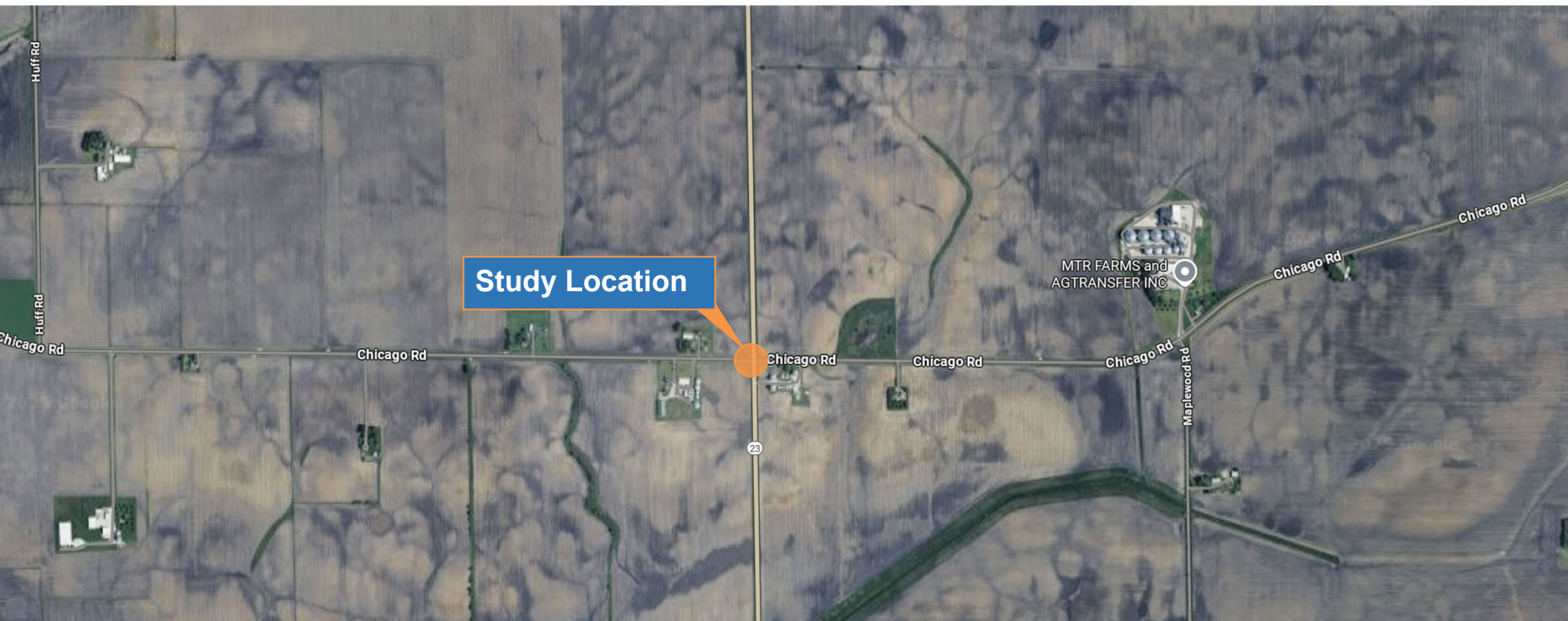
91 Sxedf#Ioyroyhp hqv#Rssruwqlhv#



1. OVERVIEW OF THE PHASE I STUDY

Location of Study

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Frqxw=#GhNde



1. OVERVIEW OF THE PHASE I STUDY

Plan Development Process

Z H#DUH#KHUH



SKDVH#L

SKDVH#L

SKDVH#IL

SUHOIP IQDU\#

HQJ IQHHUIQJ# #

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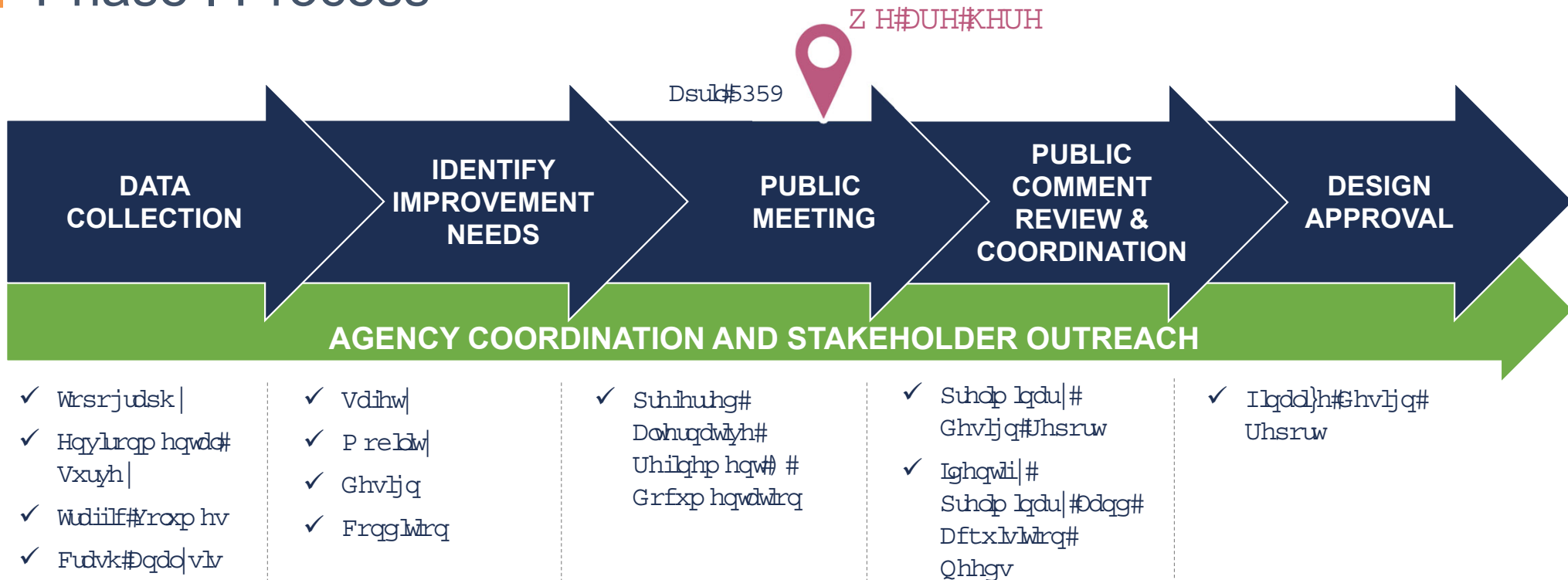
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1. OVERVIEW OF THE PHASE I STUDY

Phase I Process



1. OVERVIEW OF THE PHASE I STUDY

Environmental Review & Evaluation

QDWXUDO#
UHVRXUFHV

FXOWXUDO#
UHVRXUFHV#

Vhfwrq#7+i,#
hydoxwlrq#
sdunv2hfhdwlrqd#
dhdv

DJUIFXOWXUDO#
UHVRXUFHV

QRIVH

UHXODWHG#
VXEVDQFHV

Z DWHU#TXDOIW\

DIIJ#TXDOIW\

Permitting:
Clean Water Act,
Section 402- ILR10
IEPA NPDES,



1. OVERVIEW OF THE PHASE I STUDY

Summary of Environmental Impacts

DESIGN CHARACTERISTICS

Length of Roadway (miles)	0.4 Miles
Right of Way required for construction (acres)	4.016 acres
Number of parcels	7 parcels
Temporary Easement required	1.034 acres
Permanent Easement required	0
Estimated Cost	
Land Acquisition	\$ 60,000.00
Utility Adjustments	\$ -
Construction	<u>\$2,762,000.00</u>
Total	\$2,822,000.00

SOCIAL/ECONOMIC IMPACTS

Total Residences displaced	None
Businesses displaced	None
Worship centers displaced	None
Schools displaced	None

AGRICULTURAL IMPACTS

Prime farmland required	Farmland Impact study found proposed impact not significant
Farm residences/buildings displaced	None

NOISE IMPACTS

Number of residences, classrooms, or churches with noise impacts (approaching, meeting or exceeding 67 dBA or greater than 14 dBA increase over existing noise levels).	No Analysis Required
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VISUAL IMPACT

Minor

NATURAL RESOURCE IMPACTS

Tree Impacts	None
Protected species adversely affected	None

WETLAND IMPACTS

Wetlands displaced (acres)	None
Number of wetlands filled	None

SPECIAL AND PROTECTED LANDS

Nature Preserves affected	None
Illinois Natural Area affected	None
Parks and Forest Preserves affected	None

WATER RESOURCES/QUALITY IMPACTS

Stream crossings/water crossings	None
Private water wells within 200 feet	None

FLOODPLAIN IMPACTS

Affected 100 year floodplains (Zone A)	None
Number of floodplains crossed	None

CULTURAL RESOURCE IMPACTS

National Register eligible resources with adverse effects	None
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REGULATED SUBSTANCE SITE INVOLVEMENT

Number of special waste sites affected	Level II screening completed
Number of CERCIS (Comprehensive Environmental Response Compensation and Liability Information System) sites affected	None

AIR ANALYSIS

Project within a designated attainment/nonattainment area	Attainment area
Microscale Analysis-COSIM (Carbon Monoxide Screen for Intersection Modeling)	No Analysis Required



Slide 7

GU1

The ROW and TE areas do not match the ROW and TE areas shown on slide 37. M. Short

Guest User, 2026-04-10T14:03:39.420

2. EXISTING CONDITIONS

Intersection



2. EXISTING CONDITIONS

Project Need | Problem Statement



Based on the 2020 Safety Tier Report, the IL 23 and Chicago Road intersection is classified as a **critical tier location**. From 2017 to 2021, about 80% of crashes involved angle or turning collisions, with 60% resulting in fatalities or serious injuries. These trends highlight the need for **targeted safety improvements** at the intersection.

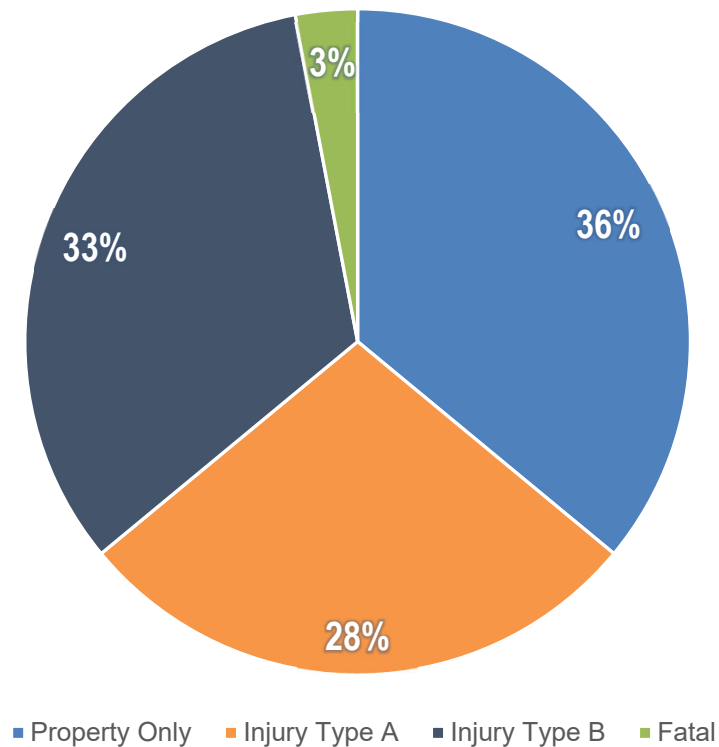


2. EXISTING CONDITIONS

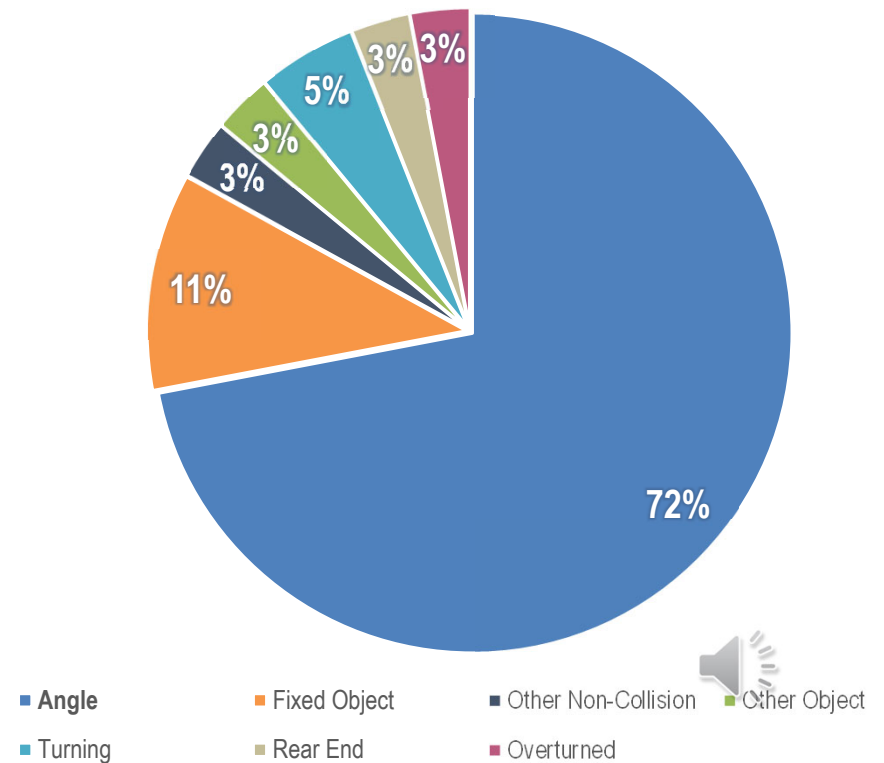
B. Crash History & Safety

Fullk#Gdw#Frnfng#534:05356,
69#Fullk#Fyhqww#56#Qmuhv

Severity of Crash



Crash Type



2. EXISTING CONDITIONS

B. Crash History & Safety Continued

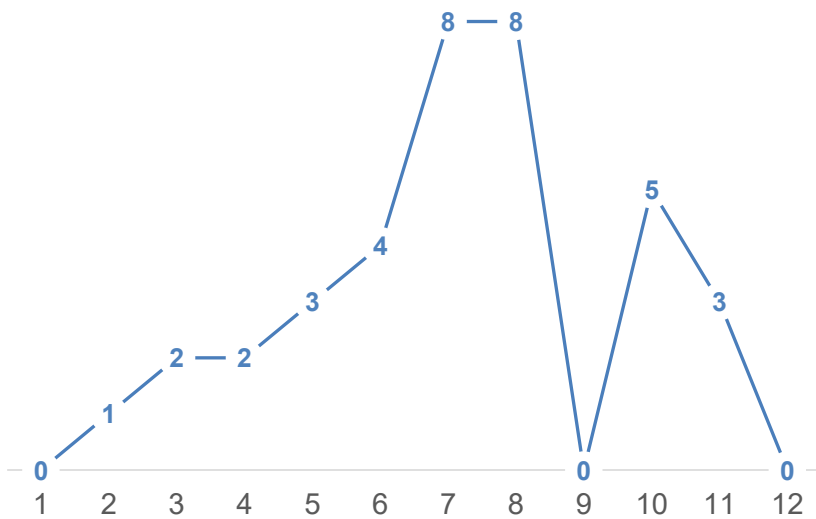


Figure 1 | Month

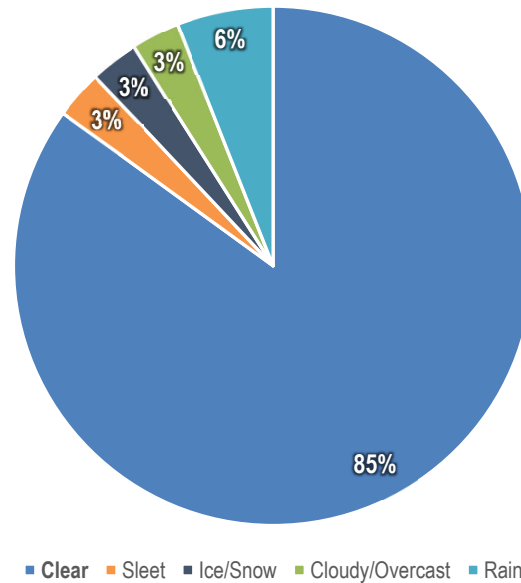


Figure 2 | Surface Conditions

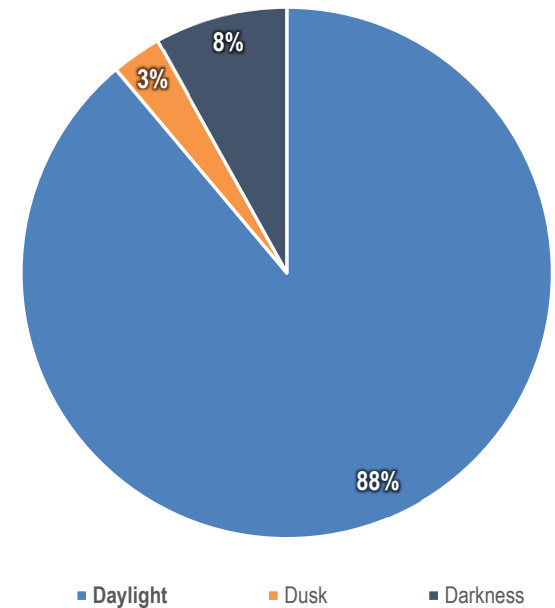


Figure 3 | Lighting

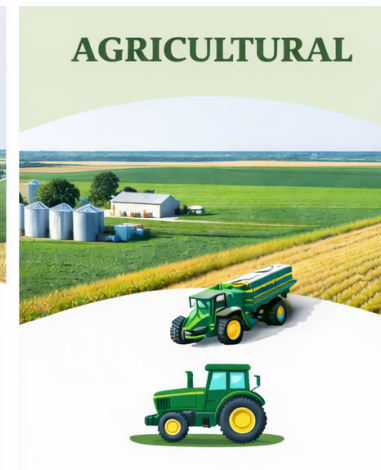
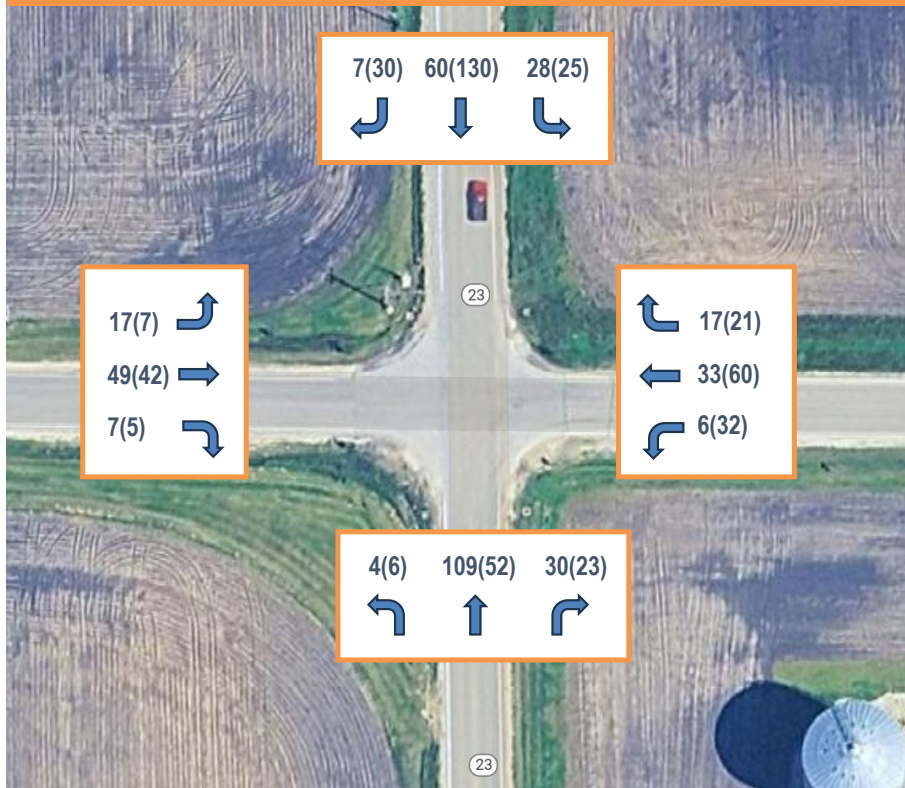
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69#Fwdk#Iyhqww#56#Lmxuhv



3. PROJECT NEED

A. Traffic Capacity

2046 AM(PM) Projected Traffic Volume



3. PROJECT NEED

B. Geometric Challenges



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61Vljkw#G lwdqfh

71Urdgz d|#Yvlebw|

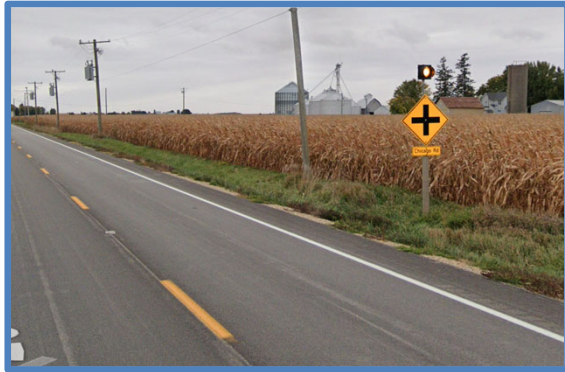
81Vshhgv



4. SAFETY IMPROVEMENTS

A. Previous Improvements

Advanced Warning Signs



**Flashing Beacons
Intersection Crossing
Warning on IL 23**



**Flashing Beacons with Stop
Sign at Intersection Crossing
on Chicago Rd**



4. SAFETY IMPROVEMENTS

B. Highway Safety Improvement Program



The 2021 federal bill reauthorizing surface transportation funding, titled the “Infrastructure Investment and Jobs Act (IIJA)” continues to support the core federal-aid funding program entitled “Highway Safety Improvement Program” (HSIP) **with the purpose of achieving a significant reduction in traffic fatalities and serious injuries for all roadway users on all public roads.**



4. SAFETY IMPROVEMENTS

B. Option Evaluations

	Advanced Warning Signs	4-Way Stop	Signals	Roundabouts
Long Term Solutions	X	X	✓	✓
Safety Improved	✓	✓	-	✓
Level of Service Improvement	X	X	✓	✓



4. SAFETY IMPROVEMENTS

A. Option Evaluations Cont.

	4-Way Stop	Roundabouts
Minimize Conflict Points	X	✓
Manage Speeds (by geometrics)	X	✓
Higher Level of Service	X	✓



4. SAFETY IMPROVEMENTS

B. Benefits of a Roundabout



Improve Safety

- 35% reduction in all crashes
- 76% reduction in injuries
- 90% reduction in fatalities
- 75% fewer conflict points than a 4-way intersection



Level of Service

- Efficient during peak hours
- Less delay
- 30-50% increase in traffic capacity



Cost

- No Additional signal equipment to install/repair
- Savings estimated at \$5,000 and \$10,000/year in electricity and maintenance costs
- Service life is 25 years (signal equipment is 10 years)

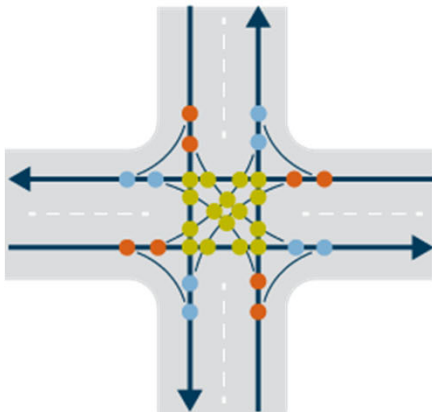


4. SAFETY IMPROVEMENTS

C. Conflict Points

With roundabouts, head-on and high-speed right-angle collisions are virtually eliminated.

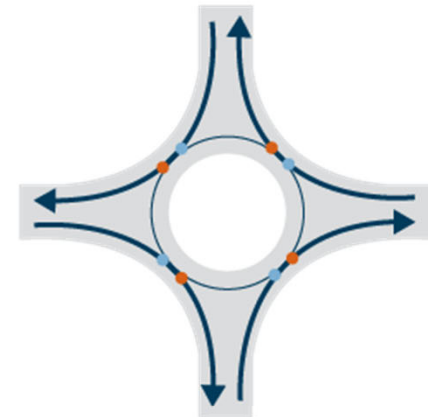
TRADITIONAL INTERSECTION



32 CONFLICT POINTS

- DIVERGING
- MERGING
- CROSSING

ROUNDBOUT INTERSECTION

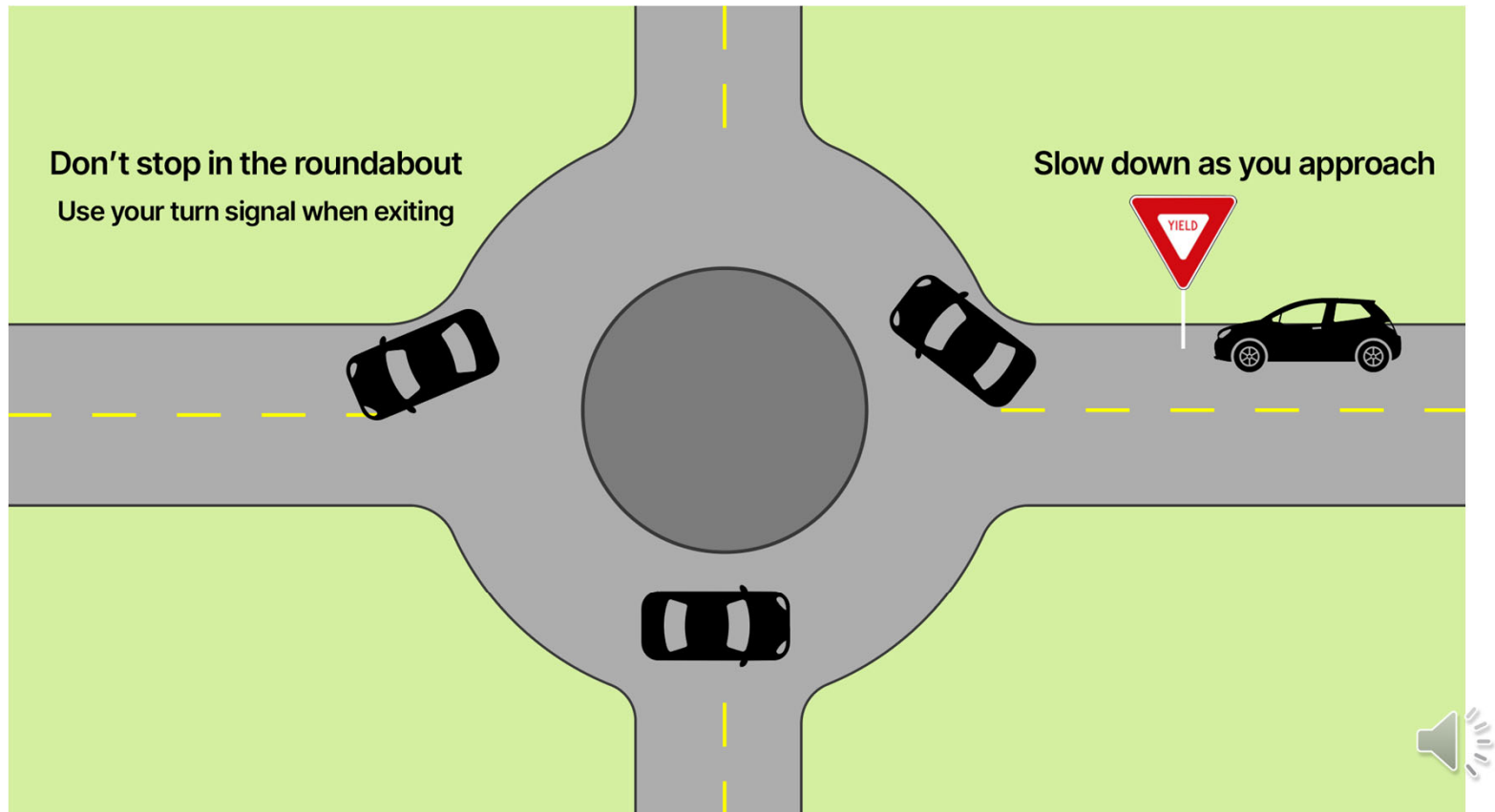


8 CONFLICT POINTS



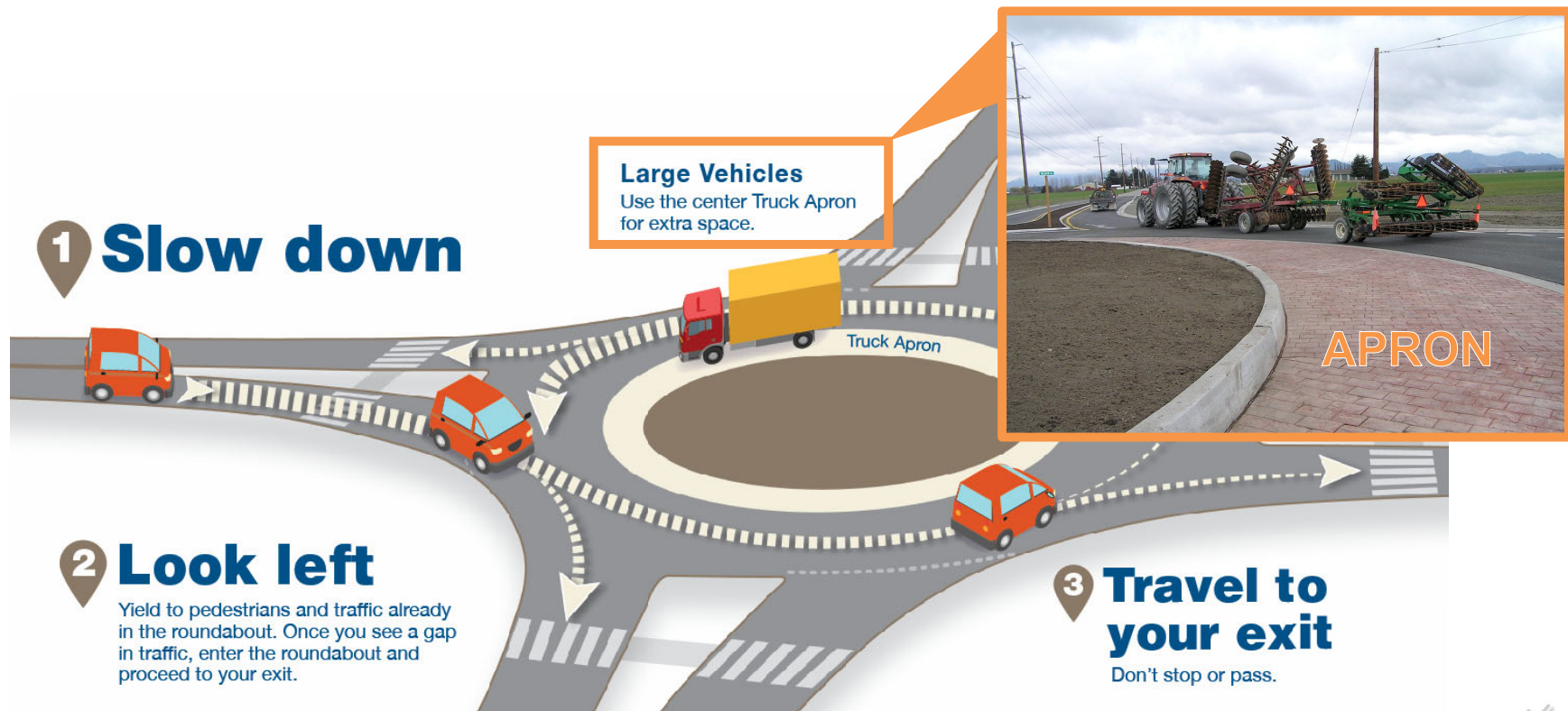
4. SAFETY IMPROVEMENTS

D. Navigating Roundabouts



4. SAFETY IMPROVEMENTS

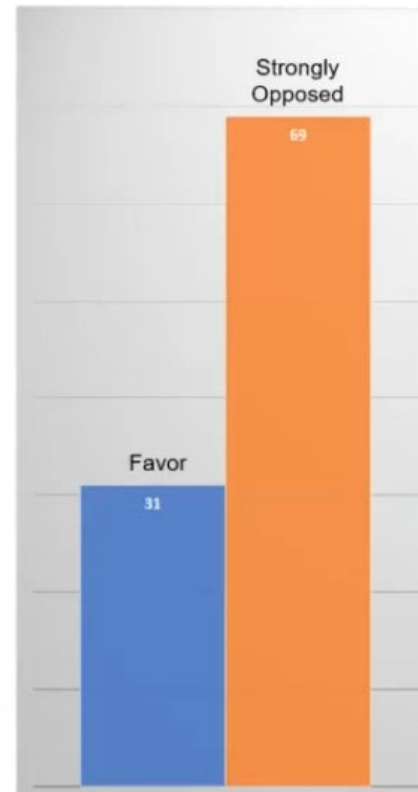
E. Public Opinion of Roundabouts | Large Equipment



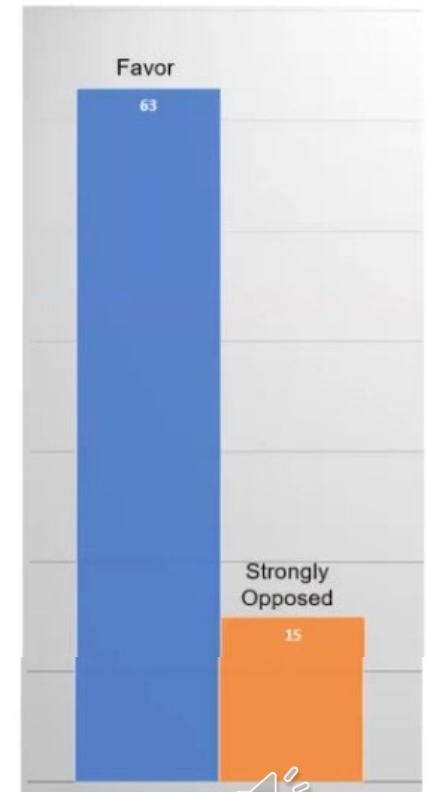
4. SAFETY IMPROVEMENTS

E. Public Opinion of Roundabouts

People initially prefer traffic signals and stop signs until they realize that roundabouts allow them to pass through the intersection safely without having to stop. Other concerns about safety and possibly being confused about where to go also dissipate with use.



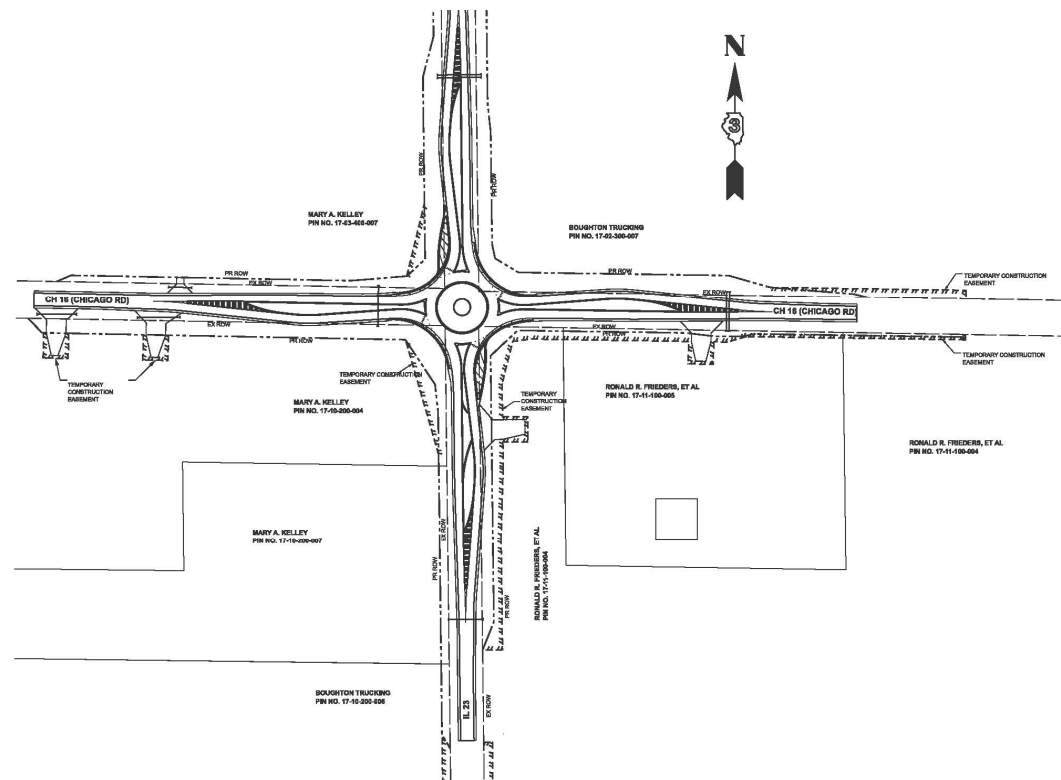
Before Construction



After Driving through a Roundabout

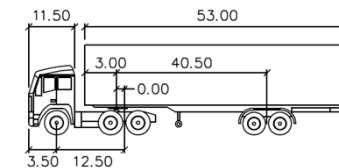
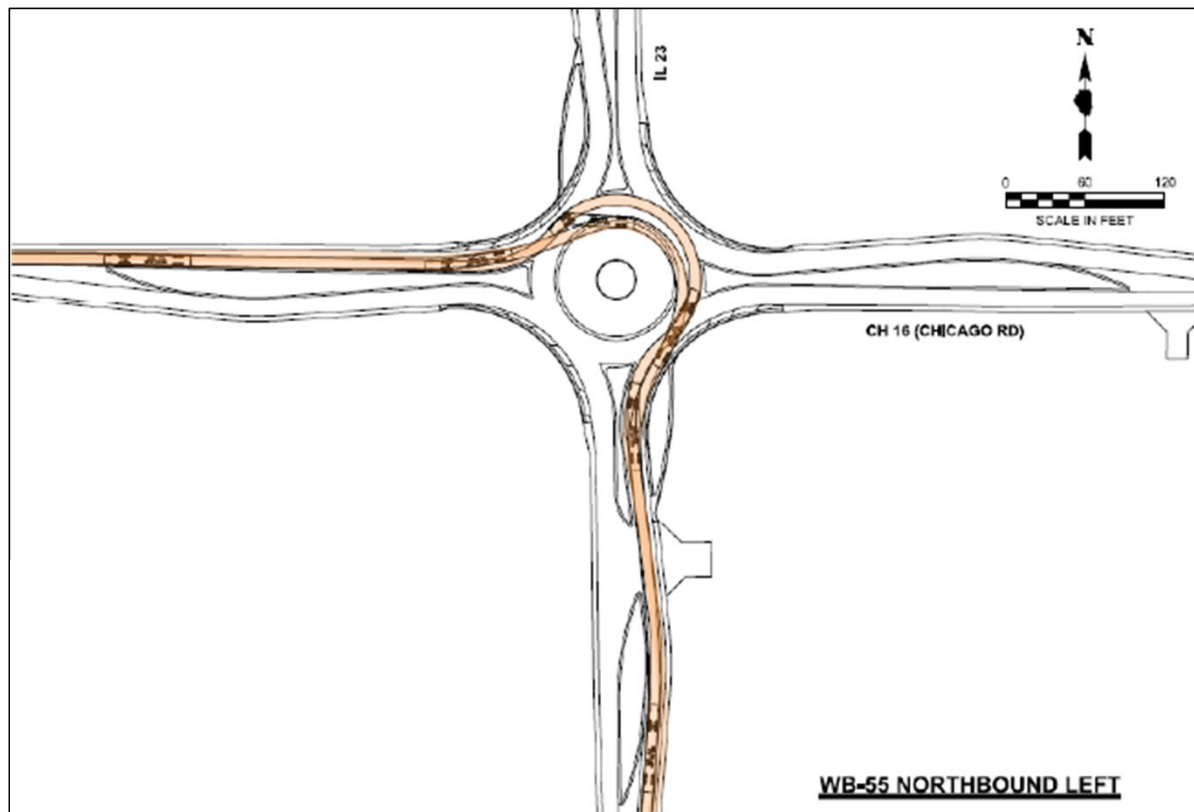
4. SAFETY IMPROVEMENTS

G. Roundabout | A Safer Choice



4. ALTERNATIVES

G. Roundabout | A Safer Choice



LEFT TURN

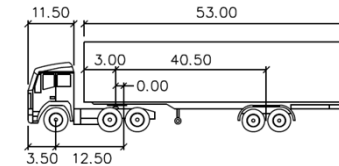
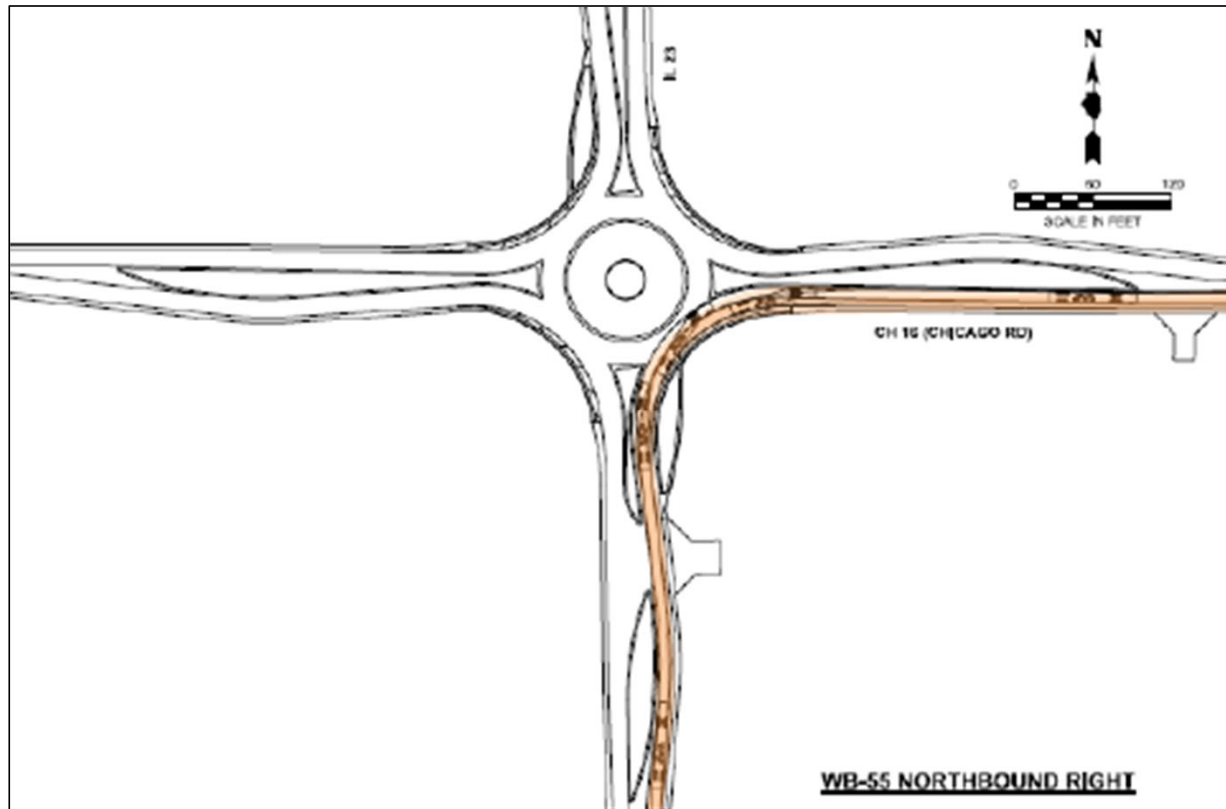
Tractor Width: 8ft
Trailer Width: 8ft
Tractor with Track: 8ft
Trailer Track: 8.5ft

Lock to Lock Time: 6.0
Steering Angle: 17.8
Articulating Angle: 70.0



4. ALTERNATIVES

G. Roundabout | A Safer Choice



RIGHT TURN

Tractor Width: 8ft
Trailer Width: 8ft
Tractor with Track: 8ft
Trailer Track: 8.5ft

Lock to Lock Time: 6.0
Steering Angle: 17.8
Articulating Angle: 70.0



Slide 25

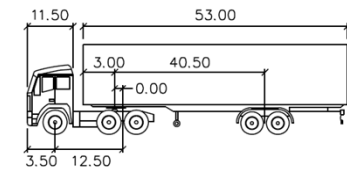
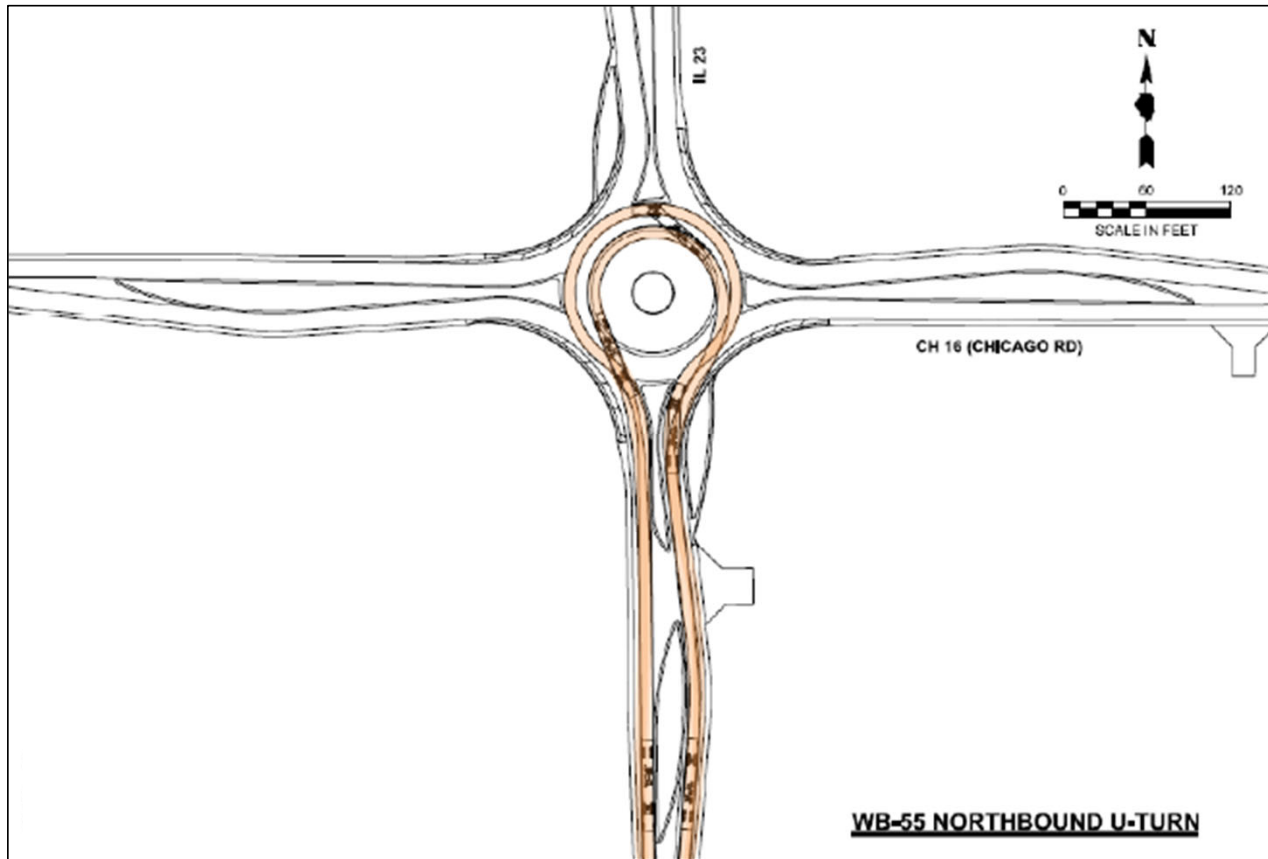
GU1

"Right" is spelled incorrectly. M. Short

Guest User, 2026-04-10T14:04:21.108

4. ALTERNATIVES

G. Roundabout | A Safer Choice



U-TURN

Tractor Width: 8ft
Trailer Width: 8ft
Tractor with Track: 8ft
Trailer Track: 8.5ft

Lock to Lock Time: 6.0
Steering Angle: 28.4
Articulating Angle: 75.0

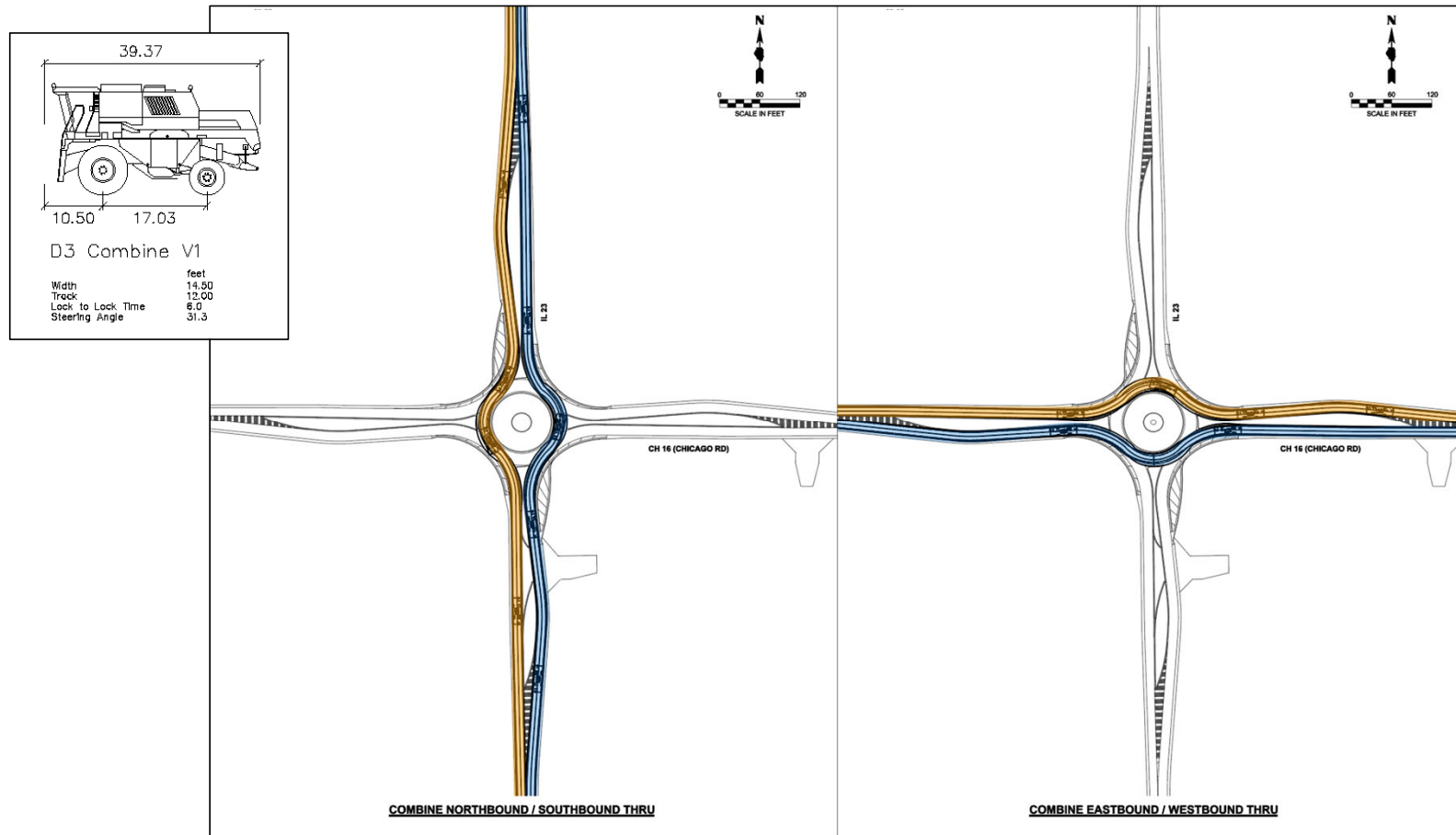


G. Roundabout | A Safer Choice



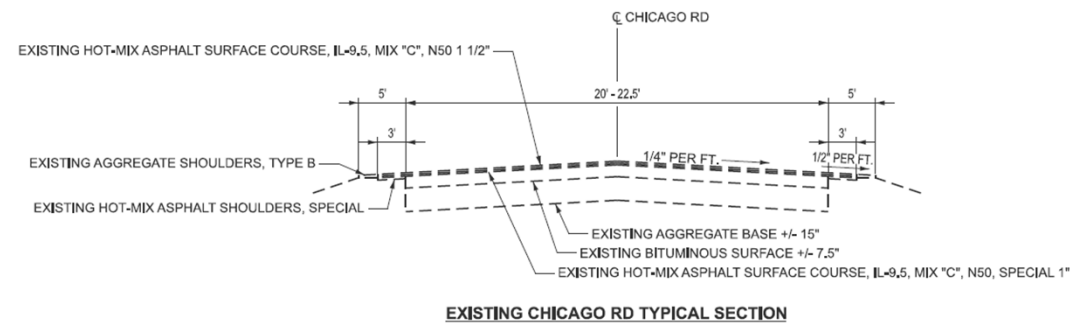
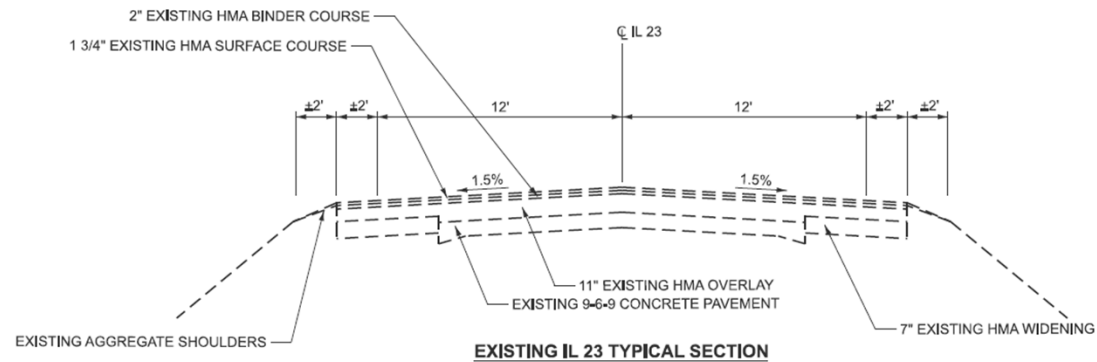
4. ALTERNATIVES

G. Roundabout | A Safer Choice



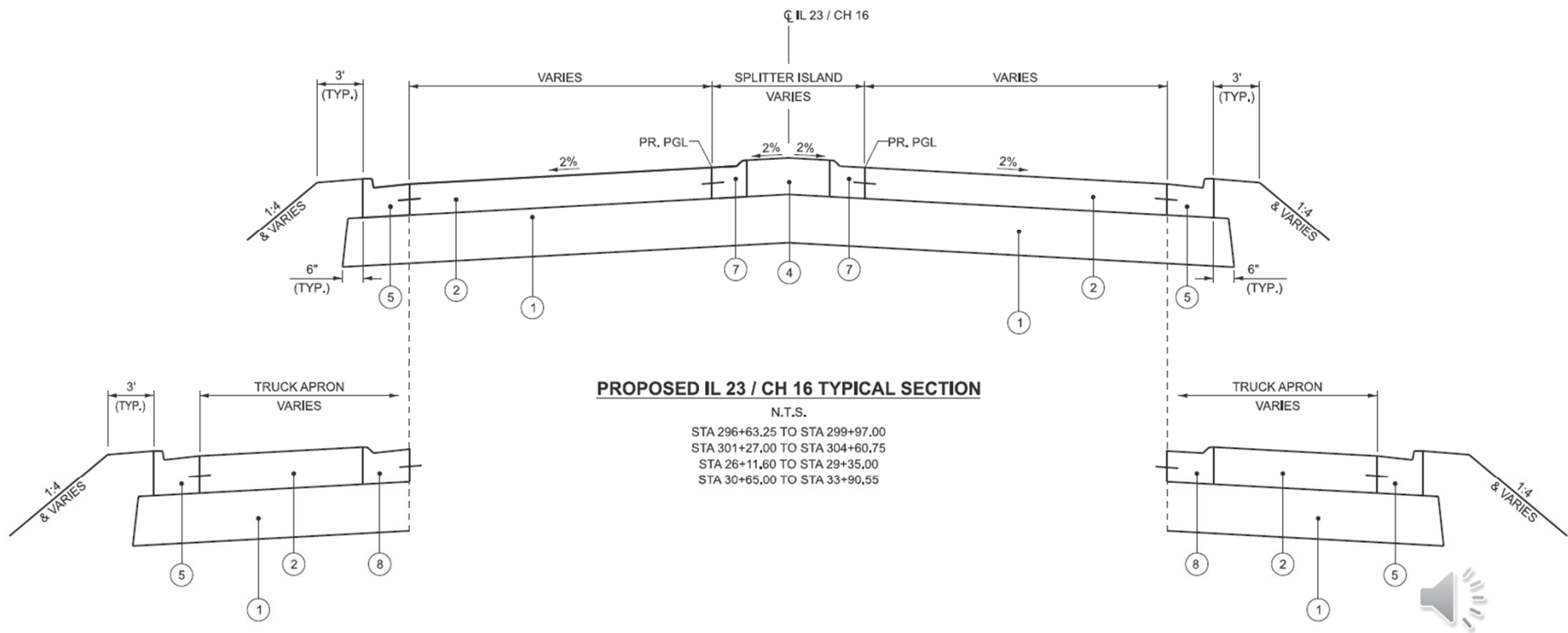
4. ALTERNATIVES

G. Roundabout | A Safer Choice



4. ALTERNATIVES

G. Roundabout | A Safer Choice



4. ALTERNATIVES

G. Roundabout | A Safer Choice



4. ALTERNATIVES

H. Local Road Detour Route

PREFERRED DETOUR ROUTE:

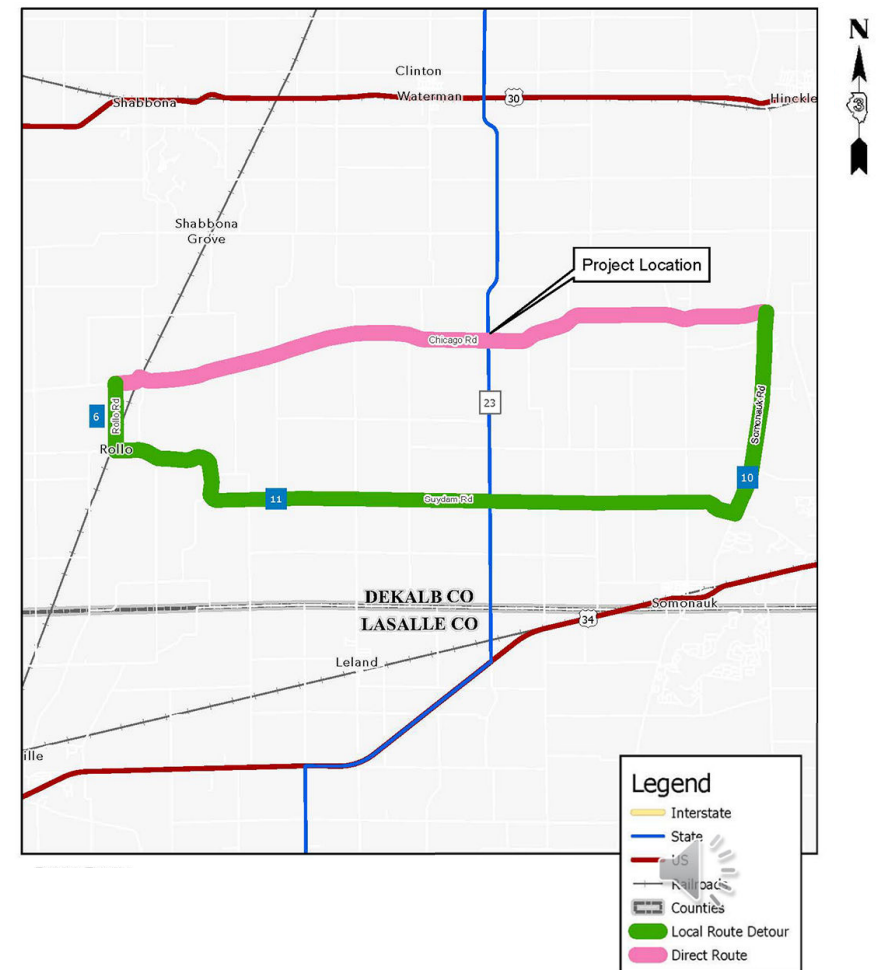
CH 10/Somonauk Rd for 3.9 Miles

CH 11/Suydam Rd for 12.3 Miles

CH 6/Rollo Rd for 1.3 Miles

Detour Route - Direct Route = Adverse Travel

17.5 mi. – 12.5 mi = 5 mi.



Slide 32

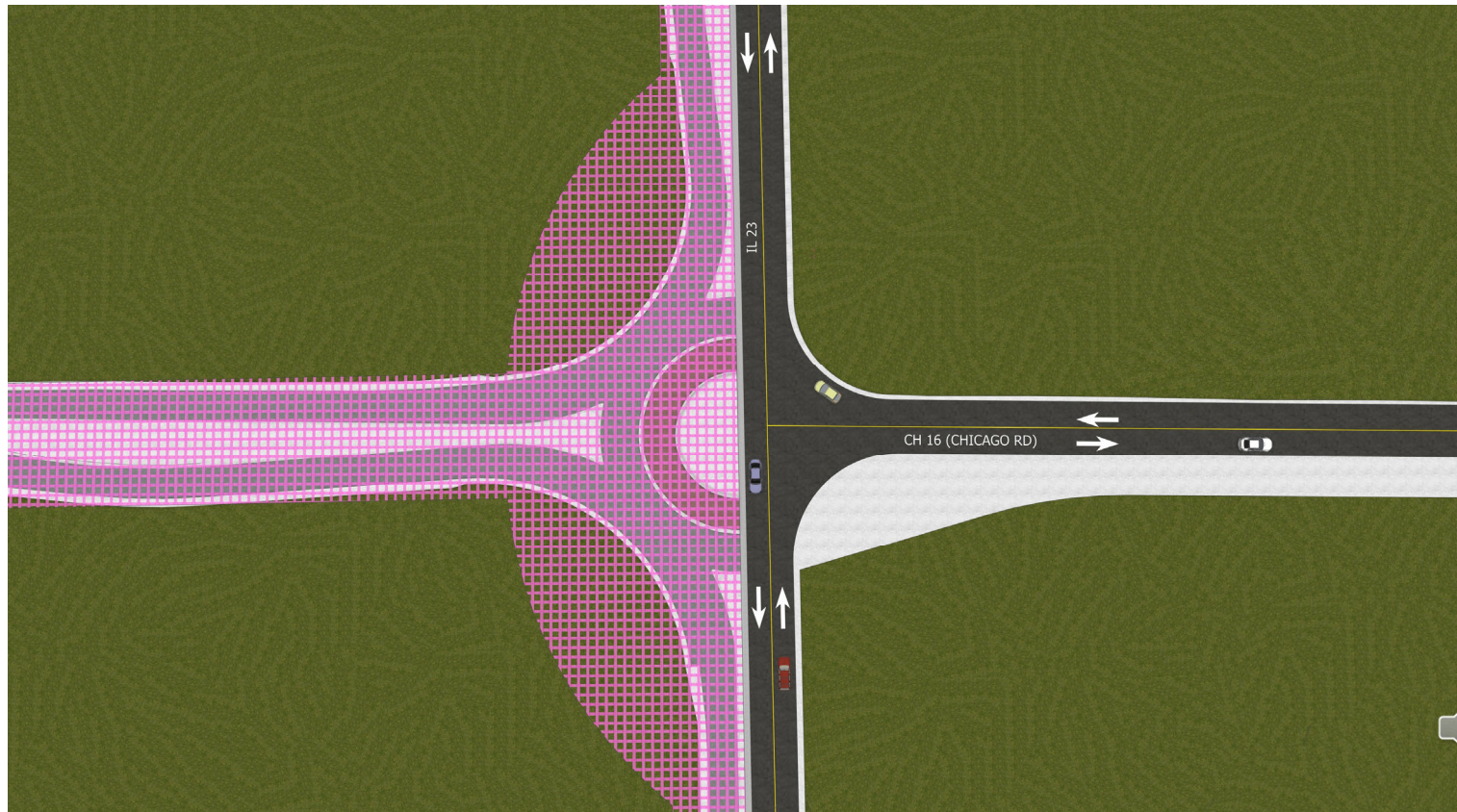
GU1

In the voice over, "Suydam" is pronounced as "Sa-dam". The correct pronunciation is "Su-dam". M. Short

Guest User, 2026-04-10T14:05:17.437

4. ALTERNATIVES

J. Construction Staging | **Stage 1**



Slide 33

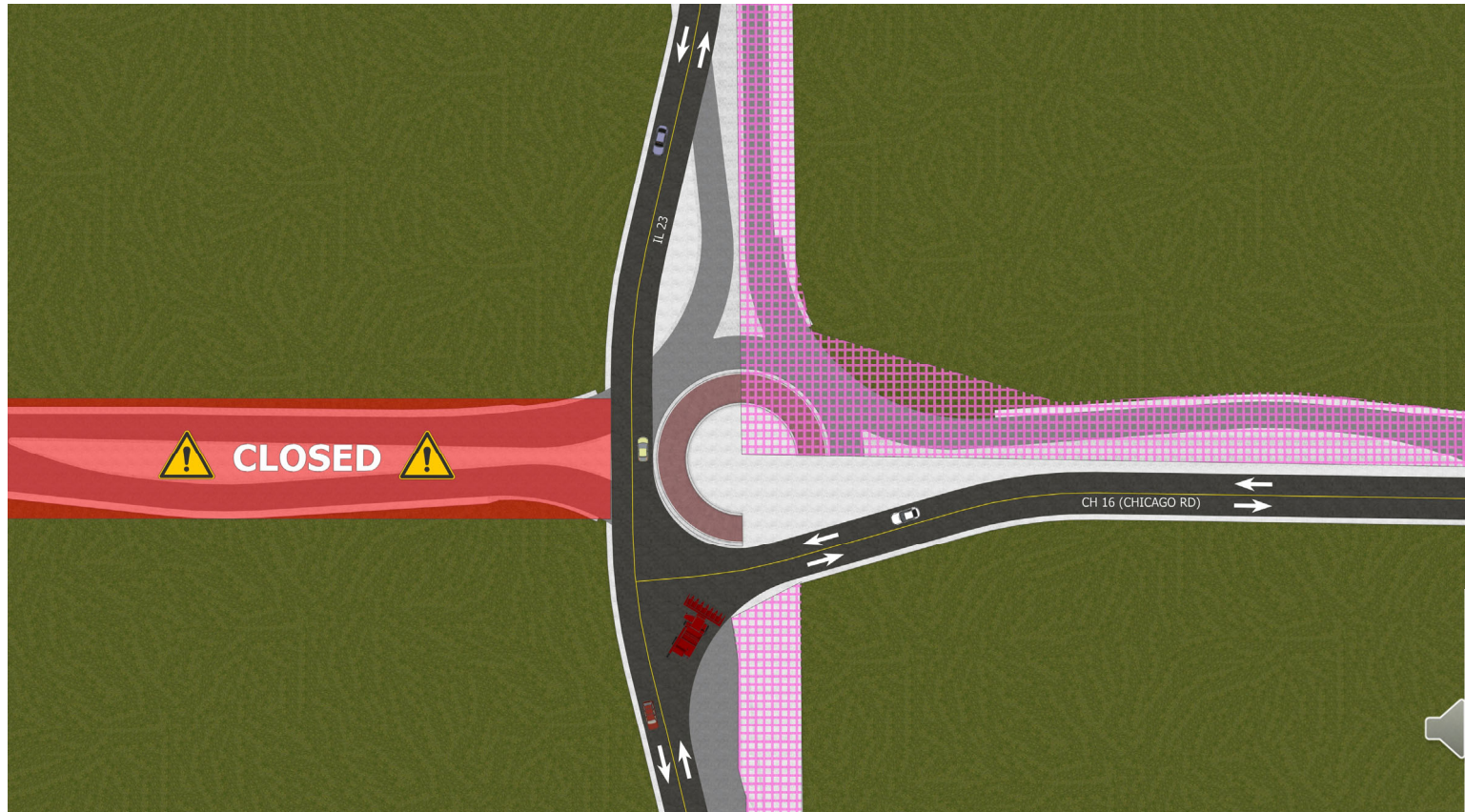
GU1

Slide 34 shows "Closed" on the west leg, making it clear that the west leg is closed. The same "closed" designation needs to be on this slide as well since the west leg is closed in Stage 1 as well. M. Short

Guest User, 2026-04-10T14:06:43.974

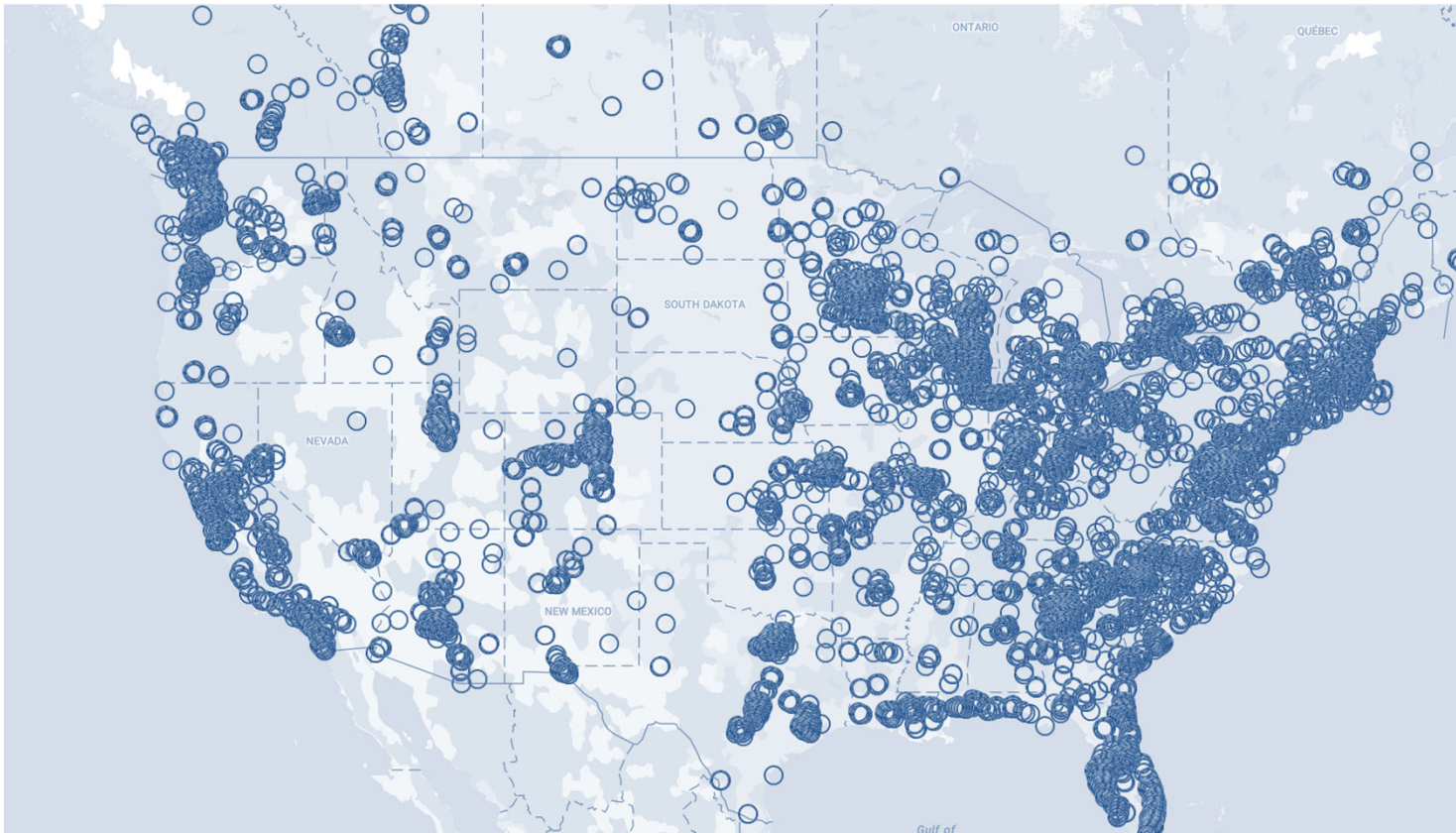
4. ALTERNATIVES

J. Construction Staging | Stage 2



4. ALTERNATIVES

K. Roundabout Database



11,000
Built in the US

140
Built in IL



5. LAND ACQUISITION PROCESS

TYPES OF LAND ACQUISITION

1. Fee Simple Acquisition

- Acquisition of all rights and interest

2. Temporary Easements

- Underlying ownership is retained by the property owner
- Access is temporarily allowed only during construction

3. Permanent Easements

- Underlying ownership is retained by the property owner
- Access is permanently allowed for maintenance activities

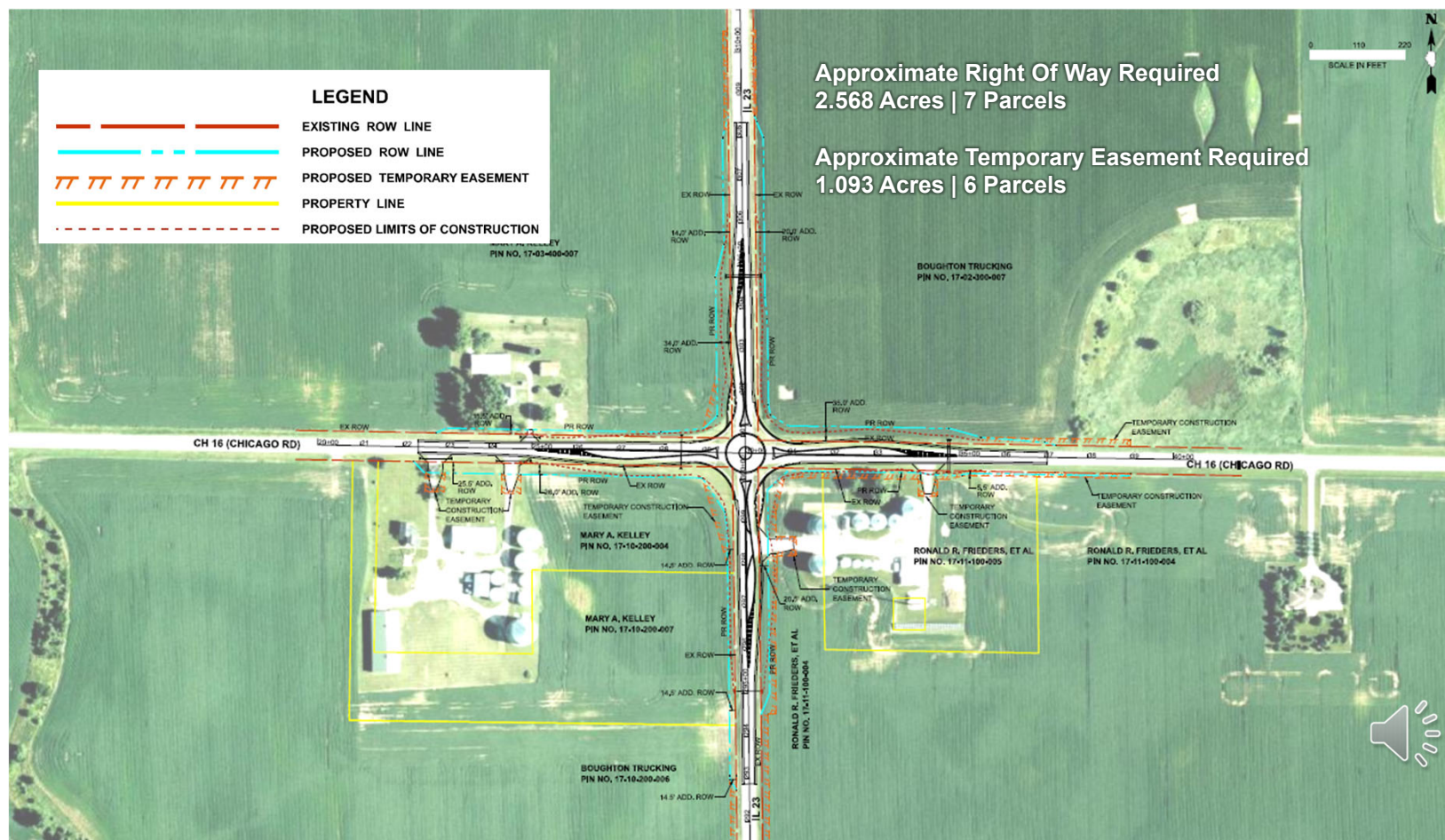
LAND ACQUISITION STEPS

The Land acquisition process involves the following steps:

1. Property ownership is confirmed
2. A plat of survey drawing is prepared
3. An independent appraisal is made to determine fair market value
4. Negotiations begin with an offer to acquire the necessary property at the appraised value
5. If a settlement cannot be reached, the matter is referred to the courts for acquisition under the law of eminent domain



RIGHT-OF-WAY Exhibit



Slide 37

GU1

See comment on Slide 7. M. Short

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6. PUBLIC INVOLVEMENT OPPORTUNITIES

Stay Connected!

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6. PUBLIC INVOLVEMENT OPPORTUNITIES

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DeKalb County - Illinois 23 at Chicago Road

The Illinois Department of Transportation is in the planning and early phase of a study to improve the Illinois 23 and County Highway 16 (Chicago Road) intersection in DeKalb County. This project consists of reconstruction of the intersection into a roundabout.

The improvement is tentatively scheduled in the department's FY 2025-2030 Highway Improvement Program, subject to project readiness and funding availability. During construction the west leg of Chicago Road is planned to be closed.

Please explore this page for further information regarding the improvement. There are additional location maps, crash exhibits, photos, and preliminary typical sections available.

[Expand All](#) [Collapse All](#)

Location

Project Phases

Traffic Impacts

Resources

Get Involved

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Illinois Department
of Transportation

THANK YOU!

**IL 23 at Chicago Road
Intersection**
Phase I Study
DeKalb County

