

# Welcome!

## Public Meeting

***IL Route 394 at Burville Road***

**Topic: Restricted Crossing  
U-Turn Intersection**

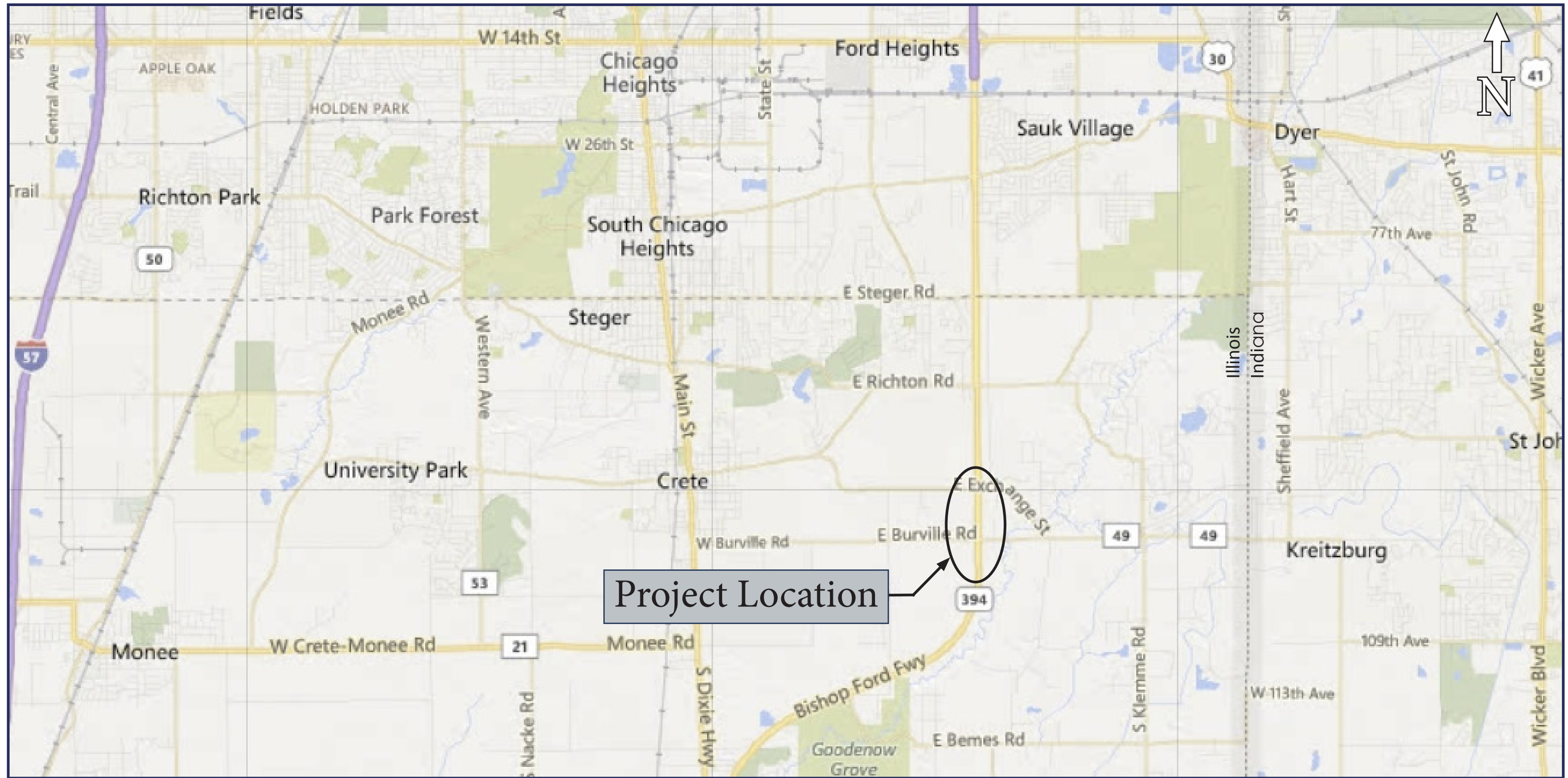
**Date: Thursday, October 25<sup>th</sup>**

**Time: 4:00 - 7:00 pm**



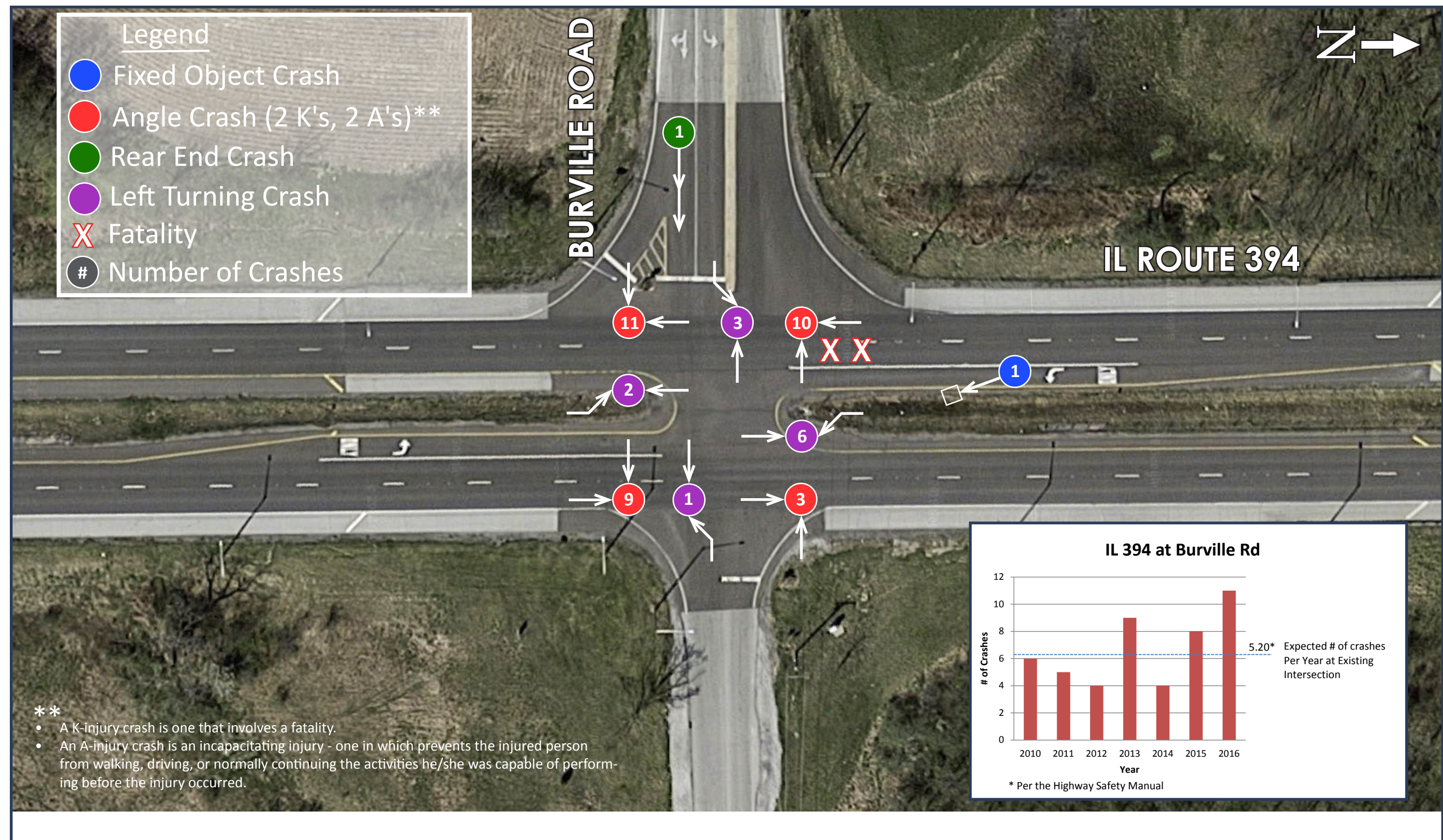


# Location Map



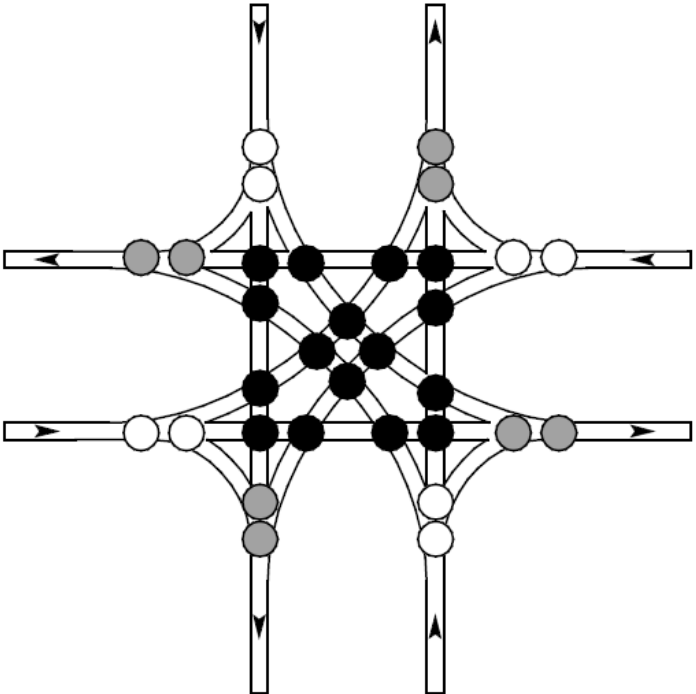
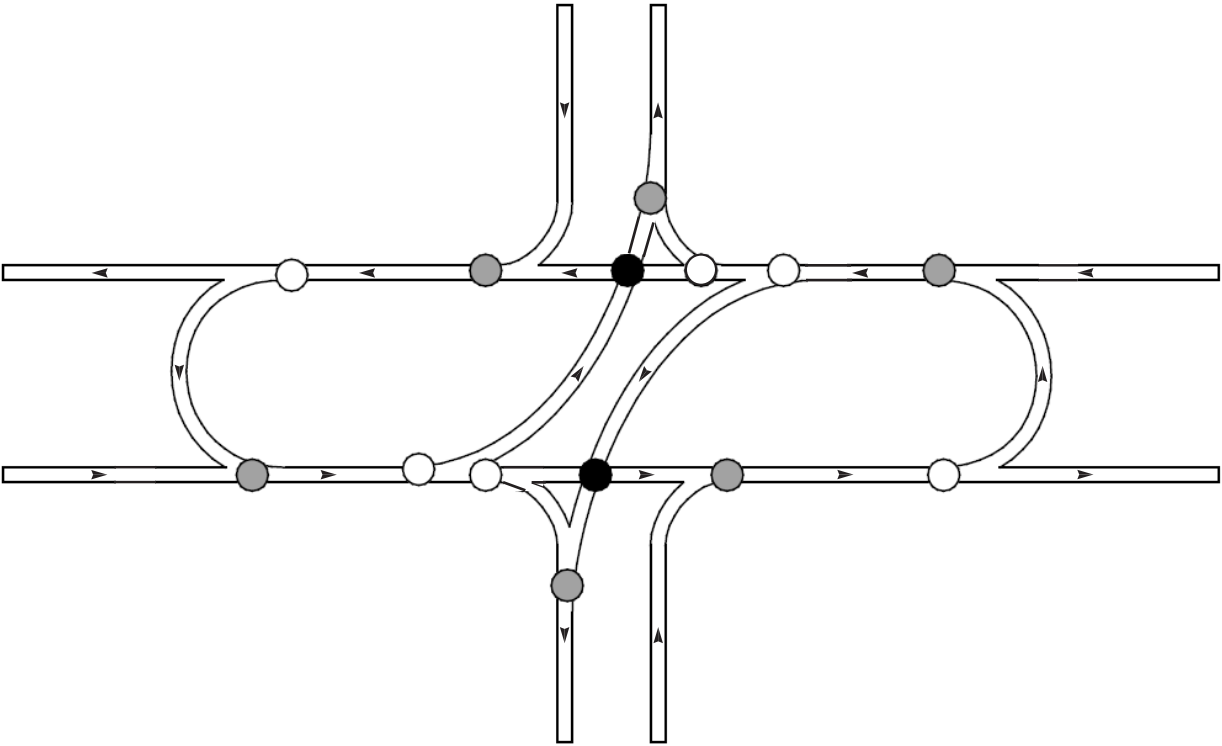


# Crash History 2010-2016





# Conflict Points - Conventional vs. RCUT

Vehicle-Vehicle Conflict Points	Conventional Intersection	RCUT Intersection
<div><div></div> Crossing</div> <div><div></div> Merging</div> <div><div></div> Diverging</div>		
Crossing	16	2
Merging	8	6
Diverging	8	6
Total	32	14

Crossing conflict points typically result in the highest severity crash types



## Reduced Left-Turn Conflict Intersections



Example of MUT intersection.

Source: FHWA

### SAFETY BENEFITS:

**RCUT**  
**54%**

Reduction in injury and fatal crashes<sup>1</sup>

**MUT**  
**30%**

Reduction in intersection-related injury crash rate<sup>2</sup>

Reduced left-turn conflict intersections are geometric designs that alter how left-turn movements occur in order to simplify decisions and minimize the potential for related crashes. Two highly effective designs that rely on U-turns to complete certain left-turn movements are known as the restricted crossing U-turn (RCUT) and the median U-turn (MUT).



Example of RCUT intersection.

Source: FHWA

### Restricted Crossing U-turn (RCUT) Median U-turn (MUT)

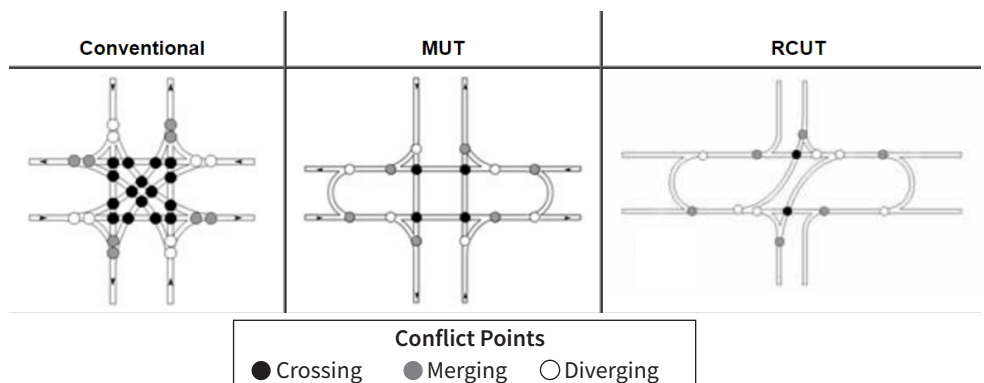
The RCUT intersection modifies the direct left-turn and through movements from cross-street approaches. Minor road traffic makes a right turn followed by a U-turn at a designated location – either signalized or unsignalized – to continue in the desired direction.

The RCUT is suitable for a variety of circumstances, including along rural, high-speed, four-lane, divided highways or signalized routes. It also can be used as an alternative to signalization or constructing an interchange. RCUTs work well when consistently used along a corridor, but also can be used effectively at individual intersections.

The MUT intersection modifies direct left turns from the major approaches. Vehicles proceed through the main intersection, make a U-turn a short distance downstream, followed by a right turn at the main intersection. The U-turns can also be used for modifying the cross-street left turns.

The MUT is an excellent choice for heavily traveled intersections with moderate left-turn volumes. When implemented at multiple intersections along a corridor, the efficient two-phase signal operation of the MUT can reduce delay, improve travel times, and create more crossing opportunities for pedestrians and bicyclists.

### MUT and RCUT Can Reduce Conflict Points by 50%

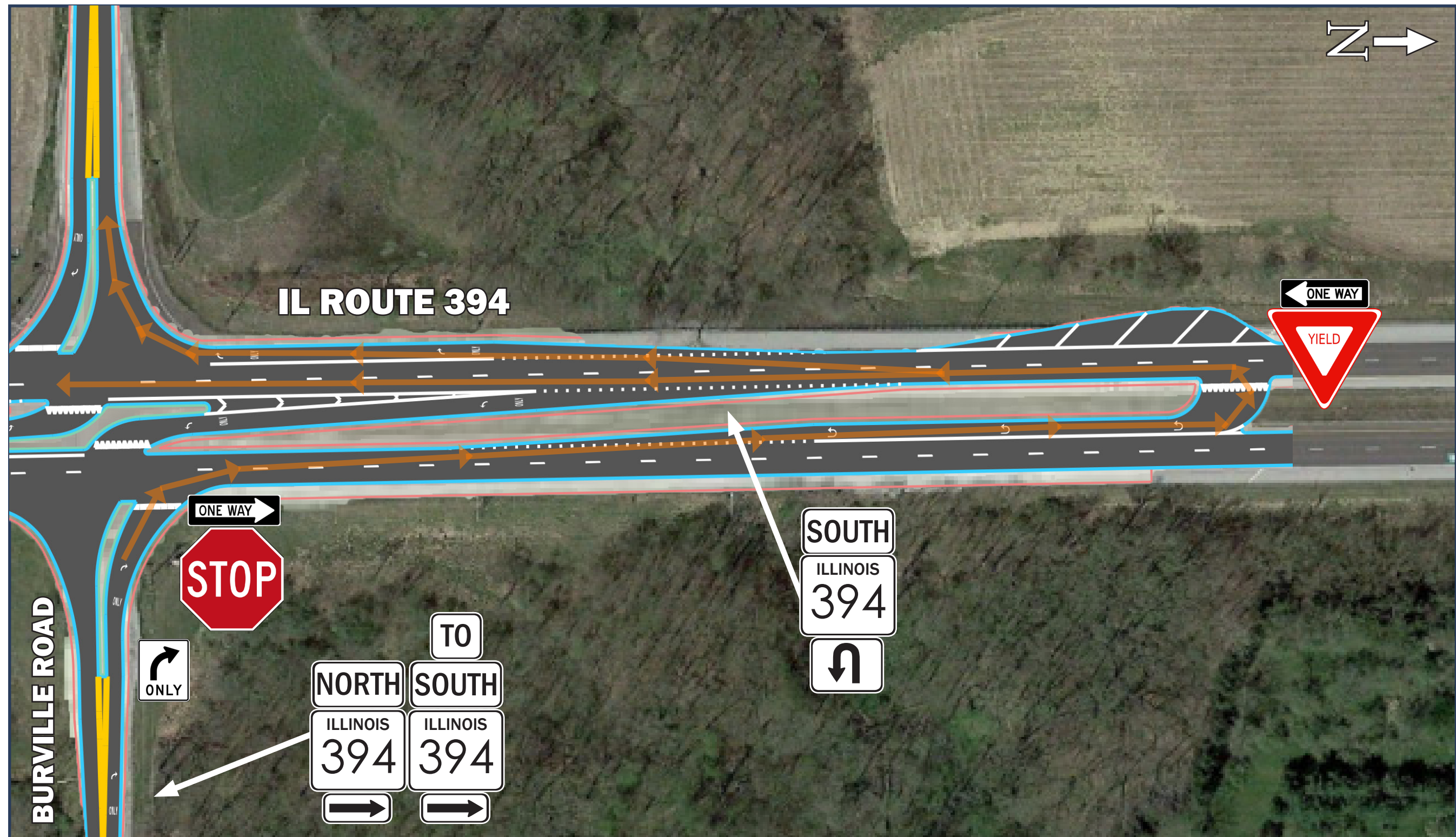


Source: FHWA

<sup>1</sup> Edara et al., "Evaluation of J-turn Intersection Design Performance in Missouri," December 2013.

<sup>2</sup> FHWA, *Median U-Turn Intersection Informational Guide*, FHWA-SA-14-069 (Washington, DC: 2014), pp. 41-42.

# RCUT Typical Movements





# Proposed Geometry



# RCUT Benefits

## Safety

- Fewer, less severe conflict points
- Significant crash reductions

## Mobility

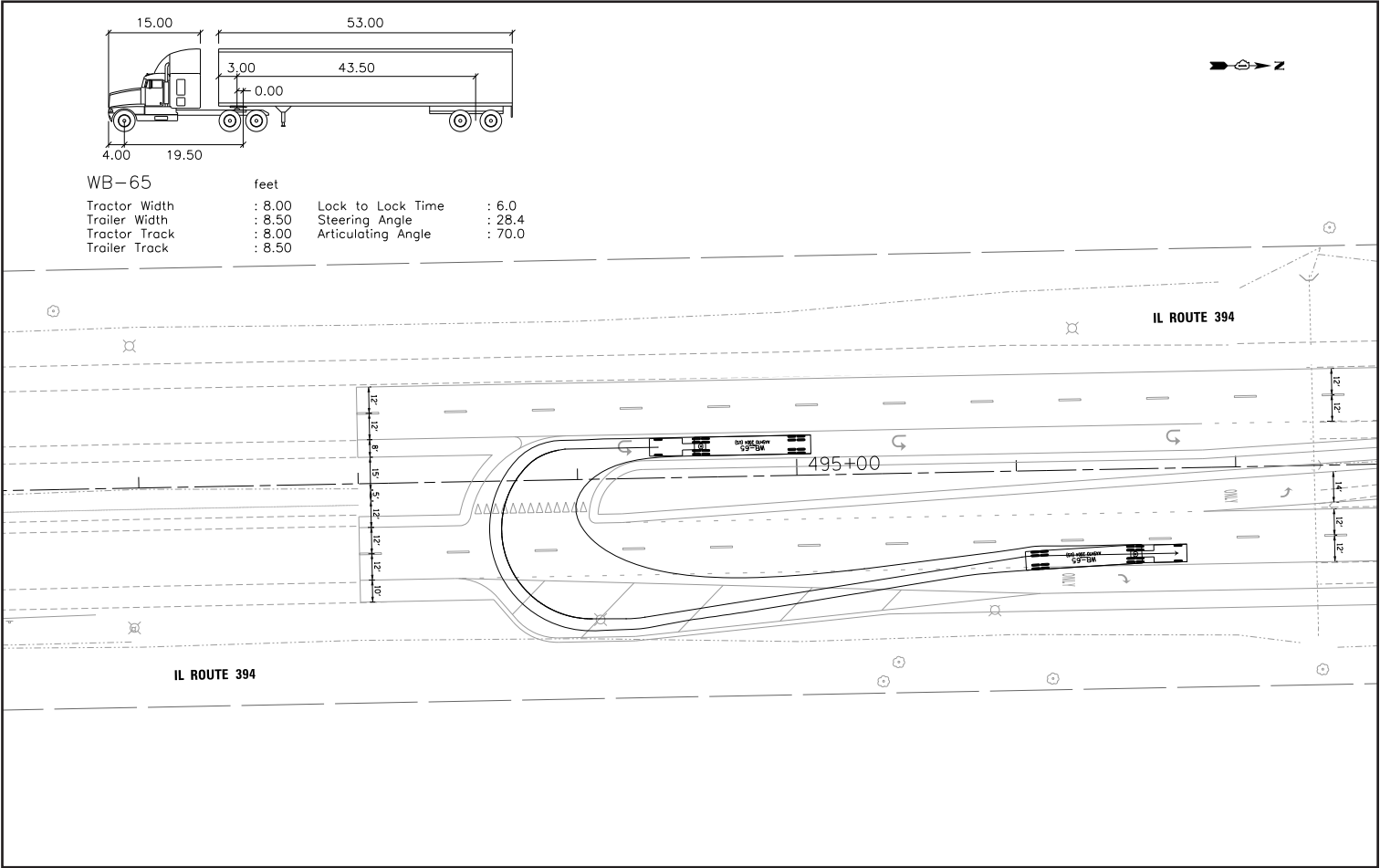
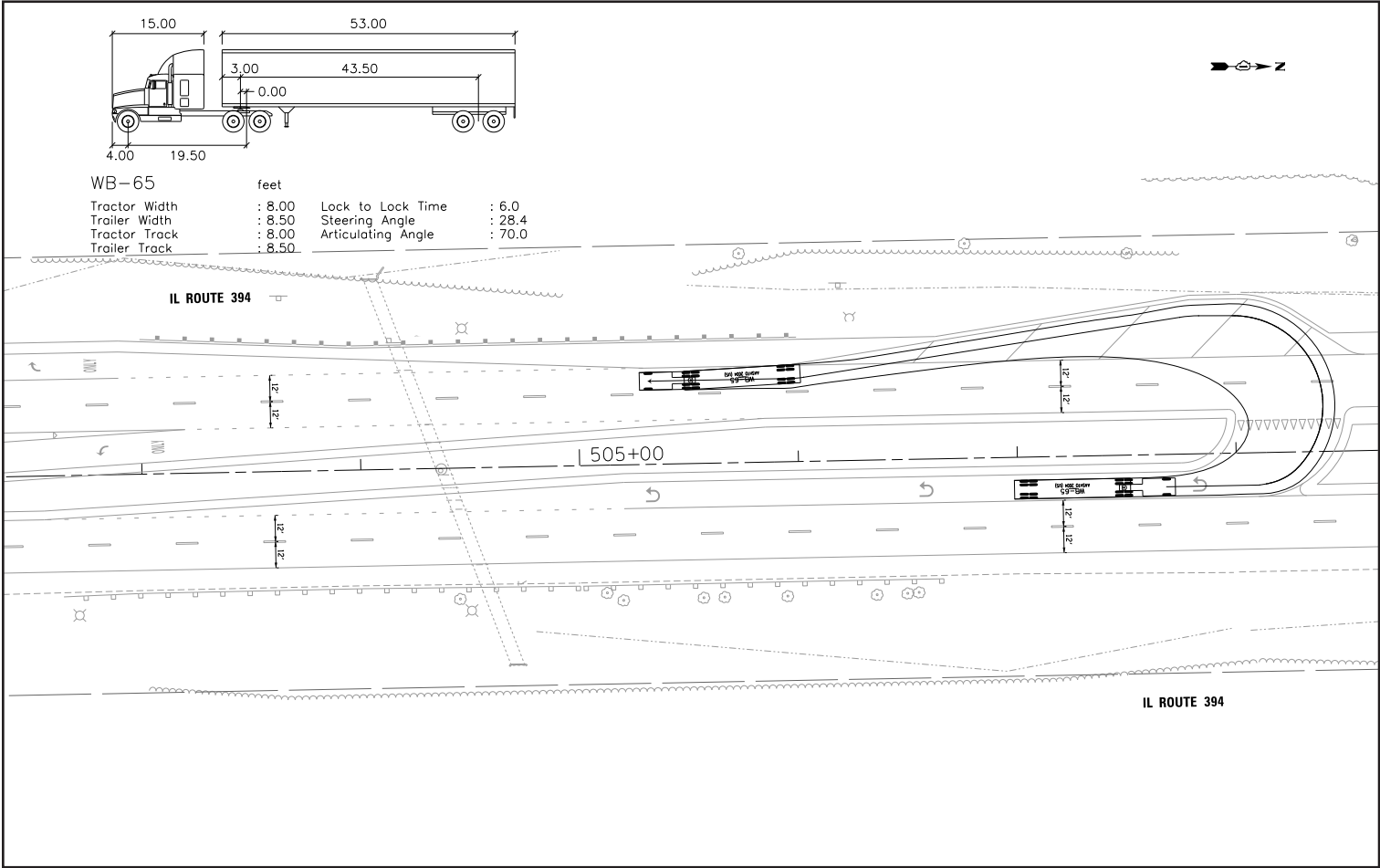
- Less delay
- Reduced congestion

## Value

- Smaller footprints
- Less land acquisition
- Decreased costs
- Quicker construction



# U-Turn Movements



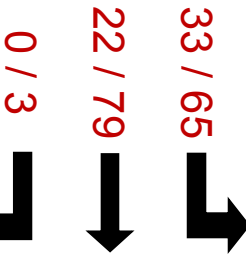
# Daily Volumes & Turning Movements



2016 traffic count

Burville Rd Eastbound

2600  
(AADT)



IL 394 Northbound

11100  
(AADT)

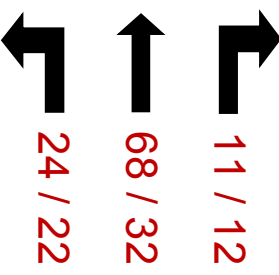


IL 394 Southbound

11400  
(AADT)



2900  
(AADT)

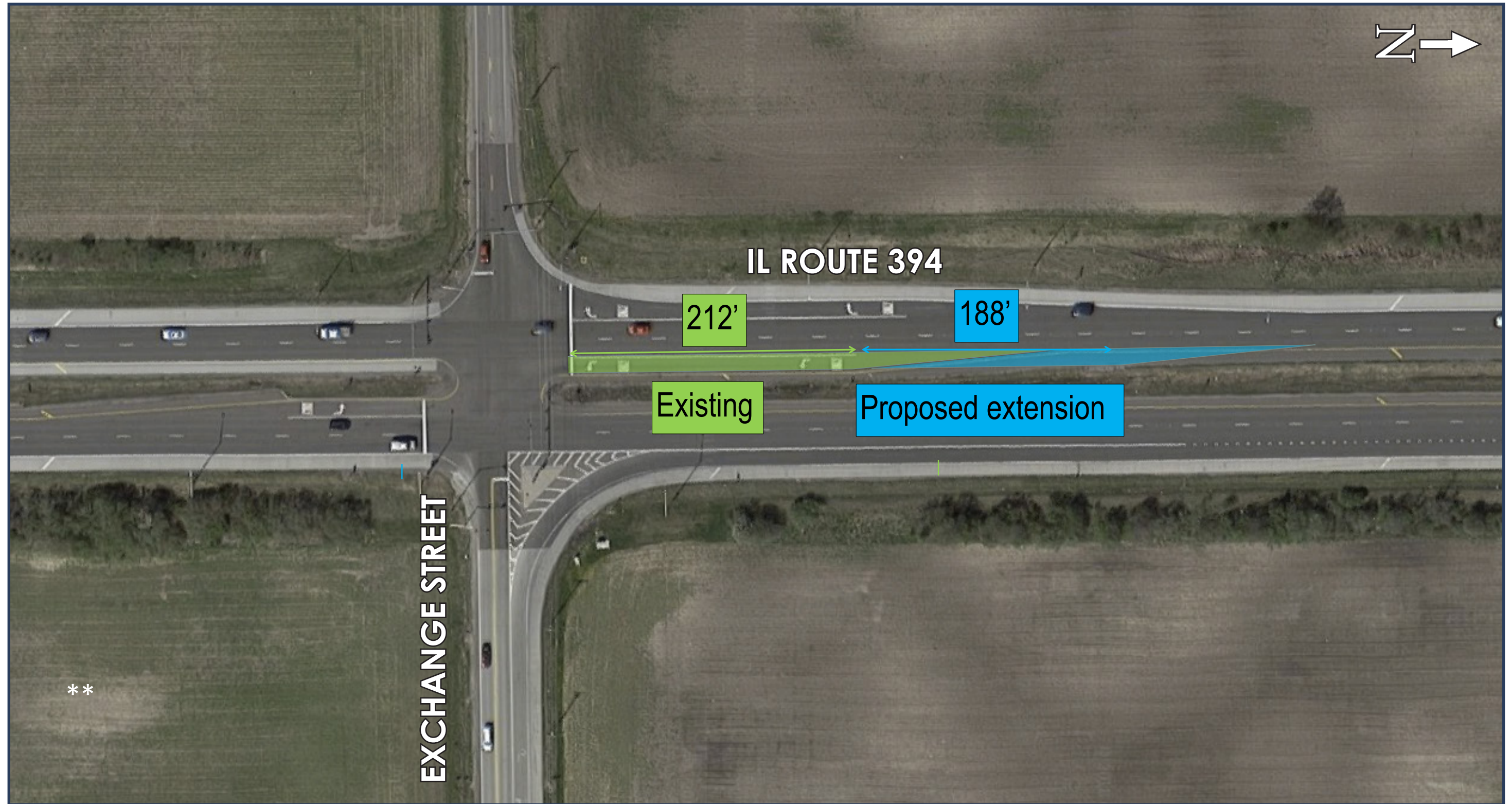


Burville Rd Westbound

BLUE = Annual Average Daily Traffic  
(vehicles per day)  
RED = AM peak hour volume / PM  
peak hour volume



# Exchange Street Intersection Improvement



# Daily Volumes & Turning Movements



2016 traffic count

Exchange St Eastbound

6050

(AADT)

3 / 17

56 / 218

59 / 109

IL 394 Northbound

11400

(AADT)

4 / 16

398 / 376

13 / 15

IL 394 Southbound

24900

(AADT)

81 / 171

329 / 681

140 / 530

11200

(AADT)

10 / 11

159 / 122

723 / 268

Exchange St Westbound

BLUE = Annual Average Daily Traffic (vehicles per day)  
RED = AM peak hour volume / PM peak hour volume



# Project Timeline

We are here

## Phase I

- Preferred Plan Identified
- Stakeholder Outreach
- Environmental Analysis
- Project Approval

## Phase II

- Contract Plans are prepared
- Land acquisition begins

## Phase III

- Construction Begins