

# Virtual Public Information Center

October 20, 2020 – 7:00 PM via WebEx

[www.JacksonRoundabout.com](http://www.JacksonRoundabout.com)



New Central Avenue (CR 31) and North Hope Chapel Road (CR 639)  
Jackson Township, Ocean County



**Michael Baker**  
INTERNATIONAL

## Introductions

## Project Overview

- Project Funding
- Project Location
- Project Purpose and Need

## Existing Conditions

- Traffic & Geometrics
- Crash History

## Proposed Improvements

- Summary of Proposed Improvements
- Benefits of Roundabouts – FHWA & SimTraffic video
- Proposed Roundabout Design
- Roundabout vs. Traffic Signal
- Right of Way & Property Impacts

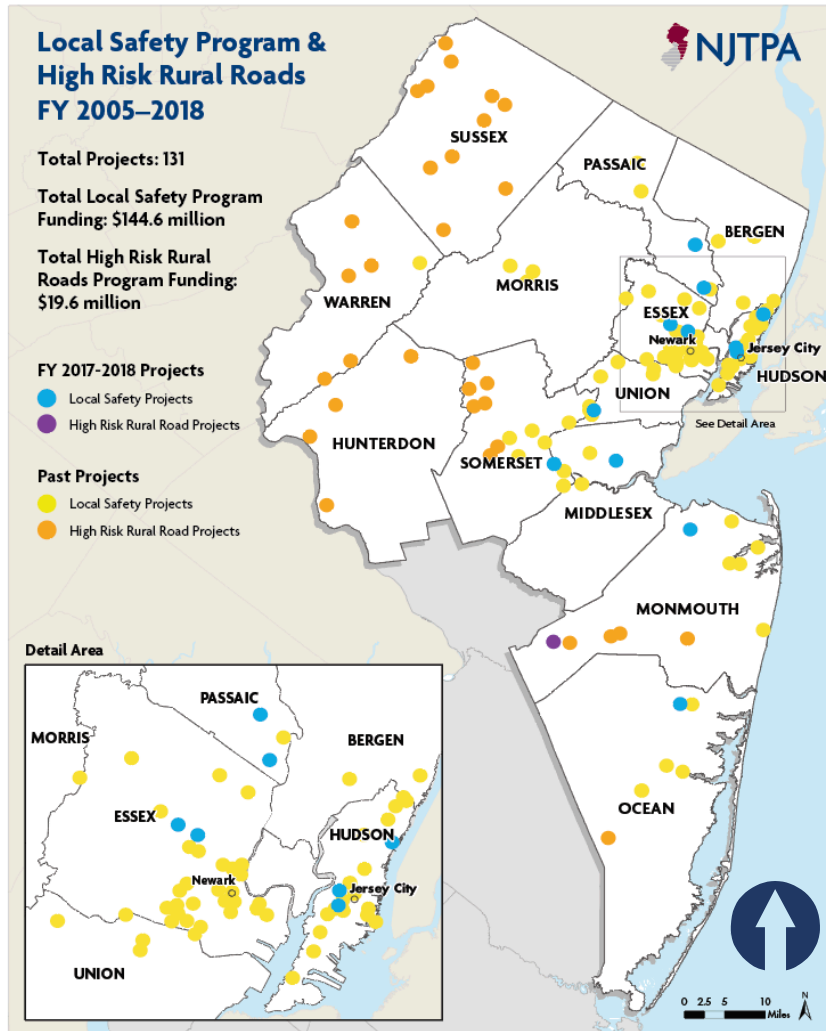
## Example Roundabouts in New Jersey

## Questions and Comments

[www.JacksonRoundabout.com](http://www.JacksonRoundabout.com)







## Project is Federally Funded

Highway Safety Improvement Program (HSIP) funds allocated through NJTPA's Local Safety Engineering Assistance Program (LSEAP)

## Project selected based on Network Screening

Intersections with significant crash history prioritized for funding

## Community Outreach

Public, local stakeholder, and officials are engaged to refine the design to best fit the needs of the community

## Funding administered through the

NORTH JERSEY TRANSPORTATION PLANNING AUTHORITY (NJTPA)

# Project Information

4

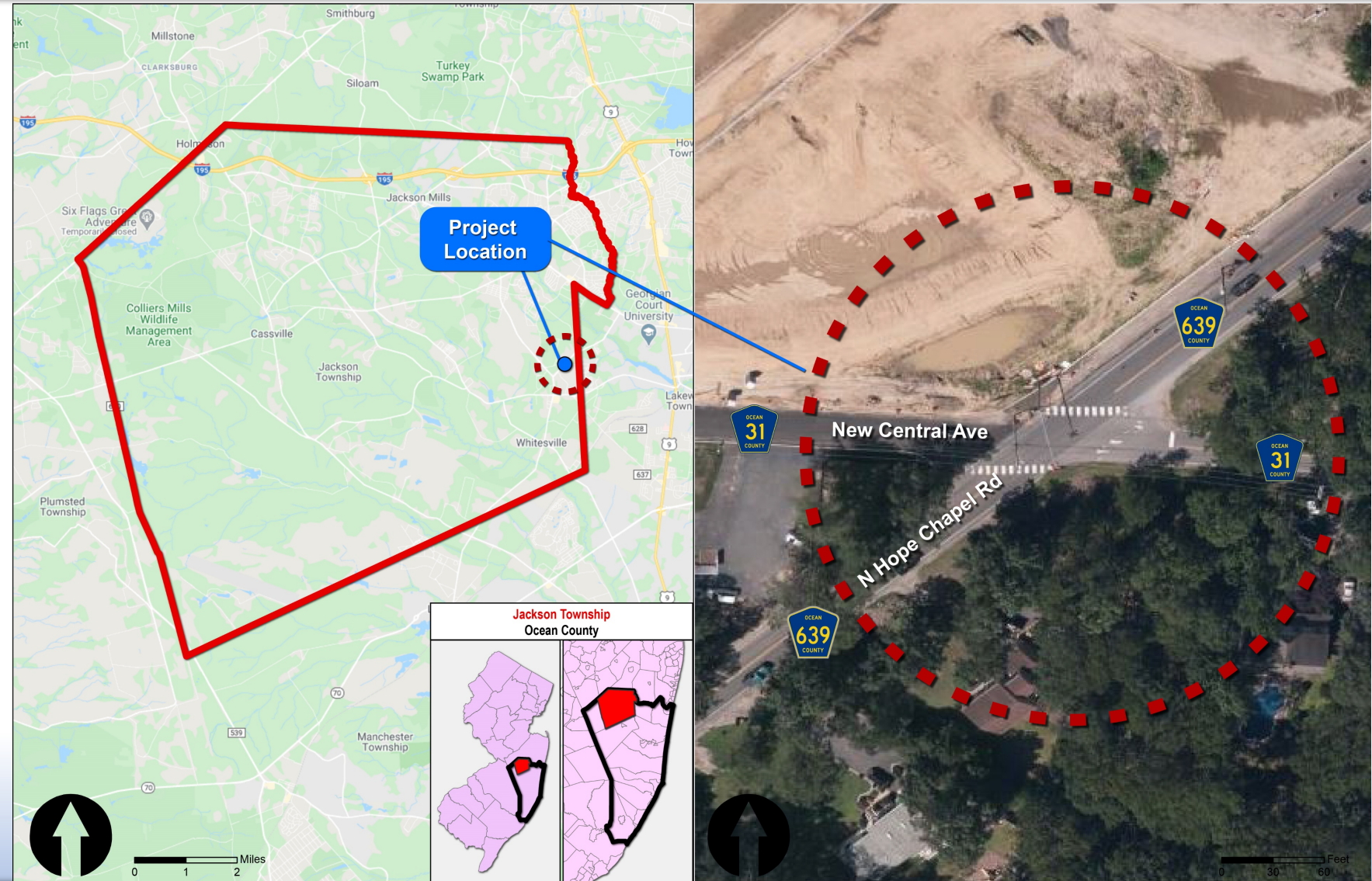
## Tentative Project Schedule

**Preliminary Engineering**  
**2020-2021**

**Final Design**  
**2022**

**Anticipated Construction**  
**Spring 2023**

**Anticipated Completion**  
**Winter 2023**



New Central Avenue (CR 31) and North Hope Chapel Road (CR 639)  
Jackson Township, Ocean County



**Michael Baker**  
INTERNATIONAL



## Project Purpose

To provide safety improvements to the existing two-way stop-controlled intersection of North Hope Chapel Road (CR 639) and New Central Avenue (CR 31).

## Project Need

From 2014 to 2018 the intersection experienced 80 crashes. Approximately 75% of crashes were Right Angle crashes, likely a result of the intersection's geometry and minor street stop control. Of the crashes that occurred, 20 resulted in injuries. The skewed nature of this intersection presents issues with poor sight distance and visibility, with vehicles on New Central Avenue frequently needing to pull beyond the stop line into the intersection to see traffic on North Hope Chapel Road.

# Existing Conditions

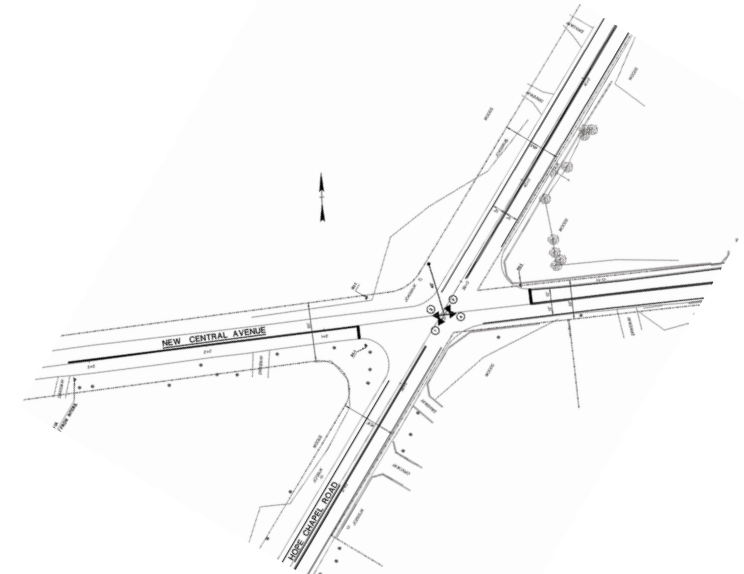
6

## Traffic Volumes (AM and PM Peak Hour)

- North Hope Chapel Road (NB): 413 (AM) and 418 (PM)
- North Hope Chapel Road (SB): 294 (AM) and 475 (PM)
- New Central Avenue (EB): 76 (AM) and 40 (PM)
- New Central Avenue (WB): 132 (AM) and 153 (PM)

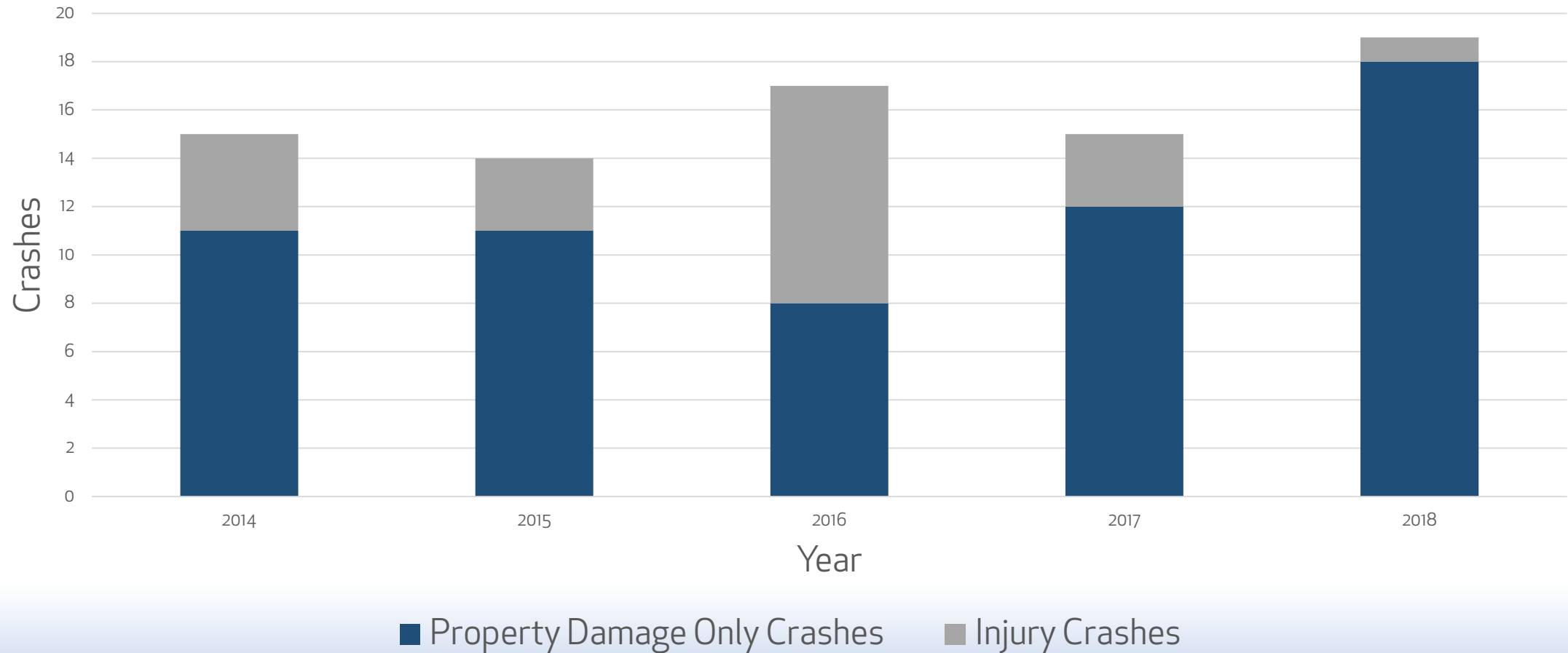
## Geometrics

- Stop Controlled on New Central Ave. (minor street)
- Yellow flashing beacon for North Hope Chapel Road
- Red flashing beacon for New Central Avenue
- Frequent speeding occurs on North Hope Chapel Road
- Skewed Approaches with inadequate sight distance on minor street approaches



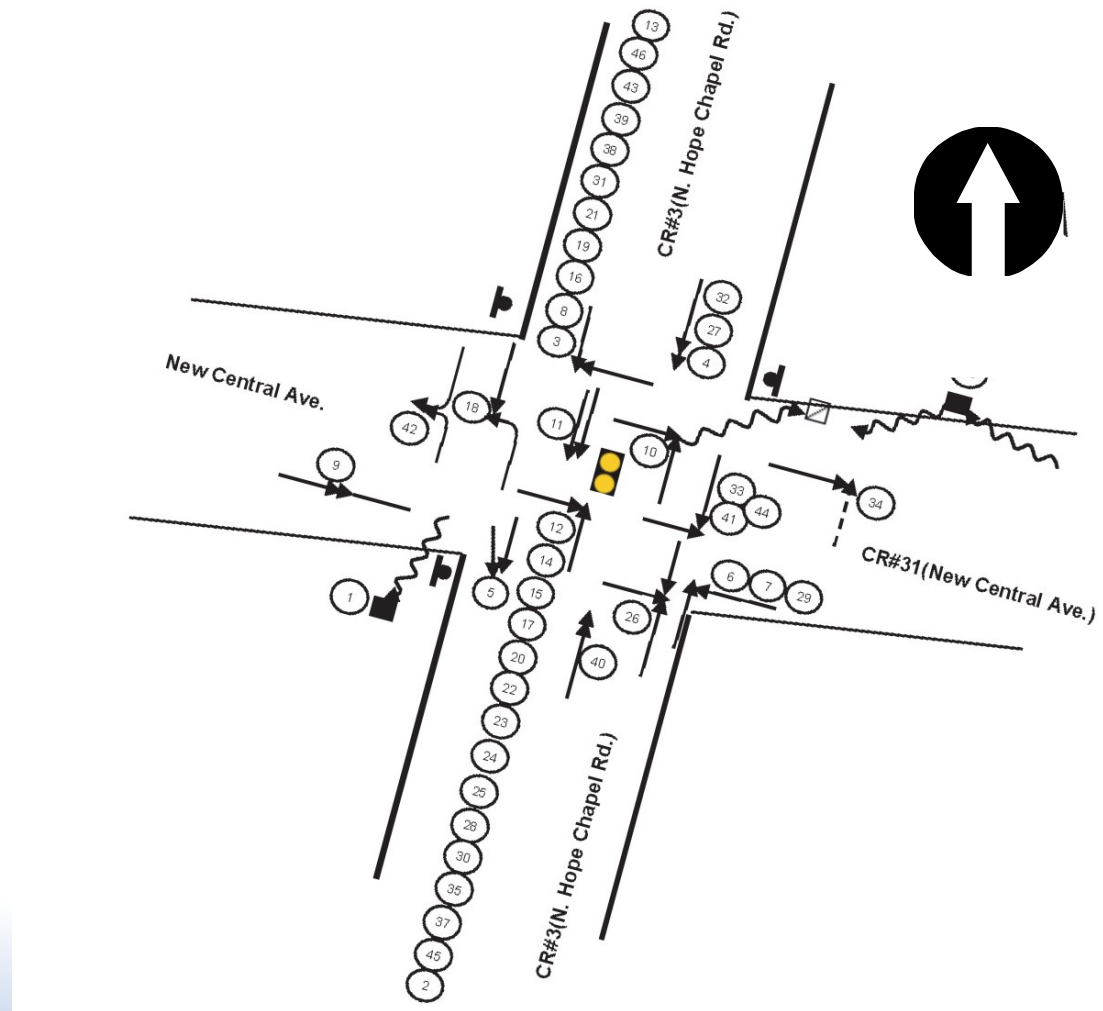


## Crashes Per Year



# Crash History (2013 – 2016)

8



New Central Avenue (CR 31) and North Hope Chapel Road (CR 639)  
Jackson Township, Ocean County





# Proposed Improvements

9

- Construct modern roundabout
- Improve intersection lighting
- High-visibility crosswalks on all approaches
- Associated signage and striping improvements
- Drainage improvements

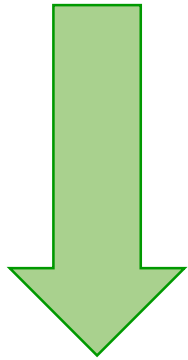


# Proposed Improvements – Modern Roundabouts

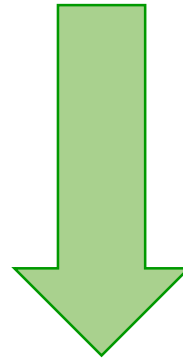
10

Modern Roundabouts are an FHWA Proven Safety Countermeasure

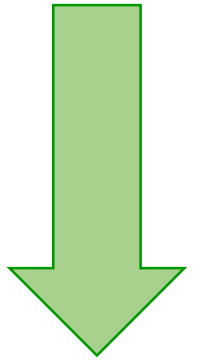
Compared to two-way stop controlled intersections, roundabouts:



***Reduce ALL  
crashes by 78.2%***



***Reduce INJURY  
crashes by 77.6%***



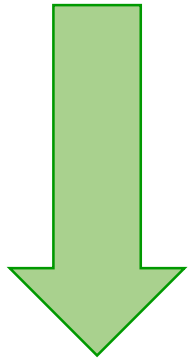


# Proposed Improvements – Modern Roundabouts

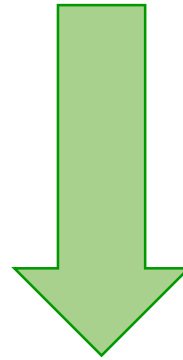
11

Modern Roundabouts are an FHWA Proven Safety Countermeasure

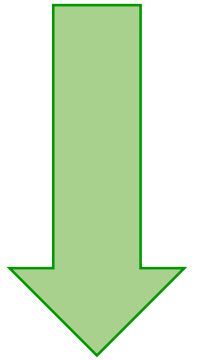
Compared to signalized intersections, roundabouts:



***Reduce ALL  
crashes by 47.8%***



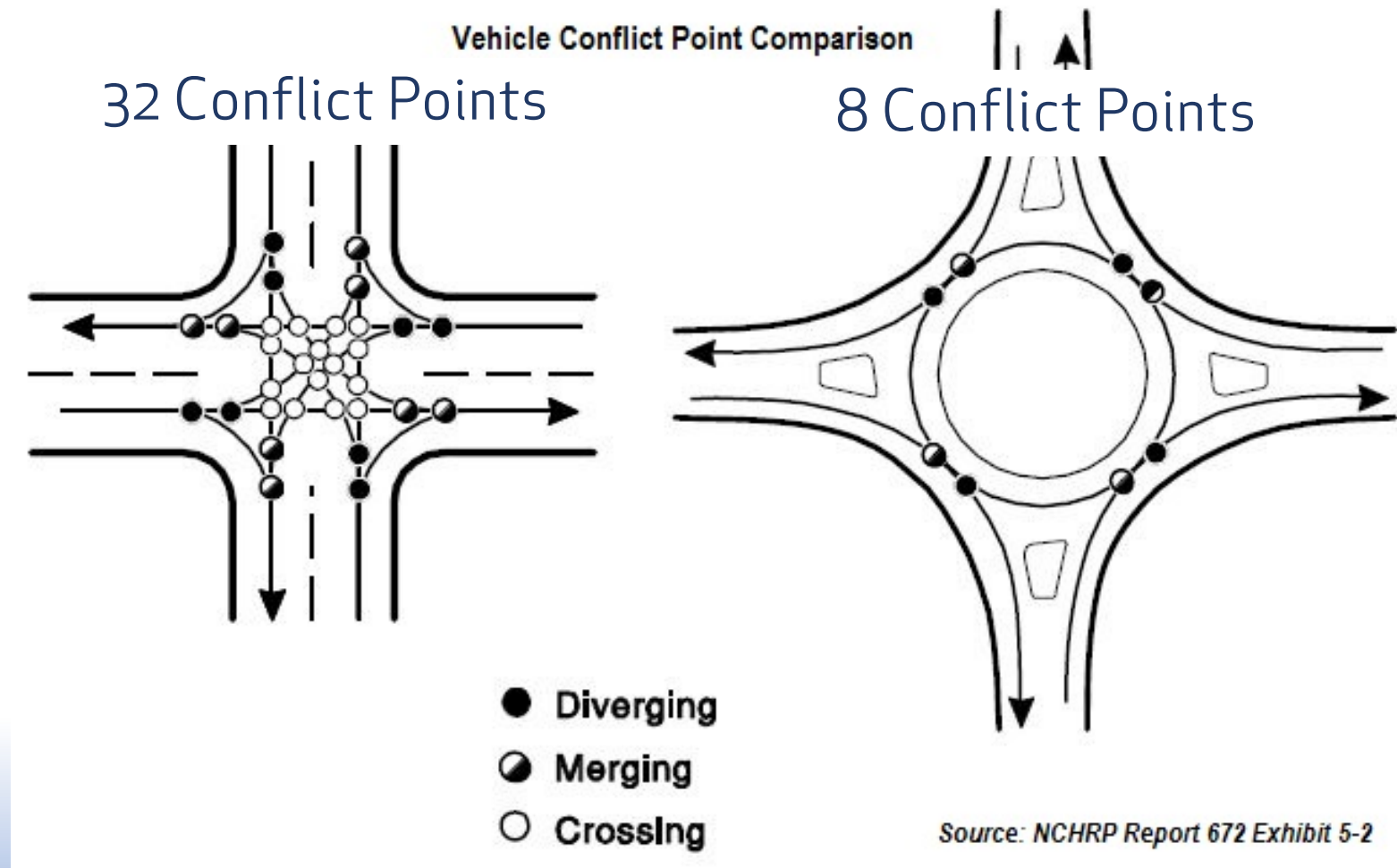
***Reduce INJURY  
crashes by 77.7%***



# Proposed Improvements – Modern Roundabouts

12

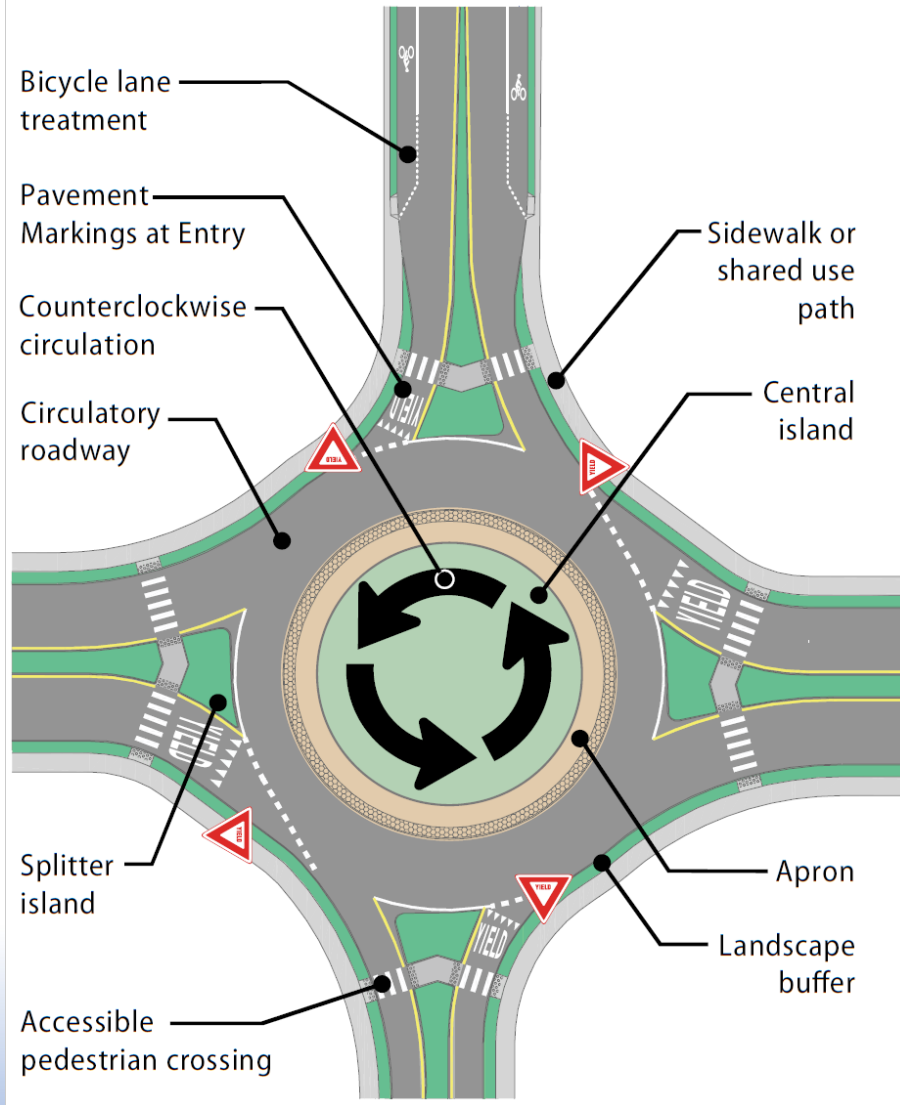
Roundabouts improve safety by reducing conflict points





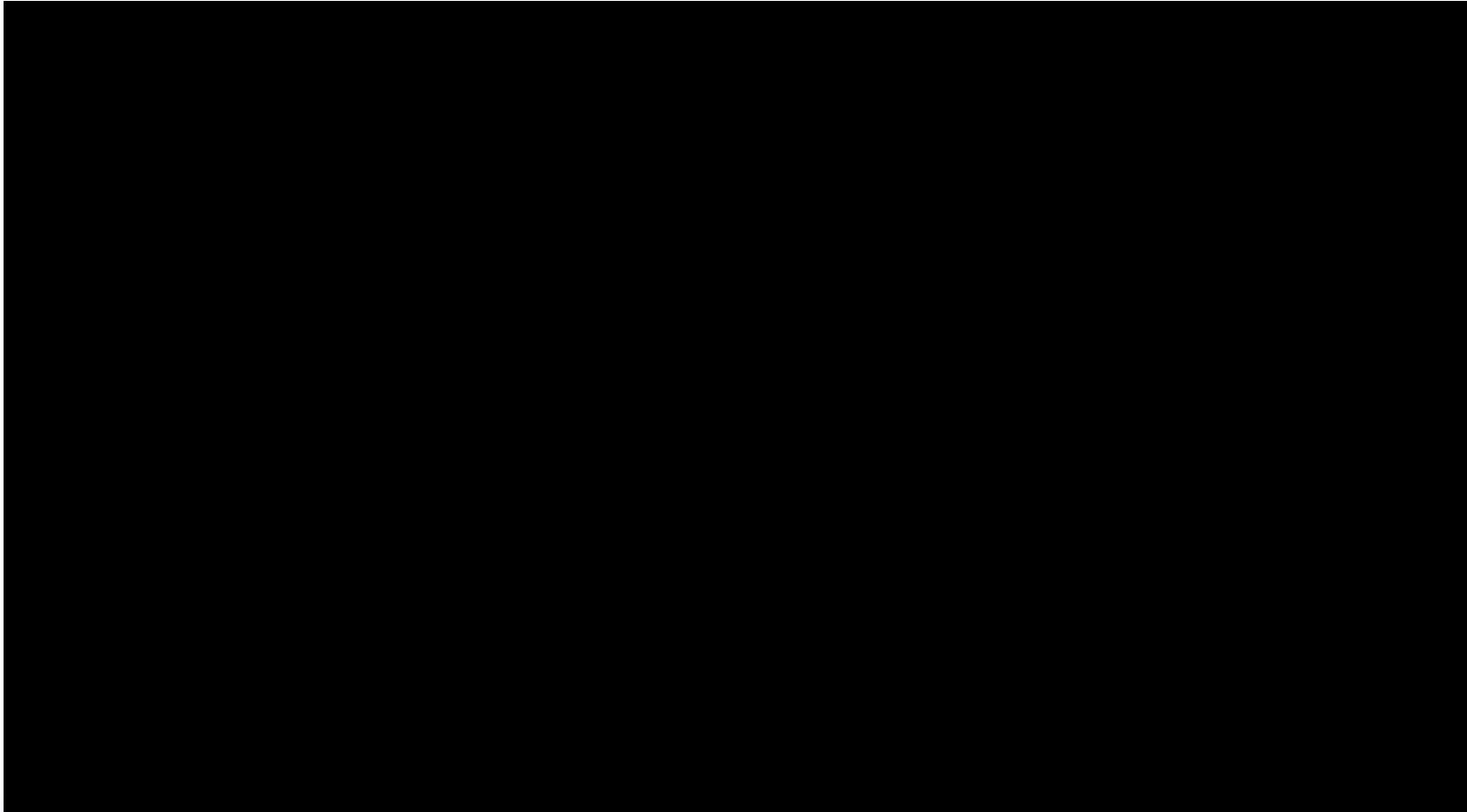
## Design Principles

- Yield on entry
- Deflection of entering vehicles
- Splitter islands on approaches
- Central island with truck aprons
- Mountable truck aprons at corners
- Signing and pavement markings
- No Parking or Driveways
- Crosswalks set back from intersection
- Sidewalks surrounding circulatory roadway
- Landscaping



# Proposed Improvements – Modern Roundabout

14



<https://vimeo.com/438893570/e6edc38cf4>

New Central Avenue (CR 31) and North Hope Chapel Road (CR 639)  
Jackson Township, Ocean County



**Michael Baker**  
INTERNATIONAL

# Proposed Roundabout Conceptual Layout

15



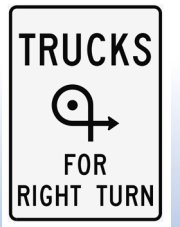
*Conceptual Design for Discussion Purposes*

## Geometric Values

- Diameter = 122' (curb to curb)
- Splitter island lengths:
  - 150' on North Hope Chapel Rd.
  - 75'-90' on New Central Ave.
- Circulatory roadway lane width = 16.5'
- Roadway lane widths = 11' on all approaches

## Design Parameters

- Design Vehicle: School bus
- Secondary Design Vehicle: Aerial Fire Truck
- Tertiary Design Vehicle: WB-50 (Semi-trailer)
  - right turning from New Central Ave. will require traversing the roundabout (see proposed TRUCKS sign)
- Speed Limits:
  - 45 mph on North Hope Chapel Rd.
  - 30 mph on New Central Avenue



New Central Avenue (CR 31) and North Hope Chapel Road (CR 639)  
Jackson Township, Ocean County



**Michael Baker**  
INTERNATIONAL



# Proposed Roundabout – Traffic Analysis

16

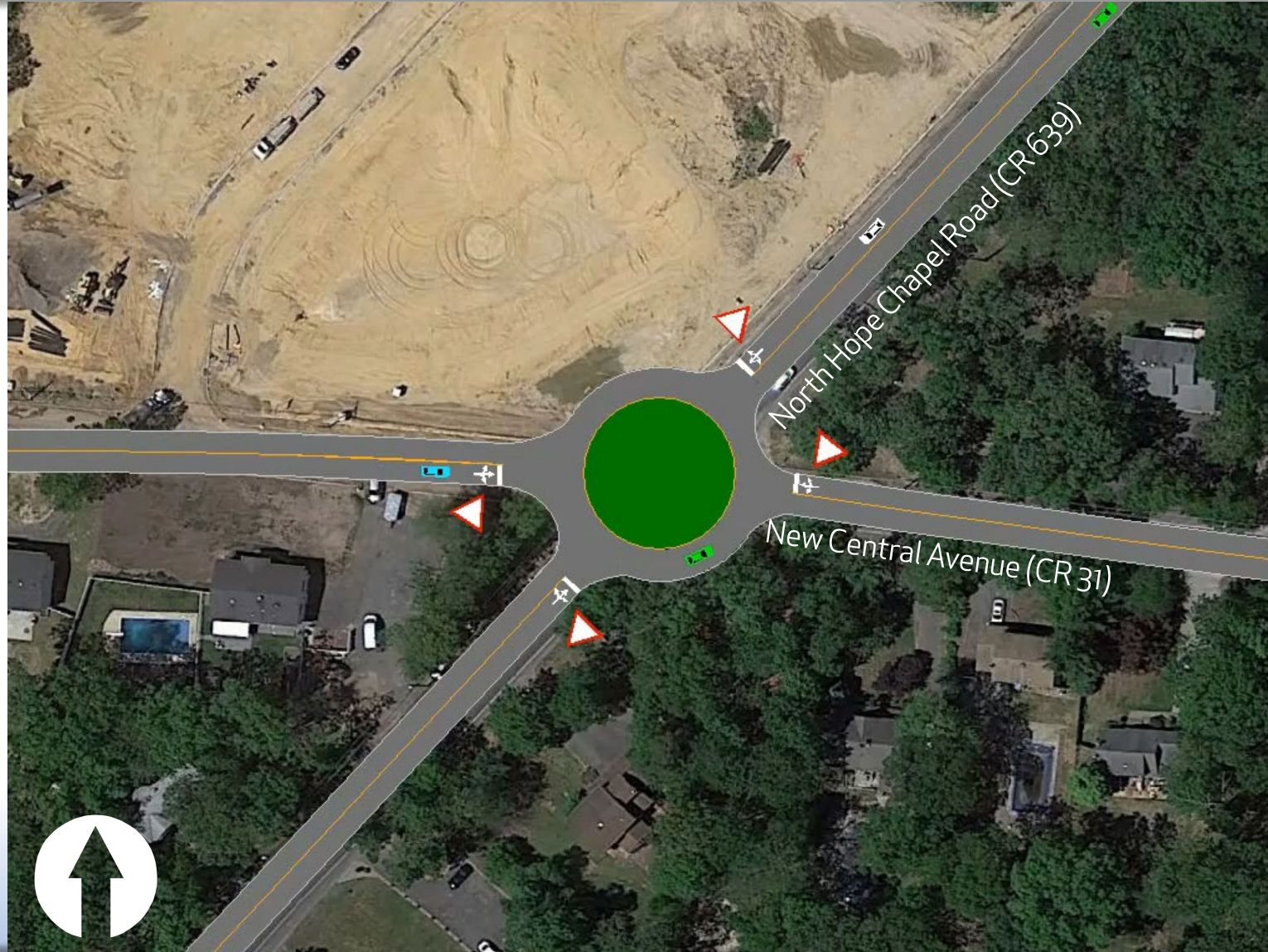
The proposed roundabout has the lowest average delay of the alternatives reviewed.

Intersection Configuration	Existing Year (2020) AM Level of Service & Delay (s)	Existing Year (2020) PM Level of Service & Delay (s)
Existing Configuration	A (9.8)	A (7.7)
Signalized Configuration	B (10.9)	B (10.4)
Proposed Roundabout	A (7.2)	A (6.9)

Intersection Configuration	Design Year (2045) AM Level of Service & Delay (s)	Design Year (2045) PM Level of Service & Delay (s)
Existing Configuration	F (104.4)	F (78.2)
Signalized Configuration	B (19.7)	B (15.7)
Proposed Roundabout	B (10.2)	A (9.8)

# Proposed Roundabout Conceptual Layout (Video)

17



New Central Avenue (CR 31) and North Hope Chapel Road (CR 639)  
Jackson Township, Ocean County

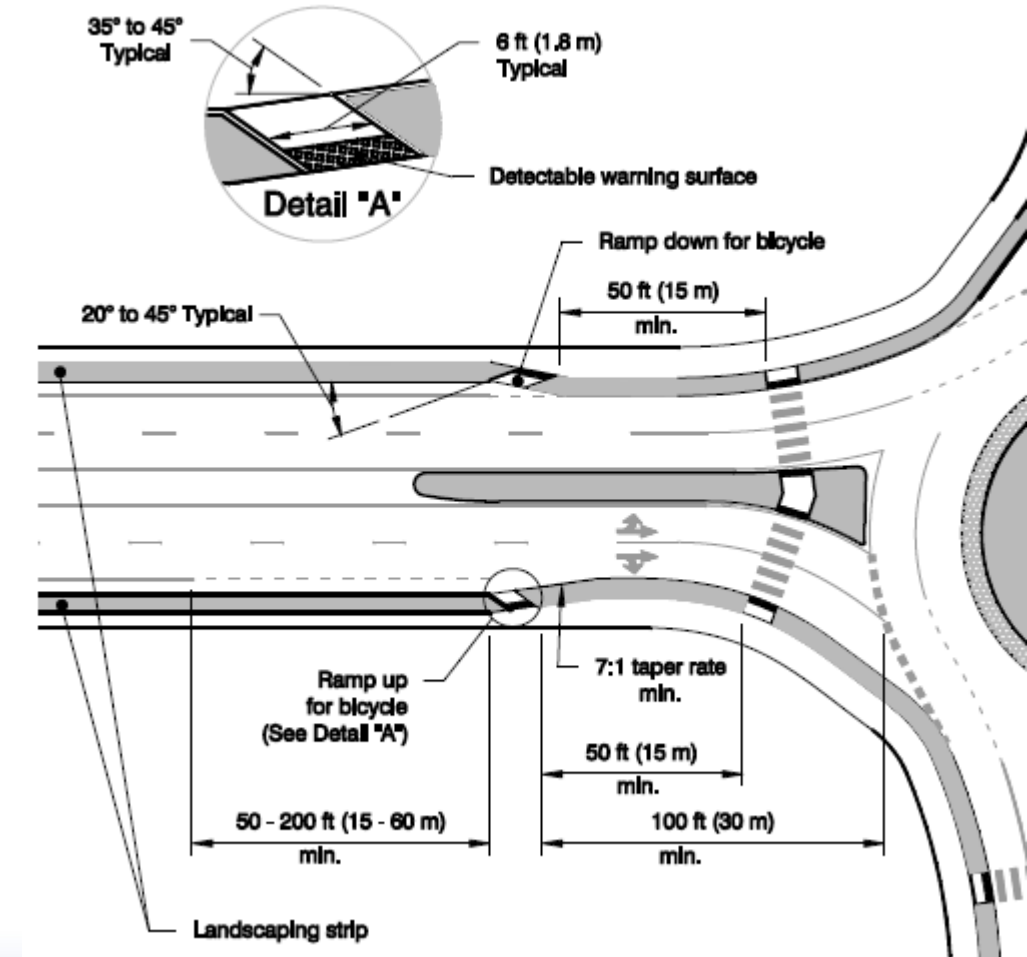


**Michael Baker**  
INTERNATIONAL

# Proposed Roundabout – Pedestrian & Bicycle Facilities 18

## Potential Improvements to Accommodate Bike-Ped

- Pedestrian facilities to be Americans with Disabilities Act (ADA) compliant
- 5' Sidewalks with 2' Buffer surrounding the circulatory roadway
- 10' wide ladder-style high-visibility crosswalks
- Pedestrian-scale lighting at crosswalks
- Cyclists to dismount and cross at crosswalks
- Under consideration:
  - Rectangular Rapid Flashing Beacons (RRFBs) at crosswalks
  - Bicycle ramps\*



\*Bicycle ramp treatment

Source: NCHRP Report 672



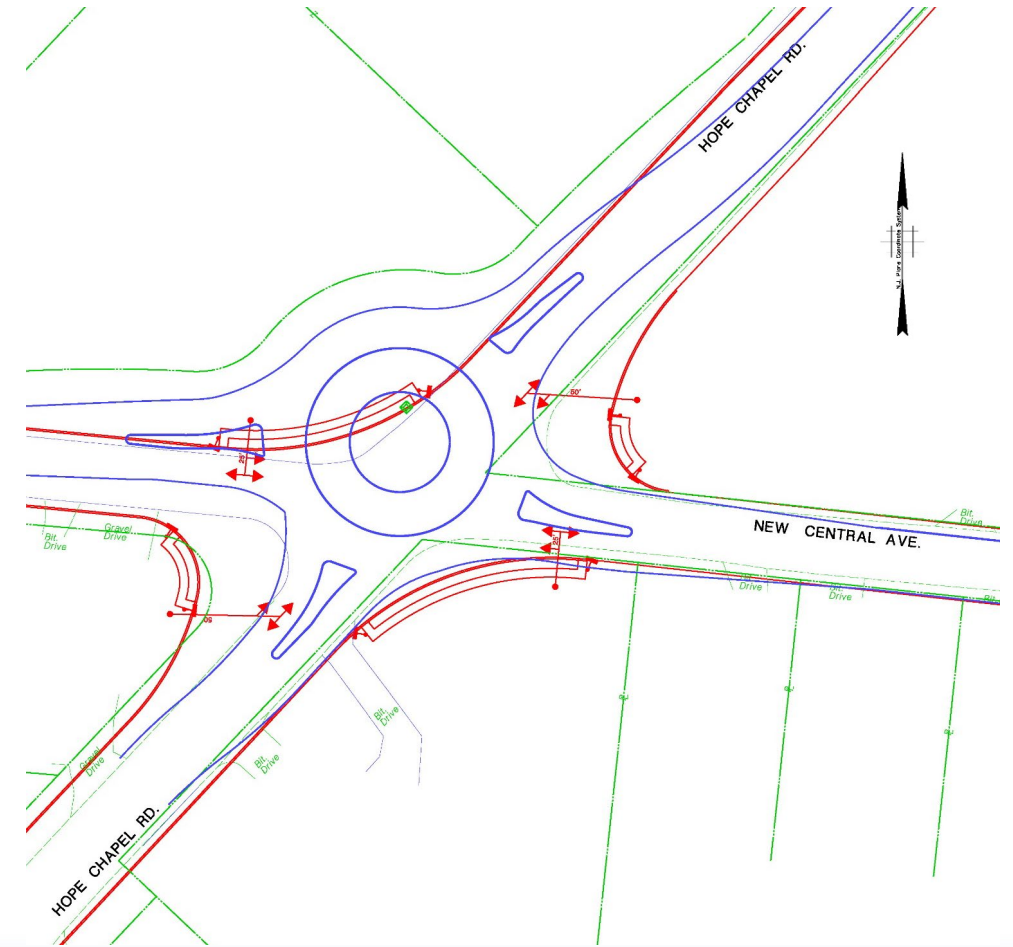
# Proposed Roundabout vs. Traffic Signal

19

## Traffic Signal Impacts and Disadvantages

- Reduced safety compared to proposed roundabout
  - 135 more crashes over design life (2023-2045)
  - 26 more fatal and injury crashes over design life
  - \$5,180,000<sup>1</sup> societal cost of additional crashes
- Larger Right of Way (ROW) impacts than roundabout
  - Left turn lanes required on all approaches for signal
- Increased delay and congestion compared to roundabout

1. 2020 Dollars



## Comparison of Right of Way Impacts: Traffic Signal vs Roundabout

Source: Ocean County Engineering

- Primary law for right-of-way related acquisition and relocation activities on Federal-aid projects.
- Establishes right-of-way requirements that provide benefits, protection, and payment of just compensation.
- Applies any time an agency seeks to acquire real property to make way for the construction of a federal project including easements (both permanent and temporary).

# Proposed Roundabout – Potential ROW Impacts

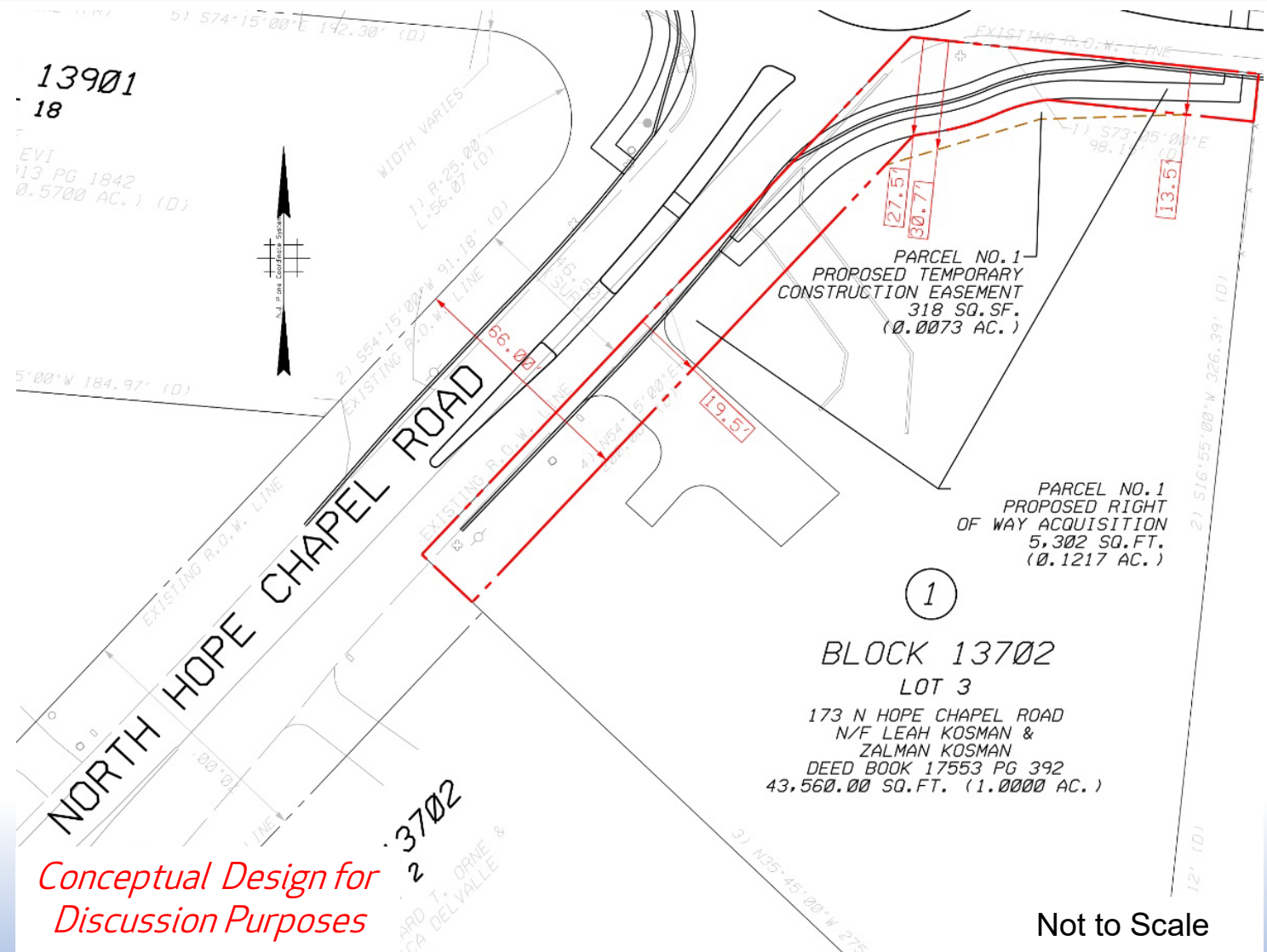
21

## Block 13702/Lot 3:

- ROW needs to be acquired
- Temporary construction easement
- Driveway modifications proposed
- “Do Not Block Driveway” signage proposed

## Note:

- Potential impacts are based on conceptual layout/design of the proposed roundabout and will be further investigated throughout the design phase.





# Proposed Roundabout – Potential ROW Impacts

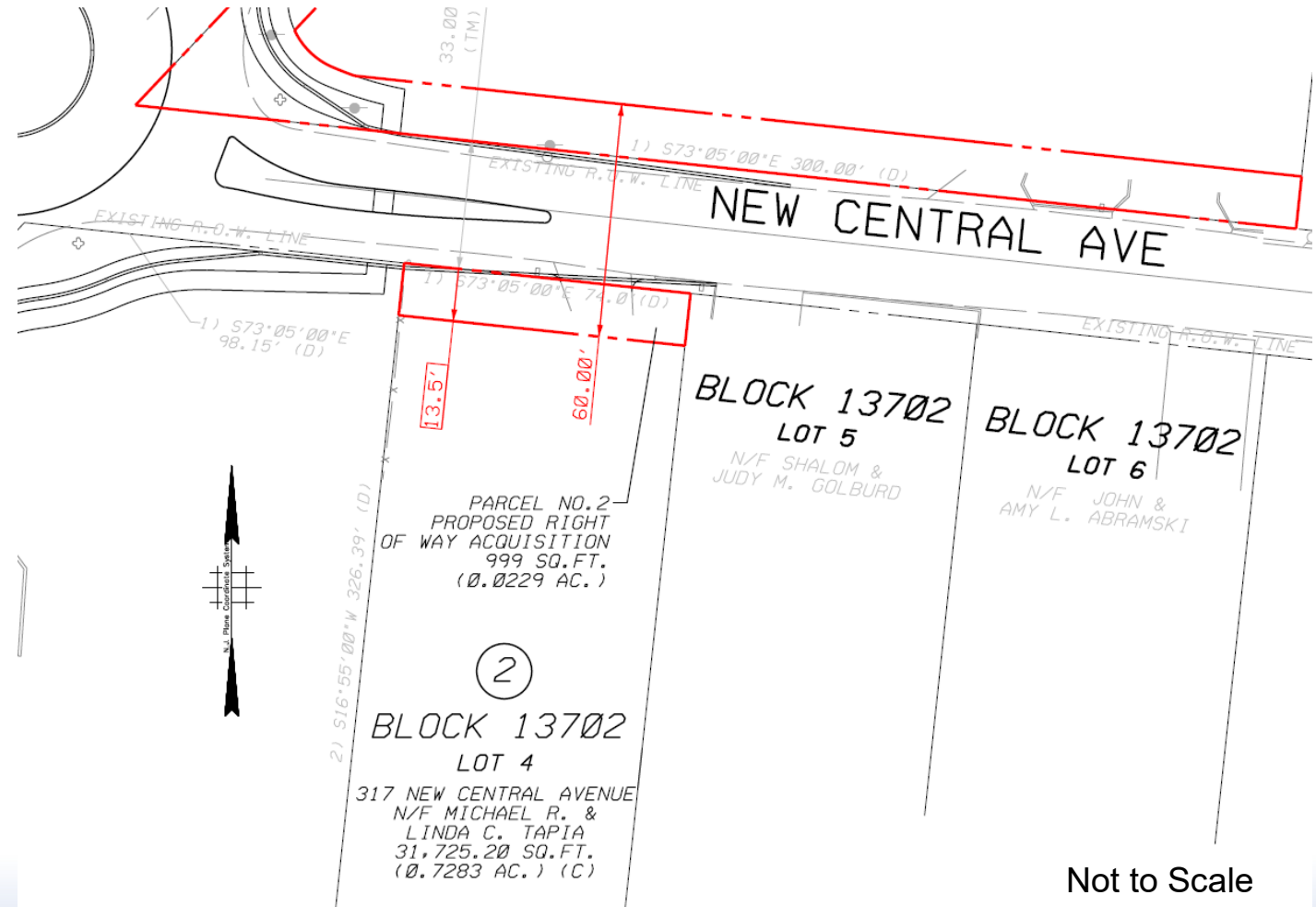
22

Block 13702/Lot 4:

- ROW needs to be acquired
- Temporary construction easement

## Note:

- Potential impacts are based on conceptual layout/design of the proposed roundabout and will be further investigated throughout the design phase.



# Proposed Roundabout – Potential ROW Impacts

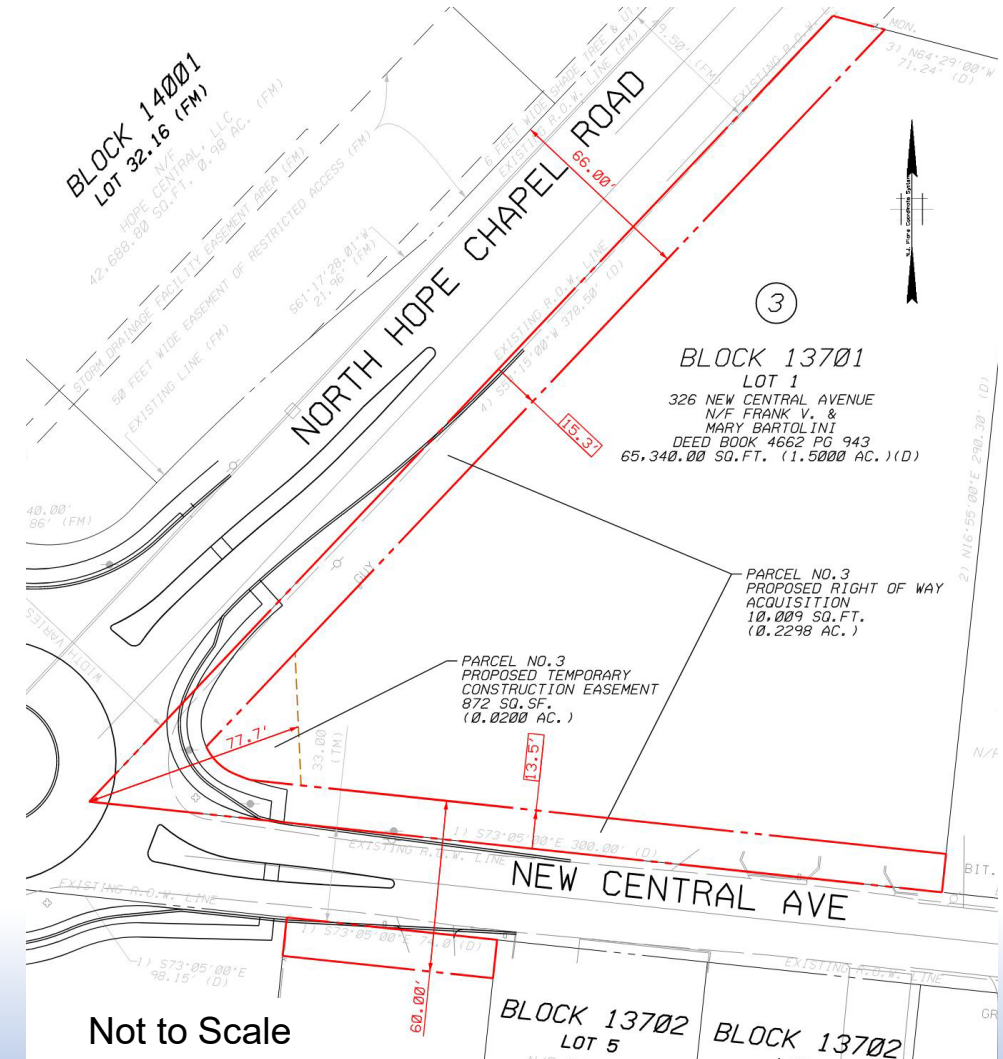
23

Block 13701/Lot 1:

- ROW needs to be acquired
- Temporary construction easement
- Aerial utility easement

## Note:

- Potential impacts are based on conceptual layout/design of the proposed roundabout and will be further investigated throughout the design phase.





# Modern Roundabout – Examples

24



Previous Condition:  
Skewed, 4-leg, amber flasher controlled

Burlington County  
Chesterfield Township  
Bordentown Chesterfield Road  
and Old York Road

*Completed 2014*





# Modern Roundabout – Examples

25



Previous Condition:  
Skewed, 4-leg, amber flasher controlled

Burlington County  
Chesterfield Township & Bordentown  
Bordentown Georgetown Road  
and Old York Road

*Completed 2014*





# Modern Roundabout – Examples

26

Previous Condition:  
Skewed, 4-leg, stop controlled

Monmouth County  
Colts Neck Township

Crine Road, Dutch Lane Road  
and Heulitt Road

*Completed 2016*



New Central Avenue (CR 31) and North Hope Chapel Road (CR 639)  
Jackson Township, Ocean County



**Michael Baker**  
INTERNATIONAL

Milestone	Date
<i>Local Officials Briefing</i>	<i>July 16, 2020</i>
Virtual Public Information Center (PIC)	October 20, 2020
Complete Preliminary Engineering (60%)	January 2021
NJDOT to Approve Environmental Document	January 2022
Commence Right of Way Acquisition	March 2022
Begin Final Design	July 2022
Complete Final Design and Submit to NJDOT for Review	December 2022
Construction Authorization	Spring 2023
Begin Construction	Spring/Summer 2023
Construction Substantially Completed	Winter 2024

Note: All dates are tentative and subject to change.





# Comments & Questions

To download the Comment Form visit:

[www.JacksonRoundabout.com](http://www.JacksonRoundabout.com)

Submit comments by Wednesday, November 4, 2020 to:

John N. Ernst  
Ocean County Department of Engineering  
129 Hooper Avenue CN 2191  
Toms River, NJ 08754  
[JErnst@co.ocean.nj.us](mailto:JErnst@co.ocean.nj.us)

**Local Safety Program**  
**Local Safety Engineering Assistance Program**

---

New Central Avenue (CR 31) and North Hope Chapel Road (CR 639) Roundabout  
Township of Jackson, Ocean County

---

**Public Comments & Suggestions**

Please use the space below to provide comments or suggestions (please print legibly):

**Name:** \_\_\_\_\_

**Mailing Address:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Comments/Suggestions:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





\_\_\_\_\_

\_\_\_\_\_

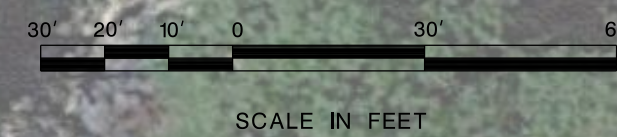
\_\_\_\_\_

Kindly submit the comments by Wednesday, November 4, 2020 to:

John N. Ernst  
Ocean County Department of Engineering  
129 Hooper Avenue CN 2191  
Toms River, NJ 08754  
[JErnst@co.ocean.nj.us](mailto:JErnst@co.ocean.nj.us)





DRAFT  
FOR DISCUSSION  
PURPOSES