



N. Greensboro Street (S.R. 1772) & Estes Drive (S.R. 1780) Intersection Improvements

WELCOME TO THE PUBLIC MEETING

FOR THE GREENSBORO / ESTES INTERSECTION IMPROVEMENTS PROJECT

November 14, 2016
4:00 PM – 7:00 PM



N. Greensboro Street (S.R. 1772) & Estes Drive (S.R. 1780) Intersection Improvements

PUBLIC MEETING SIGN-IN

- ✓ Sign - in
- ✓ Pickup Handouts
- ✓ Review Meeting Stations
- ✓ Ask Questions
- ✓ Complete Comment Form



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WHY IS THE PROJECT NEEDED?

- ✓ Improve Traffic Operations
 - Reduce Backups
 - Reduce Delays
 - Handle Traffic Growth
- ✓ Maintain Safety
 - High Volumes of Pedestrians & Bicycles



Frances Lloyd Shetley Bikeway at Project Intersection



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PROJECT STUDY PROCESS & SCHEDULE



** Notification of Study Completion and Availability of Preliminary Designs will be sent to all who received Workshop Notification Postcard, submitted comments or attended the workshop.*



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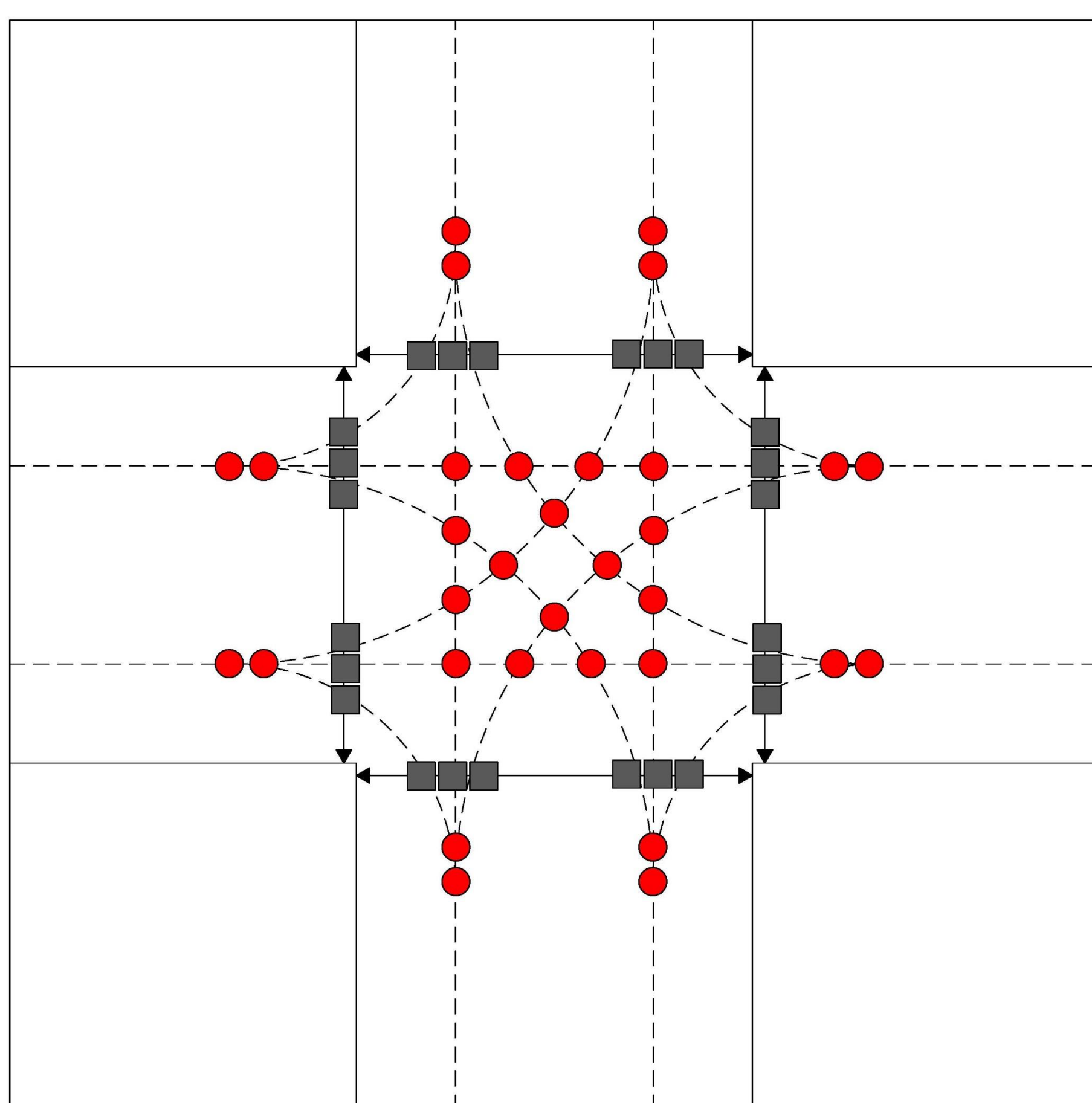
PROPOSED DESIGN CONCEPT: Single-Lane Roundabout

- ❖ Grassed raised center
- ❖ Berm for Future Estes Dr. Sidewalk
- ❖ New Multi-Use Path will connect to Frances Lloyd Shetley Bikeway and N. Greensboro St Sidewalk
- ❖ Allows trucks with trailers (up to 62-feet long)
- ❖ Trucks with longer trailers (67-feet) can fit except for right turns from N. Greensboro onto Estes

Why are Roundabouts Safer?

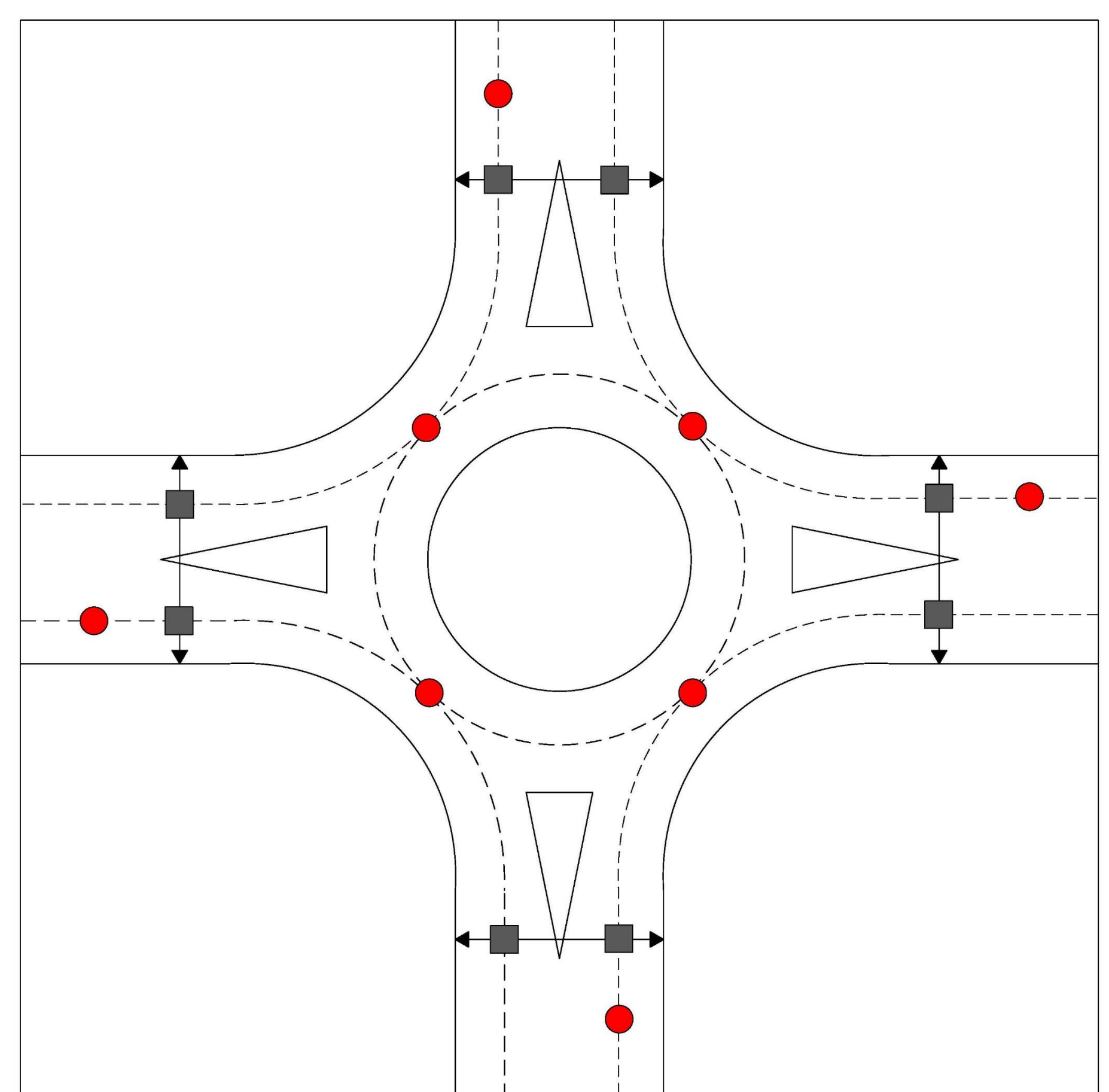
- ❖ Slower Speeds
- ❖ Fewer Conflict Points

Intersection



● 32 Vehicle Conflicts
■ 24 Pedestrian Conflicts

Roundabout



● 8 Vehicle Conflicts
■ 8 Pedestrian Conflicts



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Existing & Future Traffic Volumes*

| Facility | Current Volume (2016 AADT) | Future Volume (2040 AADT) | Functional Class | Cross-Section | Speed Limit | Existing Sidewalk | Existing Designated Bike Lanes |
|--------------------------------------|----------------------------|---------------------------|------------------|------------------|-------------|-------------------|--------------------------------|
| Greensboro St (East of Estes Dr) | 11,000 | 13,000 | Minor Arterial | 2-Lane Undivided | 30 | Yes | Both Sides |
| Greensboro St (West of Estes Dr) | 8,000 | 9,500 | Minor Arterial | 2-Lane Undivided | 30 | Yes | Both Sides |
| Estes Drive (North of Greensboro St) | 10,800 | 13,300 | Minor Arterial | 2-Lane Undivided | 35 | No | None; Future Planned |

AADT = Annual Average Daily Traffic



Crash Analysis* Findings





- Six crashes between 2012-2016:
 - 3 rear end; 1 angle; 1 sideswipe; 1 rt turn diff. road
- No significant crash pattern was observed
- Intersection did not meet the ranking criteria to qualify for safety mitigation

* SEPI, “Final Capacity Analysis Technical Memorandum, NCDOT STIP U-5846 Intersection Improvement at Greensboro St and Estes Dr, Orange County”, Oct 2016.



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TRAFFIC ANALYSIS - Findings*

| | 2016 No Build (Signal)  | 2016 Build (Roundabout)  | 2040 No Build (Signal)  | 2040 Build (Roundabout)  |
|----------------------------------|--|---|--|---|
| Level of Service (AM/PM) | B/B | B/B | C/C | C/C |
| Approach Delay (Seconds/Vehicle) | | | | |
| Morning (AM) | 12.7 | 13.3 | 32.7 | 21.2 |
| Evening (PM) | 12.9 | 13.6 | 33.5 | 22.9 |

Conclusions*

- In 2016, Roundabout Provides Similar Operations as Traffic Signal
- By 2040, Roundabout Performs Better than Traffic Signal:
 - 30% lower intersection delay
 - Better queue results
 - Maintain lower approach speeds
 - Better at protecting high volumes of pedestrian and bicycle traffic

* SEPI, “Final Capacity Analysis Technical Memorandum, NCDOT STIP U-5846 Intersection Improvement at Greensboro St and Estes Dr, Orange County”, Oct 2016.

Intersection
Level of Service (LOS)
Descriptions

| LOS | Description | Control Delay per vehicle (sec) | |
|-----|-------------------------|---------------------------------|------------|
| | | Roundabout | Signalized |
| A | Little or no delay | 0-10 | 0-10 |
| B | Short traffic delay | 10-15 | 10-20 |
| C | Average traffic delay | 15-25 | 20-35 |
| D | Long traffic delay | 25-35 | 35-55 |
| E | Very long traffic delay | 35-50 | 55-80 |
| F | Unacceptable delay | >50 | >80 |

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Carrboro, Orange County, STIP Project U-5846

Town Hall Board Room, 301 W. Main St., Carrboro, NC 27510

November 14, 2016; 4pm – 7pm



☐ PLEASE CHECK HERE IF YOU WISH TO BE ADDED TO THE PROJECT MAILING LIST

PLEASE PRINT:

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE NUMBER: _____

E-MAIL: _____

Your Comments are important to us! Please return by December 6th, 2016

1. How did you hear about this meeting? (Please Circle One)

Postcard Newspaper TV/Radio Friend/Relative Other? _____

2. Are you a member of a civic or business group such as a homeowners association, nonprofit group, etc.? If so, what is its name and phone? _____

3. Do you live on a property that will be directly affected by the project? ☐ Yes ☐ No

4. If yes, do you ☐ own or ☐ rent the property?

5. What are the major issues within the study area that you think are important to include in the upcoming studies? Please circle all that apply: aesthetics, natural resources, historic or cultural sites, pedestrian/bicycle safety, vehicular safety, maintenance of traffic during construction. Please detail your concerns:

6. Are there times of year when traffic in the study area is substantially greater than normal, due to an event or other reason? If so, can you please describe? _____

7. ADDITIONAL COMMENTS? _____

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Carrboro, Orange County, STIP Project U-5846



For additional information about the project, please contact:

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(Fold Here to Mail)

Please
Place
Stamp
Here

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