



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



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

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



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

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.*



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

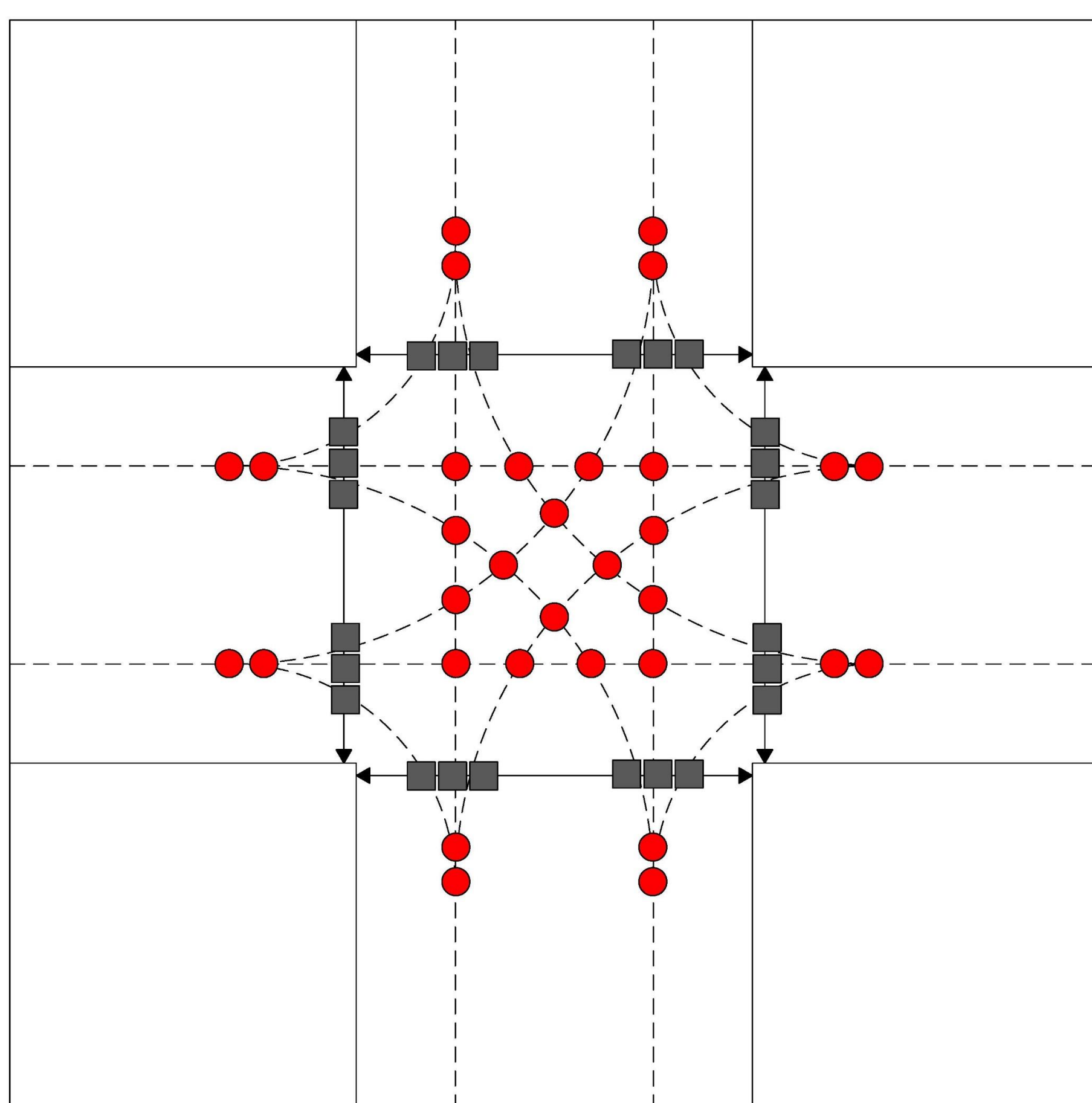
PROPOSED DESIGN CONCEPT: Single-Lane Roundabout

- ❖ 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?

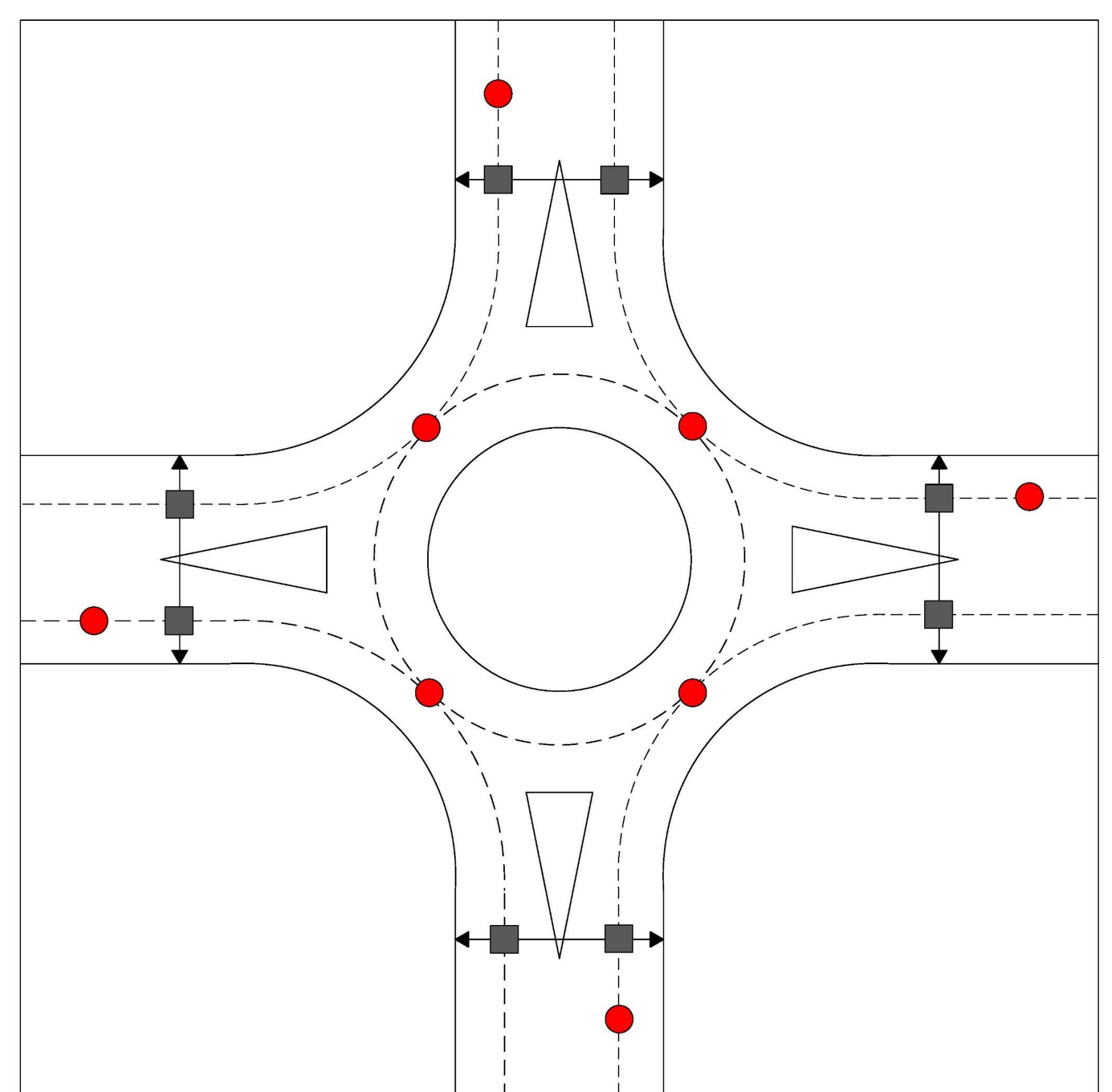
- ❖ Slower Speeds
- ❖ Fewer Conflict Points

Intersection



● 32 Vehicle Conflicts
■ 24 Pedestrian Conflicts

Roundabout



● 8 Vehicle Conflicts
■ 8 Pedestrian Conflicts



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

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

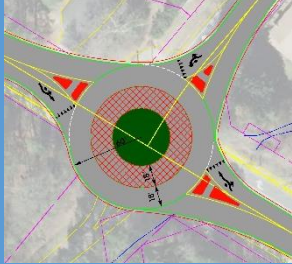
- Six crashes between 2012-2016:
 - 3 rear end; 1 angle; 1 sideswipe; 1 rt turn diff. road
- No significant crash pattern was observed
- Intersection did not meet the ranking criteria to qualify for safety mitigation

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



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

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

North Greensboro Street (S.R. 1772) at Estes Drive (S.R. 1780) Intersection Improvements

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? _____

North Greensboro Street (S.R. 1772) at Estes Drive (S.R.
1780) Intersection Improvements
Carrboro, Orange County, STIP Project U-5846



For additional information about the project, please contact:

Chris Smitherman, PE
NC Department of Transportation
Division Design Construction Engineer
P.O. Box 14996
1584 Yanceyville Street
Greensboro, NC 27415-4996
(336) 487-0075
csmitherman@ncdot.com

(Fold Here to Mail)

Please
Place
Stamp
Here

Michelle Suverkrubbe, AICP
SEPI Engineering / Project Consultant
1025 Wade Avenue
Raleigh, NC 27605