

## [External] FW: Turning Count Movements near Carolina Pines at Lake Wheeler-Sierra

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From: Billings, Amy <Amy.Billings@raleighnc.gov>  
To: Dehler, Brian <bdehler@hwlochner.com>, Sean Brennan (spbrennan@ncdot.gov) <spbrennan@ncdot.gov>, Neidringhaus, Amy N <anneidringhaus@ncdot.gov>, dishak@ncdot.gov, cbunting@ncdot.gov, Howe, Tim <thowe@hwlochner.com>, Brennan, Sean P <spbrennan@ncdot.gov>, Ishak, Doumit Y <dishak@ncdot.gov>, Bunting, Clarence B <cbunting@ncdot.gov>  
Sent: September 25, 2019 4:33:35 PM EDT

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To All,

Please see attached TCM for Lake Wheeler Road and Sierra Drive.

This information just came in today.

This data was requested in our last meeting discussion on 8/7/19 when we were considering a RABT at Carolina Pines Ave and Lake Wheeler Road.

Please let us know what the recommendation is from the DOT.

Thank you,

Amy

Amy Billings, PE

Senior Engineer

City of Raleigh

Engineering Services Department

Roadway Design & Construction

222 West Hargett Street | Raleigh, NC 27601

(p) 919-996-4103 | (c) 919-278-6092

amy.billings@raleighnc.gov

twitter.com/RaleighESDC

facebook.com/RaleighESDC <<https://www.facebook.com/RaleighEngineeringServicesDesignConstruction/>>

raleighnc.gov <<http://raleighnc.gov/>>

From: Duffy, Rebecca  
Sent: Wednesday, September 25, 2019 4:05 PM  
To: Billings, Amy <Amy.Billings@raleighnc.gov>  
Subject: Lake Wheeler- Sierra

Here is the TMC for Lake Wheeler-Sierra

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Rebecca M. Duffy, PE

Signs & Markings Manager

City of Raleigh

Department of Transportation - Traffic Engineering

Address: 222 West Hargett Street

PO Box 590

Raleigh, NC 27602

Phone: 919-996-4091

Email: rebecca.duffy@raleighnc.gov

Website: www.raleighnc.gov <<http://www.raleighnc.gov/>>

**1. 2019-09-11 Lake Wheeler - Sierra.pdf**

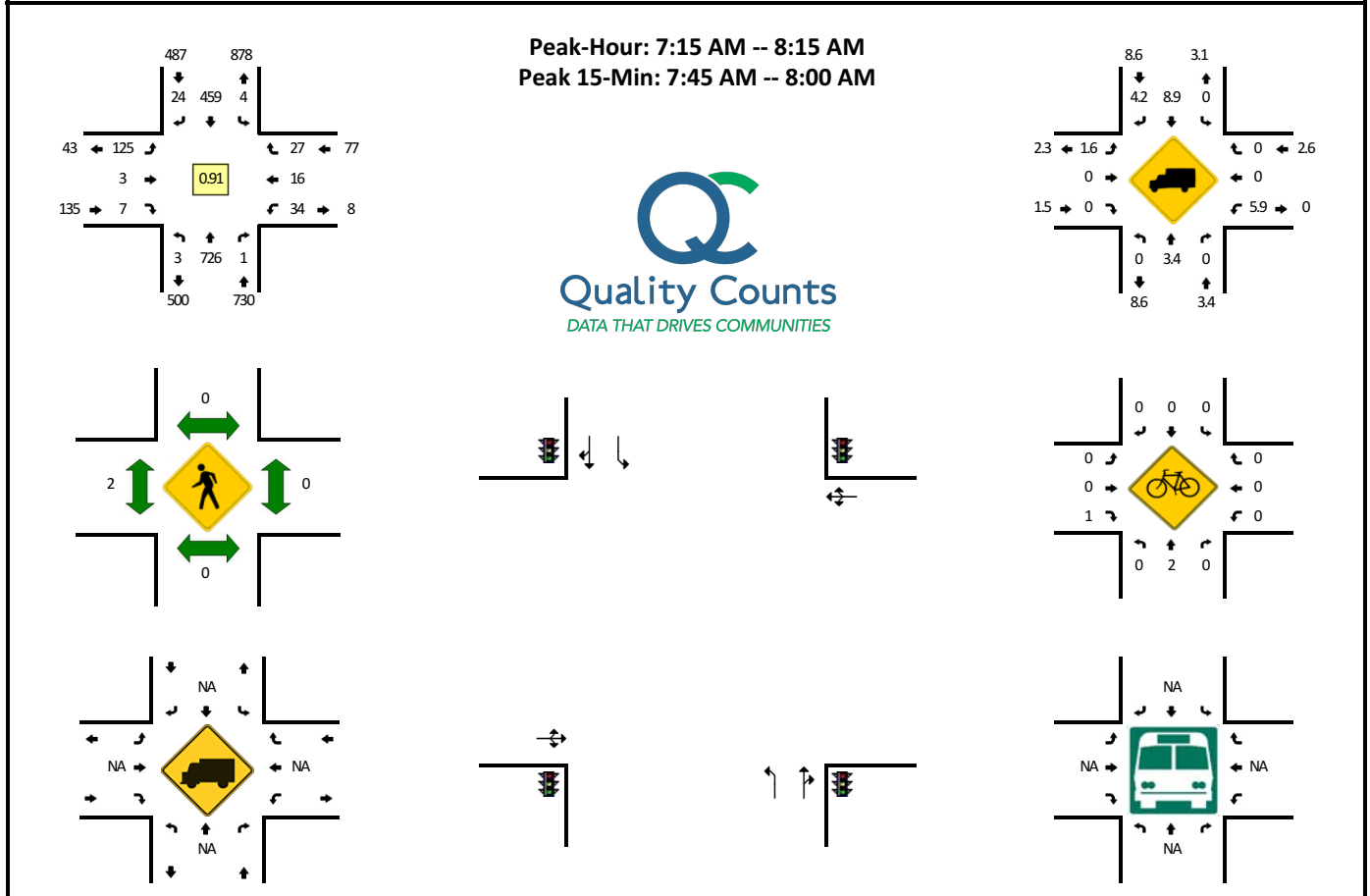
Type: application/pdf  
Size: 191 KB (195,986 bytes)

**2. CPA\_Roundabout\_Mtg\_20190807\_Draft Meeting Summary.docx**

Type: application/vnd.openxmlformats-officedocument.wordprocessingml.document  
Size: 38 KB (39,703 bytes)

**LOCATION:** Lake Wheeler Rd -- Sierra Dr  
**CITY/STATE:** Raleigh, NC

**QC JOB #:** 15079710  
**DATE:** Wed, Sep 11 2019

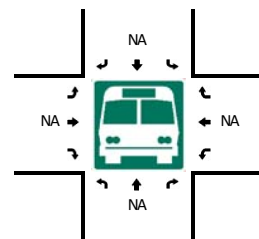
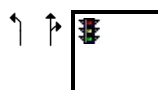
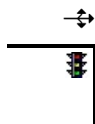
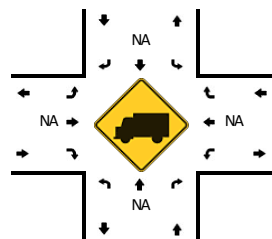
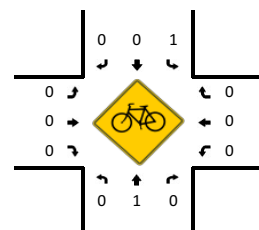
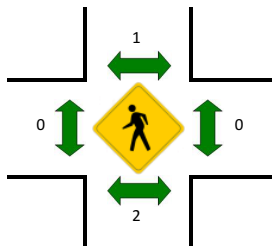
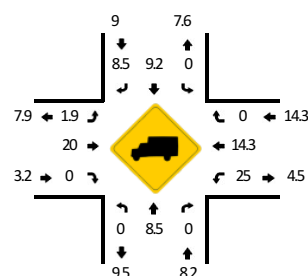
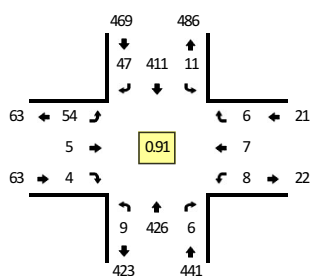


15-Min Count Period Beginning At	Lake Wheeler Rd (Northbound)				Lake Wheeler Rd (Southbound)				Sierra Dr (Eastbound)				Sierra Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	144	1	0	2	71	8	0	20	2	2	0	1	2	2	0	256	
7:15 AM	2	180	1	0	0	110	5	0	21	0	2	0	5	4	4	0	334	
7:30 AM	0	168	0	0	2	133	4	0	31	1	3	0	17	3	9	0	371	
7:45 AM	1	198	0	0	0	124	6	0	41	1	1	0	7	6	9	0	394	1355
8:00 AM	0	180	0	0	2	92	9	0	32	1	1	0	5	3	5	0	330	1429
8:15 AM	1	155	1	0	0	86	11	0	32	3	1	0	3	2	3	0	298	1393
8:30 AM	1	169	1	0	1	96	13	0	28	2	2	0	5	3	5	0	326	1348
8:45 AM	2	181	0	0	2	87	12	0	29	1	2	0	1	0	8	0	325	1279
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	4	792	0	0	0	496	24	0	164	4	4	0	28	24	36	0	1576	
Heavy Trucks	0	32	0	0	0	24	4	0	4	0	0	0	0	0	0	0	64	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Railroad																		
Stopped Buses																		

*Comments:*

**LOCATION:** Lake Wheeler Rd -- Sierra Dr**CITY/STATE:** Raleigh, NC**QC JOB #:** 15079712**DATE:** Tue, Sep 10 2019

**Peak-Hour: 12:00 PM -- 1:00 PM**  
**Peak 15-Min: 12:30 PM -- 12:45 PM**

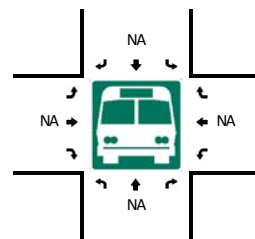
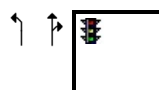
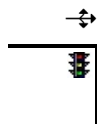
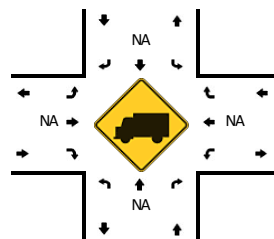
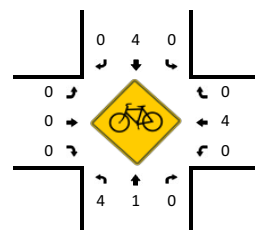
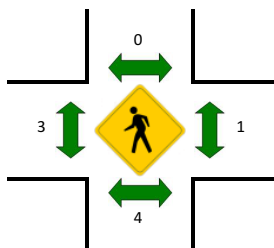
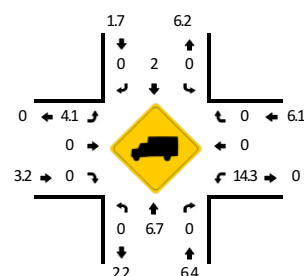
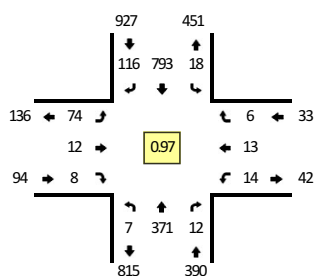


15-Min Count Period Beginning At	Lake Wheeler Rd (Northbound)				Lake Wheeler Rd (Southbound)				Sierra Dr (Eastbound)				Sierra Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
11:30 AM	1	111	0	0	3	117	10	0	13	2	2	0	3	0	4	0	266	
11:45 AM	3	97	3	0	2	108	10	0	10	0	0	0	3	2	1	0	239	
12:00 PM	4	101	2	0	4	99	8	0	10	2	1	0	1	2	2	0	236	
12:15 PM	1	98	1	0	3	92	19	0	15	1	1	0	2	2	1	0	236	977
12:30 PM	4	110	2	0	3	119	13	0	12	2	1	0	4	2	1	0	273	984
12:45 PM	0	117	1	0	1	101	7	0	17	0	1	0	1	1	2	0	249	994
1:00 PM	4	98	0	0	2	86	7	0	11	2	0	0	0	1	3	0	214	972
1:15 PM	0	87	0	0	0	102	10	1	16	1	3	0	0	1	3	0	224	960
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	16	440	8	0	12	476	52	0	48	8	4	0	16	8	4	0	1092	
Heavy Trucks	0	44	0	0	0	56	8	0	0	0	0	0	4	0	0	0	112	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Railroad																		
Stopped Buses																		

**Comments:**

**LOCATION:** Lake Wheeler Rd -- Sierra Dr**CITY/STATE:** Raleigh, NC**QC JOB #:** 15079711**DATE:** Tue, Sep 10 2019

**Peak-Hour: 4:30 PM -- 5:30 PM**  
**Peak 15-Min: 4:30 PM -- 4:45 PM**



15-Min Count Period Beginning At	Lake Wheeler Rd (Northbound)				Lake Wheeler Rd (Southbound)				Sierra Dr (Eastbound)				Sierra Dr (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	100	3	0	2	178	20	0	16	2	1	0	1	0	0	0	325	
4:15 PM	3	84	1	0	3	173	23	0	21	2	1	0	3	0	1	0	315	
4:30 PM	2	116	2	0	5	196	28	0	11	0	3	0	5	3	1	0	372	
4:45 PM	2	100	2	0	4	196	25	0	18	5	3	0	1	2	4	0	362	1374
5:00 PM	2	74	3	0	6	216	29	0	18	3	2	0	3	3	0	0	359	1408
5:15 PM	1	81	5	0	3	185	34	0	27	4	0	0	5	5	1	0	351	1444
5:30 PM	2	93	3	0	3	126	29	0	22	3	4	0	2	2	1	0	290	1362
5:45 PM	3	87	3	0	3	160	35	0	21	7	3	0	1	7	5	0	335	1335
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	8	464	8	0	20	784	112	0	44	0	12	0	20	12	4	0	1488	
Heavy Trucks	0	32	0	0	0	20	0	0	0	0	0	0	4	0	0	0	56	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Railroad																		
Stopped Buses																		

**Comments:**

## DRAFT MEETING SUMMARY

Roundabout at Lake Wheeler  
Carolina Pines Avenue Widening  
From Lake Wheeler Rd to S. Saunders Street

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**Date:** August 7<sup>th</sup>, 2019

**Time:** 2:00 PM

**Location:** NCDOT District 1 Offices, 4009 District Drive, Raleigh, 27607

**Purpose:** **Roundabout at Lake Wheeler**

**Attendees:**

Amy Neidringhaus .....	NCDOT
Sean Brennan.....	NCDOT
Doumit Ishak .....	NCDOT
Clarence Bunting.....	NCDOT
Amy Billings .....	City of Raleigh
Brian Dehler .....	Lochner
Tim Howe.....	Lochner

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**Purpose:**

The purpose of the meeting was to continue discussion regarding potential roundabout or signalized intersection alternatives at the Lake Wheeler Road / Carolina Pines Avenue intersection.

**Discussion:**

- Congestion Management has identified that traffic volumes on Lake Wheeler Road grew 37% from 2015 to 2019, while the traffic forecast was based on a 1% annual growth rate. There is significant new development further south nearer Fuquay-Varina along Lake Wheeler Road, likely to cause additional traffic growth. A potential new roundabout constructed at Carolina Pines under this project may be rendered obsolete should Lake Wheeler Road ever be widened to 4-lanes in the future. Those present noted that there is currently no plan to widen Lake Wheeler Road, and it is not listed in the TIP.
- Doumit noted a roundabout has benefits, but the existing signalized intersections just to the north (I-40 ramps) and south at Sierra Drive along Lake Wheeler would limit potential operational improvements from a roundabout at Carolina Pines. A larger benefit would result if a roundabout was constructed at Sierra Drive in conjunction with one at Carolina Pines Avenue.
- For the roundabout alternative, it was agreed to extend the splitter island south of the roundabout to limit both Lawrence Drive and the Grocery Boy driveway to right-in/right-out operations.
- The roundabout alternative would include (2) lanes through the roundabout for southbound Lake Wheeler traffic, which would be carried south to Sierra Drive, where the inside lane would become a Left-turn only lane, and the outside lane would be the Through/Right-turn movement.
- If recent traffic growth continues, it is likely traffic in the design year would exceed capacity for either the roundabout or a signalized intersection.
- Doumit and Clarence requested traffic count volumes along Sierra Drive to complete their study of the project area.
- Amy stated she will request counts from Jed Niffenegger and provide to those present.
- Doumit and Clarence will then provide their comments to the District who will then confer with the Division 5 staff who will provide NCDOT's official position on the intersection alternatives to the City.

The meeting was adjourned at approximately 3:15 PM.

(Meeting Summary Prepared By: Tim Howe, 08.08.2019)