10-30-2019 Town Council Meeting
Responses to Council Questions

ITEM #11: Receive NC 54 West Corridor Study Update

Council Question:
What were the concerns raised by Board members of the DCHC MPO Board in Nov. 2018?

***Staff/Consultant Response**:*
The concerns raised by MPO Board members were:

- *Correlation between planned development and traffic volumes on NC 54*
- *More detailed analysis of origin and destination data, as well as travel demand model results*
- *Assess impacts of NC 54 widening on secondary roads, including municipal streets*
- *Assess potential for transit alternatives in the corridor*
- *Additional consultation with UNC and UNC Medical Center regarding commuting patterns for employees*

Council Question:
For what reasons did the Carrboro Board of Aldermen adopt a resolution rejecting the findings of the NC 54 West Study?

***Staff/Consultant Response**:*
The final resolution has not been posted yet. We can forward a copy of it to the Council once it is publicly available.

Council Question:
Can we get a copy of the final report disseminated in 2018?

***Staff/Consultant Response**:*
It is a long report, which is why we did not include it in the packet. The link to the report is: http://www.nc54west.com/pdf/NC%2054%20Final%20Draft%20Report%20(10012018).pdf.

Council Question:
How wide are the lanes currently on NC 54 between Old Fayetteville Road and NC 119?

***Staff/Consultant Response**:*
The lanes are generally 12 feet wide.

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Council Question:
What do C-2 and B-2 denote on pages 111 and 112 of the packet?

***Staff/Consultant Response**:*
C-2 and B-2 are the reference letters-numbers of the typical cross-sections shown on the slide. They have no meaning other than that.

Council Question:
What is included in "Other Improvements" referenced between NC Hwy 119 and I-40 on p. 115 of the packet?

***Staff/Consultant Response**:*
These are mainly intersection improvements (signal timing & coordination, adding/lengthening turn lanes); access management strategies (closing/consolidating driveways, adding medians, increasing connectivity via side streets and backage roads); adding pedestrian signals and crosswalks; and sidewalk and shared-use path additions/improvements.

Council Question:
Going forward, what would the various decision points be, and which board(s) would these decision points come to?

***Staff/Consultant Response**:*
The Orange County Board of County Commissioners will comment on the study on November 7th, and the MPO Board will consider approval of the study at the November 13th meeting. Based on the action of the MPO Board, staff will plan for future transportation projects along this corridor accordingly.

Council Question:
In addition to UNC-CH employees and Hospital employees, is there a way to display where other kinds of employees live (from some of the other largest employers, such as Chapel Hill and Carrboro town employees and school system employees?

***Staff/Consultant Response**:*
The consultants were specifically asked about UNC and Hospital employees only, and had access to that data. If employee residence location is available, it would be possible to do a similar analysis. One problem with all of this data, however, is that employees may not necessarily work at/commute to a centralized location, especially for school system employees. Also, there is no guarantee that these residence locations will remain constant over time. The model

attempts to address these questions by generating reasonable origin-destination linkages between residences and jobs (both existing and future locations).

Council Question:
What are the common causes of automobile accidents along this corridor?

***Staff/Consultant Response**:*
Given the length and variability of the corridor, it's not especially useful to aggregate crash types for the entire study area; instead, crash analysis should be tied to conditions at particular locations. That being said:

There were 714 recorded crashes in the study corridor during the analysis period.

Rear-end collisions accounted for 227 crashes, or nearly one-third of the total. These crashes were distributed the most evenly between the two corridor segments [east and west of NC 119, or 2-lane & 5-lane cross-sections]. The frequency of this crash type is not surprising, given the combination of frequent driveways and intersections, relatively high travel speeds, and rolling terrain.

The second most common crash type involved animal strikes. These 136 crashes represented 19% of the total, and were distributed very unevenly through the corridor: only 9 occurred in the western segment. The 126 animal strikes in the eastern portion of the corridor represented 25% of all crashes there. This disparity is not surprising given its more wooded and rural character. Thirty of these crashes were concentrated within a ½-mile of two locations: Freshwater Drive and Hatch Road.

Left turns accounted for 14% of all crashes, and angle collisions 9%. These crash types were heavily concentrated in the western portion of the corridor, together comprising 43% of all crashes west of NC 119 (compared with only 14% to the east). This difference can be attributed to the 5-lane cross-section and higher traffic volumes, which greatly increase the number of potential conflict points for any turning movement.

Sideswipes represent 6% of the crash total, running-off-the-road 3%, and right turns 1%. All other types of crashes combine to make up 17% of the total.

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Table 11: Crash Rate Comparison Eastern 2-Lane Segment (2013-2015 NC Data, per 100M veh-miles)

Rate	NC 54 Crashes	**Crashes per 100 MVM**	Statewide Rate [1]	**Critical Rate [2]**
Total	507	241.4	196.6	209.8
Fatal	2	1.3	1.7	3.1
Non-Fatal	182	75.6	60.7	68.1
Night	165	57.6	54.1	61.1
Wet	57	41.5	23.9	28.6

[1] 2013-2015 statewide crash rate for Total, All North Carolina (NC) Routes in North Carolina
[2] Based on the statewide crash rate (95% level of confidence).

Six pedestrian crashes and three bicycle crashes were reported along the corridor between 2007 and 2014. Many bicycle or pedestrian "near-misses" are not reported, and therefore unsubstantiated. Both travelling along NC 54 and crossing NC 54 are potentially hazardous, given the lack of appropriate accommodations for pedestrians and bicyclists. Traffic speeds, rolling terrain, driver expectations, and access locations all contribute to crash potential, and suggest that pedestrian and bicycle demand is suppressed due to discomfort and risk.

Although the number of bicycle and pedestrian crashes may not appear substantial for a corridor of this length, the severity of the results is a matter of concern. Due primarily to high vehicle speeds, one-third of these crashes resulted in a fatality, and over half caused either death or disabling injury. Whether for discretionary trips or because the traveler has no other options, this level of risk is difficult to accept, both in terms of personal costs and costs to society.