DURHAM BPAC

Durham Bicycle & Pedestrian Advisory Commission

Durham Transportation Department · 101 City Hall Plaza · Durham, NC 27701
DurhamBPAC@DurhamNC.gov | @DurhamBPAC

April 16, 2024

Durham City Council
101 City Hall Plaza
Durham, NC 27701

Durham County Board of Commissioners
200 E Main Street
Durham, NC 27701

Sean Egan
Director of Transportation, City of Durham
101 City Hall Plaza
Durham, NC 27701

Brandon H. Jones, PE
Division Engineer, Highway Division 5
North Carolina Department of Transportation
2612 N Duke Street
Durham, NC 27704

John E. Sandor, PE
District Engineer, District 2
North Carolina Department of Transportation
815 Stadium Drive
Durham, NC 27704

Dear Councilmembers, Commissioners, and staff members,

The Bicycle and Pedestrian Advisory Commission (BPAC) presents the following recommendations regarding improvements to North Roxboro Street north of I-85, including the case for a road diet, protected bike lanes, sidewalk buffers and street trees. BPAC asks that all recipients respond to these recommendations and present a plan to realize the changes needed.

As communicated in the attached write-up, BPAC conducted a walk audit of and community outreach to the North Roxboro Street corridor north of I-85 through in 2023. Also attached is the 2022 report delivered by VHB Consultants which highlighted in detail the multiple dangers to pedestrians along this corridor. The overwhelming consensus of our audit, the VHB report, and the members of the community who responded to our survey (110 respondents) is that **the design of North Roxboro Street is dangerous**. North Roxboro Street requires a significant redesign, specifically one with a **design speed to match the 25 mph speed limit posted**[1].

We call upon the NCDOT and the City to work together to develop and implement a comprehensive design to eliminate the dangerous speeding and pedestrian conflicts along this vital corridor.

[1] The scope of our walk audit was limited to the section of Roxboro between Lavender and Bon Air Avenues, most of which is a posted 25 mph zone. However, we note that the scope of the proposed redesign would likely need to extend from (at least) Club Blvd. to Old Oxford Highway to be effective, and that this redesign would also need to include extending the 25 mph limit along the entirety of the corridor. Indeed, the inconsistency in posted speed limits and a lack of commensurate designs are core elements of the safety problems in this corridor.

The Case for a Four-to-Three Lane Road Diet

The Federal Highway Administration notes that "*[f]our-lane undivided highways have inherent design aspects that make them susceptible to crashes. Left-turning and through movements sharing a single lane contributes to rear-end crashes, left-turn crashes, and speed discrepancies. In most cases, current four-lane undivided cross sections do not include accommodations for bicyclists, and most have no refuge for pedestrians to cross four lanes of traffic.*"[2]

Four-lane roads are dangerous and offer limited or no capacity over three lane roads. Below is a summary of the case made by Jeff Speck in his book "Walkable City Rules".

- The turning lane is also the passing lane
- Drivers speed in the same lane where drivers are stopping to turn left
- Drivers that jockey right to avoid a stopped vehicle are often rear ended
- Cars turning left can be T-boned by oncoming cars whose views are blocked by parallel traffic

A four-to-three lane road diet consists of taking the two car lanes that travel in each direction, and reducing them to one lane that travels in each direction and one middle turn lane. This significantly improves the experience of left turns for drivers, provides more consistent reduced car speeds, and provides opportunities for pedestrian islands. Overall, this type of road diet is expected to reduce crashes between 19-47%. For example, following implementation of a four-to-three lane road diet on Edgewater Drive in Orlando, total collisions dropped 40% and injuries dropped 71%.[3]

A common response to the idea of a road diet is that the traffic volume is too high, but we urge NCDOT to run these analyses again and to map out the trend over the last 10 years on this corridor. Even before 2020, average annual daily traffic counts have been trending downward.[4]

Furthermore, there is good evidence[5] that a four-to-three lane road diet has a marginal impact on road capacity:

- Four-lane roads create wave pulse congestion. Because the passing lane is also the turning lane, drivers going straight have paths blocked and cars jockeying from lane to lane create wave pulse congestion impacts that slow traffic.
- A Nelson Nygaard study of 23 four-to-three lane road diets demonstrated that capacity on these streets did not actually decrease.

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[2] USDOT Federal Highway Administration, Road Diet Informational Guide. https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/ch3.cfm#

[3] https://uli.org/wp-content/uploads/ULI-Documents/Edgewater-Drive-Orlando-FL.pdf

[4] NCDOT Average Annual Daily Traffic Mapping Application. https://www.arcgis.com/apps/webappviewer/index.html?id=964881960f0549de8c3583bf46ef5ed4

[5] Speck, J. (2018). Road-Diet Your Four-Laners. In: Walkable City Rules. Island Press, Washington, DC.

Our Proposed Solution

The simplest, least expensive, and fastest embodiment of this road diet could be implemented by restriping with minimal or no additional construction and with addition of on-street parking to serve businesses along this corridor. BPAC would welcome this as a significant–albeit minimal–improvement. This change would also bring the design and use of the section of Roxboro in line with another 40' wide street in Durham: Ninth Street, which hosts a vibrant community of businesses accessible by users of all modes of transportation. We believe implementing this design on North Roxboro Street would serve to make this neighborhood a destination and a usable place for its residents, rather than simply a conduit for car traffic.

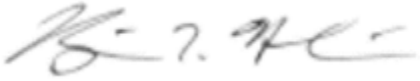
In addition, we also urge NCDOT to consider the following components of a more comprehensive redesign:

> **Curb protected bike lanes:** This will enable multiple communities on both sides of North Roxboro Street to access groceries stores without a car, significantly reducing both the individual need to have a car for local trips and a large fraction of the local car traffic.
>
> **Sidewalk buffers and street trees:** Street trees provide a low cost way to reduce car speeds, provide shade, reduce noise pollution, protect sidewalks, improve pedestrian comfort, and increase property values.

We believe this corridor has significant potential to become a thriving urban center, much like it used to be. Bragtown is a historically underserved neighborhood, and a strong investment in placemaking here will serve the interests of both economic development and equity, in addition to improving safety and enabling more sustainable transportation options. There is a latent demand for walking and biking along this corridor, but first we must make this corridor safe and accessible. The members of the communities along this corridor are passionate about improving this space, and it is time that the City make good on its commitment to Vision Zero and for NCDOT to prioritize saving lives on North Roxboro Street and making it a place for people.

Finally, we would like to invite the NCDOT to a dialogue with BPAC about this, and propose the guest slot at our regular commission meeting on August 20th for that purpose. Please feel free to reach out to BPAC with any questions, comments, or concerns at durhambpac@durhamnc.gov.

Sincerely,



Brian Hawkins
Chair, Durham Bicycle and Pedestrian Advisory Commission