



# TOWN OF CARRBORO

NORTH CAROLINA

## TRANSMITTAL

## PLANNING DEPARTMENT

DELIVERED VIA:  *HAND*  *MAIL*  *FAX*  *EMAIL*

**To:** David Andrews, Town Manager  
Mayor and Board of Aldermen

**From:** Tina Moon, Planning Administrator

**Date:** September 29, 2017

**Subject:** Update on Transportation Projects

### Summary

This memorandum is intended to provide the Board of Aldermen with an update on a number of different transportation projects which have been moving forward during the last several months. Projects are roughly organized in the following manner: residential traffic calming, transportation infrastructure, bicycle facilities and bicycle planning, and pedestrian safety.

### Residential Traffic Calming

The Town's Residential Traffic Management Plan for Speed and Traffic Control was adopted in 1996 and subsequently revised in 1997, 2005 and 2006. The Plan sets out a multistep process for residents to work among themselves (by developing consensus) as well with Planning staff to identify traffic calming concerns on Town-owned streets and to consider possible options for addressing those concerns either by awareness campaigns and education (Stage 1) or by the installation of physical measures to control traffic speeds (Stage 2). The latter involves the development of a professionally prepared traffic calming plan with neighbor input, Transportation Advisory Board recommendation, and Board approval. Installation is dependent on cost and timing as it relates to the budget cycle.

On March 21, 2017, the Board received updates on Stage 2 traffic calming plans for segments of two local streets: Blue Ridge Road and Tallyho Trail. The Board approved the design for Blue Ridge Road subject to recommendations from neighbors for minor refinements related to the exact placement of four devices: two speed tables, one curb extension and one choker or neck down. Planning and Public Works staff met in the field with a representative from the neighborhood in early May to mark the

locations of each device prior to installation. Funding became available in July; construction began in September, and is anticipated to be finished by the end of the month.

Residents along Tallyho Trail were unable to reach a consensus on a final design for their street, but have expressed a preference for speed tables and not mini roundabouts. Planning staff met with a group of residents in late July, and walked much of the western end of Tallyho Trail with a focus on the areas identified for speed tables; the locations for three speed tables were confirmed. The group agreed that it made sense to postpone the installation of traffic calming devices along the eastern half of the road until the completion of the Rogers Road sewer project, since the line extends through the Highlands North neighborhood and underneath Tallyho Trail. Residents noted, however, the importance of locating at least one more speed table east of the sewer line, near the overhead utility lines.

Subsequent to the field visit, planning staff reviewed the proposal with the Town engineer and Fire Department to consider the possibility of designing a mid-block choker between Rogers Road and Staffield Lane that would slow traffic and serve as an attractive stormwater BMP. Fire Department staff expressed concern with the potential for traffic calming devices to delay EMS response time, particularly the cumulative additional delay for residents living further back on Tallyho Trail. A follow-up meeting is anticipated for early October.

The process outlined in the Residential Traffic Management Plan remains timely in several regards, particularly the use of a petition system to gauge neighbor interests early on. Staff have noted, however, that certain aspects of the plan may be improved so as to decrease the processing time and clarify the budgeting allocations for physical and other improvements. Staff is working with an intern to review the existing plan, to compare it with similar plans in other jurisdictions and to prepare recommendations for revisions for future Board consideration. Key elements of note include:

- Changing the timeline; requests would be considered during a limited window of time once a year to provide an opportunity for traffic counts during the school year, the design of a plan, and if approved by the Board, identification of funds for installation during the budget process.
- Limiting the number of projects each year either by a certain number and/or a certain cost.
- Prioritizing proposals on the basis of some sort of rating system so that projects are distributed throughout town rather than being concentrated in certain areas.

### **Infrastructure – NCDOT Projects**

#### **Estes Drive/North Greensboro Street Intersection Improvement (TIP #U-5846)**

Staff provided the Board with a status report on the intersection improvement project at its September 19<sup>th</sup> regular meeting. The project, funded and managed by NCDOT, has been scheduled for design work in FY2017 and construction in FY2018. The right-of-way acquisition process is currently underway. Right-of-way plans can be found with the agenda materials (<https://carrboro.legistar.com/LegislationDetail.aspx?ID=3156312&GUID=1816D3ED-38DE-4B52-AE33-9575C81F418F&Options=&Search=>). Staff has received a handful of inquiries from residents who have received mailed notice from NCDOT, with questions about the project and/or the schedule moving forward. Some correspondence has included suggestions for refining the design or questions regarding the impact of stormwater improvements proposed as part of the project; this information has been forwarded to NCDOT.

While design work is typically finished by the time a project has reached the right-of-way acquisition phase, staff have been in contact with NCDOT to discuss opportunities to further enhance the project, particularly as it relates to the facilities for cyclists and pedestrians and stormwater management. Staff has encouraged NCDOT to keep the roundabout as small as possible in the interest of all users, taking into consideration the need for a seamless connection to the Frances Shetley bikeway as well as future bike-ped improvements along Estes Drive.

#### Merritt Mill/Franklin/East Main/Brewer Intersection Improvement (TIP #U-5847)

The Board of Aldermen received an update on the proposed intersection improvement project at Merritt Mill Road, Franklin Street, East Main Street and Brewer Lane on September 19<sup>th</sup> as well. (<https://carrboro.legistar.com/LegislationDetail.aspx?ID=3158181&GUID=0616F2E0-976F-473A-AD60-C575DE1D968E&Options=&Search=>). The project was programmed for funding in the 2016-2025 STIP with an anticipated timeline of construction occurring in FY2019. Spanning the jurisdictional line between Carrboro and Chapel Hill, the project has proven challenging, due in part to the skewed alignment of the existing road network and in part due to its categorization as a highway project with an intended focus on improving vehicular level of service (LOS).

After reviewing a number of design options, elected officials and staff from the towns of Carrboro and Chapel Hill met with NCDOT in late August to discuss the project and possible next steps.

Two designs were evaluated:

- a proposal for a five-way roundabout (or “beanabout”) seemed to achieve some vehicular LOS improvement, but the need for right-of-way acquisition was significant and the anticipated costs exceeded the programmed budget, and
- a proposal to provide dual left turns from Merritt Mill to East Main Street, which facilitated that movement, only.

At the close of the August meeting, a representative from the NCDOT Board noted a possibility of another federal funding source that might be available for use toward the bike-ped improvements in the project—costs that have not yet been determined. Town staff also shared a “back of an envelope” sketch of potential bike-ped facilities--extending curbs to reduce crossing distances and adding pavement markings to better define crosswalks--that would improve the bike-ped experience, and clarify the appropriate path for all users traveling through the intersection. Subsequently, at the September 13<sup>th</sup> DCHC-MPO Board meeting, per the recommendation of NCDOT staff, the MPO Board included a bike-ped version of the project in the list of P5.0 projects to be submitted to NCDOT for formal scoring in the prioritization process for the FY2020-2029 STIP. If the bike-ped version scores well, it would provide the towns with an opportunity to compare project scopes and determine the most appropriate improvement for the location, while keeping a version of the original highway project on track.

#### Jones Ferry Spot Safety Project – Protected Bike Lanes

On March 27, 2012, the Board held a public hearing to seek input on a conceptual design for safety improvements on Jones Ferry Road. The project, funded and managed by NCDOT, changed the road cross section from the Willow Creek Shopping Center to the OWASA complex. Improvements included, in particular, a road diet, bike lanes, high visibility crosswalks, and a traffic signal at the intersection with Davie Road. Interest in protected bike lanes—including some sort of physical barrier between the bicycle and vehicular lanes was expressed and conveyed to NCDOT. While the project included pavement markings with a hatched separation space between the bike lane and vehicular lane,

the installation of physical barriers—such as curbing and/or delineators--were determined to be outside of the scope of the project, and the project was closed out.

Town staff have explored the use of a relatively new product called Tuff Curb, recommended by a local citizen (<http://www.impactrecovery.com/products/tuff-curb1>). Sungate Design ran into considerable delays getting cost information from the Tuff Curb representative as part of the preparation of a design for construction and NCDOT encroachment agreement. Once Sungate Design connected with the representative, it was clear that the product was cost-prohibitive (at more than \$30 per linear foot, the total cost would have come to around \$90,000 to \$100,000 for purchase and installation). Per staff's request, Sungate Design updated the estimate using a more standard thermoplastic paint and bolted reflective delineators. The cost would depend on whether the Town could complete the installation in-house or would need to hire a contractor for installation, but the range is around \$4000-\$8500 for the tubular delineators and \$10,000 to \$15,000 for a contractor to install—plus traffic control. Staff anticipates meeting with Sungate Design and others, in the field in the next week or so to finalize the design, and submit to NCDOT for an encroachment agreement. Funds for installation would also need to be identified.

### **Infrastructure – Town Managed Projects**

#### **Bicycle Loop Detectors (TIP #U-4726-DF)**

On November 22, 2011, the Board of Aldermen approved a Municipal Agreement with NCDOT and a capital improvement project ordinance to install bicycle detectors (loops embedded in the pavement to trigger a light change) at specific signalized intersections in the downtown (U-4726-DF). The Board subsequently contracted with Atkins North America, Inc., for preliminary engineering. Work on the project has been hindered by a number of factors including issues associated with right-of-way certification, changing staff at the consulting firm and changing specifications standards at NCDOT, leaving planning staff to prepare much of the specification manual. Staff submitted all of the materials to NCDOT on August 11<sup>th</sup> and has received verbal construction authorization. Once an updated supplemental agreement has been prepared, staff anticipates receiving authorization to advertise the project for bid, in early October.

#### **Morgan Creek Greenway (TIP #EL-4828)**

The Board of Aldermen approved the Morgan Creek Greenway Concept Plan on March 16, 2010 and subsequently entered into a Municipal Agreement with NCDOT and a contract with Coulter, Jewell, Thames (CJT) for preliminary engineering. On October 16, 2012, staff reported to the Board challenges associated with the bridge crossing in Phase 1 of the project, conveyed by CJT, and the need to make a decision relating to the alternative design to keep the project moving forward. Issues relating to the location of potential crossings and flood certification (no rise/CLOMR), which have been further impacted by the unknown schedule for the adoption of the new flood map have slowed down the design. Staff met with CJT during the summer to confirm the path forward and again on September 15<sup>th</sup> to discuss the timeline, tentatively this fall, for submitting materials to NCDOT for construction authorization.

#### **Homestead Road-Chapel Hill High School Multi-Use Path (Bolin Creek Phase 1B) (TIP #U-4726-DE)**

After three bid cycles, the Town selected a contractor, Fred Smith, to construct the Homestead Road-Chapel Hill High School Multi-Use Path (HCHHS-MUP) in 2015. The Town's request for concurrence from NCDOT involved a request for \$212,000 in additional FY 17 STP-DA & TAP

Funds from the DCHC-MPO, since the 2015 bid opening yielded bids significantly higher than the engineer's estimates. When the Town received concurrence from NCDOT in December 2015 to award the construction contract, the Town met with the Fred Smith to discuss how to schedule the project such that the approximately a third of the work would occur in or after October 2016 when the additional MPO funds would be available. The announcement of the preconstruction meeting, lead to a series of public meetings regarding the project design and its associated alignments, delaying the anticipated project start time by about two months, from mid-May to mid-July, 2016.

The bid documents included preliminary design information for the pedestrian bridge and associated substructure, but required the contractor to field verify the substructure design, finalize the bridge design and order the bridge for fabrication, a process which was anticipated to take about six to nine weeks. Clearing and other site work was scheduled to occur during the time that the bridge was being fabricated so that the project would continue in a timely manner. A question relating to the bridge substructure required the design engineer and contractor engineer to reevaluate the design and conduct additional geotechnical analysis. The substructure design has been resolved and approved by NCDOT, but the process delayed the project, and the fabrication of the bridge. Staff continues to work with Fred Smith to remobilize its subcontractors so that work can commence while the bridge is being made. Staff is also meeting with Fred Smith, Summit Design (CEI) and NCDOT to review the delays and determine if modifications to the project agreements, or final costs are warranted.

#### Jones Creek Greenway (TIP #C-5181)

On April 5, 2016, the Board approved the Town's execution of a Municipal Agreement with NCDOT and the adoption of capital improvement project ordinance for the Jones Creek Greenway. The project consists of the construction of a bridge and a paved trail to fill the gap between the upper Bolin Creek Trail and the Twin Creeks Greenway. Town staff spent time over the summer working the NCDOT to finalize a Request for Letters of Interest (RFLOI) for preliminary engineering services and anticipates advertising in the near future. The process was complicated by the need to address the Town's Finance Department standards within the NCDOT RFLOI format. Staff anticipates releasing the RFLOI in early October.

#### South Greensboro Street Sidewalk (TIP #U-4726-DX)

Staff has been working closely with MPO staff to assemble sufficient funding to initiate a municipal agreement with NCDOT for the South Greensboro Street sidewalk project. With the Board's approval to allocate STBGP-DA funds to the sidewalk project on April 4, 2017 and the subsequent adoption of the Orange County Transit Plan on April 28<sup>th</sup>, sufficient funds have been identified to begin the municipal agreement process. Staff ran into an unexpected delay over the summer because federally funded projects are assigned with a different numbering system than state funded projects. The use of funding from both sources requires NCDOT to assign a new number to the project; a decision made at the NCDOT Board level. Town staff will be notified once the NCDOT Board agenda is set and the new project number identified, that the online initiation process can begin.

#### Other Infrastructure Projects with Funding

Other ongoing projects that the Board may find of interest include: the development of agreement templates with GoTriangle for use in the recently adopted Orange County and Durham County transit plans. The Town is programmed to receive \$100,000 of Orange County Transit monies to develop a corridor study of Estes Drive prior to the preliminary design work for the Estes Drive bike-ped infrastructure enhancements. The corridor study should help establish a seamless connection

between the Estes Drive improvements and the Estes Drive/North Greensboro Street roundabout, as well as the connection to bike-ped improvements in the Chapel Hill end of the corridor. Questions from property owners along Estes Drive have, moreover, brought to the forefront the importance of coordination, particularly as it relates to stormwater.

Other future bike-ped infrastructure projects that have been programmed for funding in the FY2018-2027 State Transportation Improvement Program (STIP) as part of P4.0 but have not yet been begun include: the construction of a sidewalk along the 500 block of West Main Street in front of O-2 Fitness (funded through the Orange County Transit Plan), the construction of bike-ped improvements on Estes Drive (TIP #EB-5886), sidewalks on Jones Ferry Road (TIP #EB-5880) and Barnes Street (TIP #EB-5890), and minor improvements to the Carrboro end of the Campus to Campus bikeway. The Board received an update on the results of the P4.0 process on April 4<sup>th</sup>, as part of the consideration of new projects for P5.0. (Meeting materials may be found at the following link: <https://carrboro.legistar.com/LegislationDetail.aspx?ID=3011486&GUID=C3C96E4F-3BDA-4D5C-9F54-E96B38C7731E&Options=ID%7cText%7c&Search=p5.0>.)

#### Transportation Projects Anticipated to be Submitted for P5.0

Staff presented the Board with an updated list of projects anticipated to be submitted to NCDOT by the DCHC-MPO for consideration in the FY 2020-2029 STIP on September 5<sup>th</sup> (<https://carrboro.legistar.com/LegislationDetail.aspx?ID=3144236&GUID=B6D7B935-9E9E-4601-A868-34DF8F9CA55B&Options=&Search=>). These include two highway projects: a combined multipart intersection and corridor improvement project at NC 54 and Old Fayetteville Road, James Street and West Main, and the segment of NC 54 that extends in between those two intersections, and a combined project to upgrade a segment of Old NC 86 from Old Fayetteville Road to Calvander and improve the Calvander intersection. The three bike-ped projects include: a sidepath along NC 54 from James Street to Anderson Park, bike lanes and a sidewalk on one side of Seawell School Road, and bike lanes along both sides of Old NC 86-Hillsborough Road from Homestead Road to Farm House Road. The Board requested at the September meeting that a sidepath along Seawell School Road also be submitted for consideration.

#### NC 54 Corridor Study

The NC 54 Corridor Study officially began on September 12<sup>th</sup> in Town Hall with a meeting of planning staff from the counties and relevant municipalities of Orange and Alamance counties, NCDOT, the MPO and the selected consultant, VHB. VHB is in the data collection phase, conducting counts at key locations and obtaining land use plans and zoning information from the different jurisdictions. Staff will continue to keep the Board up to speed as the project moves along, particularly with regard to public meetings or other opportunities for citizen input. The study is anticipated to be finished in about a year.

#### Stroud Lane

Public Works staff have installed improved the Stroud Lane access to Anderson Park. A new gravel bike path extends from the access to the end of the cul-de-sac by Field #3, the far softball field. Staff is still refining the gravel surface to improve its compaction.

#### Fixit stations

The ribbon cutting for the Town's first Dero Fixit stations was held on March 25<sup>th</sup>, and included demonstrations at all three stations: Town Commons, Wilson Park and the Libba Cotton bike path.

Members of the Carrboro Bicycle Coalition have reached out to staff regarding signage and demonstrations at the stations, particularly the unit at Town Commons. Hopefully education and outreach regarding the use of the fixit stations will also help reduce the incidences of vandalism.

### Bike Share

The Board received a student presentation on the feasibility of a bike share program in November 17, 2015, outlining different options for developing a program based on existing systems in similar jurisdictions, and ultimately recommending a collaborative approach with the Town of Chapel Hill and UNC-Chapel Hill. As bike shares gain in popularity the Town continues to be courted by different companies, each offering a slightly different system. The three most recent companies to reach out to the Town include Zagster (<https://www.zagster.com/>), Gotcha (<https://gotchabike.com/>), and Lime (<https://www.limebike.com/>). Lime offers an opportunity try their system as a pilot program with as many or as few bikes as needed. Bikes have their own locking mechanism so no specialized rack system is needed. Technicians check every bike electronically on a daily basis, making repairs and “rebalancing” or relocating bikes to their assigned locations. Costs run around \$0.50 per ride for students and \$1.00 for non-students.

### Bike Plan update/BFC

Staff is on track to submit an application for NCDOT Division of Bicycle and Pedestrian and Transportation Planning Branch 2018 planning grant cycle. Carrboro received a grant in 2007 and applied the funding (approximately \$45,000) toward the development of the Town’s 2009 Comprehensive Bicycle Transportation Plan. The Board adopted a resolution of support on September 19<sup>th</sup>, and, on September 27<sup>th</sup>, the DCHC-MPO Technical Committee endorsed a similar resolution that will be forwarded to the MPO Board for consideration at its meeting in October. An update of the bike plan should enhance the Town’s application for gold status in the League of American Bicyclists, Bicycle Friendly Communities Program (BFC) during the upcoming round of consideration. Staff anticipates advertising a RFLOI for a transportation engineering to guide some work related to the bike plan and to assist with the preparation of the BFC application.

Improvements to bicycle infrastructure should also strengthen the Town’s BFC application. Examples of low-hanging fruit include adding pavement markings, such as sharrows, on Town streets per the Carrboro Comprehensive Bicycle Transportation Plan, during Town or NCDOT resurfacing. Installing bike loop detectors to help “trip” traffic lights so that cyclists travel with the light cycle at key intersections, and using green striping to identify the bike route within the intersection can also enhance the existing network. A request for the Town to install a bike boulevard, specifically for Pathway Drive and Cobblestone Drive, is being explored with assistance from an intern. Staff is also considering bike facilities as part of traffic calming designs, when the opportunity arises.

### Bike-Pedestrian Safety

In late March, staff presented a follow-up report to the Board relating to a citizen concern and request for pedestrian safety improvements in the downtown (<https://carrboro.legistar.com/LegislationDetail.aspx?ID=2991262&GUID=074F7B90-45E0-4ED2-9929-F1513E033B8B&Options=&Search=>.) The report provided a review of different types of safety devices along with appropriate locations and approximate costs. The update also included some of the information assembled by the Transportation Advisory Board during its outreach efforts and Wiki map. The Board directed staff to use the recommendations in existing plans such as the Safe Routes to

Schools Action Plan and the Carrboro Comprehensive Bicycle Transportation Plan to help guide the prioritization of infrastructure improvements. Staff related its discussions with NCDOT, focusing in particular, on the idea of a slow zone downtown and challenging crossings along Homestead Road and NC 54. The Town is considering preparing a RFLOI for engineering services to help guide efforts for infrastructure improvements, and to begin work on design, construction estimates and the preparation of encroachment agreements for NCDOT roads.