



TOWN OF CHAPEL HILL NORTH CAROLINA

MEMORANDUM

Meeting Date: 11/09/2015
AGENDA #[##]

TO: Roger L. Stancil, Town Manager

FROM: Brian Litchfield, Transit Director;
Mila Vega, Transit Service Planner

SUBJECT: North-South Corridor Study Update

Recommended Council Action

- That the Council receive an update on the status of the North –South Corridor Study and provide feedback on the proposed alternatives.

Context with Key Issues

The North-South Corridor Study (NSCS) represents a significant step towards achieving the goals established by the Chapel Hill 2020 Comprehensive Plan which calls for improved transit service within the corridor. The study, which began in January 2014, is the first step in the federal process that helps determine the viability of potential transit investment within this study corridor. Following a multi-phased alternative development and evaluation process, supported by public engagement initiatives, a total of six (6) Bus Rapid Transit (BRT) alternatives have been developed for further review within the corridor. All alternatives include variations of three (3) different runningway options: Mixed Traffic with Transit Signal Priority (TSP), Dedicated Lanes – construct (add a bus lane to the existing roadway) and Dedicated Lanes – convert (convert an existing travel lane into a bus-only lane).

• Background

The North-South Corridor Study (NSCS) is a project that is being led by Chapel Hill Transit (CHT) in coordination with the Chapel Hill Transit Public Transit Committee, which includes the Town of Chapel Hill, the Town of Carrboro and the University of North Carolina - Chapel Hill. The project, which is being funded through a combination of federal and local funds, will identify and evaluate a series of transit investment alternatives for implementation within the study corridor, which runs along the Martin Luther King, Jr. Boulevard (Historic Airport Road/NC Hwy 86), South Columbia Street (including the portion of Pittsboro Street along the one-way pairing in this corridor through UNC campus), and US 15-501 South. This corridor, which is approximately 7.3 miles long, has its northern terminus at Eubanks Road and Martin Luther King, Jr. Boulevard and its southern terminus at US 15-501 near the Southern Village mixed-use development (Attachment 1: Corridor Map).

The study was initiated in January 2014; a detailed schedule is presented in Attachment 2: Schedule.

This study represents a significant step towards achieving the goals established by the Chapel Hill 2020 initiative. The study expands on previous planning work to identify a locally-preferred

transit investment alternative that facilitates safe, efficient and expanded levels of mobility within the increasingly busy study corridor, and to improve connectivity between the corridor and the Research Triangle region. Additional reasons for this study include improving connections with other local and regional transit routes (including the planned Durham-Orange Light Rail line), supporting future development within the corridor, increasing transit mode share and ridership to the UNC campus/hospital, and improving multimodal connectivity options between the new Carolina North campus on the northern end of the study corridor, Southern Village at the southern end of the corridor, and the rest of the study corridor.

Following a multi-phase, iterative alternative development and evaluation process that is supported by extensive public engagement activities, the Chapel Hill Transit Public Transit Committee will recommend the Locally Preferred Alternative (LPA) to the Chapel Hill Town Council for adoption. The LPA will be the transit investment alternative that best meets the purpose and need for the project and is competitive for funding through the Federal Transit Administration's New/Small Starts capital funding program. The Town Council will submit the LPA, if adopted, to the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) for integration into its 2040 Metropolitan Transportation Plan.

- **Study Committees:**

The study is guided by the input from the Policy Committee and the Technical Committee.

The Policy Committee is responsible for the overall direction of the study. The committee meets at major milestones during the study to facilitate the analysis, community input and project deliverables. The committee members provide policy guidance throughout the study process.

The Policy Committee members are:

- Aaron Nelson - Chapel Hill-Carrboro Chamber of Commerce
- Bobby Funk - Chapel Hill Downtown Partnership
- Anna Wu - UNC Facilities
- Than Austin - UNC Transportation and Parking
- Damon Seils - Town of Carrboro Alderman
- Roger Stancil - Town of Chapel Hill Town Manager
- Ed Harrison - Town of Chapel Hill Council Member, CHT Public Transit Committee

Member

- Debbie Collins/Chuck Edwards - North Carolina DOT
- Karen McCall - UNC Hospitals
- Mark Ahrendsen/Felix Nwoko – Durham-Chapel Hill-Carrboro MPO
- David Andrews - Town of Carrboro Town Manager
- Jim Ward - Town of Chapel Hill Council Member, CHT Public Transit Committee

Member

- Michael Parker – Planning Commission Member
- Josh Kastrinsky - Transportation and Connectivity Advisory Board Member

The Technical Committee is responsible for advising on technical issues during the study. The committee is a cross-section of transportation, planning and development professionals from the

public and private sectors, community and business leaders. The committee meets monthly during the development of the study.

The Technical Committee members are:

- Brian Litchfield/Mila Vega - Chapel Hill Transit
- David Bonk/ Kumar Neppalli - Town of Chapel Hill
- Christina Moon/Bergen Watterson- Town of Carrboro
- Than Austin/Kurt Stolka - UNC Transportation and Parking
- Jeff Watson - UNC Hospital
- Chuck Edwards - North Carolina DOT
- Patrick McDonough/Geoff Green - GoTriangle
- Craig Benedict - Orange County
- Seth Lajeunesse - Carrboro Transportation Board

- **Public Involvement:**

Two rounds of public meetings have been held to introduce the study and collect public feedback. Round 1 was held in March 2014 and Round 2 in October 2014. More than 125 participants attended the meetings. Forty (40) Bus Rapid Transit (BRT) budget exercises collected (the respondents were clearly more in favor of investments in runningway design and ITS/Technology); 45 comment cards collected.

There was a common theme in the comments related to the runningways options (mixed traffic, dedicated side lanes and dedicated center lanes). Seventy percent (70%) of the respondents like BRT in Dedicated Side Lane; 63% of respondents like BRT in Dedicated Center Lane; 57% of respondents did not like BRT in mixed traffic. Bicycle and pedestrian accommodations also stood out as elements important to the community.

Round 3 – currently planned for December 2015. The public will be able to weigh in on the proposed alignment and runningway configurations.

- **Status and Work Completed:**

Purpose and Need Statement: One of the first documents developed was the Purpose and Need Statement. The purpose of the North-South Corridor Study is to identify and implement the transit investment strategy that will accommodate anticipated growth in travel demand within the corridor, support mobility options that match emerging demographic trends and preferences within the corridor, leverage the existing transportation infrastructure to improve connectivity within the corridor, and encourage sustainable development patterns that reduce reliance on single-occupant vehicles.

Project needs are summarized below:

- Project Need #1: Chapel Hill Transit ridership has increased by more than 20 percent between 2005 and 2012, and buses often operate at capacity during weekday peak hours on multiple routes. Existing demand is straining capacity, which is reducing operational efficiency and

resulting in schedule slippage and bus stacking. Investment in transit system capacity will ensure that existing rider demand is accommodated and future rider demand is supported.

- **Project Need #2:** Chapel Hill is comparatively young, but its fastest-growing demographic is over age 65. In 2010, the median age of Chapel Hill residents was 25.6; the median age of US residents was 37.2. From 1970 to 2012, the over-65 age group increased the most relative to all other age groups (from 4.5 percent to 9.4 percent). Academic research and industry experience has found that both of these demographic groups are increasingly choosing transit for either lifestyle/environmental/economic reasons (Millennials) or mobility reasons (senior citizens).
- **Project Need #3:** Major development opportunities at the northern and southern ends of the corridor will fundamentally reshape mobility patterns and needs within the corridor. The adopted 2020 Chapel Hill Comprehensive Plan designates several development focus areas along the corridor. The Town has approved several new developments within the corridor, including Carolina North, and is reviewing several others for approval. This level of development will expand the number of key activity generators within the study corridor and result in increased travel demand as more people seek to access them.
- **Project Need #4:** Multi-modal transportation investments are necessary to accommodate anticipated increases in travel demand resulting from planned development within the corridor. Recent technical analyses completed as part of the Carolina North development have forecast that – in the absence of mitigation measures - corridor roadways will reach unacceptable levels of congestion by 2030. The scale of roadway expansion required to mitigate this congestion is unlikely to be financially feasible, environmentally sensitive, or aligned with Chapel Hill’s vision for growth.
- **Project Need #5:** Chapel Hill – and the surrounding region – has demonstrated a commitment to sustainable growth strategies in their adopted plans and policies. Chapel Hill’s 2020 Comprehensive Plan calls for a transportation system that accommodates transportation needs and demands while mitigating congestion, promoting air quality, supporting affordable housing goals, sustainability and energy conservation. Transit service also plays a critical role in increasing access to services. High-capacity transit system investment that leverages existing transportation facilities while reducing reliance on single-occupant vehicles will be necessary to achieve these goals.

Tier 1 and Tier 2 Analysis - The Tier 1 Analysis was the first step of the North-South Corridor Study’s three-step alternative development and evaluation process. This two-part analysis applied a series of qualitative evaluation criteria against the modes and alignments under consideration to assess how well each meets the project Purpose and Need and to gauge overall implementation viability. Each mode and alternative was ranked as “pass” or “not pass” for each evaluation criterion, and then given an overall assessment of “pass” or “defer.” Those modes and alignments given an overall assessment of “pass” became the subjects to detailed definition and evaluation in future project phases. Those given an overall assessment of “defer” were set aside from the North-South Corridor Study for possible consideration in future projects.

The alternatives being carried forward into Tier 2 Analysis are No Build, BRT Low, and BRT High operating along MLK Jr., Boulevard/Columbia Street/US 15-501 from the Eubanks Road Park and Ride Lot or a future Park and Ride site northeast of I-40 through downtown Chapel Hill to Southern Village at Dogwood Acres Drive. No Build alternative is the existing CHT system as it operates today with minor changes in service to reflect changes proposed in the Orange County Bus and Rail Investment Plan. BRT Low and BRT High represent various levels of BRT investments that range from improvements such as Transit Signal Priority (TSP), enhanced stations, dedicated lanes, etc.

Figure 1: Tier 1 Results - Modes

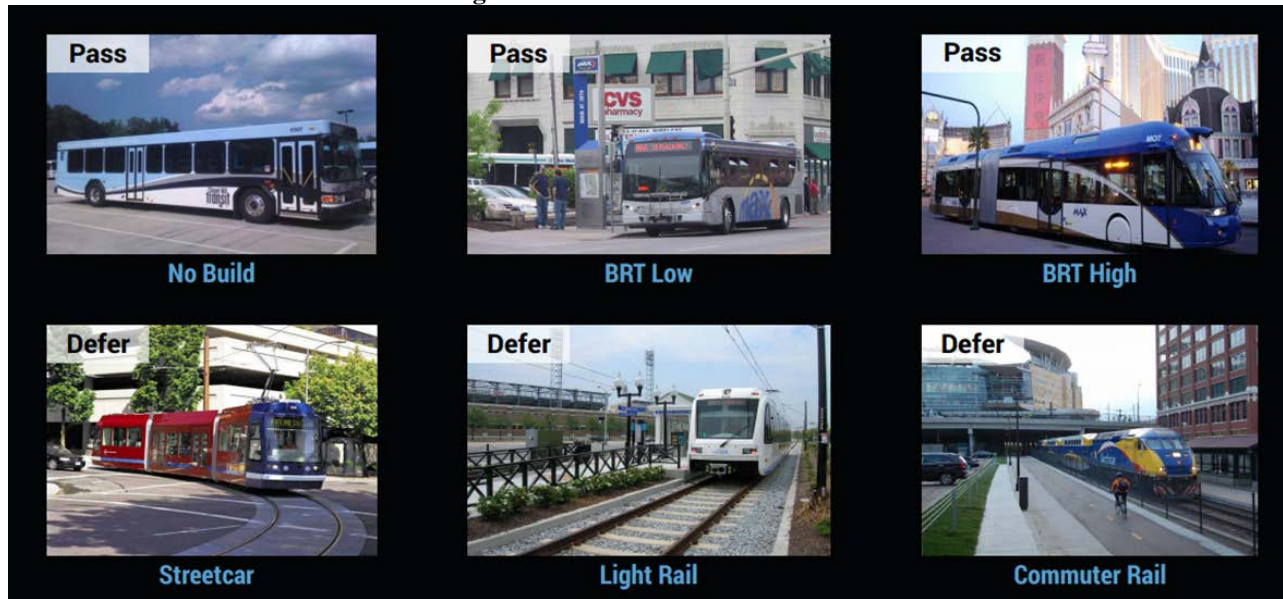
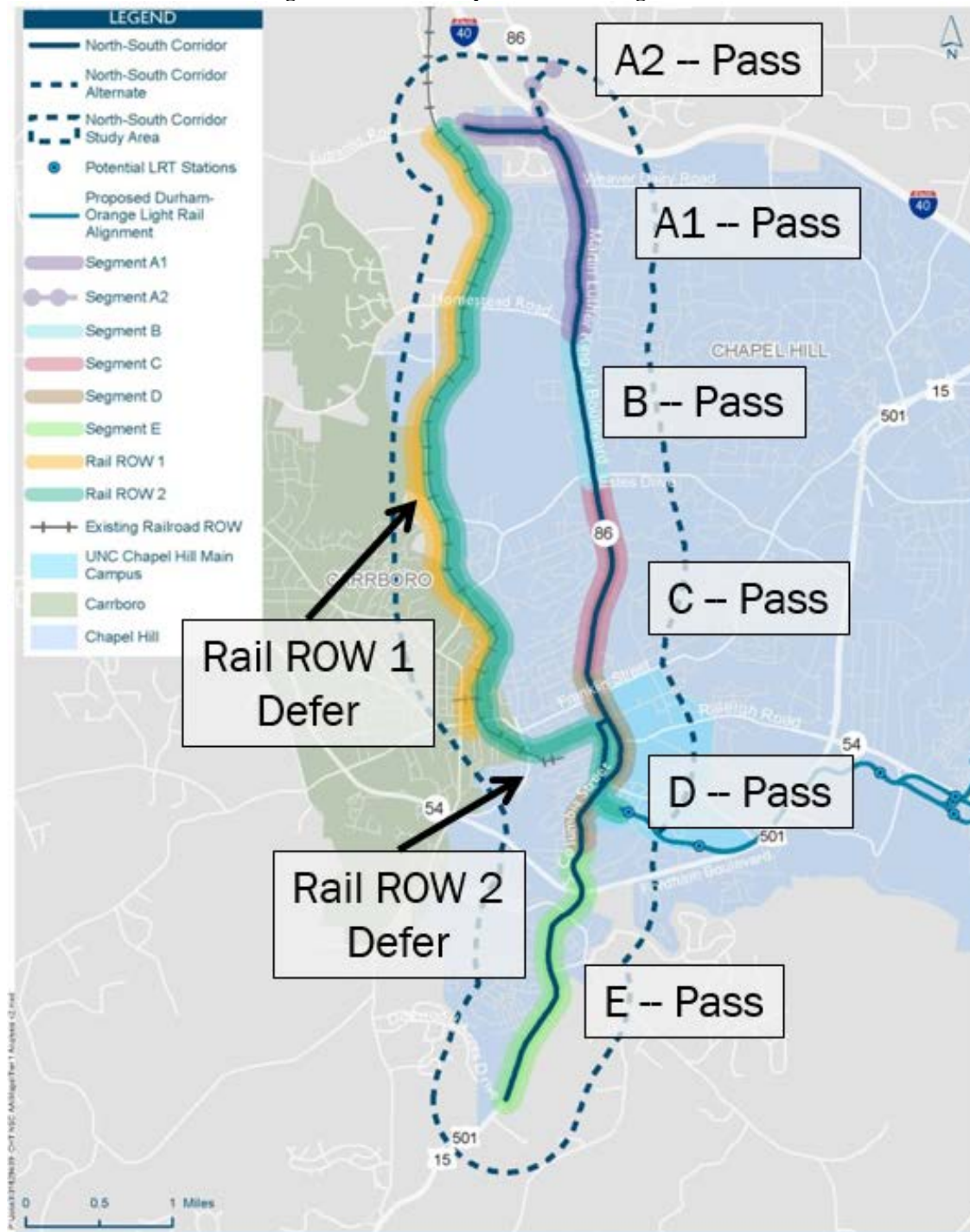
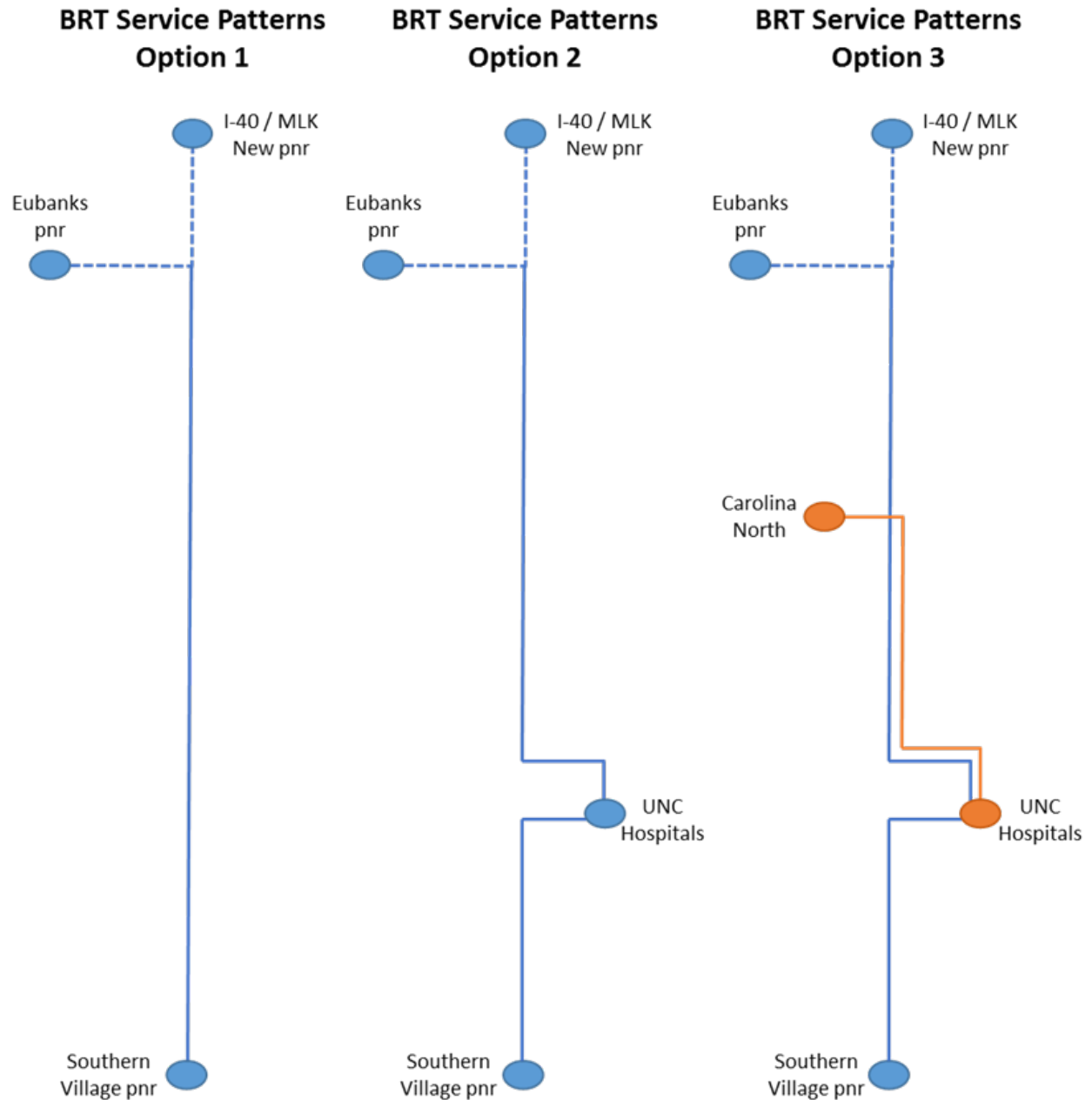


Figure 2: Tier 1 Analysis Results - Alignments



Detailed Definition of Alternatives – The following elements were included in the detailed definition of alternatives: service plan, stop spacing, stop facilities, transit vehicles, technology and customer information, identity and branding and maintenance facility. The main differentiator between the alternatives is runningways options: mixed traffic, dedicated center lane or dedicated side lane.

There are 3 different Bus Rapid Transit (BRT) alternative alignments being carried forward:



Explanation of Recommendation

The following six (6) Bus Rapid Transit (BRT) alternatives are included in the preliminary recommendations developed by the consultant team and the study committees (Attachment 3: North-South Corridor Study Proposed Alternatives).

1. Alternative 1 would operate in mixed traffic between the Eubanks Road Park and Ride lot and the Southern Village Park and Ride lot, with routing into the UNC Hospital campus. The BRT would operate in mixed traffic with transit signal priority along the length of the corridor except between Estes and Manning Drives, where the BRT would operate in dedicated transit lanes. The dedicated lanes would be converted from general traffic use to exclusive transit use.
2. Alternative 2 would operate in mixed traffic with transit signal priority between the Eubanks Road Park and Ride lot and Estes Drive, then would operate in exclusive dedicated transit lanes (converted from general traffic) between Estes and Manning Drive. South of Manning, the BRT would operate in mixed traffic with transit signal priority between Manning Drive and Purefoy Road, at which point the BRT would operate in dedicated transit lanes (newly constructed, which would require the addition of lanes) to the Southern Village Park and Ride lot.
3. Alternative 3 would operate in dedicated transit lanes along the length of the corridor from the Eubanks Road Park and Ride lot to the Southern Village Park and Ride. The dedicated transit lanes would be converted from general traffic lanes between Estes Drive and Purefoy Road; the dedicated lanes would be constructed (requiring the addition of lanes) on the northern end of the corridor (between Eubanks Road and Estes Drive) and the southern end of the corridor (between Manning Drive and Southern Village).
4. Alternative 4 would operate in mixed traffic with transit signal priority between the Eubanks Road Park and Ride lot and Estes Drive, then would operate in exclusive dedicated transit lanes (converted from general traffic) between Estes and Manning Drive. South of Manning, the service would route through the UNC Hospitals campus using mixed traffic with transit signal priority operations through Purefoy Road. South of Purefoy, the BRT would operate in dedicated transit lanes (newly constructed, which would require the addition of lanes) to the Southern Village Park and Ride lot.
5. Alternative 5 would operate in a dedicated lane along the entire corridor between Eubanks Park and Ride lot and the Southern Village Park and Ride lot. The dedicated transit lanes would be converted from general traffic lanes between Estes Drive and Manning Drive; dedicated lanes would be constructed (requiring the addition of lanes) on the northern end of the corridor (between Eubanks Road and Estes Drive) and the southern end of the corridor (between Purefoy Road and Southern Village).
6. Alternative 6 would operate in a dedicated lane along the majority of the corridor between Eubanks Park and Ride lot and the Southern Village Park and Ride lot, with routing into the UNC Hospitals campus. The dedicated transit lanes would be converted from general traffic lanes between Estes Drive and Manning Drive; the BRT would operate in mixed traffic with transit signal priority through the UNC Hospital campus between Manning Drive and Purefoy Road. Dedicated lanes would be constructed (requiring the addition of lanes) on the northern end of the corridor (between Eubanks

Road and Estes Drive) and the southern end of the corridor (between Purefoy Road and Southern Village).

The detailed evaluation results and six (6) alternatives will be presented to the public at a series of open houses in early December 2015. Following the incorporation of the feedback from these open houses, the Policy and Technical Committees will recommend a preferred alternative(s) to the Chapel Hill Transit Public Transit Committee, who will then review and recommend the alternative(s) to the Chapel Hill Town Council for consideration and potential adoption as the Locally Preferred Alternative(s) in early 2016.

Fiscal Note

- Fiscal impact is under development.

Council Goal:

- Facilitate Getting Around
- Support Community Prosperity and Engagement

Attachments

- Attachment 1: Corridor Map
- Attachment 2: Schedule
- Attachment 3: North-South Corridor Study Proposed Alternatives