

Introduction

The Town of Chapel Hill and Chapel Hill Transit (CHT) initiated study of the feasibility of expanding the capacity of the Park-and-Ride facility located along Eubanks Road as a way to accommodate anticipated increased ridership in the Martin Luther King, Jr. Boulevard corridor; help meet the region's travel needs; increase transit usage, reduce air pollution; and enhance economic development. This feasibility study assesses the existing site and the possibility of expanding to the adjoining parcels, evaluates possible alternative sites, develops conceptual site layouts, and provides estimates of capital costs and operating cost for the facility. This report presents the process and findings of the Feasibility Study.

1.1 Study Purpose

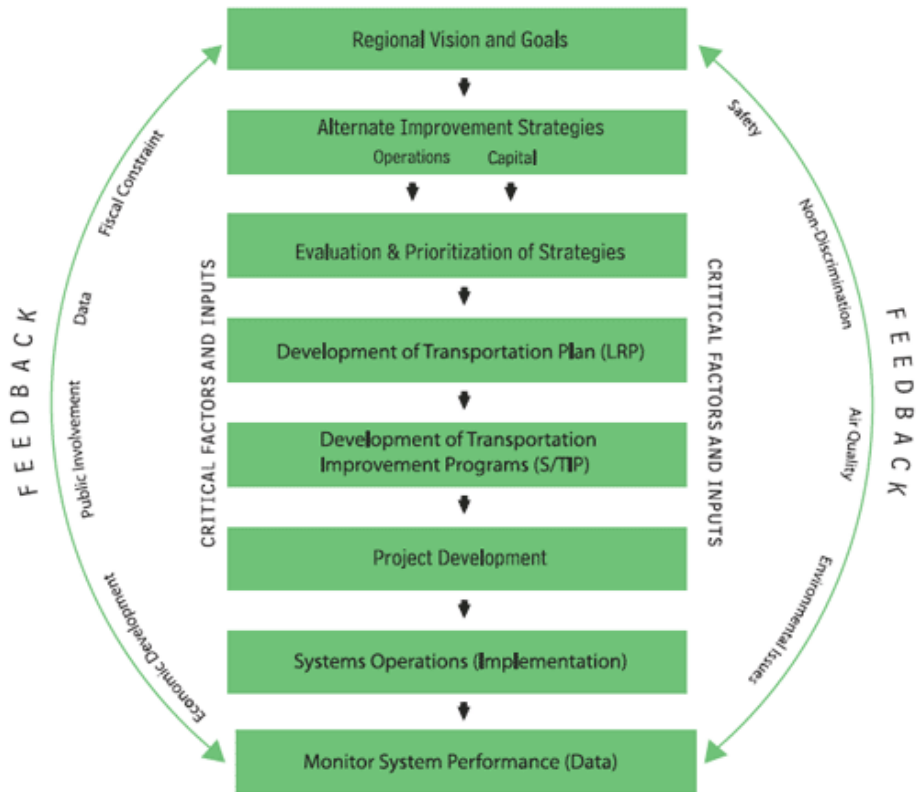
Park-and-Ride has long been an important component of Chapel Hill's transportation system. The Town has recognized that time will be needed for the planning, design, entitlements, construction and commissioning of an expanded Park-and-Ride lot at the north end of Martin Luther King, Jr. Boulevard. The process is starting now so that the capacity will be available by the time demand materializes for this expanded facility. The Town desires adequate Park-and-Ride capacity developed in an environmentally-friendly, financially-efficient manner supportive of transit-compatible redevelopment of adjacent properties. The objectives of the study include:

- Confirm the level of demand for Park-and-Ride spaces in the Eubanks Road facility for both CHT passengers and other users;
- Review the site suitability and configuration options presented in the Eubanks Road Concept Plan by Kling Stubbins in relation to an expanded Park-and-Ride facility and formulate alternatives for Park-and-Ride expansion in the planning area;
- Develop an effective access plan including determine impacts and service requirements so that transit service, walking and biking access, and traffic needs are addressed;
- Understand financial strategies and implications of Park-and-Ride development; and
- Define a variety of potential alternatives and test the alternatives.

1.2 Project Planning and Development Process

The process for developing projects under Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) requires a series of steps of which this study is but a part. The following figure illustrates the steps involved in moving to implementation of a transit or transportation project.

Figure 1-1: FTA Process



Source: The Transportation Planning Process – Key Issues, Federal Highway Administration and Federal Transit Administration, http://www.planning.dot.gov/documents/briefingbook/bbook_07.pdf, p.2.

As a result of previous work in the corridor, the project was identified as a priority in the May 2011 *DRAFT Bus and Rail Investment Plan in Orange County*. The next steps will be to have the project identified in the North Carolina Department of Transportation’s (NCDOT’s) N.C. Statewide Long Range Transportation Plan (The 2040 Plan), and the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (MPO) Transportation Improvement Program (TIP).

In the TIP, the MPO identifies the transportation projects and strategies from the LRTP¹ that it plans to undertake over the next four years. All projects receiving federal funding must be in the TIP. The TIP is the region’s way of allocating its limited transportation resources among the various capital and operating needs of the area, based on a clear set of short-term transportation priorities. Under federal law, the TIP:

- Covers a minimum four-year period of investment;
- Is updated at least every four years;
- Is realistic in terms of available funding and is not just a "wish list" of projects. This concept is known as fiscal constraint;
- Conforms with the SIP for air quality in nonattainment and maintenance areas;
- Is approved by the MPO and the governor; and
- Is incorporated directly, without change, into the Statewide Transportation Improvement Program

¹(<http://www.planning.dot.gov/documents/briefingbook/bbook.htm#2BB>)

This project will inform that process by providing essential information and the logical basis for inclusion of this project in the TIP.

Within the Capital Investment Program under 49 U.S.C. 5309, Circular FTA C 9300.1B bus facilities, Park-and-Ride lots are explicitly eligible for funding. Among the considerations FTA makes in evaluating proposed projects are:

- Planning Justifications – Every project must have a planning basis. The basis for new Park-and-Ride facilities would include an evaluation of demand and service needs, evaluation of sites to meet current and projected transit needs, preliminary concept design, a staging and financing plan, and environmental documentation.
- Facility Size – the facility must be adequate for present needs and realistic future needs.
- Project Development – the grant request must fully describe the facility and estimate its cost. Prior planning may include a feasibility study/needs assessment (such as this study) that provides preliminary cost estimates, funding sources and possible locations. “The first request for funds would be for engineering and design, which would include costs for development of an environmental document, and real estate appraisals. Once FTA has reviewed and approved the environmental documentation, funds may be requested for land acquisition and construction.” (TA C-9300.1B III-13).

1.3 Purpose and Need

The Chapel Hill Transit partners include the Town of Chapel Hill, the University of North Carolina, and the Town of Carrboro. The partners share annual operating and capital costs associated with CHT on a contractual basis and have a history of proactively managing transportation demand. CHT is the second largest transit system in North Carolina with more than seven million rides per year. A key component of this management strategy has been to constrain parking at the University of North

Carolina while providing a fare-free transit operation, and constellation of Park-and-Ride facilities on key corridors. This strategy has successfully avoided significant traffic congestion that would otherwise have occurred given the volume of students, jobs and residents traveling into and out of the area. The route structure of Chapel Hill Transit and the Park-and-Ride facilities are illustrated in Figure 1-2.

Ridership on Chapel Hill Transit and utilization of the Park-and-Ride lots it serves has grown substantially. As presented in Table 1-1, many of the Park-and-Ride facilities are nearing their practical capacities.

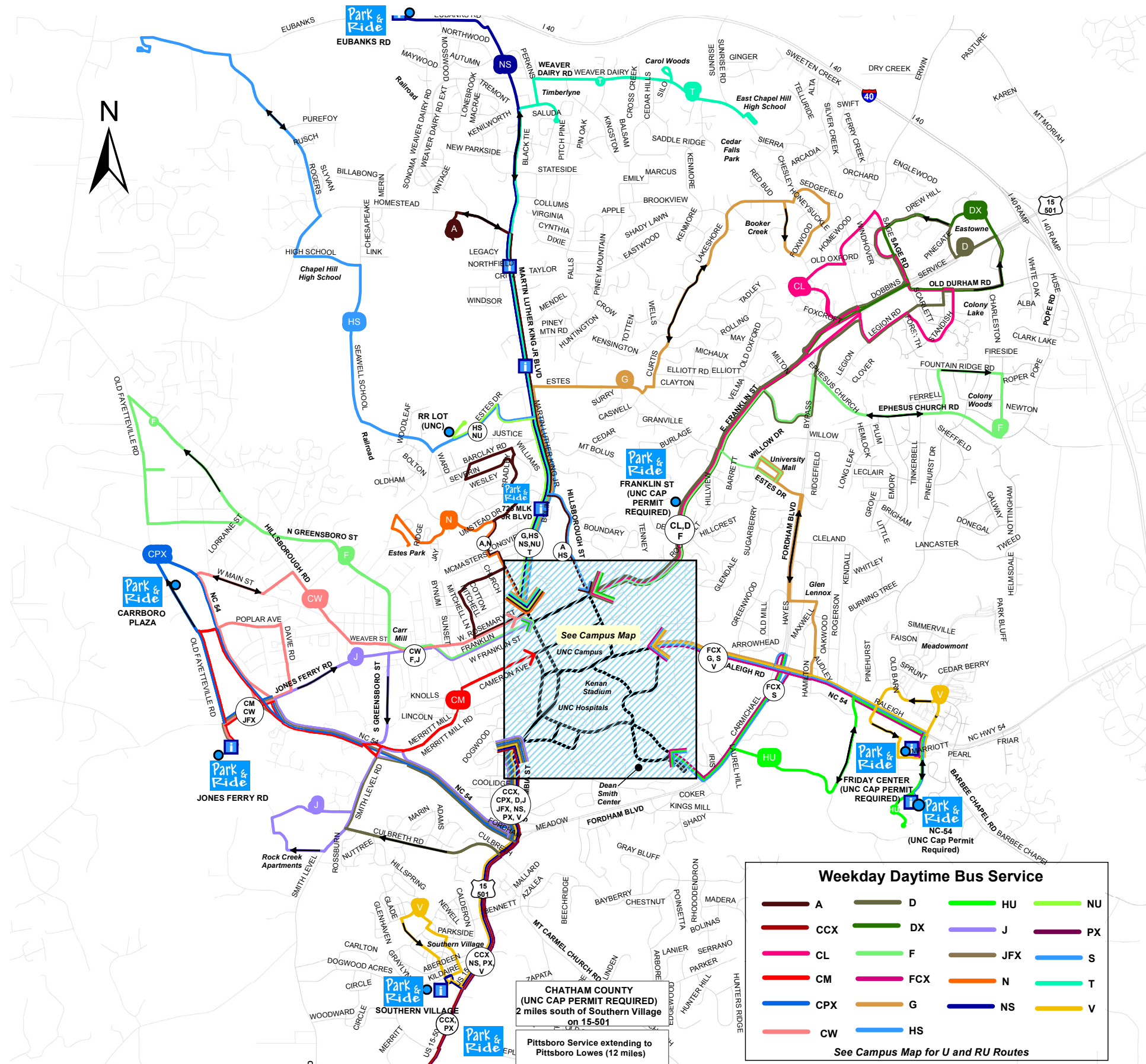
The Park-and-Ride system operated at over 89% of capacity in the fall of 2009. Since then utilization has continued to increase. Traffic congestion also continues to be a limitation on the transportation system serving Chapel Hill.

Chapel Hill has evaluated options for increasing Park-and-Ride capacity at different locations and major corridors in several small area plans and town-wide planning initiatives. During study of the Carolina North development program (along Martin Luther King, Jr. Boulevard) evaluation of travel times on the corridors indicated the NC 86 corridor is a favorable gateway to this major growth node and the Town as a whole. The Carolina North studies also indicated that the available capacity at the Eubanks Park-and-Ride will be utilized by growth within the Town and that expansion of this facility will be needed to accommodate the proposed development at the Carolina North site. Additionally, other studies have identified the area around the NC 86/I-40 Interchange as suitable for mixed-use, transit-oriented development.

Based on these factors, there is a need for improved Park-and-Ride capacity at the northern edge of the Town of Chapel Hill, serving the gateway at the NC 86/I-40 Interchange.

1.3.1 Project Purpose

The purpose of this project is to reduce auto-based traffic demand, traffic congestion and its environmental impacts to the community resulting from continued and planned growth within the Towns and the University of North Carolina, including the Carolina North development. Table 1-1 presents the 2009 parking facilities serving Chapel Hill and the varying capacity and utilization of each. Although there is some available capacity within lots other than Eubanks Road Park-and-Ride, those lots are not expected to meet the demand forecasted in this study based on travel patterns.



NOT TO SCALE

Eubanks Road Expansion Park-and-Ride Feasibility Study
Chapel Hill, North Carolina

Figure 1-2:
Chapel Hill Transit Weekday Routes

Chapel Hill, North Carolina

Table 1-1: Park-and-Ride Capacity and Utilization

Lot Name	Public or Permit Parking	Bus Routes Serving Lot	No. of Parking Spaces	Parking Occupancy Fall 2007	Parking Occupancy April 2009	Parking Occupancy Nov 2009	Available Parking Spaces
Eubanks	Public	NS	400	234	201	268	132
Carrboro Plaza	Public	CPX, CW	145	136	132	111	34
Jones Ferry	Public	JFX, CW, CM	443	252	240	230	213
Southern Village	Public	NS, V	400	388	332	385	15
NC-54 East	Permit	HU, S	512	508	505	512	0
Friday Center	Permit	HU, V, FCX	871	882	867	871	0
Chatham County	Permit	CCX	550	150	215	214	336
Franklin Street	Permit	CL, D, F, M	67	67	67	67	0
Martin Luther King, Jr. Blvd	Permit	G, HS, NS, NU, T	40	39	39	40	0
Total			3,428	2,656	2,598	2,698	730

Source: No. of parking spaces from the University of North Carolina at Chapel Hill.

Fall 2007 occupancy counts from *The University of North Carolina at Chapel Hill Development Plan Traffic Impact Analysis, December 2007 amended January 2008.*

April 2009 space-available counts conducted by VHB on Wednesday, April 8th.

November 2009 space utilization counts conducted on November 17, 2009 by Martin/Alexiou/Bryson.

Note: CCX, CPX, FCX, and JFX are express routes.

Permit Parking is UNC Permit Parking

1.3.2 Project Need

The need for this project is to maintain and enhance the current transit accessibility and attractiveness as regional and local travel demand continues to grow. Congestion levels in the study area would be significantly greater were it not for the parking and transit strategies of Town of Chapel Hill, the University of North Carolina, and the Town of Carrboro. Travel trends, additional development and capacity constraints at the existing Park-and-Ride facilities indicate parking demand will exceed supply within the planning horizon. This would result in a reduction in the mode split for public transit, which would result in increased vehicular travel in the corridor, greater congestion, increased air pollution and a reduced quality of life for study corridor residents.

1.4 Transit and Parking Forecast

The Eubanks Road Park-and-Ride facility currently serves Chapel Hill Transit (CHT) riders, Triangle Transit Authority (TTA) riders and carpoolers. Generally, drivers use at least 350 of the 400 available parking spaces on a daily basis. Additional new ridership will result from organic growth, new land development and expanded service. Successful transit programs provide frequent, reliable and affordable service. CHT has shown it is prepared to meet the increased demand if adequate capacity for drivers to Park-and-Ride is available. The anticipated growth in parking space demand is provided in Table 1-2 below.

Based on the identification of potential users of the Eubanks Road Park-and-Ride facility and the assessment of their needs, a series of building program phases were analyzed. The forecasted utilization was established by applying a 1.5% annual growth rate to the existing utilization, doubling the commuter service of the Triangle Transit Authority (confirmed through conversations with TTA), and adding in Park-and-Ride support for Carolina North. Following the results of the analysis from the 2009 Carolina North Transportation Impact Study, forecasting for the parking space demand was estimated by applying the measured vehicle occupancy ratio (VOR) of 1.08 and turnover rate of 1.25.

Tying the ridership and the parking rates together, the following phases of facility demand resulted. Table 1-2 presents the level of demand and recommended supply for three horizon years with the 2015 as a planning stage.

Table 1-2: Parking Demand and Supply Forecast

Parking Space Demand	2011	Annual Growth	2015	2020	2035
Existing P&R Lot	350	1.5%	371	375	505
TTA Expanded Service			135	135	180
Carolina North ^{1,2}			160	460	1,515
Total Demand			666	970	2,200
Supply	400		740	1200	2,400

¹ Contingent upon development implementation

² Assumes 260,000 SF of Research space

For planning purposes, this study suggests expanding capacity in two phases by providing capacity of 1200 spaces in a new garage with an intermodal center in the near-term; followed by a second garage of 1200 spaces in the long-term. A 2015 analysis was performed as a part of the adjacent land development concept. More detailed information is provided in Chapter 3: Transit and Parking Forecast of this document.