



CHAPEL HILL TRANSIT
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CHAPEL HILL TRANSIT PUBLIC TRANSIT COMMITTEE

NOTICE OF COMMITTEE MEETING AND AGENDA

JUNE 24, 2014 – 11:00 A.M.

CHAPEL HILL TRANSIT – FIRST FLOOR CONFERENCE ROOM

	PAGE #
1. Approval of May 20, 2014 Meeting Summary	1
2. Employee Recognition	
3. Consent Items	
A. May Financial Report	4
4. Discussion Items	
A. FY 15 Budget Update	6
B. Long Range Financial Sustainability Plan	7
C. North South Corridor – Purpose and Need Statement	35
5. Information Items	
A. May Performance Report	92
6. Departmental Monthly Reports	
A. Operations	93
B. Director	94
7. Future Meeting Items	95
8. Partner Items	
9. Next Meeting – August 26, 2014 (11:00 a.m. – 1:00 p.m.)	
10. Adjourn	

**MEETING SUMMARY OF A REGULAR MEETING OF THE PUBLIC TRANSIT COMMITTEE
1ST FLOOR TRAINING ROOM, CHAPEL HILL TRANSIT**

Tuesday, May 20, 2014 at 11:00 AM

Present: Jim Ward, Chapel Hill Town Council
Matt Czajkowski, Chapel Hill Town Council
Damon Seils, Carrboro Alderman
Cheryl Stout, UNC Public Safety
Than Austin, UNC Transportation Planner
Jeff McCracken, UNC Public Safety

Absent: Ed Harrison, Chapel Hill Town Council

Staff present: Flo Miller, Deputy Town Manager, Brian Litchfield, Transit Director, Rick Shreve, Administrative Analyst, Nick Pittman, Interim Operations Manager, Jeff Brubaker, Carrboro Transportation Planner

Guests: Michael Parker, Mayor Lydia Lavelle, Brian Howard, Carrboro Intern

1. The Meeting Summary of April 29, 2014 was received and approved as amended.
2. Employee Recognition – No employee recognition.
3. Recognition of Mayor Lydia Lavelle – Jim Ward recognized Mayor Lavelle with a plaque in appreciation for her service to the Partners Committee. Mayor Lavelle thanked everyone.
4. **Consent Items**
 - A. April Financial Report – Rick reviewed the report for the Partners. Jim asked about the status of the fuel contracts for the FY 15 fiscal year. Brian reported that one contract has been finalized and he hopes the final one will be completed in the next couple of weeks.
5. Public Forum on FY 2014-15 Program of Projects – The Public Forum was called to order by Brian Litchfield at 11:15 AM. He reviewed the Program of Projects. No comments were received. The Public Forum was closed at 11:17AM.
6. **Discussion Items**
 - A. FY 2014-15 Budget Development – Brian reviewed the budget priorities, key challenges and highlights. Chief McCracken asked about using the fund balance for purchasing buses. Brian noted that a firm number for the fund balance should be available in the fall after the Town’s audit is complete. The Fund Balance has not been used in recent years to help build it up. Chief McCracken said he did not want to delay the purchase of buses because the

need is so dire. Jim agreed that the need is urgent and that staff should move forward as quickly as possible to get buses ordered, including the usage of a possible advance from TTA (Orange County Bus and Rail Investment Plan funds) to get as many buses as possible. Brian will continue discussions with TTA to get further information on this.

- B. Orange County Bus and Rail Investment Plan Funds for FY 2014-15 – Brian reviewed the planned usage of these funds from the discussion at the last Partners meeting. Chief McCracken asked about the use of funds for the continuation of the FY 13-14 service improvements and new service. Brian reviewed these budget items noting that the RU route improvements had been removed. UNC representatives thought that the RU route was still up for discussion. Jim expressed discomfort with this funding being used for a route that is fully owned by UNC. Damon said that the funding should be used for shared routes only. UNC noted that the UNC ridership supports the grant funds received for the whole system. It was noted that the language of the MOU needs to be consulted for further discussions on this issue. The University does not want to be precluded from future funding from the Orange County Bus and Rail Investment Plan. It was also noted that the NU route is fully funded by UNC as an express route, but it has become more of a shared route and UNC would like some resolution to this as well. Does the NU revert to an express route only or does it become a truly shared route with financial support from all the Partners? After further discussion, Brian suggested that staff provide ridership and funding numbers for the meeting next month and possible options for decreasing the cost of the NU being a shared route. The Partners agreed to discuss this at the next meeting.

7. Information Items

- A. North South Corridor – Purpose and Need Statement – Provided for the Partners information.
- B. Long Range Financial Sustainability Plan – An in depth update will be given to the Partners in June. Brian asked if the Partners would like to have a work session on the Plan in July. The Partners expressed interest in meeting individually with the consultants during the month of July and possibly having an additional presentation to the whole group. Brian will check on the availability of the Consultants for individual meetings in July. The Consultants will be attending a meeting in August/September to present the status of the project.

Rick reported on the Build a Transit System tool that the Consultants are creating for the public's use. He will email a link to the tool for the Partners to provide input before it goes live.

- C. April Performance Report – Provided for the Partners.

8. Departmental Monthly Report

- A. Operations - Provided for the Partners

B. Maintenance – Provided for the Partners

C. Director - Provided for the Partners

9. **Future Meeting Items**

10. **Partner Items**

11. **Next meeting** – June 24, 2014

12. Adjourn

The Partners set a next meeting date for June 24, 2014
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3A. May Financial Report

Staff Resource: Rick Shreve, Budget Manager

Prepared by: Rick Shreve

May 2014

- Expenses for the month of May were \$1,744,440. Along with the encumbrances, approximately 77.40% of our budget has been expended or reserved for designated purchase (e.g. purchase orders created for vehicle maintenance inventory supplies encumber those funds, and show them as unavailable for other uses).

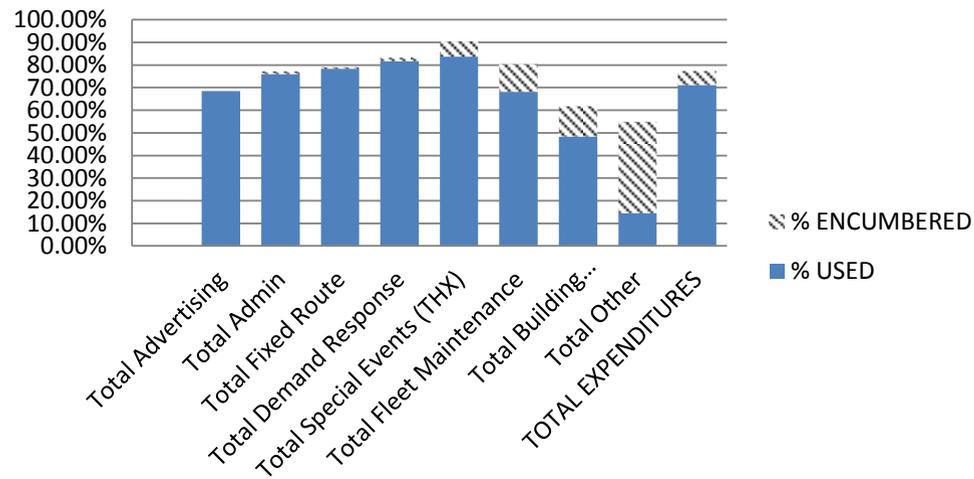
Highlights

- Staff are monitoring and analyzing the data that comprise this summary, and adjusting projections for subsequent years accordingly. This aggregation of expenses and encumbrances is consistent with years past, and is perfectly in line with what we would expect at this point in the year.
- The attached data exhibit the financial information by division within CHT, which should be a useful tool in monitoring our patterns as the year progresses, and is a high-level representation of the data used by our division heads.
 - It is worth noting that the “Special Events” line is mostly comprised of Tarheel Express expenses, and the line labeled “Other” is comprised primarily of special grant-funded expense lines that are not permanent fixtures in the division budgets.

Transit 640 Fund Budget to Actual at end of May 2014

	ORIGINAL BUDGET	REVISED BUDGET	ACTUAL MONTH EXPENSES	ACTUAL YTD EXPENSES	CURRENT ENCUMBRANCES	BALANCE AVAILABLE	% USED OR ENCUMBERED May = 91.67%
Total Advertising	\$ 117,207	\$ 117,207	\$ 8,579	\$ 80,242	\$ -	\$ 36,965	68.46%
Total Admin	918,701	1,025,856	113,948	778,885	13,570	233,402	77.25%
Total Fixed Route	11,029,432	11,051,714	972,311	8,650,390	90,347	2,310,977	79.09%
Total Demand Response	1,861,387	1,921,973	184,749	1,571,009	26,945	324,019	83.14%
Total Special Events (THX)	305,351	305,351	1,891	255,642	20,314	29,395	90.37%
Total Fleet Maintenance	3,766,187	4,146,014	391,525	2,827,593	500,643	817,778	80.28%
Total Building Maintenance	616,279	918,172	42,811	444,196	122,219	351,757	61.69%
Total Other	1,148,360	1,325,516	28,627	192,730	533,801	598,985	54.81%
TOTAL EXPENDITURES	\$ 19,762,904	\$ 20,811,803	\$ 1,744,440	\$ 14,800,687	\$ 1,307,839	\$ 4,703,278	77.40%

CHT May 2014 YTD Expenses as % of Budget



4A. FY2014-15 Budget Development**Action: 1. Receive information and provide staff with feedback.**

Staff Resource: Rick Shreve, Budget Manager
Brian Litchfield, Director

Presentation

- The Chapel Hill Town Council adopted the FY2014-15 budget on June 9th, which included the Chapel Hill Transit budget as recommended by the Chapel Hill Transit Partners Committee. Staff will update the Partners on the FY2014-15 budget and discuss the following key areas at the Partners meeting:
 - Pittsboro Express.
 - Chapel Hill Transit has been awarded grant funds through the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC-MPO) that will cover up to 50% of the cost of the service through FY2014-15.
 - Orange County Bus and Rail Investment Funds
 - Utilization of funds to offset cost increases of existing services and service improvements for FY2014-15.
 - Fuel Contracts.
 - Staff has entered into three (3) fuel contracts for FY2014-15.

Recommendation

- Partners discuss the information provided in the presentation and provide staff with feedback.

4B. Long Range Financial Sustainability Plan Update

Action: 1. Receive information and provide staff with feedback.

Staff Resource: Rick Shreve, Budget Manager
Brian Litchfield, Director

Overview

The consultant team is at work on a number of parallel tracks all ultimately converging towards a long range strategic and financial plan for CHT.

The foundational elements underway include:

- Organizational analysis (Partners were presented with the early work on this).
 - Developing plan to “step in” to staffing levels consistent with the size and ridership of CHT.
- Capital planning (Partners were presented with the early work on this).
 - Vehicle replacement strategy – The consultants are working on several scenarios that will ultimately inform us as we create a strategic vehicle replacement plan.
 - A memo outlining a number of related factors will be provided at the meeting, to be reviewed and discussed.

Public Outreach

The first public workshops were held in early March, at Carrboro Town Hall, and the Chapel Hill Public Library. The consultants are working on several public outreach efforts with focus groups, and interviews with stakeholders, to better inform the study.

The team expects to launch the “Build a Transit System” online tool near the end of summer / early fall, for broadest public involvement.

Next Steps

- Review and discuss attached State of System Report
- Review and discuss Capital Plan and Schedule – to be provided at meeting

Attachments

- Draft State of the System Report
- Capital Plan/Financing Update and Schedule – to be provided at meeting

Recommendation

- Partners discuss the information provided and provide staff with feedback.



CHAPEL HILL TRANSIT: STRATEGIC AND FINANCIAL PLAN

State of the System Report

MAY 2014

DRAFT



N NELSON
NYGAARD

TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

1 INTRODUCTION 5

A TALE OF TWO CITIES.....5

THE CHALLENGE.....8

2 REGIONAL TRANSIT SERVICES 11

REGIONAL GROWTH/DEVELOPMENT IN THE TRIANGLE 11

TRANSIT SERVICE DEVELOPMENT 11

EMERGENCE OF REGIONAL TRANSIT..... 13

3 FUNDING 19

EXPENSES AND REVENUES.....19

FUTURE FUNDING..... 22

TABLE OF FIGURES

Figure 1 CHT Projected Costs and Revenues (2013-2023) 2

Figure 2 Total Passenger Trips and Operating Expense (2002-2012)..... 6

Figure 3 Regional Transit Service12

Figure 4 Wake, Durham and Orange County Transit Plan –
Proposed Regional Rail Corridors.....14

Figure 5 Proposed Durham to Chapel Hill Light Rail Line.....15

Figure 6 Monthly UNC GoPass Usage by Route16

Figure 7 CHT Funding Sources (FY14)19

Figure 8 CHT Transit Annual Budgets: Expenditures and Revenues (2007-2013).....21

Figure 9 CHT Projected Costs and Revenues (2013-2023) 23

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EXECUTIVE SUMMARY



NS SOUTHERN VILLAGE

COMMUNITY SAFETY PARTNERSHIP
We report suspicious activity

KNEELING

RAMP

Chapel Hill Transit

FIRE EXTINGUISHER HERE

EXECUTIVE SUMMARY

The purpose of the Strategic and Financial Sustainability Plan is twofold:

- Address CHT's short-term challenges associated with staffing and capital investments, and
- Articulate an agency vision for service development over the long term and craft a strategy that aligns longer-term system goals with a sustainable financial plan.

The State of the System Report frames the issues, opportunities, and challenges facing CHT and serves as a starting point for future recommendations. The development of this report looked at a number of factors, including CHT's current operating environment, a market assessment, and plans for growth in the region.

THE CHALLENGE

CHT has experienced significant growth over the past 10 years, which has been a very positive change for the community. However, as CHT doubled its efforts and productivity, many aspects of the organization—including staffing and capital infrastructure—have not kept pace. The short-term challenge assigned to the Strategic and Financial Sustainability Plan is to develop a strategy that will help CHT ramp up its staffing and capital resources so that the agency is well-positioned to meet its current obligations and fulfill its role in the community.

Once the baseline challenges are addressed, the Strategic and Financial Sustainability Plan will focus on working with CHT staff, funders, and the broader community to articulate a vision for how transit can support community goals for a viable, multimodal future. Continued, sustainable, and innovative funding solutions will also be an essential part of this strategy. The State of the System Report is only the beginning of the conversation about the challenges and opportunities facing CHT. Framing issues related to regional transit investment and funding, discussed in Chapter 2 and Chapter 3, are essential to developing solutions to some very real and impending challenges.

Trends in Ridership, Service Hours, and Productivity

CHT ridership has grown significantly over the past 10 years. Future analysis conducted as part of the Strategic and Financial Sustainability Plan will make recommendations about service levels with the goal of enhancing the sustainability of CHT's services.

Organizational Structure

As CHT doubled the amount of service it provided, many parts of the organization and organizational structure did not keep pace. Inadequate staffing levels are due to a number of factors, including limited funding, working within the constraints of being a department in the Town of Chapel Hill, and failing to update practices that worked for a smaller system but are unsuitable for CHT's current size. An organizational analysis conducted as part of the Strategic and Financial Sustainability Plan will provide recommendations about staffing levels and organizational structure at CHT.

Capital Planning: Replacing Old Vehicles

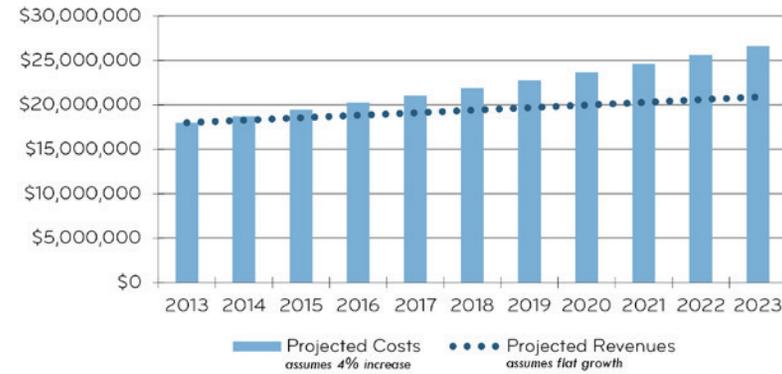
Ongoing funding challenges at the operating level combined with changes in federal funding programs have led to an under-investment in capital infrastructure. By the end of 2013, all 19 demand response vehicles and 42 of 99 fixed-route buses were past their useful life¹. Capital facilities and equipment are fundamental to system operations and in many ways represent the agency "face" because the buses are what the public most often observes. Capital facilities and equipment are also among the most expensive parts of a system. Capital and vehicle replacement plans will be developed as part of the Strategic and Financial Sustainability Plan to enhance the long-term sustainability of vehicle purchases and capital investment.

¹ "Useful life" is a definition developed by the Federal Transit Administration (FTA) that reflects the length of time (typically defined by age but also mileage) transit vehicles should be in service. FTA definitions vary by vehicle type and are based on vehicle testing.

Funding

Funding is the most significant challenge facing CHT over the short-, medium-, and long-term. As the cost of fuel, labor and insurance rise, however, the cost of operating transit service—even without an increase in service—will continue to increase. Without a change in revenue streams, the gap between projected revenues and expenditures will continue to widen (see Figure 1). Obtaining long-term funding sustainability is a key goal of the Strategic and Financial Sustainability Plan, and funding is discussed in greater detail in Chapter 3 of this report.

Figure 1 CHT Projected Costs and Revenues (2013-2023)



Source: Nelson\Nygaard Consulting Associates

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1 INTRODUCTION



CHT benefits from funding provided by three partners—UNC, the Town of Carrboro, and the Town of Chapel Hill.

Image from Nelson\Nygaard

1 INTRODUCTION

Chapel Hill Transit (CHT) is a very successful system carrying more riders than any other system in North Carolina, after Charlotte. Much of the system's growth has occurred over the past decade, after CHT decided to operate fare-free system in 2002. Transit has been—and continues to be—a cornerstone of the community by providing efficient travel for the University of North Carolina-Chapel Hill (UNC) and accommodating growth at both the UNC campus and the communities of Carrboro and Chapel Hill. The success at CHT also reflects a commitment to both transit and a multimodal transportation system by the agency partners, the Town of Carrboro, Town of Chapel Hill, and UNC.

Success, however, has not come without struggles. Consistent with experience nationally, traditional funding sources for transit agencies are stagnating while the cost to operate service increases. At the same time, the demand and need for transit is growing as transit services are increasingly viewed as important tools to stimulate economic development, protect the environment, and offer a viable travel option.

Beyond these national trends, CHT is at a turning point as an agency and service. What began as a shuttle service to and from the UNC campus has grown into a much bigger system, reflecting growth not only at UNC but also the broader region. However, as the system grows, investment in the agency's infrastructure has not kept pace: staffing levels increased only 37% while ridership increased more than 100% from 2002 to 2009, and a lack of investment in capital resources translates into more than 40% of the vehicle fleet being beyond its useful life. With these issues in mind, the purpose of the Strategic and Financial Sustainability Plan is twofold:

- Address CHT's short-term challenges associated with staffing and capital investments, and
- Articulate an agency vision for service development over the long term and craft a strategy that aligns longer-term system goals with a sustainable financial plan.
- The State of the System Report is the first step in the strategic and financial planning process. The report intends to frame the issues, opportunities, and challenges facing CHT and serve as a starting point for future

recommendations. The development of this report looked at a number of factors, including CHT's current operating environment, a market assessment, and plans for growth in the region. The final State of the System report includes information on trends associated with the regional transit network and a broader perspective of CHT's current funding environment.

A TALE OF TWO CITIES

In many ways, CHT represents a "tale of two cities." On the one hand, the Town of Chapel Hill and its partners have made great strides in developing a transit system that residents take pride in and helping the community meet its policy and livability goals. On the other hand, CHT is struggling with its own success. The agency responded to demand quickly, expanding external systems (routes and riders) without making corresponding investments in the internal systems that support service development. Most notably, a distinct lack of investment in staffing and capital infrastructure as well as other support systems, such as governance and funding models, marketing systems, and service design has negatively affected the system. A key part of the strategic and financial planning process will be to help CHT align these divergent systems.

Fixed-Route Bus Service



Route CPX approaches the Carrboro Center Park-and-Ride Lot.

Image from Nelson\Nygaard

CHT operates fixed-route bus service seven days a week, but the system is heavily oriented towards weekday service. In 2014, 29 routes operate on weekdays, eight operate on Saturdays, and two operate on Sundays. Both of the Sunday routes are campus circulator services.

CHT bus routes are heavily oriented towards the UNC campus and downtown Chapel Hill, with nearly every route providing service on or near campus. In turn, approximately 60% to 70% of all passenger trips begin or end at UNC.

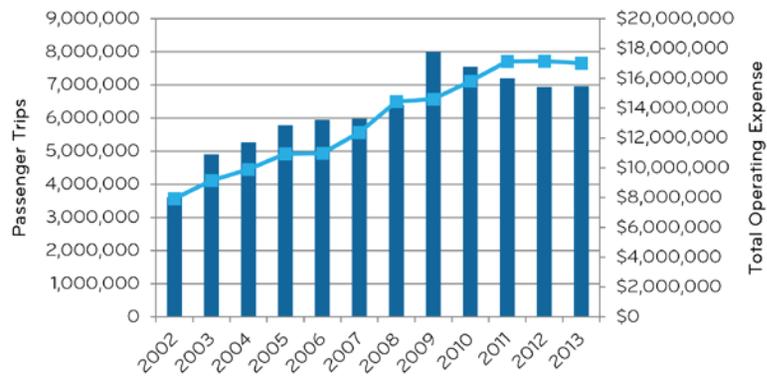
Several routes are specifically designed to provide circulation at UNC or bring students and employees to and from campus—some with very frequent service during peak periods. According to a passenger survey conducted in 2012, 39% of riders are students, and 36% of all trips are for college purposes—not including the faculty and staff traveling on CHT to get to campus.

Trends in Ridership, Service Hours, and Productivity

As discussed, CHT ridership has grown significantly over the past 10 years. Between 2002 and 2009, ridership more than doubled, growing from 3.5 million riders to 7.9 million riders over the eight-year period (see Figure 2). From 2002 to 2012, investment in service hours increased by 30% (from 121,000 annual revenue vehicle hours to 158,323) and investment in service operations more than doubled (from \$6.9 million to \$14.6 million)¹. By 2012—mainly due to service cuts implemented in 2010—ridership decreased by 13% from its 2009 peak. Ridership and costs remained relatively steady in 2013. Future analysis conducted as part of the Strategic and Financial Sustainability Plan will make recommendations about service levels with the goal of enhancing the sustainability of CHT’s services.

¹ These numbers are for fixed-route service only (National Transit Database, 2002 and 2012).

Figure 2 Chapel Hill Transit: Total Passenger Trips and Operating Expense (2002-2013)*



* Figure 2 includes both fixed-route and demand response data. Source: Nelson\Nygaard adapted from National Transit Database

Park-and-Ride Lot Service

Town of Chapel Hill Park-and-Ride Lot Fees

There are currently 1,238 park-and-ride spaces in Chapel Hill and Carrboro that are open to the public. The following fees were implemented in 2013 and are effective at Carrboro Plaza, Eubanks, Southern Village, and Jones Ferry:

- Daily rate: \$2
- Monthly rate: \$21
- Annual rate: \$250

Parking on the UNC campus is restricted; some 50,000 people are on campus every day (faculty, staff, students, and visitors, plus hospital staff) but only roughly 15,000 parking spaces². Thus, the CHT’s bus service evolved largely out of a need to ensure people could get to the UNC campus. Initial service primarily consisted of a series of shuttles running between park-and-ride lots and campus. To a large extent, the network retains much of that original structure, with all but three of the existing weekday routes serving at least one park-and-ride lot.

Express park-and-ride lot routes represent 21% of CHT’s overall transit service hours and carry nearly 20,000 riders per day, or about two-thirds of the overall ridership.

The park-and-ride lot network consists of 11 facilities, five of which are owned by the Town of Chapel Hill and open to the public, and six of which are owned and managed by UNC and open to UNC affiliates³ only. Most park-and-ride lots are within a five-mile radius of the center of campus, which minimizes the amount of time people spend on the bus. In general, the park-and-ride lot system has been a very successful tool in keeping UNC accessible and managing the need for on-campus parking facilities. The lots have historically been very well-used and operating short distances from park and ride lots to campus helps CHT operate cost-effective service.

However, CHT’s focus on serving park-and-ride lots in the long term is in question. The broader Research Triangle Region, through new taxing authorities, is in the process of creating a regional transit system with long-term plans for fixed-guideway (light rail) transit service as well as expanded regional bus networks. Triangle Transit Authority (TTA) (see also Chapter 2) is already expanding the regional bus network, including park-and-ride lot service that allows riders to board the bus closer to home and spend more time on the bus but less time driving. This model is increasingly attractive to commuters—the

² University of North Carolina at Chapel Hill, 2013

³ Those parking in a UNC-owned park-and-ride lot must display a tag or sticker in their windshield.



Route CPX approaches the Carrboro Center Park-and-Ride Lot.

Image from Nelson\Nygaard

trip is less expensive, and amenities such as Wi-Fi make time on the bus more productive. At the same time, decisions at CHT to charge parking fees at the Chapel Hill park-and-ride lots help make regional buses more attractive.

Organizational Structure



A passenger exits Route FCX at the Friday Center Park-and-Ride Lot.

Image from Nelson\Nygaard

As CHT doubled the amount of service it provided, many parts of the organization and organizational structure did not keep pace. Inadequate staffing levels are due to a number of factors, including limited funding, working within the constraints of being a department in the Town of Chapel Hill, and failing to update practices that worked for a smaller system but are unsuitable for CHT's current size.

From an organizational standpoint, CHT's current structure is flat, with limited hierarchy for reporting requirements and

supervision. Consequently, some positions (including the Transit Director) have a

significant level of responsibility, requiring them to be both a policymaker and a day-to-day operations manager. In a smaller system, such a level of responsibility is appropriate, but CHT has grown well beyond a small system. Management staff efforts are best spent supervising and monitoring rather than participating in daily activity. Improving CHT's internal organization will help make the agency more effective and better positioned to adapt to the current operating environment as well as emerging demands and needs. An organizational analysis conducted as part of the Strategic and Financial Sustainability Plan will provide recommendations about staffing levels and organizational structure at CHT.

Capital Planning: Replacing Old Vehicles

Capital facilities and equipment are fundamental to system operations and in many ways represent the agency "face" because the buses are what the public most often observes. Capital facilities and equipment are also among the most expensive parts of a system.

Ongoing funding challenges at the operating level combined with changes in federal funding programs have led to an under-investment in capital infrastructure. By the end of 2013, all 19 demand response vehicles and 42 of 99 fixed-route buses were past their useful life⁴. Consequently, there are days where it is difficult for CHT to put enough vehicles into service due to mechanical problems associated with operating an old fleet.

In the next 10 years, therefore, CHT will need to purchase 79 fixed-route vehicles. At an average cost of \$440,000 per full-sized bus and \$640,000 per articulated vehicle, the total fixed-route vehicle investment needed in the next 10 years is estimated at approximately \$40 million—an annual average of approximately \$4 million⁵. When including demand response and non-revenue vehicles, the total investment increases to \$45 million. Capital and vehicle replacement plans will be developed as part of the Strategic and Financial Sustainability Plan to enhance the long-term sustainability of vehicle purchases and capital investment.

⁴ "Useful life" is a definition developed by the Federal Transit Administration (FTA) that reflects the length of time (typically defined by age but also mileage) transit vehicles should be in service. FTA definitions vary by vehicle type and are based on vehicle testing.

⁵ This number includes annual cost increases associated with vehicle prices. Additionally, due to funding constraints, the conceptual fleet replacement plan assumes that the articulated vehicles currently in the fleet will be replaced with regular full-sized buses.



Passengers wait for the bus at the corner of Columbia Street & Franklin Street in Chapel Hill.

Image from Nelson\Nygaard

Funding

Funding is the most significant challenge facing CHT over the short-, medium-, and long-term. As the cost of fuel, labor and insurance rise, however, the cost of operating transit service—even without an increase in service—will continue to increase. Without a change in revenue streams, the gap between projected revenues and expenditures will continue to widen. Obtaining long-term funding sustainability is a key goal of the Strategic and Financial Sustainability Plan, and funding is discussed in greater detail in Chapter 3 of this report.

THE CHALLENGE

CHT has experienced significant growth over the past 10 years, which has been a very positive change for the community. However, as CHT doubled its efforts and productivity, many aspects of the organization—including staffing and capital infrastructure—have not kept pace. The short-term challenge assigned to the Strategic and Financial Sustainability Plan is to develop a strategy that will help CHT ramp up its staffing and capital resources so that the agency is well-positioned to meet its current obligations and fulfill its role in the community.

Once the baseline challenges are addressed, the Strategic and Financial Sustainability Plan will focus on working with CHT staff, funders, and the broader community to articulate a vision for how transit can support community goals for a viable, multimodal future. Continued, sustainable, and innovative funding solutions will be an essential part of this strategy. The State of the System Report is only the beginning of the conversation about the challenges and opportunities for CHT. Framing issues related to regional transit investment and funding (see Chapter 2 and Chapter 3) are essential to developing solutions to some very real and impending challenges.



Approximately 60% to 70% of CHT's trips begin or end at UNC.

Image from Nelson\Nygaard



2 REGIONAL TRANSIT SERVICES



The Triangle Transit Authority provides service in downtown Chapel Hill.
Image from Nelson\Nygaard

2 REGIONAL TRANSIT SERVICES

REGIONAL GROWTH/ DEVELOPMENT IN THE TRIANGLE

The Research Triangle Region of North Carolina generally refers to the cities of Raleigh, Durham, and Chapel Hill, as well as Wake, Durham, and Orange counties. Chatham County is also sometimes considered part of the Triangle Region, but this analysis concentrates on Wake, Durham, and Orange counties.

The region is well-known nationally for its concentration of universities and colleges, medical centers, and the Research Triangle Park (RTP), one of the largest research and development centers in the U.S. In part due to the success of RTP, the Triangle Region has emerged on the national stage as one of the nation's most desirable places to live. This has fueled tremendous growth, such that the region's population has doubled in the past 12 years, growing from roughly 700,000 in 1990 to 1.4 million in 2012¹.

Development of the Triangle Region is somewhat unique as a metropolitan area because there is no clear urban center. While the City of Raleigh is by far the largest urbanized area in the region, its population is just over 420,000 residents out of a regional population of 1.4 million, accounting for less than one-third of all residents. In addition, the diversity of employment centers, including Raleigh (North Carolina state capital and home to North Carolina State University), Durham (RTP, Duke University, and North Carolina Central University) and Chapel Hill (UNC and UNC Hospitals) meaning the region is truly polycentric.

The region is expected to continue to expand, with both population and employment forecasted to increase significantly over the next several decades. While growth in Carrboro, Chapel Hill and the University of North Carolina is not expected to be as rapid or significant as the region overall, changes in the region have and undoubtedly will continue to have an impact on the role CHT plays in transit service delivery. In the future, CHT will need to achieve sustainability internally while also growing into a player in the larger region. The Strategic and Financial Sustainability Plan will investigate methods to better integrate CHT with regional services being implemented in the Research Triangle.

¹ According to the U.S. Census Bureau.



The Triangle Transit Authority is providing an increasing amount of service within Chapel Hill and Carrboro.

Image from Nelson\Nygaard

TRANSIT SERVICE DEVELOPMENT

Consistent with development patterns across the country, rapid population and employment growth in the Research Triangle area has led to increased demand for travel. Congestion on regional highway and roadway networks is significant, and despite plans for more roadway development, regional transportation plans suggest demand will outstrip capacity even with the proposed investments. Thus, as a part of a strategy to diversify travel opportunities, the region developed an ambitious plan for new and expanded regional public transportation services.

Historically, the state of North Carolina has provided funding for public transit at a county level. There are a variety of reasons for this, including the development of funding programs and transportation policies when North Carolina had fewer, smaller, and more discreet urbanized areas. Additionally, when the state had more rural areas, public transportation systems were more focused on developing community transportation services that coordinated service across

funding programs, including (and especially) social and human service programs. As a result, in areas like the Triangle region, there are several small-to medium-sized transit systems that are designed to serve unique and specific markets. Not counting CHT, there are six transit agencies operating in Wake, Durham, and Orange Counties² (see also Figure 3):

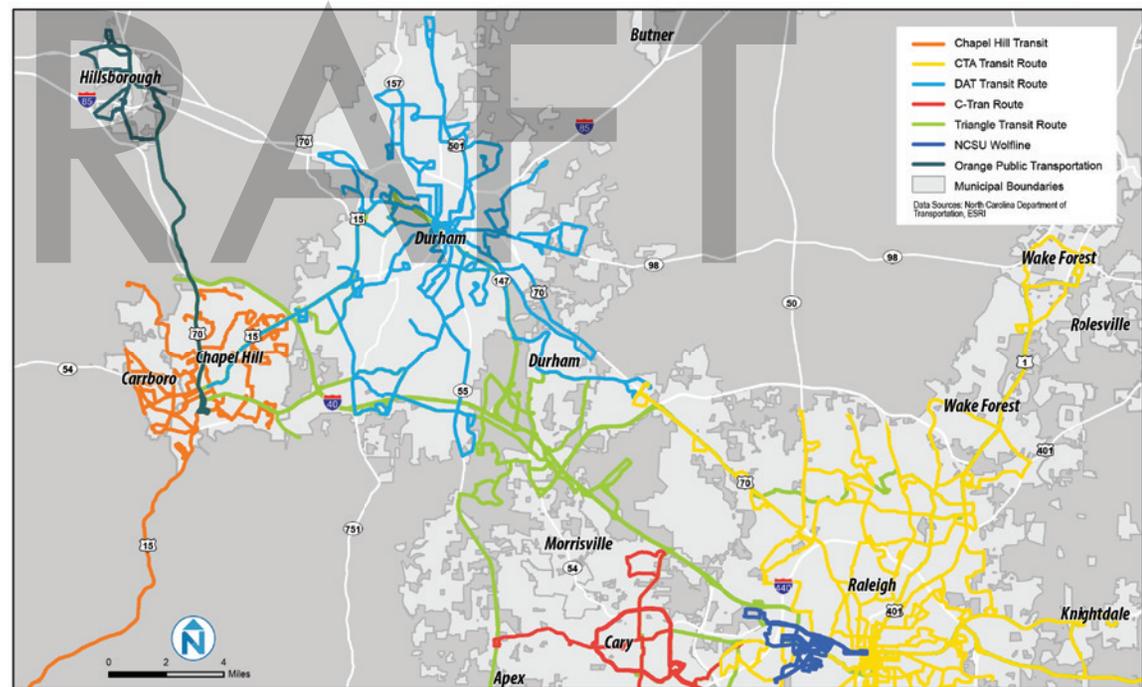
- **Triangle Transit Authority (TTA)** – the only regional transit operator, providing service to Raleigh, Durham, Chapel Hill, RDU Airport, Cary, Apex, Hillsborough, and Wake Forest. TTA also connects with several of the other regional service providers including CHT and also Durham Area Transit Authority and Capital Area Transit in Raleigh.
- **Durham Area Transit Authority (DATA)** – operates fixed-route and demand response service throughout the City of Durham.
- **Capital Area Transit (CAT)** – provides fixed-route and demand response service throughout the City of Raleigh.
- **Wolfline Transit** – provides bus service on and around the campus of North Carolina State University (NC State) in Raleigh.
- **Orange County Public Transportation** – operates as the Orange Bus and provides a variety of public transportation services to the citizens of rural Orange County.
- **Chatham Transit Network** – offers public transportation around Chatham County, in the towns of Siler City and Pittsboro, to Chapel Hill and back, and to medical appointments.

In addition to the local public transit services, the region also has an Amtrak service, with stations in Durham, Cary, and Raleigh as well as intercity bus service operated by MegaBus and Greyhound. In addition, a regional ridesharing/commuter organization, GoTriangle, provides residents with a one-stop information source about travel choices, including transit, rideshare, biking and walking, and telecommuting.

This network of service means that historically, transit services have been both funded and

oriented locally. Consequently, there have been significantly fewer services devoted to transporting people between communities. Prior to the recent tax initiative described later in this chapter, TTA had very limited funding and operated only a handful of routes. The end result is a mismatch between regional travel patterns and transit service development. While travel and economic patterns are regionally-oriented, most transit service is local. This mismatch made it difficult for transit to be viable for anything other than local trips.

Figure 3 Regional Transit Service



Source: Nelson\Nygaard

² Not including transit services on the Duke University campus, which are deemed private.

EMERGENCE OF REGIONAL TRANSIT

Funding, Organization and Development

In light of rapid growth and forecasts for continued growth, the region spent much of the past decade developing a regional transit vision and investment plan, which is intended to guide public transportation investment and service development. The planning effort was led by a group of regional stakeholders who studied, evaluated, and considered regional needs, expectations, and appetite for a truly regional public transportation network. The outcome of this effort is designed to shape future growth and land uses, reduce congestion, and create a regional public transportation network.

One of the first steps taken by the stakeholders was working with the North Carolina General Assembly to grant authority to Durham, Orange, and Wake County to raise funds for public transportation services. The authority was provided through the Congestion Relief and Intermodal Transportation 21st Century Fund, which gave the three counties authority to raise funds through one of four revenue sources. Each funding source has different requirements for how it can be initiated. The four revenue sources are as follows:

- A half-cent sales tax activated with voter approval of a sales tax referendum.
- "Inflation Adjustment" of a regional vehicle registration fee (from \$5 to \$8), with all proceeds allocated to transit service development and activated by the County Board of Commissioners.
- A County vehicle registration fee of up to \$7 activated by the County Board of Commissioners.
- A property tax levied on RTP to support public transportation projects could also be activated. Implementation of the tax must be approved by the RTP Owners and Tenants Association and the County Board of Commissioners.

As part of the regional transit strategy, the stakeholders charged TTA to work with the individual counties (Wake, Durham, and Orange) to develop a transit investment plan that outlines the proposed investments and explains how funds will be distributed equitably across individual counties and the region overall. Each County Board of Commissioners was charged with bringing the plan to county voters when and if they agree to support the project.



The Triangle Transit Authority provides service to UNC.

Image from Nelson\Nygaard

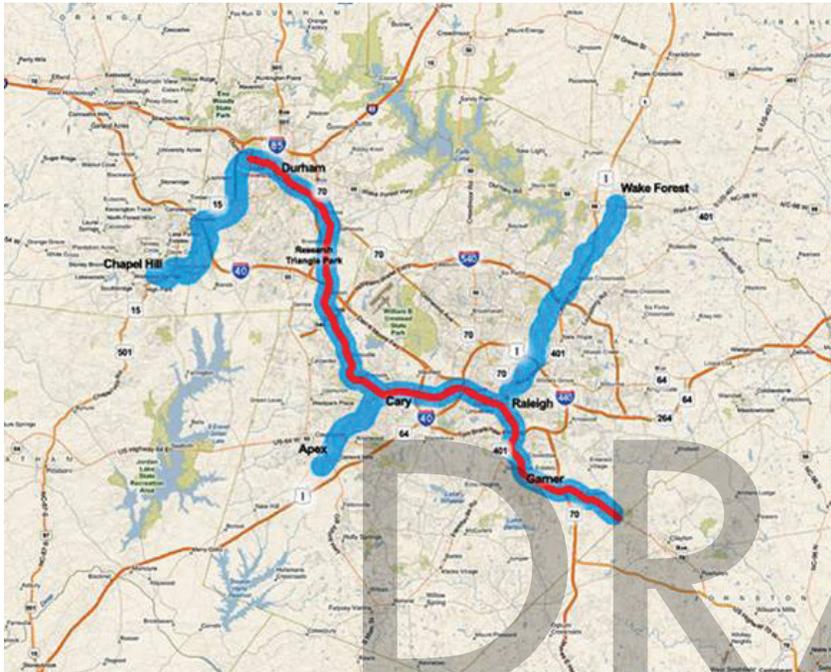
Durham County approved its plan in November 2011, and Orange County approved its plan a year later in November 2012. Both counties are currently collecting sales taxes and planning and developing new services, with several projects already implemented. Wake County, however, has not yet held a referendum on the sales tax.

Planned Transit Services

The regional transit plan is an ambitious program of transit investments. As discussed, not all of the funding is in place, especially because Wake County, which is the most populous county in the region, has not yet moved forward with funding. The overall strategy is based on a combination of the regional transit plan and other regional long-range transportation planning efforts. Transit investments include three main strategies:

- Expanded and enhanced local and regional bus service.
- Development of a regional rail service on the region's most heavily-traveled corridors.
- Local transit circulator systems to provide connections to and from the regional network.

Figure 4 Wake, Durham and Orange County Transit Plan – Proposed Regional Rail Corridors



Source: Capital Area Friends of Transit Regional Transit Vision

The most expensive component of the plan is the development of the rail network. The plan currently calls for 56 miles of rail, including a combination of light rail and commuter rail, depending on demand. Communities slated for rail service include Chapel Hill, Durham, RTP, Morrisville, Cary, Raleigh, Apex, Wake Forest, and Clayton (see Figure 4).

Investments in Orange County

The Bus and Rail Investment Plan for Orange County, as adopted in December 2012, lays out a plan for expanding and improving local and regional bus service as well as developing new regional transit infrastructure. Durham County, as mentioned, passed their referendum in November 2011; thus, projects affecting both counties along the western part of the Triangle Region are further along than in other locations. The investment plan calls for a series of bus service improvements, many of which are slated for the short term, and a series of capital improvements, which have a longer implementation timeline.

Bus Service Improvements

New projects include new local bus service within the county, expanded rural service in the northern and western part of the county, and new regional services operating between Durham and Orange counties. Specifically, in the first five years, the plan calls for an investment of 34,650 bus service hours, which will be allocated to:

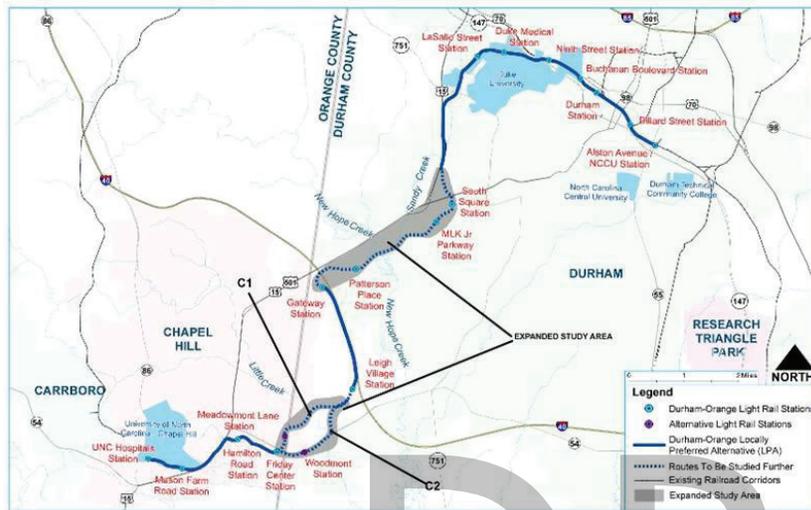
- New regional service connecting Carrboro, Chapel Hill, and Durham.
- Regional express service connecting Mebane, Hillsborough, and Durham.
- Peak period service expansion (increased frequency of existing services) on two TTA Routes (Route 420 and 800) and in the US 15/501 corridor (Franklin Street) and the NC 54 corridor (Raleigh Road).
- Off-peak service expansion, especially on weekend days and evenings. The proposal for the expanded services also calls for investment in TTA Routes 420 and 800, plus local service in Chapel Hill, Carrboro, and UNC and new Saturday service on the in-town Hillsborough route.
- Enhancements to the rural services operating in Orange County.



The Bus and Rail Investment Plan for Orange County contains a number of new service and capital improvements

Image from Nelson\Nygaard

Figure 5 Proposed Durham to Chapel Hill Light Rail Line



Source: Capital Area Friends of Transit Regional Transit Vision

In year six and until the planning horizon (2035), the plan calls for an additional 6,300 bus service hours to be added to the system, mostly in the form of increased frequency on existing routes and additional enhancements to rural services. The new tax revenues are expected to generate more than \$6.5 million³ per year.

Capital Investments

In addition to bus service improvements, the Bus and Rail Investment Plan also calls for new investments in transit infrastructure, including park-and-ride lots, shelters, real-time passenger information, and pedestrian infrastructure around bus stops. It also includes development of an Amtrak Station in Hillsborough.

The next largest major project in the plan is improvements to Martin Luther King Jr. Blvd. to develop bus right-of-way along the corridor as well as other BRT treatments. The plan sets aside \$22 million to build the lanes, but no new operating funds are associated with this project, based on the assumption that CHT already provides high-frequency service in the corridor.

³ Estimated

The lion's share of the investment dollars, however, would be used to support to a proposed 17-mile light rail system extending from the UNC Hospitals in Chapel Hill to North Carolina Central University (NCCU) on Alston Avenue in East Durham (see Figure 5). The plan includes development of 17 stations, including a station at Meadowmont, Mason Farm, and UNC in Chapel Hill.

Implications for Chapel Hill Transit

The implications of the regional transit strategy for CHT are unfolding. On one hand, a broad commitment to strengthening and improving transit services will significantly benefit the region overall. The regional strategy will support many goals articulated in each of CHT's partners' plans: development of regional transit services will make it easier and more efficient for people to travel into Chapel Hill and Carrboro. By increasing travel options, new services will help sustain proposed growth at UNC as well as reduce local and regional traffic and congestion, thereby significantly contributing to the overall quality of life.

In terms of transit service operations, however, the implications are potentially more significant, and at the current time, less clear. With a few exceptions, most notably the Hillsborough and Pittsboro Express routes, CHT does not serve communities outside of the Towns of Chapel Hill and Carrboro. As the region develops "trunk" services such as BRT, light rail, and regional bus routes, there may be more need for local distribution services. This is especially true for Carrboro, which is not expected to be on either of the rail lines and not as likely to benefit from proposed trunk services.

Regional transit services are also likely to impact CHT's current service model, which is built around park-and-ride service. The existing system uses park-and-ride lots to support commuting patterns where people drive to Chapel Hill or Carrboro, park their vehicles on the outskirts of town, and use CHT services to shuttle to and from the UNC campus and downtown Chapel Hill or Carrboro. The proposed transit investment would alter this model by encouraging riders to board a bus (or train) earlier in their commute trip and closer to their home. This means they would spend more time on transit. For most people, commutes would be less expensive, more efficient, and more environmentally sound.

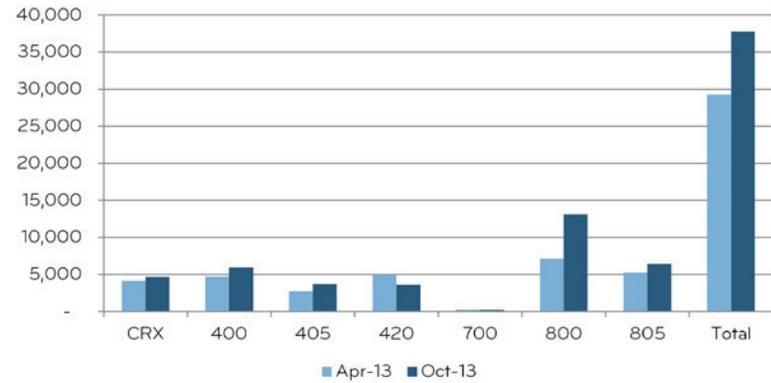
The impact on CHT could be less demand for their park-and-ride lot services, including potentially less demand at peak periods. CHT's existing services may need restructuring to adapt to the new network. This could help the system by reducing the demand for peak period services, but it may also mean that CHT

would continue to provide some park-and-ride services with lower service levels or lower levels of productivity.

Indeed, recent investments in TTA show that some commuters have already started to make this transition. Transit tax revenues have already been invested into two TTA routes traveling into downtown Chapel Hill and UNC: Route 405 (Durham to Chapel Hill) and Route 800 (Chapel Hill Southpoint RTC). Both of these routes travel on key corridors in Chapel Hill, Route 800 travels along Raleigh Road, and Route 405 travels along Franklin Street. Furthermore, total monthly GoPass usage for UNC commuters increased by more than 27% from April to October 2013, including notable increases on Route 400, 405, 800, and 805 (see Figure 6). To date, CHT has not coordinated service with TTA, and during peak periods, corridors can be congested with both services. There are opportunities to better coordinate and integrate service on these corridors, especially if additional investments are planned. Service coordination requires consideration of a variety of issues, most notably fares—riders without a regional pass are reluctant to pay TTA fares for a short trip along Franklin or Raleigh Road, for example.

As the regional transit system begins to take shape, the opportunity in front of CHT is how to provide services that meet the needs and expectations of the local communities of Chapel Hill, Carrboro, and UNC and are also effectively integrated with the regional services.

Figure 6 Monthly UNC GoPass Usage by Route



Source: Nelson\Nygaard adapted from TTA



3 FUNDING



UNC provides approximately 38% of CHT's funding.

Image from Nelson\Nygaard

3 FUNDING

Transit funding in the United States is in a state of flux, due to the new practices, policies, and legislation at the federal level and also because of the lingering effects of the recent economic recession. At the federal level, important changes include the Moving Ahead for Progress in the 21st Century (MAP-21) transportation bill that was signed into law on July 6, 2012 and will guide surface transportation funding until September 30, 2014. While the new legislation updates federal policy and includes fairly substantial changes at the program level, the new laws are currently authorized for only a short time period, and agencies at every level are grappling with how the legislation will affect them and what the long-term impacts will be. In addition, some of the grant funds historically committed to and benefitting transit agencies, most notably congressional earmarks and ARRA, are no longer available. Uncertainty in federal policy is exacerbated by significant federal budget challenges, including prolonged under investment in the Highway Trust Fund.

Challenges at the federal level also affect state and local governments, which rely on federal funds for many of their programs and services. Like the federal government, state and local governments are also still recovering from the economic recession and thus are challenged by lower receipts from state and local taxing programs and reduced support from the federal government. Like transit agencies, state transportation departments are also trying to figure out how to leverage opportunities in MAP-21 with limited guidance and rule-making.

Consequently, there is less money overall available to support transit services and more uncertainty about future resources. At the same time, riders and local communities are placing more demands on transit operators, who are responsible for managing a business with cost inputs (hourly wages, fuel, and insurance) that increase annually and are largely out of their control. For CHT, successfully navigating this somewhat precarious environment involves building on successes, articulating needs, identifying stable funding resources, and capitalizing on opportunities as they arise. Obtaining long-term funding sustainability is a key strategy for the future success of CHT.

EXPENSES AND REVENUES

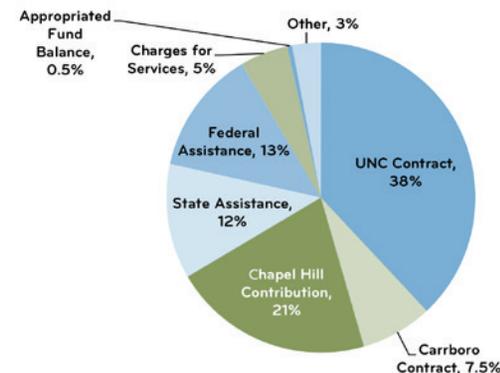
In FY14, CHT's adopted operating budget is an estimated \$19.8 million. The budget is used primarily to:

- Operate transit service, including both fixed-route and demand response service (69%).
- Maintain agency vehicles and resources (buildings) (23%).
- Manage and run the agency (administration) (6%).

The remaining 2% is spent on a variety of things, including special event transportation, advertisements, and miscellaneous projects.

In terms of revenues, transit systems across the United States are primarily funded through a combination of federal and state grant funds as well as local sources. Transit agencies also typically raise revenues through fares, partnerships with institutions, fee-for service contracts, and advertisements. CHT is somewhat unusual in that while it depends on federal and state funds for operations, contracts with Carrboro and UNC, as well as funding contributions from the Town of Chapel Hill account for 66.5% of the system's total operating revenue, or roughly \$13.1 million. This compares with federal and state funds, which account for approximately 13% and 12% of the agency revenues, respectively (see Figure 7). Contract revenues also help support the community's decision to operate fare free.

Figure 7 CHT Funding Sources (FY14)



Source: Nelson\Nygaard adapted from Town of Chapel Hill FY 2014 Adopted Budget



Revenues from the Town of Carrboro were approximately \$1.2 million in FY13.

Image from Nelson\Nygaard

In addition to operating revenues, CHT maintains a Transit Capital Fund that is intended to provide local matching funds for periodic capital outlays for the purchase of major capital equipment, such as buses. CHT has historically contributed to this fund as revenues allow and likewise has drawn from this fund to support capital investment as needed. However, CHT does not have a regular funding mechanism for the transit capital fund and consequently does not have a fund reserve to support future investments.

CHT's use of local resources—specifically contracts with partner agencies for funding—is a model with both advantages and disadvantages. Advantages include a reliance on CHT services as a key component of overall operations at UNC and Carrboro. For example, UNC has very limited parking and thus is reliant on alternative transportation systems to transport people to campus to work and study. Likewise, Chapel Hill and Carrboro—at both the municipal and residential level—have made clear commitments to public transportation as a strategy for growth management.

At the same time, the funding model has disadvantages: both Carrboro and UNC are subject to the same economic pressures as the Town of Chapel Hill. At the same time, transit demand typically remains steady or even increases during economic downturns. The Town of Carrboro funds CHT through general fund resources, and the Town of Chapel Hill raises transit funds through a property tax. UNC largely depends on general university revenues and student fees to raise its contribution for transit. Thus, when budgets and funding are constrained within Chapel Hill, they are almost certainly equally constrained in Carrboro and at UNC despite the continual demand for transit services.

Historical Perspective

Between FY07 and FY13, CHT's operating revenues and expenditures have increased by nearly 20%. This corresponds with an 8% increase in annual service hours and 17% increase in ridership¹. Annual revenues and expenditures over this period varied slightly, with the greatest year-to-year changes occurring in FY09 and FY13, with a growth of 9.5% and decline of 6%, respectively (see Figure 8). FY13's actual revenues and expenditures fell to below FY11 levels. The decreases in funding over this period reflect the lingering effects of the national recession, which reduced revenues available to all of CHT's partners during that period. The FY10 reduction in funding resulted in a corresponding cut in both service provided and ridership.

Historically, contributions from CHT's individual funding sources have been relatively stable both in terms of a percentage of the overall revenue stream and in absolute terms, with a handful of relatively significant anomalies. Starting in FY11, federal assistance began decreasing significantly, from nearly \$2.3 million in FY10 to \$1.9 million in FY11. Over a similar time period, state funding also decreased, albeit more slowly. Federal funding did rebound in FY13 (both FY12 and FY13 awards were received and recognized in FY13) but not to FY10 levels. This gap combined with the loss in state funds meant CHT had to both to draw down capital reserves and ask for increased participation from partners.

¹ According to data derived from NTD for 2007 to 2012, the most recently-available year.

Figure 8 CHT Transit Annual Expenditures and Revenues (2007-2013)

FY	2013	2012	2011	2010	2009	2008	2007
EXPENDITURES							
Admin & Non-Dept	\$1,121,702	\$1,861,700	\$1,184,828	\$849,734	\$2,079,786	\$617,936	\$835,638
Grant-Funded	518,491	673,847	587,376	1,711,758	611,194	-	-
Advertising	80,809	33,118	-	-	-	-	-
Recovery Act	-	-	-	-	-	-	-
Fixed Route	9,318,048	9,125,526	9,318,228	8,630,527	8,915,307	9,094,734	8,189,362
Demand Response	1,640,981	1,593,973	1,642,028	1,282,951	1,294,795	1,341,169	1,494,577
Special Events	245,303	244,568	223,066	291,085	252,053	224,981	213,637
Vehicle Maintenance	2,863,714	3,218,849	3,406,427	2,258,048	2,661,168	3,158,810	2,803,220
Building Maintenance	401,861	480,893	506,707	528,798	-	-	-
Total	\$16,190,909	\$17,232,474	\$16,868,660	\$15,552,901	\$15,814,303	\$14,437,630	\$13,536,434
REVENUES							
Charges for Services	\$835,007	\$830,046	\$661,983	\$716,199	\$570,144	\$463,503	\$537,895
Federal Assistance	3,918,387	-	1,900,000	2,308,997	1,900,000	1,440,308	1,115,308
Federal Ops Grants	316,174	446,621	-	977,983	500,000	-	-
State Assistance	2,768,076	3,419,853	3,671,170	3,570,322	3,319,737	3,545,519	3,432,644
Local Assistance	12,000	-	-	-	-	-	-
Recovery Act	-	-	-	-	-	-	-
Grants	-	-	408,285	-	-	-	-
TTA Fees	-	-	-	-	-	-	-
UNC Park & Ride	-	-	-	-	-	-	-
UNC Contract	7,084,096	5,930,168	5,930,168	5,828,502	6,120,571	5,699,526	5,290,044
Carrboro Contract	1,286,714	1,032,825	1,032,825	1,032,834	1,075,279	907,492	932,509
Advertising Revenue	102,865	44,611	-	-	-	-	-
Chapel Hill Revenues	3,447,401	3,412,361	3,519,774	3,546,047	3,019,231	3,067,026	2,879,792
Transfer from General Fund	-	-	-	-	-	-	-
Transfer from Transit Capital Grant	360,000	-	-	-	-	-	-
Appropriated Fund Balance	(3,939,811)	2,115,989	(255,545)	(2,427,983)	(690,659)	(685,744)	(651,758)
Total	\$16,190,909	\$17,232,474	\$16,868,660	\$15,552,901	\$15,814,303	\$14,437,630	\$13,536,434
Year-to-Year Change	(6.0%)	2.2%	8.5%	(1.7%)	9.5%	6.7%	-

DRAFT

Source: Nexus Consultants adapted from CHT



The Town of Chapel Hill contributed approximately \$3.4 million to CHT in FY13

Image from Nelson\Nygaard

FUTURE FUNDING

A critical challenge facing CHT is developing a sustainable funding strategy that supports the agency in stable operations and positions it to meet future community needs and expectations. Developing this strategy will be challenging and is a key component of the overall Strategic and Financial Sustainability Plan effort. As an overview, CHT's current (FY14) annual budget is roughly \$19.8 million. Without adding service or staff, CHT should expect the cost of providing service to increase **at a minimum** of 4% to 5% per year. These increases result from the following factors:

- The largest single input in transit operating costs is driver compensation. Compensation tends to increase annually, at a minimum in line with cost of living increases. Insurance costs, especially health care costs, are somewhat unstable except for the fact that the cost of providing insurance increases annually. This means CHT can expect wages to increase by at least 2% to 3% per year. Insurance costs tend to increase annually with periodic spikes; for purposes of this analysis, annual cost increases are estimated at 4% to 5%.
- Another primary driver of transit costs is the price of fuel. While fuel costs have stabilized recently, the overall trend is for increasing costs over time. Fuel may increase between 1% and 2% per year.

- Increases in vehicle costs also contribute to additional annual costs of providing service.

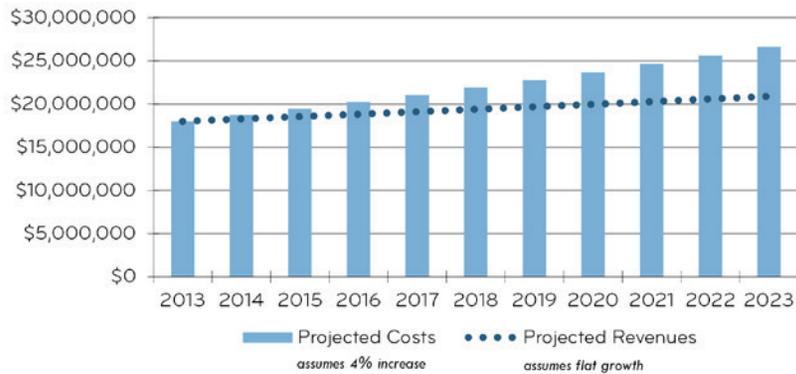
In addition, the agency is facing a dire need for new vehicles, with 100% of the demand response fleet and 42% of the fixed-route fleet aged beyond their useful lives. Seventy-five percent of the fleet will need to be replaced in the next 10 years.

CHT has been aggressive and successful in obtaining ad-hoc federal grants for capital equipment, primarily buses. However, these ad-hoc grant funding opportunities are waning and not a reliable source of revenue for future purchases. And while the Town of Chapel Hill has an annual "pay-as-you-go" capital program that contributes some funds to the capital program, this program currently has a net balance of less than \$100,000.

Future Revenue Sources

Even without adding service moving forward, CHT will need a revenue stream that allows for increasing service costs not associated with service growth or expansion. Given that CHT's cost of service will continue to increase over time, without a change in revenue streams, the agency will experience an increasing gap between its revenue stream and projected expenditures (see Figure 9).

Figure 9 CHT Projected Costs and Revenues (2013-2023)



Source: Nelson\Nygaard Consulting Associates

This need is required for operating and capital funding. As discussed, existing funding sources and revenues to raise these funds are largely drawn from federal and state grants and partner funding. While some funds are raised through contracted services and advertisements, these revenues represent only a small portion of overall revenues (about 5%). Consequently, to date, the only strategy in place for future funding involves either containing costs or extracting additional resources from funding partners.

Federal and State Funds

While there is a fair amount of uncertainty regarding federal funding programs, MAP-21 suggests that transit operations will largely be funded at a level rate. For the purpose of this analysis, it is assumed that federal funds will continue to be available at their current level but without annual increases for normal, cost-of-doing-business increases.

Based on recent experience, state funds, on the other hand, appear to be less stable, and the assumption that future funding levels will be held constant is unlikely. The future of state funds for transit will be explored further, but for purposes of this analysis, the state funds are assumed to be held constant at the current levels.

Local Funding Sources

In November 2012, Orange County voters approved a half-cent sales tax designed to improve transit service throughout the county. The sales tax is expected to generate about \$5 million per year, with the revenue going toward new buses, improved bus service, an Amtrak station in Hillsborough, and a proposed light rail connection from UNC to downtown Durham. The majority of these funds are for regional service, but the tax does include a provision for an estimated \$471,000 to be transferred to CHT in FY14, with additional funding increases in subsequent years. The arrangement and format for transferring these funds is evolving, but the taxing legislation is fairly clear in establishing that while the vehicle registration fee can be used to support existing service, the sales tax revenues are intended to support future bus service in Chapel Hill.

Contract Revenues

Contract revenues from the Town of Carrboro and UNC were largely funded at a flat rate between FY09 and FY12. The contract revenues increased substantially between FY12 and FY13. Revenues from the Town of Chapel Hill did not increase last year, but were raised significantly between FY09 and FY10. The Town of Chapel Hill will increase its contribution to CHT in the adopted FY14 budget based on a one-cent increase in the tax rate, from 4.1 cents to 5.1 cents, which equates to \$729,000 in additional revenue for CHT.

4C. North-South Corridor Alternatives Analysis Study**Action: 1. Receive information and provide staff with feedback.**Staff Resource: Mila Vega, Service Planner

Background

The draft Purpose and Need (P&N) Statement was provided to the CHT Partners for review at the May 20th meeting. The next step is to formally adopt the document and transmit it to the Federal Transit Administration (FTA) for review and comment. The P&N Statement outlines the foundation of the study and provides justification for the project to move forward. It will be used to screen alternative alignments and modes.

The consultant team is currently working on screening the alternatives developed at the Project Management Team workshop and Technical Committee meeting on May 8th. A summary of alternatives will be provided at the meeting.

Next Steps

- Transmit Purpose and Need Statement to FTA
- Technical Committee Meeting – 7/2/2014
- Policy Committee Meeting - 7/9/2014

Attachments

- Draft Purpose and Need Statement

Recommendation

- Partners discuss the information provided and provide staff with feedback and direction.



Purpose and Need Statement
DRAFT April 14, 2014

Table of Contents

- 1. Introduction 1-1**
 - 1.1 *Project Description*..... 1-1
 - 1.2 *Summary of Project Purpose and Need* 1-3
- 2. Project Need #1 2-1**
 - 2.1 *The corridor has a robust transportation network* 2-1
 - 2.2 *Transit ridership is growing* 2-9
 - 2.3 *Transit ridership growth is straining capacity* 2-9
- 3. Project Need #2 3-1**
 - 3.1 *Population within the corridor is forecast to increase* 3-1
 - 3.1.1 *Chapel Hill is young, but its senior population is growing* 3-1
 - 3.2 *The corridor’s demographic profile indicates reliance on transit service* 3-7
 - 3.2.1 *Poverty* 3-7
 - 3.2.2 *Non-White Population* 3-10
 - 3.2.3 *Zero-Car Households* 3-12
- 4. Project Need #3 4-1**
 - 4.1 *A variety of key activity generators are located along the corridor* 4-1
 - 4.2 *Approved and in-process development plans will shift existing mobility patterns*..... 4-3
- 5. Project Need #4 5-1**
 - 5.1 *Without mitigation, planned development within the corridor is likely to increase congestion* 5-1
 - 5.2 *Employment within the corridor is forecast to increase* 5-2
 - 5.3 *Chapel Hill – and employment centers within the corridor – attract commuters from around the region*
5-6
 - 5.4 *Commute times within Chapel Hill are low, but growing* 5-7
 - 5.5 *Chapel Hill commuters already rely on transit and bikes to commute* 5-7
- 6. Project Need #5 6-1**
 - 6.1 *Approved development will intensify corridor land use patterns* 6-1
 - 6.2 *Corridor, municipal and regional plans call for sustainable growth*..... 6-3
 - 6.2.1 *Transportation Plans*..... 6-3
 - 6.2.2 *Municipal Plans*..... 6-3
 - 6.2.3 *Institutional Plans* 6-4
 - 6.3 *Transit investment supports the community-approved vision for growth* 6-4
- 7. Public and Stakeholder Involvement 7-1**
- 8. Goals and Objectives 8-1**

9. Evaluation Criteria9-1

List of Tables

Table 1: NCDOT Current STIP, February 2014..... 2-3
 Table 2: NCDOT AADT 2011 2-4
 Table 3: Key Activity Generators within the Study Corridor 4-1
 Table 4: Mix of Uses in First Phase of Carolina North Development..... 4-3
 Table 5: Proposed Land Uses in the Obey Creek Development 4-6
 Table 6: Top Public and Private Employers in Orange County 5-2
 Table 7: Residence-to-Workplace Flows in the Region 5-6
 Table 8: NSCS Goals and Objectives 8-1
 Table 9: NSCS Potential Evaluation Criteria..... 9-2

List of Figures

Figure 1: NSCS Area 1-2
 Figure 2: NSCS Existing Transportation Facilities 2-2
 Figure 3: Chapel Hill Transit Routes 2-5
 Figure 4: Transit Routes in Corridor 2-6
 Figure 5: Existing Pedestrian and Bicycle Facilities within the Study Corridor 2-8
 Figure 6: Average Weekday Ridership on Corridor Routes when UNC is in Session 2-9
 Figure 7: Peak Hour Load Analysis of Existing Service 2-10
 Figure 8: Existing (2010) Study Corridor Population Density 3-2
 Figure 9: Forecast (2040) Study Corridor Population Density 3-3
 Figure 10: Percent Change in Study Corridor Population Density (2010 to 2040) 3-4
 Figure 11: Percent of Study Corridor Population over Age 65 3-5
 Figure 12: Population Distribution by Age Group, 2000 to 2012 3-6
 Figure 13: Change in Population by Age Group, 2000 to 2012 3-6
 Figure 14: Percent of Population Living below the Poverty Line 3-8
 Figure 15: Percent Change in Median Income, 2000 to 2012 in \$2012 3-8
 Figure 16: Percent of Study Corridor Population Living Below the Poverty Line 3-9
 Figure 17: Racial Distribution 3-10
 Figure 18: Percent of Non-White Study Corridor Population 3-11
 Figure 19: Zero-Car Households 3-12
 Figure 20: Percent of Zero-Car Households in the Study Corridor 3-13
 Figure 21: Key Activity Generators within the Study Corridor 4-2
 Figure 22: Chapel Hill Land Use Plan, May 30, 2012 4-4
 Figure 23: Land Use Plan for First Phase of Carolina North..... 4-5
 Figure 24: Existing (2010) Study Corridor Employment Density 5-3
 Figure 25: Forecast (2040) Study Corridor Employment Density 5-4
 Figure 26: Percent Change in Existing and Forecast Study Corridor Employment Density 5-5
 Figure 27: Residence-to-Workplace Flows in the Region 5-6
 Figure 28: Commute Times 5-7
 Figure 29: Commute Mode Share..... 5-8
 Figure 30: Existing Land Use within the Study Corridor 6-2

1. Introduction

1.1 Project Description

The North-South Corridor Study (NSCS) is an 18-month project that is being led by Chapel Hill Transit (CHT) in coordination with the Chapel Hill Transit Partners, which includes the Town of Chapel Hill (ToCH), the Town of Carrboro (ToC) and the University of North Carolina - Chapel Hill (UNC).

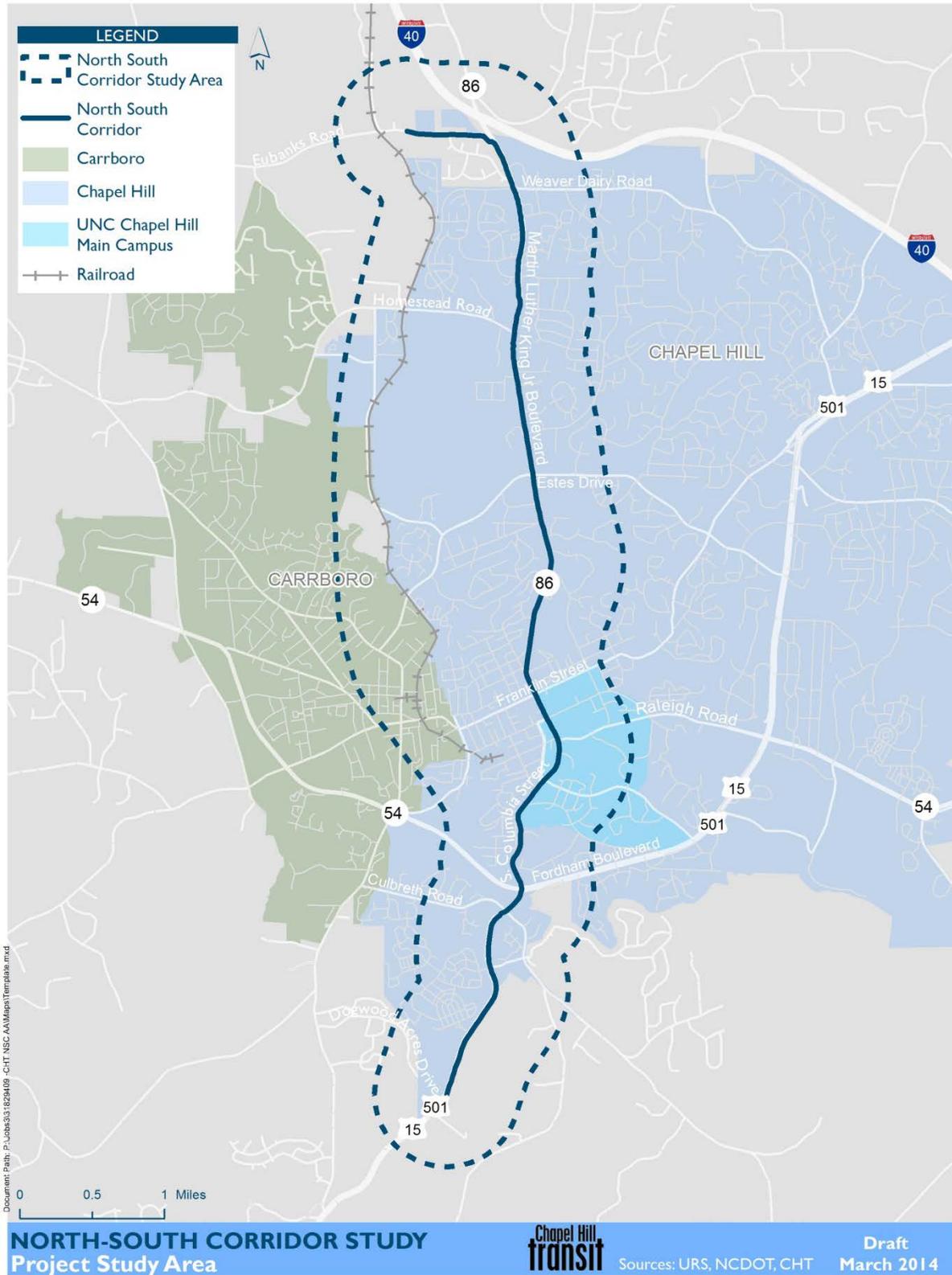
The project, which is being funded through a combination of federal (Federal Transit Administration [FTA]) and local funds, will identify and evaluate a series of transit investment alternatives for implementation within the study corridor (see Figure 1), which runs along the Martin Luther King, Jr. Boulevard (Historic Airport Road/NC Hwy 86), South Columbia Street, 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.

The study will expand 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 multi-modal 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 Partners 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 (as defined in this report) and is competitive for funding through the FTA's New/Small Starts capital funding program. The Town Council will submit the LPA to the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) for adoption and integration into its *2040 Metropolitan Transportation Plan*.

The study is scheduled for completion in September 2015.

Figure 1: NSCS Area



1.2 Summary of Project Purpose and Need

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 and are defined in further detail in sections 2 through 6 of this report.

- **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.** 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.

2. 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. 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.

2.1 The corridor has a robust transportation network

As shown in Figure 2, the North-South Study Corridor has a robust, multimodal transportation network. A description of the key network elements is included below.

Bridges

The corridor traverses two bridges along NC 86; a five-lane overpass of NC 54 along US 15-501 (constructed 1957) and the six-lane James Taylor Bridge, the crossing of US 15-501 over Morgan Creek (constructed 1987). Both of these bridges are located in the southern portion of the study area and both bridges have an approximate six-foot shoulder. As both of these structures are overpasses, there is minimal concern for vertical clearance constraints. Neither bridge has been classified as functionally obsolete or structurally deficient; the five-lane overpass of NC 54 along US 15-501 has a sufficiency rating of 85 and the crossing of US 15-501 over Morgan Creek (James Taylor Bridge) has a sufficiency rating of 96.7. According to NCDOT, neither of these bridges is on the upcoming forecast for replacement or rehabilitation.¹ As a result, the cost of any expansion or additional capacity being added to these bridges as a result the NSCS will likely need to be included as part of the project costs.

Roadway Network

There are several major roadways within the study area.

Interstates

I-40 anchors the northern section of the study corridor and serves as the primary means of access from points north and west such as Hillsborough and Greensboro. As I-40 is the primary means of access, the existing interchange, including south to Eubanks Road, at I-40 and NC 86 often operates with a Level of Service (LOS) C or less. According to a *Transportation Impact Analysis*², the LOS on this section of the corridor is expected to decrease in future years.

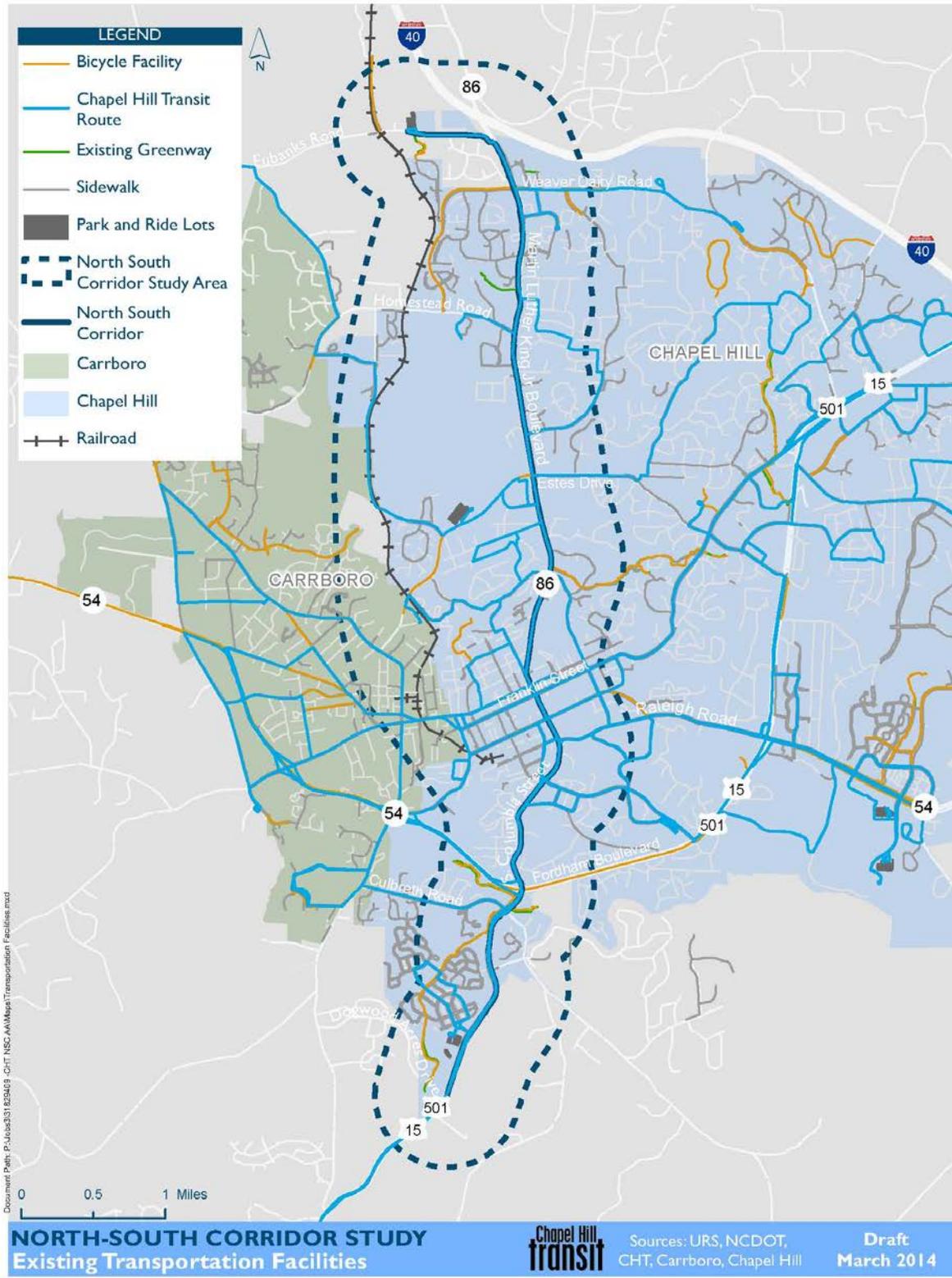
US Routes

US 15-501 anchors the southern section of the study corridor and provides one of the main access points for NC 86 (Columbia Street) from Durham, Raleigh and other points to the northeast. This facility shares designation with NC 54 as it approaches NC 86, before turning south towards Southern Village and Pittsboro.

¹ North Carolina Bridge Improvement Program. <http://www.ncdot.gov/projects/ncbridges/improvement.html>. Accessed March 11th, 2014

² VHB, Inc. *Transportation Impact Analysis*. December 31st, 2009.

Figure 2: NSCS Existing Transportation Facilities



NC Routes

There are two major NC routes in the project study area: NC 54 and NC 86. NC 54 connects Carrboro on the west and Durham and Raleigh on the east, sharing designation with US 15-501 east of NC 86. NC 86 (Martin Luther King Jr. Parkway and Columbia Street) provides access to both the Town and University from Pittsboro to the south and Hillsborough and I-40 to the north. NC 86 terminates at the US 15-501/NC 54 interchange.

Secondary Routes

There are a number of secondary routes along the project study area including; SR 1913 (Bennett Road), SR 1008 (Mt Carmel Church Road), SR 1750 (Estes Drive), SR 1733 (Weaver Dairy Road), and SR 1727 (Eubanks and Homestead Roads). These are all east-west roadways within the project study area.

The ToC and ToCH are well-served by east-west routes, however NC 86 is the only north-south passenger transportation corridor in the vicinity. The lack of viable alternative routes and concentration of employment and population within the Town/University center contributes to increasing travel demand along NC 86.

There are several roadway projects along NC 86 planned by NCDOT. They are listed below:

Table 1: NCDOT Current STIP, February 2014³

County	Route/City	Number	Location	Length
Orange	I-40	I-3306	I-85 in Orange County to NC 147 in Durham County – Widen to Six Lanes	20.7 miles
Orange	US 15-501	U-5304	US 15-501, NC 86 (South Columbia Street) to SR 1742 (Ephesus Church Road) in Chapel Hill. Sidewalks, Wide Outside Lanes and Transit Accommodations.	4.0 miles
Orange	NC 86 (MLK Jr. Blvd)	C-5177	MLK Jr. Blvd shared pathway in Chapel Hill. Construct pathway along MLK Jr. Blvd, SR 1777 (Homestead Road) to Piney Mountain Road.	N/A
Orange	Chapel Hill	EL-4601	Morgan Creek Greenway (East). US 15-501/Culbeth Road to Smith Level Road. Ten foot multi-use asphalt path.	N/A

Traffic

Traffic along the corridor is relatively heavy; 2011 AADT volumes show the heaviest daily counts being in both the northern and southern sections of the project. Martin Luther King, Jr. Boulevard has daily traffic counts generally ranging from 18,000 nearer to the Town center to 28,000 further away from the Town center. Traffic counts range from 9,000 to 18,000 along Columbia and Pittsboro Streets through the University and Town areas, while daily traffic counts increase, ranging from 18,000 to 32,000,

³ NCDOT 2012-2020 State Transportation Improvement Program. <http://www.ncdot.gov/download/performance/STIP.pdf>

towards the Southern Village area. According to the Triangle Regional Model v5, traffic volume in the NC 86 corridor is expected to grow 17.7 percent by 2040 (0.59 percent per year between 2010 and 2040). The highest growth rates (1.6 percent and 3.3 percent per year) are located at I-40 to the north and US 15-501 to the south.

Table 2: NCDOT AADT 2011⁴

Route	Location	Count
SR 1727 (Eubanks Road)	West of NC 86	8,000
NC 86	South of I-40	28,000
NC 86	North of SR 1865 (Northwood Drive)	26,000
NC 86	North of SR 1777	24,000
NC 86	North of SR 1750 (Estes Drive)	28,000
NC 86	South of SR 1750 (Estes Drive)	21,000
SR 1750 (Estes Drive)	West of NC 86	12,000
SR 1750 (Estes Drive)	East of NC 86	15,000
NC 86	South of Stephen Street	17,000
NC 86	North of SR 1010 Franklin Street	18,000
NC 86	South of SR 1010 Franklin Street	15,000
SR 1010 (Franklin Street)	West of NC 86	13,000
SR 1010 (Franklin Street)	East of NC 86	14,000
NC 86 (Cameron Avenue)	West of NC 86 (Columbia Street)	16,000
NC 86	South of Cameron Avenue	9,700
NC 86	South of SR 2048 (South Road)	8,500
NC 86 (Pittsboro Street)	North of University Drive	9,100
SR 1902 (Manning Drive)	East of NC 86	11,000
NC 86	North of Mason Farm Road	13,000
NC 86	South of Mason Farm Road	13,000
NC 54	West of NC 86	30,000
US 15-501	North of SR 1008 (Mt. Carmel Church Road)	32,000
US 15-501	South of SR 1994 (Culbreth Road)	22,000 (2009 data)

The DCHC MPO *Master Transportation Plan* projects that traffic within the corridor (particularly at the northern and southern ends) will exceed capacity in 2040.

Transit

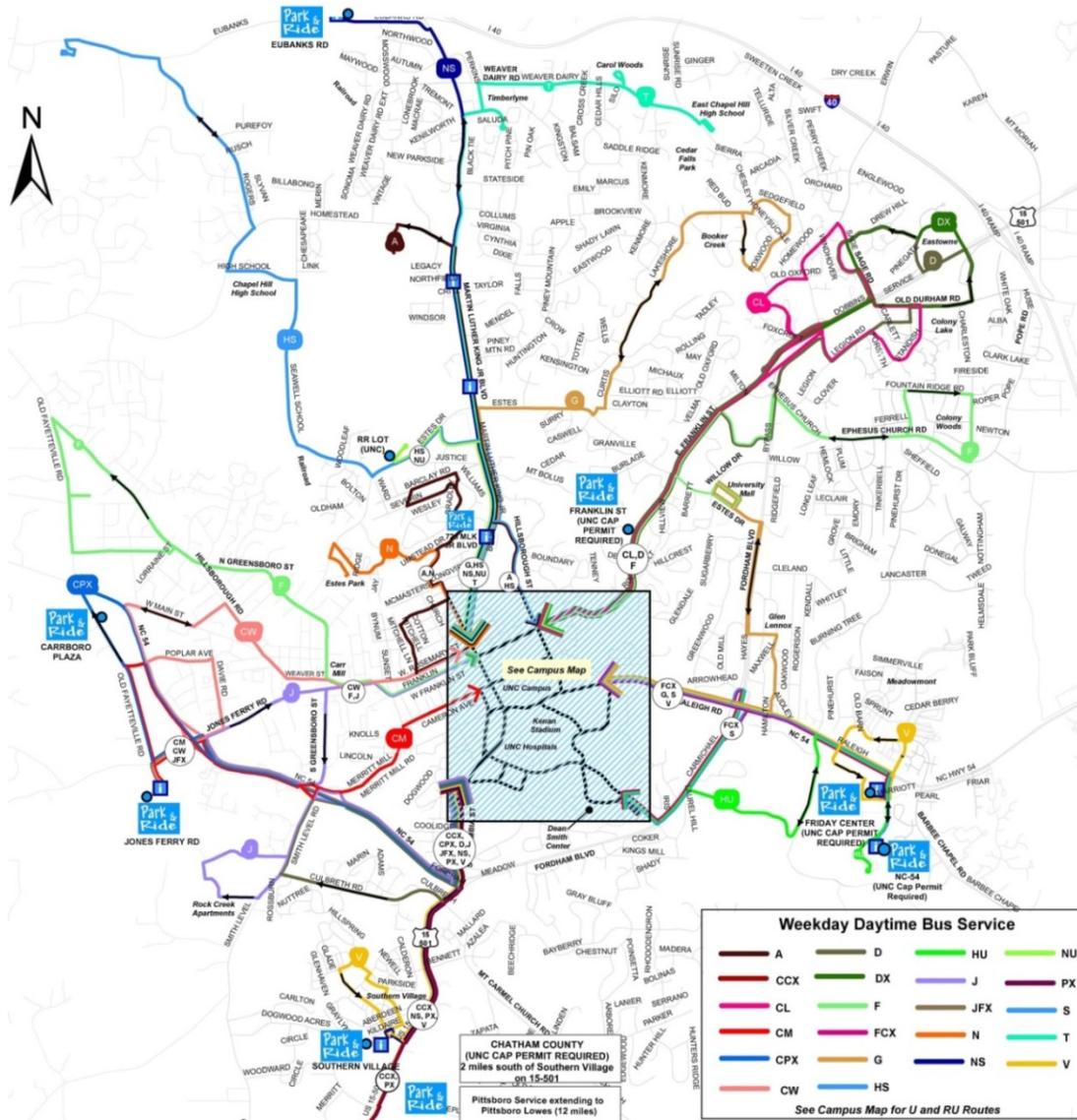
As the second largest transit system in North Carolina, CHT currently provides nearly seven million rides per year. Operating fare-free, the 31 weekday and weekend routes and EZ Rider demand response service currently serve ToC, ToCH and UNC. CHT currently has a total fleet of 121 vehicles (98 fixed-route and 22 demand response).⁵

⁴ Traffic Volume Maps. <http://www.ncdot.gov/travel/statemapping/trafficvolumemaps/> Accessed March 7th, 2014.

⁵ "About Chapel Hill Transit". <http://www.townofchapelhill.org/index.aspx?page=700> Accessed: March 6th, 2014.

Each of CHT's 31 routes (Figure 3) either travels within or across the study corridor. The NS Route is the only route that traverses the entire corridor from the Eubanks Road park-and-ride to Southern Village park-and-ride. For the purposes of analysis, however, six of the 31 routes that CHT operates were selected as corridor routes: Routes A, G, N, NS, NU, and T because they provide service through a substantial portion of the study corridor (Figure 4)⁶.

Figure 3: Chapel Hill Transit Routes⁷

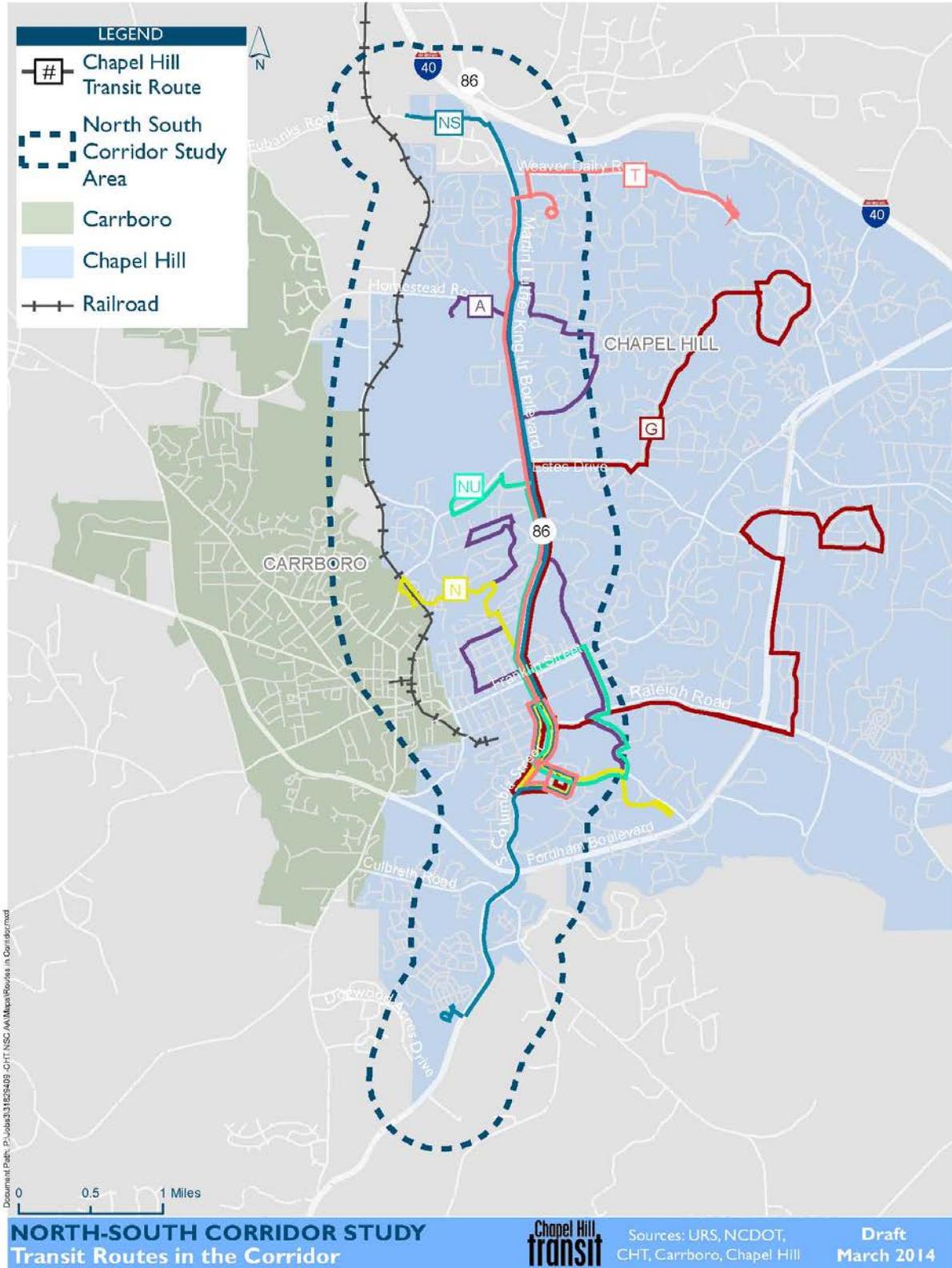


⁶ In order to be considered a corridor route, southbound routes must pass through Martin Luther King Jr., Boulevard and Hillsborough Street and continue to at least South Columbia Street (NC 86) and Manning Drive (1.6 miles). Northbound routes must pass through South Columbia Street (NC 86) and NC 54 and continue to at least North Columbia Street and Martin Luther King Jr., Boulevard (1.7 miles).

⁷ Chapel Hill Transit Weekday System Map.

<http://www.townofchapelhill.org/Modules/ShowDocument.aspx?documentid=14653> Accessed March 5th, 2014.

Figure 4: Transit Routes in Corridor



In addition to CHT service, Triangle Transit also operates six routes along some portion of the corridor: Chapel Hill-Raleigh Express (CRX), routes 400, 405, 420, 800 and 805⁸. The 400 and 405 provide connections between Chapel Hill to Durham, the 420 provides service to Hillsborough, and the 800 and 805 provide a connection to the Regional Transit Center, near Research Triangle Park (RTP). The CRX and 420 routes utilize NC 86 from I-40 south utilizing Martin Luther King Jr. Boulevard, Columbia and Pittsboro Streets. The remaining routes (400, 405, 800, and 805) only utilize Columbia and Pittsboro Streets along the corridor.

Furthermore, Triangle Transit is currently in New Starts Project Development for the Durham-Orange Light Rail Transit (LRT), which will travel from the UNC Hospitals to east Durham. The proposed terminal station at UNC Hospitals would be located within the study corridor and would provide a greater regional connection for transit riders. The proposed Durham-Orange LRT is expected to open for revenue service in 2026.

Pedestrian and Bicycle Facilities

The corridor has a robust pedestrian and bicycle network with sidewalks, bicycle lanes, and greenways, as shown in Figure 5. There are sidewalks on most roads from the corridor's southern terminus at Southern Village to the northern terminus at Eubanks Road and Martin Luther King, Jr. Boulevard. However, there are gaps in this sidewalk network on South Columbia Street (NC 86) from Purefoy Road north to Chase Avenue and on Martin Luther King, Jr. Boulevard between Piney Mountain Road and Homestead Road. NCDOT is currently adding sidewalks and bicycle lanes along both sides of South Columbia Street (NC 86) from Purefoy Road north to Manning Drive. Bicycle lanes currently exist on parts of the corridor south of Columbia Street (NC 86), Pittsboro Street and South Columbia Street on campus, and north of Homestead Road. There are bicycle sharrows on a portion of Martin Luther King, Jr. Boulevard from North Columbia Street to Estes Drive. In addition to sidewalks and bicycle lanes, there are several off-road greenways in the corridor: Fan Branch Trail, Morgan Creek Trail, Bolin Creek Trail, and the Upper Booker Creek Trail.

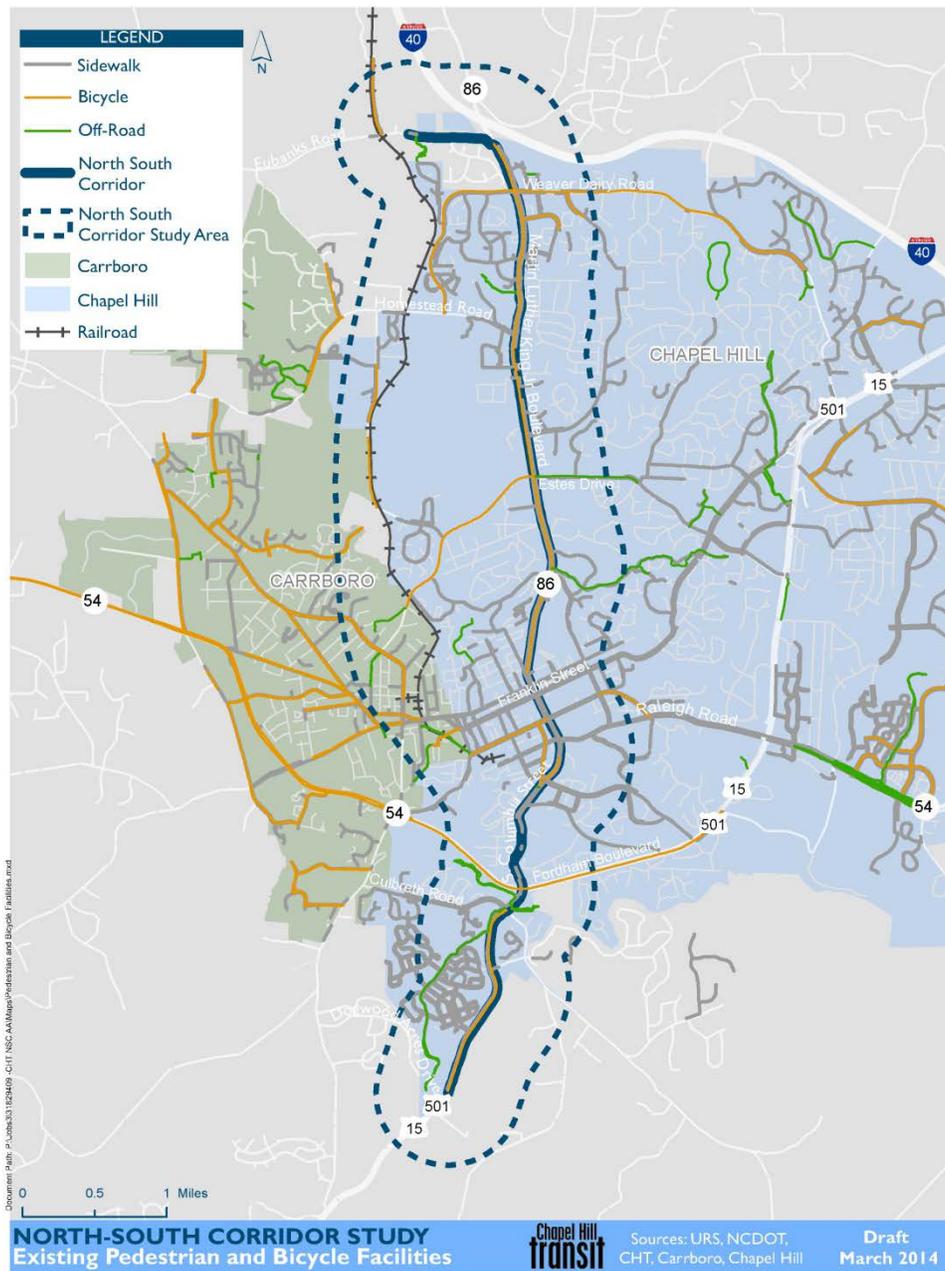
Chapel Hill 2020, the ToCH comprehensive plan, is inspired by the five "Big Ideas," the first of which is to "implement a bikeable, walkable, green communities plan by 2020." The plan's themes complement the vision for a sustainable, walkable, and bikeable community. Recommendations for expanding the bicycle and pedestrian network are made throughout the comprehensive plan and include the focus areas around the study corridor. *Chapel Hill 2020* supports the recommendations for extended and new greenways made in the *Greenways Master Plan* (2013), several of which are within the corridor:

- Wilson Creek – vicinity of US 15-501
- Mill Race Branch – vicinity of Martin Luther King Jr., Boulevard and North Columbia Street
- Umstead Park to Martin Luther King Jr., Boulevard
- Homestead Road Connector Trails
- Martin Luther King Jr., Boulevard to Eastwood Lake
- Upper Booker Creek Trail
- Old Field Trail – vicinity of Eubanks Road and Martin Luther King Jr., Boulevard

⁸ Triangle Transit System Map. http://www.triangletransit.org/sites/default/files/maps-and-schedules/RoutesAndSchedules-system_map.pdf Accessed March 6th, 2014.

In addition to the *Greenways Master Plan*, the *Town's Bike and Pedestrian Action Plan* (2004) and the draft *Chapel Hill Bike Plan* (draft March 6, 2014) propose closing the gaps in the sidewalk and bicycle lane networks on Martin Luther King Jr., Boulevard. The ToCH has already attempted to coordinate transit services with bicycle options by equipping the buses with bike racks. While expanding bicycle facilities can support transit ridership, loading bikes into these racks can increase dwell times and reduce schedule adherence. Additional operator and bike rider education may help to minimize any negative impacts to operations. UNC is also in the process of drafting a *Bicycle Master Plan*, which is scheduled for completion in 2014.

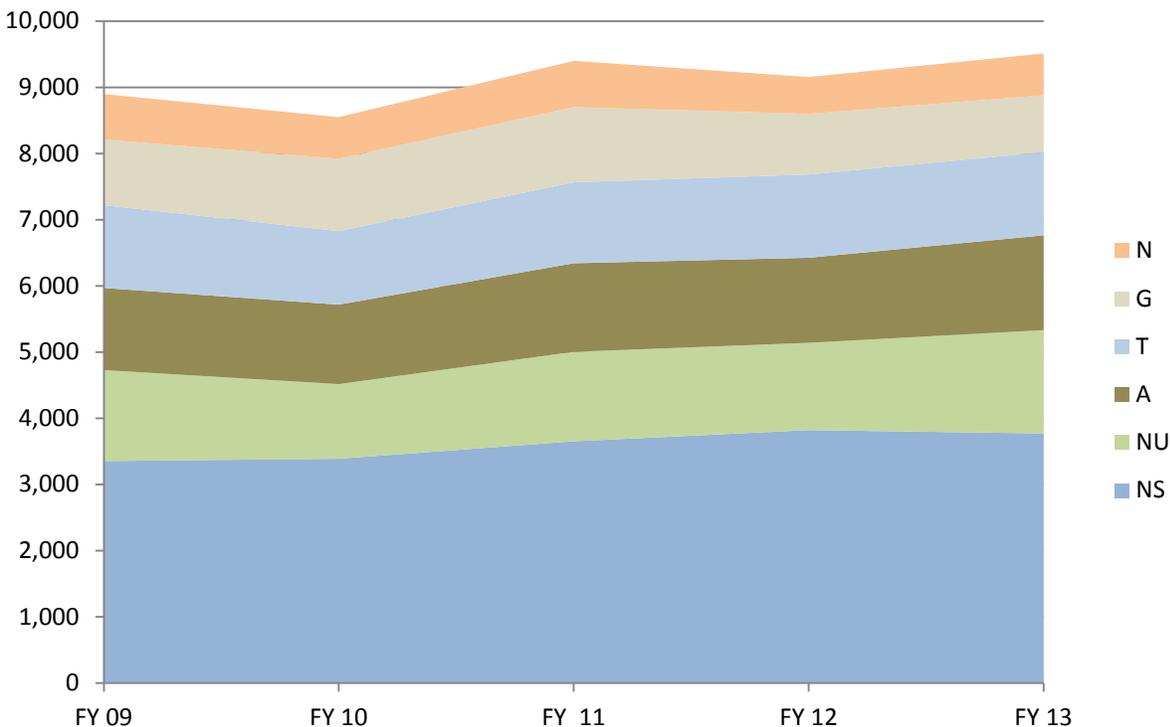
Figure 5: Existing Pedestrian and Bicycle Facilities within the Study Corridor



2.2 Transit ridership is growing

Average weekday transit ridership on corridor routes (Routes A, G, N, NS, NU, and T) grew by 6.9 percent between FY 2009 and FY 2013⁹. Ridership on the NS route, the only route that travels the entire length of the corridor, grew by 12.5 percent during this period. Figure 6 below shows average weekday ridership on the corridor routes over this five-year period.

Figure 6: Average Weekday Ridership on Corridor Routes when UNC is in Session¹⁰



2.3 Transit ridership growth is straining capacity

Ridership for Fall 2013, the most recent data available, was examined for the CHT corridor routes: Routes A, G, N, NS, NU, and T. The analysis determined that the southbound peak hour for existing service in the corridor is on buses starting their trip between 8:00 to 8:59 am (Figure 7). The northbound peak was slightly lower as trips are generally spread over a longer period of time. Ridership during the peak hour was analyzed to identify the peak load, which is from approximately Martin Luther King Jr., Boulevard and Airport Garden Apartments to North Columbia Street and Franklin Street. Because the peak demand is approximately one mile, rather than one or two stops, CHT needs to plan to accommodate the peak demand through the use of either frequent service or high capacity vehicles. During the peak hour CHT operates these six corridor routes with a combined average frequency of four minutes in order to meet this demand. While Tripper service provides supplemental fixed route service

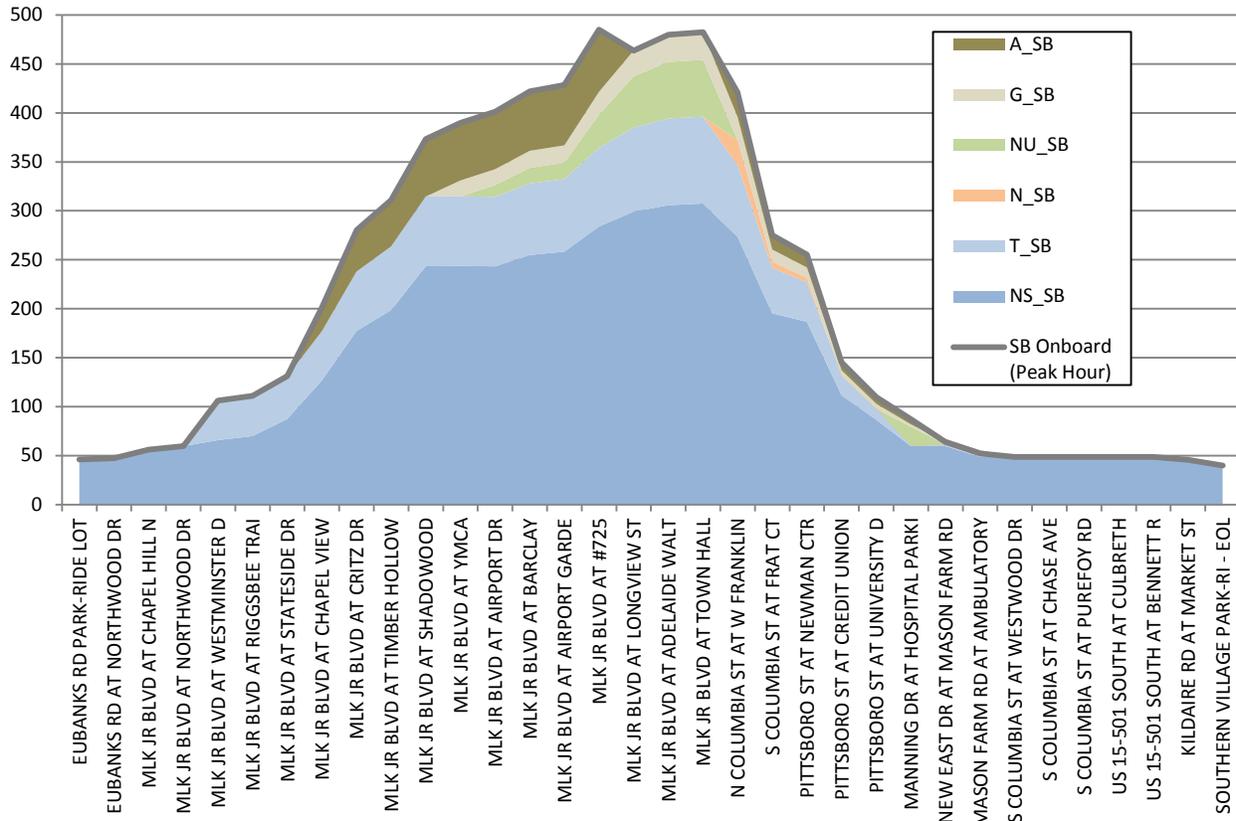
⁹ Based on monthly ridership reports provided by CHT from FY 2009-2013.

¹⁰ Average weekday ridership was compared during months when UNC was in session: September, October, November, February, March, and April.

during regularly scheduled times of operation, it is unlikely that this service could sustainably meet increased demand throughout the corridor.

Figure 7: Peak Hour Load Analysis of Existing Service

North-South Corridor: Southbound (8:00 - 9:00 AM)



3. 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).

3.1 Population within the corridor is forecast to increase

The total existing (2010) population in the study corridor is approximately 31,200 and it is projected to grow to just over 44,000 by 2040, an increase of 41 percent. This projected population growth will place an increased demand on the existing transportation network and transit system, necessitating more and higher-capacity transit services provided by a transit system that is currently reaching or exceeding capacity on several routes. Investment in high-capacity transit alternatives will allow CHT to more efficiently accommodate existing riders and leverage population growth to increase system ridership.

As shown in Figure 8, the highest population density is currently found near and on the UNC campus. Future population density, shown in Figure 9, indicates that the population will significantly increase in the northern section of the corridor, near the Carolina North development, and at the southern end, near the proposed Obey Creek development area by 2040. High-capacity transit connections between these comparatively dense population centers will be necessary to mitigate traffic congestion resulting from population growth.

3.1.1 Chapel Hill is young, but its senior population is growing

While Chapel Hill is home to UNC and its student population, it is also home to longtime residents and families who have chosen to live in Chapel Hill and have no direct affiliation with the university. Figure 12 shows the age distribution of the population of Chapel Hill, the region, North Carolina, and the U.S. for both 2000 and 2012. This figure shows that the 18- to 34-year age group comprises a near-majority of the town's population, which is high when compared to regional, state and national statistics and reflects the presence of UNC.

While UNC's student population skews the median age of the town downward, Baby Boomers and senior citizens are a fast-growing age cohort. As shown in Figure 11, the existing pockets of the senior population (over 65 years) are focused at the northern, central and southern edges of the corridor. This is a population that would be greatly served by access to convenience and efficient transit, as their interest and ability to drive may decline with their age. Additionally, university clusters, such as the Triangle region, have been emerging as desirable retirement destinations, particularly for retired academics and active adults who enjoy the cultural amenities found in such environments.

Figure 8: Existing (2010) Study Corridor Population Density

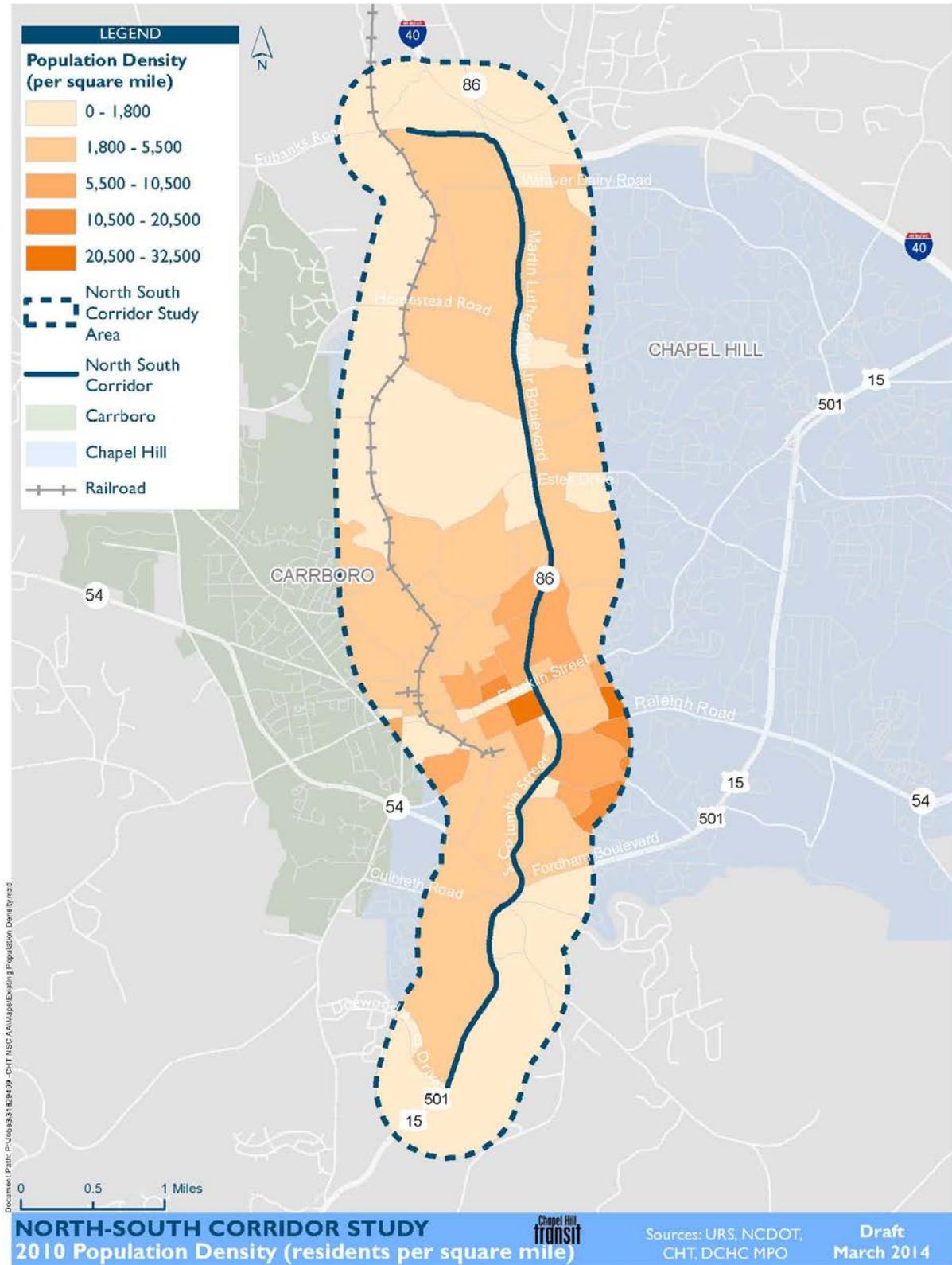


Figure 9: Forecast (2040) Study Corridor Population Density

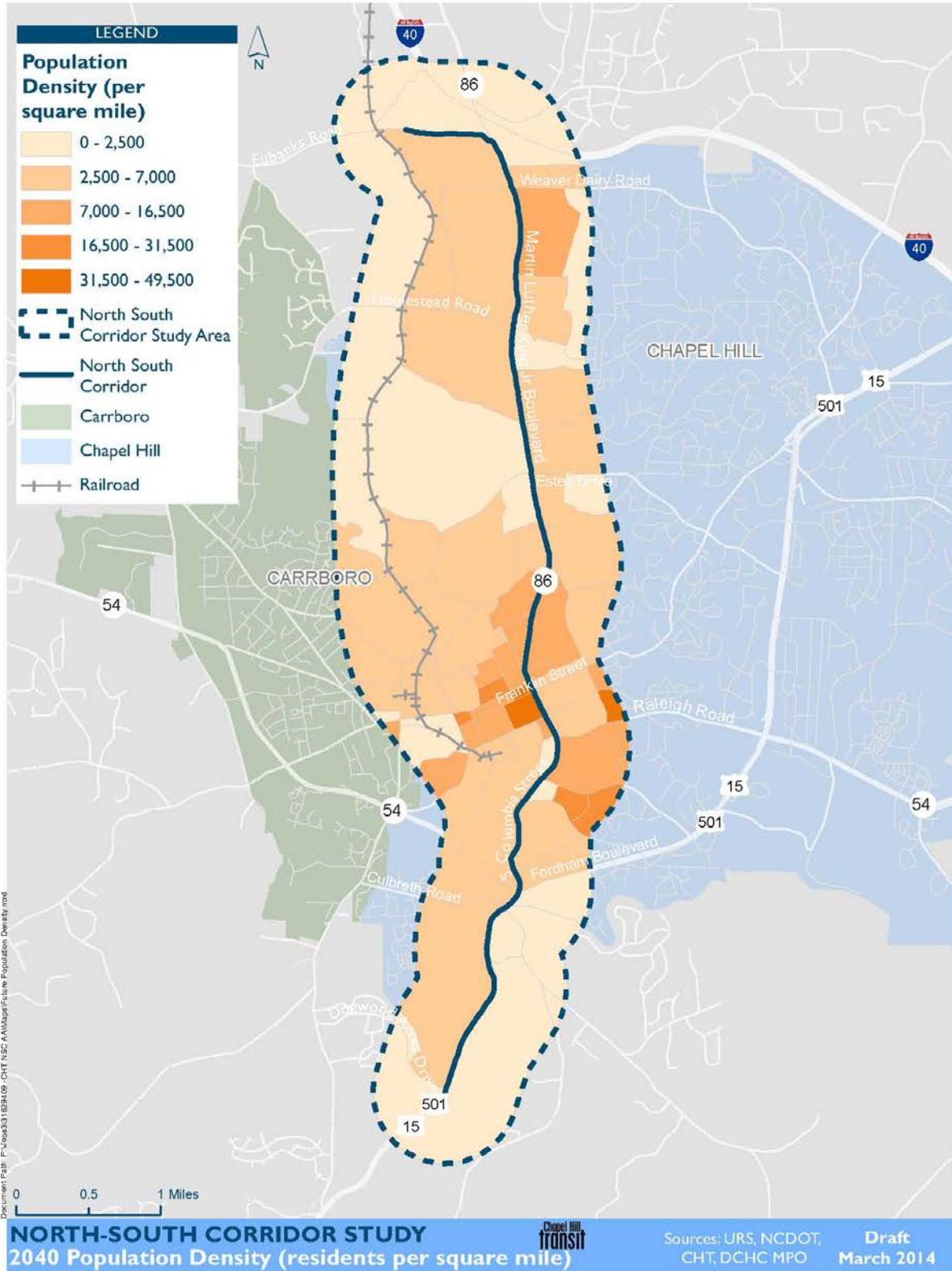


Figure 10: Percent Change in Study Corridor Population Density (2010 to 2040)

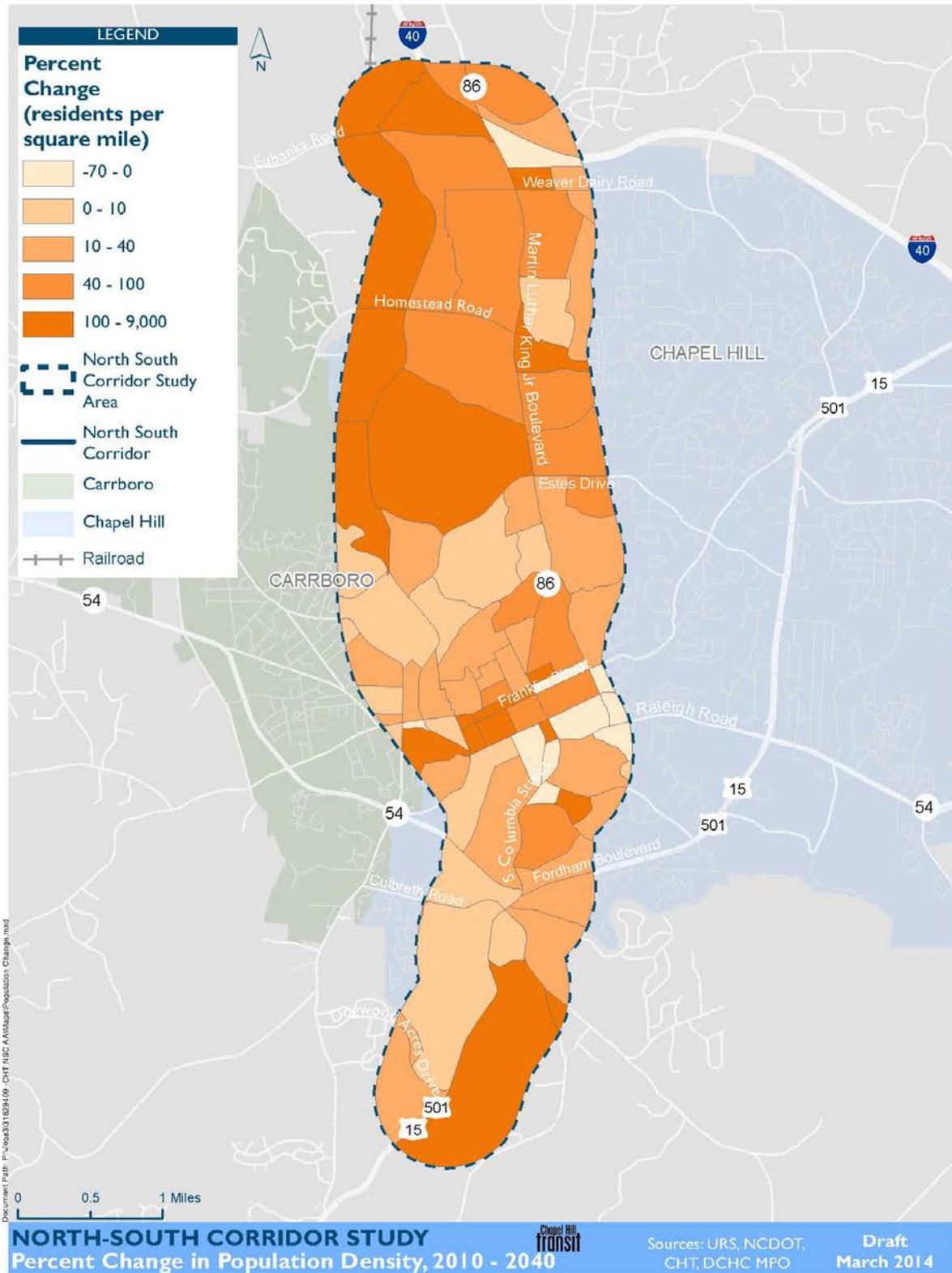


Figure 11: Percent of Study Corridor Population over Age 65

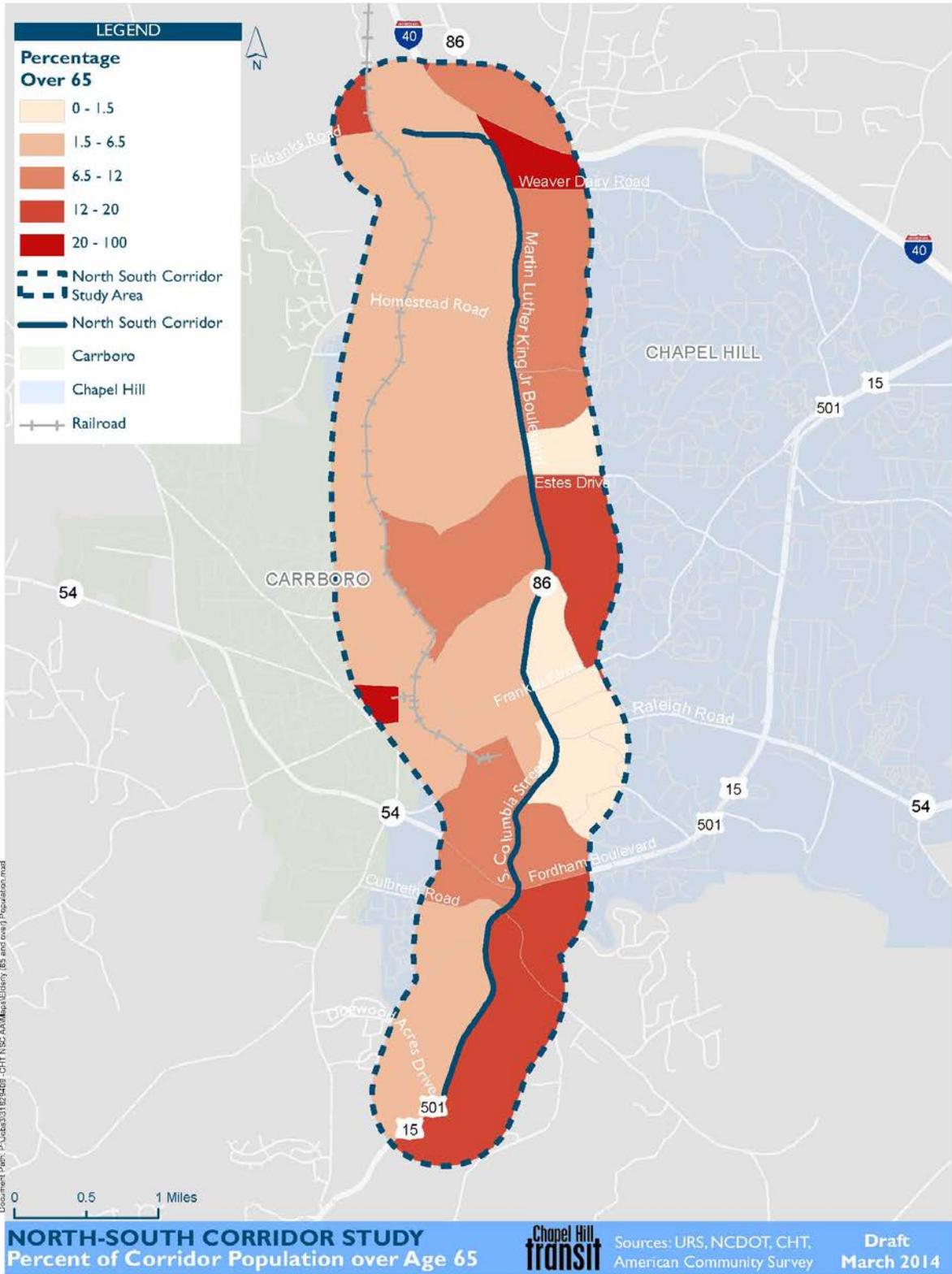
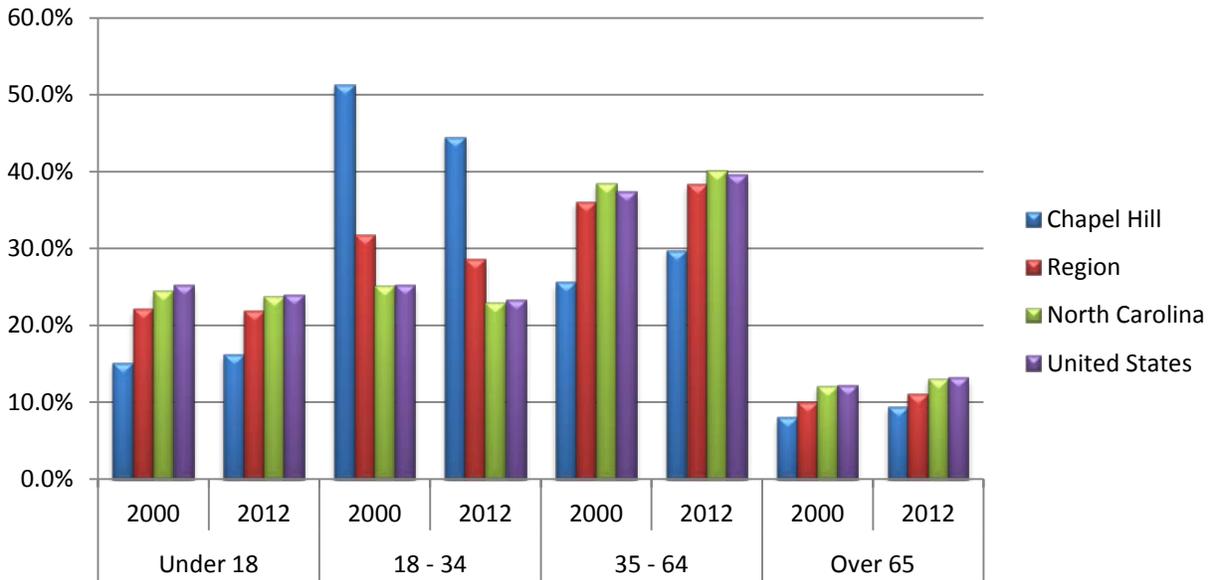


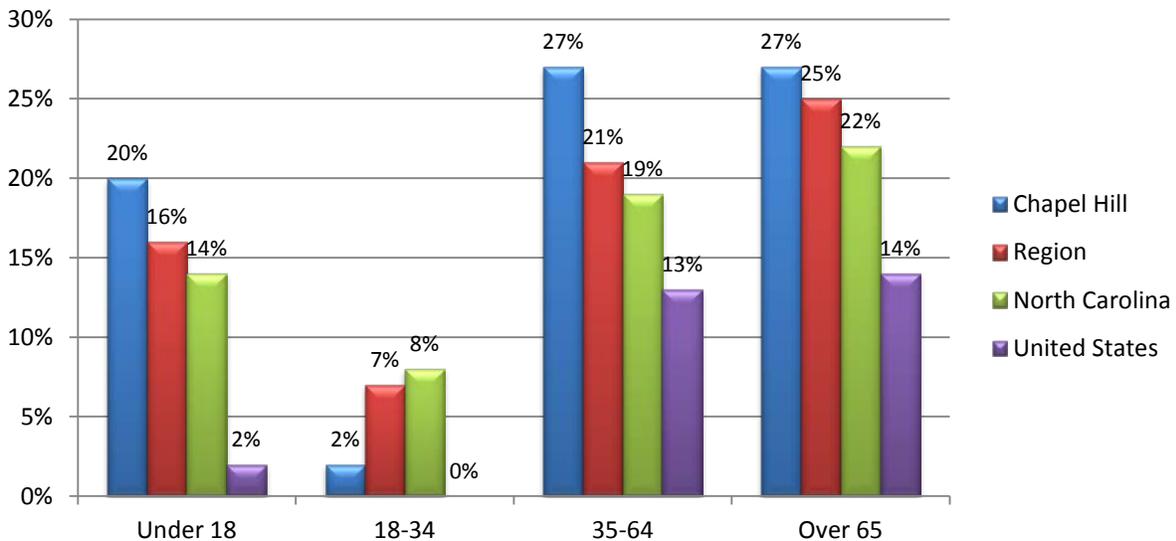
Figure 12: Population Distribution by Age Group, 2000 to 2012



Source: U.S. Census, American Community Survey, 2008-2012

Figure 13 shows a 27 percent increase in Chapel Hill’s 35 to 64 and over 65 age cohorts. This is higher rate of growth than for the same age groups in the region, state and U.S. The growth rate for the 18- to 34-year old age cohort during this same time period (2000 to 2012) was relatively stable. This data indicates that while growth of the 18- to 24-year old cohort is relatively flat, the older generations are making up a growing proportion of the Town’s population. It is necessary to plan for this demographic shift in terms of transit and mobility.

Figure 13: Change in Population by Age Group, 2000 to 2012



Source: U.S. Census, American Community Survey, 2008-2012

Both the younger and the older generations are inclined to use transit. As recent research demonstrates, the Millennial generation is driving less than previous generations. This generation is more likely to want to live in urban and walkable neighborhoods.¹¹ Millennials consider public transportation options the most likely to connect the user with their communities. Transit also allows Millennials to work and play on mobile devices as they travel.¹² The older generation will become less reliant on cars either by choice or because they are unable to continue to drive themselves. Having transit options readily available to all age groups will ensure a well-utilized system and continued mobility through all stages of life.

3.2 The corridor's demographic profile indicates reliance on transit service

In addition to understanding population shifts and patterns, it is important to ensure that the specific needs of transit-dependent populations are taken into consideration when developing and evaluating transit investment strategies. These households rely on transit as a means to access employment, education, medical care, goods and services and recreational opportunities. Maximizing benefits to these populations while minimizing adverse impacts is important to the overall project success.

3.2.1 Poverty

The greatest concentration of people living below the poverty line is found on the UNC campus and near the planned Carolina North development (Figure 16). This reflects the fact that most students are in school full-time and are not earning an income, and therefore would statistically appear to be living below the poverty line.

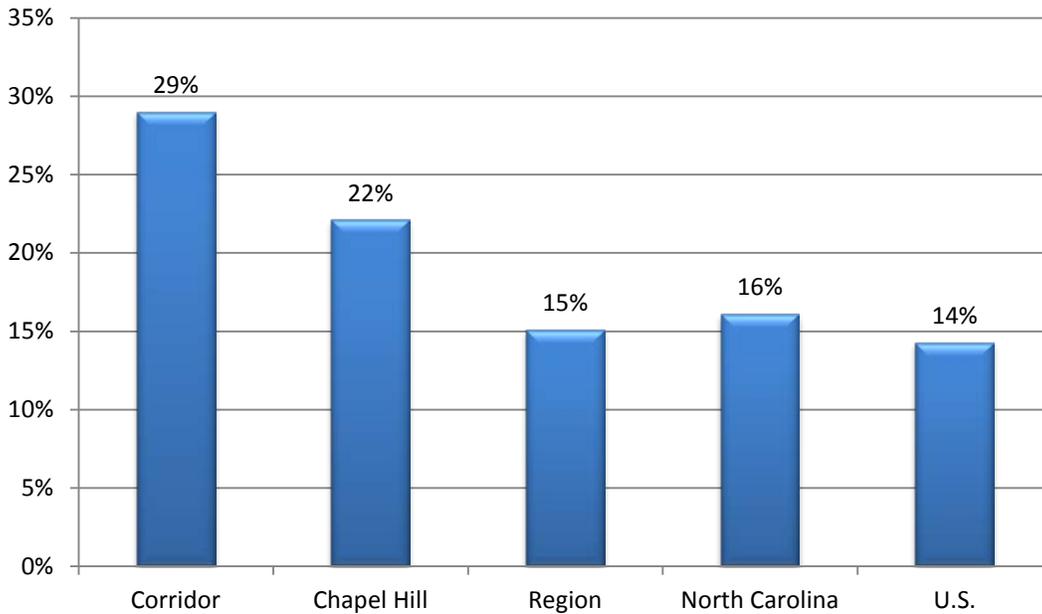
As shown in Figure 14, 29 percent of the study corridor population and 22 percent of the ToCH's population is living below poverty line. These are higher percentages than the region, state and U.S., but likely reflect the large student population living in the study corridor. Approximately 15 percent of the region is living below poverty. Likewise, about 16 percent of North Carolina's population lives below the poverty line. About 14 percent of the U.S. population lives below the poverty line.

Access to transit is important for low-income households in order to access school, work and other destinations. As total household incomes decline, the share of discretionary household budget declines as housing, food and transportation costs remain relatively consistent. Increasing the number and type of transportation and mobility options (including increased investment in transit, bicycle and pedestrian facilities) may alleviate some pressure on these reduced household incomes by offering lower-cost alternatives to car ownership.

¹¹ U.S. PIRG Education Fund and Frontier Group, *A New Direction: Our Changing Relationship with Driving and the Implications for America's Future*, spring 2013.

¹² American Public Transportation Association, *Millennials & Mobility: Understanding the Millennial Mindset*, October 2013.

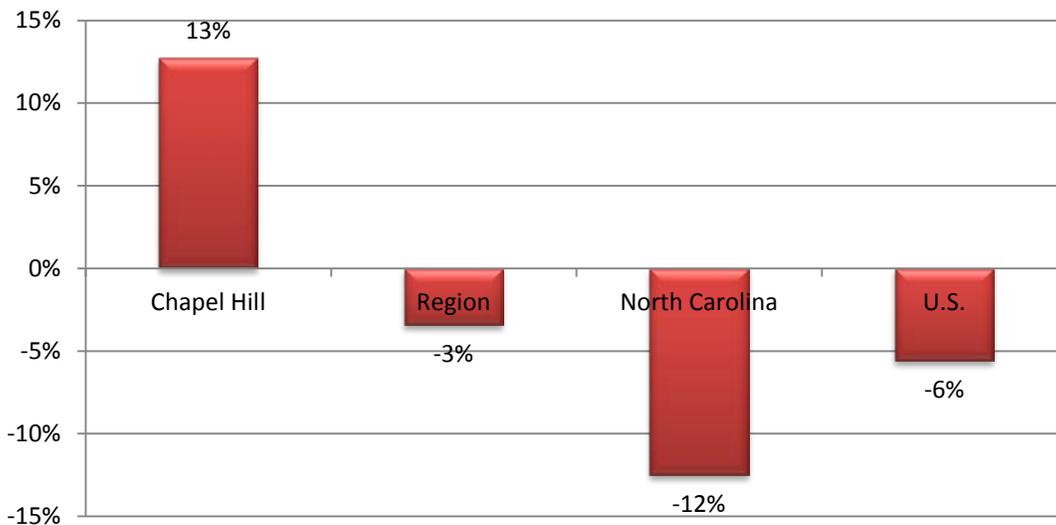
Figure 14: Percent of Population Living below the Poverty Line



Source: U.S. Census, American Community Survey

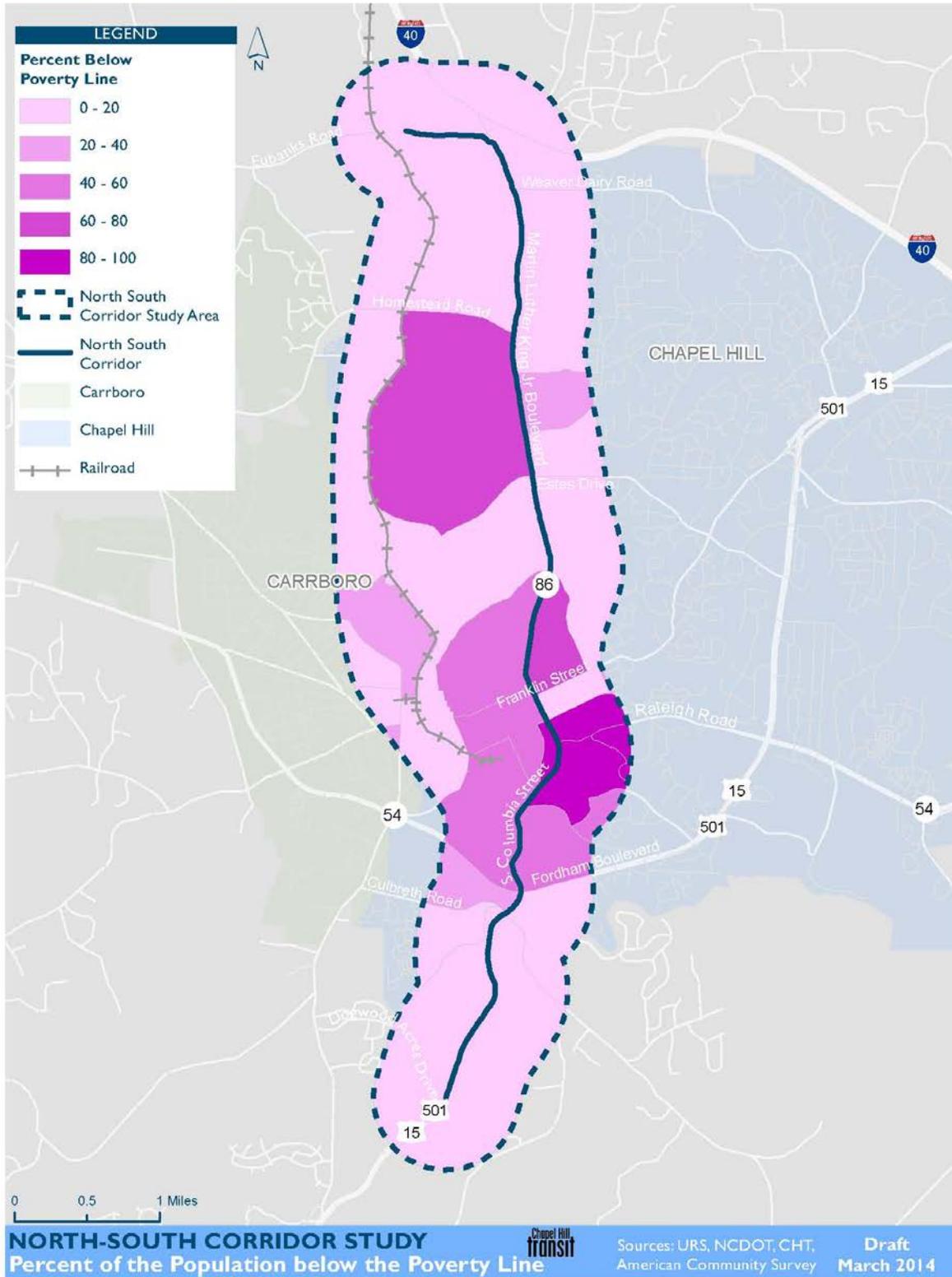
Figure 15 shows the change in median income from 2000 to 2012 in 2012 dollars. The median income in Chapel Hill has increased approximately 13 percent. This is in contrast to the region, North Carolina and the U.S., where the median income for these other geographies has declined. The comparatively high rates of poverty in combination with positive growth in median income likely reflects the large student population (who skew poverty numbers) and recession-resistant, comparatively high-paying positions at educational and medical institutions within the corridor.

Figure 15: Percent Change in Median Income, 2000 to 2012 in \$2012



Source: U.S. Census, American Community Survey, 2008-2012

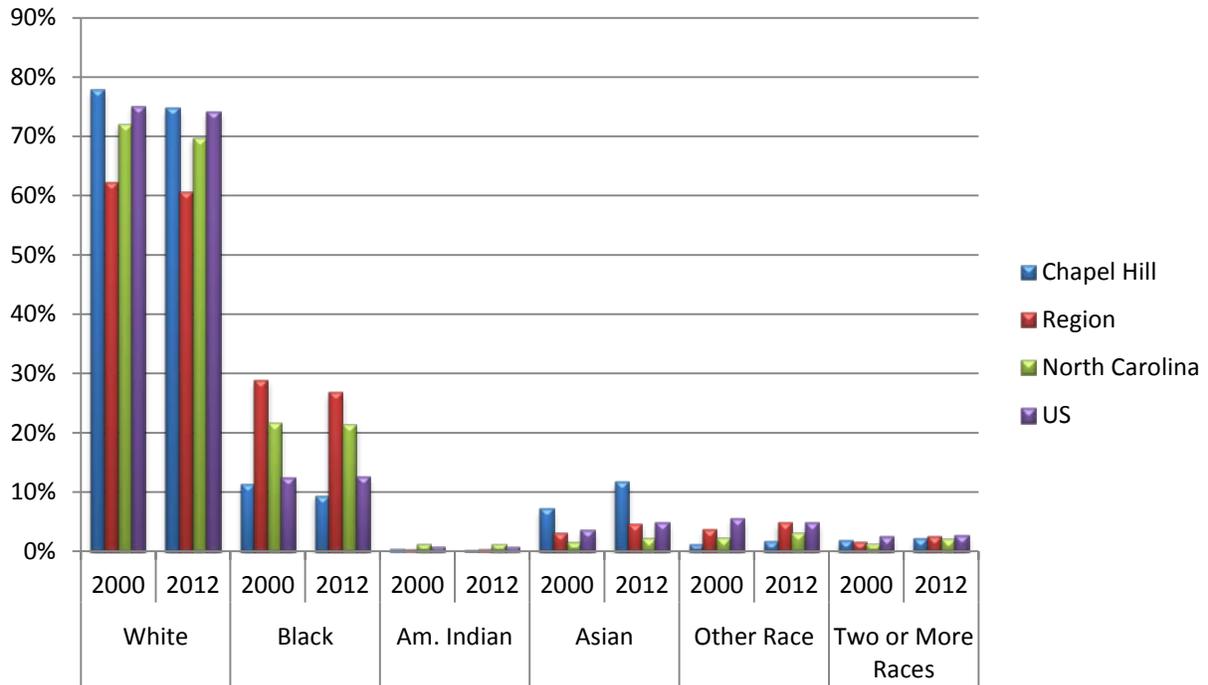
Figure 16: Percent of Study Corridor Population Living Below the Poverty Line



3.2.2 Non-White Population

As shown in Figure 17, the population of Chapel Hill is predominately white, with a comparatively smaller percentage of black and Asian residents. This differs slightly from the region where there is a smaller white population and a larger black population. However, Chapel Hill's racial distribution is similar to North Carolina and the U.S.

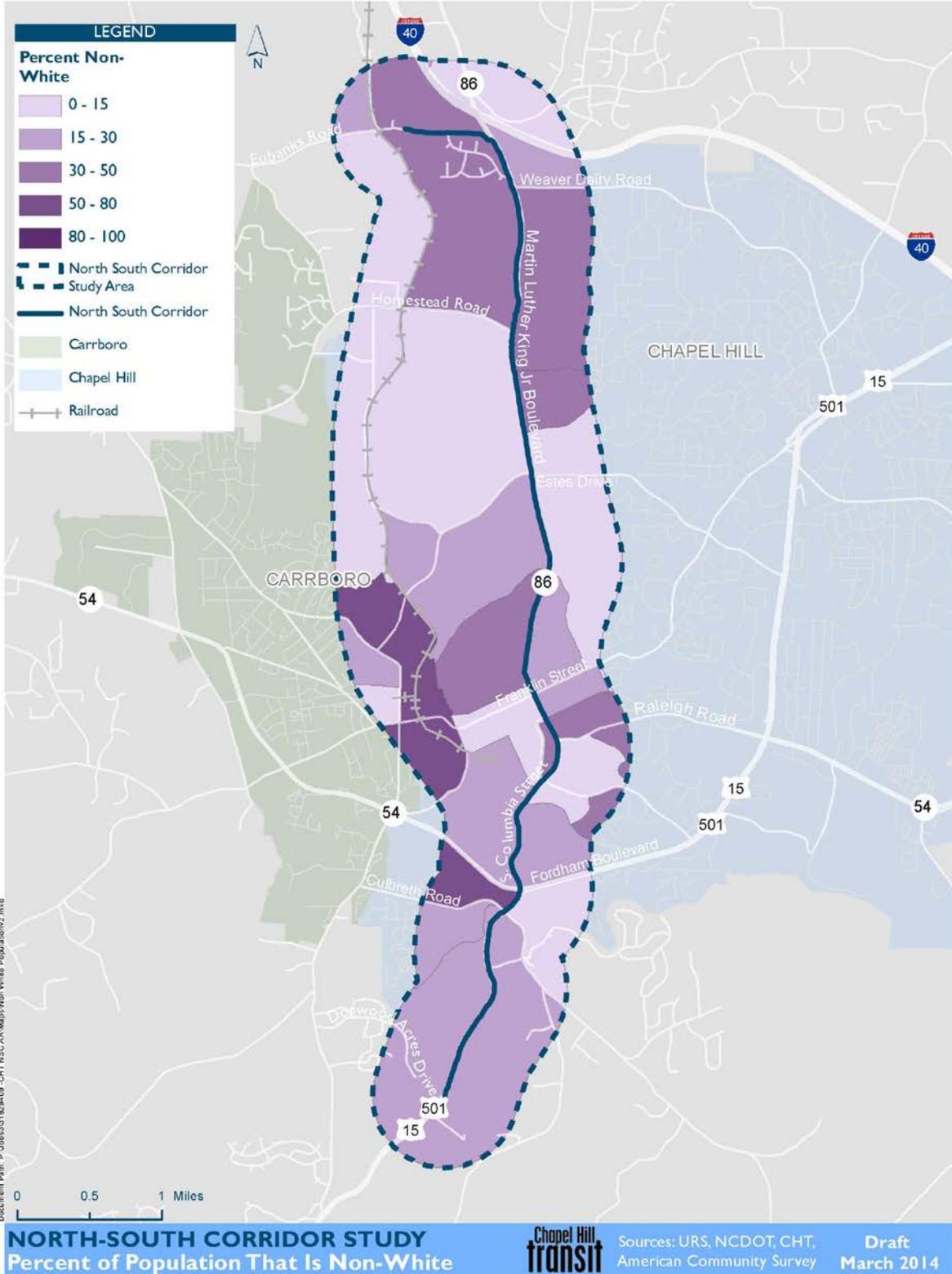
Figure 17: Racial Distribution



Source: U.S. Census, American Community Survey, 2008-2012

As shown in Figure 18, the greatest concentration of non-white population is found toward the center of the corridor near the UNC campus and the downtown area. Densities are also comparatively higher at the northern and southern ends of the corridor. In compliance with federal guidelines and regulations, it will be important to ensure that communities of color are not adversely impacted by any high-capacity transit investments within the corridor, and to ensure that communities that have been historically excluded from public processes are targeted for inclusion in NSCS public planning components.

Figure 18: Percent of Non-White Study Corridor Population

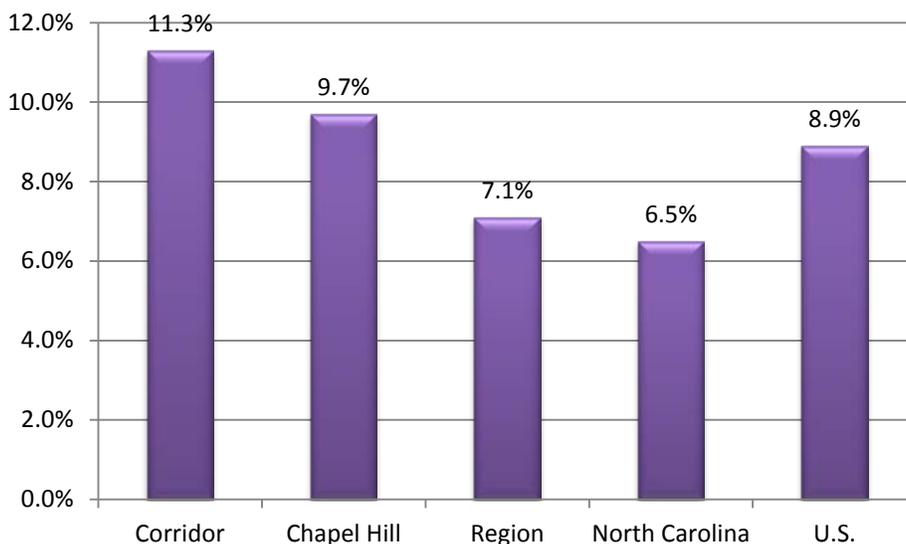


3.2.3 Zero-Car Households

As shown in Figure 20, most of the zero-car households in the corridor are located on or near the UNC campus. This reflects the tendency for students not to have personal vehicles. Other concentrations of zero-car households include the areas surrounding the campus, with pockets at both the north and south ends of the corridor.

Households that do not have a car are typically dependent on transit for their day-to-day mobility needs. Access to fast and efficient transit is essential for traveling to work and school as well as other errands and travel.

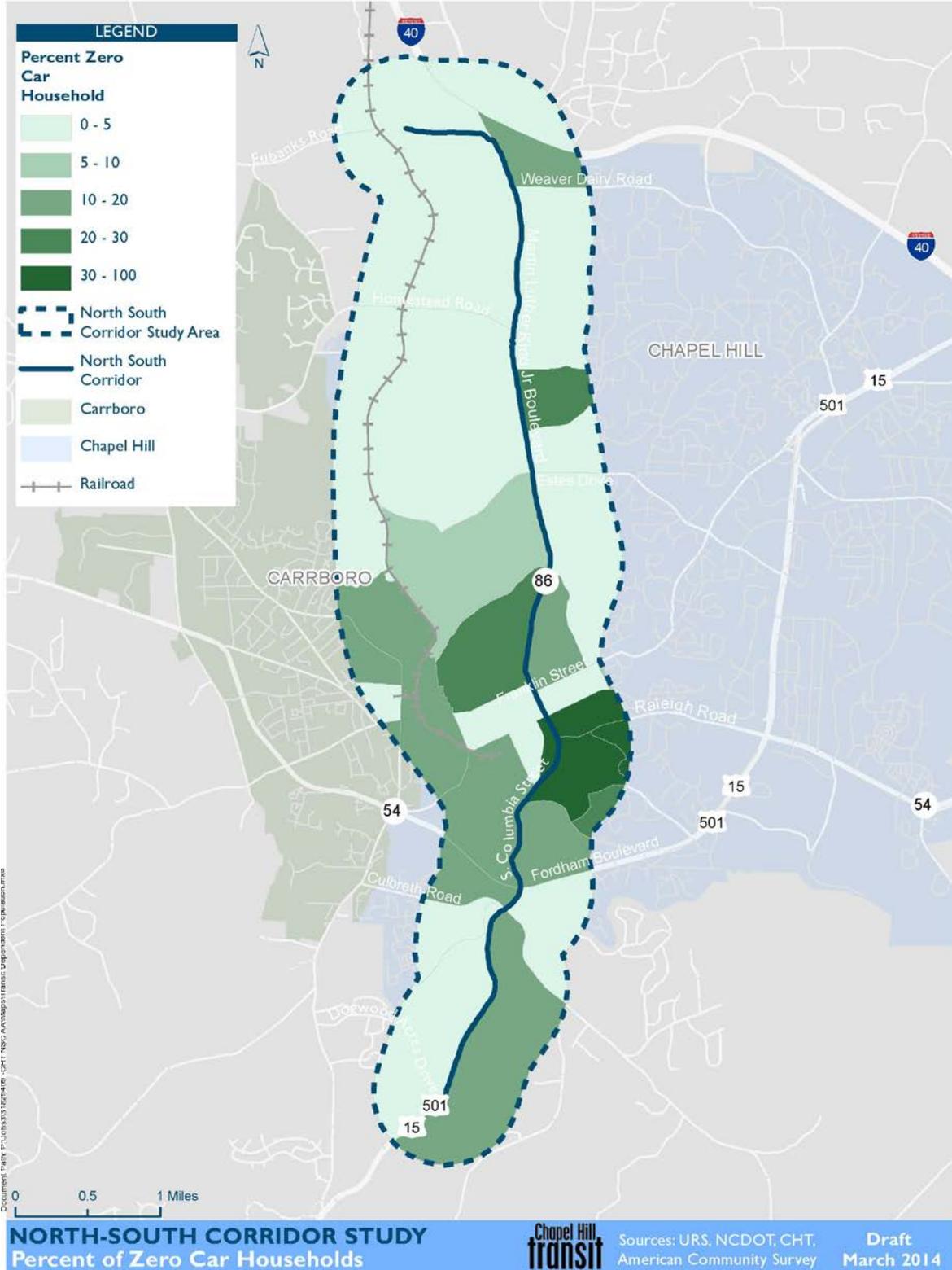
Figure 19: Zero-Car Households



Source: U.S. Census, American Community Survey

As shown in Figure 19, zero-car households in Chapel Hill are fairly consistent when compared to the region, state and the U.S. It is slightly higher than these other geographies; this is likely due to the large student population without a car.

Figure 20: Percent of Zero-Car Households in the Study Corridor



4. 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.

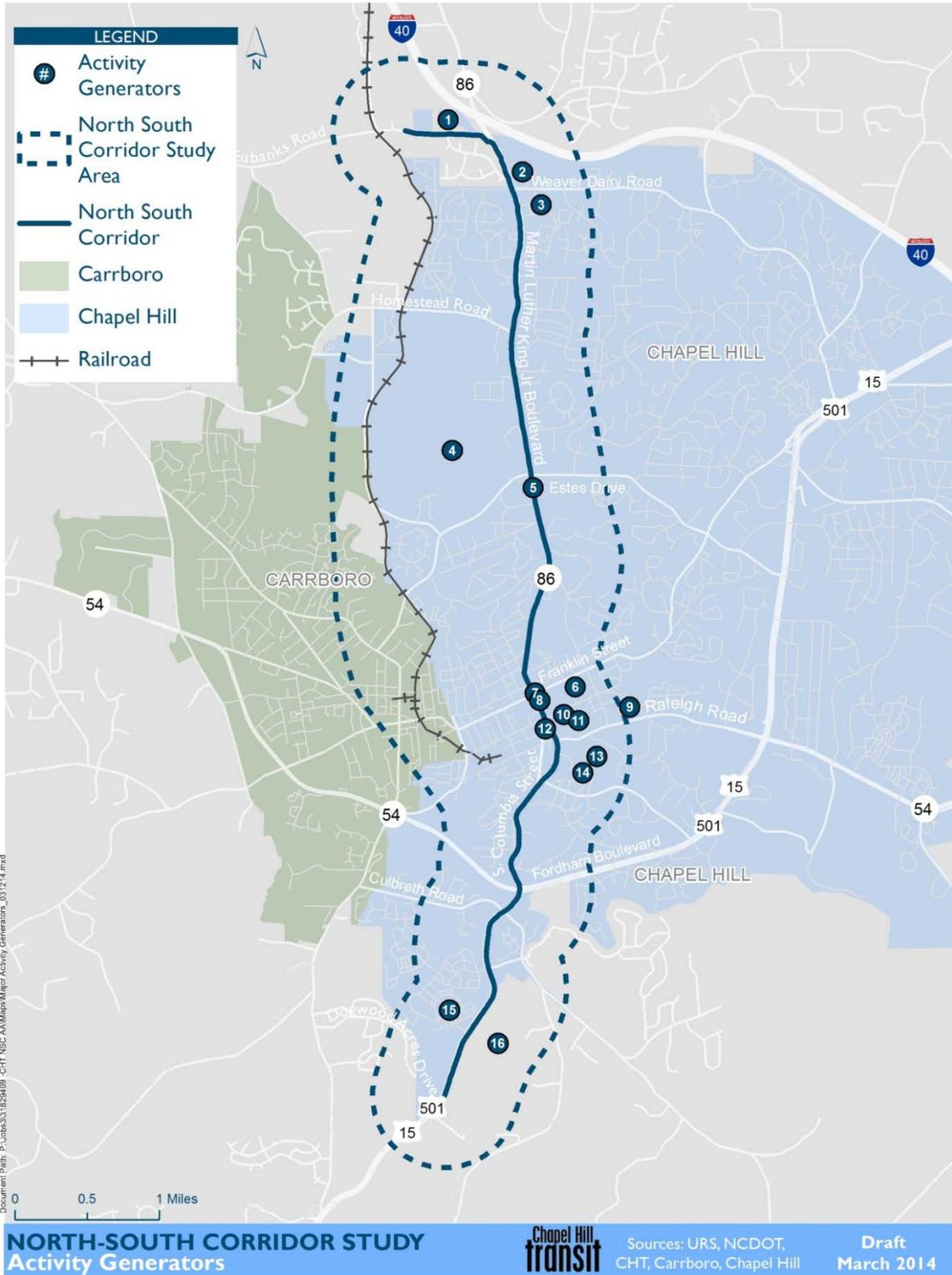
4.1 A variety of key activity generators are located along the corridor

As shown in Figure 21 and described in Table 3, a variety of activity generators can be found within the study corridor, including educational, cultural and civic institutions, recreational resources, and health care facilities, as well as planned developments. These destinations attract local, regional and national visitors, and their presence and distribution throughout the study corridor influence travel demand and travel patterns. As shown in Figure 21, the majority of these activity generators are located within or near the UNC campus, but these are also activity generators towards the northern and southern ends of the study corridor.

Table 3: Key Activity Generators within the Study Corridor

Map Key	Key Activity Generator	Status
1	The EDGE Mixed-Use Development	Proposed
2	Chapel Hill North Shopping Center	Existing
3	Timberlyne Shopping Center	Existing
4	Carolina North	Planned
5	Chapel Hill – Carrboro YWCA	Existing
6	Morehead Planetarium and Science Center	Existing
7	Franklin Street	Existing
8	Ackland Art Museum	Existing
9	PlayMakers Repertory Company	Existing
10	Memorial Hall	Existing
11	University of North Carolina – Chapel Hill	Existing
12	Carolina Inn	Existing
13	Kenan Stadium	Existing
14	University of North Carolina Hospitals	Existing
15	Southern Village	Existing
16	Obey Creek Development	Proposed

Figure 21: Key Activity Generators within the Study Corridor



4.2 Approved and in-process development plans will shift existing mobility patterns

Historically, the densest development within the study corridor was found near the UNC campus and downtown Chapel Hill. As the population, economy and institutions have grown, development pressure within that core has caused the ToCH and developers to consider the rural and open spaces at the northern and southern edges of the town as development opportunities.

The Town has sought to carefully plan and stage this growth as a means to encourage a density and pattern of uses that is consistent with the Town’s vision for growth, as most recently described in the *Chapel Hill 2020 Comprehensive Plan* and the *Central West Small Area Plan*. Chapel Hill’s Land Use Plan (May 30, 2012) identifies a series of Development Opportunity Area throughout the town; five of the nine designated sites are along Martin Luther King, Jr. Boulevard north of Estes Drive (Figure 22). These Development Opportunity Areas are in addition to major development sites that have already been completed (Southern Village) or are in the process of completing the Development Agreement process (Carolina North, Obey Creek and The EDGE).

These four developments, in addition to the areas designated as Development Opportunity Areas, will shift travel patterns and increase travel demand within the study corridor as more people seek to access residential uses, jobs, and services outside of the downtown core. The details of the four major developments are described below.

Carolina North

UNC owns approximately 947 acres of land, located on the north side of Estes Road Extension and the west side of Martin Luther King, Jr. Boulevard, that is known as Carolina North. The University has developed and approved a 50-year Carolina North development plan for approximately 250 acres of the Carolina North tract. The long-range development plan anticipates some eight to nine million square feet of floor space over a 50-year period. This plan is based on an extensive ecological assessment of the site, a detailed infrastructure analysis, and a series of public workshops.

Per a development agreement that UNC signed with the ToCH in 2009, the initial phase of the Carolina North project involves the construction of approximately three million square feet of building space on approximately 133 acres in the southeast corner of the site over a 20-year period. This phase of the development proposed that the site’s predominant uses be public or private development for college/university, research activity, civic, hospital, clinics, cultural, and/or related or support functions with integrated supporting housing, general business, convenience business, office-type business, recreation, utility and/or open space uses. The mix of uses approved for the first 800,000 square feet of development are shown in Table 4 below.

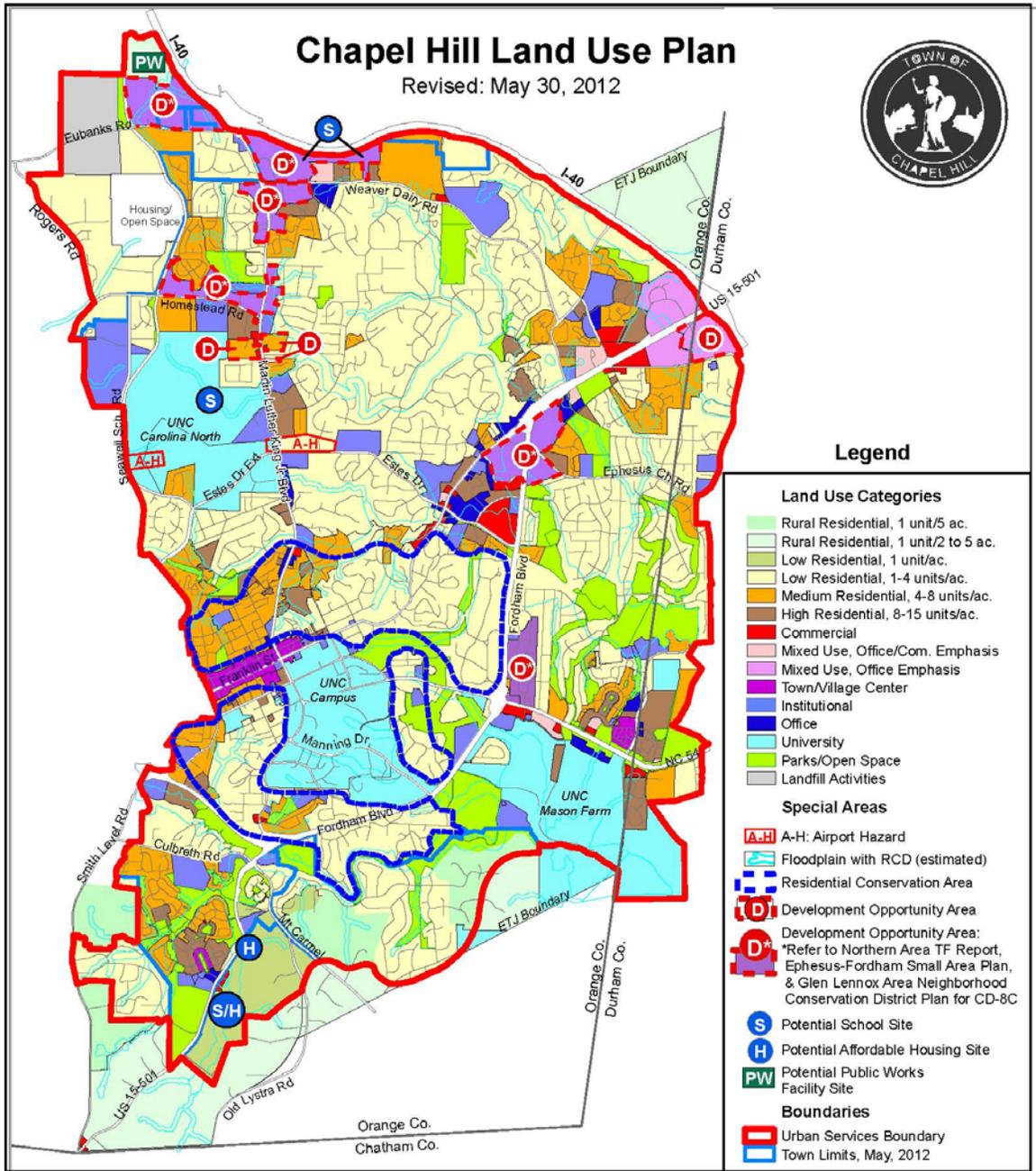
Table 4: Mix of Uses in First Phase of Carolina North Development

Land Use	Amount
Academic	410,000 square feet
Private Research and Development	180,000 square feet
Civic/Retail	10,000 square feet
Recreation Fields	n/a
Housing	200,000 square feet
Health Care	0 square feet
TOTAL	800,000 square feet

Source: Development Agreement between UNC Chapel Hill and the ToCH, July 1, 2009

The orientation of these land uses is shown in Figure 23, which is included in UNC's draft *Carolina North Design Guidelines* (October 30, 2008).

Figure 22: Chapel Hill Land Use Plan, May 30, 2012



REVISIONS:
Adopted: May 8, 2000
Revised: 11/13/2000 * 3/04/2002
9/07/2004 * 5/09/2005 * 1/14/2008
6/13/2011 * 5/30/2012

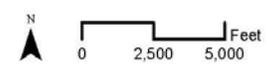
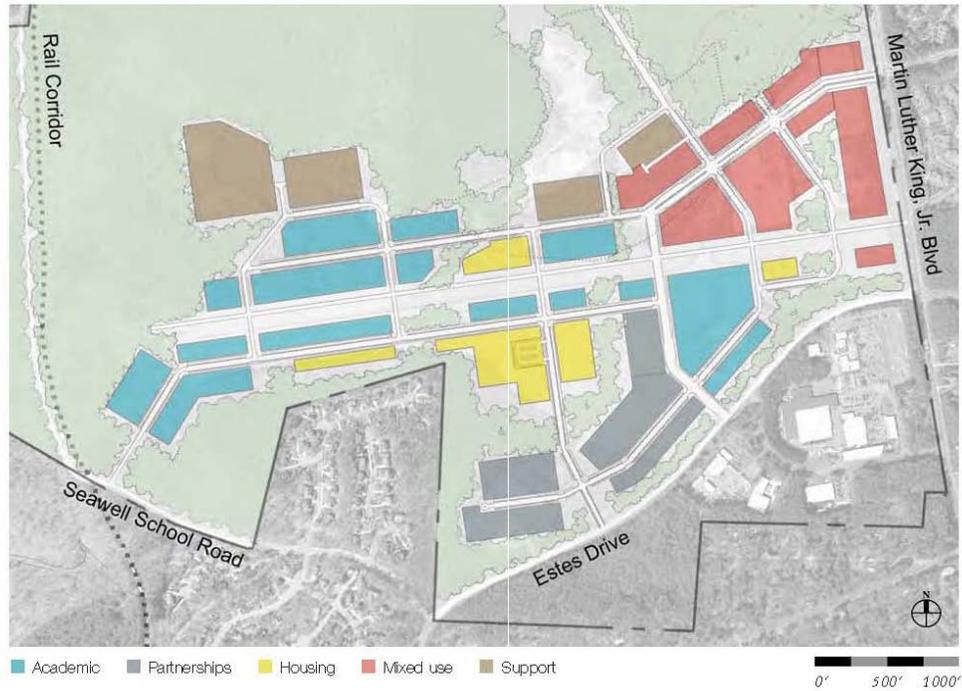


Figure 11

The Land Use Plan
Comprehensive Plan
Chapel Hill, North Carolina
Revised May 30, 2012

Figure 23: Land Use Plan for First Phase of Carolina North



Source: UNC, draft Carolina North Design Guidelines 2008; October 30, 2008

Southern Village

The Town of Chapel Hill adopted the Small Area Plan for Southern Village, located in the southern quadrant of the town on the west side of US 15-501, in 1992. The plan covered a more than 3,000 acre parcel of mostly rural land and recommended that 300 acres be used to develop a mixed-used village. This development template was different from contemporary, auto-centric development patterns that were more common throughout the region, and instead was more similar to traditional, pre-automobile development patterns. Between 1994 and 2005, a new community was built that now includes:

- 92 acres of open space, greenway and park land
- 1,150 residential units (single-family, apartments, condominiums, and townhomes)
- 252,500 square feet of retail and office space
- Mary Scroggs Elementary School
- Chapel Hill Daycare
- Christ United Methodist Church
- Town of Chapel Hill park-and-ride lot

In August 2012, developers applied for a special use permit for construction of a hotel and apartments on a parcel of undeveloped Southern Village property. The application is currently under consideration by the ToCH.

Obey Creek

The 120-acre Obey Creek development site is located directly across US 15-501 from Southern Village. In January 2014, the Chapel Hill Town Council voted to move into the next phase of a multi-phase development review process, which will include data collection, a traffic impact study, economic impact analysis, and a school impact analysis. While the details of the development are likely to change as it moves through the development agreement process, the developer proposes a mixed-use development that is modeled on Southern Village and will include connections (including a grade-separated bike and pedestrian crossing) between the two developments. Proposed land uses for the development are shown in Table 5 below.

Table 5: Proposed Land Uses in the Obey Creek Development

Land Use	Amount
Retail	350,000 square feet
Office/Commercial and Civic	375,000 square feet
Hotel	100,000 square feet (130 rooms)
Residential – Multi-Family	600 dwelling units (for sale and for rent/market rate and affordable)

Source: Obey Creek Concept Plan Submittal, Developer’s Program; July 17, 2012

The developer, in its July 2012 Concept Plan Submittal, describes the planned development as a “mixed-use, transit oriented community designed to provide a lively, pedestrian and family friendly and sustainable living environment” that will “concentrate uses as a density that will support transit use.”

The EDGE

In February 2014, developers filed a special use permit application with the ToCH for a mixed-use development called The EDGE. The 55-acre site is located at the north end of the study corridor, adjacent to I-40, the Town’s park-and-ride lot, across from the Northwood Subdivision. The proposed development would include 18 to 24 buildings, 350,000 to 651,000 square feet of multi-family residential (400 to 700 units), commercial and office uses in a walkable, mixed-use community.

The combination of existing major activity generators in the corridor with the large-scale, mixed-use developments at the northern and southern ends of the corridor (Carolina North and Obey Creek) will result in a growth in traffic volume and a shift in mobility patterns within the corridor as people seek to access these new developments. In the absence of multi-modal investment, this growth in traffic volume and shift in travel patterns will likely result in increased traffic congestion and decreased quality of life for Chapel Hill residents and their regional neighbors.

5. 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.

5.1 Without mitigation, planned development within the corridor is likely to increase congestion

The ToCH requires that proposed developments going through the Development Agreement process conduct a variety of impact assessments, including traffic impact analyses (TIA). In these analyses, existing traffic levels are measured, and then the impact of the proposed development on future roadway levels of service (LOS) are forecast.

LOS was introduced by the Highway Capacity Manual (HCM) to describe the operational quality of a roadway. The six levels of service are defined as letters A through F, where A indicates the best operational conditions and F represents the worst. HCM also defines the methodology to calculate LOS using factors such as speed, travel time, density, delay, and various other quality measures. It is standard industry practice to consider LOS A through D as acceptable in urban areas, and LOS E and F as unacceptable.

A TIA for the first phase of Carolina North was completed in 2009 (*Transportation Impact Analysis Fall 2009 Update for the Carolina North Development*); 52 intersections centered along Martin Luther King, Jr. Boulevard and stretching as far east as I-40 and Old Chapel Hill/Hillsborough Road were measured and assessed. The analysis found that – of the intersections along Martin Luther King, Jr. Boulevard/South Columbia Street – only one intersection is currently experiencing a “failing” (LOS E or F) LOS. The construction of Carolina North would cause additional intersections to experience a LOS E or F by 2015, and LOS is significantly degraded to failing at multiple intersections by 2030.

A TIA was also conducted in conjunction with the proposed hotel/apartment/office development on the Southern Village site. This analysis, published in draft form in 2012 (*Southern Village Hotel & Apartment/Office Development Draft Traffic Impact Study Executive Summary*) evaluated impacts at four intersections along US 15-501 between Culbreth Road/Mt. Carmel Church Road and Market Street. 2012 LOS at the four intersections performed at D or better; one intersection (at US 15-501 and Culbreth Road/Mt. Carmel Church Road) was forecast to degrade to a LOS E by 2016 following project construction.

A TIA for the proposed Obey Creek development has not yet been completed, but it can be anticipated that a development of that scale would increase travel demand (and levels of congestion) along US 15-501.

A TIA for The EDGE development (*The EDGE Development Traffic Impact Study – 2013 Update Final Executive Summary*) was completed in August 2013. The development’s improvements to Eubanks Road, which have been vetted through both the Chapel Hill Transportation Division and NCDOT Region 5, will not only support existing daily traffic volumes, but will incorporate through lanes, turn lanes and storage volumes to improve existing traffic. 14 intersections were analyzed (including intersections

created as part of the development); the Build scenarios are forecast to improve congestion levels at two intersections (Martin Luther King, Jr. Boulevard and the I-40 eastbound ramp; Martin Luther King, Jr. Boulevard and Eubanks Road), and are forecast to degrade one intersection to a “failing” LOS E (Eubanks Road and Old N.C. 86).

The TIAs for Carolina North and Southern Village found that traffic congestion along Martin Luther King, Jr. Boulevard will increase to the point that roadway LOS starts to reach unacceptable levels (as defined by the HCM) by 2030. High-capacity transit investment will be necessary to provide alternatives to single-car travel through the corridor; mode shift from cars to transit will mitigate congestion within the corridor and support efficient mobility for all transportation network users.

5.2 Employment within the corridor is forecast to increase

In 2010, just under 34,000 people worked within the study corridor; Table 6 shows that top five public and top five private employees in Orange County. The three largest employers within Orange County are headquartered in the study corridor.

Table 6: Top Public and Private Employers in Orange County

Employer	Number of Employees	Public or Private	HQ Located in the Study Corridor?
UNC at Chapel Hill	16,217	Public	Yes
UNC Health Care System	7,964	Public	Yes
Chapel Hill-Carrboro City Schools	2,138	Public	Yes
Blue Cross Blue Shield of NC	1,239	Private	No
Orange County Schools	1,157	Public	No
Town of Chapel Hill	912	Public	Yes
Sports Endeavors/Eurosport	676	Private	No
Harris Teeter, Inc.	489	Private	No
PHE, Inc.	316	Private	No
A Southern Season	314	Private	No

Source: “Snapshot of the Town of Chapel Hill,” Town of Chapel Hill, February 2012

The DCHC MPO estimates that nearly 52,000 people will work within the study corridor in 2040, an increase of 54 percent. Figures 24 through 26 provide detail about the existing and forecast density of employment within the corridor and show the forecast percent change in employment density between 2010 and 2040. While the highest employment density can be found in the downtown – and this area is expected to see high rates of employment growth through 2040 – high rates of employment growth are also projected for the northern portion of the Corridor, particularly in the Carolina North area, and in the southern portion of the corridor near the Obey Creek development area.

Investment in high-capacity transit within the corridor would be an effective way to mitigate congestion that could result from increased travel demand resulting from a greater number of employees accessing jobs within the study corridor.

Figure 24: Existing (2010) Study Corridor Employment Density

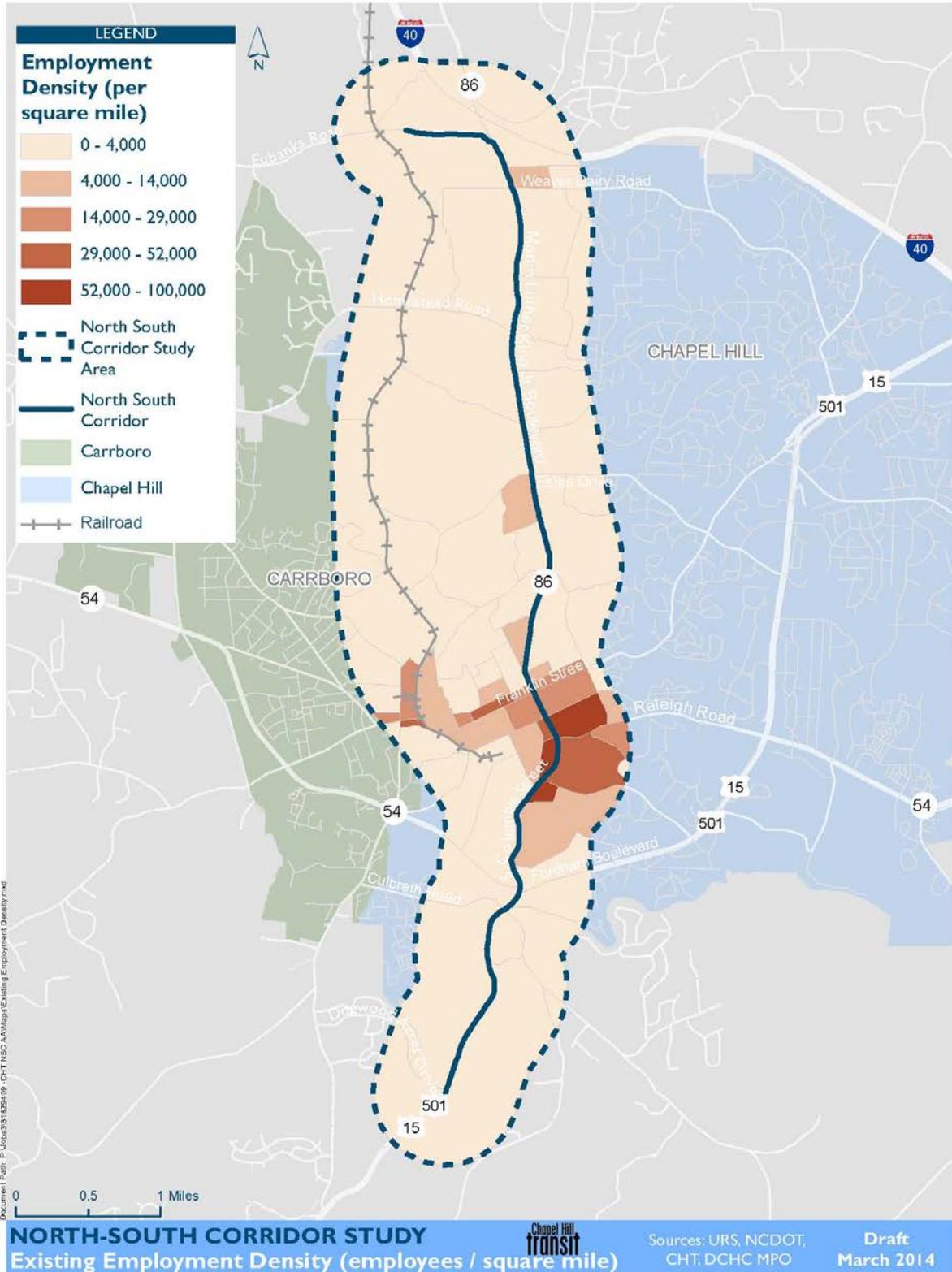


Figure 25: Forecast (2040) Study Corridor Employment Density

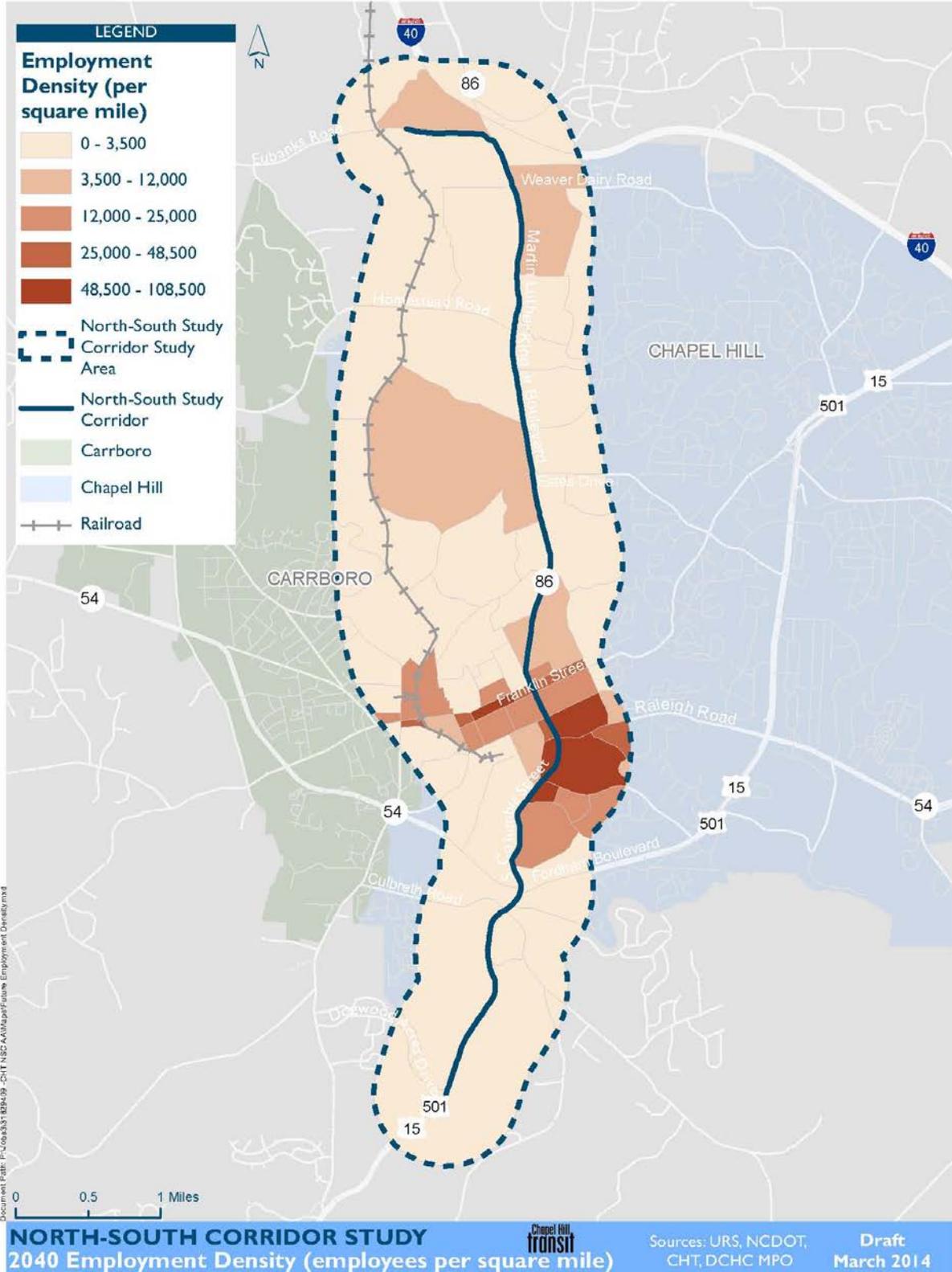
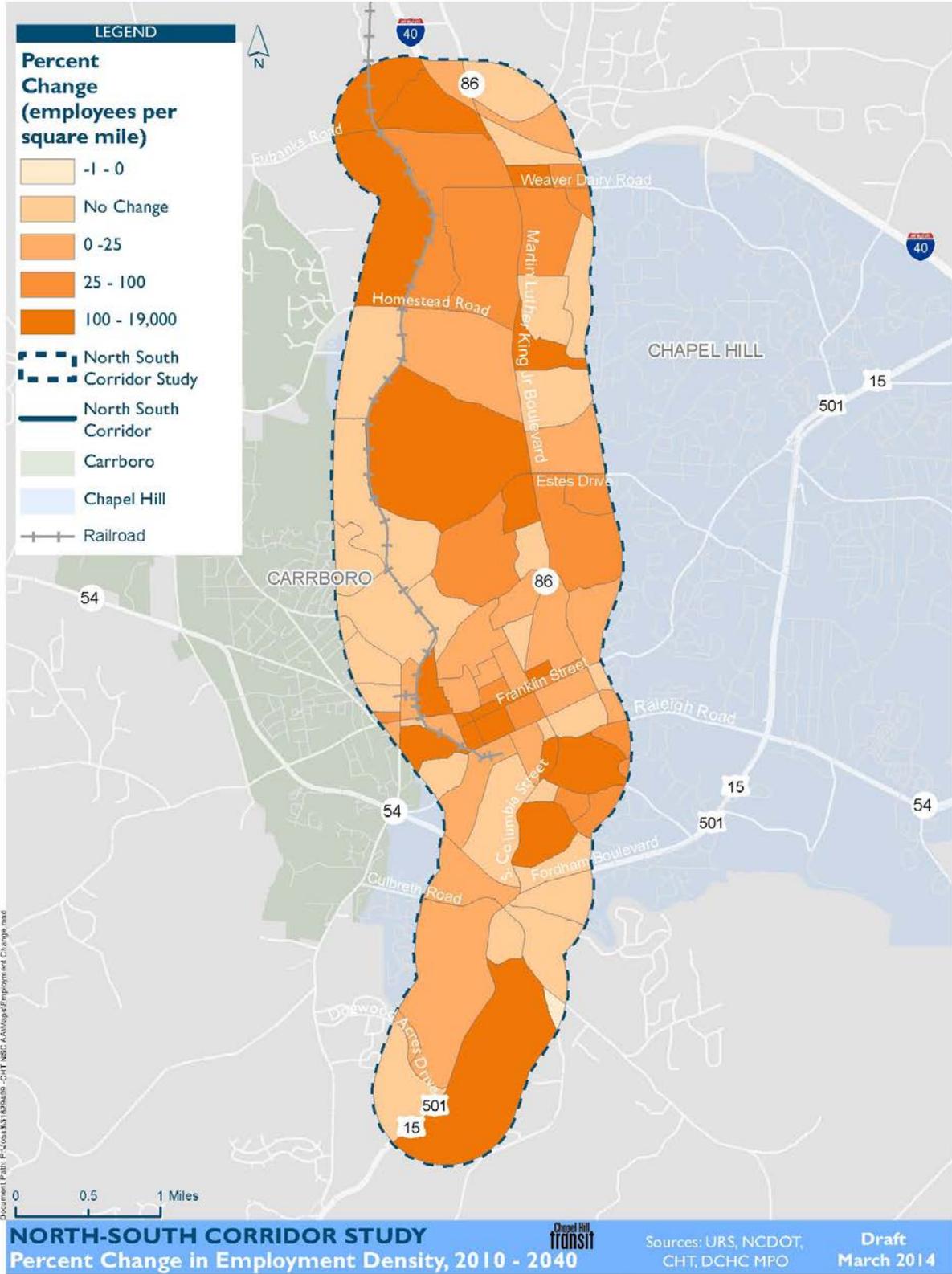


Figure 26: Percent Change in Existing and Forecast Study Corridor Employment Density



5.3 Chapel Hill – and employment centers within the corridor – attract commuters from around the region

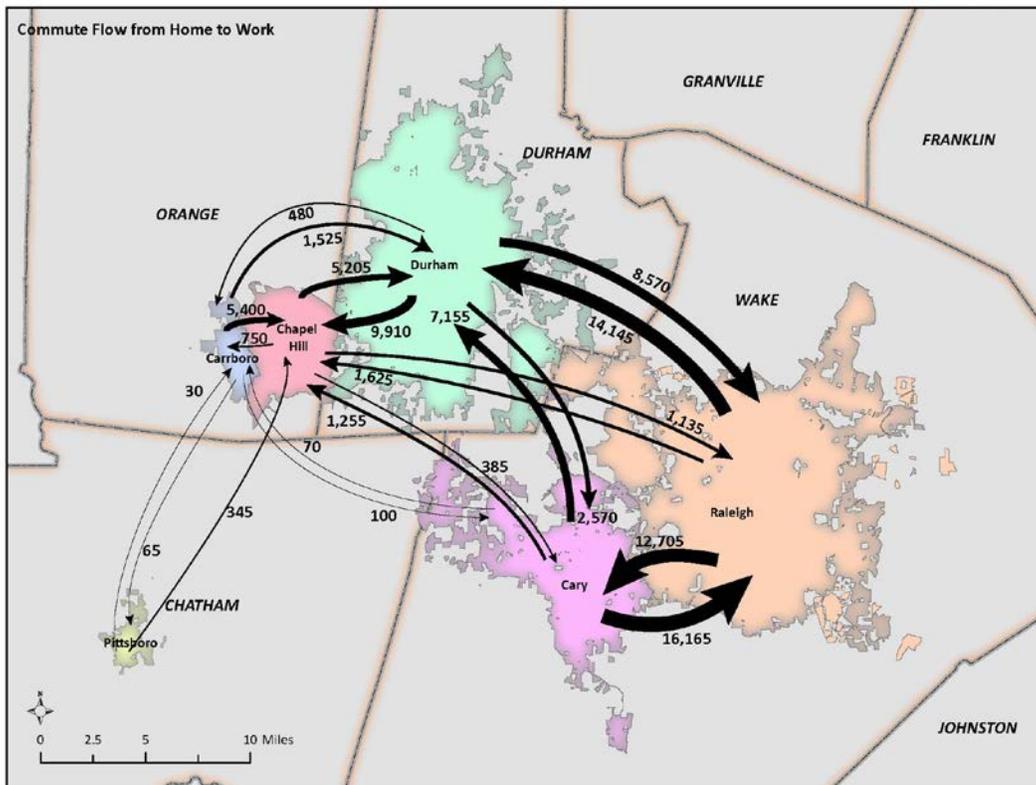
Table 7 and Figure 27 show commute flows between communities within the region. Chapel Hill and Durham both experience a positive net inflow of commuters (more people work than live in the respective municipalities), driven by the presence of major private and public employers and educational/healthcare institutions. This flow can be expected to increase as development within the corridor – particularly at the Carolina North site – intensifies.

Table 7: Residence-to-Workplace Flows in the Region

		Work						Total
		Carrboro	Cary	Chapel Hill	Durham	Raleigh	Pittsboro	
LIVE	Carrboro	1,630	100	5,400	1,525	525	65	9,245
	Cary	70	24,375	1,255	7,155	16,165	4	49,024
	Chapel Hill	750	385	14,285	5,205	1,135	45	21,805
	Durham	480	2,570	9,910	68,525	8,570	35	90,090
	Raleigh	120	12,705	1,625	14,145	128,260	10	156,865
	Pittsboro	30	65	345	70	80	495	1,085
TOTAL		3,080	40,200	32,820	96,625	154,735	654	

Source: US Census ACS 2006-2010 Five-Year Data, Census Transportation Planning; URS

Figure 27: Residence-to-Workplace Flows in the Region

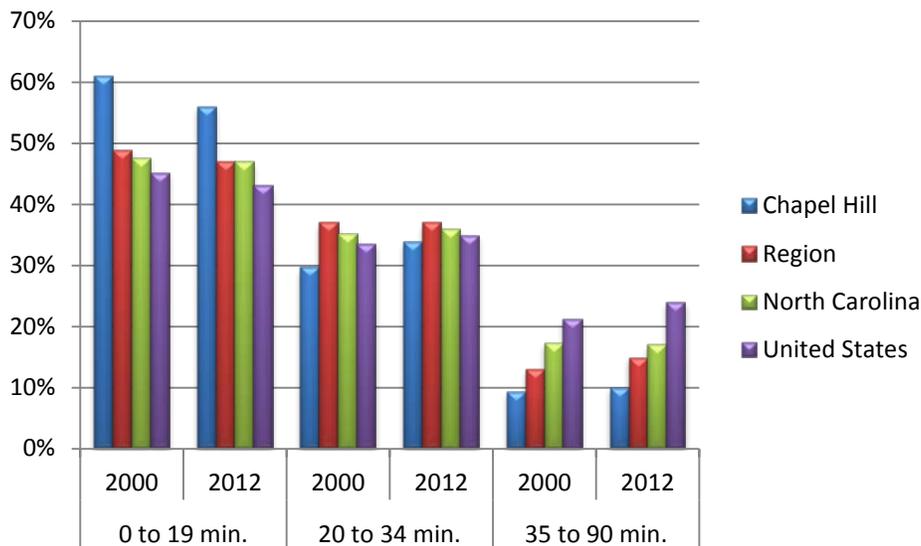


Source: US Census ACS 2006-2010 Five-Year Data, Census Transportation Planning; URS

5.4 Commute times within Chapel Hill are low, but growing

As shown in Figure 28, commute times for Chapel Hill residents are low when compared to regional, state and national averages. A majority of Chapel Hill residents that commute (56 percent) travel fewer than 20 minutes to work. While this is a shorter commute time than experienced across the region, state and country, overall commute times for Chapel Hill residents have grown between 2000 and 2012.

Figure 28: Commute Times



Source: U.S. Census, American Community Survey, 2008-2012

As forecast population and employment growth occurs within the study corridor, it can be anticipated that the existing transportation network will be unable to support the increased demand (particularly given current levels of service, as discussed in Section 5.1 of this report) and commute times will continue to grow.

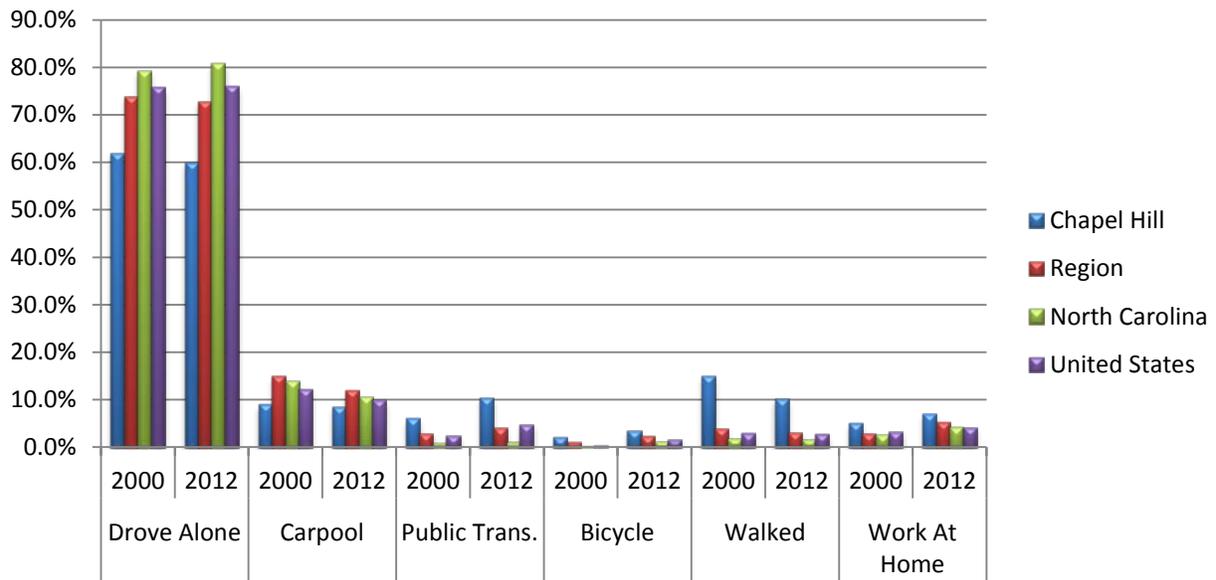
5.5 Chapel Hill commuters already rely on transit and bikes to commute

As shown in Figure 29, a comparatively low share of Chapel Hill commuters drove to work alone in 2000, and that share dropped by 2012. Chapel Hill residents use public transportation to commute at a higher rate than residents of the region, state or country, and the mode share for transit increased between 2000 and 2012.

A significantly higher percentage of Chapel Hill residents walked and biked to work than commuters throughout the region, state or country, which indicates proximity of housing to places of employment and the presence of robust pedestrian and bicycle facilities within the Town. These characteristics are typically supportive of transit usage.

Investment in high-capacity transit can leverage existing travel behaviors and patterns to encourage additional mode shift towards transit as a means to reduce vehicular congestion within the corridor and support efficient, sustainable mobility within and throughout the study corridor.

Figure 29: Commute Mode Share



Source: U.S. Census, American Community Survey, 2008-2012

6. 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.

6.1 Approved development will intensify corridor land use patterns

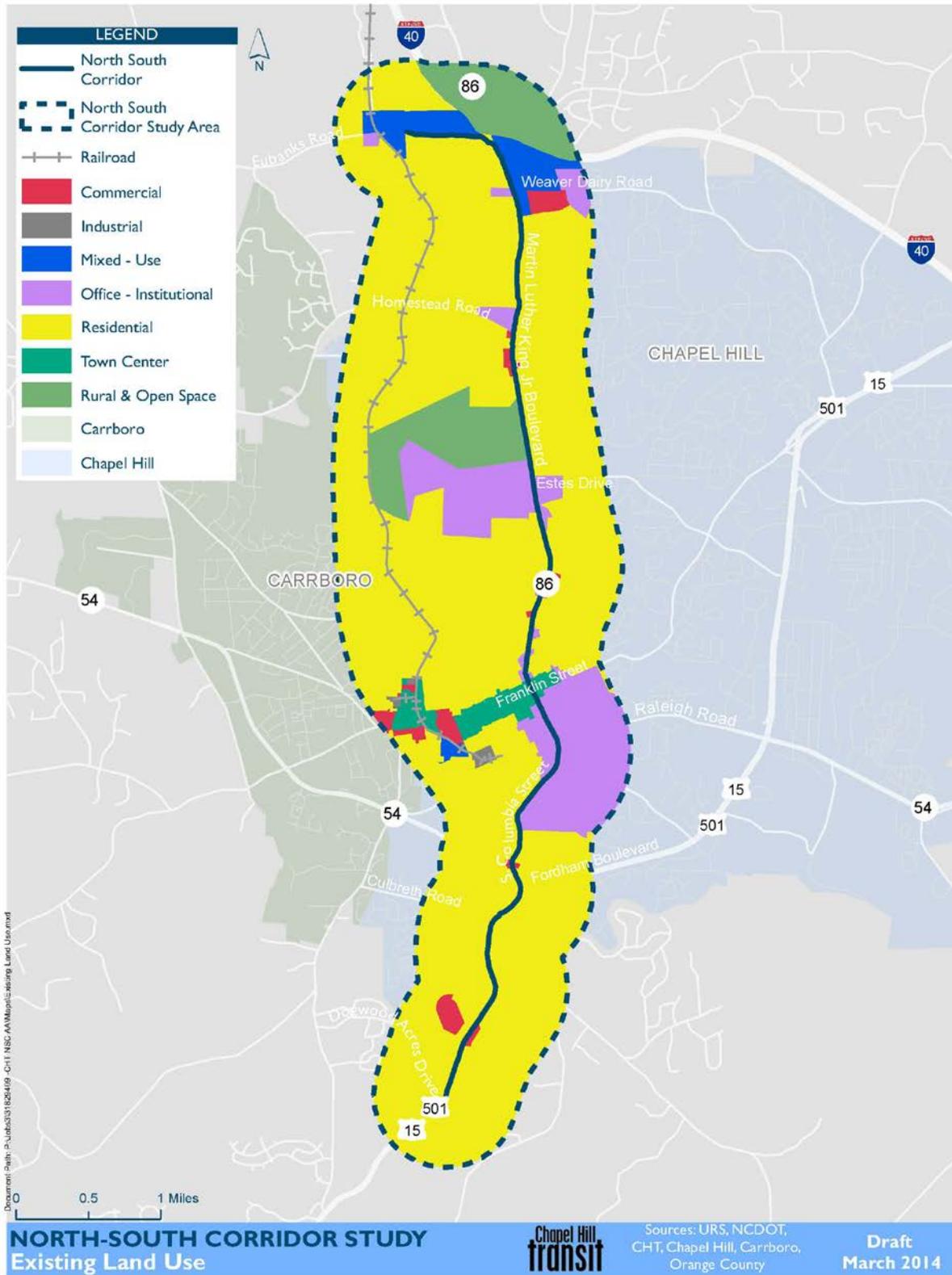
As shown in Figure 30, the existing land use throughout the corridor is predominately residential. However, there are two large areas of institutional land uses – the UNC campus and the new Carolina North development. The northern end of the corridor at Eubanks Road has a combination of mixed-use, rural/open space, commercial and residential. Moving south down the corridor, the areas to the west and east of Martin Luther King Jr. Boulevard are mostly residential, until the Carolina North development. At Carolina North, the land use is institutional. However, as it is part of a campus environment, there will be a significant number of housing units at this site. Between the Carolina North development and the downtown, it is again mostly residential land use. The downtown has a mix of uses, including residential, commercial and civic. To the southeast of the downtown is the UNC campus where the land use is entirely institutional, but again, several residential units are part of the campus environment. South of UNC to the end of the corridor is almost entirely residential, with a few pockets of commercial use.

Development patterns vary significantly throughout the corridor. The northern end of the corridor has a more suburban style of development, with curvilinear streets, larger lots and more open space. The downtown has a grid pattern of street development with smaller residential lots. Between the downtown and the southern end of the corridor is primarily lower-density, suburban style of development again. The Southern Village, anchoring the south end of the corridor, is a New Urbanist-style development. It has its own small town center surrounded by dense residential uses and interspersed with open space.

As described in Section 4.2 of this report, the planned Carolina North, The EDGE and Obey Creek developments will significantly intensify the character and density of land uses at the northern and southern ends of the corridor. The first phase of Carolina North will result in more than three million square feet of mixed-use development on what is currently open land (with the exception of some existing small-scale uses), and The EDGE and the Obey Creek developments could bring hundreds of new dwelling units and hundreds of thousands of square feet of retail/commercial/office uses to the land adjacent to Carolina North and Southern Village (respectively).

While these projects are currently working through the Town's review, approval and construction processes, five Development Opportunity Areas have been designated by the Town within the study corridor. The cumulative impact of these developments will result in a fundamental shift in the type and intensity of land uses at specific locations throughout the length of the corridor, which will alter both travel demand and mobility patterns.

Figure 30: Existing Land Use within the Study Corridor



6.2 Corridor, municipal and regional plans call for sustainable growth

Local governments, regional planning authorities and major institutions within the corridor have each made a commitment to sustainable development principles, as demonstrated in adopted plans and policies. High-capacity transit investment is an effective tool to achieve the goals and visions for growth that are contained in these documents. A summary of the relevant plans is included below.

6.2.1 Transportation Plans

- The 2040 Capital Area MPO and DCHC MPO *Metropolitan Transportation Plan* recommend Bus Rapid Transit (BRT) on the Chapel Hill Martin Luther King, Jr. Boulevard Corridor. The types of improvements discussed in the plan include more frequent service/improved headways, additional service hours during evenings and weekdays, realigned bus routes to connect with rail routes, new technology, such as satellite tracking of buses, and circulator service to provide connections for the “last mile” for transit riders.
- The *NC 86 / Martin Luther King Jr. Boulevard Corridor and Town-Wide Pedestrian Safety Evaluation Study* makes several recommendations that seek to improve conditions for pedestrian, bicyclists and transit users in the corridor. Some of the specific recommendations include filling in gaps in sidewalk coverage, stripe crosswalks, constructing bus pullouts, and creating raised medians and narrow vehicular lanes.

6.2.2 Municipal Plans

- One of the themes of the *Chapel Hill 2020 Comprehensive Plan* is “Getting Around.” There are several goals related to this theme. Overall, this plan advocates a well-conceived and -planned, carefully thought-out, integrated and balanced transportation system that recognizes the importance of automobiles, but encourages and facilitates the growth and usage of other means of transportation such as bicycle, pedestrian and public transportation options.
- The Central West Focus Area was identified as a priority during the Chapel Hill 2020 comprehensive planning process because of development pressures in the area. The *Central West Small Area Plan*, which was adopted by the Town Council on November 26, 2013, included a concept plan, transportation network recommendations, environmental considerations, and streetscaping recommendations. The Plan strongly recommends improvements to transit, sidewalk, and bicycle facilities.
- The draft *Chapel Hill Bike Plan* (March 2014) identified and prioritized the Town’s top 10 bike facilities improvement projects; three of the ten projects are along some portion of Martin Luther King, Jr. Boulevard or Columbia Street, and most of the remaining projects will improve multimodal connectivity between the study corridor and the surrounding area.
- The Carrboro *Vision 2020* policy document (Objective 4.21) recommends that the Chapel Hill Transit system should enhance access to employment activities, youth activities, special events, and educational opportunities at UNC-CH, while building additional park-and-ride lots for easier transit access.
- The goals of the ToCH’s *Greenways Master Plan* are to provide specific recommendations for developing greenway segments and facilities, exploring neighboring greenway connectivity with other jurisdictions, and integrating relevant planning efforts, such as adopted bicycle,

pedestrian, and parks and recreation plans, including the *Chapel Hill 2020 Comprehensive Plan* to encourage a more active, bicycle and pedestrian-friendly community.

- These are several elements and recommendations in *Orange County's Comprehensive Plan* that support high-capacity transit investment within the corridor:
 - There is a strong desire to provide more multi-modal opportunities for commuting.
 - Reducing carbon emissions and increasing energy efficiency of the County's transportation system is paramount.
 - The regional MPO's have concluded that providing well-planned and timely major transit investments is a very important part of maintaining the Triangle region's current levels of transportation mobility, high quality of life and economic prosperity.
 - Development of the new UNC Carolina North campus will be a high priority for transportation planning in the coming years.
 - The County's aging population is increasing; there is a need to provide additional transportation service for seniors.

6.2.3 Institutional Plans

- The *UNC Campus Master Plan Update* is an update to the University's 2001 master plan and builds on the objectives of the previous plan. Objectives of the update include:
 - Build carefully – there is limited space for development on the main campus.
 - Strategic Renovation – renewing existing facilities.
 - South Access Road – growth is concentrated in the south end of campus and access to this area needs to be improved.
 - Carolina North – The development of this site is critical for the expansion of the UNC campus.

6.3 Transit investment supports the community-approved vision for growth

As shown in Figure 22 and discussed in Section 4.2 of this report, the ToCH has identified nine locations as Development Opportunity Areas. There are several plans for Chapel Hill and the surrounding region that identify sustainable growth as an important goal. Investing in transit is one way for a community to continue to grow while fostering sustainable principles.

Transit is an efficient means of transporting people, contributing to improved air quality, conserving energy resources and reducing automobile infrastructure, such as parking lots and garages. Transit is also an equitable mode of transportation; it is often cost effective and serves communities that may not have access to personal vehicles by providing convenient transit options, access to services increases, improving overall quality of life.

7. Public and Stakeholder Involvement

Public involvement is a critical component of the NSCS. Two project open houses were held to introduce the project to corridor stakeholder and members of the general public, and to solicit feedback on the draft Purpose and Need Report. Additionally, participants were asked to provide high-level input regarding existing corridor conditions and potential mode and alignment preferences.

Wednesday, March 26, 2014
 11:30 am - 1:30 pm
 Stone Cultural Center
 UNC Chapel Hill Main Campus
 150 South Road
 Chapel Hill, NC

Wednesday, March 26, 2014
 4:30pm – 7:00 pm
 Chapel Hill Public Library
 100 Library Drive
 Chapel Hill, NC

The meetings were advertised through an announcement on the project website (<http://nscstudy.org/>) beginning February 24th, ads onboard 50 CHT buses between March 10th and 26th, posting of the public meeting on Facebook between March 12th and 26th, tweets on Twitter every two days between March 12th and 26th, and emails from the Town of Chapel Hill to more than 3,000 recipients on March 10th and 24th. A total of 20 attendees came to the two open houses.

The open house format consisted of a series of stations with descriptive boards, which included a project introduction, summary of each of the five project need statements, an overview of the transit modes that will be under consideration, and information related to project next steps.

Attendees were provided with a one-page handout that requested input on existing corridor conditions and potential alignments, preferred modes, and general comments.

Corridor conditions and potential alignments

Attendees were given the opportunity to comment on existing conditions within the study corridor on a large scroll map, and asked to draw preferred alignments on their individual comment sheets. None of the attendees chose to provide this feedback.

Potential modes

Attendees were asked to rank their top three preferred modes on their individual comment sheets. Moderate BRT was ranked in the top three most frequently and received the greatest number of “most preferred” rankings. Five of the six remaining modes (No Build, BRT Light, BRT Comprehensive, Streetcar, and Light Rail) received multiple rankings within the top three preferred modes; Commuter Rail was not ranked as a preferred mode by any of the attendees.

General comments

Attendees provided comments related to:

- Improved connections to the northern and southern edges of the corridor and UNC’s main campus,
- Complementary improvements to east-west transit routes,
- Use of dedicated lanes/right-of-way, and
- Integration of bicycles.

No attendees provided feedback on the project purpose statements.

8. Goals and Objectives

The following six goals and related objectives have been established for the NSCS. These will be utilized for the development of evaluation criteria used in comparing the alternatives for the corridor.

Table 8: NSCS Goals and Objectives

Goal	Objectives
Increase the efficiency, attractiveness and utilization of transit for all users	<ul style="list-style-type: none"> • Provide reliable, frequent service that improves the experience of existing customers • Provide capacity for future growth • Provide improved passenger amenities and infrastructure • Ensure safe and comfortable transit services and facilities for all users
Improve multi-modal connectivity between the northern and southern portions of the study corridor	<ul style="list-style-type: none"> • Provide frequent, high-capacity, one-seat transit connections between key study corridor activity generators • Improve pedestrian and non-motorized access to corridor stations • Ensure sufficient park-and-ride access to the system
Enhance connectivity of the corridor to the regional transportation network	<ul style="list-style-type: none"> • Support regional planning efforts for a more balanced, multi-modal transportation network in the region • Coordinate with existing and planned transit services • Ensure connectivity to services connecting travelers to destinations within and beyond the study corridor • Provide for acceptable traffic operations and parking options in the corridor • Enhance connections to non-motorized transportation
Support land use and development patterns that reflect the vision for growth contained in local and regional plans and policies	<ul style="list-style-type: none"> • Support the economic development and revitalization efforts of local communities • Support regional economic development through enhanced access to employment concentrations • Support institutional and key stakeholder planning efforts, particularly strategic growth planning for UNC Chapel Hill • Support local and regional goals for compact, mixed-use development along the corridor
Contribute to regional equity, sustainability and quality of life	<ul style="list-style-type: none"> • Promote a more efficient and sustainable transportation system that reduces energy usage, pollution and costs of living • Increase mobility and accessibility for transit-dependent populations • Provide opportunities for place making and enhanced character in corridor communities
Develop and select an implementable and community-supported project	<ul style="list-style-type: none"> • Define and select transit improvements with strong public, stakeholder and agency support • Define and select transit improvements that are cost-effective and financially feasible, both in the short- and long-term • Define and select transit improvements that are competitive for Federal Transit Administration funding

9. Evaluation Criteria

In order to evaluate the different transit modes and alignment options and identify the appropriate mode-alignment pairings that will define the detailed alternatives, the NSCS will follow a three-step method.

- The first step (“Fatal Flaw Analysis”) will entail the assessment of each mode and alignment relative to overall implementation viability.
- The second step (“Detailed Evaluation”) will assess the mode/alignment pairing that passed the Fatal Flaw Analysis.
- The alternative(s) that fare(s) best against the detailed criteria in this second step will be identified as Preferred Alternative(s) and further refined in the third step (“Refine LPA”). The Locally Preferred Alternative will be identified at the conclusion of the third step.

The evaluation criteria associated with each step are a combination of quantitative and qualitative performance measures. The Fatal Flaw phase will apply fewer and broader measures, including information from previous corridor/area studies. The Detailed Evaluation phase will apply more and finer performance measures, and the third step will evaluate the Preferred Alternative(s) against federal criteria to determine the Locally Preferred Alternative. This three-step process will result in the identification of an LPA that not only meets locally-identified project purpose and needs, but is also competitive for federal funding.

Table 9 on the following page presents the evaluation criteria that are likely to be used during the three steps of alternative evaluation. Note that each successive step builds upon the criteria from the previous step, ensuring a consistent rating throughout.

Table 9: NSCS Potential Evaluation Criteria

Project Goals	Evaluation Phases		
	Fatal Flaw (qualitative analysis)	Detailed Evaluation (qualitative and quantitative)	Refine LPA (quantitative and qualitative)
Increase the efficiency, attractiveness and utilization of transit for all users	Ridership capacity	Ridership Number of passengers per service-hour Estimated vehicle hours travelled (VHT) Ability to provide appropriate transit capacity	Mobility improvements*
Improve multi-modal connectivity between the northern and southern portions of the study corridor	Multi-modal connectivity	Connections between activity centers Access provided to the community	Mobility improvements* Congestion relief*
Enhance connectivity of the corridor to the regional transportation network	Multi-modal connectivity	Potential right-of-way impacts Bicycle and pedestrian safety Parking and traffic impacts	Congestion relief*
Support land use and development patterns that reflect the vision for growth contained in local and regional plans and policies	Land use / economic development	Compatibility with local and regional plans Land use and economic development opportunities	Economic development* Land use*
Contribute to regional equity, sustainability and quality of life	Environmental impacts	Consistent with existing community character Environmental impacts/benefits	Environmental benefits*
Develop and select an implementable and community-supported project	Capital cost Community support	Capital and operating and maintenance costs Cost effectiveness Community support	Financial capacity analysis* Cost effectiveness*

**consistent with FTA New Starts/Small Starts criteria*

5A. May Performance Report

Staff Resource: Mila Vega, Service Planner

- The May Performance Report will be provided to the Partners at the June 24, 2014 meeting.

6A. Operations

Staff Resource: Tyffany Neal, Operations Manager - Demand Response
Nick Pittman, Fixed Route Operations Manager

Operations

- Chapel Hill Transit services will not operate on Friday, July 4, 2014, in observance of the Fourth of July holiday. Chapel Hill Transit services will resume on Saturday, July 5, 2014.
- Chapel Hill Transit joined with several transit agencies around the Triangle to assist with providing transportation services to the Southeast Valor Games on May 21-23, 2014. The Valor Games is a national Paralympic sport competition for Veterans and active-duty service members with disabilities that was held on the campuses of UNC-Chapel Hill and Duke University, and in Raleigh. Over a three-day period, Chapel Hill Transit Operators Akalema Pherribo and Jessie Cameron helped transport a number of Valor Game participants to/from event sites around the Triangle – thank you Akalema and Jessie for your hard work and positively representing Chapel Hill Transit/Town of Chapel Hill at this event. Also, a special thanks to Chapel Hill Transit Supervisors Shanika Nickerson and Richard Roberts for helping coordinate the effort for us. A job WELL DONE by all involved!

Fixed Route – Nick Pittman

- Fixed Route currently has two (2) operators in new hire training. Our next new hire training class will begin on June 24. Applications are also being accepted for training classes that will begin in August and September.
- Fixed Route's On-Time Performance (OTP) for the month of May 2014 – 86%;
- Operations/Safety Meetings were held on May 28, 2014. During these meetings we discussed procedures related to buses passing other buses and also customer stroller usage onboard our vehicles.

6B. Director

Staff Resource: Brian Litchfield

- The Director's Report will be provided to the Partners at the June 24, 2014 meeting.



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**CHAPEL HILL TRANSIT PUBLIC TRANSIT COMMITTEE
 FUTURE MEETING ITEMS**

June 24, 2014

July, 2014 11:00 a.m.	
No Meeting	
Action Items	Informational Items
August 26, 2014 11:00 a.m.	
Action Items	Informational Items
	FY 15 Budget AA Study Update Financial Sustainability Study Update
September 23, 2014, 2014 11:00 a.m.	
Actions Items	Informational Items
	Financial Sustainability Study Update AA Study Update

<u>Key Meetings/Dates</u>
APTA Sustainability & Public Transportation Workshop-August 3-5, 2014, Omni Parker House Hotel, Boston, MA
APTA State Public Transportation Partnerships Conference-August 13-15, 2014, Philadelphia, PA
APTA Annual Meeting & Expo-October 12-15, 2014, Houston, TX