CHARLOTTE: SETTING THE STANDARD FOR RAIL TRANSIT IN MID-SIZED CITIES

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Introduction

On the subject of mass transportation, the times and peoples’ attitudes are changing. Those who would never have considered transit are now doing so due to ever fluctuating fuel prices. Others are no longer willing to spend hours in highway congestion to get to their place of employment mere miles away. Still others prefer transit because it is inexpensive, convenient, and environmentally friendly. Whatever their reason for doing so, more Americans are using public transportation today than they have in the past fifty years. Unfortunately, at the exact moment Americans seem most willing to give public transportation a serious reconsideration, financially strapped municipalities are quick to view transit as one of the most immediately expendable items in their budgets. A Charlotte, NC alternative paper editorialized recent budget shortages faced by the city, and lamented the hastiness of local officials to cut back transit service as a quick solution. The article further argues that transit service should be viewed as a public necessity, every bit as important as police protection, garbage collection and the provision of city water. Whereas these latter services would rarely, if ever, be cut during difficult times, transportation budgets are frequently slashed without a second thought (Grooms, 2009). And although many citizens are warming up to the idea of rail transit, when it comes down to serious consideration of implementation, there is still great disagreement as to whether the benefits will outweigh the massive costs.

While America’s largest cities have typically always offered rail transportation options, medium and smaller sized cities tended to dismantle any rail systems they had in
the 1950’s and 1960’s. The dominance of the automobile changed the landscape of all American cities, and perhaps more importantly, changed their transportation culture. Due to the previously mentioned issues, the preferences of many Americans are swinging back towards a rail transportation alternative. Yet, the days of privately owned streetcar systems are long gone. New transit systems, in order to be implemented, now rely on public funding through tax subsidies. With governmental intervention comes an arduous process of securing funding, environmental impact statements, and a number of detailed requirements for approval. As complicated as the steps for approval may be, if the guidelines are followed, there is at least a rationality to be found in most governmental processes for transit system implementation. What becomes more complicated for transportation planners to address are the concerns of the citizens who will ultimately be paying for the new transit system. Public participation meetings are frequently held in cities planning for new rail transportation systems, and due to the many concerns of the citizens, are usually well attended. Some of the concerns most commonly addressed are those regarding property value, returns on the investment in the system, crime being spread throughout town, noise and environmental concerns, and the overall safety of the system. Although some of the participants are highly informed, many lifelong residents of medium sized cities have never experienced rail transit, and through no fault of their own, hold grave misconceptions about the true impact new rail transit systems could have on their community.

The aim of this research paper is to conduct a case study of the newly implemented light rail transportation system in Charlotte, North Carolina. Barely one year old at the time of this writing, the immediate success of Charlotte’s system has
drawn the attention of civic leaders and planners all around the nation, and has already resulted in numerous positive impacts around the city. Charlotte’s LYNX Blue Line is only the first step of a much broader city-wide transit plan, and is very similar to the plans currently being studied for implementation in dozens of other similar sized cities. An in depth look at the issues Charlotte faced from planning through implementation, as well as issues that continue to arise during normal operation of the light rail system, may help citizens in other cities better understand the rail transit planning process, and the impacts (both positive and negative) that these systems are likely to have on their own communities.
Methodology

In conducting my research, I traveled to Charlotte on March 10 – 13, 2009, to meet with and interview public and private planners involved in the light rail planning process. I have researched the entire planning process from the conceptual beginning of the system, through the implementation and construction process, as well as the first year of the system’s operation. This research was completed using a variety of available sources, including official planning documents, local news and print media, and national planning literature. I also took many rides on the new system, at all times of its operating schedule, and detailed my observations through written and photographic means. To get a “feel” for each of the stations, I spent time at every one, and when practical, spoke with other riders to get their opinions of the new system.

Of all the sources and research methods used to learn about Charlotte’s light rail system, nothing was more beneficial than spending several hours riding the LYNX with Charlotte area planner and landscape architect Heth Kendrick. The Charlotte based planning and urban design firm LandDesign, Inc. was kind enough to allow him to take me on a detailed tour of the city. Although Heth was involved in some of the planning work on the new light rail system, the most valuable information he provided me was that of a long time resident of Charlotte. He provided a factual background on each and every station area, an understanding of the unique challenges and opportunities of each one, and detailed the potential outlook of each area (whether his firm had worked on that stop or not). As a researcher studying a system hundreds of miles from my home, the information
that Mr. Kendrick provided was invaluable, and would never have been found in formal planning literature.

As discovered from the aforementioned research, this report will detail the best practices used by the City of Charlotte that resulted in the resounding success of the LYNX light rail system. Hopefully, other cities can apply these best practices to their own unique circumstances, with the end result being a successful light rail system of their own.
Charlotte Overview

Charlotte is a rapidly growing city in southern North Carolina, situated very close to the South Carolina border. As of July 2007, the city had a population of 671,588, and the entire metropolitan region had a population of 1,897,034 (City-Data.com). A mild climate, one of the lowest cost of living ratings for cities its size, a very young and educated populace, and plentiful jobs have allowed for the strong growth experienced by Charlotte over the last two decades. This growth can be evidenced in terms of overall population increase as well as construction cranes dotting the city’s skyline. Even during a strong period of economic decline in 2009, “Uptown” Charlotte (what Charlotteans affectionately call their central business district) is undergoing a construction boom, including multiple high-rise office towers, numerous condo towers, museums and other cultural attractions, and nearly every other type of high intensity development one could imagine.
A large part of Charlotte’s prosperity is due to its prominence as the second largest banking center (in terms of banking assets held) in the United States, with only New York City ranking higher (Watching and waiting, 2008). Bank of America is headquartered in Charlotte, and until its recent purchase by Wells Fargo, Wachovia Bank also called the city home. Even after the purchase, Wells Fargo has decided to make Charlotte its eastern corporate headquarters. These mega-banks (along with other smaller banks) hold over $3 trillion in banking assets (Watkins, p.22). These banking assets are a tremendous asset for the overall community, which has been the recipient of reinvestment and redevelopment projects funded by these banks.

Primarily due to the previously mentioned benefits, Charlotte is one of the few American cities to experience a population boom in recent years. Between the 2000 census and July, 2007, Charlotte’s population grew by 20.9% (City-Data.com). The rapid growth and appeal of Charlotte has not gone unnoticed internationally. The city is now considered an international “gateway city”, being ranked number one in the nation for the percentage increase of immigrants born outside of the United States (Belk, p.7). A great
influx of new residents typically leads to new retail, commercial, and entertainment options, and Charlotte is no exception. Entirely new planned communities (such as the Ballentine neighborhood in the southern portion of the city), sprawling suburban areas on the perimeter of the city (such as Concord, NC to the north), and mixed-use entertainment and residential districts in the center city have given rise to countless new dining, shopping, and entertainment options for Charlotteans. The combination of all of these benefits has positioned Charlotte to be a true American success story, and a wonderful place to live.

**Charlotte’s Recent Transit History**

As the largest city between Jacksonville, FL and Philadelphia (U.S. Census), the headquarters of many large companies, and home to a thriving tourism business (NASCAR, conventions, sporting events, and so on), Charlotte officials have long recognized the importance of maintaining a strong transportation system. The city lies at the intersection of two major interstate highways, I-85 and I-77, both of which are highly congested at peak times. Charlotte-Douglas International Airport is the nation’s tenth busiest in terms of overall operations (passenger and freight) (Schneider, p.12). The city is served by Amtrak passenger rail service, with three different lines passing through town.

The backbone of Charlotte’s public transportation system has historically been (and remains to this day) the large bus fleet operated by the Charlotte Area Transit System (CATS). The CATS bus system is composed of approximately 500 buses,
running along 40 routes around the city. The vast majority of these routes originate from
the massive Charlotte Transportation Center in Uptown, as seen in the following figures:

According to CATS, the bus system is widely used, and carries nearly 18 million
riders per year (Riding CATS, 2009).

In 1998, the Charlotte City Council allocated $16.7 million for the creation of a
two mile vintage trolley line (About CTI, 2009). This line ran along an existing rail
corridor between Uptown Charlotte and the historic South End of the city. The long range transportation plans of the city envisioned that one day light rail transit would use this same line, but in the interim, the trolley was a nostalgic way of “holding” this asset, could plant the initial seeds of interest in rail transit, and most importantly to the city, serve as a catalyst for development along the line. Although built as primarily a novelty, the trolley had a ridership of 25,000 in the first six months of operation, and revenues paid off the city’s investment in only four years (About CTI, 2009). The surprising success of the heritage trolley lead to an extension of the line, which today runs along the same tracks as the LYNX Blue Line light rail system (with a short spur and three stations exclusive to the trolley). The effect that the trolley had serving as a catalyst for future light rail transit cannot be understated. The public began to embrace the idea that rail transportation could be enjoyable, convenient, and aesthetically pleasing. City officials now had concrete evidence of the potential for heavy ridership of a fixed route system, as well as the development and subsequent revenue generating potential that such a system could provide.
The Political Will for Transit

Public transportation, by its very definition, cannot exist without public monies. Although nearly all forms of transportation receive some sort of taxpayer subsidy (our highways are by far the most heavily subsidized of all transportation systems), the enormous upfront capital costs of rail transit are cause for great public scrutiny and potentially fierce public opposition. Most cities considering light rail systems envision a network of transit corridors serving all populous portions of their respective cities. Although cities would prefer to build the entire network at one time, serving the entire population and minimizing inflationary construction costs, they are typically built in multiple phases as funding allows. Taxpayers are often angry that their taxes are being used to finance a system that will not even service their portion of the city. Although more specific details of the initial public concerns and actual impacts of light rail systems will be discussed later in this paper, this brief example illustrates just how politically charged the topic of light rail implementation can be.

Due to the extremely complex process of acquiring funding, property acquisition, and the overall marketing/public relations effort required for the implementation of a new light rail line, a high level of political will is critical to the project’s success. Timing is the key to success, as this drawn out process will surely persist through many administration changes and differing public opinions and priorities. Charlotte’s city officials and citizens demonstrated extraordinary political will throughout the
implementation of their initial light rail line, and have set an example of the climate necessary to replicate their success in other cities. As previously mentioned, the Charlotte trolley piqued the public’s interest in rail transit, but a wide gap exists between “interest” and actually implementing a full-scale transit system. Before any work can truly begin on a new transit system, the system must be “sold” to the community, if only in conceptual form. Strong leadership is required to generate sufficient public awareness and willingness to embrace such a project, and in the case of Charlotte, this strong leadership was provided by seven-term Republican mayor Pat McCrory. As a prominent pro-life, fiscally conservative politician in a very conservative state, Mayor McCrory risked jeopardizing his entire political career by advocating the most expensive public works project in North Carolina’s history. The mayor was under constant attack by members of his own party, who labeled him a tax-and-spend liberal, and claiming that “you’re no longer a conservative if you support mass transit”. His political fate would be sealed, one way or the other, during the election in November 2007, held a mere three weeks prior to the grand opening of the LYNX Blue Line light rail. Despite many hot-button issues in the news at the time (transit funding being the primary issue), Mayor McCrory won by a nearly 22% margin (MCBE, 2007). The citizenry had demonstrated, through the results of this pivotal election, that it was on board with the grand transportation plan established by the
City of Charlotte, and paved the road for bi-partisan support of the program going forward.

Supporting the leadership of a proposed transit project is an important step in the system’s implementation, but nothing is more important than a citizenry committed to financially supporting the system themselves. The citizens of Charlotte and surrounding Mecklenburg County demonstrated this commitment in 1998 by voting for approval of a ½ cent sales tax that would be exclusively used to fund the long term transportation and land use plan that had been proposed by CATS (Brancaccio, 2009). Nearly a decade and countless political disagreements later, voters had the chance to once again demonstrate their commitment to the transit plan. A repeal of the ½ cent transit sales tax would be on the November 2007 ballot, and although it would come too late to impede the process of the initial light rail line, the repeal would effectively halt any further expansion of the system. A large scale campaign was initiated to warn the citizens of the potentially negative consequences that could occur if the repeal was enacted. The “Vote Against Repeal Committee” waged $600,000 in their battle to keep the transit tax in place, and was supported by four city ex-mayors, numerous public officials, and major companies such as Bank of America, Wachovia, and Duke Energy. Despite the efforts of this powerful lobby, the final decision would be left to the county’s voters, who would be paying for this system out of their own pockets. Once again, the citizens spoke loudly in their approval of the countywide transportation plan by overwhelmingly defeating the sales tax repeal (Charlotte affirms LRT plans, 2007).

Any large scale transportation plan is certain to face vocal critics and strong political opposition. However, the synergy of strong leadership, combined with a
population committed to (and properly informed of) the many benefits that rail transit offers, can result in a region-wide political will strong enough to implement even the most ambitious transportation systems. Cities seeking these transportation alternatives need look no farther than Charlotte to witness the positive end results of a strong political will to get things done.
The 2030 Regional Transportation Plan

The November 1998 election marked the turning point in Charlotte’s approach to public transportation. During this election, voters narrowly passed a ½ cent transit development sales tax, to be administered by the Charlotte Metropolitan Transit Commission (MTC). Vague, preliminary plans had been underway for years, but upon the passage of this transit dedicated sales tax, the Charlotte MTC developed and approved the city’s first truly comprehensive transportation and land use plan. Initially known as the 2025 Integrated Transit/Land Use Plan, the MTC included some additional considerations in 2006 (primarily involving increased costs and expected completion dates) in their adoption of the 2030 Transit Corridor Plan (CATS, 2006).

In this plan, Charlotte took a visionary approach, not only in identifying five specific key transit corridors, but by also incorporating transit oriented land use planning and station area design principles from the very beginning. Former CATS Chief Executive Officer Ron Tober was one of the city’s champions of early implementation of transit oriented land use policies, on record as stating, “We shouldn’t be spending all this money on the transit system if we’re not going to do the land use planning” (Middleton, 2005).

Five Transit Principles

In the formation of this comprehensive transportation plan, the Charlotte MTC was guided by five underlying principles, key to a successful transportation system: land use, mobility, environment, finance, and system development (CATS, 2002).
One of the primary benefits of a fixed guideway transportation corridor is its ability to shape the growth of the city around it. When a transit corridor is properly coordinated with higher density land use policies, growth can be targeted in ways deemed most beneficial to the city by planners. Riders’ proximity to the corridor encourages use of the system as part of their daily routine, and this overall increase in density and ridership perpetuates the long term success of the transit system.

The MTC defines their mobility principle as consisting of several components. The first component is ridership, which looks at how many people will ride the new system, as well as the reduction in daily automobile trips due to the new transit option. They also define mobility as improving overall access to selected regions, serving the populace during peak and non-peak times, providing travel times comparable (and ideally superior) to the automobile, and providing highly reliable service.

Charlotte was insistent on an environmentally friendly transit system. The approved system was to assist the city in meeting the air quality goals established by the EPA. Planners also aimed for a construction process that would minimize disruptions to the daily activities of the city, would not harm natural areas or resources, and would not produce negative effects on the properties and communities in the surrounding area.

In the development of their finance principle, the MTC called for the development of a transit system with capital and operating costs balanced with the expected revenues (farebox recovery, as well as local, state, and federal appropriations and grants) to be generated by the system. Particular attention was to be paid to the types of developments and improvements capable of attracting additional grants and maximum governmental funding.
The final principle of the 2030 plan was to focus not on each individual corridor, but on all corridors as being an integral part of the larger system. The transit option selected for each corridor should work in harmony with an expanded bus service, improving not only distribution within the center city, but cross-town service and passenger distribution throughout the entire Charlotte-Mecklenburg region.
The Five Transit Corridors

The 2030 Transit Corridor Plan identifies five corridors for rapid transit and land use improvements, serving a great majority of the city. The five corridors are the South Corridor, the Northeast Corridor, the North Corridor, the Southeast Corridor, and the East/West/Center City Streetcar Line.
Figure #10: Charlotte’s Five Transit Corridors
The South Corridor

The South Corridor is the first of the five proposed corridors to have been completed, and began full operation as the LYNX Blue Line light rail on November 24, 2007. This 9.6 mile corridor begins at 7th Street in Uptown Charlotte, and runs parallel to busy South Blvd. until its terminus at a large park and ride location at the intersection of South Blvd. and I-485 (Charlotte’s circumferential belt highway). The South Corridor runs along an old Norfolk Southern rail easement, and consists of 15 stations.

There appear to be many reasons why this was the first of the corridors to be implemented. Perhaps the primary reason was that not only was the right-of-way for the corridor well established, it had already seen vast infrastructure improvements, thanks to the vintage Charlotte Trolley line that preceded the light rail line. This corridor serves Uptown very well with multiple stops, including a key multi-modal transfer point at the busy Charlotte Transportation Center. Strong ridership was anticipated for this corridor, due to the great concentration of employment and attractions at the Uptown terminus, and the large number of commuters who enter the city from the south. Perhaps the most important benefit to the city for this particular line is that the middle-portion of it, running through the severely declined South End of the city, could realize the greatest value-added improvement due to new construction, building re-use, and brownfield redevelopment.
Figure #11: Charlotte’s South Corridor/LYNX Blue Line
The Northeast Corridor

Also known as the LYNX Blue Line Extension, the Northeast Corridor will be served by the same light rail vehicles as the South Corridor line. This corridor begins at 7th Street in Uptown Charlotte (the current terminus of the South Corridor), runs northeast through the city, and will terminate at the intersection of North Tryon Street and I-485. This corridor will serve several key destination points within the city. Perhaps the most important destination along this corridor is Charlotte’s largest college campus, the University of North Carolina-Charlotte (UNCC). This 22,000 student campus, its adjoining research park, and the wealth of retail and restaurant options in the surrounding University City area, has the potential for supplying dramatically increased ridership at all times of the day. Also served by this particular corridor is the eclectic NoDa (North Davidson Avenue) Arts District, a neighborhood filled with interesting restaurants, boutiques, galleries, and live music venues.

The Northeast Corridor is 11 miles in length, will consist of 14 stations (seven of which will offer park-and-ride lots), and is expected to be completed by 2013. This corridor received approval from the Federal Transit Administration to begin preliminary engineering in late 2007 (North Carolina system opens, 2007), with a progress report due in April of 2009 (Harrison, 2009). With a hefty price tag of nearly $1 billion, planners’ current primary focus on this corridor is how it will be financed in the midst of a deep recession. City transportation planners are anxiously awaiting the detailed cost estimates provided within the April preliminary engineering report. Coupled with a better idea of the severity of the current recession, as well as the prospect of a rebound in the currently
declining sales tax revenues, planners will be able to refine the feasibility of this corridor, revise cost and completion dates, and possibly pursue new funding sources to keep the project on track (Harrison, 2009).

**Figure #12: Charlotte’s Northeast Corridor**
The North Corridor

The North Corridor, also currently known as the LYNX Purple Line, will be a 25 mile commuter rail line between Uptown Charlotte and the northern suburb of Mount Mourne. A northern extension of this corridor to the city of Mooresville and Iredell County is being discussed, providing that these jurisdictions are able to finance the capital improvements required for service in their area, as well as their fare share of the operating expenses. This corridor will run primarily along the Norfolk and Southern Railroad’s “O” Line, and will terminate at the proposed Uptown Charlotte Gateway Station, where it will connect with several other modes of transit service.

The North Corridor commuter rail is very likely to be the next operational corridor, since it is the furthest along in preliminary engineering and will be significantly easier and cheaper to build than the modes proposed in the remaining corridors (Middleton, 2005). In fact, Mayor Pat McCrory proclaimed this corridor as being “shovel-ready” (Brancaccio, 2009), an important prerequisite to receive recently issued Federal stimulus funds. The North Carolina Department of Transportation (NCDOT) has indeed included the North Corridor project on its list of potential recipients of Federal stimulus money ($30 million for corridor enhancements) (NCDOT, 2009).

When built, the North Corridor will be constructed in two separate phases. The first phase will provide limited service (mostly during peak commuting hours) between Uptown Charlotte, Huntersville, Cornelius, Davidson, and Mount Mourne. This phase is expected to be completed by 2012, at a cost of $261 million. The second phase will serve the remaining five proposed stations, and provide more frequent service, including
expanded off-peak service. The entire cost of the second phase is expected to be $112 million, and completed by 2019. An advantage of this corridor is that it is quite easy to phase in additional stations as demand and financing allows, slowly growing the system over time.

**Figure #13: Charlotte’s North Corridor**
The Southeast Corridor

The Southeast Corridor, also known as the LYNX Silver Line, is still largely on the drawing board. The MTC had initially selected bus rapid transit (BRT) as the preferred transportation alternative for this corridor, but after witnessing the overwhelming success of the LYNX Blue Line light rail, have opted to delay the project for a minimum of five years to reconsider light rail as the preferred modal choice. If indeed BRT is reaffirmed by the MTC, the silver line could begin the design process in 2016, and will be built in three phases, reaching completion by 2026. When fully completed, the Silver Line will run from Charlotte Gateway Station to the city of Matthews, along I-485. This line will serve two Central Piedmont Community College campuses, a large hospital, and many other attractions, causing planners to anticipate a strong daily ridership of 15,500.

The Southeast Corridor is approximately 13.5 miles in length, and upon full completion will have 16 stations. A large portion of the line will run along extremely congested Independence Blvd. Starting in 2011, an NCDOT project will begin to convert this busy thoroughfare from a boulevard into an expressway. CATS is working closely with NCDOT to preserve and extend the current busway lanes on Independence Blvd., and preserving the rights-of-way needed to accommodate either light rail or bus rapid transit.
Figure #14: Charlotte’s Southeast Corridor
The East/West/Center City Streetcar Line

Like the Silver Line, the proposed Charlotte streetcar lines are still quite a way from fruition. The streetcar corridor is essentially two corridors in one, the Center City Corridor and the very long term West Corridor.

The Center City Corridor will be built in two phases. Phase I will run from the Rosa Parks Place transit center (slightly northwest of Uptown), through Uptown Charlotte, and terminating at Presbyterian Hospital (just southeast of the Uptown area). This phase is expected to be completed by 2018, and cost roughly $211 million. Phase II will pick up from the hospital and run east through the city, terminating at the Eastland Community transit center. Phase II is expected to be completed by 2023, at a cost of $210 million. Although design work will likely not even begin until 2013, Charlotte has once again proven to be a very forward thinking city by already incorporating streetcar tracks into a current streetscape project along Elizabeth Avenue, to avoid tearing up the improved street once again in the future (Langdon, p.11).

Upon full completion, the Center City streetcar line will total 9.9 miles in length, and will have 34 stops. Similar to the classic streetcars so common in the in the first half of the twentieth century, these streetcars will run directly on the city streets. Very modern, comfortable, and sleekly designed, they will provide an excellent, high capacity alternative to bus transit. In fact, the proposed system will replace three of the city’s four highest ridership bus routes. It will also provide the vital connection between the Charlotte Gateway Station and the Charlotte Transportation Center, tying all of the various corridors and transit modes together to form a comprehensive, seamless transit system (CATS, 2006).
Another result of the incredible success of Charlotte’s initial light rail line is that citizens and politicians of both parties are clamoring for the fast-tracking of the Center City Corridor streetcar line (Spanberg, 2009). A 2006 study estimated the total cost of the line at $300 million, and only two years later, the entire build out is now expected to top $400 million (Spanberg, 2009). With constantly rising construction estimates, people are starting to realize that the sooner the streetcar is built, the more feasible it will be. Public support is strong enough that Charlotte City Council is moving quickly to identify new sources of funding outside of the ½ cent sales tax that could expedite the implementation of the streetcar system. City Council has commissioned a report from Bay Area Economics, a transit consulting firm, which will give detailed explanations of how other cities with streetcars funded and operate their systems (Spanberg, 2009). For instance, Portland, Oregon opened a slightly smaller system in 2001, funding it with an increase in the city parking garage fee, taxes created from new development along the line, and public land sales (Spanberg, 2009). The political will to build the Center City Corridor streetcar line is certainly abundant, and if acceptable funding alternatives can be found, it is very likely that this will be the first project to significantly part with the 2030 transit plan due to the rapid acceleration of its timeline.

The second of the two streetcar corridors is the West Corridor, which will run from the Charlotte Transportation Center in Uptown to the Charlotte-Douglas International Airport. Initially, this corridor will be served by enhanced bus service. In the distant future, this bus service will be replaced by streetcar service, which will be built in two phases. Upon full build out, this line will be 6.4 miles in length, consist of 10 stops, and is expected to be completed by 2034 at a total cost of $487 million.
Figure #15: Charlotte’s East/West/Center City Streetcar Corridor

Figure #16: Example of a modern streetcar system
Charlotte Gateway Station

Upon completion, Charlotte’s comprehensive transportation system will have two major Uptown multi-modal transit stations. The first one, already in use, is the Charlotte Transportation Center. Here, the Blue Line light rail is tied together with the hub of the CATS bus system. In 2012, however, multi-modal transit will be beautifully redefined with the construction of the Charlotte Gateway Station. This large complex, situated on two blocks along West Trade Street, will allow for easy transfer between the North Corridor commuter rail line, the Center City Corridor streetcar line, 12 CATS bus bays, and Amtrak and Greyhound inter-city passenger services (Gateway Station, 2009). The Gateway Station will invoke sentiments of the grand train stations of long ago with beautifully landscaped grounds and grandiose atriums and plazas, but will incorporate many modern twists as well. Ample office space will be incorporated into the project, some of which will contain new CATS Uptown offices. Johnson and Whales University, a college of 2,500 students on nearby West Trade Street, plans to build a large new business school building adjacent to the station (Gateway Station, 2009). There are a host of other attractions adjacent to the station, including Bank of America Stadium, numerous high density Third and Fourth Ward residential developments, the large Charlotte

Figure #17: The potential design of Charlotte’s Gateway Station
Observer newspaper office complex, and the heart of the central business district mere blocks away. Gateway Station will provide tens of thousands of square feet of retail in the area, as well as green spaces, dining areas for passengers and CATS employees, a parking deck, and numerous other amenities. CATS is also planning to lease the air rights above the railroad tracks to a private developer. With a footprint of 25,000 square feet, this will add potentially hundreds of thousands of additional square feet of office space to the complex.

Preparation for the future Gateway Station began in 1998 with NCDOT acquiring the property necessary for the facility. The acquisition of 27 acres was completed in February, 2004. In 2002, consulting firms provided NCDOT’s Rail Division with a feasibility study for the future multi-modal hub. Several alternatives were identified, with the preferred alternative estimated at $207 million dollars (Gateway Station, 2009). An aggressive program of forming public-private partnerships to assist with a large portion of the project’s financing has been underway. The leasing of the air rights over the tracks, leasing of the retail and office space within the station, and partnerships with the private transportation firms served by the building (Greyhound, CSX and Norfolk Southern freight companies, taxi companies, etc.) could all work towards offsetting the initial capital costs of the station, as well as provide a revenue stream to assist with the operational budget.

In summary, the various modes of transit identified for implementation in the Charlotte 2030 Regional Transportation Plan will be beneficial for the citizens and visitors of Charlotte, but could prove to be very confusing and inefficient if scattered all about the Uptown region. Charlotte Gateway Station is an extraordinary development that
will seamlessly link multiple forms of transportation together. This multi-modal function will encourage high ridership of all modes due to the ease and efficiency of access that this proposed terminal would provide.
Transit Complementary Land Use

A city has two potential ways of implementing a new rail transit system. The first method might be considered “taking the path of least resistance”. In this scenario, a city would identify an existing corridor that loosely connects multiple residential areas to a central business district. The corridor might already include active freight tracks that when equipped with heavy rail diesel engines and commuter rail cars, form a ready-made, inexpensive commuter rail system. Nashville, TN recently implemented this type of commuter rail system. Connecting the city of Lebanon, TN to Downtown Nashville, this 32 mile commuter rail line was built for $41 million, making it the most cost efficient commuter rail start-up in the nation (Lathan, 2008). Although inexpensive, this system carries only 900 passengers per day, and other than the construction of six new stations and park-and-ride lots, has not encouraged any widespread transit oriented development effort. It exists to carry limited passengers in suburban locations to and from work, and only during peak periods.

Charlotte opted to take the alternative approach and implement not only a new transit system, but simultaneously implement sweeping changes in land use patterns and infrastructure improvements. By adopting land use principles complementary to rail transit, Charlotte transformed their proposed transit network from simply a means to get to and from work, into a tool that will change the shape and nature of the entire metropolitan region. Although much more planning is required for such a system, and at
much greater cost, the benefits of tying transit with complementary land use can far outweigh these costs.

The Charlotte/Mecklenburg County region laid the foundation for transit complementary land use in 1998 with the creation of the 2025 Integrated Transit/Land Use Plan (the precursor to the slightly updated 2030 Regional Transportation Plan). In this plan, land use changes were deemed necessary to achieve three major goals: to most effectively take advantage of the high capacity and high mobility offered by a rail transit system, to encourage compact development throughout the region, and to encourage this high density growth along the five identified transit corridors (CATS, 2002). For over two decades, Mecklenburg County (the county within which Charlotte lies) has experienced explosive growth. In most major American metropolitan areas, the principal counties of the metro areas have seen dramatic population decline, due to population shifting to the suburban surrounding counties. Charlotte and Mecklenburg County are examples of the complete opposite effect, having captured more growth than the surrounding counties of the region. The seven county Charlotte metropolitan area is expected to reach a population of 2.2 million by 2025. According to the Charlotte Department of Transportation (CDOT), the central business district and the five proposed transit corridors contain 43% of Mecklenburg County’s total population, and nearly 70% of its employment (CATS, 2002). Although these overall percentages are anticipated to remain constant throughout 2025, CDOT has anticipated that by 2025, the county population is expected to grow by 43%, and employment by another 50%. Much of the suburban style, low density growth that has occurred throughout the county over the past two decades has lead to a transportation situation in which the number of vehicle-miles
traveled is increasing at a far greater rate than the overall population. Increased traffic congestion and decreased air quality are two of the resulting consequences of these decentralized development and transportation patterns.

To address this situation, city and county official laid out a new land use strategy in the 2025 Integrated Transit/Land Use Plan. At the highest level, particular attention was to be paid to two land use types: office and multi-family housing. From the inception of this plan and for all periods forward, major office developments were to be concentrated either in the central business district, or along one of the five identified transit corridors, within comfortable walking distance of a proposed station. Work trips compose the greatest number of daily person trips by far (APTA, p.7), and officials agreed that having the majority of employment concentrated in these areas was key to the sustainability of a large scale transportation system. Focusing most new multi-family housing development in the central business district or along the five transit corridors was also key to the success of the transportation system as a whole. Multi-family housing tends to appeal to young urban professionals, as well as lower income people, two of the demographic profiles most likely to take advantage of mass transportation. Also within the 2025 transportation/land use report, officials identified five key land use actions to be acted upon as soon as possible:

- The revision of area plans and ordinances
- To encourage area jobs and housing growth in the central business district and along the five growth corridors and activity centers
- To adopt incentive packages for station development
- To acquire key parcels around selected stations
- To initiate development of top priority sites
Since the adoption of the 2025 Plan, many new land use policies have been adopted by the City of Charlotte, as well as major surrounding towns, which will serve to concentrate the majority of new development along the five proposed transit corridors, and specifically at proposed station stops within those corridors. The land use changes and tools recommended for implementation by the city of Charlotte, as identified in the MTC’s 2030 Corridor System Plan, are as follows:

**Transit Supportive Plans and Policies**

The Charlotte General Development Policies (GDP) provide the foundational principles upon which all development and future growth in the city and county is to abide by. The GDP were adopted in 1990, at the beginning of Charlotte’s residential boom. Because the region has changed dramatically since the original policies were written, the MTC decided that a new direction was necessary. The update of the GDP proposed by the 2030 Plan would be to update language that previously allowed the development of multi-family housing all throughout the county, and redirect its growth towards the higher density transit corridors. New office development would be treated similarly. This GDP update also produced a new set of station area development principles (to be discussed in greater detail in the next section) that established density minimums, streetscape and infrastructure improvements, and design recommendations for areas within walking distance of proposed transit stops. From this point on, all policy was to serve by steering growth according to smart growth principles, by focusing development in areas where infrastructure could best support it.
Smart Growth Principles

Charlotte’s City Council adopted an official set of smart growth principles in 2001, which was to promote new development, infill development, and re-development within the central business district and the five transit corridors. The eight specific principles adopted by the city are as follows:

- Maintain land use planning capacity
- Sustain effective land use decisions
- Strengthen community through healthy neighborhoods
- Build a competitive economic edge
- Design for livability
- Safeguard the environment
- Expand transportation choices
- Advance public investment as a catalyst

Joint Development Principles

The joint development principles provide a framework for local governments to promote and support development at transit stations, and in a manner consistent with the 2025 Integrated Transit/Land Use Plan. These principles will place an emphasis on pedestrian oriented urban design. All of the major governing bodies within Charlotte have approved these principles, as well as the Town Boards of Davidson, Cornelius, Huntersville, and Matthews. These four towns are major residential centers located along the proposed transit corridors, and have worked in tandem with Charlotte on the creation of the regional transportation plan.
Street Design Guidelines

The 2030 Plan calls for Charlotte to develop a new street hierarchy system, to be overlaid on the existing street classification system. Two of the proposed street types to be heavily focused upon in transit station areas are “main streets” and “local access streets”. These new street classifications will have a pedestrian oriented design emphasis, not only on pedestrian amenities such as wide sidewalks and attractive landscaping, but also on traffic calming measures to enhance the pedestrian environment.

Charlotte Department of Transportation (CDOT) officials have implemented traffic calming measures throughout the city, which they affectionately refer to as “road diets” (Langdon, 2009). In multiple areas of town, particularly those surrounding transit stations, CDOT officials have redesigned broad, high-speed roads to a more pedestrian oriented nature. An excellent example is a segment of East Boulevard very close to the current LYNX light rail line. Before its redesign in 2006, this stretch of road carried 21,000 vehicles per day, had four travel lanes, and was lined with many driveway entrances. Shared turn lanes in the middle resulted in “a lot of jockeying of travel lanes, a lot of accidents, sideswipes” (Langdon, 2009). East Boulevard was selected by an area neighborhood association to receive the “main streets” designation, and with that underwent a “road diet” that reduced the street to one travel lane in each direction, and a center turn lane, interrupted by frequent center islands to allow for easier pedestrian crossings. The space remaining from the fourth travel lane was used to create two bicycle lanes, one going in each direction. According to CDOT, traffic frequently reached 55 mph in this stretch of road before the redesign. Now, it only goes as fast as the most prudent driver. Not only has the flow of the street become more appealing to pedestrians,
the noise level has also been greatly reduced. This more peaceful environment has encouraged multiple sidewalk cafes to open in the area, increasing the overall liveliness of the street. The fact that Charlotte selected this particular stretch of road for a “diet” is another example of their willingness to think “outside of the box” when it comes to transportation planning. The traffic calming strategies that Charlotte used on East Boulevard are typically reserved for much lower capacity streets, usually carrying within the range of 10,000 to 12,000 vehicles per day. Drivers opposed to such traffic calming measures might argue that they will greatly reduce capacity of a busy street, thus creating a severe bottleneck. The data following this Charlotte street redesign proves quite the opposite. This section of East Blvd. now carries roughly 22,000 vehicles daily (an increase of 1,000), and a slight average speed reduction of 5mph has resulted in a 20% decrease in accidents. The smoother traffic flow, due to decreases in traffic jockeying and reduced accidents, demonstrates that the benefits of traffic calming can improve conditions for all interested parties, both driver and pedestrian.

Another street improvement policy change occurred in 2001 with an amendment to the subdivision ordinance requiring all new streets to be more effectively connected. Common all throughout the nation during the 1980’s and 1990’s, most new subdivisions heavily emphasized curving street and cul-de-sacs. Charlotte was no exception, and a CDOT report showed that the suburban forms of street development prominent in the city over the last 38 years had increased average fire response time from 4.5 to 5.5 minutes (Langdon, 2009). Since the adoption of this new subdivision ordinance amendment, average response time has once again fallen below the five minute mark. Congress of New Urbanism president John Norquist has emphasized the importance of these times,
saying that “with each minute, the size of the fire doubles, so a speedy response is critical to saving lives and property” (Langdon, 2009). Well connected streets can also ease burdens on city budgets by allowing emergency responders, garbage collection trucks, and buses to serve hundreds (or even thousands) more customers within their limited region at no additional time or cost. A presentation by LandDesign Inc. partner Richard J. Petersheim (who worked on the final designs of many of the LYNX light rail stations) documented the absurdly difficult walk of one Charlotte resident to get to a bus stop that he could literally see from his front door. Due to his home’s cul-de-sac location, impenetrable walls of vegetation, a busy four lane street lacking any sort of pedestrian amenity, and treacherously deep drainage ditches, the 500 foot distance separating his home and local bus stop became a 45 minute daily ordeal (Petersheim, 2009). Simply increasing connectivity between streets is a simple way of encouraging (and increasing) transit ridership, and Charlotte has taken a step in the right direction by actively improving street connectivity as their budget allows.

Zoning/Implementation

Zoning is perhaps the single greatest tool that planners have available to ensure that cities grow in a smart, efficient, and sustainable fashion, and Charlotte has implemented zoning tools in a manner that will very effectively promote a transit-oriented, pedestrian friendly environment. The creation of five new zoning districts will ensure compact, high density, mixed-use development within the center city and along the five transit corridors, shaping the future growth of the city in an efficient, cost effective, and sustainable manner. The five transit complementary zoning districts identified by the 2030 Plan are as follows:
- **Uptown Mixed Use District (UMUD)** – the most intensive of all of Charlotte’s zoning districts, this classification is primarily (though not exclusively) located in Charlotte’s central business district (also known as Uptown Charlotte). UMUD encourages the continuation of the extremely high density development that is now so prominent in the Uptown area. UMUD has no height or floor area restrictions, and allows for a wide variety of transit supportive mixed-uses. All land parcels adjacent to the current LYNX light rail line within the Uptown area are zoned UMUD.

- **Mixed Use Development District (MUDD)** – this is the classification most commonly found along the LYNX light rail line outside of the Uptown area, particularly among the historic South End development projects. There is no floor area ratio limit, but building heights are limited to 120 feet, as to be more in scale with the surrounding area. Like UMUD, this classification allows for a wide variety of transit oriented, mixed uses.

- **Pedestrian Overlay District (PED)** – approved by the City Council in 2000, this district permits a wide variety of transit oriented uses to be developed in a pedestrian friendly manner. This classification has no floor area ratio limit, but building heights are limited to 100 feet.

- **Transit Overlay Zoning District (TOD)** – this classification was still under development at the time of the adoption of the 2030 Plan, and was officially adopted in 2003. These districts exist within a ½ mile radius of transit stations, and are based on specific station area plans. Developments within this district must strictly adhere to the Transit Station Area Principles established by the Charlotte-Mecklenburg Planning Commission in 2001 (to be detailed in the next section), which establishes density minimums and various design guidelines.

- **Interim Transit Overlay Zoning District (ITOD)** – very similar to the TOD district, but to be used in the four transit corridors in which transit service has not been fully planned or implemented (all corridors except the South Corridor). These districts will receive this designation only on a temporary basis until final station area plans have been approved.
Funding to Support Plans and Policies

The 2030 Plan specifies two specific funding sources related to land use planning. The first is the annual allocation of $20 million of the city’s Capital Improvement budget, dedicated to infrastructure improvements in transit station areas. Bonds are expected to be issued to obtain these funds. As future corridors are implemented, the city hopes to increase this annual allocation to $30 million.

Charlotte City council also approved a second funding source with its creation of a revolving fund that would provide $2 million annually to be used for joint development projects around transit stations. These projects would consist primarily of pedestrian enhancements.


**Transit Area Station Principles**

The adoption of the 2025 Integrated Transit/Land Use Plan (in 1998) established the high-level framework for Charlotte transit supportive land use policy to follow. In November 2001, Charlotte City Council adopted a more detailed set of development guidelines known as the Transit Station Area Principles, created by the Charlotte-Mecklenburg Planning Commission. These principles serve to build a fully integrated transit and land use system at the level of the individual station, and will work towards concentrating the majority of Charlotte’s rapid growth into areas near transit stations. The higher density, pedestrian friendly environments resulting from these principles encourage high transit ridership, quality of life improvements for area residents, and strong economic benefits for the municipality. The guidelines established by the Transit Station Area Principles apply to areas within an easy ½ mile walking distance of all rapid transit stations. The development policies established by the Transit Area Station Principles are broken down into three categories: land use and development, mobility, and community design (CMPC, 2002).

**Land Use and Development**

The goal of these particular policy guidelines is to concentrate a mix of transit complementary land uses within a comfortable walking distance (1/2 mile or less) of every transit station. The specific land use and development guidelines are as follows:
Mixture of Complementary Transit Supportive Uses (CMPC, 2002)

- Provide a range of higher intensity uses including residential, office, service-oriented retail and civic uses that are transit supportive. Such a mix of land uses increases the attractiveness of the area and increases trip options for transit users.

-Disallow automobile-dependent uses, such as automobile sales lots, car washes, and drive-thru windows.

- Provide uses that attract/generate pedestrian activity, particularly at ground floor level.

-Consider special traffic generators – such as cultural, educational, entertainment and recreational uses – to locate either within or adjacent to station areas.

-Encourage multi-use developments which include a mixture of uses on the same site. Mixed-use developments, with a mixture of uses within the same building, are also encouraged.

-Encourage a mixture of housing types.

-Preserve and protect existing stable neighborhoods.

-Encourage development of workforce/affordable housing.

-Encourage upgrading of existing uses to make them more transit and pedestrian friendly.

Increased Land Use Intensity (CMPC, 2002)

- Encourage higher densities for new development, concentrating the highest densities closest to the transit station and transitioning to lower densities adjacent to existing single-family neighborhoods.

  1. In most cases, minimum densities for new residential development within ¼ mile walking distance from a transit station will be 20 dwelling units per acre (net) or greater. Between ¼ and ½ mile walking distance, the typical minimum density will be 15 dwelling units per acre (net) or greater.

  2. In most cases, non-residential or mixed-use intensities within ¼ mile walking distance from a transit station will be, at a minimum, 0.75 FAR (net). Between ¼ and ½ mile walking distance from a transit station, the non-residential or mixed-use intensities will be, at a minimum, 0.50 FAR (net).
3. In some cases, station area plans will recommend lesser intensities or densities for new development. These lesser intensities might be necessary to preserve existing structures, to insure that new development is consistent with the character of existing transit supportive development, to protect existing neighborhoods, or to mitigate traffic impacts.

* Changes to existing zoning may be required to meet land use objectives for complementary transit-supportive uses and increased land intensity.
Mobility

The mobility guidelines of the Transit Station Area Principles ensure that the primary rail transportation network allows for easy connections to other forms of transportation, such as transfers between the multiple corridors, the CATS bus system, and walking and bicycle trails. The specific mobility guidelines are as follows:

**Pedestrian and Bicycle System (CMPC, 2002)**

- Provide an extensive pedestrian system throughout the station area that will minimize walking distances for pedestrians.
- Eliminate gaps in the station area pedestrian networks.
- Establish pedestrian and bicycle connections between station areas and surrounding neighborhoods.
- Design the pedestrian system to be accessible, safe, and attractive for all users.
- Insure that the pedestrian network will accommodate large groups of pedestrians.
- Utilize planting strips/street trees, on street parking, and/or bicycle lanes to separate pedestrians from vehicles.
- Encourage the provision of bicycle amenities, especially bicycle parking facilities.

**Street Network (CMPC, 2002)**

- Within station areas, design streets to be multi-modal, with an emphasis on pedestrian and bicycle circulation and set vehicular levels of service to reflect an emphasis on pedestrians and bicyclists.
- When necessary, redesign existing street intersections with a greater emphasis on safe and comfortable pedestrian and bicycle crossing.
- Develop an interconnected street network designed around a block system, with blocks a maximum length of 400’.
- Insure that the pedestrian network will accommodate large groups of pedestrians comfortably, especially within ¼ mile of the station.
• Consider new mid-block street crosswalks in congested areas with long distances between signalized crossings.

• Incorporate traffic calming into the design of new streets.

Parking (CMPC, 2002)

• Reduce regulatory parking requirements in station areas and establish parking maximums.

• Minimize large surface parking lots (greater than two acres) for private development, especially within ¼ mile of the station. Instead of surface lots, well-designed parking decks are preferred.

• Encourage shared parking facilities.
Community Design

The community design principles of the Transit Station Area Principles have been created to establish the community identity of each station area, as well as to make them attractive, convenient, and safe places to live, work, and play. The community design principles established by the plan are as follows:

Building and Site Design (CMPC, 2002)

- Design buildings to front on public streets or on open spaces, with minimal setbacks and with windows and doors at street level instead of expansive blank walls.
- Locate building entrances to minimize the walking distance between the transit station and buildings.
- Locate surface parking, with the exception of on-street parking, to the rear of buildings and where necessary, provide pedestrian paths through surface parking to the station.
- Design parking structures to include active uses on the ground floor street frontage.
- Typically limit building heights to 120’, with the tallest and most intensely developed structures located near the transit station and buildings adjacent to established neighborhoods limited to low-rise structures.
- Screen unsightly elements, such as dumpsters, loading docks, service entrances, and outdoor storage, from the transitway.
- Take safety and security concerns into account during design.

Streetscape (CMPC, 2002)

- Design the streetscape to encourage pedestrian activity.
- Include elements such as street trees, pedestrian scale lighting, and benches in the streetscape design.
- Place utilities underground whenever possible.
Open Space (CMPC, 2002)

- Establish public open spaces that act as development catalysts and serve as focal points around transit stations.
- Design open spaces to be centers of activity that include items such as benches, fountains, and public art.
- Orient surrounding buildings onto the open spaces.
The LYNX Blue Line – An Immediate Success

Although various plans for rail transit in Charlotte had been discussed for decades, in 1998 the city was able to move beyond mere discussion and finally act upon the design, construction, and implementation of a modern light rail system with the passage of a ½ cent sales tax, completely dedicated to transit. It had already been established that the south corridor would be the first line to be constructed, due to the overwhelming success of the Charlotte heritage trolley, which already ran across a large portion of the proposed corridor. Due to the combination of existing rail rights-of-way and large capital investments in the area that had already been made for the trolley, much of the basic infrastructure was already in place. Another benefit of starting with the south corridor was that because of its great decline over the previous fifty years (in stark contrast to the enormous growth occurring in nearly every other portion of the city), it was the corridor poised to realize the greatest improvement from potential transit oriented development. The South End of Charlotte was a viewed as a blank canvas, and enabled by this dedicated funding source, planners, engineers, and other city officials were able to begin painting the picture that would ultimately become the LYNX Blue Line light rail line.
A Brief History

In 2000, Charlotte transportation officials had finally decided upon the precise alignment that the Blue Line would travel (Middleton, 2007). The Blue Line would begin in Uptown Charlotte along existing railroad tracks between College and Brevard Streets, and then run parallel to South Boulevard for the rest of its duration, terminating at the intersection of South Blvd. and I-485 (Charlotte’s circumferential highway). Although the Uptown and southernmost portions of this corridor were highly developed, successful neighborhoods, much of the portion between these two termini, known as the South End, had been long neglected. In the early 1900’s, the South End was the industrial heart of Charlotte. The majority of the city’s many cotton mills, metal and chemical plants, and other heavy industry were located in this area (Brancaccio, 2009). As happened in so many other neighborhoods of this type around the country, heavy deindustrialization occurred in the mid-twentieth century, rendering these industrial giants obsolete. The area sat vacant and in a state of blight for decades, and was considered one of Charlotte’s worst neighborhoods (Brancaccio, 2009). However, within these obsolete buildings and crumbling infrastructure, visionary planners saw great potential. Property acquisition would be simple due to high vacancies. Opposition to any changes would be minimal in this neighborhood that had only upside potential. The most important factor in any real estate/development related equation is the location of the property, and the South End’s
proximity to the central business district and future transportation made its location extremely desirable. Enormous residential and commercial growth for this area was anticipated from the beginning, but the operation of the Charlotte Heritage Trolley put any doubts to rest. The mere presence of a limited service trolley, built mostly for nostalgia, combined with the increasing certainty of a future large scale rail system was enough to jumpstart new transit oriented development in the northernmost portion of the Historic South End. Medium and high density residential developments sprang up alongside new businesses, adaptively re-using the long vacant brick and masonry industrial structures in many cases. A buzz was beginning to build among many residents and city officials, as this early development was a very promising sign of what was yet to come.

**Infrastructure Improvement Charrettes**

Throughout the process of designing, constructing, and implementing the city’s rail transportation system, Charlotte has proven to be extremely forward thinking. Whereas it might be tempting to focus narrowly on the transit system and infrastructure immediately surrounding it, many Charlotte agencies worked together to improve large areas surrounding the future Blue Line light rail corridor, guided by the principles of the 2030 Regional Transportation Plan and the established Transit Station Area Principles. In Charlotte’s eyes, the actual light rail line was only one aspect of the overall plan. Serving as the transportation backbone of this portion of the city, the light rail’s maximum potential to shape the city into a highly dense, yet highly livable urban environment could only be realized if proper infrastructure improvements were made to increase pedestrian
mobility, complement existing bus and automobile systems, and to support the transit oriented development expected to occur in the surrounding area.

Rather than wait to begin these infrastructure improvements as the rail line was being constructed (of afterwards), in 2003 the city held large charrettes to identify the current state of the infrastructure surrounding the future light rail line, to envision what the ideal infrastructure would look like to enable the most effective transportation system, and finally, to implement these infrastructure improvements (CATS, 2003). An assessment of each proposed station was performed by two different teams. The first team was known as the City Team (CATS, 2003), and consisted of a variety of public governmental, planning, and engineering agencies. The city team was composed of the following members:

- The Charlotte Planning Commission
- Charlotte Area Transit System (CATS)
- The Charlotte Department of Transportation
- Charlotte-Mecklenburg Utilities
- E&PM – Charlotte Storm Water Services
- E&PM – Engineering Studies
- E&PM – Real Estate

The second team to participate in the charrette process was the Consultant Team (CATS, 2003). This team was composed of prominent architecture, construction management, and planning firms. Also a member of this team, and perhaps the single most influential participant in the entire process was LandDesign, Inc., a Charlotte based urban design/landscape architecture/planning firm, charged with the majority of the design work of the future station areas and their supporting infrastructure. The individual members of the Consultant Team included:
• Gannett Fleming (an architecture and engineering firm)
• LandDesign, Inc.
• Post Buckley Schuh and Jernigan, Inc. (and engineering, architecture, and construction management consultation firm)
• Woolpert LLP (a design, engineering, and geospatial firm)
• Ralph Whitehead Associates, Inc. (engineering, architecture, planning and construction management firm)
• Glatting Jackson Kercher Anglin Lopez Reinhart (a transportation planning and landscape architecture firm)

The combined expertise of these agencies/firms, steered by a set of city project identification guidelines (CATS, 2003), was instrumental to the formation of the transit and pedestrian friendly neighborhoods that would eventually lead to the overwhelming success of the LYNX Blue Line.

As mentioned, a series of processes were completed for each future stop along the light rail corridor. The first step was to identify the existing conditions in the area surrounding the proposed station location, particularly within a half mile radius. After current conditions were identified, improvements supportive of an effective transportation network were identified. Once these suggestions were agreed upon, a series of “master plans” were created, to be implemented as soon as politically and economically possible (CATS, 2003).

The first of these plans was the Streets Master Plan. In this process, the local street network was mapped out and a hierarchy established. Once current conditions were identified, gaps in service leading to the necessity of new streets, as well as streets that would become obsolete upon light rail construction were identified and mapped out. Once the final post-light rail street network had been identified, key intersections were identified (known as Gateway Intersections), and marked for major infrastructure, design,
and aesthetic improvements (CATS, 2003), consistent with the goals of the transportation plan and the station area design principles.

The next plan to be determined was the Land Use Master Plan. Layered on top of the already established Streets Master Plan, this plan identified the existing land uses. The various land use categories consisted of mixed-use, employment, single and multi-family residential, and green spaces. Existing uses were examined to determine whether they contributed to or detracted from the broader goals of the transportation plan. Zoning changes were made in detracting areas whenever possible, so as to encourage consistency with the transit supportive station area design principles (CATS, 2003).

The third plan that the charrette teams worked on was the Pedestrian Master Plan. During this process, the thoroughfares and intersections used by area pedestrians were identified. Particular attention was paid to the Gateway Intersections identified in previous steps, as these were to be the principle pedestrian intersections throughout the light rail corridor. Primary sidewalks, signalized crossings, and mid-block crossings were mapped out, making it easy to find the gaps in the pedestrian network. At this point, future connecting sidewalks or other pedestrian paths were established for future construction. It was at this point that the teams laid out the plan for a multi-use bike and pedestrian trail to run along the light rail right-of-way, greatly improving pedestrian access not only in the immediate station area, but between stations and throughout the entire region (CATS, 2003).

The next plan to be mapped out during the charrette process was the Bike Master Plan. Bikes are an excellent way to travel around the mixed-use, transit oriented neighborhoods envisioned by the city, and the city insisted on designing a light rail
system that would interface well with cyclists. There were no existing conditions to examine for this particular master plan, as bike lanes simply had not previously been a priority. This stage would instead lay the groundwork for the future bike lane network, identifying key points both parallel and perpendicular to the future light rail system, connecting neighborhoods beyond the half mile radius focused on in so many other elements of the planning and design process. As mentioned in the Pedestrian Master Plan, the showcase element of the Bike Master Plan would be the multi-use trail running along the light rail right-of-way, for the majority of its duration (CATS, 2003).

The final plans put together by the charrette team were the Urban Design/Redevelopment Master Plans. These plans took the key strengths, weaknesses, questions and concerns identified in the previous master plans, and attempted to tie them all together, resolving them through effective, functional, and beautiful urban design. “Blueprints” for the proposed future station areas were drawn by the various landscape architecture firms, representative of the vision that city planners and officials had for the proposed station areas (CATS, 2003). The plans proposed by these firms are stunning in their beauty; small parks with green space, brick walkways, and serene fountains abound. Beautiful masonry and steel buildings surround public squares filled with water features, gazebos, and statues, reminiscent of the grand neighborhoods throughout Europe. Although aesthetically beautiful, once one takes the fiscal constraints and budgetary realities of the current times into consideration, it seems unlikely that these monumental designs will ever be constructed exactly as envisioned by their respective creators. Instead, the value of these designs is to show the greatest potential of these areas. They are not expected to be built immediately, but over time, provide us a wonderful template
and final goal to work towards. These images give the taxpayers, who will ultimately be using and paying for this system, a look at the potential quality of life benefits that could reward their support of the plan. As unattainable as these designs may seem, they remain relevant in that they address both our “needs” and our “wants” for station area design. The designs as portrayed, with their exotic styling and building materials, clearly represent the “wants” of the community. However, behind this beautiful façade, the designers have incorporated the more essential “needs” of an effective transportation system. They have drawn up the sidewalks and bike trails that are an essential element of effective transit oriented design. They have not only drawn up the new street grid, adding some streets and deleting others, but they have carefully drafted street cross sections to demonstrate the various alternatives to forming an effective multi-modal transportation system. Although perhaps they will not be constructed of the same exotic building materials, these plans identify the best location for lighting, storm drainage, and other fundamental infrastructure.

In summary, Charlotte got the infrastructure and design phase off to a very early start, well before actual construction of the light rail system. According to Heth Kendrick, a landscape architect and planner with LandDesign, from the very beginning, the city had considered this to be much more than the construction of a light rail system. It was instead, a larger vision to encourage and target growth, reform the area’s transportation network, and build not just projects, but a place that residents would desire to live. By getting an early start on these projects, the work could be accomplished while large parts of the corridor were vacant or underdeveloped, causing much less interference with daily life. The process of laying the actual track would take less time as well, since any pipes,
wires, and similar infrastructure crossing beneath them would already be in place (Kendrick, 2009).

**Construction of the LYNX Blue Line**

In February of 2005, the official groundbreaking ceremony was held for the LYNX Blue Line light rail (Middleton, 2007). After many years of planning, battles at the polling places, and a host of other setbacks that commonly plague projects as significant as this one, the first portion of Charlotte’s regional transportation plan was becoming a reality. It was in the city’s best interest to get the project started as soon as possible, because estimated project cost had been exponentially rising from the very beginning. The very first cost estimate of the light rail line in 1999 was $225 million (Whitacre, 1999). In 2000, Parsons Transportation Group was hired to complete the federally required preliminary engineering and environmental impact analysis of the line, and just one year later, the anticipated construction cost of the system jumped to $331 million (Whitacre, 2000). Costs went up and up over the years, and at the time of the groundbreaking in February of 2005, the estimated construction cost had risen to $426.8 million (Middleton, 2007). Finally, when the project was complete, the final construction cost had reached $462.7 million (CATS, 2006), due to sharply rising concrete, steel, and labor prices (Middleton, 2007).

The LYNX light rail line was constructed primarily along an existing Norfolk Southern rail line (Middleton, 2007), thus avoiding the time consuming and costly process of right-of-way and other property acquisition that often accompanies new transportation expansion projects. The Blue Line is double tracked for its entire length, meaning that in-bound and out-bound trains have their own dedicated track. Although a
double tracked system is requires a wider right-of-way and is much costlier to build, this option results in significantly greater efficiency and flexibility in the future. An example of a single track system could be found (until recently) in Baltimore, Maryland. The city wanted to build an initial rail system as quickly and cheaply as possible. They were able to do so, but the system efficiency suffered greatly because of it. A single track necessitated the classification of priority trains (in-bound trains in the morning, out-bound trains in the evening). Lower priority trains were forced to pull off onto rail sidings at each station and wait there until the priority train passed. This process greatly increased the time it took to ride on the system, as well as the headways (frequency) between trains. Years later, Baltimore had to spend hundreds of millions of dollars to double track its light rail system, a costly process that Charlotte need not concern itself with in the future.

Another benefit of the LYNX Blue Line is that the entire line was constructed in a way that did not require it to run along the streets, mixed in with vehicle traffic. Although there are several at-grade crossings, the trains have priority, and cars must wait at the railroad gates for the trains to pass. This light rail priority greatly reduces time, and provides an excellent incentive to entice commuters to leave their car behind and take the light rail. In contrast, the light rail system in Baltimore runs along busy Howard Street in the downtown area, often in the same lanes as automobile traffic. During this stretch, the light rail is subject to traffic lights, just as any automobile would be. Traffic congestion, heavy pedestrian activity (after baseball games, for instance), and other issues that cause traffic nightmares for automobile drivers are just as likely to disrupt train service as well. Certain intersections along Charlotte’s proposed corridor could have caused similar
problems, due to high volume, high speed traffic. To avoid these intersections altogether, new light rail specific bridges were built above Woodlawn and Tyvola roads, as well as the intersection of Archdale Drive and Arrowood Road (Middleton, 2005). Charlotte’s excellent decision to build the Blue Line in a separate right-of-way, above grade for much of the time, is reflected in the fast and dependable service offered by the final product.

To accommodate the light rail vehicles, a large rail yard and maintenance building was built along South Tryon Street, just west of the light rail line (Middleton, 2005). This facility was built to house 42 light rail vehicles, which would not only accommodate the train cars required for the Blue Line, but those necessary for future extensions as well. This facility also contains CATS offices, the central train control center, a bus storage facility, and maintenance/paint shops that can serve both rail cars and buses (Middleton, 2005).

The 16 sleek train cars that run along the Blue Line were built by Siemens Transportation Systems (source #5). Although a German company, the Charlotte cars were built at Siemens’ Sacramento, California plant (Middleton, 2005). The cars have low floors, allowing for easy handicapped access from the train platform,

Figure #20: Interior of LYNX light rail vehicle
with elevated seats at the front and rear of each car. Each vehicle is 91.3 feet long, and weighs 48.7 tons (Middleton, 2007). The cars have seating for 68 passengers, with room for 168 others to stand, as well as four bicycle racks located to the side of the doors (Middleton, 2007). These cars, powered by the overhead catenary wires, are able to reach a maximum speed of 55 miles per hour (Middleton, 2007). Although the aisles are very narrow (making it difficult at times to maneuver around other passengers standing in the aisle), the seating is comfortable, and the cabins are well lit and climate controlled.

Prerecorded messages and internal electronic signs inform the rider of the destination and current station. The absence of sharp curves along the Blue Line corridor allow for high speeds outside of the Uptown area, as well as smooth, quiet, and comfortable rides for everyone inside. At the time of this writing, the cars were extremely well maintained and clean.

The 15 stations served by the Blue Line vary greatly in their appearance, but all offer the same basic amenities. Each offers well lit platforms, some measure of shelter from inclimate weather, modern fare vending machines, and works of public art to add a unique “flavor” to each station. The stations on the Uptown section of the corridor are well designed, with dramatic architectural features, colorful lighting, and in many cases, total overhead coverage from the elements. As the line moves southward, the stations become more basic in nature, offering only limited coverage from the elements and less dramatic works of public art. The lack of grandeur is more than compensated by other practical offerings not possible at the downtown stations. Seven of the outlying stations offer park-and-ride access for commuters, for a total of 3,500 parking spaces (CATS, 2006). A few of these stations offer convenient bicycle lockers. One of the most
interesting features of the light rail corridor outside of the Uptown region is a mixed-use asphalt bike/pedestrian trail. This heavily used trail serves the many residential and commercial dwellings that have begun to spring up all along the middle section of the corridor. A great success story of one of the public-private partnerships the city encouraged throughout the development process is the enormous commuter parking garage that anchors the southernmost portion of the corridor, just inside the I-485 beltway. Although a perfect place for commuter parking, the land was owned by Sterling Elementary School, and taking land from a school could prove to be very politically unpopular. Despite being owned by the school, this land was actually nothing but an enormously steep slope, unusable by the school for any practical purpose. The two parties worked together to achieve a mutually beneficial solution to this problem. The school donated the land so that CATS could build a three story, 1,200 car parking garage to serve as the anchor of its park-and-ride commuter operation. In return for the donation, CATS would turn the rooftop of the garage into a grassy park, which effectively “flattened” the land and seamlessly connected it to the school. This grassy park has transformed the school’s previously unusable land into a wonderful playground and athletic field area (Middleton, 2007).

The Grand Opening

On Saturday, November 24, 2007, after nearly ten years in the making, the LYNX Blue Line light rail corridor opened to the public. Following a short speech by Mayor Pat
McCrory, the first light rail train pulled up, containing former Charlotte professional football player Mike Minter. The crowd roared with applause, confetti filled the air, and the anticipation that had been building over the project was finally realized in the form of a city-wide festival. Many of the stations along the light rail corridor were designated as “celebration stations” and included live music, family entertainment, and many other activities (CATS, 2008).

Beyond the many festivities, during the grand opening people were encouraged to try the light rail free of charge. People were lined up for several blocks at many stations, and during that single weekend, an estimated 100,000 people took a ride on the new light rail line (CATS, 2008). The light rail remained free to ride for many weeks after the grand opening as well, in an attempt to help people realize the ease and convenience of this new transportation alternative.

In addition to the buzz that existed among residents of Charlotte, it existed at a national level as well. In October of 2007, just before the system opened to the general public, the American Public Transportation Association held its annual meeting in Charlotte for the first time ever, allowing more than 2,000 leaders in the transportation industry to take a sneak peak at the nation’s newest light rail system (CATS, 2008). Since its opening, transportation planners and city leaders hoping to develop light rail systems in their own cities have flocked to Charlotte to learn from the trials, complications, and success stories resulting from the LYNX development process (CATS, 2008).
LYNX Blue Line – General Information and Observations

The end result of all the aforementioned planning, preparation, and enormous public investment is one of the most beautiful and efficient light rail systems in the United States. The 9.6 mile long system serves 15 stations between Uptown Charlotte and I-485 in Southwestern Charlotte. The system runs seven days a week from 5:00 a.m. to 1:00 a.m. During the work week, trains arrive every 7.5 minutes during the morning and evening rush periods, and every 15 minutes during the off-peak hours. In the evening and late night hours, trains will run every 30 minutes. Weekend service is slightly reduced, with trains running every 20 minutes for most of the day, and every 30 minutes in the early morning and evening (Riding LYNX, 2009).

Fares may be paid at automated ticket vending machines at each station. Fares are $1.50 each way, with slightly reduced prices for seniors and school aged children (children age five and under ride free when accompanied by an adult). A one day pass for unlimited rides within a 24 hour period may be purchased for $4.50, and a weekly pass for $15.00 (Riding LYNX, 2009). As an effective way of encouraging greater ridership, CATS has worked with local colleges and major
employers (most notably Duke Energy) to offer students/employees monthly fare passes, usually at a reduced cost (MTC, 2007/11/28). On a visit to Charlotte to research the LYNX system, I found that the ticket vending machines were very self-explanatory and quite simple to use. After observing several passengers frustrated by the machines, and discussing these observations with others, it is apparent that problems with the ticket vending machines are among the most common complaints riders have about the new system. Despite finding them fairly easy to use, I was still frustrated by irregularities in their operation. On two of the three days I attempted to purchase a one day light rail pass, the automated machine failed to dispense my change. Dealing with small bills only, I was not very concerned. However, this inconsistency could cause greater hesitancy in someone inserting a large bill. One excellent feature that Charlotte is incorporating into its ticket vending machines (and one that few cities have) is the ability to pay for your fare with a credit card. Although still not implemented at the time of this writing, this feature will eliminate the need to carry cash, and would make it easy to pay for many fares at one time.

Like most light rail systems, the Charlotte LYNX relies on a “proof of payment” fare system. One of the benefits of light rail is that it can run directly on city streets, and the simple, turnstile free stations allow for quick loading and unloading. The problem for transit companies with this system is that there is no easy way to ensure that everyone has paid their fare. The most common practice in this type of environment is the proof of payment system. Essentially an “honor system”, all passengers are required to purchase the appropriate fare prior to boarding the train. When the train pulls into the station, you simply hop aboard. Occasionally, a fare inspector will announce to the passengers that he
or she will be commencing an inspection. At this time, all passengers are to present their valid fare to the inspector as they walk by. Anyone evading the fare is issued a $50 citation, and may be charged with a Class 3 misdemeanor charge (Riding LYNX, 2009) (MTC, 2007/12/19). Compared to other light rail systems, Charlotte diligently inspects fares. While riding the LYNX, I was asked to present fare nearly every time I boarded. In contrast, I have gone for multiple week periods without being asked to present fare on the Baltimore, Maryland light rail system.

One of the greatest challenges to overcome when adopting a proof of payment system is how to effectively check fares during major events. Shortly after the LYNX Blue Line opened, Charlotte hosted several major NCAA basketball, NFL football, and NASCAR events, all of which generated tens of thousands of trips on the system (CATS, 2008). During these periods of extreme ridership, it becomes impossible to conduct fare inspections on board the train, primarily because the aisles are impassible. Since inspections could not be conducted on the trains, CATS officials decided to inspect fares prior to boarding the train. The obvious problem with this technique is that it is impossible to enforce a fare evasion when someone has not boarded a train. Also, with hundreds of people crowded into fairly small Uptown station areas, it was impossible to tell who the riders were and who was simply passing through the area. In order to address this issue, CATS officials introduced the concept of “fare zones” to the Metropolitan Transit Commission (MTC) (MTC, 2008/12/17). CATS describes the fare zones as “a designated area on the light rail platform where a person who has purchased a ticket with the intention of riding the light rail may stand to await boarding. On the platform, the areas can become clogged and the fare zones would be designated for loading passengers
only; therefore, keeping the areas clear” (MTC, 2008/12/17). The primary action to implement fare zones in Charlotte occurred at the December 17, 2008 MTC meeting. Mayor McCrory expressed concern that the fare zones were a “gotcha” tactic, and wanted to ensure that transit security officials were in favor of the fare zone concept. It was clarified that the fare zones would not necessarily be enforced at every station, and not necessarily 24 hours per day. Security forces were unanimously in favor of the concept, as it would not only allow for more efficient fare collection and crowd control during major events, it would also allow an enforceable measure of safety to riders at night, deterring those who might be loitering at stations with criminal intentions. A city ordinance would be required to allow CATS to use and enforce the fare zones, and with the MTC’s approval that evening, the issue was passed on to the City Council, where the ordinance was passed (MTC, 2008/12/17). On my trip to research the Charlotte light rail system, only a few stations had implemented fare zones. Perhaps only a primitive initial system that will evolve over time, the fare zones currently consist of a taped off rectangular area on the station platform and signage on each side notifying pedestrians of the ordinance.
Perhaps the ultimate measure of the success of a light rail transit system is its ridership statistics. When it comes to ridership, Charlotte’s LYNX Blue Line has thus far been a resounding success story. Transportation planners had envisioned daily ridership of the LYNX light rail to be around 9,100 for the first few years, and had a projected ridership of approximately 18,100 by 2025 (Middleton, 2007). However, by the end of 2008 the system had an average daily ridership of nearly 16,000, more than 75% greater than projected (Watching and waiting, 2008). Good timing seems to have been an important element of this higher than anticipated ridership. Record high gas prices, particularly in the Southeast United States (due to hurricane related petroleum shortages), encouraged many commuters to use the light rail who might have otherwise not done so (Watching and waiting, 2008).

Having been a frequent passenger on many different light rail systems, I was pleasantly surprised at the outstanding upkeep Charlotte’s system exhibited. Although the system has only been in operation for slightly over a year, a system with such high ridership volume could easily have shown signs of dirt, grime, wear and tear in that short amount of time. The Charlotte train cars were spotless on the outside and inside. The city has taken a great deal of consideration towards the aesthetics of the system. One common revenue generator of many mass transit systems is to have advertisements posted at the train stations, as well as on the outside of the vehicles. Charlotte took this into consideration, but opted not to proceed. One reason was because it would require great care and some man power to monitor what kind of advertising would be appropriate, what would not, and to maintain the advertising program. CATS decided that the effort to select and administer the advertising was not worth the small amount revenue this
endeavor would likely generate. In addition to a cost/benefit analysis indicating less than optimum results, aesthetics were a large factor in the system as well, as planners did not want to clutter up the station and cover up the sleek external appearance of the cars (Kendrick, 2009).

Another example of the pride Charlotte exhibits towards its fledging light rail system is the officials’ insistence on adhering to the posted ridership rules, and addressing violations immediately. Essentially all light rail systems have posted rules for riders to observe, which in turn lead to the comfort and enjoyment of all other persons on board. Eating and drinking are not allowed, musical devices are prohibited without headphones, and loud, obscene, and threatening behavior is prohibited. Although these common sense rules are posted in nearly every mass transit vehicle in the nation, few systems are able to effectively enforce them. Violations of these rules lead to filthy train cars, an uncomfortable experience, and perhaps most importantly, a threatening or unpleasant atmosphere in which those with other transportation options will forsake public transportation in favor of these other options. One evening, while riding the Charlotte LYNX, I observed a passenger towards the back of the train was playing loud music on a musical device, without the required headphones. Very shortly afterwards, the driver made an announcement over the on-board speaker system, politely reminding passengers of the required headphones rule, and asking the person to please discontinue the loud music. For a few minutes, the music disappeared, but shortly after was blaring again. This time, the train driver very firmly (and much less politely) informed the violator that he still heard the music, and if it was not immediately silenced, the violator would be removed from the train and subject to arrest by transit police. Needless to say,
the music stopped for good this time. Compared to the sometimes dramatic situations, oftentimes violent ones, I have witnessed go unnoticed on other light rail systems, this violation was relatively minor. To witness the resolve the transportation officials displayed towards addressing such a small violation enables riders to feel very secure that larger, more significant situations would be similarly, and even more immediately, addressed. This creates an atmosphere of safety, security, and builds trust among riders that they are assured a comfortable ride on the LYNX. Personal experience has shown me that simple word of mouth can be a significant generator or detractor of light rail ridership. Charlotte’s impeccable maintenance of its fleet, as well as efforts in assuring the comfort and security of its riders, should greatly pay off in the form of new ridership generation over time.

Great care was taken in the design of comfortable train stations with many amenities, also making the LYNX one of the most appealing and convenient light rail systems in the nation. Public art was incorporated into every station in some form. Ranging as something as simple as intricate tile work and etched glass to gigantic sculptures and amazing lighting schemes, each station is highly distinguishable, at least to regular riders. One great feature of the LYNX line that many other light rail systems have overlooked are digital information boards at each station, informing riders of how many minutes it will be until the next train arrives. This
adds a feeling of comfort and predictability, especially appreciated late at night or in inclimate weather. Other amenities found at the stations are bike racks, secure bike lockers, seven park and ride lots with ample free parking, and convenient bus bays where transfers can be easily made to Charlotte’s extensive bus system. When compared to other light rail systems, and as confirmed by speaking with several system riders, one of the areas the Charlotte system could improve upon is in regards to station signage. There are indeed signs at every station, but they are significantly less prominent than many other competing systems. I very often observed riders who were confused by not only which station they were approaching, but by which platform they needed to be on to head North or Southbound. This is complicated by the fact that because of track switching, it is possible for either track to carry North and Southbound trains, making permanent signage difficult to implement. To an experienced rider, the current station signage, as well as the external and internal signage and verbal announcements from the train, seem adequate. Once again, it may only take one bad experience, one wasted fare from inadvertently traveling in the wrong direction, to lose a potential daily rider for good. Any additional signage to explain the system and guide new users could prove to be a very valuable investment, particularly in a city like Charlotte, where a transit culture has not previously existed and must be built from scratch.
This section will present each of the LYNX Blue Line’s 15 stations. Along with a brief description of each station and surrounding area, it will give a historical background, points of interest, and transit oriented development projects in the works for that specific station, when available.

**7th Street Station**

7th Street Station is the northern terminus of the LYNX Blue Line light rail system. Located in the northern portion of the Uptown central business district, this station is within steps of countless restaurants, retailers, museums, hotels, employers, and entertainment venues. Because this portion of Uptown is the heart of the area’s entertainment options, ample parking can be found in the area, with plenty of dining options on the ground levels.

One of the most interesting area buildings forms the western “wall” of 7th Street Station. The architect of this mixed-use retail/garage building wanted it to be enjoyable and interactive. At even intervals around the entire building, there are long blue panels that when pushed make different sounds and light up. Although these alone are fairly
entertaining, there is a cryptic riddle on the building, and if the lights are pressed in a particular order derived from the code, the entire building lights up and blares music into the sky. According to a planner with LandDesign, a large group of school children were the first and only group to crack the code of the building (Kendrick, 2009). Within this same building is a charming grocery and produce store called Reid’s Fresh Foods. Very close to this station is Fuel Pizza, most notable because it is open until at least 3 am every day. Late night establishments such as Fuel are one of the Mayor and city officials’ goals to make Charlotte a 24/7 destination. Although this was a nearly unthinkable dream just a few years ago, my recent visit to the area proved that nightlife was in full force and people were out in the streets well into the early morning hours, thanks to this new abundance of late night activities. Although it’s very hard to isolate what new developments in the area can be directly attributed to the light rail line, it certainly has not harmed business any. I observed many riders exiting the train at this station with the obvious intent of attending one of the many area bars and clubs.

Although this is not the primary stop for the Uptown Charlotte arena, home to many sporting, music, and other events, it serves it almost as well, being within a three minute walk to the arena. Other points of interest within a two block walk from 7th Street station are the ImaginOn children’s library, the Charlotte Public Library, and the Levine Museum of the New South. One of Uptown Charlotte’s most popular attractions, the Discovery Place science museum is also a short walk from this station.
Although this station is currently at the end of the line, it will continue towards the northeast once the Blue Line extension reaches the point of construction. This happens to be a great station to hop on the trains, because rather than pass through the station, they sit in place until their next run. Rather than wait in the cold and rain as you would at other stations, you can jump right on to the climate controlled train until it departs.

**Charlotte Transportation Center/Arena Station**

This station plays a major role in the current Charlotte transportation network, and will become even more significant once the 2030 Transportation plan comes to fruition. From this station, passengers can walk down a short ramp to the covered Charlotte Transportation Center and transfer to buses serving nearly all points of the city. In the future, this will also be a transfer point to board the East/West streetcar line.

This busy station serves not only as the primary stop for the new Uptown Charlotte arena, it is also the station closest to the heart of the Uptown business district, centered around the intersection of Trade and Tryon Streets. Although new office and condo development is occurring all around the Uptown area, one of the most significant new projects is occurring one block from this station. Bank of
America is currently constructing One Bank of America Center. This 32 story, 700,000 square foot office tower will incorporate many new “green” technologies, and is attempting to attain Leadership in Energy and Environmental Design (LEED) Gold Certification. Adjacent to the office tower, this development will also include a 17 story Ritz-Carlton hotel. Both buildings are scheduled to be completed by 2010 (CCCP, 2009).

The EpiCentre entertainment complex, one of the most significant transit oriented developments in Charlotte, is adjacent to this station. Although built before the light rail was completed, the future light rail line was taken into consideration for location and design from the very beginning of EpiCentre’s development. This $350 million complex encompasses an entire city block. It features 300,000 square feet of retail, restaurant and entertainment space, 414 luxury condominiums, and a 176 room Aloft Hotel by Starwood Hotels (Salgado, 2008). Afshin Ghazi, president of the Ghazi Co. development group that created the EpiCentre complex, feels that it is in the perfect Charlotte location because, “it is connected to the main stop of the new multibillion-dollar light rail project in Charlotte, which will make it the Grand Central Station” (Salgado, 2008). Although recently completed and still with vacancies, the
complex currently contains several themed restaurants and bars, multiple dance clubs, a high end movie theater and bowling alley, as well as open plazas where live music concerts are frequently held during the after-work happy hours and evenings. Mixed-use, high density projects such as EpiCentre are precisely the sort of developments that planners hope that light rail, combined with strategic station area land use planning, will bring about. In Charlotte, these hopes have certainly been realized.

3rd Street/Convention Center Station

This busy station located at the southern end of the Uptown area is within a short walk of a wealth of employers, dining, lodging, and other attractions. Perhaps the primary point of interest is the Charlotte Convention Center, which the LYNX line passes directly through. There is also a large Hilton hotel very close to the station, serving the lodging needs of the many conventioneers. Directly across the street from the convention center is one of the most interesting transit oriented developments in all of Uptown Charlotte. A mixed-use project called “The Green” contains a mix of mid-rise condominium housing (The Ratcliffe), an arcade style plaza of many shops and restaurants, and a lovely park with a variety of interactive features. Beautifully landscaped, there are fountains with
riddles hidden all around, walkways with sensors that play sound effects as people pass by, and a variety of park furniture to relax, enjoy a meal, or people watch from. One would never know from just walking around, but the park is actually formed from the grass covered top of an underground parking garage, serving the area businesses and residences (Kendrick, 2009).

A significant number of Uptown employers are served by the 3rd Street Station. One of the nation’s largest banks, and one of Charlotte’s largest employers, Wachovia Bank’s corporate headquarters (recently purchased by Wells Fargo) are nearby. Within the multiple Wachovia Bank towers, there are a number of restaurants and service oriented businesses. The majority of these are concentrated in the College Street Shops within Two Wachovia Center. A large building occupied by AT&T is also within a quick walk from this station. Just a few blocks from 3rd Street Station, Charlotte’s second tallest building is under construction, the 764 foot tall Duke Energy Center (Duke Energy Center, 2009).

Scheduled for completion in 2009, this new Uptown focal point could greatly increase LYNX ridership from the hundreds of new employees contained within. This large tower will soon be surrounded by the new Wells Fargo Cultural Campus, which will include the Afro-American Cultural Center, the Mint Museum, the Knight Figure #33: The Duke Energy Center
Theater, the Bechtler Art Museum, and a 46 floor condominium tower (Duke Energy Center, 2009). Once completed, the LYNX light rail and the institutions composing this cultural complex could work to greatly benefit one another.

One final point of interest well served by 3rd Street Station is the large governmental complex four blocks to the southeast. This beautifully landscaped complex houses most of the governmental offices of the City of Charlotte, including the current CATS offices. In addition to the office complex, Marshall Park, one of Uptown Charlotte’s most lovely parks, is located in the area.

**Stonewall Station**

Stonewall station is the last LYNX stop in the Uptown area. A quiet area just a few years ago, rapid development is quickly changing the character of this portion of Uptown. One of the most significant developments in this area is the new NASCAR Hall of Fame and museum. Charlotte is the headquarters of the enormously popular racing league, and NASCAR recently built a new tower in the area to house its offices. To complement this new tourist attraction, a number of large hotels are also currently under construction in the immediate area. Some of the hotels include a large Hilton Garden Inn, a Hampton Inn, and The Blake Hotel. The City of Charlotte is currently attempting to lure even more development in this area, through a recent re-engineering of I-277, the expressway that encompasses and defines the Uptown
Charlotte area. The exit ramp system in the Stonewall Station area was originally constructed in the traditional “clover-leaf” form, which took up many acres of land. The re-engineering removed several of the large looping exit ramps, not only making the exit more safe and efficient, but freeing up large parcels of prime real estate in the process. The City of Charlotte currently owns this land, and hopes to sell it to developers with plans consistent with the station area principles established by the 2030 Transportation Plan (Kendrick, 2009).

Although officials are very excited about the new development occurring in this portion of Uptown Charlotte, there are also many existing points of interest well served by this station. Being very close to the previous station (3rd Street / Convention Center), this station also serves the Charlotte Convention Center and the new Duke Energy Center/Wells Fargo Cultural Complex as well. There is a very large Westin Hotel immediately adjacent to the station, originally built with the primary purpose of lodging conventioneers. Charlotte’s daily newspaper, The Charlotte Observer, maintains its offices and large printing complex very near this station. Surrounding The Observer’s offices is a wonderful promenade, containing enlarged images of some of the most significant front pages in the paper’s history. One can read the entire Observer front page as it was printed on the day John F. Kennedy was assassinated, the September 11th attacks occurred, and many other significant events.
Although Charlotte’s NFL football stadium will be much better served by the future streetcar line, Stonewall Station currently provides the best service for Bank of America Stadium. Every weekend in the fall, thousands of Carolina Panthers fans make the four block walk to the stadium, and are able to do so easily and efficiently thanks to the LYNX light rail.

**Carson Street Station**

This is the first light rail station outside of the central business district, although still only a short walk or bike ride away from it. This area may soon be home to the largest concentration of residential transit oriented development. Real estate developers have long sensed the enormous potential for residential development, and as soon as the zoning laws were changed to allow high density development in the area (in accordance to the 2030 Transportation Plan), developers seized the opportunity. There is an abundance of low rise, apartment style housing options in the area, which despite being within minutes of a large downtown, seem to maintain a laid back, peaceful neighborhood feel. A significant contribution to this atmosphere is the multi-purpose paved bike and walking trail, which originates in the vicinity of Carson Street station, and continues through many of the neighborhoods to the south.

Until recently, one development alone took full advantage of the high density and building height requirements permitted by the new transit complementary zoning changes. The Arlington is a 22 story residential condominium building completed in 2002, towering above all other buildings in the area. Heth Kendrick, a planner with Charlotte based LandDesign, Inc., said that members of the surrounding community fiercely contested the development of The Arlington, arguing that it was tremendously out of
proportion with the rest of the surrounding area, and would cast a long shadow on many area residences. In the end, the city sided with the developer, since they were not only in compliance with the new zoning provisions, but that the character of the project was actually representative of what the city had envisioned for the area. Even though the developer won out in the end, he was not simply satisfied with the approval of his towering project. In a last minute building design change, which many agree was an act of revenge against those who challenged his development for so long, the developer used a strikingly unusual pink colored glass in the tower. Local residents now insultingly refer to The Arlington as the “Pepto” building, after the bright pink Pepto Bismol antacid (Kendrick, 2009).

For many years, The Arlington stood along as the only development to maximize the high density benefits of the station area zoning guidelines set forth by the city. Much to the owner and residents’ dismay, however, that will change in a few years. Harris Development Group, a real estate developer headquartered in Charlotte’s Historic South End, is working with LandDesign, Inc. to construct an enormous mixed-use project adjacent to the Carson Street Station tentatively called 1200 South Boulevard. This three tower development will include 200,000 square feet of office space, a boutique hotel, 40,000 square feet of retail, and 250 residential units. A parking deck, one or two restaurants, and large landscaped public plaza are also planned for the 2.44 acre site as
well (HDG, 2009). According to Mr. Kendrick, this development will take full advantage of the transit complementary UMUD zoning in the area, and since the site is directly between Uptown Charlotte and the existing Arlington development, residents in The Arlington will completely lose their panoramic views of the Charlotte skyline (Kendrick, 2009). This brings attention to the fact that all of the station areas within ½ mile of light rail stations are zoned for this type of high density development, and that the only thing folks who buy homes in the vicinity of light rail stations can count on is a constantly evolving neighborhood. It would be advised not to base one’s home purchase on the current view of the city it has, or because a neighborhood seems particularly quiet for the time being. Although new construction has slowed during the current economic recession, large developments like 1200 South Boulevard will certainly occur in the future. These dense developments were the specific intent of light rail and supporting land use. Rather than base one’s purchase on the current situation, one must realize the other benefits of living adjacent to station areas, benefits that will not go away, such as ease of commute, proximity to places of interest, and the potential for strong and stable property values because of these valuable amenities.

**Bland Street Station**

This station is the first in what could be considered the heart of the historic South End neighborhood. The brick and steel buildings that once housed Charlotte’s mills and
heavy industry still remain, but their uses have completely changed. These former industrial buildings now contain a Jillian’s entertainment complex/restaurant, professional offices, and small boutique shops. There are some existing strip plazas that contain very casual food establishments such as Phat Burrito or Price’s Chicken Coop. In addition to a variety of commercial reuse projects, there are an abundance of transit oriented residential developments near this station. Perhaps the most significant of these is the Circle at South End apartment complex. This beautiful 360 unit apartment community will be built of brick, steel and glass to match the appearance of the surrounding structures, while maintaining a modern appearance as well. This community, currently nearing the end of construction, will include many green building and energy technologies, and is seeking LEED certification (Circle at South End, 2009).

**East/West Blvd. Station**

Charlotte’s Dilworth neighborhood was one of the city’s original streetcar suburbs, and after nearly 60 years, the LYNX light rail will once again connect Dilworth to downtown Charlotte by rail. East/West Blvd. station serves several large neighborhoods, Dilworth to the south of the station, and the Wilmore neighborhood to the north. The primary streets in the vicinity of this station, East/West Blvd. and South Blvd., are lined with restaurants, small businesses, and services. Some of the most creative reuse projects in the Historic South End abut this station, including the very popular Pike’s Old Fashioned Soda Shop and The Film Foundry, a production company for film and commercials. Another Fuel pizza location, the popular area pizza joint, is located nearby, as well as a Shell Gas station and many other businesses.
Although the previously mentioned neighborhoods already provide a large population of potential riders for the LYNX light rail, the East/West Blvd. Station is the site of many of the largest pending transit oriented development projects in the city. The Ashton South End is an 11 story building housing 310 of Charlotte’s most luxurious apartments. Although the project was deemed a risky investment for Harris Development Group, the company concluded that with the proximity (and views) of Uptown Charlotte, the convenience of being one block from the LYNX light rail, and the wide variety of existing and planned developments in the area all lead to a residential quality of life that made the project a success (Brancaccio, 2009) (Ashton South End, 2009). Another mixed-use, transit oriented development scheduled for the area is the Chelsea at South End. This five story building will be constructed to resemble a renovated warehouse with a brick exterior and oversized windows. The building, less than 250 feet from East/West Station, will contain 75 modern apartments, 8,000 square feet of shops and offices, and parking (Chelsea at South End, 2008).

A very interesting residential development in the area is the Southborough project. Developed by Conformity Corporation, a Charlotte based real estate development firm, this development is a mixed-use neighborhood consisting of several types of housing, shops and cafes, and park areas adorned with fountains. Although projects similar to Southborough are in the works all along the line, one of its most interesting functions is...
that it is specifically being developed to serve as a buffer between a large Lowe’s home improvement center recently built in the area, and the existing Dilworth neighborhood. One problem older communities increasingly face today is the destruction of their residential character and scale, due to the construction of large “big-box” retailers such as Lowes or Wal-Mart. The Southborough development, using the creative design from LandDesign, Inc., provides an effective solution to the dilemma faced by communities who would like the convenience of such retailers, but feel that their large size would blend into the neighborhood. The inner-most townhomes of Southborough wrap around the Lowe’s store, essentially forming a residential façade that masks the otherwise mundane exterior of these large superstore locations (Southborough, 2009) (Petersheim, 2009).

One of the most significant concerns of residents when new light rail systems are under construction in their particular area is light rail’s effect on local property values. The area around the East/West Blvd. station is a shining example of not only the tremendous increases in property value realized by owners in high priced, luxurious real estate developments, but also the positive impact that can be realized in poorer neighborhoods. Keith Parker (the former head of CATS) has mentioned the Wilmore neighborhood as one of the best examples of light rail construction’s impact on inner-city revitalization. As recently as 2006, Wilmore was one of the most distressed neighborhoods in Charlotte, with high crime rates and very low property values. As of 2009, Parker claims that because of light rail’s positive impact on the area, property values went up from roughly $92,000 to $195,000, and all during an economic recession.
He states that light rail has completely transformed the neighborhood, and all for the better (Brancaccio, 2009).

New Bern Station

Prior to the New Bern station, most of the light rail stations are very close to one another. The trains cannot travel very quickly because of the short distance between stops. The trip between East/West and New Bern is significantly longer, and passengers finally get the chance to see how fast the light rail trains can travel. Since New Bern station is in a more open area away from the central city, many of the existing and proposed developments are much larger in scale, taking advantage of the greater space available.

One of the most sought after areas by developers is just north of New Bern station. Directly west of the light rail tracks is a set of old concrete grain silos which form a natural “gateway” into the station area. Although many proposals by developers had been made for the area around the silos, city officials tasked LandDesign, Inc. with formulating plans to turn the drab silos into a work of art (Petersheim, 2009). After reviewing LandDesign’s concepts for the artistic potential of the silos, the city was determined to select a developer that would best incorporate them into their master plan. The development that will eventually occur on this location will be the Silos at South End. This $43 million, 9.5 acre transit oriented development advertises itself as the quintessential new-urbanist community in Charlotte’s Historic South End. The community hopes to anchor an upcoming arts and design district, and will include 115 loft condominiums, 62,000 square feet of office space, 14,000 square feet of retail and gallery space, and all surrounding a one acre park. The silos will be artistically decorated
and incorporated into the design, with the potential of serving as a backdrop for movies or concerts held in the public park (HipHoods.com, 2009) (Petersheim, 2009).

Another example of light rail’s ability to drastically change the character of a neighborhood is with the planned Tradition at New Bern apartment community. Although large transit oriented apartment communities are becoming quite common along the LYNX light rail line, what makes this one stand out is that it will sit atop what is currently Charlotte’s most contaminated brownfield site. This prime parcel of land, located immediately southwest of New Bern Station, was formerly a lead smelting plant. In recent years, old factory structures had been demolished, and afterwards core samples were taken from the ground. Very high levels of lead and other dangerous chemicals and metals were found. During the course of some excavation on the property, a large amount of buried materials were found, including an entire automobile (Kendrick, 2009)! The clean-up process will take a very long time, and up to this point, each additional negative discovery on the property had resulted in land changing hands due to developers giving up on the property. Finally, Broad Street Partners acquired the property, and hired LandDesign, Inc. to design the future apartment property (Kendrick, 2009). Although many details remain to be worked out for this development, it serves as an illustration of the powerful effect light rail can have on
adjacent properties. With the right formula of transit, zoning, and perhaps incentives, even the most undesirable parcels of land can begin to be viewed as having enormous potential.

Another area for which great potential exists lies directly to the east and southeast of New Bern Station. A large Pepsi bottling plant currently exists in the site, but has already decided to move to another location within a few years. Although plans for the future of the site have yet to be determined, the potential for a large scale transit oriented development is enormous (Kendrick, 2009). In the meantime, a small wedge of the parcel is currently undergoing plans for redevelopment. Currently the site of a BB&T bank branch, the property has been proposed for redevelopment into a small but well appointed city park (Kendrick, 2009). This park will provide a lovely green gateway between the station area and the Sedgefield neighborhood a little further to the east. Although small in size, there are plans to possibly expand the park into land currently occupied by the Pepsi plant (Kendrick, 2009).

In addition to the new developments on the horizon for this station area, New Bern has an abundance of existing residential and commercial properties that make it a very popular destination station. Although most developers jumped on the South End bandwagon only after light rail was officially announced, the developers of the large

Figure #40: 3030 South residential community
3030 South townhome and condominium community were years ahead of the curve. According to Heth Kendrick, a planner and architect with LandDesign, Inc., 3030 South was perhaps the first transit oriented development along the current LYNX light rail corridor. The two young men who envisioned the project knew the enormous potential a future light rail line could have, and turned what seemed like a large gamble at the time into an investment that has already paid off enormously (Kendrick, 2009). Very contemporary in their design, this community fits in well with the industrial character of the surrounding area. After the light rail came to be realized, two additional phases have either opened or will open soon.

Other area businesses are an older brick strip mall, in which a Home Economist Market natural foods grocery recently opened (3030 South, 2009), an architecture firm that adaptively re-used an old industrial building, and a variety of other small retailers. The large CATS light rail maintenance facility is also just south of New Bern Station.

**Scaleybark Station**

The area surrounding Scaleybark Station is considered one of the most important to the City of Charlotte and CATS officials. This area of older housing, largely vacant strip retail centers, and industrial sites has more to gain than most other locations along the LYNX corridor. Complicating any success in revitalizing this area is the inconvenient geography of the land on which the station lies. Just to the north of Scaleybark Station, South Blvd. splits off into another street, Industry Road. The station is situated on a virtual island in the middle of these busy roads, making pedestrian access to and from the station very challenging. There are crosswalks at the ends of the station areas, but to get to them requires such a long walk that many passengers can be observed crossing at the
middle of the block. There are multiple at-grade vehicle crossings at the ends of this station as well, the principal one at the south portion of the station being a very unusual angle. These many hazards have area planners very worried about pedestrian, vehicle, and train safety, and they are currently working on creative solutions to these problems (Kendrick, 2009). Another potential issue, according to a local planner, is that prior to implementation of the light rail, ridership projections indicated that two-car trains would sufficiently handle the passenger volume. Based on this projection, most of the station platforms were built just long enough to accommodate two-car trains. To the planners’ pleasant surprise, ridership was many times greater than projected, and now feasibility studies to extend the station platforms to accommodate three-car trains are underway. Most stations have ample room to accommodate this platform expansion. Once again, however, the extension of the Scaleybark Station platform is greatly complicated by its lying on an island in the middle of several busy streets. To expand the station would require a re-engineering of local streets and great changes in the local traffic pattern, and planners are working on a solution to this problem (Kendrick, 2009).

As previously stated, there are currently not many points of attraction near Scaleybark Station. The neighborhood of Colonial Village is a short walk away, and there are some older strip shopping centers very close to the station. In an effort to revitalize
the area, Charlotte purchased 16 acres of land adjacent to the station, with the goal of developing it into the city’s signature transit-oriented development. Even though mixed-use developments are underway all along the LYNX light rail line, this development would be the first mixed-use, mixed-income development along the light rail line. The city sold the land to Charlotte based developer Pappas Properties at a loss, to partially subsidize the 80 affordable housing apartments the city has required for the development. Real estate and rental prices have reached astronomical levels along the light rail line, pricing a great many people out of the market. The affordable housing units to be built near Scaleybark Station will be set aside for renters making 60% or less of the region’s median income. Although the lengthy application process for Federal affordable housing grants and the current recession have significantly delayed the progress of this project, the developer is credit worthy and reputable, and CATS feels confident that as the financial climate improves, this project will move forward as planned (Harrison, 2009).

Another large transit oriented development in the planning stages, just south of Scaleybark Station, is Crosland Greens. Crosland is a Charlotte based real estate developer that once maintained a corporate headquarters on the proposed 36 acre site. The company has spent years acquiring properties adjoining theirs, and have finally completed the parcel. On June 16, 2009, Charlotte City Council approved the zoning changes for the proposed eco-friendly mixed-use community, which will include office space, apartments, condos and townhomes, a new library and a grocery store. Single family homes may also be built as well. Crosland held a green-design contest a year ago, and selected a winner from many proposals that used the latest energy efficient and
environmentally friendly design. Construction may begin by the end of 2009, with full build out taking approximately a decade, depending on market conditions (Stabley, 2008).

**Woodlawn Station**

Woodlawn station is unlike many of the other light rail stations in that there are no large mixed-use projects scheduled for construction to date. This station is actually situated in an area where there are already many restaurant, retail, and hotel options. However, these businesses were built in a way to cater to automobile traffic. They are all oriented towards the street, and face away from the light rail station. The area contains many businesses that could appeal to light rail riders: a large chain pharmacy, many fast food and casual chain restaurants, and some lower price hotels. The focus of planners is not to necessarily bring new development to the area right away; rather, it is to tie Woodlawn Station to the existing development in a pedestrian friendly manner, currently absent from the area.

The method that planners intend to go about tying existing commercial establishments to the light rail network is through a series of transit improvements and signature intersections (Kendrick, 2009). In actuality, the walk from the station to these establishments is not very far. However, the bleak cinder block, concrete, fenced in and poorly lit pathways to reach the entrances of the businesses deters people from exploring the area, and creates a mental barrier that discourages walking to these businesses. To overcome this, planners are working on creating a pedestrian friendly atmosphere based upon the signature intersection principles spelled out during the initial infrastructure planning charrettes. Through the strategic use of bike lanes, planters and landscaping, ornate lighting and public art, desirable walkways can be created which encourage
pedestrian traffic between these businesses and the light rail. Whenever possible, planners have encouraged businesses fronting Woodlawn Station to create entrances that face the tracks, although so far there has not been much interest shown in doing so (Kendrick, 2009).

**Tyvola Station**

Tyvola station is the first above-grade station on the LYNX light rail, meaning that the station platform is elevated well above the street on a supporting bridge. The area surrounding Tyvola Station includes quite a bit of existing retail, much of it being on the lower end, such as dollar stores, check cashing establishments, and such. There is also a strip club nearby, and the area shows little signs of immediate improvement. One of the main focuses of planners at this station is to not only improve the pedestrian landscape in the area (similar to Woodlawn Station, as described above), but to focus on the beautification of the light rail bridge that separates the neighborhood east and west of the station. Planners at LandDesign, Inc. have developed plans to use aesthetically pleasing sidewalk pavers, upgraded lighting fixtures, and adding traffic calming measures and bike lanes to adjacent streets to make the street level on both sides of the station appealing to pedestrians. Next, the firm has designed several concepts for the artistic decoration of the bridge, as well as elaborate signage, to connect the areas on each side of the bridge, forming a greater sense of place (Kendrick, 2009). Planners are anticipating that once a sense of place, community, and as a result, a perception of safety in the area has been established, investment will more likely flow into this area, as it has in so many other areas along the LYNX Blue Line.
Archdale Station

Like the previous two stations, this station serves an area with older residential structures and lower end retailers. There are some large neighborhoods in the area that the light rail serves well, but other than these residents, there are currently no large scale redevelopment plans for this area. Instead, planners have designed street and intersection improvement projects, that once completed, might encourage more pedestrian activity in the area, providing a boost for local business (Kendrick, 2009). It is apparent that for many of the stations distant from the central business district, hopes are not high for redevelopment, so the focus is more of a “if you build the infrastructure, they will come” philosophy. The pedestrians in neighborhoods that are not as thriving should expect infrastructure improvements no less than found in other areas of the city, and city officials are working to see that this is indeed their experience.

Arrowood Station

Arrowood Station is more similar to stations proximal to Uptown in that there are high expectations for large scale redevelopment in the area. Currently, there are a large number of existing apartments and single family homes in the area, but they are situated quite a distance from the train station. The area immediately adjacent to the station has been assembled over time and is now owned by Harris Development Group. Many of the parcels have been cleared and leveled, and are ready for construction. Other areas are undeveloped wooded areas slated for clearing. A large plaza featuring a discount grocer and other low end retailers is at the bottom of a large incline just to the west of the station. Based on a design created by LandDesign, Inc., Harris Development Group intends to build a massive transit oriented complex of apartments and condominiums. Interspersed
Throughout will be wetlands and large open spaces. Retail is proposed for areas immediately adjoining the light rail tracks, and very importantly, the proposed development intends to blend well with the existing neighborhood. This development is in the early stages and there is currently no construction timeline. It is planned to be built over several phases, as market conditions allow (Petersheim, 2009).

One of the challenging features to any development in this area is the geography of the land. This station is in a very hilly area, and the station is elevated high above the existing retail plaza to the east. Any redevelopment in that area will require a well designed form of connection between the higher level train platform and the plaza roughly thirty feet below. Other areas are at grade with the station, but have steep slopes. This is also a challenging situation for pedestrians, particularly those using bicycles, baby strollers and the handicapped. LandDesign, Inc. is working on many preliminary site designs to overcome these challenges (Kendrick, 2009).

**Sharon Rd. West Station**

The Sharon Rd. West Station vicinity is essentially fully developed, and has no significant transit oriented development on its horizon, yet the existing developments in the area have the potential to greatly contribute to LYNX ridership. The station vicinity is dominated by the large Lance snack food factory, which employs 1,450 (Charlotte Chamber of Commerce). To the east of the station, along Sharon Rd., is a large neighborhood consisting primarily of multi-family housing. The area just south of the station, along South Blvd., is a large concentration of automobile dealerships and complementary service stations.
This station appears to mostly function as a park-and-ride location, and features many amenities to make it attractive to the commuter crowd. In addition to 188 parking spaces, there are bike lockers, a water fountain, and multiple bays for bus connections (Riding LYNX, 2009). The most significant station improvement is a striking blue pedestrian bridge that spans the light rail tracks, which safely allows riders to get from the parking spaces on the west side of the station to the Uptown bound trains on the east platforms.

I-485/South Blvd. Station

This is the primary station serving the commuter function of the LYNX light rail system. The station is situated at the busy intersection of South Blvd. and the highly congested I-485 expressway, Charlotte’s circumferential highway. The highlight of this station is the large 1,200 car parking garage, which was the result of a public-private partnership between the CATS and Sterling Elementary School. The school allowed CATS to build the three story garage in exchange for a grass covered top deck that abuts the elementary school. The children enrolled the school can use the grassy rooftop as a playgrounds and playing fields, with little sign of the busy commuter activity occurring below (Middleton, 2007). One of the primary complaints among riders is that this location is so popular, that each work day, every parking spot has been filled before 8:30 am, forcing many commuters to seek parking at other park-and-ride stations (Kendrick,
2009). Approximately 140 additional surface parking has been added to the east of the station, around the Texas Roadhouse restaurant on South Blvd. This particular station not only has amenities for light rail passengers, but also caters to the drivers, serving as a point where drivers switch off in order to take their lunch and/or restroom breaks.

The area surrounding this station is one of Charlotte’s principal shopping destinations, with a variety of dining and retail options of all kinds. The issue with the great majority of these shopping centers is that they existed well before the light rail, and were built with the automobile in mind. Although it is possible to walk to many of these businesses, heavy area traffic volumes and broad fast moving streets make walking a challenge. Thankfully, the #58 CATS bus stops directly below the light rail station, and circulates through the great majority of this shopping destination. The next bus is never very far off, with headways of only twenty to thirty minutes throughout the day. In addition to many casual dining restaurants and big box retailers, the area includes the large Carolina Place shopping mall, an AMC movie theater, and several service related businesses.

Although this station currently serves as the southern anchor of the LYNX light rail system, there are ongoing debates about whether or not to continue the line southward. The station area is very near the South Carolina border, and although several area officials (including CATS) have expressed interest in extending the line into South Carolina, the burden lies upon that state to figure out how such an extension would be financed. So far this has not been decided upon. Another complication is that the North Carolina town of Pineville lies directly between the I-485/South Blvd. Station location and the South Carolina border, and Pineville has explicitly declared that it does not want
the light rail line running through the community. Although there is a possibility of a southward extension, the current economic climate and complications arising from the differing interests of multiple jurisdictions, makes this possibility seem like a long shot at best (Kendrick, 2009).
A Summary of the Positive Effects of the LYNX Light Rail Line

The city officials, planners, engineers, and everyone else involved in the design and construction of Charlotte’s LYNX Blue Line light rail system knew that with the proper combination of a well designed light rail system and transit complementary land use principles, the benefits of a light rail line could be extraordinary. True to their vision, the initial results of the light rail line thus far confirm these expectations. Although slightly down from their initial peak (driven by astronomical gasoline prices), the American Public Transportation Association reports that as of the fourth quarter of 2008 (the latest available data), the LYNX averaged 21,700 riders each weekday (APTA ridership report). Although this number is low in comparison to the ridership of most other light rail systems, the number is very high for a start-up system, which takes time to build a strong ridership. Current ridership greatly exceeds the original projections by planners, and with the abundance of transit oriented development along the line, ridership should be expected to increase dramatically in the near future.

Thanks to the insight of city officials and planners and their many efforts to marry light rail and land use planning from the very inception of the LYNX Blue Line, new
development and redevelopment are occurring all along the line. As mentioned above, some of Charlotte’s most impoverished neighborhoods have been reinvigorated, and have seen property values double. Entire swaths of the city which stood vacant, blighted, and polluted for decades are now sought after for adaptive re-use projects. A study in 2007 that occurred before the light rail line was even operational estimated that $1.87 billion in new private investment had already occurred along the Blue Line corridor (Middleton, 2007). Thousands of new residential units are on the horizon, with 1,200 recently constructed apartments at the Bland St. and East/West stations alone (Johnson, 2009). The Uptown Charlotte real estate boom has been ongoing for years, and although it’s not easy to determine which of it is directly related to this new transit line, the fact that much of the new development is within a block or two of the LYNX line seems to indicate at least some correlation. Construction cranes abound in the City of Charlotte, despite the deep recession the nation currently faces. As mentioned, these cranes have been a mainstay in Uptown Charlotte for decades, but one cannot help but notice that the cranes now extend beyond the Uptown borders and all along the light rail line. The ability of light rail to focus new development in specific corridors had been illustrated in textbook fashion thanks to the LYNX light rail line.
One of the primary concerns people have regarding light rail is personal safety and security. Although Charlotte is a city with a fairly high crime rate, my research has shown very few reports of any criminal activity occurring on the light rail trains or stations. Charlotte officials have commented that during tough times and budget shortfalls, the costs to ensure passenger safety and security will not be affected. In March of 2008, the Citizens Transit Advisory Group actually voted to increase CATS transit security budget from $2.7 million to $5 million. This extra money would be used by CATS to increase the number of transit police officers from four to twelve, to hire five additional fare inspectors, and add 35 additional company police. The additional funds also allowed CATS to maintain the extensive security camera system that extends along the entire light rail line (CTAG, 2008). CATS officials have indicated the transit and local police routinely patrol the various park and ride locations, and at a 2008 Metropolitan Transit Commission meeting Sgt. George Mentavlos stated that there have not been any significant problems at any of the park and rides up to that point (MTC, 2008/3/26). A recent trip to Charlotte to research the LYNX light rail line confirmed that there was a noticeable police and/or security presence at most light rail stations, particularly late at night. Fare collectors and police officers randomly patrolled the actual train cars, and policies were observed to be strictly enforced on multiple occasions. In addition to a physical police presence, security cameras, the fare zones (deterring would-be loiterers), emergency call boxes, and abundant lighting all added to a strong sense of security while riding the LYNX Blue Line.

Perhaps because of a combination of its economical pricing, efficiency, security, and service to a wide variety of diverse neighborhoods, one of the most encouraging
results of the LYNX Blue Line is that it seems to be serving everyone. After many rides on the light rail, I observed people from many backgrounds and seemingly every walk of life aboard the LYNX, and all throughout the day. Uptown lawyers and bankers, college students, blue collar workers, mothers with children, the elderly, and a few folks who seemed very down on their luck all shared the rail cars of the LYNX Blue Line, and all appeared to be comfortable doing so. Many languages were spoken and a wide variety of colorful conversations were always taking place. Although some area people are disappointed that the current system only serves a small geographical area, it becomes abundantly clear to the casual observer that in the area that is served by the light rail, it is serving all types people, certainly one of Charlotte’s most successful light rail stories.
A Summary of the Negative Effects of the LYNX Light Rail Line

A very interesting result of research into the LYNX light rail system is that negative effects are essentially non-existent. As with any politically charged, taxpayer subsidized project costing in the hundreds of millions of dollars, there is ongoing debate as to whether a light rail system was necessary in Charlotte, who should be paying for it and how, and similar concerns. Although future lines can be debated, the LYNX Blue Line has been completed and there is little point to debating this particular line. These financing and taxation arguments aside, any other complaints are virtually non-existent.

Through conversations with and observations of LYNX light rail riders, it seems that the most common complaints are associated with getting new technology up and running, and a learning curve for people who have never experienced rail based mass transit before. Many people had problems understanding the various options available on the automated ticket vending machines, and I personally grew frustrated with the machines not giving one’s full change back. I experienced much confusion among people at the stations as to which way the trains were heading, which station they needed to get off at for a specific destination, and similar issues. Compared to other light rail systems I have experienced, the station signage does seem to not stand out as substantially as it should. With only one north/south line in operation, the learning curve for riders to understand the system should be fairly short. However, CATS should act now to clarify some of these confusing situations, for they will only grow more complex and difficult to resolve as future transit lines and transfer points are added to the system.
According to Heth Kendrick, a planner with LandDesign, Inc., perhaps the most common complaint regarding the light rail system from regular users is regarding train overcrowding. Many of the times I rode the LYNX, seating was not available and trains were very crowded. A side effect of this high ridership is that parking at park-and-ride locations can be challenging to find as well. Of course, in an industry where high ridership numbers are often the definition of success, these are considered “good problems” to have. During the current economic recession, some cutbacks in service have been implemented, compounding this problem. The same ridership is being serviced by less frequent trains, thus resulting in more tightly packed rail cars. Over the long term, CATS would like to remedy this situation, as funding becomes available, by extending the existing platforms to accommodate three car trains (as opposed to the current two car trains) (Kendrick, 2009).

Most of the major problems that opponents of light rail like to point out do not seem to apply to the LYNX. One common misconception of light rail is that property values adjacent to the tracks will decline due to noise, hazardous trains, pedestrian loitering, and a host of other reasons. Without proper land use planning prior to implementation, this might have been a valid argument. However, thanks to CATS’ long term planning strategy, Charlotte’s light rail has put a quick end to this argument. The LYNX system has brought life to a neighborhood that just a few years ago was little more than a vacant ghost town. Property values have risen, and although nearly all areas are seeing housing prices decrease because of the current recession, Charlotte’s home values have dropped significantly less than other areas (Watching and waiting, 2008). To some, the high property values caused by light rail, and the resulting gentrification of older
neighborhoods, are actually a negative from a social equity standpoint. As previously mentioned, home prices in the troubled Wilmore neighborhood have almost doubled since the light rail opened. While this is likely great news for existing homeowners in the neighborhood, people who once found this as one of the few Charlotte neighborhoods in which a lower-income citizen could dream of owning a home may likely no longer be able to do so. Worse yet, long time homeowners in the neighborhood may not be able to afford the skyrocketing property taxes as a result of their home’s greatly increased assessed value, and lose their dwelling. Low-income and/or affordable housing are often given a much lower priority than market rate housing in areas such as the Blue Line corridor, and Charlotte is no exception. Of the multiple transit oriented development projects slated for construction along the Blue Line corridor, only one has actually incorporated a substantial affordable housing element, and that is the only one that my research has shown to be facing lengthy recession related delays (Harrison, 2009). At a time when people could use affordable housing and transportation to work the most, it ironically becomes the most difficult to find.
Current Issues and Next Steps

As could be expected, the deep recession that the country currently finds itself in is the main determinant as to the next steps in expanding Charlotte’s rail transit system. The 2030 Transportation Plan laid out an ambitious expansion schedule, with a timeline based on the high levels sales tax revenue that the ½ cent transit tax was providing at the time. Since the recession has hit, revenues are down dramatically, forcing CATS to make some tough decisions. As it stands, the top priority of the Charlotte transit system is the northeast extension of the Blue Line light rail. Only slightly lower in priority is the north commuter rail line, followed by the central streetcar line. The proposed line down Independence Blvd. has been given very low priority, and will be greatly delayed, if ever built at all.

With sales tax revenues down, the Charlotte City Council has looked into the possibility of a further increase in the sales tax, which like the existing ½ cent tax, would be dedicated to transit. CATS has looked into three different scenarios, and how the transit schedule would be affected by each choice (Berg, 2009):

1. **An additional ½ cent sales tax**: although this increase would green-light most of the proposed rail transit projects, it could also prove politically disastrous to anyone supporting it, and therefore has received very tepid support. Most politicians (and certainly the citizens themselves) see this increase as a blatantly broken promise to them, made during the 2007 sales tax referendum, in that the ½ sales tax would be all that was asked of the taxpayers, and would be sufficient to
construct the entire 2030 Transportation Plan according to schedule. If allowed by the state legislature and passed by voters, this increase would allow for construction of the Blue Line extension within five years, and the north commuter rail and central streetcar line shortly afterwards. The proposed silver line down Independence Blvd. could be constructed in ten years, and the streetcar extension to the Charlotte airport could begin in twenty years.

2. **An additional ¼ cent sales tax**: although still viewed as a broken promise to the voters, this smaller tax increase is a middle ground solution that may sit well with voters and elected officials. It is also small enough that the City Council may put it on the ballot without the review of the state legislature. This increase would allow for the immediate construction of the Blue Line light rail extension, the commuter rail, and would pay for 75% of the cost of the streetcar line. Work on the Silver line would not begin for 15 years, if ever.

3. **No additional funding**: Even with no additional funding, CATS anticipates that they have sufficient revenue to build the Blue Line extension early in the next decade. The commuter rail could be built as well, but not until 2023. The remaining Silver and streetcar lines would likely not be built at all.

Regardless of how the events unfold, it appears that the city will build the northeastern Blue Line light rail extension. Exponentially increasing construction costs dictate that the city should begin construction as soon as it possibly can. Just three years ago, the cost of the Blue Line extension was estimated to be $741 million. Today, the estimate has been revised to $1.12 billion, nearly double the original amount (Berg, 2009)! One positive point that the apparent certainty of the Blue Line extension is that the first large transit
oriented development on the extension has been announced. In July 2009, Bank of America brought a rezoning request to the City Council to accommodate its plans to build a one million square foot transit oriented, pedestrian friendly corporate campus, which would also accommodate 75,000 square feet of shops and restaurants (CCCP, 2009). Although the company has recently laid off employees and is in cost cutting mode, their early commitment to this project demonstrates the faith they have in the value of a development directly on the future transit line.

Another recent development regarding two of the transit lines are proposed color changes. The first color proposal was to change the north commuter rail line from purple to red, as a nod to Davidson College, which will be served by the line. Officials do not project any major difficulties with this change, other than some obsolescence in the existing transportation plan literature. Not to be outdone, however, the University of North Carolina at Charlotte (UNCC) is lobbying to have the color of the proposed Blue Line extension (which will run directly through the university) changed from blue to green, which is their primary school color. CATS is hesitant about this proposed change. They do not suggest the same transit line consisting of two colors, blue for the existing portion and green for the northern extension. In addition, if the entire line were to be changed to green, the costs to update existing signage from blue to green would range anywhere from $200,000 to $500,000 (MTC, 2009/4/22).

Keith Parker, the CEO of CATS since 2007, and instrumental in managing the implementation of the LYNX light rail, resigned from his position in May of 2009. He decided it was best for him to accept a similar position with the city of San Antonio, TX. VIA, San Antonio’s transit agency, provides 40 million passenger trips per year
(compared to Charlotte’s 25 million) (Spanberg, 2009). Although this much larger system does not have a rail element, the greater volume should present many interesting opportunities for Parker. Another looming changing of the guard could possibly exist in the upcoming Charlotte mayoral race. Two leading candidates, Democrat Anthony Foxx and Republican John Lassiter, look to unseat the incumbent mayor of 14 years Pat McCrory. These two gentlemen agree on few things, but one common point that they do agree on is support for the proposed streetcar line through Uptown Charlotte. In a July 2009 debate, Foxx accused Lassiter of not fully supporting the streetcar line by voting down an $8 million budget proposal to perform a preliminary engineering study for the line. Lassiter quickly shot back that the only reason he voted down the study was because of shortage concerns within the city’s budget (Clasen-Kelly, 2009). The fact that both parties are not only supporting rail transit expansion during a recession, but using any perceived lack of support as a weapon to inflict political damage, is a good sign of the across the board political will that still remains in the Charlotte region.

Perhaps the final development is that at first, it appeared that the huge sums of Federal stimulus funds doled out by the Bush and Obama administrations would benefit the Charlotte transportation system. Of all the projects that the State of North Carolina submitted for potential funding, only one was related to the Charlotte rail transit system. North Carolina officials applied for $30 million in stimulus funds to create a sealed corridor within the north corridor extension area, by improving at grade crossings, adding new signals, gates, and other enhancements. It took many months to even get an idea as to whether the funds were being considered, and as of summer 2009, current bills in the House of Representatives did not award the $30 million. There is still some possibility of
receiving it from changes made by the Senate, but only time will tell (NCDOT, 2009). Overall, the Federal stimulus fund programs seem as though they will have little or no effect on the Charlotte transit system.
Conclusion

In nearly every aspect, the ideas laid out by Charlotte officials in the 2030 Transportation Plan have come to fruition in the vicinity of the LYNX Blue Line light rail corridor. Billions of dollars of new development, the redevelopment of long abandoned neighborhoods, property value increases, and far greater than expected ridership are all strong indications that the steps city officials took to coordinate transit and land use were the reason for this success. Perhaps most importantly, it seems abundantly clear that all of these successes have occurred without any of the negative effects that opponents of public transportation often lament. There is no evidence that the introduction of light rail increased crime in surrounding areas. There have been no noteworthy accidents with automobile or pedestrian traffic. Although there are certainly those who question the great capital expense of the light rail line, one ride on the LYNX demonstrates that the benefits resulting from the light rail are undeniable. People from all walks of life are enjoying this new method of affordable, stress free transportation. The fact that both political parties are battling to show which one supports public transit the most indicates that a majority of the constituents are on board. As funding becomes available, and Charlotte exercises the same careful planning that it did for the Blue Line, there is every reason to believe that each of the remaining four corridors will be just as successful as the first one. The success of the Charlotte light rail system should convince other municipalities, with transit aspirations of their own, to use the Blue Line as a template and thus replicate its success.
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MTC: Metropolitan Transit Commission. (2008, December 17). From the minutes of the MTC discussion summary held on December 17, 2008. Charlotte, NC.


Summary of Images Used:


5. Interior of the Charlotte Transportation Center. Photo by Nathaniel Brugler.


9. Political cartoon attacking Mayor Pat McCrory on his light rail stance. Courtesy of Now on PBS.

10. Map of Charlotte’s five transit corridors. Courtesy of CATS. Image found at: http://www.charmeck.org/NR/rdonlyres/e3evk2t5gioqri8yuovybhjrrvhydd4hlof5g4h2hwntlgqh434wbu4rjuskeazfh5o32j6hkppxz7qhyf7owan5b/2030LYNXMap1009.gif

11. Map of Charlotte’s South Corridor/LYNX Blue Line. Image courtesy of CATS.

12. Map of Charlotte’s Northeast Corridor/Blue Line Extension. Courtesy of CATS. Image found at: http://www.charmeck.org/NR/rdonlyres/eciwneod7ncdevyziu24d2ejdg55i2uv5budmimay2ub4z3emu7i4ku5osgfl2c6irktbeptmidejs64o7iohizocqbb/CorridorBaseMapforPublicMeeting092809.pdf

14. Diagram of Charlotte’s Southeast Corridor. Courtesy of CATS. Image found at: http://www.charmeck.org/NR/rdonlyres/ezs6c4j2zcj6htuxfekqq7ap2slnxke3ofnd3irqpscbyhj4ag2yb54dg2wuqsw3unb5gh6is7pqudxe2jyzrvuk6lc/HandoutLRTJune meeting.pdf

15. Map of Charlotte’s East/West/Center City streetcar line. Courtesy of CATS. Image found at: http://www.charmeck.org/NR/rdonlyres/ezgvfk322432k3djx4i24a66mpzpw74hx5k7s5fyrq2qzrxfq44l7wcbpsbu3j6cdazv5l6a52uktwn4exija/AlignmentMapM TChasingDecision.pdf

16. Image of a modern streetcar, as proposed for the Charlotte streetcar plan. Courtesy of CATS. Image found at: http://www.charmeck.org/Departments/CATS/Rapid+Transit+Planning/Center+C ity/Center+City+Description.htm

17. Conceptual drawing of Charlotte’s proposed Gateway Station. Courtesy of CATS. Image found at: http://charmeck.org/Departments/CATS/Rapid+Transit+Planning/Gateway+Statio n/CGS+Project+Description.htm


19. New development and redevelopment occurring in Charlotte’s Historic South End. Photo by Nathaniel Brugler.

20. Interior shot of a LYNX light rail vehicle (taken when car was empty to respect other riders’ privacy). Photo by Nathaniel Brugler.


23. A fare zone, where only ticketed passengers may wait. Photo by Nathaniel Brugler.


26. 7th Street Station, Uptown Charlotte. Photo by Nathaniel Brugler.

27. ImaginOn Children’s library, adjacent to 7th Street Station. Photo by Nathaniel Brugler.


30. The EpiCentre mixed-use development, Uptown Charlotte. Photo by Nathaniel Brugler.

31. LYNX light rail train passing through the Charlotte Convention Center. Photo by Nathaniel Brugler.


34. NASCAR Hall of Fame Museum and headquarters office tower. Photo by Nathaniel Brugler.


36. Residential developments surrounding Carson Street Station, including the pink Arlington tower. Photo by Nathaniel Brugler.

37. Simpson Lighting building, and other older structures that exist at Carson St. Station location. Photo by Nathaniel Brugler.

38. Ashton South End and adaptive reuse developments near East/West Blvd. Station, in Charlotte’s Historic South End. Photo by Nathaniel Brugler.

39. Highly polluted brownfield site, the future site of a transit oriented housing development. Photo by Nathaniel Brugler.

40. The 3030 South residential development adjacent to New Bern Station.

41. An awkward intersection at Scaleybark Station. Photo by Nathaniel Brugler.
42. Bike lockers, bus bays, and other amenities at Sharon Rd. West Station. Photo by Nathaniel Brugler.

43. New development occurring several blocks away from the LYNX corridor, Uptown Charlotte. Photo by Nathaniel Brugler.

44. New development (including Uptown Charlotte’s second grocery store) occurring blocks from the LYNX corridor. Photo by Nathaniel Brugler.
Appendix A: Summary of Charlotte’s Best Planning Practices

I. **Plan Well in Advance:** Charlotte had been planning for transit since the early 1990’s, but started getting very detailed in 1998, nearly a decade before the opening of its first light rail line. Early planning allows for key property acquisitions to take place at minimal cost, infrastructure to be completed with minimal disruption to daily activities, and time to address any public concerns.

II. **The Citizens Must Be on Board:** The citizens of Charlotte expressed all of the initial concerns that often accompany the announcement of any light rail plan. Among these are fear of property devaluation, the spread of crime, pedestrian and safety issues, and anger at increases in taxes. An empathetic planner can address these concerns with factual data, and should demonstrate how the positives of rail transit can outweigh the negatives. Charlotte proved that if they are involved in the planning process, there is the possibility that they will strongly support the proposed system.

III. **Strong Leadership and Bi-Partisan Support Are Necessary:** New light rail proposals are always accompanied by a fierce political opposition, particularly from fiscally conservative politicians. Planners can de-politicize the proposal by educating leaders about the many benefits of light rail. All forms of transportation (particularly streets and highways) are highly subsidized, but rail offers mobility to elderly, handicapped, and economically disadvantaged citizens that automobile transportation often does not. Yes, there is a large initial investment in a new system, but when properly planned and implemented, the increase in tax revenue from surrounding development and related economic activities can cause municipalities to receive a great return on their investment. Charlotte’s conservative mayor demonstrated that bi-partisan support of transit is certainly possible.

IV. **Pave the Way with a Low-Cost Starter System:** To demonstrate the positive impacts of rail transit, it may be best to adopt the “seeing-is-believing” approach. Charlotte’s investment in the heritage trolley was a small investment that reaped enormous rewards. It proved that rail transit can be convenient and enjoyable. More importantly, it served as a catalyst for development (and property value increases) to such an extent that the public could no longer deny the benefits. They strongly supported the expansion of rail from that point forward.
Appendix B: Summary of Transit Oriented Development to Occur Along the Blue Line Corridor

All information and images courtesy of Charlotte Center City Partners: www.charlottecentercity.org.

230 West Summit Avenue
West Summit & Church Street
Cost: $15 million
Completion: 2009
Size: 64,000 SF office
Height: 3 Floors
Use: Office
Architect: Robert Johnson Architects
Owner/Developer: Crosland Inc./Merrifield Partners

Merrifield Partners is developing a commercial condominium project to be located at 230 West Summit near the corner of Church Street, one of the highest points in South End. This location will provide excellent, unobstructed views of Uptown and Bank of America Stadium. The new building will be very accessible to South End amenities, light rail, and interstate access. For more information visit merrifieldpartners.com
**1200 South Boulevard**  
South Boulevard & Carson Boulevard  
**Cost:** $100 million  
**Completion:** 2011  
**Size:** 200,000 SF office; 40,000 SF retail; 250 apartment units; 150 hotel rooms  
**Height:** 19 - 24 Floors  
**Use:** Office, Residential, Hospitality  
**Architect:** LS3P Associates Ltd.  
**Owner/Developer:** Harris Development Group  

Harris Development Group will redevelop the Simpson Lighting Company site at the corner of South Boulevard and Carson Boulevard as a 3.5 acre mixed-use project. The site, which sits adjacent to the Carson Street Light Rail Station, will serve as the gateway to the South End. The project will include 200,000 square feet of Class A office space, 40,000 square feet of retail, 250 apartment units, a 150 - 200 room boutique hotel fronting South Boulevard and a 1,000 space parking deck wrapped by all three structures. Construction is expected to begin in mid 2009. For more information visit harrisddevelopmentgroup.com
1927 South Tryon Street
South Tryon Street at Doggett Street
Cost: $15 million
Completion: 2008
Size: 80,000 SF office
Height: 3 Floors
Use: Office
Architect: Robert Johnson Architects
Owner/Developer: Crosland Inc. / Merrifield Partners

1927 South Tryon, developed by Merrifield Partners, will transform the former site of the Hughes Supply building at the corner of South Tryon and Doggett Streets. The existing 30,000 square foot plumbing warehouse building will be replaced by 80,000 square feet of for-rent and for-sale office space. The two-acre site will include a two-level 100-space parking deck and will be located within walking distance to light rail and trolley service. Class A office space at 1927 South Tryon will sell for $195 a square foot and range from 2,500 square feet to as large as a whole floor. The project is slated for completion in 2008. For more information visit merrifieldpartners.com
Ashton South End
101 Tremont Avenue
Cost: $84 million
Completion: 2009
Size: 310 apartment units; ground floor retail
Height: 11 floors
Use: Residential, Retail
Architect: GWH Landscape Architects
Owner/Developer: The Hanover Company
The Hanover Company’s proposed development at 101 West Tremont will be one of Center City’s most upscale apartment projects. The development will be located near Atherton Mill Trolley Station and East Boulevard Light Rail Station. Ashton South End will feature exclusive amenities such as a rooftop pool, ten-foot ceilings, and floor-to-ceiling windows. Apartment units will average 1,165 square feet in size and rent for about $2,330 a month. Construction began in summer 2007 with a completion date in spring 2009. For more information visit hanoverco.com
Chelsea at South End
West Boulevard & Hawkins Street
Cost: $20 million
Completion: 2009
Size: 75 apartment units; 8,000 SF retail & office
Height: 5 floors
Use: Residential, Retail, Office
Architect: Perkins Eastman
Owner/Developer: Kirco / Llewellyn Development, LLC

Chelsea at South End will be located less than 250 feet from the East/West transit station. The mixed-use development by Kirco and Llewellyn Development, LLC was designed to resemble a renovated warehouse with red-brick exterior and oversized windows. The interior will blend the industrial character with modern conveniences such as granite counter tops, iPod docking stations and Energy Star-rated stainless-steel appliances. Other amenities will include a common area terrace, fitness center and controlled-access parking. The building will consist of 75 studio, one- and two-bedroom apartment units with balconies or garden terraces atop 8,000 square feet of shops and offices. Units will range from 556 to 1,364 square feet with rental rates yet to be determined. Construction is expected to begin in late 2008. For more information visit chelseasouthend.com
Circle at South End
South Boulevard at East Bland Street
Cost: $100 million
Completion: 2009
Size: 370 apartment units; 8,000 SF retail
Height: 4 - 5 floors
Use: Residential, Retail
Architect: Perkins Eastman
Owner/Developer: Crescent Resources

Circle at South End, a mixed-use village being developed by Crescent Resources, will be one of the largest of 10 projects located in Historic South End that are proposed or under construction. Consisting of 370 apartment units as well as ground floor retail at the corner of Bland and South, the project will be built adjacent to the future light rail line and will connect to the Bland Street Light Rail Station. Units at the Circle at South End will range in size from 900 to 1,600 square feet. Construction has begun with a completion date in mid-2009. For more information visit liveinthecircle.com
Lowe’s Home Improvement Warehouse
South Boulevard between Magnolia Avenue & Iverson Way
Cost: $60 million
Completion: Summer 2008
Size: 174,200 SF
Height: 3 floors
Use: Retail
Architect: LandDesign, Inc.
Owner/Developer: Lowe’s Home Improvement

Lowe’s Home Improvement is building a 174,200 square foot home and garden center, condos, retail and parking on South Boulevard between Magnolia Avenue and Iverson Way on nearly 12 acres of land. Lowe’s has included plans for SouthBorough, a development of 67 condominium units valued at more than $28.6 million. To be completed in summer 2008, the store will feature a 30,000 square foot garden center, a 4,200 square foot retail parcel along South Boulevard, and 250 rooftop parking spaces. Lowe’s began construction in the summer of 2006. The store is located in close proximity to Dilworth and the South Corridor light rail line.
Millennium
South Tryon Street at East Bland Street
Cost: $40 million
Completion: Fall 2009
Size: 272 apartment units
Height: 5 floors
Use: Residential
Architect: John M. Kelly
Owner/Developer: The Dinerstein Companies

The Dinerstein Companies of Houston, TX plans two, five-story residential buildings and a 385-car parking deck on a three-acre site at the corner of South Tryon Street and East Bland Street in Historic South End. The apartments will lease for about $1.50 per square foot or $1,087 to $2,100 per month. Millennium will sit adjacent to the Bland Street light rail and trolley station. Construction began in April 2007 with a completion date set for 2008. For more information visit dinersteincompanies.com
Silos at South End
Youngblood Street at Poindexter Drive
Cost: $43 million
Completion: 2009
Size: 115 units; 62,000 SF office; 14,000 SF retail, 1 acre park
Use: Residential, Retail, Open Space
Architect: FMK
Owner/Developer: Citiline Resortline Development
Citiline Resortline is developing The Silos at South End as a mix-used arts community on 9.5 acres along the light rail line in the South End. The project, which will be developed in three phases over three years, will eventually encompass 100,000 square feet of commercial space and as many as 500 homes. Construction is underway on Phase 1 including 115 residential units, 62,000 square feet of office space, 14,000, square feet of retail and a one acre community arts park. For more information visit silossouthend.com
Silos Sub District
South Boulevard & Remount Road
Cost: $2.5 million
Completion: Fall 2008
Size: 14,300 SF retail
Height: 1 floor
Use: Retail
Architect: FMK
Owner/Developer: Citiline Resortline Development
Citiline Resortline Development is redeveloping two vacant brick buildings at the corner of South Boulevard and Remount Road. The Silos Sub District will be a small entertainment enclave on a 1.5 acre site including 14,300 square feet of retail, restaurants and bar space. Two new bars, Dharma and Local have signed leases. Other tenants being considered include restaurants, a grocery market and a styling salon. For more information visit citilineresortline.com
Southborough
South Boulevard between Magnolia Avenue and Iverson Way
Cost: $28.6 million
Completion: Summer 2008
Size: 67 condo units
Height: 3 floors
Use: Residential
Architect: BB+M Architecture
Owner/Developer: Conformity Corporation

In 2007, Conformity Corporation began construction for Southborough, a residential project located adjacent to the new Lowe’s Home Improvement Warehouse. The building will serve as a buffer between the new Lowe’s store and the Dilworth neighborhood. The project will be composed of 67 flats and townhomes ranging in price from $180,000 to $500,000 and in size from 651 square feet to 2,234 square feet. Features at Southborough will include one and two car garages, balconies, large porches, rooftop terraces, courtyards, and fountains. Construction began in March 2007 with a completion date in summer 2008. For more information visit liveinsouthborough.com
South Haus
South Boulevard at Ideal Way
Cost: $70 million
Completion: Early 2010
Size: 198 residential units, 30,000 SF retail
Height: 10 floors
Use: Residential, Retail, Office
Architect: Pat Cambell with DAS Architects
Owner/Developer: BlueSky Partners, LLC

Located just a short walk from restaurants, shops, entertainment and the New Bern Street light rail station, South Haus will serve as the gateway to historic Dilworth and SouthEnd. South Haus, a development by BlueSky Properties, LLC will be an urban mid-rise, mixed-use project consisting of 198 for-sale residential units and 30,000 square feet of retail space. Residences consisting of two and three-level lofts and penthouses will range from 896 square feet to 1882 square feet in size and range from $179,000 to $575,000. For more information visit southhaus.com
**Spectrum**
2203 Hawkins Street  
**Cost:** $30 million  
**Completion:** 2010  
**Size:** 331 apartment units  
**Height:** 4 floors  
**Use:** Residential  
**Architect:** LRK  
**Owner/Developer:** Morgan Group Inc.  

Construction will begin summer of 2007 on Spectrum, a mid-rise residential development in Historic South End. Spectrum will feature a brick and metal exterior that will resemble design elements from South End’s manufacturing past. Residences will average 910 square feet and will feature both conventional and loft floor plans with amenities that include gourmet kitchens, walk-in closets, high-speed Internet and full-size washers/dryers. The complex will feature a swimming pool, fitness center and parking garage. For more information visit MorganGroup.com