

Lake Norman Area Charlotte, North Carolina



**Urban Land
Institute**

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Lake Norman Area Charlotte, North Carolina

Strategy for Economic Growth

January 25–29, 2010
An Advisory Services Program Report

Urban Land Institute
1025 Thomas Jefferson Street, NW
Suite 500 West
Washington, DC 20007-5201

About the Urban Land Institute

The mission of the Urban Land Institute is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide. ULI is committed to

- Bringing together leaders from across the fields of real estate and land use policy to exchange best practices and serve community needs;
- Fostering collaboration within and beyond ULI's membership through mentoring, dialogue, and problem solving;
- Exploring issues of urbanization, conservation, regeneration, land use, capital formation, and sustainable development;
- Advancing land use policies and design practices that respect the uniqueness of both built and natural environments;
- Sharing knowledge through education, applied research, publishing, and electronic media; and

- Sustaining a diverse global network of local practice and advisory efforts that address current and future challenges.

Established in 1936, the Institute today has more than 30,000 members worldwide, representing the entire spectrum of the land use and development disciplines. Professionals represented include developers, builders, property owners, investors, architects, public officials, planners, real estate brokers, appraisers, attorneys, engineers, financiers, academics, students, and librarians.

ULI relies heavily on the experience of its members. It is through member involvement and information resources that ULI has been able to set standards of excellence in development practice. The Institute has long been recognized as one of the world's most respected and widely quoted sources of objective information on urban planning, growth, and development.

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About ULI Advisory Services

The goal of ULI's Advisory Services Program is to bring the finest expertise in the real estate field to bear on complex land use planning and development projects, programs, and policies. Since 1947, this program has assembled well over 400 ULI-member teams to help sponsors find creative, practical solutions for issues such as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalization, brownfields redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies, among other matters. A wide variety of public, private, and nonprofit organizations have contracted for ULI's Advisory Services.

Each panel team is composed of highly qualified professionals who volunteer their time to ULI. They are chosen for their knowledge of the panel topic and screened to ensure their objectivity. ULI's interdisciplinary panel teams provide a holistic look at development problems. A respected ULI member who has previous panel experience chairs each panel.

The agenda for a panel assignment is intensive. It includes an in-depth briefing day composed of a tour of the site and meetings with sponsor representatives; hour-long interviews of key community representatives; and two days of formulating recommendations. Long nights of discussion precede the panel's conclusions. On the final day on site, the panel makes an oral presentation of its findings and conclusions to the sponsor. A written report is prepared and published.

Because the sponsoring entities are responsible for significant preparation before the panel's visit, including sending extensive briefing materials to each member and arranging for the panel to meet with key local community members and stakeholders in the project under consideration, participants in ULI's five-day panel assignments are able to make accurate assessments of a sponsor's issues and to provide recommendations in a compressed amount of time.

A major strength of the program is ULI's unique ability to draw on the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfillment of the mission of the Urban Land Institute, this Advisory Services panel report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

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Special thanks go to Brian Jenest, chair of the LNTC, and Carroll Gray, executive director of the LNTC. Their involvement in and dedication to the panel process made this effort a success. The panel would also like to thank Theresa Salmen at ULI Charlotte, who helped prepare the briefing materials for the panel and helped in the interviews.

The panel would also like to thank the more than 100 stakeholders, residents, business leaders, and community organizations who participated in this panel. With all the priorities and work facing the greater Charlotte community, these people were unsparing of their time and involvement.

Significantly, representatives of 30 businesses stepped forward to provide financial resources, information, and counsel during the panel week (see appendix A). For this expression of support and encouragement, ULI and the sponsor are most grateful.

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Background and the Panel's Assignment

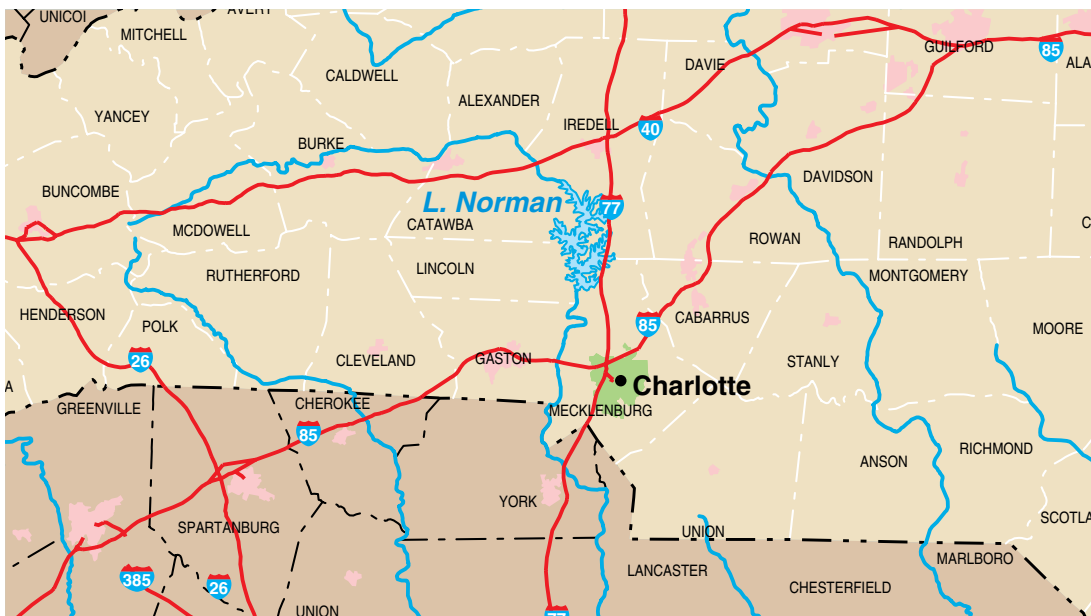
The Lake Norman Transportation Commission (LNTC) was created by an inter-local agreement between the four towns of Huntersville, Cornelius, Davidson, and Mooresville. The LNTC provides a focused advocacy group with one voice for needed road, interstate, and commuter rail infrastructure improvements that benefit sustainable economic growth for the Lake Norman region of Charlotte's North Corridor, as well as north Mecklenburg and south Iredell counties. In January 2010 the LNTC invited a ULI Advisory Services panel to evaluate and make recommendations on a host of issues associated with the economic development and transportation infrastructure for the North Corridor along Interstate 77 and NC Route 115.

Background

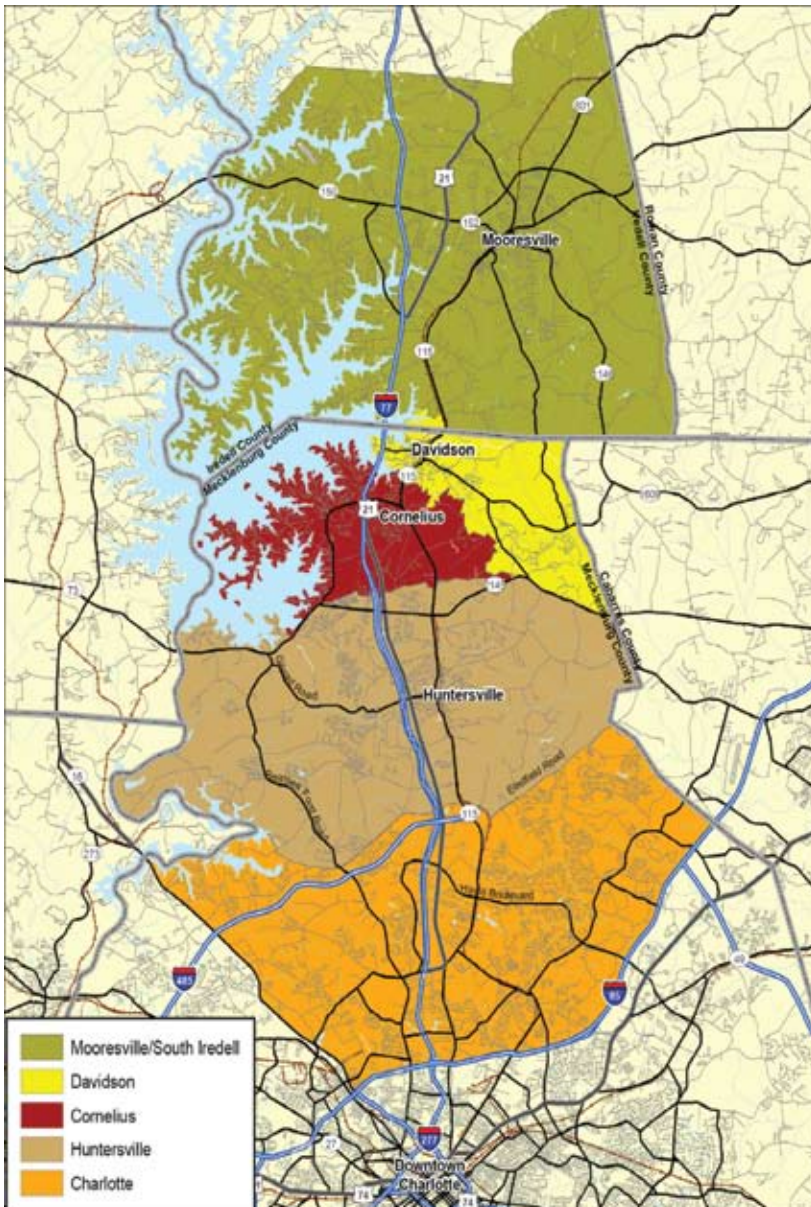
The towns of Huntersville, Cornelius, Davidson, and Mooresville have rich cultural, agricultural, and industrial histories; their residents share significant heritage and pride. This history and pride is reflected

in the distinct, authentic urban fabric of the towns and provides the backdrop for involved residents who truly value their hometowns.

When Lake Norman was created in 1962 by damming the Catawba River, just 15 miles north of downtown Charlotte, these four towns experienced unprecedented growth as destinations for new residents, jobs, and recreational activity. Proximity to Center City Charlotte and the international airport as well as cultural and sports amenities meant that the desirability of the "lake region" east of Lake Norman along NC 115, NC 21, and I-77 continued to increase. Rapid growth brought the challenge of maintaining the charm and character of each community while dealing with demands related to mobility, housing, and planning. Recently, the four towns realized that both individual and collective visions, plans, and policies combined with strong growth management and development codes could enable them to meet present growth needs as well as prepare for future opportunities.



Regional map.



Location map.

Transportation challenges quickly became the primary focus of concern for the region as inadequate road capacity and increasing traffic congestion began to threaten the accessibility, economic vitality, and overall quality of life for which residents had chosen to live and work in the area. Town leaders realized that uniting would give them one voice for collaboration and coordination with the entire region, making it possible to capitalize on the Lake Norman area's strengths as well as position the area to attract necessary infrastructure resources from the state and

federal governments. That willingness to speak with one voice resulted in the establishment of the LNTC. The panel has observed the LNTC's extraordinary ability to work as a group and believes that it is time to strengthen the group's influence and focus its energy on the actions outlined in this report.

ULI has made recommendations related to Charlotte and to this region in the past. In June 1990, a panel report entitled "The Charlotte, North Carolina, Region: An Evaluation of Development and Marketing Strategies" evaluated the development potential of the greater Charlotte region and recommended a strategy for global marketing of the region within the context of the development assessment. In April 2001, a panel report entitled "Charlotte, North Carolina, North Corridor," recommended a strategy for development along I-77 and NC 115. This report covered one of five ULI panels convened between 2000 and 2002, sponsored by the Charlotte Chamber, to make recommendations for each of Charlotte's five designated corridors. In addition, the ULI Charlotte District Council has conducted Technical Assistance Panels in Mooresville over the past two years to evaluate the site of the old textile mill town and recommend urban design concepts for the main street corridor. Consistent with the recommendations of these earlier efforts, this panel recommends reinforcing the themes of communication, collaboration, and connectivity.

The 2010 Panel's Assignment

The LNTC requested that the panel provide advice on the following issues:

- *Economic development:* Review and comment on the economic overview, outlook, and growth potentials for the Lake Norman area, extending from Charlotte to Statesville, with a focus on north Charlotte, Huntersville, Cornelius, Davidson, and Mooresville in Mecklenburg and Iredell counties. Include suggestions for building on existing jobs centers.
- *Infrastructure investment impacts:* Review and respond to the adequacy of state and federal construction plans for major road systems in the region. Project capital investment and jobs that are likely to occur around the proposed Red Line commuter rail stops, contrasting build and no-build scenarios. Suggest innovative federal funding opportunities. Highlight improvements for east-west access to the

towns. Identify potential business park sites on the Norfolk Southern “O” line. Suggest ways to reduce the costs of commuter rail.

- *State and local infrastructure revenue models:* Review and comment on current and projected adequacy in state and local funding sources for roads and rail. Include suggestions for additional town revenue sources for needed infrastructure. Provide a menu of infrastructure financing techniques being used around the United States.

- *Marketing:* Comment on potential or branding opportunities for the territory between downtown Charlotte and Statesville, relating to business investment as well as recreational or retirement possibilities.

- *Policies, procedures, and implementation:* Review relevant municipal policies of the four towns for consistencies in planning and regulations. Provide suggestions on more effective land use decisions, suggestions for improving connectivity and air quality, and correlation of small area plans to road and rail infrastructure, and recommend an action agenda for the next five years.

Summary of Recommendations

The panel’s primary recommendations are a combination of specific actions, consideration of a variety of funding approaches, and validation of some of the initiatives already underway by LNTC, the towns, the counties, and the city. They include the following:

- Remind leaders that the Lake Norman area is included in Charlotte’s Centers, Corridors, and Wedges Growth Framework, which is also part of the 2025 Transit/Land Use Plan for the region.
- Rebrand the corridor as the new North Main Line.
- Ensure that transit supports the Transit/Land Use Plan’s strategy, for mobility.
- Understand and develop the potential for transit-oriented development (TOD).
- Plan for new north-south parkway east of NC 115 and the Norfolk Southern “O” line to relieve pressure on I-77 and ensure multimodal connectivity.
- Identify revenue streams from a variety of sources for both road and rail funding.



The panel and sponsor group on tour near Lake Norman.

- Consider using a combination of tax increment financing and special assessment districts in the four towns as a means to “ante up” matching funds to accelerate federal and state funding of the commuter rail line.
- Engage with Charlotte and Mecklenburg County regarding the positive economic development that is possible in the Lake Norman area with and without the commuter rail.
- Evaluate public/private partnerships.
- Analyze, develop, and promote regional benefits of transportation capacity investments in the North Main Line.
- Speak with one voice as part of the Charlotte region.

Market Potential

The [north submarket of Charlotte] area remains attractive to national and local retailers because of its strong population growth and comparatively high household incomes.

Understanding the socioeconomic trends of a study area is invaluable to a ULI panel effort. ULI believes that successful urban planning and land use policy can best be described as public action that generates a desirable, widespread, and sustained private market reaction. The image or brand of an area is extremely important in understanding how a particular area is perceived, both locally and regionally.

A real estate and economic overview study was completed for the LNTC by Warren & Associates of Charlotte, North Carolina (see appendix B). The panel reviewed and considered the data in this report.

Demographics

The study area has a current population of approximately 260,500. This figure represents a change of 66 percent from the 2000 population figure of approximately 157,000. In short, the Lake Norman

area has been experiencing tremendous population growth and, even with the current recession, it is likely to see significant increases in the coming years. It is projected that the population will increase by 52 percent between now and 2030 (figures 1 and 2).

The 2009 median household incomes for the study area range from \$65,000 in Mooresville and south Iredell County to \$91,000 in Davidson. All incomes in the study area exceed the Centralina Council of Governments (COG) forecast median income of \$60,463 for the 11-county area surrounding Charlotte (figure 3). In sum, the study area is one of the more affluent in the Charlotte region and the potential for economic development and regional influence is very high.

Employment

The study area has a diverse economic base with major employers representing the retail, energy, health services, wholesale trade, and manufacturing sectors (figure 4). Davidson College and Central Piedmont

Figure 1
Population Trends, Study Area, 2000–2010

Area	2000	2010	2000–2010 Change	
			Number	Percentage
Charlotte (north of I-85 and NC 16)	66,792	108,892	42,100	63
Huntersville	27,550	52,407	24,857	90
Cornelius	14,103	24,985	10,882	77
Davidson	8,011	12,137	4,126	52
Mooresville/South Iredell County	40,614	62,159	21,545	53
Total	157,070	260,579	103,509	66

Source: Centralina COG and Warren & Associates.

Notes: Municipal areas are defined by spheres of influence extending beyond current boundaries; 2010 estimates are based on 2005 and 2015 COG data.

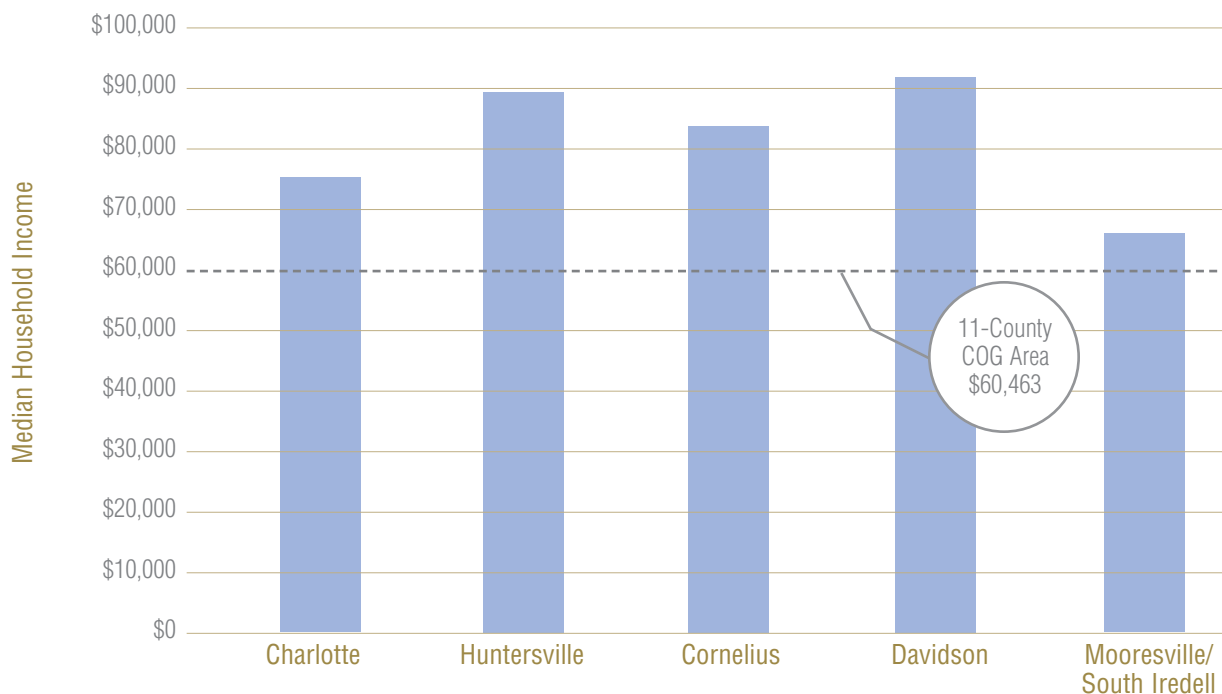
Figure 2
Population Forecasts, Study Area, 2010–2030

Area	2000	2030	2000–2030 Change	
			Number	Percentage
Charlotte (north of I-85 and NC 16)	108,892	139,827	30,935	28
Huntersville	52,407	96,688	44,282	84
Cornelius	24,985	41,755	16,770	67
Davidson	12,137	20,666	8,529	70
Mooresville/South Iredell County	62,159	97,999	35,841	58
Total	260,579	396,935	136,356	52

Source: Centralina COG and Warren & Associates.

Notes: Municipal areas are defined by spheres of influence extending beyond current boundaries; 2010 estimates are based on 2005 and 2015 COG data.

Figure 3
Median Household Income, Study Area, 2008



Source: ESRI.

Figure 4
Largest Private Employers, Study Area, 2009

Company	Location	Employees
Lowe's Companies	Mooresville	4,000
Ingersoll Rand Company	Davidson	1,500
McGuire Nuclear Station	Huntersville	1,000
Lake Norman Regional Medical Center	Mooresville	930
Davidson College	Davidson	800
Presbyterian Hospital	Huntersville	650
SABIC Innovative Plastics	Huntersville	600
Metrolina Greenhouses	Huntersville	550
U.S. Foodservice	Charlotte	530
Rubbermaid	Huntersville	500
Walmart Supercenter	Mooresville	500
NGK Ceramics	Mooresville	450
AmeriCredit	Huntersville	400
Alcatel-Lucent	Charlotte	400
USF Corporation	Charlotte	350
SuperTarget	Mooresville	350
Penske Racing	Mooresville	350
Joe Gibbs Racing	Huntersville	330
Gerdau Ameristeel	Charlotte	330
Husqvarna	Charlotte	320
Prairie Packaging	Huntersville	300
Carrier Corporation	Charlotte	300

Sources: Lake Norman Regional Economic Development Corporation, Mooresville-South Iredell Economic Development Commission, and Charlotte Chamber.

Community College also employ sizable workforces. In particular, the Lowe's headquarters in Mooresville is expected to grow from its current 4,000 employees to more than 12,000 employees at buildout.

The North submarket covers the towns of Huntersville, Cornelius, and Davidson in Mecklenburg County. In 2008, growth in the North submarket's multitenant commercial space was higher than in 2004, and the submarket consistently shows stronger demand than many other submarkets in the region. All property types registered increases in inventory, led by 643,000 square feet of office space. Most of the new office space was concentrated in the I-77 corridor—at Harbour Place in Davidson, Perimeter Woods and Harris Corners in Charlotte, and North Pointe Executive Park in Huntersville. The North submarket now contains more than 2 million square feet of office.

Unlike the significant recent increases in national retail vacancy rates, vacancies in the North submarket have remained at 6.3 to 6.4 percent over the past five years. The area remains attractive to national and local retailers because of its strong population growth and comparatively high household incomes.

The development proposed at most of the commuter rail stops includes the type of desirable commercial space that enhances the area's image and lifestyle. Successful communities around the country recognize and encourage this type of development.

Residential

According to the Warren & Associates report, between 2004 and 2006, the study area absorbed more than 2,000 new single-family units and 300 new townhouses annually. By 2008, however, there were only 963 single-family closings. The 359 townhouse/condominium closings in 2008 were down from 2007 but within the annual range of the four preceding

years. Through the third quarter of 2009, absorption of both housing types declined further. Despite absorption declines, the average closing prices for new single-family and townhouse/condominium units have held firm in the study area over the past three years. This trend is superior to the price contractions seen in national and regional markets. During the first nine months of 2009, the study area's average prices of \$330,000 for new single-family houses and \$199,000 for new townhouses/condominiums were only 3.5 and 5.4 percent lower than the 2007 peak values, respectively. Average prices for both housing types remain well above those in 2004. This is a good news story for the Lake Norman area and needs to be touted both in the study area and in the region.

Also, the North submarket consistently commands some of the highest apartment rents in the Charlotte region. The average August 2009 rent of \$753 was 7.4 percent higher than the region's average of \$697. The North submarket premium has diminished somewhat over the past two years as a result of increasing vacancies and the construction of luxury mid-rise buildings in downtown Charlotte and along the South Corridor light rail line.

Summary of Market Potential

What the panel learned from these data is that the study area is weathering the current recession better than most places in the United States. As one panel member said, "At least there is real estate activity here in Lake Norman; that is more than many places in this country can say." The panel believes that as this recession wanes the study area will be well positioned for significant economic growth. Supporting a denser, mixed-use development approach for the TOD locations around the commuter rail stops will be an important step in luring new economic development to the Lake Norman area and the Charlotte region.

Branding, Marketing, and Economic Development

The panel recommends development strategies that center on how the branding, marketing, and individual economic development initiatives can position the Lake Norman area as a distinct and desirable community within the Charlotte region.

Branding and Marketing

The residents, officials, and staff members of the four towns of the Lake Norman area are indisputably proud of their 34-mile-long lake, the largest manmade body of water in the Carolinas. This topographical feature gives an identity to the area as well as recreational, residential, and economic development opportunities.

This notion of a lake region unintentionally suggests separation from the city of Charlotte, rather than building a bridge toward the large city to the south, which has given rise to the rapid population growth of the area's four towns. Because connectivity is one of the panel's primary themes for winning acceptance of the business and transportation investment initiatives being proposed, it is imperative that the Lake Norman area rebrand itself with a term or concept that highlights interconnectivity with the city of Charlotte.

The North Main Line

The panel proposes a new identity for the study area. "North Corridor" is a term without marketing flair or pretension. In its place, the panel suggests a concept borrowed from one of the country's more successful historic precedents for commuter rail lines. Who has not heard of Bryn Mawr, Haverford, and Villanova, Pennsylvania? These small towns, just west of Philadelphia, are located on the Pennsylvania Main Line. Taking a cue from this well-recognized area, the panel proposes a new brand for the North Corridor: the North Main Line.

First, it is important to include the geographical orientation, because Charlotte is proposing five transit corridors in various directions. Second, the north line

is the only commuter rail currently being proposed by the Charlotte Area Transit System (CATS), thus qualifying it as the main line, since it will be commuter or heavy rail, not light rail. Third, the line will connect small, relatively high-income communities to Center City Charlotte very much as the Pennsylvania Main Line connects similar communities to Center City Philadelphia.

The concept of the Main Line has additional benefits. For example, since the Norfolk Southern track runs parallel and very close to the Main Streets of all four towns, the panel feels that the announcement, start of construction, and inauguration of commuter rail service on this line will foster three significant windows of opportunity for greenfield development, historic renovation and adaptive use, infill construction, TOD, and new prosperity for the traditional downtowns of all four communities as well as the station areas within Charlotte. In addition, the rail line represents a connection from the four communities to Center City Charlotte, both in reality and in marketing terms, while enabling them to retain their small-town flavor.

"New and improved" is among the oldest clichés in marketing, but the North Main Line commuter rail will be both new and improved. It will provide new passenger service and the rails themselves will be new and improved.

Unique Locations—Not Exit 30 or Exit 18

The panel feels compelled to comment on the use of interstate exit numbers to identify specific locations in the region. Not only does the commonplace use of this nomenclature provide no marketing or branding opportunities for landowners, developments, and towns, but also it tends to depersonalize the travel experience and destroy the sense of place of historic communities and new projects alike. The everyday use of exit numbers in communications should be changed to the actual street or road names, such as Griffith Street, Langtree Road, Catawba Avenue, and

*The North
Main Line
commuter rail
makes good
economic sense
for the entire
Charlotte region.*

Sam Furr Highway, which are much more descriptive and inviting and reinforce a sense of place.

Collaborative Marketing and the City of Charlotte

In the grander scheme, the panel feels it is advisable to continue the collaborative marketing efforts that the towns have already begun, such as Visit Lake Norman, the Lake Norman Economic Development Corporation, and the LNTC. It is imperative, however, to include the city of Charlotte in all forms of marketing, not only because it is the anchor of the regional economic development and transportation corridors, but also because as many as four of the potential 12 stops along the rail will be inside the city's borders. This last point should not be underestimated, because the panel heard repeatedly that this particular part of the city has significant economic development challenges and opportunities for which the advent of commuter rail will catalyze action.

Economic Development

The panel was asked to look at economic development issues for the North Main Line with respect to business investment, recreation, and retirement possibilities. Although this is a very broad topic, panel members learned much from the tour, interviews, and public session, and have several cogent observations to make.

The panel heard repeatedly about the negative effects of congestion in the area, specifically the I-77 overloading, the lack of east-west connectivity—especially over the freeway and the rail line, and the potential for gridlock on reliever roads during daily accidents on the interstate. There seems to be no question that choking free-flowing automobile access threatens the economic and social well-being of the communities that are underserved by the current road system. In particular, the panel heard several times that the congestion has been, or could become, a deterrent for corporate relocations to or expansions in the area. In fact, ever-worse traffic congestion could become a motivator for relocations out of the area.

To continue winning significant corporate relocations and expansions from other areas within the Charlotte region and even outside it, area leaders must address a considerable number of issues and opportunities and then market them appropriately. Significant economic



The new North Main Line commuter rail will run on the existing Norfolk Southern railway that passes through each of the towns in the Lake Norman area.

development elements are quality of life issues, real estate availability and expense, tax rates and incentives, availability of services, and, of course, accessibility between homes, workplaces, and regional amenities. The panel was told that the North Main Line has become primarily a bedroom community for the Charlotte region. In fact, as noted above, it appears to be a high-quality, affluent bedroom community, with the attributes of lakefront homes, parks, marinas, golf clubs, and restaurants. The availability of well-located, attractive executive housing is a definite plus for economic development.

However, it is imperative that sufficient rental and sale residences at lower price points and in a range of configurations also be available in sufficient numbers within an easy commute, to provide housing for the large numbers of middle management, technical, administrative, manufacturing, entry-level, and construction workers that relocations and expansions entail. The panel believes that the vast scale and variety of the proposed TODs could fill much of this workforce housing need, if such projects get off the ground. The viability of the TOD projects, to a greater or lesser degree, depends on the reasonably rapid completion of the North Main Line. The existence of commuter rail will also ease the commute of workers to and from their preferred housing; for example, younger, creative-class employees might choose to live near Center City Charlotte although their workplaces might be further north.

The availability and reasonable cost of land, office parks and buildings, and, as appropriate, industrial parks and buildings, will play into the North Main Line communities' opportunities to garner significant corporate expansions and relocations. The ongoing growth at the Lowe's corporate campus is a harbinger for other noteworthy corporations to emulate. It should be noted that continued expansion of this headquarters to a buildout of 10,000 to 12,000 employees is a vision, not a certainty, owing to market conditions nationwide and the congested environment of the corporate campus.

Most of the North Main Line communities have identified significant areas for corporate growth. The panel reviewed project plans from a number of developers who own large properties along I-77, as well as near the rail line, which are appropriate for this use. The developers' near unanimous concern was that increasing congestion could become a disincentive for continued growth in the area.

Quality of Life

Quality of life issues are now established as a prime element in the economic development equation. In this regard, the Lake Norman area provides the Charlotte region with unique selling points. Young, talented, and highly educated workers are more likely to move to locales that have excellent quality of life. It is this young "creative class" that desirable corporations are increasingly looking for and therefore the presence of such workers has become an important part of the formula used by firms in relocation decisions. The Charlotte region is well known and appreciated for its natural beauty, and the North Main Line certainly provides one of its high points in this regard. In addition to Lake Norman and the amenity value it provides to both homeowners and visitors, the area has other potential amenities: planned new greenways with hiking and biking trails, proposed access to swimming at a public park, and reasonably quick access to North Carolina's snow skiing areas.

Public Access to Lake Norman

The panel heard that there is a need for more public access to Lake Norman's 520 miles of shoreline. One of the proposed developments intends to provide 4.5 miles of new public access to the lake. The panel applauds this proposal, which would nearly double the current amount of publicly accessible shoreline. This development is expected to start construction during the summer of 2010 of a 300-room suites hotel with 80,000 square feet of convention center on the lakeshore, an amenity that should serve as a strong inducement for business investment in the area.

Retail and Restaurants

Other services that an area needs to provide in order to lure corporate growth are retail offerings and restaurants. Two regional malls lie within an acceptable distance from the North Main Line—Northlake and Concord Mills—and the panel can attest to the presence of quaint local restaurants, but the area also needs food and beverage outlets at a variety of price points close to places where jobs are concentrated. Within the TOD projects, the balance of retail, smaller office space, and housing tends to work out favorably, but corporate relocation specialists and executives need service retail in convenient proximity to employment centers.

Destinations

Similarly, cultural, sports, entertainment, and recreational offerings are inducements that lure corporate relocations. Many of the region's offerings are located in or near Center City. Examples include the Knight Theater, the Mint Museum of Art, the Bank of America Stadium (where the Carolina Panthers play), the Time Warner Cable Arena (where the Charlotte Bobcats play), and the new NASCAR Hall of Fame. Charlotte Motor Speedway is located not far to the east, outside the North Main Line, and the U.S. National Whitewater Center is located west of the area, near the airport. The towns should continue to attract and support local theaters such as the new Discovery Place KIDS, which is set to open in fall 2010 in Huntersville.

Commuter rail can provide access for hikers and bikers from throughout the region to use the Carolina Thread Trail in the North Main Line area. The trains should be designed to carry bicycles for both recreational cyclists and bike commuters.

Education and Lifelong Learning

Educational opportunities are vitally important to economic development. Here, the North Main Line communities have definite advantages. Interviewees told the panel that the public schools in the area are high quality. Davidson College is well respected nationally, and there are several colleges and universities within a reasonable distance, including Central Piedmont Community College, the University of North Carolina at Charlotte, Johnson C. Smith University, Johnson & Wales University, and Queens University of Charlotte.

Additional considerations for these educational institutions include access to lifelong learning for age-restricted communities that desire it and the presence of TODs for those who no longer drive, do not feel competent on crowded freeways, or prefer rail access to the cultural and recreational amenities of Center City Charlotte.

Corporate Growth and Incentives

Corporate growth along the northern end of the North Main Line will also lessen the number of peak-direction commuters along overcrowded I-77 and potentially increase the number of reverse commut-



ers, those traveling northward in the morning and back toward Center City Charlotte in the afternoon. Reverse commuters do not contribute as much to congestion, air pollution, and energy usage.

Another piece of the economic development equation is the presence or absence of tax incentives, such as real property and business property tax reimbursements. The panel recommends that any such incentives be coordinated on a regional level, so that municipalities do not bid against each other for relocations. The willingness of local governments to acquire needed parcels in order to make tracts of a sufficient size for corporate needs also could be a boon to development.

One of the benefits to be attained by economic development of the right type and scale for each community is a better job-to-housing balance, with respect to both commuting and tax bases. Attaining this balance should shorten commute times, thereby reducing congestion and its associated pollution and energy waste; it should also provide a healthier ratio of residential real property taxes to business property taxes as well as sales taxes.

Transit-Oriented Development

Compact, mixed-use TOD can reduce commuting to a distance sufficiently short that bicycles or even walking become practical options. The advantages to the environment and to personal health and well-being are self-evident. Even large, freeway-oriented development projects can be designed into mixed-use, small-scale communities where walking and bicycling are not only pleasant activities for health

The panel interviews members of the stakeholder community.

and recreation but reasonable alternatives to the automobile or train.

There is currently a near absence of circulator bus service in the study area. Within large business parks or between large employment centers and rail stations, however, small, frequent-headway bus circulators become an attractive option.

The panel could not help but be impressed by the overwhelming number of experienced, well-funded developers who have optioned or purchased significant tracts for both highway-oriented and transit-oriented development. At this time when growth of all types—including employment, population, and income—is likely to occur at a much slower pace than in the decade before 2008, it is noteworthy that such a strong cadre of developers is poised to move forward. And none of them expressed a naïve belief in the notion of “build it and they will come.”

The panel heard from the development community that some of the projects will go forward even if the North Main Line commuter rail does not appear in the near future. However, the scale, density, timing, and profitability of those projects that do go forward will be drastically affected by the lack of a commuter rail service. Other projects will be either delayed indefinitely, cancelled outright, or downscaled to a degree sufficient to eliminate the advantages of TOD.

A rule of thumb for estimating the scale of these projects if rail is not approved or funded: the density for projects near the proposed rail stations will be at most half of what it would be if the commuter rail is built. One developer of a major project remarked that without commuter rail density at its TOD will be three to four times less than with commuter rail. That lesser density would inhibit the walkability, the mixture of uses, the variety of housing choices, and the desirability of such communities. The density of a TOD that is contiguous to rail avoids sprawl; lower-density projects create sprawl and produce far fewer benefits for the environment and in terms of sustainability.

In anticipation of TOD, as well as simply to preserve and improve their small-town character, several of the North Main Line towns approved smart-growth, form-based codes over a decade ago. The panel applauds their foresight. Some of the elements of one town's code include a mini-

mum of two stories for commercial structures, a mixed-use requirement, and a prohibition on franchise architecture. However, without commuter rail, the growth of the smaller towns will be impeded and the benefit of this foresight will be minimized or lost.

The panel was asked to review the implications of transportation improvements for enhancing retirement and recreational opportunities. Retirees seek safe, affordable, attractive, and amenity-rich communities within a reasonable driving time from high-quality medical care. The North Main Line already has all these attributes, as long as access to the Lake Norman Regional Hospital and Presbyterian Hospital is not impeded by traffic congestion or accidents.

The North Main Line: Economic Sense for Charlotte and the Region

In January 2010, U.S. Secretary of Transportation Ray LaHood said that the federal government's goal is to “make transportation an economic engine of recovery—and a gateway to a better quality of life for all Americans.” He said he expects that the new jobs bill “should reflect a robust investment in highways, transit, marine highways, aviation and rail, including Amtrak. We [the federal government] know these investments will produce good paying jobs—and great projects for many Americans.”

Previously the Federal Transit Administration's (FTA's) capital program was allowed to green-light only projects that met very narrow cost and ridership criteria. “Instead,” said Secretary LaHood, “as we evaluate major transit projects going forward, we'll consider ALL the factors that help communities reduce their carbon footprint, spur economic activity, and relieve congestion. To put it simply: We WILL take livability into account.”

These words convey a new philosophy, to be followed by a new set of rules for federal funding for TODs. They mean that funding should no longer be dependent only on projected ridership numbers; instead, it should also depend on the economic impact on and resultant benefits for the residents of the region.

Figure 5
Developers' Estimates of Tax and Employment Impacts

Project	Projected Value (\$)		Projected Ad Valorem Tax (\$) ^a		Additional Jobs Created with TOD
	Without TOD	With TOD	Without TOD	With TOD	
A	449,022,000	806,600,000	4,935,000	10,485,000	2,642
B	170,569,550	307,791,950	1,899,633	3,427,879	732
C	64,110,000	128,100,000	657,128	1,313,025	585
D	202,700,000	667,170,000	2,695,910	8,873,361	4605
E	191,200,000	462,500,000	2,480,428	6,859,474	4,351
Total	1.1 Billion	2.4 Billion	12.7 Million	31 Million	12,915

a. Annual tax revenues.

Development With and Without TOD

As the panel examined the various economic development opportunities, it was clear that the potential for improved economic impact is greatly enhanced with TOD at the commuter rail station sites. A great deal of time, strategic thought, and money has gone into planning for the properties along the proposed line. These developments are consistent with consensus-planned sustainable developments. In addition, they will generate significant tax revenue and provide immediate and long-term employment opportunities for the entire region.

As part of the interview process, the panel asked several of the developers of these parcels to estimate their projected tax and employment impacts with and without TOD. Figure 5 lists their estimates. These data provide a compelling case for public investment in TOD.

Other Positive Factors for the Region

According to John Crowley, dean of the University of Georgia's College of Environment and Design, communities that are not on some kind of fixed-rail system are going to have the most problems and the least ability to fix those problems. Rail provides alternatives that are not possible with a vehicle-only approach to transportation. The panel has identified some other positive attributes of the North Main Line.

Utility and Resource Utilization and Conservation

A new rail transit system will enable residents of outlying communities to work in Charlotte because it will make commutes easier. Those workers will return home at night, thereby easing the housing, energy, and infrastructure burden on the center city.

Workforce Housing and Residential Diversity

Urban living has undergone a resurgence in recent years, and the quest for diversity is one of the drivers of that resurgence. Even traditionally suburban, auto-oriented cities, such as Atlanta, Dallas, and Los Angeles, have discovered that important market segments are seeking out residential locations characterized by a mix of incomes. Those cities are currently expanding their transit systems to address these market needs.

Greenhouse Gas Emissions and Oil Consumption

ULI has created several federal policy guidelines related to TOD and its role in sustainable development. A key component of those guidelines, according to FTA proceedings, stipulates that communities need to recognize the role of land use in linking infrastructure, housing, and sustainability: "Land use shapes transportation, which in turn shapes land use. Their reciprocal relationship is a truism of the development

process. Transportation policy is in, in part, land use policy. And land use patterns affect energy consumption and greenhouse gas emissions. Ignoring these connections is like using only one hand to tackle the task of creating cleaner, more productive communities. The solution is more holistic.”

Under the Clean Air Act requirements for ozone levels, Mecklenburg County’s status is currently classified as one of non-attainment. It is expected that the region will receive a one-year extension of the current compliance deadline (June 2010) for demonstrating a cogent strategy to address this issue. Even more stringent federal guidelines may be coming. Less than 25 percent of household trips are work-home commuting trips, so reducing the number of vehicle trips and miles traveled is a key to reducing greenhouse gas emissions and oil consumption. Under current federal guidelines, the Charlotte region’s Long-Range Transportation Plan cannot be amended because of the county’s non-attainment status. If this restriction is not resolved, industry could be limited in expanding or locating in the region.

Access to Health Care

The panel heard from several groups that access to health care along I-77 has become increasingly problematic. Traffic has caused some doctors on call at Lake Norman Regional Hospital to rent local accommodations in order to be sure of reaching patients without getting stuck on the highway. Residents in cities located to the north along I-77 have had to abandon physicians in Charlotte because of residents’ inability to estimate traffic delays or their intolerance of dealing with traffic. The growing senior and retiree population will face similar challenges. The ability of the region to create reliable rail connections will play a key role in appropriate solutions.

Access to Recreation

In urban areas throughout the country, rail accessibility to the central city has created a boon for sports and entertainment venues. For example, the C line in Denver delivers customers in great numbers to such venues on a daily basis (figure 6). The North Main Line clearly has the potential to provide just such alternative access to similar sports and entertainment events that take place in Center City Charlotte.

Figure 6
Arrivals on Denver’s C Line

Event	People Using Rail to Attend (Per Event)
Broncos (football)	10,000–12,000
Rockies (baseball)	3,700
Crush (arena football)	2,400
Mammoth (lacrosse)	1,900
Avalanche (hockey)	1,600
Concerts	1,500
Nuggets (basketball)	500

Source: Regional Transportation District, Ridership Statistics Archive, Denver, Colorado, May 2009.

Mobility, Employment, and Redevelopment Opportunities

The panel heard concerns from certain major employers in the region about mobility and the ability of their employees to reach the workplace. For example, Lowe’s currently employs over 3,000 workers in its Mooresville facility and plans to add up to 12,000 in the near future. Approximately 90 percent of Lowe’s current employees arrive from the north. The company has always anticipated that the addition of several thousand jobs would substantially change that dynamic, anticipating that in the future up to 60 percent of Lowe’s employees will arrive from the south. The panel was informed that without a solution to the I-77 congestion, those additional employees may never materialize. This is only one example of the importance of the North Main Line to the city of Charlotte. If a solution to congestion is found, many of the underused parcels within Charlotte can be redeveloped as mixed-use developments catering to the new class of workers commuting to the north. As more and younger adults desire to live in the city center despite commuting outside the city for work, similar opportunities will abound—when the North Main Line becomes a reality.

Planning and Development Strategies

The panel's recommendations for planning and development approaches are organized into three subsections. The first outlines the panel's initial observations, focusing on missing components of connectivity. The second lists ten principles or strategies that act as a framework for the recommendations. The third suggests specific road, rail, and land use strategies and leads to the subsequent sections on financing and implementation strategies.

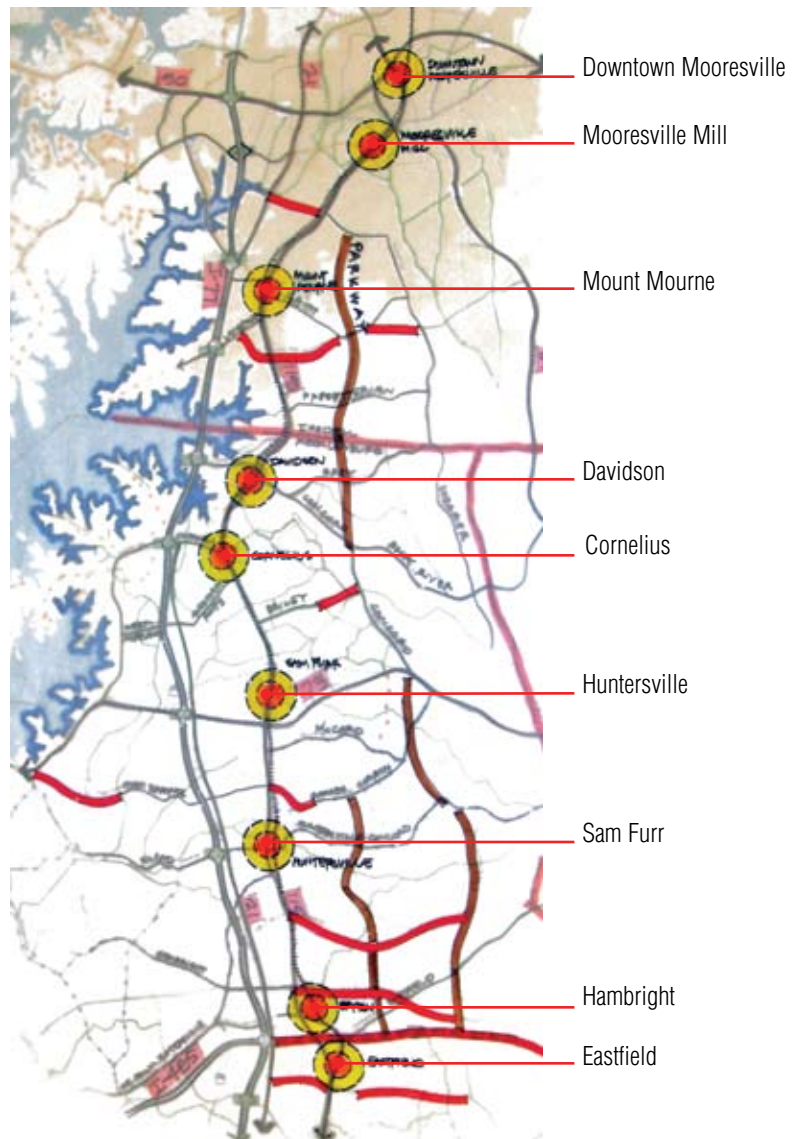
Physical Infrastructure

The primary physical infrastructure that characterizes the Lake Norman area is I-77, its interchanges and associated commercial uses, and the older main streets and rural roadways serving the towns. In general, I-77 is over capacity and not a lot of alternatives (rail or road) are currently approved and funded that will solve the capacity issues in the foreseeable future.

Limited North–South Connections

The North Main Line is served by only two roadways that connect Charlotte and Mooresville—I-77 and NC 115, otherwise known as Main Street within the northern towns. Interstate 77 operates much like a local arterial during the morning and evening peak-hour commutes, carrying almost 90,000 trips per day. Congestion is a regular occurrence. Many people in the various towns cited congestion as a serious issue as it affects not only mobility but also future economic viability. Highway 115 or Main Street is a local, two-lane roadway with numerous stoplights and intersections designed for much lower speeds. This roadway runs about a mile east of I-77 and during rush-hour periods serves as the only reliever road for the interstate, taking on undesirable through traffic.

Highways 21 and 3 offer some north–south connectivity, but both roadways traverse only a portion of the North Main Line. Because Highway 21 is discontinuous between Langtree Road and Catawba Avenue, it adds local traffic trips to both I-77 and NC 115. Several other



The major new road segments, including a new north–south parkway, are depicted in this illustration. New east–west connectors, also depicted, show the important links between local roads, the interstate, and new North Main Line rail stations.

NC 115 in Davidson.
The highway acts as
the Main Street for
Huntersville, Cornelius,
Davidson, and Mooresville.



*The center
of gravity
should shift
from the I-77
corridor to
the rail line
and the
Main Street.*

roadways offer some north-south relief, with Shearer Road between NC 115 and Rocky River Road being one of the longer segments.

Limited East-West Connections

The primary east-west connections in the North Main Line that carry large volumes of traffic are Highway 150 to the north and NC 73 to the south (a portion of which is currently being upgraded). The creation of Lake Norman reduced the need for large roadways to the west and, indeed, probably affected how connectivity to the east of I-77 has been achieved. Interstate 485, with the completion of the segment between I-77 and I-85, will facilitate additional high-speed east-west connectivity.

Numerous other two-lane roadways run east-west, including Faith, Langtree, Presbyterian, Grey, Concord, Westmoreland, Bailey, McCord, and Eastfield roads. However, these roadways either are not linked to I-77 exits or proposed rail stop locations, or do not offer convenient, efficient access within the North Main Line.

Limited Open Space and Pedestrian and Bicycle Connectivity

The towns in the North Main Line have developed bicycle and pedestrian master plans, some elements of which have been implemented. Charlotte recently completed an Urban Street Design Guidelines document that will guide implementation of future “complete streets.” However, the existing condition of open space is woefully inadequate for regional nonmotorized connectivity and only several small greenway trails have been completed in the area of Huntersville, Davidson, and Cornelius. The Carolina Thread Trail passes through the corridor on the southern end and provides an opportunity to promote regional access. Lake Norman has been privatized along the shoreline with little public access to the lakefront. Interviewees mentioned that bicycle access routes around the lake are proposed; however, most of the segments are being developed within the right-of-way of current roadways, away from the lakeshore. Because all transit trips begin with a walk, there is a strong need to connect the future rail stations with the communities that they surround to facilitate nonmotorized trips.

The Urbanized Corridor

The panel noted during the site visit and through the interviews that the urbanized center of the North Main Line today is I-77. Low-density land development occurred around the lake to the west of I-77, with higher-density developments occurring in more recent years to the east of the interstate and west of the rail line. Very little development has occurred east of NC 115 and the rail line, owing to the barrier of the rail corridor itself and the lack of sufficient infrastructure—most notably, sewer connections. The long-term opportunity to increase densities to support rail service would seem to lie mostly within this area rather than in those areas just noted.

Principles and Strategies for Road and Rail

Creating a connected multimodal system within the North Main Line should be the ultimate goal for the currently congested auto-oriented I-77 corridor. The panel has identified several principles and strategies for creating an expanded, economically diverse corridor that could attract funding from several sources for a variety of capital projects that will ultimately increase both transportation capacity and the economic base of the region. These principles and strategies provide the LNTC and the towns with a framework within which to evaluate proposals and make decisions.

Speak with a Single Voice

All stakeholders should develop a single voice for the North Main Line corridor to carry forward multimodal initiatives to interface with the city of Charlotte, CATS, and the state Department of Transportation. Examples of such initiatives include the following:

- Small projects (\$10 million): east-west bridging over I-77;
- Medium projects (\$350 million): commuter rail from Gateway to Mooresville; and
- Large projects (\$700 million): four-lane expansion of I-77 to I-40 in Statesville.



Be Part of the Corridors, Centers, and Wedges Concept

On a broad level, expand and enhance the North Corridor to encompass the current concept of corridors, centers, and wedges, which has been used successfully as a planning tool to develop capital infrastructure investments in Charlotte.

Increase north-south and east-west transportation capacity, including a potential new north-south parkway to the east of NC 115. This will position the commuter rail line in the center, not on the periphery of what could be the future TOD corridor from the Charlotte Gateway to Mooresville.

- Provide additional crossings—not necessarily interchanges—of I-77, to create additional accessibility between east and west.
- Coordinate east-west accessibility improvements to feed into the existing commuter bus, park and rides, commuter rail stations, and TODs that will rise up around these transit centers.

Use the Corridor to Enhance Mobility and Economic Development

Using the expanded corridor, the LNTC and the towns should further define the land use strategy to enhance mobility and economic viability of transportation investments within the corridor.

As noted earlier, the Secretary of Transportation has announced the development of new FTA criteria that will give additional weight to New Starts ratings focused on economic development, land use, and

Interstate 77 is the primary north-south corridor between Charlotte and Statesville. This four-lane highway needs more capacity between I-485 and Mooresville.

environmental impact. Recent partnerships between the Department of Housing and Urban Development, Department of Transportation, and Environmental Protection Agency have further focused on the development of sustainable communities; several new initiatives are anticipated. These actions signify a move from evaluating projects to only “meet a very narrow cost and performance criteria” to instead “evaluate major projects...to consider ALL the factors that help communities reduce their carbon footprint, spur economic development, and relieve congestion.”

Projected ridership carried by a proposed transit system will always be an important factor in weighing funding decisions, not only by the FTA but also by local decision makers, when looking to fund major capital projects. However, economic competitiveness is now becoming an important factor, too. This should be used as an opportunity to take another look at all the station area plans, with the goal of developing enhanced TODs along the North Main Line from the Charlotte Gateway to Mooresville.

The towns should use this opportunity to reconsider the density around rail stations and within the North Corridor and reposition the corridor to compete well in any funding initiatives. The new federal rules apply to all New Starts proposals within the United States, so all projects looking for this limited funding will be looking to raise their economic competitiveness also.

Do Not Underestimate TOD's Ability to Influence Land Use

Each transit facility can induce TOD not only within the traditional quarter- and half-mile zones but also beyond them. Good projects take time to develop. Given the current slow economic and growth cycle, the LNTC and the towns should use this time to ensure proposed TODs create integrated sustainable environments. At the same time, given the economic realities, developers will be more selective and will be looking to create public/private partnerships to leverage their investment. The LNTC and the towns should use this as an opportunity to provide a good east-west feeder system as well as pedestrian and bicycle networks that connect the stations and in some cases may take advantage of existing road and rail right-of-way.

Think Multimodal

Multimodal connectivity initiatives should consider existing and future trip generators and modes to serve them—roads, shuttle buses, commuter buses, commuter rail, bicycles, and pedestrian ways—and provide a web of connectivity. Some of these initiatives could be undertaken in collaboration with employment or entertainment centers; for example:

- The Lowe's campus and the Lake Norman Regional Medical Center,
- NASCAR and its support facilities,
- Colleges,
- Hotels and conference centers,
- Downtowns,
- Hospitals and supporting medical offices,
- Industrial and business parks,
- Retirement communities, and
- Recreational opportunities.

Understand the New Demographic

The LNTC and the towns should develop TOD plans with an eye to a new demographic composition. The Center for Transit-Oriented Development projects that by 2030, there will be a demand for 76,931 households located near TODs in the Charlotte region—a 1,950 percent increase from 2005. At the same time, households will change in their makeup; by 2025, only 12 percent will be the traditional two parents and a child. TOD projects will accommodate a much more diverse array of households, from young singles—many of whom will have grown up in a transit-oriented environment—to empty nesters (figure 6). Many of these same groups may be the reverse commuters of the future, as the towns in the North Main Line mature and take advantage of the interconnectivity of the transportation system. Previous CATS studies have identified over 1,900 acres of potential greenfield areas within the North Corridor.

Acquire Strategic Property

As noted in the 2001 ULI North Corridor study, the towns' ability to acquire property is a very important tool that should be taken advantage of, not only for land planning but also for future revenue. Properties can be sold or leased strategically in order to develop public/private partnerships that can leverage future shared facilities, infrastructure improvements, and amenities to achieve development goals, as well as to create future revenue streams. Such efforts should be coordinated with CATS facility plans and with Mecklenburg County parks and open-space plans to coordinate needs and acquisition strategies.

Establish a North–South Parkway

The LNTC and the towns should plan for a parallel north–south parkway that will expand the commuter rail impact area to the east, roughly along Prosperity Church Road from I-485 north. Ridership will continue to be a major consideration in justifying funding for any major capital investment in transit. Increased connectivity and capacity enhancements west of I-77 and east of the rail line, all feeding the rail investment, should enhance the ridership base. Even with expanded ridership, however, automobile access will still be a very important factor in the success of a TOD.

Evaluate Public/Private Partnerships

A fundamental theme running through all these strategies and principles is the importance of developing public/private partnerships. The level of collaboration and participation in the North Main Line appears to be high. The LNTC and the towns should maintain and strengthen these partnerships, particularly as they develop and pursue funding initiatives. It will be imperative that both direct and indirect beneficiaries in the private sector are tied to and support funding initiatives as they are developed and brought forward. The developers of the several TOD sites have shown interest in being financially involved. As part of the public/private partnership initiative, the LNTC and the towns should use this as an opportunity to renegotiate with Norfolk Southern to reexamine cost estimates for track upgrades. Increased connectivity will have a regionwide impact in terms of both accessibility and economic development. This message must be communicated consistently, both short and long term.



A north–south parkway can provide relief to the congestion in the I-77 corridor while providing improved access to the transit station locations. The design of the parkway can be both attractive and functional, like the Clara Barton Parkway shown here.

Tout the Benefits

Lastly, the costs and benefits of all of these improvements within the corridor and to the region should be updated and communicated. As has been said before, “Many know the cost of everything and the value of nothing.” The LNTC and the towns should quantify the following measures:

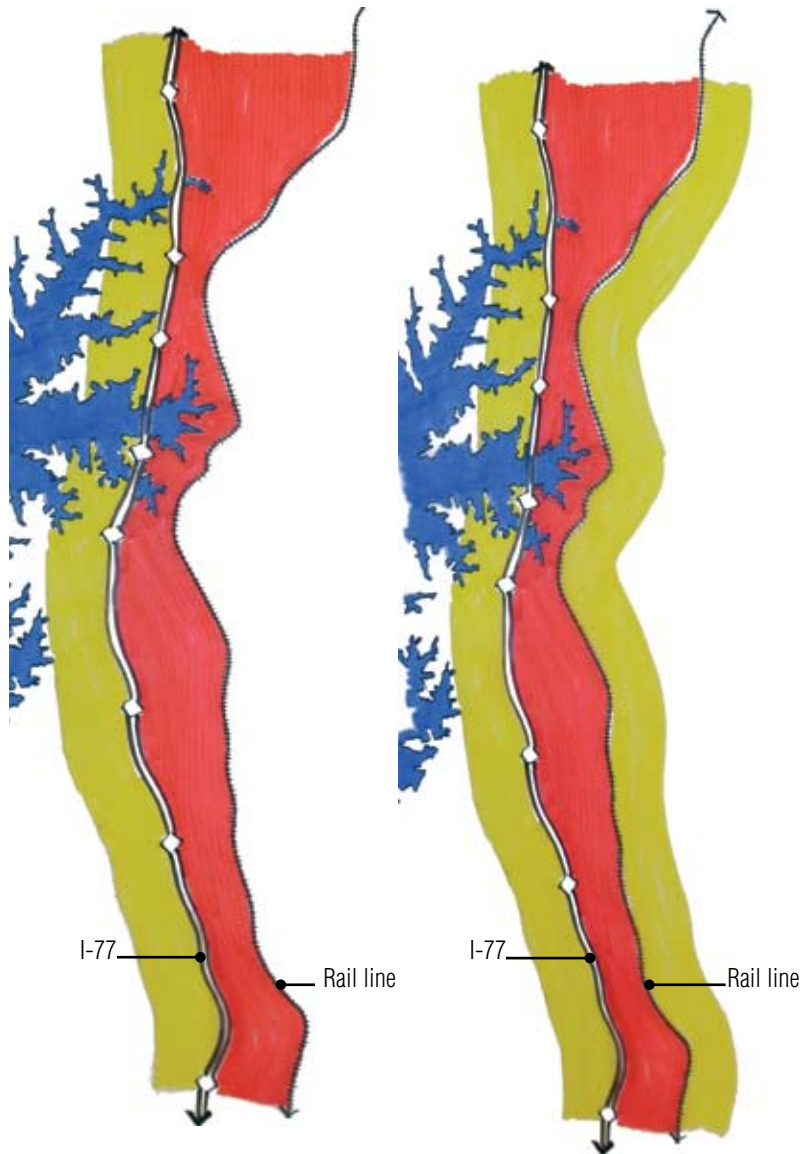
- Ridership of proposed transit initiatives and cars taken off the road;
- Positive air quality benefits;
- Future sales and property tax return on investment;
- Efficient use of public investment to provide amenities such as open space and trails; and
- Access to additional housing choices and opportunities.

Maximizing the capacity of the transportation system can be achieved through measures such as transportation demand management—managed lanes, ramp metering, signal timing, and coordination. The use of managed lanes has been particularly successful in numerous locations around the United States and should be on the LNTC's short list of near-term road solutions for the I-77 corridor.

Concept Framework

The panel's specific planning recommendations are outlined in the following subsections. These recommendations focus on shifting the center of gravity of the corridor, enhancing and preserving the existing centers, dramatically improving road and trail connectivity, and raising the density of the TOD locations through an examination of current policies.

Economic activity shifts the focus from the interstate to the Main Streets and the new North Main Line rail.



Rethink the Urbanized Corridor

Commuter rail's viability is supported by attracting as much ridership as possible within reasonable walking, cycling, and driving distances. Therefore, the amount of land that should be urbanized needs to be expanded to the east of the rail line. The panel recommends that a one- to two-mile urbanized area be considered and supported by the towns through their various comprehensive plans, infrastructure policies, and form-based development standards. The center of gravity in the North Main Line will then shift from the interstate to the rail line.

Strengthen the Centers

Much discussion has addressed the corridors, centers, and wedges concept supported by Mecklenburg County. The panel recommends putting the focus back on the rail corridor, refocusing on the historic town centers and their importance to the several communities. As ULI noted in its 1990 panel report, this is where increased development needs to occur. While development will continue to occur at or near the I-77 interchanges, the places where people will want to congregate are those that celebrate social interaction and have historic meaning. The 11 proposed rail stations should be located as close to the historic town centers as possible, and indeed many of the locations put forward appear to be placed appropriately. The panel noted that the proposed station north of NC 73 may need to be sited closer to Sam Furr Road, if feasible. Where possible, shuttle buses with regular and frequent service should be provided from the stations to such points as the Central Piedmont Community College North Campus, the Lowe's campus, and other destinations.

Expand the Connectivity of the Roadway System

Achieving the concept of the North Main Line requires adding north-south and east-west connectivity. One could argue that even without the rail, additional roadway capacity that parallels I-77 is needed. The panel recommends adding a north-south parkway that uses some of the existing roadway network to support the increased development and avoid shifting congestion to NC 115. Building off a segment of the Davidson-Concord Road, this new parkway could span from Shearer Road in Iredell County to I-485 at a location approximately midway between I-77 and I-85. Other commuter rail corridors across the country have similar conditions, with rail paralleling historic main streets. What makes those places work is numerous outlets, so traffic can disperse as appropriate. What makes the retail work in those historic main streets is the added density of people as they make the daily commute trips. The panel recommends that the towns engage traffic experts in order to better understand the access-to-transit issues.

In addition to the north-south parkway concept, the panel recommends adding as many east-west connections as possible between the neighborhoods west of I-77 and the new parkway. The

primary east-west connections include Shearer Road between NC 21 and NC 115, Langtree Road to Faith Road, Bailey Road to Concord Road, Hugh Torrance Parkway east to Ramah Church Road, Verhoeff Road east to the Parkway, and Hambright Road east through and beyond Eastfield Road.

Expand the Connectivity of the Open-Space Greenway System

To facilitate rail usage as well as to create meaningful regional access to Lake Norman and other job centers (for example, Davidson College, Lowe's, and Ingersoll Rand), a comprehensive bike and pedestrian system needs to be implemented. As the new roadways are created, adequate provisions should be made for both on- and off-street trails and sidewalks, particularly the north-south parkway. The Carolina Thread trail that spans much of the state passes east-west through the North Main Line in Charlotte. North-south trail connections should be developed that link into this regional facility. The numerous natural drainage corridors are also places where greenway connections can be provided.

Reexamine TOD Policies

The panel recommends that Charlotte and the four towns reexamine the proposed station area plans to create minimum density and intensity thresholds. Centers along the light rail transit line in Charlotte and at other TODs nationwide achieve densities of 35 dwelling units per acre and higher on the net developable residential land within a quarter-mile walking radius. Achieving a minimum floor/area ratio of 0.75 to 1.0 for the nonresidential uses is desirable. Strategies should allow for phasing of increased densities over time if necessary. On-grade parking solutions may be the most economical solutions early, and adding garage parking structures or developing podium-level solutions can follow.

Likewise, the towns should develop minimum density thresholds along the entire length of the expanded corridor. Although net density outside the centers will certainly be lower, achieving net residential densities of ten dwelling units per acre has been proven to support transit ridership. The panel certainly recognizes that there will be pockets of historic fabric where increased density is not feasible or desired; however, the intent should be to avoid infilling with suburban, low-density developments between centers.



Residential densities must be increased to achieve the critical mass needed at each of the TOD sites. Densities can be achieved by using a variety of unit types, such as mid-rise apartment, townhouse, and single-family detached, as well as a variety of tenure types, including for-rent, condominium, and fee-simple ownership. The photos provide some examples of the unit types and densities needed for this approach.

Financing and Implementation

In many ways, the implementation of transportation improvements is unavoidably linked to the financing of public infrastructure. Implementing the recommendations of this report will be an exercise in both improving relationships and finding money. Difficult economic times require communities to work even harder if they wish to be successful in attracting their share of economic development funding. And the calculus for obtaining funding has changed. While the ultimate source of money for road and rail projects is still the federal government and the state, the methods by which localities obtain funding requires a whole new look. The panel feels that the funding for the North Main Line rail project, the supporting road connectivity improvements, and the I-77 corridor capacity improvements are tied inexorably with the city of Charlotte. These projects must be viewed as a priority for the city.

To jump-start the funding for the North Main Line, the panel suggests that the Lake Norman area consider a joint funding initiative that could be offered as Lake Norman's specific input (matching funds) to trigger the larger transportation funding request going to the state and federal governments.

Financing for Rail Service

The panel was asked to address financing sources. The primary funding sources for the North Main Line will require the collaboration and cooperation of the LNTC, the four sponsor towns, greater Charlotte, and Mecklenburg and Iredell counties. The estimated costs for the various projects are shown in figure 7.

Figure 7
Estimated Costs of North Main Line Projects

Project	Costs (\$)
Commuter Rail Gateway to Mooresville	350 million
Multi-Lane Addition, I-77 to I-40	1 billion
HOV to HOT Conversion	50 million
Interchanges	10–12 million

Source: ULI Lake Norman Briefing Book, 2010.

Note: HOV = high-occupancy vehicle. HOT = high-occupancy toll.

The new federal funding criteria include quality of life, carbon footprint, and economic activity as important components in funding decisions. To jump-start the funding for the North Main Line, the panel suggests that the Lake Norman area consider a joint funding initiative that could be offered to the city, CATS, and the region as Lake Norman's specific input (matching funds) to trigger the larger transportation funding request going to the state and federal governments. This concept is problematic, given current economic conditions, but such a collaborative funding concept would set the North Main Line apart from most others under consideration in the region.

Tax Increment Financing and Special Assessment Districts

Development projects often increase the value of surrounding property. Commuter rail is no exception. Mechanisms used as a funding source to tap this value include tax increment financing (TIF) and special assessment districts (SADs), both permissible under current North Carolina law.

Figure 8
North Main Line Financing, Bond Option

Share of Cost of Rail Project (%)	Bonds to Be Issued (\$)	Estimated TIF/SAD Revenues Needed (\$)
25	75 Million	3.75 Million

Note: Assumes a \$300 million project cost, a 4 percent interest rate, 20-year amortization, and a creditworthy issuer.

TIF uses the tax revenues flowing from new development to repay incurred costs. Often, these tax payments are levied through bond issues, with the tax payments used to retire the bonds as well as cover other costs. Because of the length and level of detail of the North Main Line, a number of developers have already identified and planned TODs at various stops. Some have not only broken ground but also expended significant dollars in site and other costs. Creating TIF for these various stops—and carrying it out some distance (a quarter mile to a half mile), as appropriate—will result in the creation of a tax stream to repay bonds and cover station and other transit costs.

The panel noted that Davidson has already created a TIF to use as a funding tool. Mecklenburg County has approved this funding tool and Iredell County is seriously considering one. Mooresville and the other towns should pursue this approach as well.

From the interviews, the panel understood that the developers of the TODs are willing to cover the development costs of the stations and associated parking. To the extent that this commitment can be secured at each station, CATS should move to early action. Later developers should not only be entered under the TIF but asked to help contribute to previous development costs, especially if those costs are not covered by bond sources.

Similar to TIF, but requiring only local property owner approval, a SAD creates an assessment on existing development that captures a portion of the value created from proximate improvements—in this case, the commuter rail. Retailers, service providers, and medical offices all benefit from higher traffic. Creating a SAD requires that the benefits of the planned improvement are clear. The work of the LNTC and the towns has already laid the groundwork for communicating those benefits.

The panel recommends that the LNTC and towns first concur on a goal for the rail funding. If the total cost of improvements needed for the North Main Line to begin operations is \$300 million, the LNTC and towns may wish to consider funding a quarter of the cost. The goal is to raise regular revenues that can be used to support a bond issuance. The North Main Line is an ideal candidate for a tax-free bond issuance (figure 8).

A creditworthy entity must guarantee or otherwise enhance the bond. In today’s market, there are stringent requirements for underwriting—in particular, the certainty of the payments under either TIF or a SAD. One way to reduce the risk is to issue bonds under a higher-rated authority that assumes the payment performance risk. This will reduce the cost of bond issuance and ensure the best market execution. Breaking up the bond into smaller offerings can also reduce risk, but issuance costs, interest rates, and other terms will be negatively impacted.

The exact proportions, boundaries, and formulas for each TIF and SAD from each jurisdiction will need to be evaluated and tested, and specific choices adopted. It is likely that each town will have a different construct for TIF and SADs. Each of the towns and the county have an excellent geographic information system. These systems can be used by the towns to run various scenarios to ensure a fair share of costs. A similar exercise should be undertaken to understand the geographic influence of the North Main Line on new employment generation. Finally, the creation of TIF and SADs provides evidence of strong community support. The whole effort assumes that TIF and SADs would be sources of matching funds for development, for use in a federal funding application. The cooperation, organization, and communication among the parties will change the dialogue in Raleigh and Washington and be a strong show of solidarity.

Other Possible Funding Opportunities for Roads and Rail

The panel was made aware of a variety of other sources of funds that have been debated in the region over the past few years. They include future revenue sources for the North Main Line such as station advertising, train car advertising, parking lot advertising, and ticket surcharges. For roads and highways, the main sources of future funding will probably come from congestion pricing and the gasoline tax. Other sources of funds, many of which require changes to state legislation, include the following:

- Cell phone tax,
- Emissions fee,
- Impact fee,
- Land transfer tax,
- Occupancy tax,
- Parking fee,
- Payroll tax,
- Property tax,
- Rental car tax,
- Automobile registration fee,
- Vehicle miles traveled fee,
- Sales tax on services,
- Solid waste collection fee,
- Street degradation fee, and
- Toll roads.

Each of these methods has its supporters and detractors. And each has a variety of positive and negative effects. The panel believes that some of the innovative approaches—such as the vehicle miles traveled fee—have strategic merit but would require much work at the federal and state levels before they could be implemented. The panel believes that all potential funding sources need to be explored, but that TIF and SADs have the best chance to jump-start discussions about prioritization at the regional level and the best chance of realizing the North Main Line.

Cost Reduction

It is also important to determine whether it is possible to reduce the price of the proposed infrastructure. The panel's initial thoughts include exploring a renegotiated agreement with Norfolk Southern for rail rehabilitation and considering developer-financed station and parking facilities. It should be noted that wherever significant planning work has been completed, time frames for completion will have been shortened, and that will reduce cost and risk for developers and the towns.

Implementation

Everyone must think in terms of communications, collaboration, and connectivity. The panel recommends that the LNTC and the towns continue to engage Charlotte and the region, specifically highlighting the information in this report as a means to describe how important the Lake Norman area is to the city. Communicating the difference between development at the rail station sites with TOD and without it can be a powerful tool that begins to advertise the importance of TOD in terms of economic development benefits for the city of Charlotte and for Mecklenburg County, as well as for the Lake Norman area.

Communication

The panel believes that an outstanding and unique effort to collaborate has occurred among the four towns, their constituencies, multiple agencies and organizations, and businesses across the region. The LNTC has already begun to improve communications with the city. A regular, focused, and candid update on the economic development taking place in the Lake Norman area should be formalized between the city and county. Each update should include active participation from major employers in the Lake Norman area that can act as nongovernment advocates for proposed infrastructure improvements. Representatives from Lowe's, Ingersoll Rand, the hospital, and the race teams should participate regularly in these updates.

Collaboration

The panel recommends taking this collaboration to the next level in advocating for needed projects and revenues with the city of Charlotte, Mecklenburg County and its agencies, and the state and its agencies,

as well as the appropriate federal agencies. The LNTC and the towns should take part in as many participatory planning efforts on the north side of Charlotte as possible. Representatives from the city should be regularly and consistently involved in the LNTC initiatives. The LNTC should continue to involve Iredell County as well as representatives from the state department of transportation, the governor's office, and other state agencies in its planning efforts. The LNTC should also seek out representatives who can participate in the discussions about establishing TIF and SADs. The North Main Line is very beneficial to the city of Charlotte, Mecklenburg County, the towns, and Iredell County.

Connectivity

The panel recognizes that within this region the word "connectivity" has multiple meanings. There is connectivity among the towns' values and visions, and there is connectivity among the residents' and businesses' expectations about their future. Achieving and celebrating that definition of connectivity, however, requires the kind of connectivity that links neighborhoods, job centers, schools, and community amenities together. Transportation connectivity is imperative. The panel recommends that multimodal transportation connectivity within the region and with the city of Charlotte be the highest priority because this will translate into economic connectivity in directions north and south.



This map shows the proposed route and the 11 station sites for the North Main Line and demonstrates the fundamental connection between the Lake Norman area and the city of Charlotte.

Conclusion

Many of the critical recommendations from the earlier ULI panel reports (1990 and 2001) focus on the importance of regional cooperation and of seizing economic opportunities. This report echoes those recommendations and further sets a conceptual framework for the North Corridor, development strategies for roads and rail, and financing and implementation possibilities.

The panel believes that it is important to understand that the North Corridor includes Charlotte and the towns of Huntersville, Cornelius, Davidson, and Mooresville. The towns and the city depend on one another now and will do so even more in the future, especially economically. Charlotte must work with the four towns to the north, and the four towns must work with Charlotte. Everyone must recognize the value of the North Corridor and ensure not only that future transit supports the land use strategy for mobility but also that future transit initiatives attract funding and creative financing through the strong, collective efforts of all parties. The panel recommends that the Lake Norman area embrace a brand—the North Main Line—that will not only sell the benefits of living, working, and enjoying recreational offerings within the four towns but also recognize the benefits of proximity to Center City Charlotte and all it has to offer.

The panel applauds the Lake Norman area for its successes and is impressed with the level and quality of planning as well. Each town understands its unique character and its economic connection to the city of Charlotte. Although this status is well understood and respected by many within the Lake Norman area, it is not necessarily recognized by the rest of the region. Through communication, collaboration, and connectivity, ULI believes that the Lake Norman area will be successful in propagating the concept of the North Main Line and will secure its rightful place among the Charlotte region's transportation priorities.

The cooperation, organization, and communication among the parties will change the dialogue in Raleigh and Washington and be a strong show of solidarity.

Appendix A

The LNTC wishes to thank the following public and private organizations for funds and in-kind services provided for the ULI Advisory Services panel.

American Asset Corporation	McIntosh Law Firm, PC
Beacon Partners	McLeod Corporation/Holiday Marina
Childress Klein	Mooresville—South Iredell Chamber of Commerce
ColeJenest & Stone	Lake Norman Company
CommunityOne Bank	N-Focus Design
Duke Energy	Northlake Mall
E.C. Griffith Companies	Parsons Brinckerhoff
ElectriCities	Peoples Bank
EnergyUnited	Pinnacle Properties
Gandy Communities	Priority Honda of Huntersville
Ingersoll Rand Company	RED Partners
HDR	Simonini Builders
Lake Norman Chamber of Commerce	Venture Properties
Lake Norman Regional Development Corporation	Vision Venture Capital
Lowe's Companies, Inc.	Wachovia

Appendix B

This real estate and economic development overview of north Mecklenburg and south Iredell counties was completed by Warren & Associates of Charlotte. The report was prepared in anticipation of the ULI Advisory Services panel and provided to the panelists two weeks before their visit in January 2010.

Real Estate and Economic Development Overview

North Mecklenburg/South Iredell Counties

January 2010

Prepared for

**Lake Norman Transportation Commission
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Prepared by



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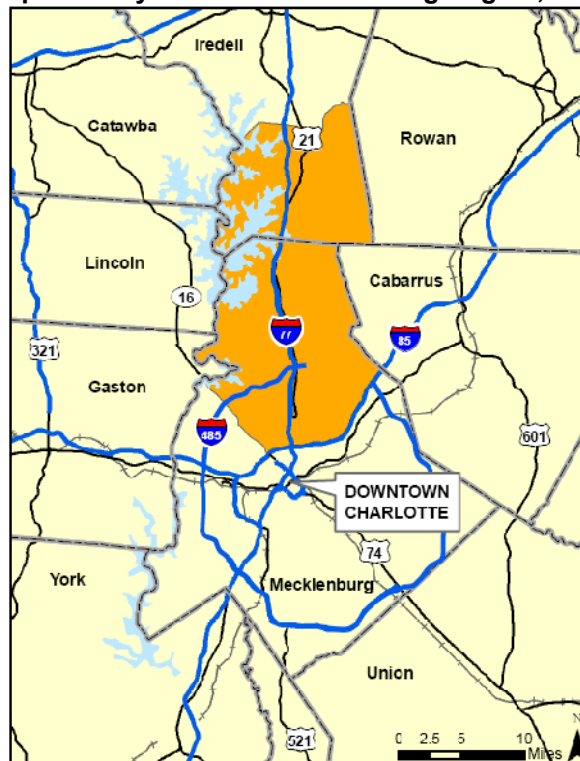


1. Introduction

This report was prepared for members of the Urban Land Institute (ULI) Technical Assistance Panel (TAP) that will be analyzing the North Mecklenburg/South Iredell Study Area in late January. It serves as a Study Area guide for the panelists prior to their arrival. The TAP will convene for a week of interviews and discussions leading to a set of strategies and public policy recommendations to strengthen the Study Area's economic development competitiveness. The Lake Norman Transportation Commission is the sponsoring organization for the ULI TAP event.

As shown on Map 1, the Study Area is bounded by I-85 and NC-16 on the south, the Catawba River/Lake Norman on the west, Davidson/Coddle Creek townships of Iredell County on the north, and the Mecklenburg and Iredell county lines on the east. This area extends 25 miles along the I-77 corridor.

Map 1: Study Area and Surrounding Region, 2010

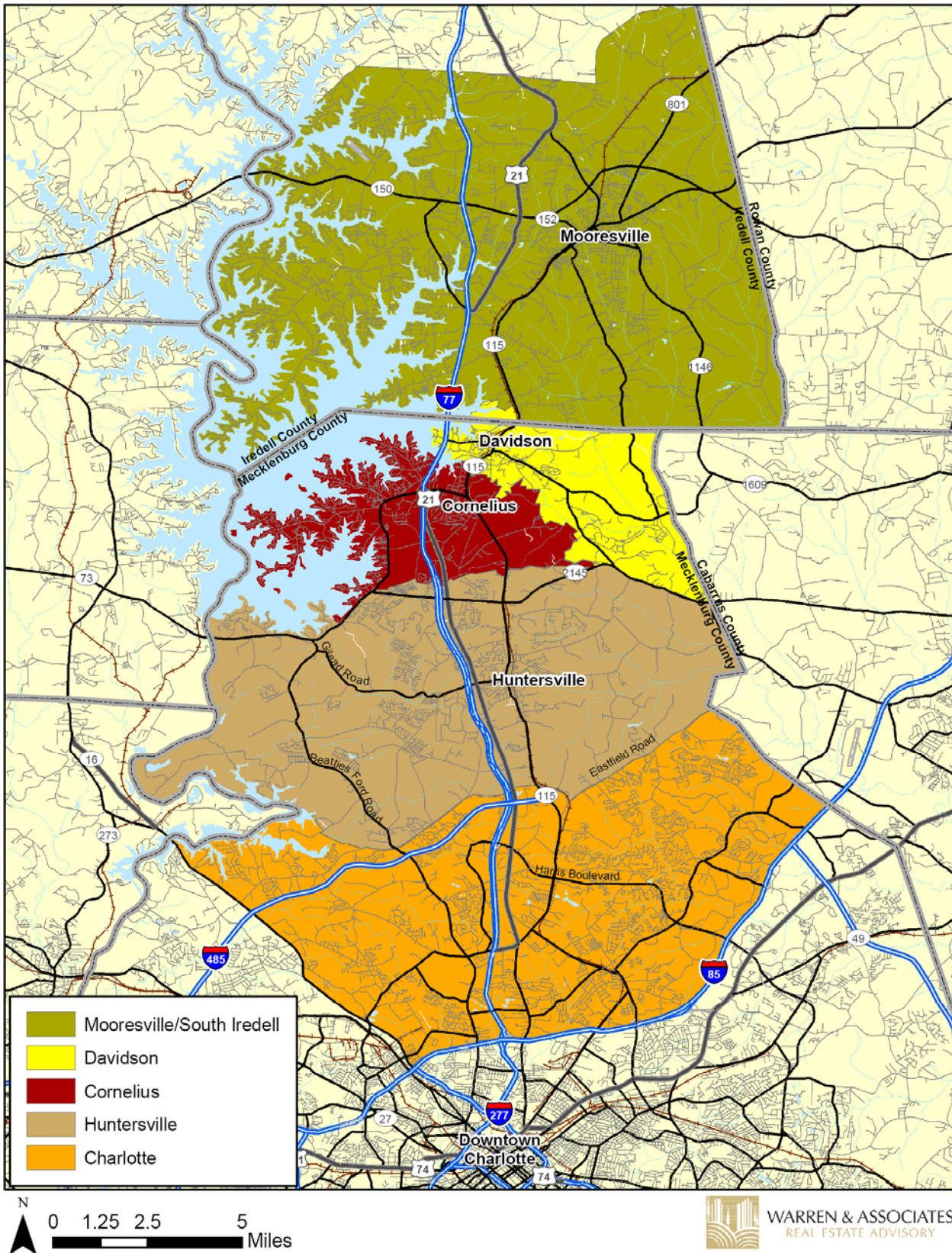


As shown on Map 2, the Study Area includes the current incorporated areas and larger spheres of influence for the following four municipalities in Mecklenburg County:

- City of Charlotte (portion north of I-85 and NC-16)
- Huntersville
- Cornelius
- Davidson

The Study Area also includes southern Iredell County (Mooresville/South Iredell), which covers the Town of Mooresville, and surrounding Davidson and Coddle Creek townships.

Map 2: Study Area and Jurisdictional Boundaries, 2010





2. Demographic Trends and Forecasts

Based on transportation analysis zone (TAZ) data provided by the Centralina Council of Governments (COG), the Study Area currently contains an estimated 260,579 residents. This represents a 66% growth rate from 157,070 residents in 2000 (Table 1). The growth rate exceeded the 32% increase in population for the larger COG forecast area covering all or portions of 11 counties around Charlotte. The Study Area represents 12% of the COG forecast area's current population of 2.2 million.

Table 1: Population Trends, Study Area, 2000-2010

Area	2000	2010	2000-2010 Change	
			#	%
Charlotte (north of I-85/NC-16)	66,792	108,892	42,100	63%
Huntersville	27,550	52,407	24,857	90%
Cornelius	14,103	24,985	10,882	77%
Davidson	8,011	12,137	4,126	52%
Mooresville/South Iredell	40,614	62,159	21,545	53%
Total	157,070	260,579	103,509	66%

Source: Centralina COG and Warren & Associates

Notes: Municipal areas defined by spheres of influence extending beyond current boundaries; 2010 estimates based on 2005 and 2015 COG data.

While the City of Charlotte portion of the Study Area added the most residents over the last ten years (42,100), the Town of Huntersville's sphere of influence experienced the fastest growth rate of 90%. Huntersville's sphere of influence covers a large geography immediately north of the City of Charlotte. It is important to note that all five portions of the Study Area have grown by at least 52% over the last ten years.

By 2030, the Study Area is forecasted to contain approximately 397,000 residents, a 52% increase from 2010 (Table 2). During this time, the Town of Huntersville's sphere of influence is expected to add the most new residents (44,282) and exhibit the fastest growth rate (84%). The Charlotte sphere of influence should post the slowest growth rate of 28%, as it approaches build-out by 2030.

Table 2: Population Forecasts, Study Area, 2010-2030

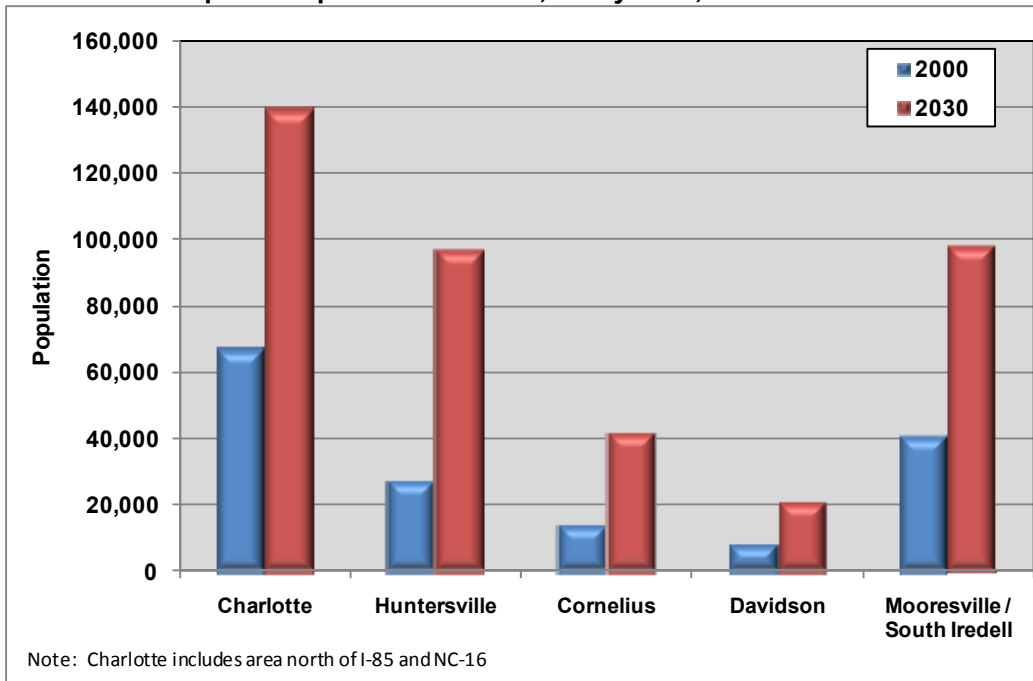
Area	2010	2030	2010-2030 Change	
			#	%
Charlotte (north of I-85/NC-16)	108,892	139,827	30,935	28%
Huntersville	52,407	96,688	44,282	84%
Cornelius	24,985	41,755	16,770	67%
Davidson	12,137	20,666	8,529	70%
Mooresville/South Iredell	62,159	97,999	35,841	58%
Total	260,579	396,935	136,356	52%

Source: Centralina COG and Warren & Associates

Notes: Municipal areas defined by spheres of influence extending beyond current boundaries; 2010 estimates based on 2005 and 2015 COG data.

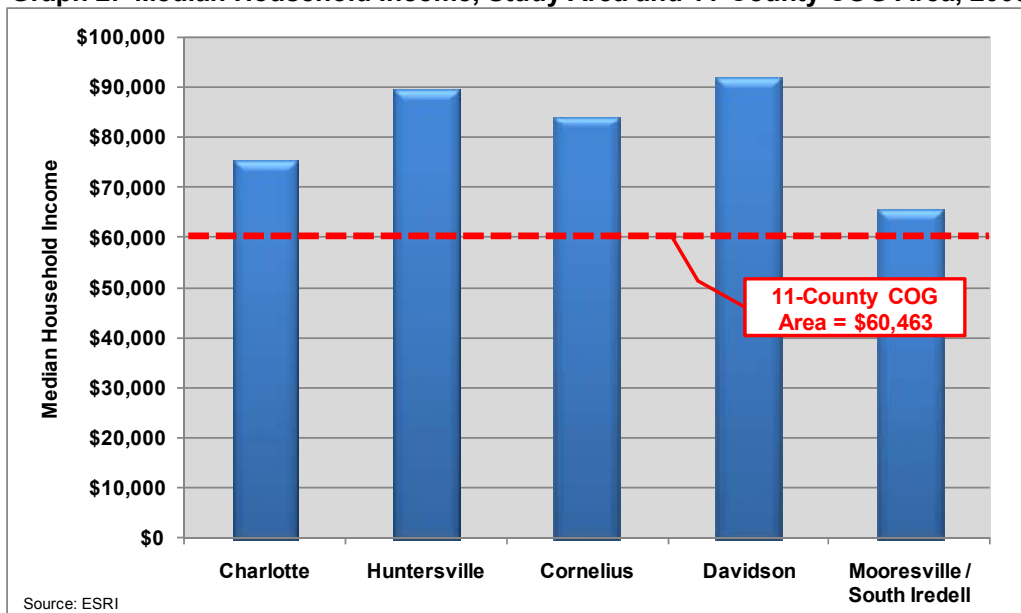
As shown in Graph 1, all five Study Area geographies will more than double in population between 2000 and 2030. The area within the City of Charlotte will be the most populous by 2030, with 140,000 residents. The Town of Davidson's sphere of influence will be the smallest, with 20,000 people.

Graph 1: Population Forecast, Study Area, 2000 and 2030



The 2009 median household incomes for the five Study Area geographies range from \$65,000 in Mooresville/South Iredell to \$91,000 in Davidson (Graph 2). All incomes exceed the 11-county COG forecast area median of \$60,463, including the comparative affluence of the Study Area.

Graph 2: Median Household Income, Study Area and 11-County COG Area, 2009





3. Major Private Employers

The largest private employers in the Study Area are shown in Table 3. As an indication of the Study Area's diverse economic base, the major employers represent the retail, energy, health services, wholesale trade, and manufacturing sectors. Four of the five Study Area geographies are represented on the list of major employers; Cornelius is the one exception.

Table 3: Largest Private Employers, Study Area, 2009

Company	Location	Employees
Lowe's Companies	Mooresville	4,000
Ingersoll-Rand Company	Davidson	1,500
McGuire Nuclear Station	Huntersville	1,000
Lake Norman Regional Medical Center	Mooresville	930
Presbyterian Hospital - Huntersville	Huntersville	650
SABIC Innovative Plastics	Huntersville	600
Metrolina Greenhouses	Huntersville	550
US Foodservice	Charlotte	530
Rubbermaid	Huntersville	500
WalMart Supercenter	Mooresville	500
NGK Ceramics	Mooresville	450
Americredit	Huntersville	400
Alcatel-Lucent	Charlotte	400
USF Corporation	Charlotte	350
SuperTarget	Mooresville	350
Penske Racing	Mooresville	350
Joe Gibbs Racing	Huntersville	330
Gerdau Ameristeel	Charlotte	330
Husqvarna	Charlotte	320
Prairie Packaging	Huntersville	300
Carrier Corporation	Charlotte	300

Sources: LNREDC/Mooresville-S. Iredell EDC/Charlotte Chamber

Lowe's has a reported 4,000 employees at its corporate campus in the northeast quadrant of I-77 and Langtree Road in Mooresville/South Iredell. This headquarters facility is expected to grow to 12,000 employees at build-out. Ingersoll-Rand is the second largest employer, with 1,500 jobs in the small portion of the Town of Davidson in Iredell County.

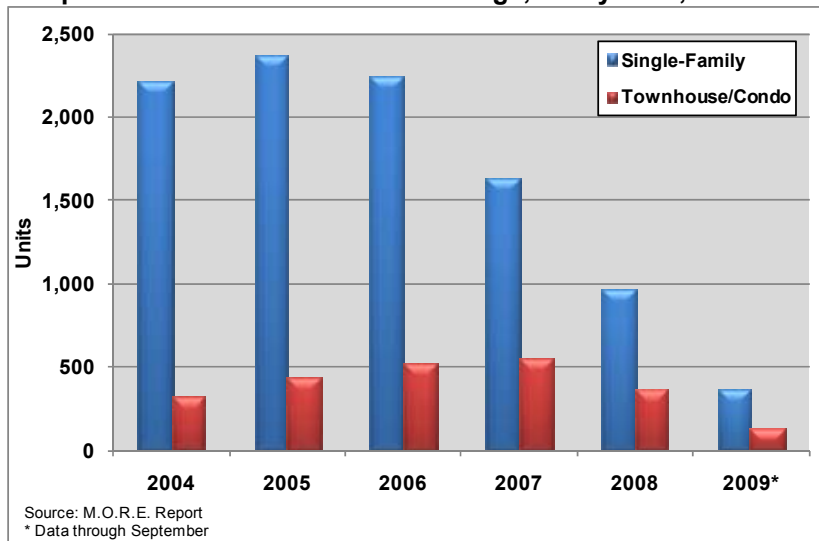
Husqvarna recently announced a 160-job expansion for its existing north Charlotte operation as it relocates its North American headquarters from Augusta, GA. The average wage will be almost \$80,000, well above the \$48,800 Mecklenburg County average. The move will result in a total of 320 jobs at the site on Statesville Road.



4. Real Estate Market Trends

Reflecting national trends, new for-sale residential closings in the Study Area have fallen over the last three years (Graph 3). The detached single family decline has been more severe than for townhouses/condominiums.

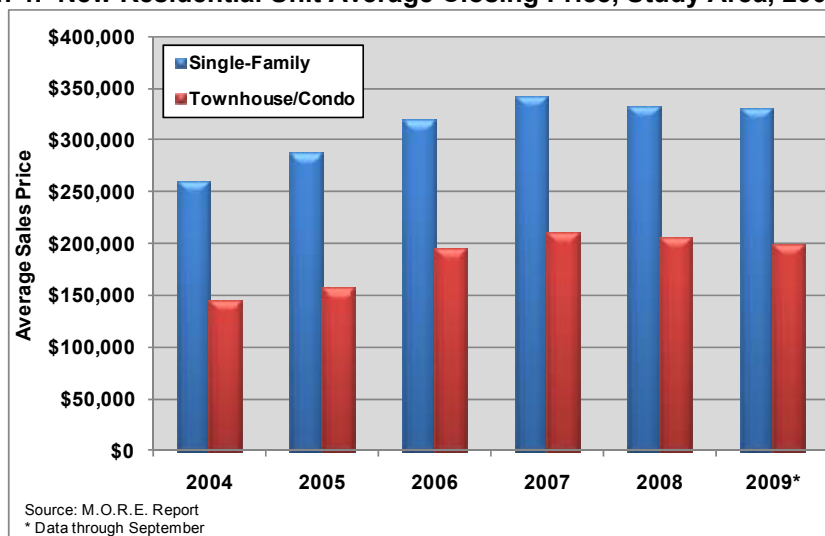
Graph 3: New Residential Unit Closings, Study Area, 2004-2009



Between 2004 and 2006, the Study Area absorbed over 2,000 new single family units and 300 new townhouses annually. By 2008, there were only 963 single family closings. The 359 townhouse/condominium closings in 2008 were down from 2007, but within the annual range of the four previous years. Through the third quarter, both housing types declined further in 2009.

Despite absorption declines, average closing prices for new single family and townhouse/condominium units have held firm in the Study Area over the last three years (Graph 4). This trend is superior to price contractions incurred in national and regional markets.

Graph 4: New Residential Unit Average Closing Price, Study Area, 2004-2009

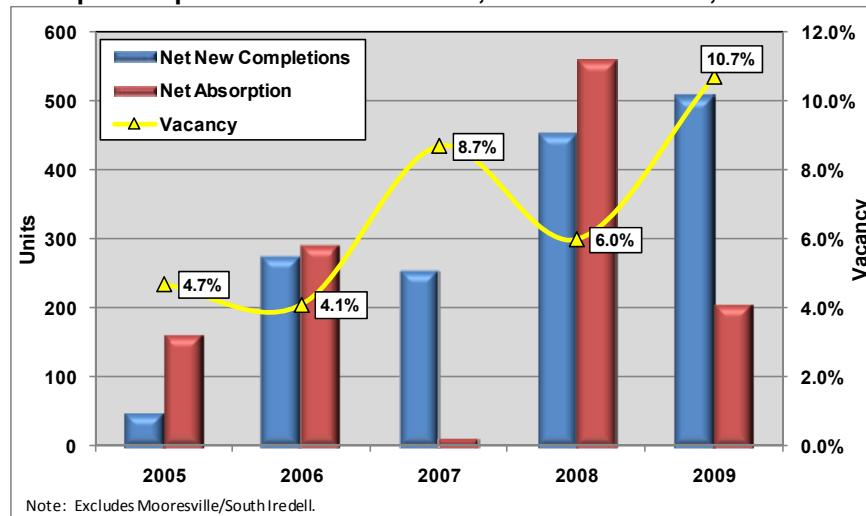




During the first nine months of 2009, the Study Area's average prices of \$330,000 for new single family houses and \$199,000 for new townhouses/condominiums were only 3.5% and 5.4% lower than 2007 peak values, respectively. Average prices for both housing types remain well above those in 2004.

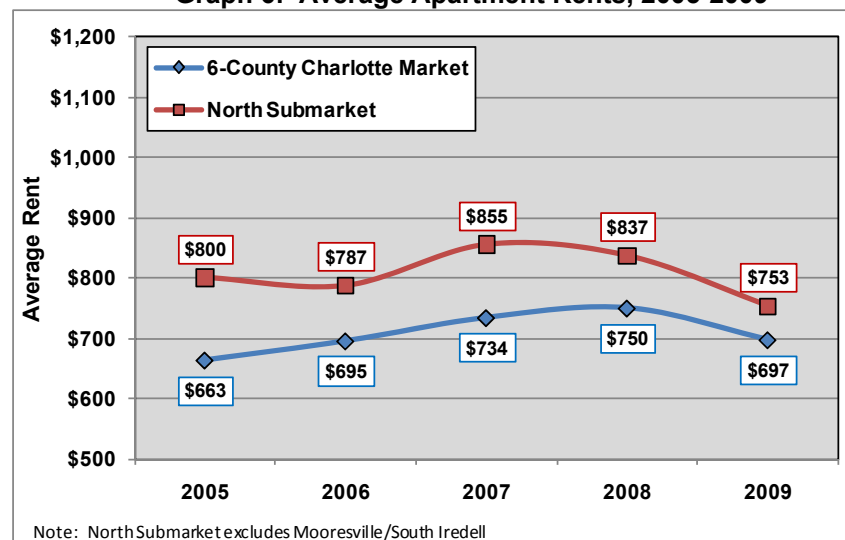
Based on apartment market information from Real Data, the North submarket of Mecklenburg County contains 5,727 units, of which 1,539 units (27%) were completed over the last five years (Graph 5). Combined with net absorption of 1,233 units, the vacancy rate more than doubled from 4.7% in 2005 to 10.7% in 2009.

Graph 5: Apartment Market Trends, North Submarket, 2005-2009



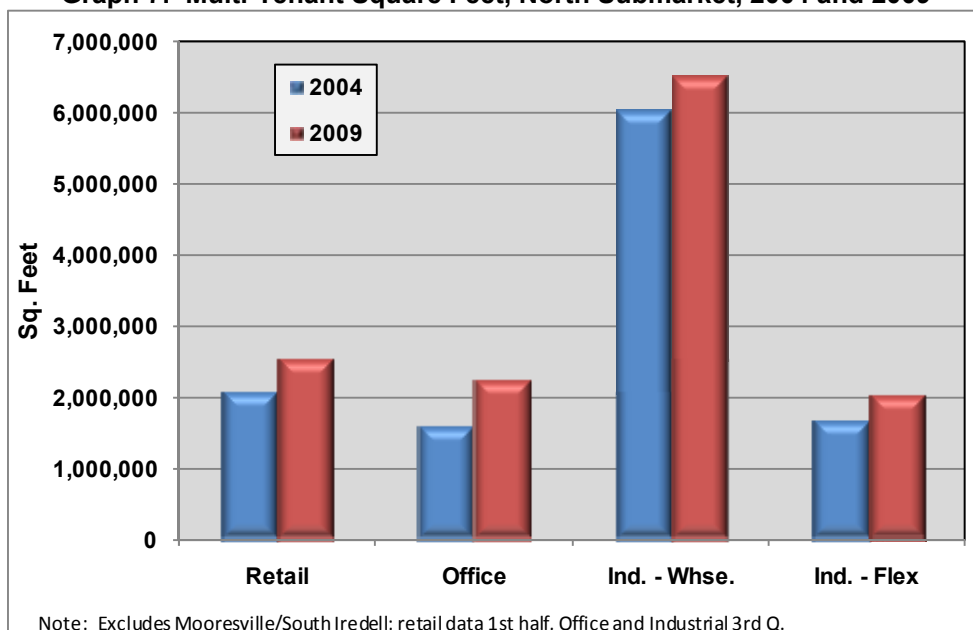
The North submarket consistently commands some of the highest apartment rents in the Charlotte region. As shown in Graph 6, the average August 2009 rent of \$753 was 7.4% higher than the six-county Charlotte region average of \$697. The North submarket premium has diminished somewhat over the last two years as a result of increasing vacancy, and construction of luxury mid-rise buildings in downtown Charlotte and along the South Corridor Light Rail line.

Graph 6: Average Apartment Rents, 2005-2009



Growth in the North submarket's multi-tenant commercial real estate space, as reported by Karnes Research Company, is shown in Graph 7 for 2004 and 2009. All property types registered increases in inventory, led by 643,000 square feet of office. Most of the new office space was focused in the I-77 corridor at Harbour Place (Exit 30) in Davidson, Perimeter Woods and Harris Corners (Exit 18) in Charlotte, and NorthPointe Executive Park (Exit 25) in Huntersville. The North submarket now contains over two million square feet of office.

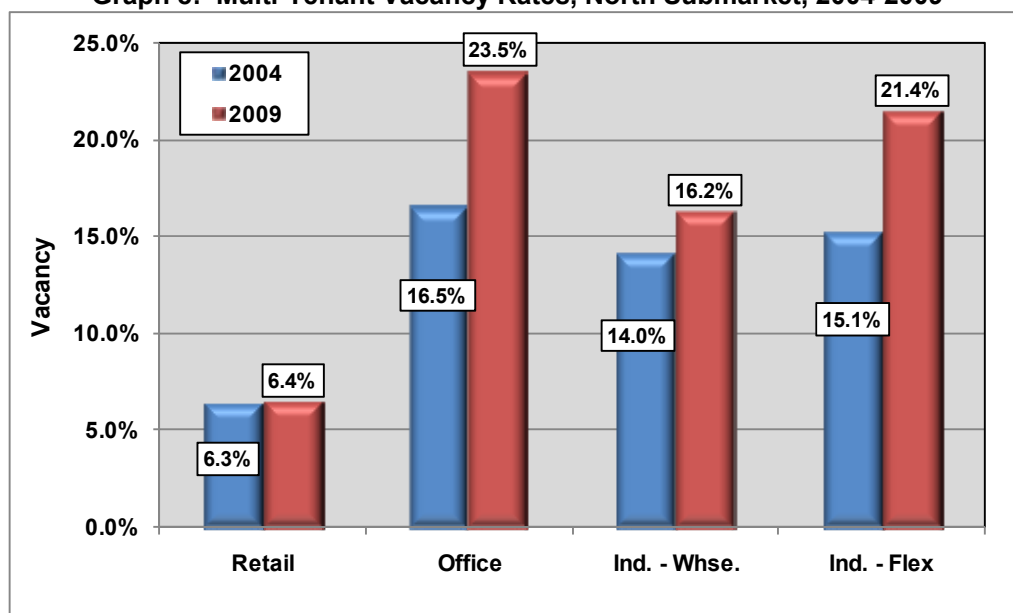
Graph 7: Multi-Tenant Square Feet, North Submarket, 2004 and 2009



Warehouse and retail space both increased by more than 450,000 square feet over the five-year period. The smaller industrial flex market grew by 350,000 square feet.

As defined by Karnes Research Company, the North retail submarket does not include Northlake Mall, located in the northwest quadrant of I-77 and Harris Boulevard. This 1.1 million-square foot mall opened in 2005 with Belk, Dillard's, Macy's, and Dick's Sporting Goods as anchors. The mall has subsequently attracted other big box and junior anchor stores to the interchange, including Target, REI, Best Buy, Old Navy, Office Max, and PetsMart.

Unlike the significant recent increases in national retail vacancy, the North submarket has remained at 6.3%-6.4% over the last five years (Graph 8). The area remains attractive to national and local retailers because of strong population growth and comparatively high household incomes.

**Graph 8: Multi-Tenant Vacancy Rates, North Submarket, 2004-2009**

The North submarket office vacancy rate improved from 16.5% in 2004 to 11.8% in 2007. Subsequent building completions and negative net absorption in the first three quarters of 2009 doubled the vacancy rate to 23.5% in the third quarter. With much of the available space in newer buildings, the Class A vacancy rate is also 23%.

5. Real Estate Development Activity

The recession and disruptions in the credit markets have delayed most real estate projects around the nation. While the Study Area has been subject to this trend, several large mixed-use developments are moving forward. Of the seven entitled projects listed in Table 4, five have completed buildings or extensive site work underway. Only Langtree at the Lake and Augustalee remain vacant sites. Langtree at the Lake recently obtained funding related to the American Reinvestment and Recovery Act for initial infrastructure improvements that will allow the first phase of development to proceed. Augustalee was predicated on the construction of a new interchange at I-77 and Westmoreland Road in Cornelius. This project is now in receivership, and a new plan is likely to emerge.

Table 4: Major Entitled Mixed-Use Real Estate Developments, Study Area, 2010

Project	Total Acres	Residential Units		Retail (Sq. Ft.)		Office (Sq. Ft.)		Hotel Rooms	
		Entitled	Completed	Entitled	Completed	Entitled	Completed	Entitled	Completed
Bryton	450	2,498	0	1,000,000	0	1,300,000	0	N/A	N/A
Langtree at the Lake	170	735	0	550,000	0	300,000	0	375	0
Antiquity	128	900	85	150,000	0	100,000	0	N/A	N/A
Augustalee	104	400	0	655,000	0	1,550,000	0	350	0
Harbour Place	35	44	44	50,000	10,000	400,000	50,000	115	115
Huntersville Town Center	18	N/A	N/A	45,000	0	60,000	0	N/A	N/A
Northlake Business Park	17	N/A	N/A	6,000	0	130,000	40,000	N/A	N/A
Total	922	4,577	129	2,456,000	10,000	3,840,000	90,000	840	115

Note: Retail and office square footages for Antiquity are estimates based on a total of 250,000 square feet of approved non-residential space.

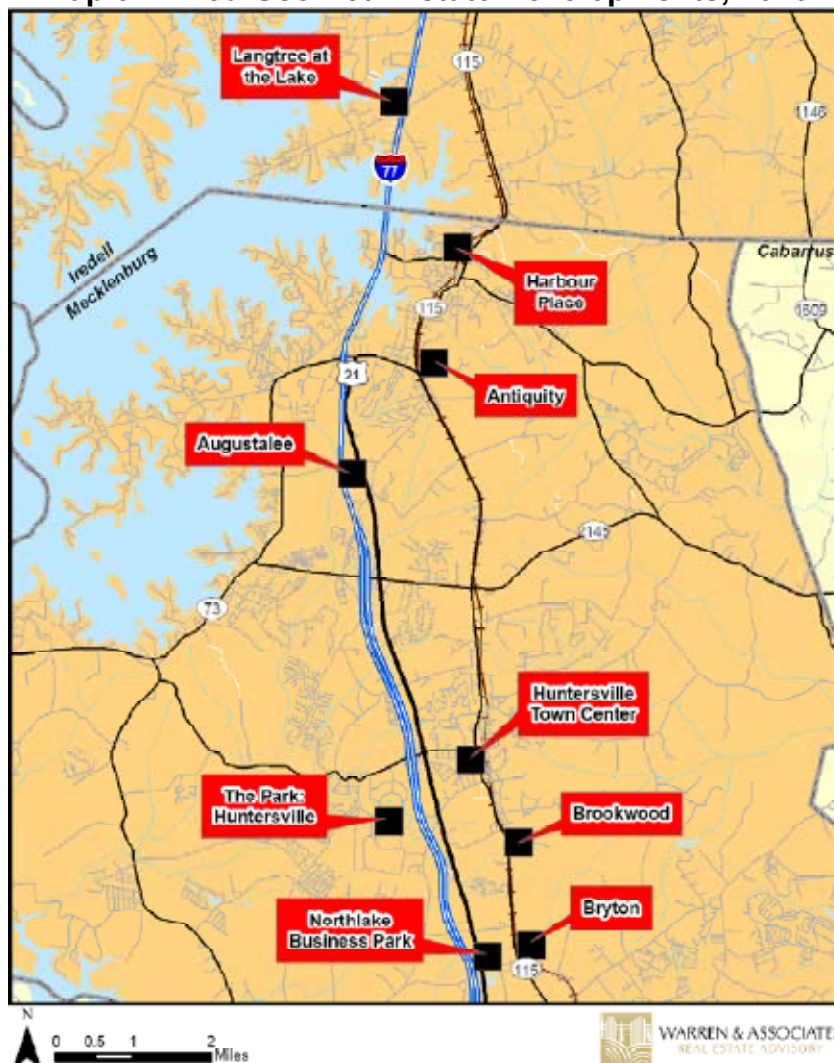
Source: Warren & Associates

Bryton is the largest mixed-use project, covering 450 acres along US-21 and the planned North Corridor Commuter Rail line in Huntersville. The developers recently completed a relocation of the rail line within the project. Vertical construction is scheduled to begin this year.

The seven entitled mixed-use projects are shown on Map 3, along with The Park Huntersville and Brookwood Industrial Park. The Park Huntersville is a 750-acre development that initially contained only office and light industrial space. Recently, other uses have been added, including Presbyterian Hospital Huntersville and retail/restaurants. An apartment community is also planned at the Mt. Holly-Huntersville Road entrance.

Brookwood Industrial Park is a 334-acre joint venture of the towns of Huntersville, Cornelius, and Davidson. Located on NC-115 in Huntersville, the park is marketed by the Lake Norman Economic Development Corporation. Prairie Packaging is the only tenant, occupying 250,000 square feet with 300 employees. Infrastructure work is underway to extend sewer service to the site, and a bridge will soon be constructed over the Norfolk-Southern rail line (future North Corridor Commuter Rail) at the entrance.

Map 3: Mixed-Use Real Estate Developments, 2010



6. SWOT Analysis

Based on interviews conducted with the Lake Norman Regional Economic Development Corporation, Mooresville-South Iredell Economic Development Corporation, and Charlotte Chamber of Commerce, separate summaries of strengths, weaknesses, opportunities, and threats are presented for North Mecklenburg and South Iredell counties in Figures 1 and 2.

Figure 1: North Mecklenburg SWOT Analysis, 2010

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Proximity and access to Charlotte • Lake Norman (executive housing options) • Growth in skilled labor force over last decade • Proactive approach to economic development by the three towns and City of Charlotte • Presbyterian Hospital-Huntersville and growing medical/health care sector • Emphasis on environmental protection and recreational uses along Catawba River • Parks (including Robbins, Jetton, Bradford) • Recent I-485 completion through northwest Charlotte; shorter trip to airport 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • Inadequate supply of improved industrial sites and available buildings • Tax base imbalance; weighted toward residential • I-77 congestion • Lack of professional job opportunities for residents, which negatively impacts tax base and contributes to I-77 congestion • Sewer service (short-term issue with expansion underway) • NC-73 congestion (improvement underway between US-21 and NC-115) • No business-oriented hotel with meeting space • Lack of available property along Lake Norman for corporate office space • Overcrowded schools/mobile classrooms • Negative perception within development community of entitlement process
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • North Corridor Commuter Rail to serve employees traveling in both directions • I-485 completion to I-85 North • Future business park sites being studied; 173 acres on NC-73 in Davidson, 80 acres on Bailey Road in Cornelius, and 350 acres at Hambright and Mt. Holly-Huntersville roads in Huntersville • Business park with a corporate campus environment • Medical-related business growth • Recreational uses along Catawba River • Spin-off business related to the North Carolina Research Campus in Kannapolis • 600,000-square foot former Phillip Morris distribution center on NC-73 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Lack of action on widening and improving NC-73 east of NC-115; it is the only regional east-west connection and remains two lanes • Lack of action to address I-77 congestion • Competition from the new limited-access NC-16 corridor in Lincoln County on the west side of Lake Norman; one business park announced

Sources: Lake Norman Regional Economic Development Corporation and Charlotte Chamber of Commerce

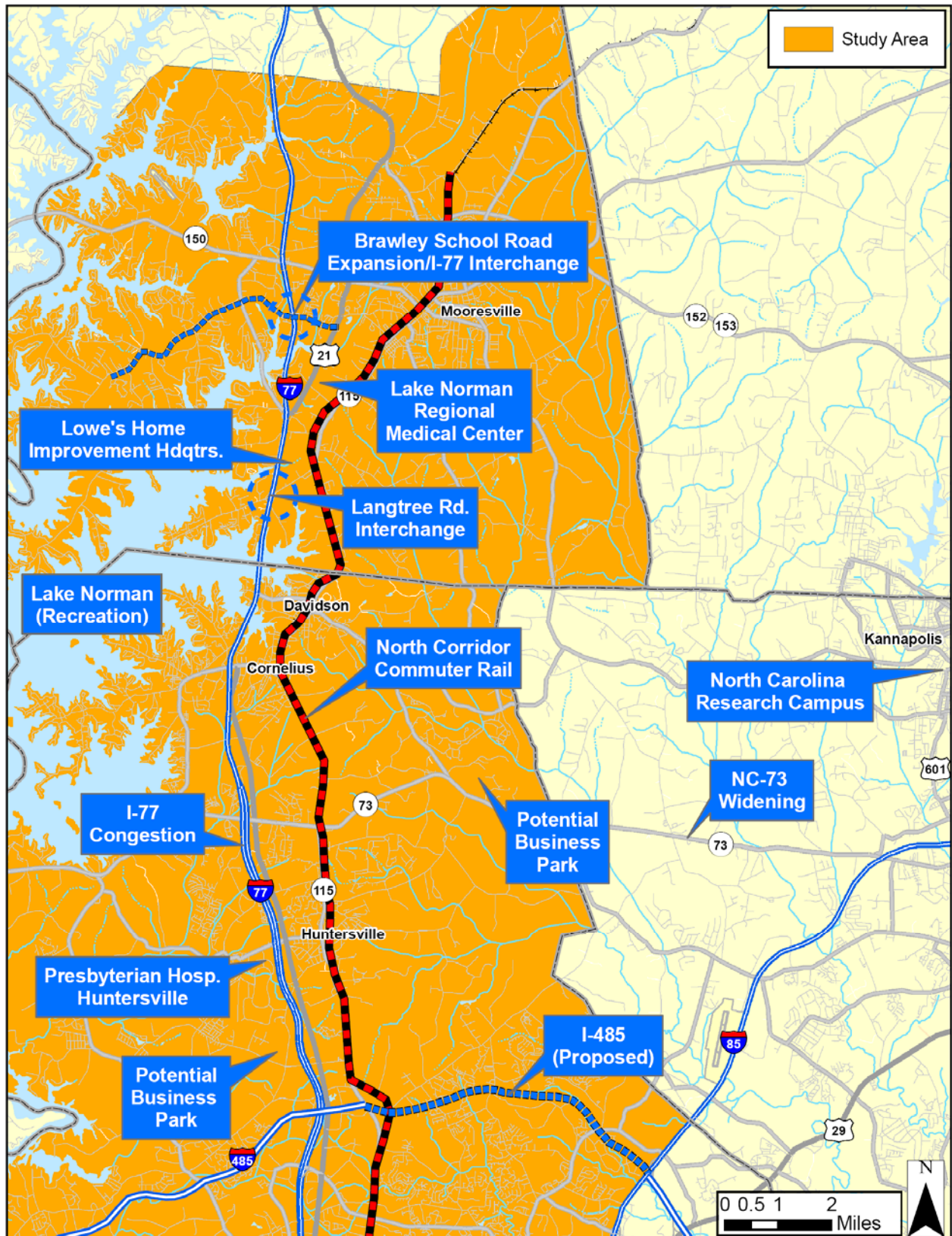
**Figure 2: South Iredell SWOT Analysis, 2010**

<p style="text-align: center;"><u>Strengths</u></p> <ul style="list-style-type: none"> • Mooresville and Iredell County public schools (among top 20 districts in NC) • Recent I-485 completion through northwest Charlotte; shorter trip to airport • Lake Norman (recreation) • Recently improved water and sewer capacity • Lowe's Home Improvement headquarters • Lake Norman Regional Medical Center • Motorsports industry concentration • 57% of Town of Mooresville taxes generated by non-residential uses; not just a suburban bedroom community 	<p style="text-align: center;"><u>Weaknesses</u></p> <ul style="list-style-type: none"> • I-77 congestion • No rail transit • Railroad divides downtown Mooresville • Limited east-west road connections (NC-150) • Land prices generally too high to support industrial development
<p style="text-align: center;"><u>Opportunities</u></p> <ul style="list-style-type: none"> • Links to North Carolina Research Campus in Kannapolis • Motorsports industry expansion • Lowe's Home Improvement internal growth • Recently opened interchange at I-77 and Langtree Road • New interchange under construction at I-77 and Brawley School Road • Lowe's vendors/suppliers (limited by location in major metropolitan area with international air service) • Medical-related business growth • Recreation as an economic development tool 	<p style="text-align: center;"><u>Threats</u></p> <ul style="list-style-type: none"> • Land prices precluding industrial uses • Potential isolation from Charlotte if I-77 isn't widened • State of N.C. budget issues could reduce funding for infrastructure and incentives • Delayed recovery of the U.S. economy • Residential growth impacting tax base balance

Source: Mooresville-South Iredell Economic Development Corporation

Economic development issues described in Figures 1 and 2 that have defined locations are represented on Map 4. These include transportation improvements and employment centers.

Map 4: Economic Development Issues and Opportunities, 2010



About the Panel

Glenda E. Hood

Panel Chair

Former Mayor of Orlando

Former Secretary of State of Florida

Orlando, Florida

Hood has been an active force in business, the community, and government for decades. She was first elected to public office in 1982 as an Orlando City Council member and reelected in 1986 and 1990. She was the first woman elected mayor of Orlando in 1992 and served three terms. Hood was responsible for a workforce of 3,200 employees and an annual budget of \$526 million.

As mayor, Hood used growth management strategies and smart growth principles to support the building of safe and livable neighborhoods, a revitalized downtown, and a strong local economy. Under her leadership, older and historic in-town neighborhoods were restored and revitalized; compatible new mixed-use infill development was constructed; the city's largest parks initiative built new parks and refurbished existing ones; unprecedented partnerships in education were established; transportation alternatives were championed; Orlando became a high-tech center and competitive world marketplace; and the arts became a civic priority. Hood served as a board member of the Orlando Utilities Commission, the Greater Orlando Aviation Authority, and MetroPlan and as chairman of Lynx, the regional transportation authority.

She spearheaded the reuse plan for the Orlando Naval Training Center, the most ambitious economic development project in the city's history. The resulting new Baldwin Park neighborhood is recognized across the country as one of the finest examples of reuse of former government properties and a model for incorporating all the elements of smart growth.

Hood was tapped by Governor Jeb Bush to be Florida's secretary of state in December 2002, while serving her third term as mayor of Orlando. She was instrumental in crafting the state's Strategic Plan for Economic Development and was responsible for the divisions of Cultural Affairs, Corporations, Historical Resources, and Library and Information Services.

Hood led the nation's cities and towns as their chief advocate during her tenure as president of the National League of Cities and has served as president of the Florida League of Cities. She was chairman of the board of the Florida Chamber of Commerce and currently serves on the corporate boards of Santa Fe HealthCare and Baskerville-Donovan.

Hood is a board member and immediate past chair of Partners for Livable Communities, a national organization designed to enhance community life through innovation, studies, and programs. She was elected a fellow of the National Academy of Public Administration, an independent, nonpartisan organization chartered by Congress to assist federal, state, and local governments in improving their effectiveness, efficiency, and accountability. Hood is an active participant in ULI's advisory panels and serves on the ULI Daniel Rose Center Advisory Board. She is also a trustee of the Florida Chamber Foundation.

An Orlando native and fourth-generation Floridian, Hood received her BA degree in Spanish from Rollins College in Winter Park, Florida, and completed the Executive Program at Harvard's Kennedy School of Government, as well as the Society of International Business Fellows Program and the Mayor's Urban Design Institute.

Allen K. Folks

*Principal, Vice President
AECOM Design + Planning
Sacramento, California*

Folks is a principal and vice president with AECOM Design + Planning (formerly EDAW, Inc.). He joined EDAW in 1987, working in the San Francisco office until 2003. A licensed landscape architect and planner, he directs the urban design studio in Sacramento. He has prepared numerous master plans and directed the implementation of a wide range of projects in the western United States and internationally. His experience includes the planning and detailed design of transit-oriented projects for several municipalities and developer entities, as well as for the state of California as part of the High-Speed Rail program. Folks has won awards from the American Planning Association (APA) for his work in defining transit-served destinations along the Bay Area Rapid Transit corridor in the Bay Area and also in Sacramento along the Folsom light-rail corridor.

His current work includes projects in Portland, Oregon, and in Saigon, Vietnam, developing urban design plans in high-density environments. He is a member of the American Society of Landscape Architects, APA, and ULI. Folks has served on many ULI Advisory Service panels, dating back to 1998. He is currently the chair of ULI's District Council in Sacramento.

William G. Lashbrook III

*Senior Vice President
PNC Real Estate Finance
East Brunswick, New Jersey*

Lashbrook began a banking career at the Bank of New York in 1973. He held various positions in corporate lending before moving into real estate in 1984 and has been active in commercial real estate lending ever since. He joined MidLantic in 1993 as the real estate credit officer, a position he retained following PNC's acquisition of that bank in 1996. Moving to the production side in 1998, he started a Residential Lending Group that focused on national homebuilders and multifamily lending.

In 1999, Lashbrook started a new position in portfolio and business risk management within PNC's Real

Estate Group. The goal was to operate the real estate lending business as a business, not just as a portfolio of loans. This required the development of new tools and systems for risk/return analysis, profitability reporting, and interfacing with bank regulators and oversight groups. He was involved in PNC's strategic real estate diversification efforts, including acquisitions. In early 2005, he moved back to the product side of the business by taking over responsibility for PNC's commercial real estate lending activities in New Jersey.

Lashbrook graduated with a BA in political science and economics from Duke University in 1973 and received an MBA from Seton Hall in 1976. He has served on the board of directors of the National Multi-Housing Council and is a member of ULI, where he chairs the Urban Development/Mixed-Use Council (Gold Flight). He has been a ULI Advisory Panel member for projects in Detroit, Virginia Beach, Biloxi, Raleigh, and Washington, D.C. He is a member of ULI's Program Committee and currently sits on the Policy and Practice Committee. Lashbrook is a member of the board of directors for the New Jersey chapter of the U.S. Green Building Council. He was a member of the Planning Board of the Township of Hampton, Pennsylvania, for six years, chairing it for four years.

Jim Ratkovich

*President and CEO
James Ratkovich Associates
Pasadena, California*

James Ratkovich & Associates, Inc. (JRA) is a real estate advisory and development company. Through its consulting business, established in 1991, JRA also provides financing, appraisals, brokerage, asset management, property management, and development management services to a diverse clientele. Ratkovich is also managing principal of Asset Recovery & Realization Specialists (ARRS), a minority-controlled business enterprise in partnership with Villanueva Capital Corporation.

Ratkovich has been active in the development community for almost three decades. His urban development/mixed-use experience includes mentoring under Wayne Ratkovich and James W. Rouse. He has worked on historic project types including residential, commercial, industrial, historic rehabilitation, and luxury resort properties. His urban design plans include the Long Beach Pike Plan and the

Alameda District Plan. Signature projects carried out under JRA include The Pacific, southern California's premier oceanfront high rise, as well as Wailea Beach Villas, Maui's finest luxury address.

Ratkovich is a certified general appraiser and licensed real estate broker in the state of California. He serves as chairman of a national ULI product council (Urban Development/Mixed-Use, Green Flight) and served on ULI's Hurricane Katrina task force in Pascagoula, Mississippi. He is a member of the California Institute of Technology Executive Forum and the Real Estate Conference Group and a past board member of Alternative Living for the Aging.

Zane Segal

*Project Director
Zane Segal Projects, Inc.
Houston, Texas*

Segal is a developer, development and marketing consultant, and licensed real estate broker. He is knowledgeable about commercial, residential, historic, hospitality, transit-oriented, and mixed-use properties and development projects in urban, suburban, and resort areas. He has more than 30 years of experience in realty venture management, project development, construction, brokerage, and marketing on a range of property types including development sites, lofts, townhomes, low- and mid-rise condominiums, custom homes, apartments, hotels, retail centers, office buildings, subdivisions, and sports facilities, as well as master-planned projects incorporating several uses.

Segal received a BS degree in humanities with a minor in visual design from the Massachusetts Institute of Technology and an MFA degree in cinema from the University of Southern California. He has studied graduate-level architecture and planning at the University of Houston and was licensed as a real estate agent in 1982 and as a broker in 1998.

At its 2008 fall meeting, ULI conferred upon him the Robert M. O'Donnell Award for outstanding contribution to the success of its Advisory Services program. Segal has chaired four and served on ten more national Advisory Services panels, as well as chairing ULI Houston's first two Technical Assistance panels and participating on others. He has served on

the board of ULI's Houston District Council for eight years, as vice chairman of membership and of advisory services. Having participated on the committees of all four ULI Houston Urban Marketplaces, he also instigated and guided Houston's initial Suburban Marketplace, the first such conference held by any District Council.

Segal served on the City of Houston Planning Commission's Mixed-Use/TOD Committee and chaired its subcommittee on urbanizing the suburbs. He also served on Envision Houston Region's advisory board and Blueprint Houston's board. Segal has often spoken, written for publication, and been quoted by the media concerning real estate, development, urban design, and the arts.

Jack Wierzenski

*Director, Economic Development and Planning
Dallas Area Rapid Transit
Dallas, Texas*

Wierzenski has worked for Dallas Area Rapid Transit (DART) since 1991. He is responsible for developing and implementing strategies to capture the economic development opportunities and benefits around DART's transit system. He serves as DART's primary point of contact for the development community and for DART's 13 member cities, to facilitate and implement transit-supportive development initiatives.

Before coming to DART, Wierzenski served as chief of transportation planning in Prince William County, Virginia, and worked for the cities of Austin and Galveston, Texas. He received his MA degree in urban and regional planning from Texas A&M University in 1983, and a BA degree in geography and political science from the University of Minnesota in 1981. Wierzenski has served on the National Railvolution Conference Steering Committee since 1997. He is a member of ULI and has participated in several Advisory Services panels, as well as the creation of ULI's North Texas District Council. Wierzenski is a member of the American Institute of Certified Planners and the APA.



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