

Final



Hickory by Choice Comprehensive Land Use and Transportation Plan Concepts

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Land Use and Transportation Plan

Introduction

The Comprehensive Land Use and Transportation Plan for Hickory is intended to update the previous comprehensive plan which was prepared in 1986. While this earlier plan provided an adequate planning and decision-making tool for some time, changes in the rate and patterns of growth have necessitated an update.

Hickory is located in western North Carolina in the northwestern portion of Catawba County ([Figure 1](#)). It has a rich tradition of attractive neighborhoods, a vital city center, good recreational opportunities, and an entrepreneurial spirit. It combines excellent residential areas with the character and scenic quality of the western North Carolina landscape. This tradition has established Hickory as a premier place to live and invest in the region.

The growth that has resulted from this regional reputation has not come without problems. Additional homes and businesses bring more traffic and place a strain on the public utility systems. Some of the essential qualities that define Hickory have changed as development occurred. As a result, Hickory has recognized the importance of a proactive stance to city development in order to maintain both a high quality of life and promote appropriate development.

The purpose of this plan is to update the 1986 Comprehensive Plan and to identify and guide desired growth through a well thought-out set of land use and development plans and policies. The plan provides a framework for making development and zoning decisions, promoting orderly land use, implementing public improvements, and generating private investment. In addition, the plan outlines a vision of where the residents of Hickory want to be in the future and provides a detailed strategy to achieve that vision. With this plan, decision-makers will be able to make short-term decisions that promote orderly long-term development and represent the views of the citizens of the community.

Historical Context

Hickory grew from a small trading center located on the Western North Carolina Railroad. It experienced a great explosion of growth from 1880 through the 1930's fueled by development and expansion of industry, primarily furniture making and textiles, in the area. This growth was reflected in increased population, the establishment of service industries, and increased construction activity. This prosperity led to development of high quality residential areas, cultural facilities, and educational institutions as well as extension of public services.

Hickory's thriving economy led to increased residential development. *In From Tavern to Town: The Architectural History of Hickory, North Carolina*, the authors relate that in the 1920's various lending institutions were encouraging home ownership. By the late 1930's approximately 75 percent of Hickory's citizens owned their own homes. In a 1921 Hickory Daily Record article the paper discussed the benefits of home ownership:

"A home-owner is generally a better citizen. He is more interested in the welfare of his community and state. He has a greater stake in life. He contributes a little bit more with a home of his own than he would otherwise to the community."

Growth has continued in Hickory to the present. The basis for the current land use patterns, though were established in these early stages of growth. Industry today is still primarily focused on the railroad and residential development still radiates out from the city center, though quite a bit further today. These patterns have remained because, in large part, they work and they form the framework for future development decisions in Hickory.

Planning Process

The Process that is being used to develop the Hickory Land Use and Transportation Plan is "community driven." This means that the plan is intended to be a reflection of the citizen's of Hickory values and visions for the future. The plan is prepared as a multi-step process. [Figure 2](#) graphically illustrates the process.

The first step of this process is to define the existing trends, opportunities, and constraints within the community. The information for this analysis was obtained from solicitation of issues, ideas, and visions for the future through a comprehensive public participation program that included several public meetings, a week-long planning charette, interviews, and a thorough inventory of existing conditions. From this information, a set of planning principles was identified. The planning principles directed the development of planning concepts for commercial and industrial development, housing, transportation, utilities, and community image/natural resources. Next, recommendations—in the form of land use and transportation plans—were created. Measures to implement the plan concepts and recommendations were then developed to provide the city a roadmap to achieve the vision of Hickory's future outlined in this plan.

Public Participation

One of the most critical elements of the planning process was the public participation program. This program was intended to involve every resident of the city, if possible, in the preparation of the plan. To achieve the goal of substantial public participation, residents were invited to several initial public meetings to discuss the issues that were important to the future of the city. These meetings included participation in a community image survey, discussion of general issues related to land use and transportation, and then a discussion of the results from the survey. Local media was also actively involved by attending every meeting and reporting in the local paper the events of each meeting. The results of these meetings, personal interviews, and data gathering provided insight into the topics that should be addressed in detail during the planning charettes.

The planning charettes were conducted during a one-week period in August 1998. To encourage participation in the charettes, which were conducted during the day with an open house held each evening, notices were mailed to every household in the city. The topics selected for discussion during the charette were commercial and industrial development, housing, transportation, utilities, and community image/natural resources. Members of the public that could not attend the day session were invited to an open house in the evening to see the results from the charettes and have the ability to speak to planners about the planning process.

The public participation program also included an open house at the Hickory Crawdads minor league baseball game during the charette week. This special event provided people attending the baseball game an opportunity to talk to planners, review work that had been completed during the charette, and fill out surveys on planning issues.

The Draft Plan will be presented to the community during a series of open houses that will provide residents the opportunity to review the plan, discuss the concepts, recommendations, and implementation strategy with planners, and provide input on the plan. Following the presentation and discussion of the Draft Plan, public hearings with the Planning Commission and City Council will be held to adopt the Plan. Once the plan is adopted the public's responsibilities in participating in the planning process is not over. Planning is a dynamic process requiring active participation of the public, business owners, and city officials.

Key Issues

A number of key issues which affect the quality of life in Hickory were identified during the data inventory and analysis phase, public input forums, planning charette, and personal interviews. These issues identified unique concerns of the community and opportunities for the future of Hickory. They were analyzed against background information on demographics, natural resources, transportation, land use, and utilities. **Figure 3** graphically illustrates the key issues in a geographic format. The key issues facing Hickory are summarized in the following statements:

The retention and enhancement of neighborhood commercial districts, development of community commercial districts, and providing opportunities for regional commercial establishments are important to the sustainability of Hickory as a regional commercial center.

Hickory serves as a regional center for employment, medical services, cultural events, and aviation based transportation.

Hickory's employment growth has resulted in a corresponding increase in housing construction. Much of this new housing growth is occurring in the northeast portion of the planning area. The increase in housing supply needs to accommodate demands for a variety of housing options.

The City's function as a regional center results in increasing volumes of automobile and truck traffic on major thoroughfares, most notably U.S. 321.

A Transportation Plan has been prepared that addresses many traffic issues in the city, however some changes resulting from a new vision for the city may be appropriate.

Aesthetics, particularly along gateways leading into the community need to be improved to provide a positive image to visitors and city residents.

The southern portion of the planning area that is less developed than areas north of the I-40/U.S. 70 corridor provides excellent opportunities for natural resource/open space conservation.

Access to natural resources, open space, and recreation resources, such as Lake Hickory, needs to be improved.

One of the basic elements of these key issues is the desire to create a more sustainable community in Hickory. There are numerous definitions for sustainable development, however after many public meetings it seems that the residents of Hickory might define sustainable development as enhancing what is already good about the community and ensuring that future generations will not be denied the same opportunities. A sustainable Hickory will incorporate all elements of society including ecological integrity, economic security, equal opportunity, and social well being. This plan addresses the issues identified during the analysis of existing conditions, public participation program and presents the planning principles, strategies, and recommendations to address these issues and create a more sustainable future for Hickory. Understanding these issues provides a basis for development of planning principles and concepts, and plan recommendations.

Overriding Planning Principle

The overriding planning principle is simply to create a network of neighborhoods of housing, parks, and schools placed within walking distance of shops, civic services, and employment. Hickory has grown as a regional provider of medical services, retail shopping, cultural activities, and employment. And this planning principle builds upon the traditional development patterns in Hickory with the intent of reestablishing a community less reliant on automobiles and promotes a sustainable economy. New development patterns in the city should reinforce the connection between new mixed use/multiple use and traditional residential neighborhoods and the elements of a sustainable community such as neighborhood shopping, open space and parks, employment, and services. These connections should be more pedestrian scale and safe while providing more options to reach one's desired destination. The new network of neighborhoods would be centered on commercial core districts that provide shopping, offices, civic spaces, and services located along major thoroughfares to further enhance economic sustainability and provide opportunities for use of transit to travel from one neighborhood to another. Transit opportunities would also improve access to larger industrial, office, and commercial employment centers. Beyond the establishment of neighborhood focused commercial districts and mixed use neighborhoods will be a more traditional pattern of single-family residential development.

The plan responds to issues and opportunities that helped create the vision for the future of Hickory. The first step in the pursuit of that vision is the development of planning principles and strategies that address the issues of commercial and industrial development, neighborhood development, pedestrian and vehicular circulation, utilities, and natural resource conservation. Planning principles serves as an introduction to the issues that are addressed by planning strategies. Planning strategies begin to lay out the direction that the city should follow creating an improved connection between land use decisions and transportation patterns.

Commercial Development

Hickory's status as a commercial center that serves city residents and a six-county region was originally established over one hundred years ago. As the trends in the size and location requirements of commercial establishments have changed, the focus of commercial development has shifted from the city center to major roadways leading into Hickory.

Public input sessions addressed a large number of issues including the proposed location of neighborhood commercial districts and regional commercial centers, the retention and enhancement of neighborhood commercial districts, and providing opportunities for regional establishments. Other themes that were discussed include the need for design standards that incorporate pedestrian access and improve the aesthetics of commercial areas.

Commercial development in Hickory is not well connected to surrounding residential neighborhoods for the pedestrian. While pedestrian access is not very good, there is an abundance of automobile access to retail establishments. Commercial areas along road corridors have at least one curb cut for each business, usually more. A more equitable distribution between pedestrian access and automobile access to commercial areas should be provided, and that access needs to be safe and efficient.

Most of Hickory's commercial establishments are located along major thoroughfares, primarily NC 127, Springs Road, U.S. 321, and U.S. 70. These locations require Hickory residents to travel from all quadrants of the city to reach a commercial establishment. The location of regional commercial uses along the U.S. 70/I-40 corridor does provide a good location for these establishments due to the high volumes of traffic generated by this type of commercial development and because of access to the regional roadway system. Retail districts serving local customers, however, should be equitably distributed throughout the city to minimize the length and number of automobile trips.

Planning Principles

Discontinue the corridor commercial development pattern in Hickory. In the past few decades, commercial development in Hickory has followed a similar pattern as most cities in this country. Long, continuous corridors of commercial development along major thoroughfares have become the normal pattern in the city, creating real and perceived problems such as; visually unattractive gateways into Hickory, wide roadways, and safety concerns for both pedestrians and motorists. City and neighborhood identities are lost when the roadways in Hickory most heavily traveled by visitors and residents are a canyon of parking lots and commercial structures.

Recognize that commercial establishments in Hickory serve a variety of customers ranging from residents in surrounding neighborhoods to regional customers. Hickory has provided retail customers in the city and region a large selection of shopping opportunities over the years and will continue to well into the future. The city needs to create a sustainable economic mix of retail establishments to serve the needs of city and regional customers. As an example, large "big-box" or superstore retail development is not compatible with quiet, smaller-scale single-family residential neighborhoods because of noise, scale of development, and large volumes of automobile and truck traffic. However, commercial development that is similar in context and scale with the surrounding neighborhood is a very compatible land use.

Guiding future development that serves the needs of neighborhood and regional customers requires different scales of commercial development. The sense of neighborhood is very strong in Hickory and residents and city officials want to sustain that sense of identity by providing neighborhood-scaled commercial districts at appropriate locations throughout the city. Economic reality dictates that cities need larger commercial establishments to provide the services and products that consumers require, so there needs to be locations where larger-scale commercial districts can serve multiple neighborhoods. Regional shopping will also be required to continue Hickory's tradition of serving consumers in the surrounding counties.

Promote the development of pedestrian friendly neighborhood and community commercial districts.

Existing commercial development patterns and the lack of a coherent pedestrian circulation system in Hickory have minimized the opportunities for residents of surrounding neighborhoods to access retail shops by walking, biking, or driving an automobile without having to drive on a major thoroughfare. Constant use of the automobile to access

several establishments along roads such as NC 127 or Springs Road creates safety problems due to the large number of curb cuts along the roads, as well as increases in air pollution from vehicle usage.

One role of neighborhood and community commercial districts is to provide shopping and other commercial activities in close proximity to a large population of city residents. Another role is to give residents the opportunity to establish an informal social gathering space to meet friends and make new acquaintances. Development of pedestrian and road connections between surrounding neighborhoods and the commercial districts will provide additional circulation options without having to access high volume roadways. Pedestrian amenities would make commercial areas more attractive to consumers to stroll and spend more time in the district, which could lead to increased retail sales. Because these districts would be located on higher volume roadways, traffic calming measures and clearly identifiable pedestrian and automobile circulation systems would be required to provide an environment that is safe for pedestrians.

Establish appropriate design standards for commercial districts that reveal a "sense of place" and respect the surrounding residential neighborhoods. With the exception of Downtown, most commercial areas in the city do not reveal any true "sense of place." Corridor commercial areas along NC 127, Springs Road, and U.S. 70 are not easily distinguishable from commercial corridors in other parts of town or other cities. The road frontage is generally a "sea of asphalt" for regional commercial establishments, or a smaller parking lot for most corridor commercial areas. Landscaping is minimal in older commercial areas, which creates a development that is less visually appealing and physically uncomfortable during the hot summer months. Improvements to commercial districts are another element of improving the community's image to city residents and visitors. Most commercial areas are along gateways into Hickory and should contribute to the positive image of the city.

Commercial Development Strategies

It is evident from the public input process that there is a desire to change the commercial development pattern in Hickory. The community no longer wants commercial areas stretched out over long distances on major thoroughfares. Rather, there is a desire for design that fosters diversity, pedestrian scale, and public identity. Utilizing this desire for a change in commercial development patterns in Hickory a variety of commercial districts are proposed. The proposed Neighborhood Core and Community Commercial districts would meet the desire for a more pedestrian scale development, Regional and Highway Commercial districts would serve regional customers.

Neighborhood Core District

There are several locations in Hickory where existing commercial districts include many elements of the Neighborhood Core concept. These areas are illustrated in **Figure 4**. Some of these locations were developed many years ago and have not been updated or improved recently. There are also older commercial districts where vacant commercial space is available for redevelopment. Although development of new commercial districts will occur, redevelopment of existing commercial areas should be encouraged with non-financial incentives. The following paragraphs describe the neighborhood core concept.

Neighborhood Core districts, illustrated in **Figures 5 and 6**, permit a mix of retail and service establishments such as grocery stores, pharmacies, laundry/ dry cleaners, restaurants, and a variety of convenience type businesses to serve surrounding residential areas. The key elements of the Neighborhood Core district concept. The commercial development should be in context to the housing in surrounding neighborhoods. A typical neighborhood commercial district would have approximately 80,000 to 140,000 square feet of retail space. This mix could also include professional office space for doctors, dentists, and other service businesses as well as childcare, civic functions, and schools.

Neighborhood Core areas should be located at intersections of major thoroughfares to provide adequate traffic access and volumes that will help enhance the sustainability of retail establishments. These roadways should generally be two-way streets to further enhance accessibility and sustainability of the retail establishments. The configuration of these commercial districts should balance pedestrian and automobile needs. Buildings in commercial districts should engage the street with short, or zero setbacks. Larger stores need to orient toward the arterial and smaller, more convenience-oriented businesses should orient more toward the surrounding neighborhood (**Figure 7**). Retail uses that front onto streets should not have blank walls facing the roadways. These commercial buildings could utilize a combination of glass windows, landscaping, or architectural details to enhance the appeal of the neighborhood commercial district. The architectural and site amenities should also be

identifiable with the surrounding residential neighborhood by using, when possible, similar building materials, architectural elements, and landscape materials. **Figure 8** illustrates locations of proposed neighborhood core commercial districts.

Pedestrian circulation needs to be an integral element of the design of commercial area and the surrounding residential neighborhood. A continuous network of sidewalks in the commercial and residential areas would encourage people to leave their cars at home and walk to retail shops, parks, and neighbors. To make the commercial district more attractive for pedestrians, landscape amenities and public open space should be provided. These amenities should include tree-lined streets, benches, and small, formal open spaces or neighborhood parks. Formal open spaces, neighborhood parks, and commercial districts provide opportunities for the placement of public art. Plant materials such as trees and shrubs should provide aesthetic amenities and protection from the sun, but still allow visual access to retail businesses. From the neighborhood side, the neighborhood commercial center must be pedestrian friendly, from the arterial it must be auto convenient.

To establish the neighborhood core commercial district as part of the neighborhood that includes primary residential, the architecture in the commercial development should be in context with those surrounding neighborhoods. Commercial development building materials should be consistent with materials used for local housing. Other design elements such as plant materials, landscape design, and signage could also be consistent between commercial and residential development to provide distinct sense of place. The upper floors of commercial buildings could be appropriate spaces for limited residential uses. This type of housing would give storeowners an opportunity to live above their establishments and for persons looking for a more "urban" housing option.

Incorporate measures in the design of the commercial development and roadway to slow traffic in the commercial district. Where possible, the roadway should narrow slightly and a center landscape median could be constructed (**Figure 9**). Another measure to provide more "friction" is to slow automobiles by incorporating landscaping on the side of roadways. This will slow traffic within the area while enhancing the viability of the businesses and increasing pedestrian safety. On-street parking would provide shoppers easy access to stores and provide another cue to slow automobiles. Landscaping along the roadway and in medians, in association with architectural details would also help establish an identity for each neighborhood and commercial area.

Intersection control would be incorporated as a traffic calming measure to improve pedestrian and motorist safety. These measures could include pedestrian friendly traffic signalization, changes in pavement materials, and the construction of roundabouts. Roundabouts could also serve the purpose of providing an aesthetic focal point for the commercial district. The roundabout would be an excellent location for a design element that helps to identify the commercial district as a distinct location within the city.

Integrate parking lots into the design of Neighborhood Core commercial districts in a way that does not visually dominate the appearance of the development. They should not interrupt pedestrian routes, or negatively impact surrounding residential areas. Most parking should be located behind buildings or in the interior of a development (**Figures 10 and 11**). Only on-street parking, where appropriate, should be in front of buildings. Curb cuts leading to parking lots on major thoroughfares should be minimized to enhance the safety of those entering and exiting commercial establishments.

Provide a transition from commercial development to residential neighborhoods surrounding the district. These transitions should include landscaping/buffering, office developments, a variety of multi-family housing, formal open space, and higher density single family housing.

Transit stops should be incorporated into the design of the commercial district. Transit stops at these locations will provide employees of the commercial establishments, shoppers, and persons living in surrounding neighborhoods the opportunity to leave their car at home and travel throughout the city. The higher density of housing in the surrounding neighborhood should aid in sustaining the transit service.

Community Commercial District

The Community Commercial district concept, which is illustrated on **Figure 12**, is intended to provide city residents the opportunity to travel a short distance to patronize a larger scale retail establishment. Although this district would allow a "big-box" or superstore, these commercial districts would be based on the same principle of serving residents of surrounding neighborhoods with grocery stores, pharmacies, hardware and other uses. The overall goal for establishing these commercial districts would be to reduce the amount of traffic driving across town to reach the large-scale retail establishments along the U.S. 70/I-40 regional shopping corridor by providing commercial districts in locations that serve a large portion of the city. The Community Commercial district would not be located in all quadrants of the city, but could serve the northwest, northeast, and southern portions of the city. Community Commercial districts could include up to 500,000 square feet of retail, but no single building should exceed 160,000 square feet in order to help keep the overall scale of the district down to a compact size.

These districts would incorporate pedestrian and vehicular connectivity to surrounding residential neighborhoods; transit stops, off-street parking; appropriate transitions to residential neighborhoods, and traffic calming measures. This district is intended to serve a larger customer base, which would result in larger volumes of traffic than in Neighborhood Core districts. To maximize safety of pedestrians and prevent automobile accidents, the number and location of curb cuts should be regulated.

The same urban design principles for Neighborhood Core districts would be required in Community Commercial districts. Larger buildings should be oriented toward the major thoroughfare and smaller structures should be oriented toward the residential neighborhood. It is also important to note that when a "big-box" store is constructed it does not create a vast blank wall along the thoroughfare.

Because this commercial district allows larger buildings care must be taken during site design to ensure that the scale of this development does not adversely affect surrounding neighborhoods. Because of the increase in scale for this type of commercial development, it would be appropriate for the development of housing on the upper floors of commercial buildings. This type of housing offers storeowners the opportunity to live above their establishment, or for persons looking for a more "urban" housing option.

Regional Commercial District

The Regional Commercial district includes large commercial establishments that serve Hickory residents as well as people living in the surrounding counties. The large building footprint and large parking requirements of these establishments are not in context with many parts of the city, particularly single-family residential neighborhoods. These stores usually require access to roads that are intended to handle large volumes of traffic. It was determined that the existing location along the U.S. 70/I-40 corridor is the most appropriate place for this type of retail (**Figure 12**).

Because these commercial areas generate large amounts of traffic, methods to mitigate vehicle circulation impacts are vital. Minimizing curb cuts and providing improved internal vehicle and promoting pedestrian circulation could reduce the number of automobile trips within and around these commercial areas. Better circulation and drop-off sites for transit services would also improve traffic flow along this commercial corridor.

Highway Commercial District

The fourth type of commercial development is highway commercial (see **Figure 12**). Although these districts would include businesses that would be found in the regional commercial district, the amount of land required is not as great as regional commercial. Businesses that would likely be located in these areas could include gas stations, restaurants, hotels, and other uses dependent on highway access. These businesses have the potential for numerous curb cuts over a short distance creating a less safe environment that can be confusing for drivers. Reducing the number of curb cuts and providing internal circulation by connecting parking lots is recommended for these commercial areas. Pedestrian circulation is not the focus of internal circulation needs since highway commercial is primarily serving customers in automobiles; however, there is still a need for safe pedestrian circulation for hotel guests that may not have access to a vehicle.

Summary of Commercial Strategies

Neighborhood Core districts permits a mix of retail, services, formal open spaces, and small neighborhood parks.

Neighborhood Core districts should be within walking distance of residential neighborhoods.

Locate Neighborhood Core districts at major thoroughfare intersections.

Large retail stores or office buildings should be oriented to major streets and smaller businesses can be oriented toward neighborhoods.

Retail stores should not have blank walls facing streets.

A typical Neighborhood Core district would have approximately 80,000 to 140,000 square feet of retail space.

Community Commercial districts should be compact, but sized to serve several neighborhoods.

Community Commercial districts may include up to 500,000 square feet of commercial space, but no single building should exceed 160,000 square feet.

Community Commercial districts may include a mix of retail and service businesses and upper story residential. These districts may also include "big-box" retail or "superstores" in order to reduce the need for cross-town travel to the U.S. 70 regional shopping area.

New neighborhood core and community commercial architecture should be in context with surrounding neighborhoods and use consistent building materials.

Transition from commercial district to residential neighborhoods with multi-family, offices, formal open space and higher density single-family housing.

Sidewalks, landscaping and pedestrian amenities should be provided in neighborhood and community retail areas. Pedestrian amenities should include the placement of public art in formal open spaces.

Design roads to slow traffic in Neighborhood Core and Community Commercial districts with medians and narrower lanes.

Locate parking behind buildings or in the interior of new Neighborhood Core and Community Commercial development.

Minimize curb cuts, connect parking areas, and promote improvements in pedestrian connectivity in Regional and Highway Commercial areas.

Regional Commercial circulation improvements should include providing drop off points for transit providers in new developments.

Redevelopment of existing commercial areas should be encouraged over development of new commercial sites through city policy with non-financial incentives.

Housing Development

Housing in Hickory has been primarily single-family residential throughout most of the city's history. Single-family development has steadily grown outward from the earliest development of areas such as the Kenworth, Ridgeview, and Oakwood neighborhoods. These neighborhoods established a strong sense of pride in home ownership early in the city's history. City residents and city officials intend to continue to preserve the residential character of its single-family neighborhoods.

With affordable housing growing more rare, families have had to move to cheaper but more distant but more affordable peripheral areas, consuming agricultural land and open space, and overloading roads with long commutes. In the past few years the demand for more affordable housing has resulted in an increase in large-scale multi-family residential developments in the city. The realization that providing affordable housing in Hickory is an asset to employers, and enhances the diversity of city residents, has resulted in a change of attitude that single-family residential development can allow for a mix of single-family and attached housing types and densities in certain locations. Higher density development constructed in close proximity to existing single-family neighborhoods still causes some concerns about the scale and transportation requirements between the two housing types.

Planning Principles

Promote mixed-use/multiple use neighborhoods. Hickory is similar to most communities in keeping different land uses separated. While there may be parks, schools, and in some locations, small commercial districts, in close proximity to residential areas, these land uses are not truly integrated. In many cases they are not even physically connected to residential neighborhoods, except for roadways. To create an improved sense of neighborhood identity and provide more amenities to city residents, parks, public spaces and facilities, open space, and commercial activities need to be better integrated into the fabric of the community. By minimizing physical barriers and promoting pedestrian access to non-residential uses in a neighborhood, people will be encouraged to stroll or bike through their neighborhood to enjoy parks, open spaces, attend schools, go shopping, or simply visit with their neighbors.

Provide a variety of housing options to meet the needs of all residents of Hickory. Many cities across this country have experienced a significant out-migration of residents to suburban communities. Although there has been development of subdivisions outside of Hickory's city limits, the city is unique because as residents have left other cities, there has been a stable population with increasing household wealth and demand for housing of all types. The mid-range and upper ranges of housing stock are being constructed to meet those demands, however there has not been a corresponding reaction to the demands for more affordable housing in Hickory.

Many employees of industrial and commercial establishments, as well as city staff have to look beyond Hickory into other communities such as Conover, Newton, Catawba and Burke Counties to find housing that meets their financial requirements. It is common to hear about young adults having to leave Hickory to find starter housing. In addition to the issue of providing adequate housing for people who work and desire to live in the city, another issue is the volume of traffic generated by persons having to drive into the city from their home in other communities. These issues can be addressed by identifying appropriate locations in Hickory for higher density, more affordable housing.

Ensure compatibility between single-family residential and higher density residential and non-residential land uses. Hickory is dominated by single-family residential neighborhoods that want to preserve their residential character. However, the desire for the traditional development pattern of disconnected single-family residential neighborhoods is beginning to change. Hickory residents have revealed their desire to provide more connectivity and proximity to commercial uses, public spaces and facilities, and in some limited form, higher density residential. This desire is predicated on adequate transitions of building size and use, and buffering from non-residential or higher-density residential areas that will retain the character of single-family neighborhoods while allowing proximity to non-residential uses.

Housing Strategies

Hickory has historically been a single-family residential community. Continued population growth has kept up the demand for single-family homes. However a rising demand for more high-quality affordable housing in recent years

has increased the demand for higher density and lower cost housing. The goal is to provide a range of housing types and sizes to accommodate a broad range of households.

Multiple-use neighborhood development is recommended to address these issues. These neighborhoods should be human-scaled and be diverse in use and population. They should have a neighborhood and local shopping focus (as discussed in the Commercial section above) and include a combination of service, civic, recreational uses, and various densities of housing (**Figure 13**). This strategy can preserve open space, reduce automobile traffic, provide affordable housing alternatives, and support transit.

The primary residential area should be within a convenient walking distance (approximately ¼ mile) from the edge of neighborhood and community core commercial areas. These should include a variety of housing types including townhouses, condominiums, apartments, and single-family homes with smaller lot sizes on the average.

The design of in-fill housing in these higher density primary residential areas needs to reflect the character and context of existing neighborhoods in the immediate vicinity. The design guidelines for new development should respect current architectural details and housing densities but the guidelines should not require specific architectural styles. These primary residential areas will provide a transition to lower density housing in the secondary residential areas and focus a larger population within walking and biking distance of shopping, employment, parks, and transit stops.

Multi-family development in primary residential areas should incorporate screening and landscape amenities to buffer the high density housing from medium density in the secondary residential areas. These higher density developments are an appropriate transition between the neighborhood core commercial and community commercial districts and the balance of the housing in the neighborhood. The predominant type of multi-family structures should be small-scale apartment buildings that respects existing neighborhood character. This transition will ensure that the current residential character of surrounding housing will be maintained. Multi-family housing would provide additional options for seniors and others desiring more affordable housing.

The street and sidewalk system in primary residential areas should be considered a social space in the neighborhood. This inter-connected system of pedestrian friendly roadways would direct traffic to the neighborhood core area or to collector and arterial streets. This roadway system, which would provide direct access to surrounding neighborhoods, also offer drivers more routes to reach their destination, which should help reduce congestion on major thoroughfares. Local roads in the primary residential area would have narrow driving lanes, and on street parking in appropriate locations. Pedestrian friendly design of the circulation system could include development of shorter blocks to create a better context for smaller lot residential lots and shorter setbacks and put a more human scale to the neighborhood.

A secondary residential area is recommended for medium-density housing types. These areas provide larger homes on larger lots but still have the advantages of proximity to the neighborhood core. This residential areas provides a transition between the Neighborhood Core district, primary residential, and lower density single-family housing.

The secondary residential area can provide a number of open space conservation opportunities. Conservation can be achieved by clustering homes near the primary residential area. Under this clustering concept, the overall density of the development remains consistent with other development in the same, but the development is focused on only part of the site while the remaining area is conserved as open space. This allows for the preservation of valuable natural resources such as wetlands, hillsides, floodplains, farm fields, and woodlots.

To ensure a wide variety of housing types in the city, rural residential areas are proposed. This would provide a low-density development pattern in the outer portions of the city's planning area and will provide a transition from the higher densities of the city and the rural areas of Catawba County. The rural development pattern will be compatible with Catawba County plans for these areas, which recommends medium-density and low-density residential. The principals of conservation subdivision design will be encouraged in these areas as well.

Maintaining and enhancing housing property values are important to city residents. To accomplish this desire of the community a property maintenance code should be prepared and enforced.

Summary of Housing Strategies

Provide mixed-use/multiple use neighborhoods throughout the city.

Higher density primary residential neighborhoods should be next to commercial centers and should include a variety of housing types such as condominiums, apartments, and smaller-lot single-family residential.

Higher density housing needs to reflect neighborhood design characteristics, but would not require strict adherence to a particular architectural style.

Lower density secondary residential areas should adjoin the higher density primary residential neighborhoods.

Lower density secondary housing areas should provide for open space conservation.

Residential streets should provide sidewalks and direct access to neighborhood core districts.

Develop and enforce a property maintenance code.

Industrial Development

Manufacturing and other industries have been the backbone of the Hickory economy throughout the city's history. These industries are typically dependent on a good transportation network. This has resulted in the largest concentrations of industrial facilities being located along major thoroughfares such as U.S. 321 and Highland Avenue/Tate Boulevard corridor, and along the railroad. Because of industry's importance to the economic viability of the region, industrial development is a key component of both the land use and transportation planning effort.

Important themes that evolved during the planning process included continued reliance on efficient access to a regional/interstate road system, the importance of multi-modal connections, compatible land use relationships, and the need for appropriate aesthetic controls.

Most industrial facilities are located along major thoroughfares in Hickory. However these major thoroughfares are also the gateways into the city and are an important factor in developing a community image in the minds of residents and visitors.

Planning Principles

The importance of industry to Hickory and the region is unquestioned, however a number of issues related to the necessity of industrial facilities continuing to be good corporate neighbors were raised during the planning process. The desires of the community and leaders of industry are represented in the following planning principles.

Promote economic sustainability by providing a variety of facility development opportunities for both large and small industrial businesses. The establishment of business parks should provide a variety of parcel sizes to accommodate large industrial facilities as well as smaller and start-up businesses. This variety provides the community the opportunity to diversify industrial business sizes that can then better withstand economic downturns. Another factor in identifying a variety of parcel sizes is the topography in the city. There are areas that are relatively unconstrained for large-scale industrial development. However there are also many locations where topography, watershed, aircraft safety, and flood prone areas limit the size and density of development.

Ensure efficient access to major transportation systems by locating industrial land uses in close proximity to highways and major thoroughfares. Another critical factor in the success and sustainability of the industrial sector in Hickory is the ability to get each company's product to the market. Safe, efficient access to interstate highways and major thoroughfares in the city will aid in the long-term viability of these businesses. The proximity of limited access roads also help reduce fuel consumption and production of air pollution by minimizing the number of times that trucks have to stop and start. This proximity to high volume roads would reduce the use of residential streets.

Minimize land use conflicts between industrial areas and residential neighborhoods. Residential neighborhoods and industrial land uses are usually not compatible and generally should not be located adjacent to each other. However there are locations where industrial land and single-family neighborhoods will be in close proximity requiring landscape and distance buffers.

Prepare and enforce appropriate aesthetic controls. Because roads such as Tate Boulevard SE, Highland Avenue NE, and U.S. 321 are gateways into Hickory it is appropriate to encourage a minimum aesthetic standard for these businesses. However, these aesthetic controls would not necessarily apply to industrial facilities that are not along public roads.

Industrial Development Strategies

Industrial growth in Hickory is an important factor in the continued high quality of life and low tax rates that city residents have experienced over the years. It is anticipated that industry will continue to grow and will require land for new facilities and expansion of current operations. These job centers need to be concentrated and centralized to keep them accessible to a wider number of employees. **Figure 14** illustrates the future industrial employment center concept.

The area between Tate Boulevard SE and Highland Avenue NE, east of 12th Street NE and the current industrial concentration is an appropriate location to focus expected industrial growth. There is access to I-40 and U.S. 70 and access will improve when McDonald Parkway is completed. This area of the community provides the least potential problems with incompatible land use relationships since Highland Avenue and I-40 buffer much of the area. There are existing industrial facilities north of Highland Avenue NE and more land is proposed for industrial development.

Industrial development is also appropriate in the vicinity of Hickory Regional Airport. Access from this area to U.S. 321 has improved with the recent construction of Clement Boulevard and the regional Transportation Plan has identified additional improvements that will benefit the area. Industrial development in the vicinity of the airport will need to be in accordance with watershed protection regulations and airport safety requirements. Because of these requirements the density of development will be lower than other industrial areas and the storm water runoff from these developments will have to conform to water quality regulations. To minimize hazards to aircraft and persons on the ground, airport zoning regulations should be prepared that direct location, population density, and height of structures.

The large industrial employment center located on U.S. 321 north of U.S. 70 has minimal capacity for expansion and construction of new large facilities. There is, however, potential for redevelopment or reuse of older industrial and commercial properties, particularly along Old Lenoir Road/11th Street NW. Several of the existing establishments along this road and may be good targets for redevelopment. A significant role for businesses in this area is improving the aesthetics of the U.S. 321/Old Lenoir Road corridor and providing an attractive gateway into the city.

Although the industrial sector is healthy, several other older industrial facilities are now vacant. One factor for these vacancies is that older industrial facilities may not be designed to meet modern industrial needs. These facilities should be analyzed and a program developed to reuse or redevelop these older structures. Use of older structures may be appropriate for start-up or smaller industrial businesses.

Many of the same environmental protection development concepts will be required as part of industrial development at the U.S. 321/River Road interchange in order to protect the Henry Fork River watershed. The industrial development pattern in this area will adhere to similar development guidelines as the watershed protection area along Lake Hickory. Industrial development at this location would be a collection of inter-connected business parks. This development would respect the physiography of the area and minimize impacts to the watershed from erosion, excessive grading of steep slopes, provide flood plain protection, and conserve wildlife corridors.

Summary of Industrial Development Strategies

Develop reasonable landscape standards that focus on industrial areas that are in public view. Set higher standards for property on major thoroughfares and abutting residential neighborhoods, and less stringent standards in areas away from major streets and housing.

Redevelop or reuse older industrial properties.

New industrial development should minimize impacts to natural resources.

Industrial development in proximity to the airport needs to adhere to new airport zoning and watershed protection regulations.

Transportation

Hickory is well served by rail, aviation, and an expanding road system. This variety of transportation options is important for business to get supplies or goods to market and for residents of the city to travel to other destinations. The transportation system also provides circulation within the region and city for commuters to and from Hickory. As the city and region grows these transportation systems will also need to evolve and improve to meet the demands of business and residents.

Because of the importance of transportation to Hickory this component of the plan was discussed at length during the public input/charette process. A large number of issues and concerns were raised and were consolidated into general themes.

Vehicular Traffic—The city has good regional access with U.S. 70 and 321, and I-40. Regional access will improve now that U.S. 321 construction is completed. However, anticipated growth in population and traffic volumes is cause for concern for both major thoroughfares and local streets.

Pedestrian Circulation—Residents of Hickory enjoy the small town character and relatively compact development patterns of the older portions of the city. However, beyond that area, a well-established pedestrian circulation system does not exist.

Transit—The region is currently served by the Piedmont Wagon bus system, which is primarily used by residents that may not have regular access to an automobile. Although this transit service is not widely used, residents of Hickory expressed support for continuation and improvement of the bus system.

Aviation—Hickory Regional Airport is an important asset to the residents and businesses. Because of its importance to travelers and the business community, the airport needs to be protected from development that would hinder its operations.

Rail—From the earliest days in Hickory's history, rail service has been an important transportation option for Hickory. Passenger service declined and was eventually discontinued. Some limited passenger service is now proposed. This may lead to an increase in the use of rail for tourist transportation.

Planning Principles

Promote multi-modal transportation options. The automobile is the primary transportation option in Hickory. The Piedmont Wagon provides access to services that people need in their daily lives such as retail shops and medical facilities, however the service is not used extensively. For travelers leaving the city the automobile is generally the first option, but the Hickory Regional Airport is continuing to increase the number of passengers utilizing the services of commercial airlines for regional transportation. A former transportation option for people traveling to destinations beyond Hickory was the railroad. Although it has been decades since this option was available for travelers, there is the possibility that passenger rail service may again be provided in the near future.

A transportation system that weaves each of these options into a coordinated system and provides convenient access from one mode of travel to another would best serve the community. A multi-modal transportation system, when linked to higher density land uses, would offer more options for employees to get to work, provide seniors access to medical facilities and shopping, and families to go to district/regional recreational facilities.

Promote vehicular and pedestrian connectivity throughout the city. The roadway system in Hickory is not well connected resulting in drivers having to take a circuitous route through neighborhoods to reach their destination. Pedestrian circulation has also been limited because of a lack of sidewalk connectivity in residential and commercial areas. Limiting circulation options results in an increase in the number of trips in automobiles, a corresponding increase in the number of miles traveled in automobiles, and increases in air pollution.

Establishing vehicular and pedestrian connectivity would offer more paths for people, giving them the opportunity to reduce the length of their trip, find a variety of pleasant roads to drive on, and reduce congestion on major thoroughfares. Improved pedestrian connectivity would offer an opportunity for people to not use their automobiles and would encourage shoppers to walk from one store to another.

Establish measures to ensure pedestrian and motorist safety. Motorist safety has always been one of the most important elements of roadway design. Designing safer roads has in many cases been in the form of wider ROW and lane widths, which have inadvertently given drivers a sense of safety. Safer, wider roads also encourage higher speeds. Sidewalk construction has generally been given a low priority in the design process resulting in sidewalks constructed next to roadways with no physical space buffering pedestrians from automobile traffic, or no sidewalk at all.

Higher traffic speeds are appropriate along roadways that are need to move large volumes of traffic, but in areas where there are potential pedestrian/vehicle conflicts, vehicles need to be slowed down to minimize these conflicts. Neighborhood Core and Community Commercial districts are the primary locations where traffic calming measures such as narrow lane widths, road landscaping, and the construction of medians, would aid in slowing traffic and provide a safer environment for pedestrians.

Promote measures to reduce congestion and the amount of vehicle miles traveled in Hickory. As Hickory and surrounding region grows there is corresponding increase in traffic on major thoroughfares and local streets. The growth of the region also increases the distance many people have to travel to work, shopping, cultural activities, and visits with friends. One of the most important measures of reducing traffic congestion and vehicle miles traveled is adjusting land use patterns.

Thoughtful land use planning is critical to establishing the spatial relationship of where people live, work, shop, and recreate. Land use planning should identify appropriate locations for neighborhoods that enhance and preserve residential character while offering opportunities to easily access shopping, open space and recreation, and employment with only a short drive, walking, or biking. By maximizing these opportunities, congestion and the long distances of commuter travel can be reduced.

Transportation Strategies

Transportation issues in Hickory have been addressed at a region-wide scale for over a decade. The Metropolitan Planning Organization (MPO) and North Carolina Department of Transportation first prepared a coordinated Metropolitan Transportation Plan in 1986. This plan was updated in 1997. The plan addresses many issues affecting the roadway system in Hickory and surrounding region including traffic generated within the city, commuter traffic, and traffic volume from motorists passing through the region. Currently, traffic generated within Hickory is the highest percentage of vehicle trips in the region. The second highest percentage is commuter traffic. To address these issues the Transportation Plan recommended numerous transportation improvements to create efficient east-west and north-south traffic patterns. These improvements include construction of a loop road system that will allow efficient travel from the north and northwest to the southeast where major industrial and commercial employment centers are located. Other significant improvements include widening U.S. 321 to accommodate projected traffic increases. This planning effort has revealed some additional improvements that should be implemented to accomplish the vision that city residents and officials have for Hickory.

The development patterns in Hickory over the last 50 years have been the primary contributor to traffic congestion in the community. It is a symptom of the evolving economy in the area. While downtown employment once dominated, suburb to suburb traffic patterns now produce greater commute distances, driving time, and air pollution.

These transportation strategies are focused on providing a diverse environment consisting of a number of alternative ways of getting around. The convenience of the car and the opportunity to walk or use the transit system should be blended in a network with local access for many of the daily needs of the community.

Establish a better link between land use decisions and transportation patterns. New land use decisions need to reflect the desire to have more residential neighborhoods in closer proximity to areas of employment, shopping, parks, and cultural activities. This proximity would encourage people to walk or bike to these destinations. If they chose to drive to these destinations the number and length of vehicle trips would be reduced. These improved land use relationships would also encourage alternative modes, such as transit, biking, and walking.

The local street system is not well connected which minimizes travel options. Improving traffic patterns and providing more options to motorists can be accomplished by providing more connections between local streets in Hickory. New subdivision developments should have road connections to give motorists additional options for travel

to the neighborhood core and community commercial districts, where feasible, as well as make it easier to get from one neighborhood to another. More roadway connections in these districts provide more options for residents in the surrounding neighborhoods to access facilities in the commercial core without traveling on a major thoroughfare.

As part of the U.S. 321 Corridor Study, analyze the need for a new interchange on U.S. 321 to provide access to/from Main Avenue NW. A new interchange could provide access from 321 to the major industrial employment center along Tate and Highland Boulevards as well as provide sufficient traffic volumes to help support the proposed neighborhood business area in the Four Points area, and the commercial establishments along the roadways in the City Center.

Establish 17th Street NW on the west side of 321, and 12th Street Drive NW/Old Lenoir Road on the east side as business access roads. These roads could provide access to the commercial and industrial businesses along 321 and remove a significant number of vehicles from this busy roadway. Access to these roads from 321 at Clement Boulevard and extending them south to 1st and 2nd Avenues SW would have the potential to reduce traffic volumes on 321.

To improve traffic flow along U.S. 321, it is recommended that the intersections be studied to determine if it would be feasible to add off ramps to provide access to city streets. These off-ramps would remove traffic from the road more efficiently and safely, and would provide space for vehicle-stacking which would reduce congestion at intersections.

Study east-west traffic flow through Hickory with the objective of defining the future street configuration needed to provide acceptable levels of service and street designs compatible with the future adjoining land uses to be served. As a part of this study, consider the conversion of the one-way pairs (1st and 2nd Avenues SE/SW and 2nd and 3rd Avenues NE/NW) to two-way traffic.

Design streets and street improvements so they reflect the appropriate vehicular speed. Roadways through residential and commercial areas should be designed to slow traffic. Lower vehicular speeds increase pedestrian and vehicular safety and decrease noise. This can be accomplished by reducing lane width, planting street trees, construction of landscaped medians, provision of on-street parking. These measures will slow vehicular speed and accommodate the pedestrian.

Pedestrian safety is a major consideration at intersections, particularly in commercial districts where more pedestrian traffic would be encountered. Traffic calming measures for intersections could include raised crosswalks, raised intersections, a combination of on-street parking, and narrow road widths at the intersection. Medians also provide a refuge for pedestrians, offering them a safe haven when crossing streets. Pedestrian friendly signalization and good street lighting also offer more protection for people attempting to cross streets.

Intersection improvements would also enhance driver safety by slowing automobiles and forcing drivers to pay more attention to road conditions. A more restrictive intersection control measure is construction of roundabouts. Roundabouts would force traffic to slow when entering the intersection, while still allowing sufficient capacity at that intersection. Roundabouts also can be used to hinder the movement of larger trucks, forcing them to use another route. The Old Lenoir Road/12th Avenue NW area is dangerous due to grade changes and three intersections in very close proximity. This location would be appropriate for development of a roundabout intersection to facilitate safer traffic circulation and hinder trucks from entering the residential neighborhoods along 12th Avenue NW. Roundabouts would also provide traffic calming for intersections in neighborhood core and community commercial districts. The landscaped center-island would also provide an aesthetic amenity to the district.

There are other areas of the city such as the Tate Boulevard SE/Highland Avenue NE corridor where the primary concern is to move traffic safely and efficiently. In these areas, wider lane widths, access control, and larger road geometry are recommended to accommodate larger volumes of automobile and truck traffic. Larger road geometry should be limited to designated truck routes and major thoroughfares such as U.S. 70, Catawba Valley Boulevard SE, and the proposed McDonald Parkway.

Access management is necessary in Hickory to ensure that roadways are not adversely affected by development that creates heavily congested conditions and unsafe driving conditions. The transportation improvements that would be identified in an access management plan are intended to control the flow of traffic between roadways and surrounding properties. Access management should incorporate analysis of existing and proposed land uses and

zoning along the corridor and the potential for generation of automobile and truck traffic from commercial or industrial development. Limits should be set on the number of curb cuts allowed for each new development parcel or linear feet, and the number of existing curb cuts should be reduced if they exceed the standard. To enhance safety at intersections, a minimum distance between curb cuts and intersections should be established. The design of a new street network and its ability to accommodate new development should be determined. To minimize paved areas, parking lot consolidation and connections should be considered. Preparation of site development strategies will ensure that new development will incorporate pedestrian considerations such as sidewalk connectivity and safety, appropriate lot layouts, and driveway and parking lot design.

Aesthetic improvements are recommended where feasible, to provide more visual interest to roadways, particularly major thoroughfares. These improvements will include street trees along planting strips at the edge of the roadway. Planting strips and trees will portray a more human scale to the roadway while providing a safety buffer between the roadway and pedestrians. In some areas a landscaped median will be included in the roadway cross-section. Roadway medians are recommended in neighborhood commercial districts as an automobile speed control measure and to provide a safe zone for pedestrians.

Pedestrian Circulation

Pedestrian circulation throughout the city is not well connected. The city's Sidewalk and Bikeway Plan is being implemented and is resolving some of the pedestrian needs. Creating a more "pedestrian friendly" environment is a major goal of this plan. The concept is to create a pedestrian-scaled environment so that residents can leave their homes and safely reach shopping, offices, schools, and other public spaces. The intent is not to replace the car but to balance it with pedestrian circulation. All roads in residential neighborhoods will have sidewalks and there will be continuity to provide many paths available to access the neighborhood core and community commercial districts and other homes in the neighborhood. A pleasurable walking experience is desired. This can be done through the placement of trees, the width of the roadway, the design of building facades, shorter building setbacks, and providing adequate space between the road and the sidewalk.

Sidewalks should connect dwelling units to the core retail area, civic activities, and social functions. The sidewalks should be considered a separate circulation network, running along roadways, however they could also diverge from the roadway to provide access to shopping and parking areas. Sidewalks will be constructed on both sides of all roads in residential neighborhoods, and Neighborhood Core districts with the exception of cul-de-sacs that will carry 200 vehicles per day or less. These cul-de-sacs should only have a sidewalk on one side of the street.

Transit

The current transit service is not well utilized. In addition to the existing transit route, drop-off and pick-up sites should be incorporated in new commercial developments. The Neighborhood Core districts, with their shopping destinations and higher residential densities, would make logical transit stops. Transit amenities should also be incorporated into the new Community Commercial areas and Regional Commercial districts. Providing transit stops in these districts would encourage use of transit to travel from one commercial area to another and allow more employees the opportunity to utilize the Piedmont Wagon to get to work.

Aviation/Rail

Hickory Regional Airport is a growing regional asset that provides a valuable service to corporations and residents of Hickory. Because of the projected growth for both commuter travelers and corporate aircraft, compatible land uses are required near the airport. Residential development should be discouraged in the vicinity of the airport. Industrial development is compatible with aircraft operations and should be located in the vicinity of the airport, however airport zoning needs to reflect the need to preserve the long-term capability and safety concerns of the airport, by limiting the height of structures, and the location and density of development.

The railroad currently serves manufacturing industries in Hickory, but there is a potential to accommodate passenger service in the future. Passenger service should be reestablished to the Union Square area. Passenger rail service would provide additional travel options and potential customers for downtown retailers.

Summary of Transportation Strategies

Provide diverse transportation opportunities that include automobiles, transit services, bicycling, and walking.

Reduce the length and number of vehicle trips by making land use decisions that improve proximity of work and shopping to residential.

Require new subdivision streets to connect to each other and to neighborhood core and community commercial districts. Provide multiple vehicle and pedestrian connections between these developments.

Develop Old Lenoir Road, 12th Street Drive NW, and 17th Street NW as business access roads to reduce traffic on U.S. 321. Access to these roads would be from Clement Boulevard and 1st/2nd Avenue SW.

Require the analysis of improving traffic flow on U.S. 321 by the addition of ramps to replace at-grade intersections during the preparation of the U.S. 321 Corridor Study.

Conduct a detailed study of east-west traffic flow, the connectors needed to provide acceptable levels of service, and the street designs compatible with the future land uses to be served.

Design residential and commercial streets to reflect appropriate speeds using the following:

Narrow lane widths.

Landscaped medians.

Street trees.

On-street parking, where appropriate.

Use the following where moving traffic efficiently is the primary concern:

Wider lane widths.

Access control.

Larger turning radii.

Improve street aesthetics where feasible with street trees, planting strips and landscaped medians, especially along major thoroughfares.

All roads in residential neighborhoods and in neighborhood core and community commercial districts should have sidewalks. The exception is for cul-de-sacs with less than 200 vehicles a day. These roads would only be required to have sidewalks on one side of the road.

Sidewalks can diverge from the street to provide access to shopping and parking areas.

Incorporate transit stops into new neighborhood core and community commercial districts and residential areas.

Develop airport zoning to control development and maintain safe air access to airport runways.

Reestablish passenger rail service to the Union Square area.

Community Image/Natural resources

Hickory has grown significantly since it was established over one hundred years ago and still retains much of its small town character. Older neighborhoods with tree lined streets, close to downtown such as Oakwood and Kenworth are examples of this character. Other factors that contribute to Hickory's image are the local topography and watershed drainages. The city has areas of steep slopes reflecting the proximity of the western Carolina mountains and the drainages leading to Lake Hickory and Henry Fork River.

An analysis of natural resources and discussions with the community at public input meetings and the planning charette generated issues and concerns that need to be considered as the city begins to chart its course toward the future. The many issues generated were consolidated into planning principles relating to open space and natural resources.

Planning Principles

Conserve natural resources and open space of local and regional significance. Hickory has developed a large portion of land in the northwest and the northeast is actively being developed, minimizing opportunities for conservation of any large tracts of land that may be home to significant natural resources. The portion of the city south of the I-40/U.S. 70 corridor still provides excellent opportunities for open space/natural resource conservation.

The Henry Fork River and South Fork Catawba River watersheds offer an opportunity for Hickory to be a leader in the region for conservation of open space and natural resources without precluding development. These watersheds include natural features that significantly inhibit development and could be linked into a continuous ribbon of open space that would protect important plant species, provide wildlife corridors, prevent erosion of soils from development on steep slopes, and minimize flood hazards.

Protect air and water quality. Air quality and water quality are usually at the top of people's lists for important criteria in having a high quality of life. At this time residents of Hickory and the surrounding region are blessed with good water and air quality. The city is not yet so large that pollutants from industry and automobiles create adverse conditions. However it is anticipated that the industrial sector will continue to grow, the city will increase in population, and through annexation Hickory will grow in size. Continued growth will result in increases in pollutant emissions from both industry and automobiles. As mentioned in the Utilities section, water quality is also at risk with continued growth.

The rationale for including air and water quality protection in this section of the plan is to discuss the advantages of natural resource/open space conservation that can be implemented to aid in environmental protection. Conservation of open space, particularly along waterways provide additional time for surface water runoff to percolate into the ground, reduce the speed of surface water flow, filter pollutants, and cool the temperature of the water. These advantages combine to improve water quality as well as help limit flooding. Large tracts of open space and consistent tree cover throughout the city would help filter air pollutants and at the same time help to cool the city during hot summer months.

Further develop recreational facilities and public access to recreational/natural resources. Open space and natural resources are an important aspect of a high quality of life. As mentioned previously, the city has numerous opportunities for open space/natural resource conservation, and should continue to plan for the development of parks and recreation facilities. Two of the most significant recreational and natural resources are Lake Hickory and the watersheds in the southern portion of the city. Although it is a benefit for people to know that those resources exist, it is also important to provide access to these resources in a manner that does not degrade their qualities.

Natural Resource/Open Space Strategies

Open Space/Greenway Conservation

Hickory is blessed with natural beauty. Large areas of natural open space are no longer in abundance in the city, however there are opportunities for conservation of valuable resources, particularly along waterways and drainages. Establishment of conservation greenways along waterways and drainages could provide natural

resource and water quality protection and floodplain management. Because land along the Henry Fork River, its tributaries and other watersheds in the southern portion of Hickory are not intensely developed, a conservation greenway could protect wetlands and wildlife habitat in these watersheds. Combining greenways with a comprehensive sidewalk and bikeway system can also provide pedestrian movement for both recreation as well as providing access from residential areas to cultural, commercial, recreational, and public facilities.

Greenways utilized for pedestrian circulation and recreation can incorporate linkages to city sidewalks to create a comprehensive pedestrian circulation system throughout Hickory. This comprehensive pedestrian circulation system could also provide needed access to parks and open spaces in the community, particularly in residential neighborhoods. The greenway planning process is not much different than land use planning. The main differences are site specific data are required on a smaller scale than for citywide land use planning. Public participation is vital in the greenway planning process particularly for communities that are leery of greenways or have not been exposed to the benefits of greenways.

Because a greenway plan is usually comprehensive and includes most waterways in a city the plan can be incorporated into numerous other city plans. However, a component of the greenway plan should incorporate provisions for excepting streams and drainages from conservation greenway treatment. The greenway plan could be incorporated into the city's Sidewalk and Bikeway Master Plan to produce a comprehensive pedestrian circulation system. The plan could also be incorporated into the city's Parks and Recreation Plan as both active and passive recreation opportunities. Since greenways will provide buffers and conserve waterways in the city the greenway plan should also be incorporated into a storm water management plan and be considered during the conservation subdivision design process for new housing. The appropriate sized conservation buffer would likely vary for the waterways in Hickory. Watershed protection requirements will need to be met as a minimum; however, for streams outside the watershed protection areas, several factors would need to be considered. Stream buffer widths will vary depending on factors that would include, among others, topography, soil conditions, stream water quality, and neighboring land uses. The most logical coordination of planning efforts would be combining greenways planning with regional open space planning.

Open Space/Parks and Recreation

Open spaces should also be preserved in residential neighborhoods to shape and enhance these neighborhoods. These neighborhood open spaces could be used to provide visual relief, protect wetlands, wildlife, wood lots, or steep slopes and provide opportunities to experience nature with just a short walk from home. New subdivision design and development in watershed protection areas in Hickory should utilize conservation subdivision principles when appropriate to conserve open space. Conservation subdivision design principles which were synthesized by the Natural Lands Trust in the book *Conservation Design for Subdivisions*, is essentially a four-step process that is briefly outlined in the following text. The design process should occur in the following order:

Identification of Potential Conservation Areas. This step identifies lands that should not be developed including historic resources, flood plains, wetlands, steep slopes, and significant wildlife and plant habitat.

Locate development sites. Utilizing the conservation areas as a starting point the housing sites can be located on the site in a manner that maximizes views, connectivity, and minimize environmental impacts.

Design Street Alignments and Trails. This phase identifies the most appropriate alignment for roads that provide connectivity within the subdivision as well as connectivity with surrounding development. This phase of the design will also take into consideration the potential for pedestrian connectivity with greenway trails, sidewalks, and bikeways outside the development.

Subdivision of the property into individual lots. This final phase is simply drawing lot lines delineating individual building parcels, see [Figure 15](#).

A regional open space initiative could provide the necessary open space to conserve and protect important plant and wildlife habitat and corridors in all or portions of Catawba, Burke, Caldwell, and Alexander Counties. Open space planning at the regional level will require political support from all communities in the region. The process will also require public participation at a regional scale to aid in identifying the priorities and criteria for open space conservation. In addition to the requirements for regional support by political entities and the public, an open space plan should at a minimum include:

Identification of lands that pose hazards (flood plains, airports),

Significant natural resources (areas of high biological integrity),

Wildlife movement corridors,

Areas already designated as recreational resources or areas with potential for active or passive recreation and,

Implementation measures and funding sources.

An additional benefit of open space conservation is storm water management. Open space interspersed with clustered residential developments would help reduce flooding potential in that neighborhood and downstream by reducing the amount of impervious surface in the watershed. Drainages should be left in their natural state as much as possible with only minimal channelization or piping of the waterway. Roadways in areas where open space and natural drainages are conserved could provide drainage swales instead of curb and gutters to allow time for storm water to percolate into the soil. This would also slow the speed of the surface water runoff prior to reaching the natural drainageway.

Passive parks/open spaces should be utilized to protect valuable natural and scenic resources on both neighborhood and regional scales. In addition to these potential neighborhood open spaces and parks, Hickory's Parks and Recreation Department has identified a number of new neighborhood park locations for the northeast and southern portions of the city. The Parks and Recreation Master Plan for Hickory, which was completed in February 1997, has broken down the future development of parks and recreation facilities into three phases; immediate (5 to 10 years); intermediate (6 to 10 years); and long-range (11+ years).

The short-range or immediate phase includes numerous improvements and repairs to existing parks and recreation facilities. This phase will also include the improvement of Stanford Park from a neighborhood park to serve as a district park, coordinate the development of a regional soccer complex, develop the Sandy Pines neighborhood park, and construct access to the Cloninger Mill park. Cloninger Mill park will provide additional public access to Lake Hickory. The implementation of the intermediate and long-range phases of the master plan relies on the projected growth of the city. The master plan recommendations for the intermediate range are based on the projected population of 48,000 in the year 2007. The intermediate range projects include repair and improvements and acquisition of land for new parks. The proposed locations for new parks are based on anticipated growth patterns and population projections for the south, northeast, and northwest areas of Hickory. The long-range phase calls for the development of these new parks.

Summary of Natural Resources/Open Space Strategies

Develop a comprehensive greenway plan for Hickory.

Establish conservation greenways along specified waterways and drainages for water quality protection and flood management.

Develop neighborhood parks and open spaces in northeast Hickory and improve public access to Lake Hickory.

Coordinate a long-range open space initiative with state and local governments and civic organizations.

Utilize conservation subdivision design for new housing developments and industrial/commercial development in watershed protection areas.

Support creation of development incentives and encourage the use of conservation easements, and conservation overlay district to conserve open space.

Land Use/Transportation Plan

Land use recommendations are based on the principle of mixed-use neighborhoods, which include commercial, civic, and recreation uses in conjunction with a variety of housing types. This network of neighborhoods could begin to balance downtown development with suburban investment by organizing proposed growth around a series of transportation options and keeping development compact. This strategy has several advantages, including:

Less emissions of air pollutants and degradation of water quality

Less land consumed for development

Less traffic generated

More natural resources and open space conserved

The land use categories are summarized in **Table 1**. The proposed future land use distribution for the City of Hickory is illustrated in **Figure 16**.

Neighborhood Core—The neighborhood core forms the basis of most of the future development patterns in Hickory. Because these districts are intended to serve local residents they are located in a spatial pattern that provides most city residents the opportunity to travel a mile or less to work, shopping, small parks, or open space. These districts are proposed to be approximately one quarter of a mile in radius. This distance will be a comfortable distance for persons in the surrounding neighborhood to walk to businesses and services. The key elements for these districts include neighborhood scale commercial establishments such as grocery stores, pharmacies, banks, small-scale office buildings, civic or institutional functions, schools, and small parks.

To aid in the sustainability of these commercial activities, consumers beyond these districts will have easy access since these areas are located at intersections of major thoroughfares including:

Sandy Ridge Road and 29th Avenue Drive NE,

NC 127 and 16th Avenue NW/NE,

NC 127 and 29th Avenue NW/NE,

NC 127 and Cloninger Mill Road,

16th Avenue NE and 16th Street NE,

Along NC 127 in Mountain View,

U.S. 321/Grace Chapel Road,

Sandy Ridge Road/Kool Park Road,

24th Street NE/Springs Road,

12th Avenue NE/Fairgrove Church Road Extension,

U.S. 321 NW, North of 12th Avenue NW,

Union Square Area,

Sandy Ridge Road and Springs Road,

NC 127 and Cloninger Mill Road,

Springs Road and McDonald Parkway,

NC 127 and Rink Dam Road (S.R. 1137) (Bethlehem),

4 Points/NC 127 SE in Kenworth,

The intersection of the proposed southern corridor and Robinson Road, and

U.S. 70 and 13th Street SW.

In the central portion of the city is the historic downtown that still serves many functions of a neighborhood commercial district as well as regional service provider of banking and medical services. Residential neighborhoods in the City Center also provide the market for smaller neighborhood or convenience commercial services for the proposed Kenworth shops, the Four Points commercial district, and the neighborhood retail by Lenoir-Rhyne College.

Many of the existing neighborhood commercial core areas currently have elements that are common to this proposed land use, including grocery stores, pharmacies, banks, and dry cleaners at locations such as the intersections of Sandy Ridge and 29th Avenue Drive NE. The current development patterns at these locations will not change dramatically in the short-term due to this land use classification, however as development and redevelopment proposals arise, in-fill development and reuse of existing properties should utilize the existing character of the surrounding neighborhood as a development model.

Existing neighborhood and community commercial development should be identified and "grandfathered." In locations where new neighborhood core districts are proposed and there is minimal existing development in close proximity, the design elements of the commercial structures can influence the design of surrounding development.

Community Commercial—Community commercial districts provide services and retail establishments that serve a larger market than a neighborhood core district. The intent of this district is to provide opportunities for larger scale retail developments that serve the northeast, northwest, and southern portions of the city and reduce the need for cross town travel to the regional shopping area along the U.S. 70 corridor. To serve these sections of the city three locations are proposed. The district centered on the U.S. 321/Clement Boulevard intersection would serve the northwest portion of the city. The community commercial district at the Springs Road/Kool Park Road intersection is intended to serve the northeast, and the commercial district at U.S. 321 and River Road would serve the southern portion of the city. The Community commercial district has a maximum total square footage for retail/office of 500,000, which is 360,000 more than the maximum for neighborhood core districts. Another characteristic of this commercial area is the opportunity for development of "big-box" or "superstore" anchors.

Regional Commercial—Regional commercial is currently focused on the I-40/U.S. 70 corridor. The Land Use Plan proposes the continuation of this development pattern. The I-40/U.S. 70 corridor provides the most convenient access for city residents as well as persons living in the surrounding counties due to the proximity of I-40, U.S. 321, and U.S. 70. Another advantage to this location for "big-box" or superstores, and regional shopping malls is that there are minimal opportunities for land use conflicts with single family residential.

Highway Commercial—Highway commercial areas are intended to serve travelers along U.S. 321 and I-40. Proposed highway commercial development will provide travelers with gas stations, restaurants, and lodging. There are five locations where these activities will be focused: Fairgrove Church/I-40 interchange on the east side of the city, U.S. 321/River Road interchange, U.S. 321/NC 127 interchange, south of the I-40/U.S. 70 corridor, and the proposed I-40/Southern Crosstown Corridor interchange on the west side of the city. The proposed highway commercial areas on U.S. 321 and west I-40 are approximately 25 acres in size. The highway commercial area on the east side of the city is much larger primarily to accommodate a much higher volume of travelers along this portion of I-40.

General Business—This land use category includes an irregular area that fronts Old Lenoir Road, U.S. 70, the railroad tracks, and U.S. 321. This area includes a variety of businesses including retail, offices, small-scale

industry, and warehousing. Most of these existing businesses are small, particularly those along Old Lenoir Road. Larger businesses are located along U.S. 70. The intended scale of development for this area would reflect the current pattern of small-scale along Old Lenoir Road to larger scale development along U.S. 70. This mixed-use area, particularly Old Lenoir Road, should reflect over time, the development patterns of the downtown area. Commercial buildings should be two to four stories in height with a combination of commercial/retail activities on the first floor and office use on the upper floors. Many of these businesses are successful and take pride in the upkeep of their property, and some are vacant resulting in minimal property maintenance. Because these roadways are gateways into Hickory, aesthetic controls as part of a corridor/access management plan will influence the long-term development of this area.

Primary Residential—Primary residential development in Hickory is directly associated with neighborhood core areas. The area covered by this land use extends approximately ½ mile from the central point of each neighborhood core area. Primary residential areas will create over time, higher density living in close proximity to neighborhood scale shopping and office employment centers. The combination of smaller single-family lots, shorter building setbacks, shorter blocks, and multi-family development would create a gross average density for housing at approximately six units per acre.

The housing density and proximity of these neighborhoods to the neighborhood core will allow residents the opportunity to walk, bike, or drive a very short distance to work, the grocery store, schools, or other civic institutions. Because of the relatively level topography in the northern portion of the city, and existing development patterns, most of the Primary Residential areas are consistent in their proposed pattern and connectivity. In the southern portion of the city the proposed development patterns will be influenced by natural resource constraints. The area of primary residential south of the Catawba Valley Boulevard does not support a neighborhood core district, however it does provide an appropriate border to the regional commercial development along the Catawba Valley Boulevard/U.S. 70 corridor.

Secondary Residential—Secondary residential areas will make up a large portion of the city north of I-40. These residential areas are associated with each neighborhood core and primary residential throughout the city. Proposed secondary residential areas will expand the existing single-family housing character in the city. Secondary residential neighborhoods would provide a medium density housing option where the gross density would be approximately four units per acre. Although the housing density would be less than the primary residential areas, pedestrian and vehicular circulation strategies in secondary residential areas will continue the pattern of connectivity from the primary residential areas. This medium density housing option would provide a transition between the higher density Primary Residential and lower density, Rural Residential areas.

Most of the land in this land use category is in the northern portion of the city where natural constraints are fewer. Conservation subdivision principles should be used to conserve flood plains, wetlands, and minimize storm water runoff in watershed protection areas. The use of conservation design principles should look beyond individual subdivisions in the secondary residential area and identify opportunities for connecting to open space in Primary and Rural Residential areas.

Rural Residential—This land use category is intended to provide an area of transition between higher density housing in Hickory and the surrounding rural areas of Catawba County. Because the only available growth patterns for the city are to the northeast and south, this land use is appropriate for areas south of Mountain View and to the northeast of the city. This development pattern also provides a measure of diversity of housing options for city residents. Although the gross density in these areas is proposed to be less than secondary residential, conservation subdivision design principals can provide opportunities for a combination of small and large lot development that results in a lower average housing density.

Industrial—Over the years, industrial development has concentrated in three areas in the city. These areas include U.S. 321, Hickory Regional Airport, and the Highland Avenue NE/Tate Boulevard SE area, and along the railroad. Although most industry has been concentrated in three areas there have been numerous individual industrial facilities operating scattered throughout the city. In many cases business owners that lived in the vicinity of their business established these facilities.

The existing concentrations of industrial businesses are proposed to expand. The industrial district along U.S. 321 will focus on redevelopment opportunities. Land in the vicinity of the airport is appropriate for industrial development, which is designed to be compatible with safety requirements for aircraft operations and reflects the

long-term needs of airport operations. Industrial development in the vicinity of the airport will also be required to adhere to watershed protection regulations to protect the water quality of the Catawba River, which is the primary source of drinking water for the city. The combination of these safety and environmental constraints will result in the construction of lower density, environmentally oriented businesses. Although these two areas offer some potential for industrial growth, the greatest potential for larger scale industrial development exists along the Highland Avenue/Tate Boulevard, and I-40/U.S. 70 corridors. This area is proposed for significant expansion opportunities for larger-scale industrial development. The proximity to I-40 and U.S. 70 provide excellent access to regional and interstate transportation systems.

Excellent access to regional transportation systems is also a factor in the location of the proposed business/industrial area east of the U.S. 321/River Road interchange. This proposed development area will incorporate many of the key principles of conservation subdivision design to minimize the impact to sensitive natural resources along the Henry River, but maximize the development potential of that area.

Public—Public facilities in Hickory include public works, hospitals, and schools, and the allocation of Public land uses reflects those existing facilities. In addition to being the regional center for retail, Hickory also provides the region a rich cultural environment with public facilities such as the SALT Block, and schools such as Lenoir Rhyne College and Catawba Valley Community College. Although cultural facilities such as the SALT Block and Lenoir Rhyne College are important to the region they are also located in close proximity to a large number of the city's population.

The location of both hospitals in Hickory offers good vehicular access with Frye Regional Medical Center's proximity to NC 127, and Catawba Memorial Hospital's proximity to I-40. Both medical center's locations also offer opportunities for employees to walk to work from surrounding neighborhoods. Both hospitals are also located in proximity to medical offices and commercial establishments that provide services for both the hospital and nearby residential neighborhoods. Catawba Valley Memorial is located in an area that provide opportunities for expansion, however Frye Regional Medical Center is surrounded by residential and office development hindering expansion potential.

Parks—Parks in the city include neighborhood parks, district parks, and passive open space. Most of the existing parks are located in areas where population density is higher such as Kenworth, Ridgeview, and West Hickory neighborhoods. The current Park and Recreation Master Plan identifies numerous improvements to the city's existing park and recreation facilities. To accommodate projected growth patterns the city is proposing to develop new parks in the southern and northeastern portions of the city. The proposed park in the Mountain View area will be a 12-15 acre neighborhood park to serve new subdivisions south of Brookford. The new park in the northeast will be a 20-30 acre district park located just east of Sulphur Springs Road. A third new park would be located at the City property north of MDI in Caldwell County.

Cloninger Mill Park will be improved during the long-range to serve increases in population in the northeast and provide additional access to Lake Hickory. Stanford Park will also be improved to provide a centralized location for a park that offers a variety of active sports and passive recreational opportunities. Recreation in the southern portion of the city should incorporate the passive recreational opportunities along the Henry Fork, Jacob Fork, and South Fork Catawba River watersheds. Bird watching, fishing, hiking, and biking are potential outdoor recreation pursuits for the proposed open space in these watersheds.

Conservation—The historic development patterns in the northern portions of Hickory have eliminated many opportunities for large-scale conservation of natural resources, however the southern portion of the city planning area incorporates excellent natural resource areas. The Henry Fork, Jacob Fork, and South Fork Catawba River watershed forms an inter-connected basin for natural resource conservation. Another basin is the Clark Creek watershed. These watersheds include high quality ecological resources, floodplain, steep slopes, and woodlands that could be weaved together to provide a regional environmental and recreational resource.

This land use category is based on environmental conditions that include steep slopes (>25 percent), 100-year flood plains of the waterways and heavily wooded areas. Potential wetlands have been identified along the Henry Fork River just west of the U.S. 321/I-40 interchange. Although these wetlands have not been officially delineated it is possible that they are many acres in size. Wetlands are very common to flood plains so it is likely that many additional acres of wetlands exist in these watersheds. Recent biological surveys revealed areas with medium to high biological integrity and high potential for protection of watershed. To protect water quality, and provide wildlife

migration corridors and larger patches of habitat, steep slopes along the waterways should also be conserved as part of this conservation open space.

Although the conservation land use category identifies a resource of regional importance this land use category does not completely preclude development but does protect the watershed ecosystem and minimize hazards from flooding. To minimize impacts to these natural resources, clustering of development of portions of parcels with less steep slopes and low quality ecological habitat should be encouraged. Development is currently regulated in the existing floodplains along the Henry Fork and other waterways in the city. Conservation of the land outside of 100-year flood plains could be a combination of conservation easements, land trusts, land purchases, and performance standards that are incorporated into a conservation overlay district. These methods of land conservation would include provisions for development incentives to minimize environmental impacts and while ensuring the connectivity of this natural resource.

Transportation Plan

The Metropolitan Planning Organization (MPO) and North Carolina Department of Transportation (NCDOT) completed *the Hickory-Newton-Conover Urban Area Transportation Plan* in 1997. This Transportation Plan made recommendations for roadway improvements and new road construction to accommodate land use growth patterns and the location of employment centers in the region using information generated prior to preparation of this Land Use and Transportation Plan. For more detailed information on regional transportation planning consult the Hickory-Newton-Conover Urban Area Transportation Plan. The following discussion reflects proposed minor changes to the MPO transportation plan that reflect the discussion presented in the Transportation Concepts section and population projections, future land use patterns, and public participation during the Land Use planning process.

The proposed road construction in the current plan will provide improved regional access for commuters traveling to employment centers, better access to I-40 and U.S. 70 and U.S. 321, and improvements to north-south circulation. One proposed thoroughfare (Northern Crosstown Loop) construction is intended to improve east-west circulation. The Transportation Plan also identifies roadway cross sections showing road widths and right-of-way (ROW) requirements.

Proposed Revisions to Current Transportation Plan

Proposed Extension of 6th Street SE

Changes in land use growth patterns and the completion of U.S. 321 in the southern portion of the city will influence circulation and the volume of traffic along existing roadways. In particular, the proposed industrial development at the U.S. 321/River Road interchange will result in a large employment center. The only significant access to this area is the U.S. 321 interchange. To provide additional circulation options, a new minor thoroughfare is proposed. This new collector street should extend south from 6th Street SE, cross the Henry Fork and connect with the interchange. This will provide access to residential neighborhoods to the north and reduce the volume of traffic on U.S. 321, which is already congested north of the I-40/U.S. 70 corridor, by providing additional options for motorists.

Proposed study to realign Clement Boulevard extension

In the vicinity of the Hickory Regional Airport is the proposed extension of Clement Boulevard, west to connect with SR 1653 in Burke County. The proposed road alignment is very close to the airport boundary and may negatively affect runway expansion and construction of navigational aids for aircraft. To protect the potential expansion options for the airport, an alternative alignment further to the north of the airport boundary should be considered.

Proposed Northern Crosstown Loop

The proposed Northern Crosstown Loop that would extend from NC 16 in Conover to NC 127 in Hickory is intended to be a four lane divided road with a raised median. The future land use concept proposes higher density residential development, and the development of additional park/open space along a long portion of the proposed alignment for this road. For this road segment to better reflect the future land use development concept, the roadway cross section should be reduced from the proposed four-lane divided arterial with a 90 foot ROW. The new road could be a three-lane collector road, which would have a maximum ROW of 63 feet, which includes bike lanes and sidewalks. In addition to the reduction in the ROW, the proposed road changes would include streetscape improvements to better integrate the road into the surrounding residential neighborhoods. This road segment would still provide motorists regional connectivity as well as giving city residents additional travel options for east-west travel.

Proposed East-West Connectors

Continue to study east-west traffic flow through Hickory, in particular in the northwest quadrant, with the objective of defining the future street configuration needed to provide acceptable levels of service and street designs

compatible with the future adjoining land uses to be served. As a part of this study, consider the conversion of the one way pairs to two-way traffic.

Revisions to Rights-of-Way Dimensions

Recommendations in the Transportation Concepts section included revising the proposed pavement widths, ROW dimensions, and the pedestrian amenities on the side of roadways. The proposed revisions to the MPO Transportation Plan and the City's Subdivision Regulations would reduce pavement widths in certain areas of the city to increase pedestrian safety, allow space for landscaping, and aid in reducing vehicle speeds. The proposed revisions to roadway cross sections are found in **Figures 17a, 17b, and 17c** and **Table 2**.

The recommendation in Hickory's Sidewalk and Bikeway Mater Plan that the MPO should revise road terminology in the regional transportation plan should be adopted in the next update to the plan. The following discussion presents optional terminology and brief descriptions of the roadway's function in Hickory.

Parkways

Parkways would have the widest ROW and be reserved for roads with the heaviest traffic volumes in industrial and commercial areas such as:

Tate Boulevard SE,

U.S. 70,

Catawba Valley Boulevard,

McDonald Parkway (proposed),

Sixteenth Street NE extension (proposed) from Lenoir-Rhyne Boulevard to Highland Avenue NE, and the Southern Corridor.

These roads are intended to serve high volumes of automobile and truck traffic but still provide a visually attractive gateway to Hickory. This roadway cross section includes a 10-foot median that would be landscaped with wildflowers and shrubs. Medians on NCDOT streets may need to be wider to accommodate trees. Because these sections of roads will handle large volumes of traffic and will not always be directly serving residential neighborhoods the construction of sidewalks will usually not be required. For areas where sidewalks are necessary, they should have a 10-12 foot setback from the roadway to enhance safety of the pedestrians. The proposed pavement widths include an option for one three-foot bike lane in each direction.

Arterials

Arterials would carry the bulk of the city's traffic volume since many more roads would have this designation. These roads would include:

NC 127,
Springs Road,
Sulphur Springs Road,
Highland Avenue NE,
Lenoir-Rhyne Boulevard,
Sandy Ridge Road,
N/S Center Street,
Fourth Street SW/NW,
Cloninger Mill Road,
Kool Park Road,
Clement Boulevard NW,
29th Avenue NW,
29th Avenue Drive NE, and

16th Street NE (north of Highland Avenue NE).
8th Street Drive NE

These roads would provide the primary roads leading to neighborhood core and community commercial districts. These new roadway cross sections include streetscape improvements that would benefit both the persons in the vehicles as well as pedestrians. The intensity of streetscape improvements would vary depending on the location of the road. The roadways with the most intense streetscape improvements would be in the neighborhood core and community commercial districts. Because these commercial districts will be located along Major Thoroughfares, a typical cross section would include four-lane, divided arterial with landscaping along the sides of the road and in the median to provide "friction" and help encourage the motorist to reduce the vehicle's speed. The road pavement widths will be narrowed to allow easier pedestrian crossing at intersections and to force motorists to drive at a slower speed. The speeds in the neighborhood core and community commercial districts would be less than portions of the arterials outside the districts. To ensure that motorists slow their vehicles when entering a commercial district, a transition area would be constructed just prior to the district. This transition area would be approximately one block long and include the introduction of streetscaping, signage, narrowing of driving lanes, and the introduction of a median.

Collector Roads

Collector roads will continue to serve the function that they currently serve which is funneling traffic from local streets to arterials or to other local streets throughout the city. Although these roads will also be in residential areas they will carry a heavier volume of traffic making a third turning lane a viable option in appropriate locations to allow continuous traffic flow and minimize potential for accidents. The proposed revisions to the ROW for these roads include landscaping, sidewalks, and bike lanes where they are determined to be appropriate.

Local Streets

Local streets include most streets in the city. They serve individual properties and direct traffic to collectors or arterials. The proposed revisions to the ROW include landscaping and sidewalks. There are no bike lanes proposed since the traffic volume of these roads would be significantly less than collectors, arterials, and parkways allowing automobiles and bikes to share the road. In addition to smaller lane widths, proposed revisions include provision of on-street parking in appropriate locations. The Primary Residential area would be a typical location for a two-lane local street with on-street parking. This road design could also be found in the side streets of the Neighborhood Core districts to provide a traffic-calming affect as well as providing additional parking close to commercial establishments. All of the proposed revisions to roadway cross sections included curb and gutter. In some locations it would be appropriate to eliminate the need for curb and gutter and provide storm water drainage swales. This storm water management measure should be incorporated into neighborhoods where conservation subdivision design is implemented.

Implementation Strategies

The effectiveness of the Land Use and Transportation Plan is measured by its ability to guide and effect desired change in development and transportation patterns. Key issues identified during the planning process document the desires of the community for these changes. This change will occur over the long-term through a number of short-term decisions made by elected and appointed officials. The following implementation strategies were identified as important steps in the implementation of the Land Use Plan.

Update City Zoning Ordinance and Subdivision Regulations. The recommendations contained in the Land Use and Transportation Plan reveal a vision for the long-range development of the city. The Hickory Zoning Ordinance and Subdivision Regulations will be updated to meet this vision. All of the development controls will be reviewed and updated as necessary to include densities, setbacks, building massing, and signage. Other key elements that should be addressed include the proposed new commercial, residential and industrial development patterns, and the City Center overlay district. The updated ordinances should also encourage open space conservation in the secondary residential areas through conservation/cluster subdivision design. Incorporate a section on airport zoning. Airport zoning regulations will protect the safety of aircraft as well as persons and property on the ground. These zoning regulations would also minimize the adverse affects of noise generated by airport operations.

Prepare and enforce property maintenance codes. Property maintenance codes would ensure that residential neighborhoods provide a positive image of the city to visitors and residents and prevents deterioration of property values. Property maintenance codes should also include industrial properties fronting on public roads would ensure that those road corridors or gateways leading in to Hickory would provide a positive image of the city to visitors and residents. This property maintenance code will be another step in implementation of the updated zoning regulations. They will ensure that once a property satisfies the zoning requirement that the property will be maintained to meet those standards.

Complete a Corridor Study for the U.S. 321. Aggressively implement the recommendations of the upcoming U.S. 321 Corridor Study.

Update/amend the Hickory-Conover-Newton Transportation Plan. Update the regional transportation plan to reflect the recommendations in the City of Hickory's Land Use and Transportation Plan. This plan has identified a number of recommendations including revising ROW requirements in some residential and commercial areas, minor changes to road alignments in the vicinity of the airport, and a recommendation for a new road to link to the proposed business/industrial park at the U.S. 321/River Road interchange.

Update the Hickory Sidewalk and Bikeway Plan. The Hickory Sidewalk and Bikeway Plan needs to be revisited to address the changes in the development pattern of the city and the vision of the community for a more pedestrian friendly community. The most notable recommendations for changes in the development pattern of Hickory are for the neighborhood core district and the primary residential areas. These areas are intended to be much higher development densities that make pedestrian circulation a viable transportation option. The plan should include a process for building sidewalks more aggressively outside new development so those new neighborhoods can connect to a sidewalk system. Creative methods of financing new sidewalk construction outside new subdivisions should be investigated, including raising the vehicle license fee to \$10.00 so that the Sidewalk and Bikeway Master Plan can be carried out in 20 years.

Prepare an Access Management Plan. Prepare an access management plan for the major thoroughfares in Hickory. The access management plan will identify specific strategies for managing public and private access to the city's major thoroughfares to enhance safety and manage thoroughfare capacity.

Study speed reduction and traffic calming techniques. There are currently numerous measures that the city could implement for calming traffic, however not all of these measures are appropriate in all areas. This study will evaluate traffic calming measures and identify the appropriate measures to implement in the community, particularly in the residential and commercial areas to create a safer environment for pedestrians.

Designate truck routes in Hickory. Finalize city policy for the establishment of designated truck routes on major thoroughfares in Hickory. As commercial and industrial development continues to grow a corresponding increase in

truck traffic will occur. To maximize efficient circulation and enhance public safety, city policy should prohibit through trucks from utilizing streets in residential neighborhoods.

Conduct a detailed study of east-west traffic. Include a study of the one-way pairs, which should be analyzed to determine if it would be feasible to convert these roads to two-way traffic. This study should include detailed traffic modeling to determine if the proposed change would accommodate traffic volumes at an acceptable level of service. The modeling should consider the effects of conversion to two-way traffic on intersections and the end points of the one-way roads. The study should also incorporate a cost benefit ratio analysis.

Prepare a long-range Transit Plan. Coordinate with the cities of Conover and Newton the preparation of a transit plan for the Piedmont Wagon transit service that would achieve the recommendations in Hickory's Land Use and Transportation Plan. Recommended changes in Hickory's development pattern and population densities should result in revisions to current transit stop locations, routing, and scheduling.

Establish a storm water utility. As the city grows there will be a corresponding increase in storm water runoff from impervious surfaces. To minimize potential flooding problems, a storm water utility should be established to develop, manage and operate a coordinated storm water system, and educate the public about their role in controlling surface water runoff.

Request a reevaluation of city's floodplain elevations by the Federal Emergency Management Agency. A factor in minimizing hazards from floodwaters is the protection of flood prone areas from inappropriate development. To ensure that current flood prone reflect development that has occurred in recent years a reevaluation of flood plain elevations should be requested.

Construct new water supply lines to create a loop water supply system. The city has water supply lines serving the city and areas outside the city limits. Although this system functions well in supplying potable water there are minor improvement required. There are many locations where the water supply lines are not continuous. In these areas the water supply lines need to be connected to create a continuous loop to prevent stagnant water conditions.

Coordinate with public utility service providers to bury overhead power and telephone lines. City officials should meet with the highest officials of Duke Power, the telephone and cable companies, and obtain their commitment to developing a plan for placing existing overhead wires underground. Coordination should include development of policies for incorporating burial of overhead lines during new development and street construction and identifying funding responsibilities.

Support the state's erosion control program in Hickory. As impervious surfaces cover more land in Hickory, more surface water runoff is generated. More surface water runoff will erode soils resulting in poor water quality and silting of storm water sewers. The State of North Carolina has an erosion control program, but is unable to monitor all sites effectively and the City of Hickory does not currently have the manpower to manage the state's erosion control program. The city should consider supplementing the state's program with on-site erosion monitoring inspections.

Prepare a citywide Greenway Plan. Hickory successfully completed a short greenway demonstration project in the northwest portion of the city. The city should build on that success and prepare a comprehensive greenway plan for the balance of the city. The greenway plan should include a comprehensive public participation program and could incorporate a combination of conservation greenways, hike/bike trails, sidewalks, and roadways to develop a greenway system that provides recreation, pedestrian circulation, protection of flood prone areas, and open space conservation.

Coordinate with Catawba, Burke, Alexander, Caldwell Counties, and the Western Piedmont Council of Governments to develop a regional open space initiative. Hickory is the regional center for several counties for medical services, employment, and retail shopping. The city should also be the leader in establishing a regional open space initiative. Open space conservation recommendations in Hickory's Land Use and Transportation Plan should be approved and used as a starting point for development of a regional open space plan.

Expand Hickory Landscape Master Plan. The city's current Landscape Master Plan presents landscape improvement recommendations for several gateways throughout Hickory. This master plan should be updated to incorporate the recommendations for the landscape improvements for neighborhood core and community commercial districts and include all gateways into Hickory such as Springs Road, McDonald Parkway, the proposed 16th Street extension, Old Lenoir Road, Highland Avenue, NC 127 south, and South Center Street. The landscape master plan should also be coordinated with the preparation of the access management plans for major thoroughfares in Hickory to improve the city's gateways.

Organize a public art program. A public art program should be developed to provide opportunities for artists to celebrate Hickory. These commissioned installations could be located in formal open/civic spaces in neighborhood core and community commercial districts, downtown, roundabouts at roadway intersections, and other public spaces. Public art could be funded through a "One Percent for Art Program."

Regional Cooperation

Cooperation between state and federal governments, neighboring municipalities, and regional entities are vitally important in successful implementation of the recommendations in this plan. Hickory has historically, and continues to this day, serve as a regional center for employment, medical services, retail sales, cultural resources, and to a limited extent, provision of public services. However, there are instances where the city must pool resources in the region to ensure an equitable distribution of responsibility.

Natural resource protection, recreation, transportation, economic development, and public services are just a few areas where the city will need to continue regional collaborative efforts. Although the city should be proactive in continuing or initiating regional cooperation, the WPCOG and the Hickory-Newton-Conover MPO will also bear responsibility in these efforts. These responsibilities will include, among many others, the establishment of regional commissions for environmental management and open space/recreation, continued coordination of transportation planning, coordination of water quality programs, investigation of regional land use planning, and promoting regional cooperation on affordable housing and economic development.

Sustainability Indicators

The analysis of existing conditions, responses from public participation, and formulation and evaluation of alternative land use patterns, form the basis for the creation of a sustainable vision for the city. This plan is also intended to be a dynamic document and should be referred to, discussed and revised as needed over time. Revisions to the plan could be based on changes in the economy, population, or other types of indicators. Sustainability indicators are intended to be a signal to a community that there may be a problem and to help formulate a plan to resolve the issue(s). Sustainability indicators can vary significantly in the system that they are monitoring; however, indicators should adhere to certain characteristics including:

Relevance to sustainability.

Be understandable to the community.

Be determined and accepted by the community.

Show the link between the economy, society, and the environment.

Focus on the Long-Range.

Advance local sustainability, but keep a regional viewpoint.

Based on reliable information.

Based on timely information.

The development of sustainability indicators should occur following the adoption of this plan and the update of the City's Zoning Ordinance and Subdivision Regulations. The number of indicators selected by the community should be reasonable to ensure that they will be monitored in a timely and efficient manner. To minimize the responsibilities and additional workload for Hickory's planning staff, the responsibility for monitoring some indicators could fall on the Hickory By Choice Committee. This role will provide the committee the opportunity to continue their efforts to build a more sustainable community and lead the city into the 21st century.

Planning Communications Strategy

The planning process is continuous. To ensure that the public stays involved in the implementation of the plan, a communications strategy is recommended. This communications strategy will include providing review copies at public locations such as City Hall, public libraries, and schools. The public will also be available to purchase the plan through Hickory's Planning Department, the Western Piedmont Council of Governments, Chamber of Commerce, Board of Realtors, Builder's Association and including the plan on the city's internet web page.

The plan could be summarized and mailed to city residents as well as provided to any interested persons at the Planning Department. Displays from the planning process will be circulated to schools, libraries, and community events. In addition to public displays, the planning process and plan recommendations could be presented to neighborhood organizations, civic groups, business groups, and any other organization by members of staff and the Hickory By Choice Committee.

As the plan is being implemented those residents that participated in the process will receive updates, neighborhood and civic newsletters, and the media will be contacted with press releases and articles describing the progress the city is making.

Demographic Analysis

Introduction

Understanding the existing population trends, employment status, and housing markets, helps to determine Hickory's growth potential as well as gain a clear perspective of the demographic composition of the community. The city's growth potential will then be used as a basis for predicting future trends, influencing the allocation of land and infrastructure for future planning efforts, and for the formulation of development opportunities, goals, and objectives.

Population Characteristics

The City of Hickory has been in a state of positive growth over the last few decades. This growth, although not as aggressive as in the past, is consistent with the population trends that have occurred in both the Hickory-Morganton-Lenoir Metropolitan Statistical Area (MSA) and throughout Catawba County. Population data indicates:

Hickory's population grew at a rate of 6 percent between the year 1980 and 1990, as reported by the U.S. Census. During the same time period, the Hickory MSA experienced a growth rates of over 8 percent, and Catawba County grew at a rate of nearly 13 percent (12.6 percent).

Since 1990 the area population has continued to grow. The North Carolina Office of State Planning (NCOSP) reported the population of the City of Hickory to be 28,474 persons in 1990, with an estimated population of 32,632 persons in 1996. This was an increase of nearly 15 percent, much of which may be associated with the aggressive annexation that has occurred within the city. The NCOSP also reported a growth of over 8 percent for Catawba County during the same period, further predicting that Catawba County will lead all counties within the Hickory MSA in total population gain during the 1990's decade. Estimates by the NCOSP also indicate renewed double-digit growth occurring within the MSA during the 1990's, with an estimated population of 330,367 in the year 2000.

Population projections for the City of Hickory were completed by applying the Cohort Component Population Projection Model, developed by Richard E. Klosterman. This model projects population by calculating separate components for mortality, fertility, and migration over a twenty-year period, for each individual age group for both males and females. The Hickory MSA and Catawba County projections are based on information by the NCSP Demographics Group. These projections also account for births, dates, and net migration. Based on the population projections:

By the year 2010, the City of Hickory is expected to reach a population of 60,802 persons. This represents a 113 percent growth rate between 1990 and 2010. Catawba County is projected to grow at a rate of nearly 24 percent over the same time period, reaching a population of almost 147,000. And, the Hickory MSA is expected to reach a population of more the 350,000.

Population projections for the County through the year 2020 predict continued growth at a rate of 8 percent, with the MSA growing at a rate of 33 percent (**see Figure A1**). The population projections for the County and the MSA for the year 2020 are 157,650 and 375,741 respectively.

The current population statistics were further analyzed to determine age distribution, racial composition of the citizens, and education attainment level within the area. This information, when combined with other socioeconomic data, helps to evaluate the characteristics of typical residents and consumers within the community. Census data indicates that:

The population of Hickory is fairly evenly distributed among the various age categories, with the largest percentile of residents falling within the 30 to 44 age bracket (24.5 percent). The fairly even age distribution (**see Figure A2**) is also present in the Hickory MSA and within Catawba County, although the MSA averages slightly older residents. The largest population concentration in the MSA falls within the 45-64-age bracket (24.1 percent), and the County has equal population percentages in the 30-44 and 45 to 64 age categories (23.7 percent each).

Based on 1990 Census information, the racial/ethnic diversity in the Hickory region is somewhat high. Anglos represent 78.7 percent of the total population, and all other racial/ethnic groups make up 22.3 percent, which is only

slightly below the national average of 26 percent. This racial/ethnic composition is not consistent with the MSA and Catawba County, where Anglos represent 90 and 88.1 percent of the populations respectively. Due to the business climate and job opportunities, Hickory has attracted a larger minority population.

The overall educational attainment levels throughout Hickory are also fairly high. Over 70 percent of the Hickory population over the age of 25 have obtained at least a high school diploma, with almost 50 percent of the population completing some post high school education (see **Figure A3**). These percentages are higher on the average than the educational attainment levels of both the MSA and Catawba County residents. Approximately 60 percent of the MSA and County population over the age of 25 have obtained high school diplomas, with less than 40 percent of each population participating in continuing education or attaining high levels of education.

Households and Household Size

The population increase experienced by the City of Hickory and throughout the region is also reflected in the household growth patterns that have occurred during the same time period. Based on Census data, the following household patterns have emerged:

An increase in households by almost 17 percent occurred between 1980-1990 in Hickory. Similar increases occurred in both the MSA and throughout Catawba County, which experienced increases in household numbers of 18.9 and 22.5 percent respectively.

The increase in households has continued at a less aggressive rate between 1990-1998, reaching a total of 12,580 households (6.6 percent increase) in the city. In addition, the household growth rates for the MSA and Catawba County also slowed slightly. These household trends are consistent with population trends experienced throughout the area, which show continued growth at less intense rates.

During the 1990-1998 time period, the average household size decreased from 2.28 persons per household in Hickory in 1990, to 2.27 persons per household in 1998. The same trend is found throughout the MSA and in Catawba County, which mirrors nationwide trends that indicate the average household size is on the decline. The average household size in Hickory remains slightly smaller than in the overall area, and size is expected to continue to decrease with an estimated household size of 2.26 persons in 2003.

Income and Employment

A substantial increase in per capita and median household incomes has occurred between the years 1989-1998 throughout the entire Hickory region. The City of Hickory, the MSA, and Catawba County have all experienced income growth around 40 percent over the nine-year period. The chart at the right illustrates the per capita and the median household income growth patterns occurring in the City of Hickory, as well as in the surrounding MSA and Catawba County.

Hickory had the highest per capita and median household income in the region in 1989 and 1998 (see **Figure A4**). The per capita income of Hickory was \$15,396 in 1989 (Census), and is estimated to be \$21,415 in 1998. Median household income increased by nearly 30 percent during the eight-year period between 1989 and 1997, reaching \$34,888. Such large increases can be contributed to the state of the economy in the area, and the increase in employment opportunities.

The 1990 Census reported low unemployment rates for the city, the MSA, and Catawba County. These low rates are indicators of a full employment economy and continued economic strength and stability in the region. Reports published by the North Carolina Employment Security Commission show even lower unemployment rates during 1996/1997. The City of Hickory's unemployment was at 3.4 percent, the Hickory MSA had a reported unemployment rate of only 3.2 percent, and the County report a 2.7 percent unemployment rate, well below the national average of 4.7 percent.

There is a strong entrepreneurial climate within the Hickory region, and over the past couple of decades, the city's economy has greatly diversified to include manufacturing, trade, and services. Today, the region is known for manufacturing with 40 percent of all of the telecommunications wire in the world being manufactured in the Tele Com Valley. Manufacturing is the primary industry employing residents in Hickory (35 percent), Catawba County

(44.1 percent), and the MSA (46.3 percent). Other principal industries in Hickory which employ significant portions of the work force population based on 1990 Census data include, retail and wholesale trade (21.7 percent) and professional services (18.9 percent). Some of the specific employers of large portions of the Hickory population are; Siecor, which manufactures fiber optic cable, Frye Regional Medical Center which specializes in health care, and Shuford Mills which manufactures textiles and adhesive tapes.

Demographic Summary

Evaluating population, household, and economic data provides a current snapshot of the condition of the community, and a profile of the residents who live there. The following are conclusions that can be made based on reported demographic information regarding the make-up of the City of Hickory:

The population is increasing at a rapid pace throughout the region. This growth is expected to continue, resulting in the largest growth decade in the past 30 years.

Much of the rapid growth has and will continue to be due to the aggressive annexation practices that the City of Hickory has implemented.

The City of Hickory is part of the fourth largest economic hub in North Carolina. This contributes to the low unemployment rates, and the significant increase in personal and household wealth.

Economic Development

The City of Hickory has many accolades promoting the area as an economic hub for the four county region. Hickory is part of the fourth largest economic hub in the state, was rated as the fifth best city in the state to do business, and had the fifth highest rate of new business per resident in the 1990's. Hickory was also ranked as one of the most active cities in North Carolina according to the North Carolina Department of Labor and the North Carolina Department of Revenue has classified Hickory as one of the top cities in retail. Finally, the City of Hickory has also proudly been rated as the seventh most entrepreneurial city in the country, which fully supports and contributes to the economic success of the community.

A powerful economic and business environment exists throughout the city. To gauge that environment, an economic development inventory was completed to summarize the economic trends that Hickory has encountered. Areas with existing development activity have been identified, as well as areas with a high potential for future development. This information will then be utilized in conjunction with other components of the plan to make more accurate projections of Hickory's economic needs, opportunities, and gaps.

Economic Strengths

There were many factors that went into the ranking of Hickory as the fifth best mid-sized city for business in North Carolina. Included within the evaluation was the potential for performance, skilled available workforce, receptive business climate, good transportation access, and decent quality of life. Hickory's potential for performance can be supported by the fact that Hickory as a city is a business friendly environment, and has consistently been pro-growth. As an entrepreneurial city, the community has also been successful in supporting and retaining both traditional industries (such as furniture) and highly technical fields (such as fiber optics industry).

The skilled available **workforce** in Hickory has increased by over 3.6 percent in the 90's. According to the Employment Security Commission, Catawba County has the highest number of furniture employees in the country, many of which are located in Hickory. The existing workforce population for the city is broken down in **Figure A5**.

The good **business climate** is evident in the retention of businesses in the area. The hosiery and furniture industries have been a mainstay for much of the century, and these markets currently comprise two-thirds of the manufacturing workforce. In addition, Hickory is the home of Alex Lee, a corporation that employs over 7,000 employees, and is the 25th largest employer in the state. Hickory also is the home for the production of one-quarter of the world's fiber optic cable, which is produced by Alcatel Telecommunications Cable, CommScope Incorporated, and the Siecor Corporation. The following list identifies the large employers and principal taxpayers in the city:

Siecor Corporation—Manufactures fiber optic cables
Shuford Mills—Manufactures textiles and tape
American Medical—Health care provider
Merchants Distributor—Grocery wholesaler
Centel Telephone Company—Communication services
Duke Power—Utility service industry
Peter Liebowits—Retail stores
Hickory Springs Manufacturing—Furniture manufacturer
Amireit—Health care provider
Century Furniture Company—Furniture manufacturer

The many **social and economic resources** residents have access to contribute to the quality of life Hickory maintains. Extensive educational opportunities are available through the two colleges that are in the area: Catawba Valley Community College and Lenoir-Rhyne College. There are nearly 7,000 students enrolled in collegiate level curriculum programs, and over 20,000 students participating in continuing education programs at these institutions. The community college system also provides an approved training program for employees from participating companies. This incentive program is funded by the state and the training program has been modeled nationally.

The **Effective Buying Income (EBI)** for the region is also an indicator of a successful economy. The EBI is described as the personal income tax and non-tax payments per household. This measures the ability to purchase, as well as provides a bulk measurement of the market potential. The 1997 EBI for the region, which was at \$30,727, has been rated as the sixth highest in the state, exceeding Asheville, Goldsboro, Greenville, Rocky Mount, and Wilmington MSA's.

During the first round of public meetings, a number of economic development issues were raised by residents of the community. These issues include:

The recruitment of new businesses and industries is encouraged to continue. However, these businesses should be environmentally friendly to the streams, rivers, air, and soil in the community.

A highly trained and skilled workforce is essential to meet the needs of Hickory industry.

Efficient transportation access is needed to fuel the growth of the regional economy.

The Land Use and Transportation Plan needs to be specific in identifying those areas where development is desirable and where it isn't. This will guide public and private investment.

Capital intensive industries should be encouraged over labor intensive industries.

Hickory's employment base needs to be diversified with a non-manufacturing job base.

Development is likely to spill over from Hickory into Burke and Caldwell Counties. Hickory should work with both of these jurisdictions and with regional planning agencies to assure that growth is orderly, coordinated, and well-planned.

Economic Development Initiatives

Traditionally, Hickory's economic development occurred along the railroad that was located in the area. As the city grew and the transportation network expanded, industries naturally followed. The community that at one time was devoted to the furniture industry has also increasingly diversified over the last two decades. Today Hickory serves as a trade, manufacturing, distribution, and service center for a multi-county regional area. And, while the areas of economic development are still focused around the transportation system, specific corridors and segments of the city have been devoted entirely to local commercial, regional development, and industrial uses. The following is an overview of the existing economic make-up of Hickory:

Industry in the community is focused in the West Hickory and Highland areas, essentially along the railways. Also the area along and around Tate Boulevard is experiencing considerable industrial and business park development.

The city has also recently annexed land north of the city limits in Caldwell County, which is specifically devoted to the MDI distribution facility.

Strip type commercial development that serves the local community is primarily located along U.S. 321, N.C. 127, and Springs Road. Downtown Hickory also provides commercial activity.

Regional commercial development dominates the U.S. 70/I-40 corridor. This area provides services and products to a region that includes Alexander, Burke, Caldwell, and Catawba counties.

These same areas provide potential expansion and future economic opportunities for Hickory. It is anticipated that almost 75 percent of new growth will be spurred by existing businesses. As U.S. 321 opens to the south it will be opening land for development south of the city. The U.S. 321 potential includes a 500 acre site located south of Hickory along U.S. 321 which is being planned for mixed use development by the city, and additional commercial opportunities at interchange sites. With this improved access to the south, there will be opportunities for continued regional type development, serving populations reaching as far as Charlotte. Current development opportunities include the following:

The city is assembling a 150-acre tract of land. This tract is located south of Brookford and is being marketed for mixed-use development.

As the Hickory Airport expands and develops, the area north of the airport may lend itself well for new airport and convenience related uses.

Areas to the northwest and southeast provide a large potential for future development. This includes N.C. 127 located north of Hickory, which has been identified as another high growth area.

Currently the city's economic development policy is to attract development that provides a return on the city's investment within 10 years or less and has a capital investment to jobs ratio of greater than \$100,000 for each job. This is qualified by an economic development philosophy which places a priority on development that is close to the city center, prefers adaptive reuse of existing structures to new construction, encourages growth where the infrastructure can support it, and recommends funding improvements that stay in the area.

The city also intends to continue its role in planning business parks. They propose to improve infrastructure in order to encourage more investment that will add to the city's tax base and where the cost of improvements will be recovered in 3-5 years. The intent is to, on a case-by-case basis, forge partnerships with private sector developers to create several large business/industrial parks.

Trends

The city's desire to keep development compact is a good one. Studies have shown that strong population growth and business relocations don't necessarily translate into the best real estate markets. These studies show that successful cities are those that concentrate amenities while integrating residential with retail and commercial districts in a pedestrian friendly configuration. The Real Estate Research Corporation in their publication Emerging Trends in Real Estate 1998, indicate that the best areas for investment have:

Upscale housing for executives with nearby affordable housing for staff.

Nearby shopping—preferably integrated into the community, with a regional mall nearby.

Ample recreation and entertainment—restaurants, theaters, parks.

Relative safety and security.

Good public schools.

Access to major transportation arteries—within 10 minutes of interstates and preferably mass transit.

Diversified tax base.

A semblance of regional planning and cooperation.

Summary

There is a diverse business community throughout the City of Hickory that contributes to the strong economy that is in place. This contributes to the good tax base, but the city will need to continue to grow in order to pay for and provide the desired services and amenities that residents and businesses want and need without significantly raising taxes. Heightened attention to the impacts of the new development on the character of the community will be needed, though, to ensure the long-term viability of Hickory as a good location for investment.

Natural Resources

An overview of natural resource conditions in the Hickory planning area provides one component of the framework for decision-making about future development patterns in the city. Factors such as flooding, air quality, soils, and unique ecological resources are considered during the planning process.

Ecological Resources

The City of Hickory is presently pursuing funds to aid in performing a Natural Heritage natural area inventory. This will determine whether all or portions of the subject area contain significant ecological resources such as habitat for rare species, high quality natural communities, or important wildlife habitats worthy of conservation status, and to document those significant ecological resources. The survey would be performed by the City of Hickory with the help of the Western Piedmont Council of Governments. The Natural Heritage Program would provide guidance and any information they might have. The Natural Heritage Trust Fund (NHTF) Board will meet in October of 1998 so, if funded, work on areas outside of the City of Hickory planning area could begin in the winter of 1998/99.

Air Quality

Air quality is monitored routinely by the NCDENR for those pollutants regulated by the state and federal Clean Air Acts (CAA). Generally, air quality within Catawba County is considered good. Caution should be taken since the neighboring MSA (Charlotte-Rock Hill-Gastonia) hit the average 4th highest daily 8-hour ozone rating. The primary contribution to local air quality conditions in the area for the past was vehicle exhaust; however, conditions are increasingly getting better as emissions in new vehicles decrease. The pollutant of concern now is PM 2½ pollutants. These particulates contribute to the haze seen in larger cities.

Air quality constraints to future development in the City of Hickory study area are difficult to predict, since significant advances are being made in the efforts to prevent emissions, while, at the same time, significant growth is occurring in the Hickory area. Such growth could place the City of Hickory into the same position that other counties are already under with the cloud of haze that exists over the Charlotte-Mecklenburg area.

Flood Prone Areas

Flood prone areas expose humans and their possessions to potential harm. The City of Hickory's flood prone areas are associated with the Catawba River, the Henry Fork River, and their tributaries.

The City of Hickory participates in the National Flood Insurance Program which includes the formulation of a floodplain management program requiring land use controls within the floodway and floodway fringe. The area of control would extend to the perimeter of the City of Hickory's extraterritorial jurisdiction. Catawba County does participate in the program.

The continued growth of the city could increase the potential for flooding along the city's waterways. Additional development would add impervious surface in the form of roads, structures, and parking lots. Thus increasing both the volume and rate of surface water runoff and the potential for flooding.

Open Space

Open Space is a way to conserve natural areas within a growing urban area while at the same time providing some outdoor recreation opportunities. These opportunities could include such amenities as walking, biking, hiking, picnicking, camping, hunting, and fishing. In addition to conservation of existing natural areas, rehabilitation of existing man-made areas can be reclaimed to provide open space. These open spaces provide an oasis in areas where development may not be so attractive such as vacant lots, abandoned rail line, easements for sewers or power lines, or along a building wall along a busy downtown street. The City Council's 1998-99 Goals and Objectives include developing recommendations to meet the spirit of the subdivision open space dedication policy.

Soils

There are four soil associations in the City of Hickory. Each soil association consists of several soil types and is a unique landscape unit within the city. Because the soil associations consist of several soil types they are used for citywide land use planning. Site specific developments should be based on more detailed studies of soil properties at the individual site. The soil associations for the city are briefly described below.

Cecil Association

These soils are predominately found on broad ridgetops and short side slopes. These soils are well drained and range from gently sloping to moderately steep. Locations of this association in the city occur primarily throughout the northeast. Slope is the main limitation to development on these soils.

Hiwassee-Cecil Association

Soils in this association are found on fairly broad ridgetops and short side slopes. These soils are well drained and range from gently sloping to moderately steep. This association in the city occurs along and just south of U.S. Highway 64-70 beginning near the Catawba Valley Community College area, extends to the east, and, after the city limits, extends to the northeast. Slope is the main limitation to development.

Pacolet-Cecil Association

This association is generally found on long, narrow, winding ridgetops and long side slopes. These soils are well drained and range from gently sloping to steep, mainly gravelly soils. Locations of this association in the city occur along the steeper terrain around Lake Hickory, through the eastern side of downtown, around the airport area, and to the area just south of downtown Hickory. Slope is the main limitation to development.

Madison-Cecil Association

Fairly narrow ridgetops and long side slopes are where the soils in this association are located. These soils are well drained and range from gently sloping to moderately steep, mainly gravelly soils. This association in the city occurs in the area between U.S. 321 and I-40, and again around the Town of Brookford. Slope is the main limitation to development.

Scenic Views

Existing scenic views of the Blue Ridge Mountains and Lake Hickory exist in several locations around Lake Hickory and in a few locations along downtown Hickory. Natural areas that have a chance of becoming significant scenic views could occur in several areas along the Henry Fork River.

Wetlands

Wetlands are found in depressions, along drainage leading to Lake Hickory, and drainage in the southern portion of the city such as Henry Fork River, where they are subjected to periodic flooding. A number of larger forested wetlands are located just south of I-40, west of the U.S. 321 interchange. Wetlands are important year-round habitats for hundreds of bird species, amphibians, reptiles, and mammals, especially in warmer climates.

Additionally, many upland animal species depend on wetlands for water and food. The local council of governments maintains mapping on major wetland areas in the city. The Natural Heritage natural area inventory will provide more site-specific identification of wetland areas that have significant ecological resources.

Natural Resources Summary

The few constraints to development in Hickory include topography and flooding. The most significant is topography, which is most pronounced in the northern portion of the city. The effect of steep slopes on development is evident on the development pattern. Housing in this portion of the city is constructed on varying lot sizes to account for slope conditions. The southern portion of Hickory also has some areas of steep slopes that will affect development patterns and increase construction costs. Floodprone areas are identified along many drainages of Lake Hickory and the Henry Fork River, and development is regulated along these floodplains by the city's flood damage prevention ordinance. Wetlands are a constraint to development, however at this time there are not many locations where wetlands are known to exist. The natural resources inventory, when completed, will provide much more detailed information on ecological resources and any potential development constraints.

Cultural Resources

Hickory's rich heritage is reflected in many structures that are located throughout the city. Although there are numerous historic structures located in Hickory, most are within historic districts. Many individual structures have been determined to possess significant architectural qualities and have been listed in the National Register of Historic Places and/or designated as Local Landmarks. Properties with these designations include the Brown-Penn Gym, Old City Hall, J. Summie Propst House, Elliott-Carnegie Library, and the Piedmont Wagon building.

In addition to significant individual structures, the city has three historic districts: Claremont, Oakwood, and Kenworth. All three districts are listed in the National Register of Historic Places, and have also been designated Local Historic Districts (see **Figure A6**). These districts are all primarily residential neighborhoods located close to the city center.

The Claremont District is located northeast of the city center. The district is comprised of numerous examples of Queen Anne style architecture and other prominent architectural styles including Bungalows, Colonial Revival, and Tudor Revival. Gridded streets and large building lots also characterize this district. Although single-family residences are the most predominant structural type in this district, the most prominent feature of the district are the public facilities associated with the SALT Block. This complex is located along N.C. 127 and includes the public library, and the Catawba Valley Arts and Sciences Center. Another interesting feature in this district is Carolina Park. This small pocket park and arboretum, which was the city's first large park in 1909, is located on the southern end of the historic district.

The Oakwood District is located northwest of the city center and west of the Claremont Historic District. This district has similar distinguishing characteristics as the Claremont Historic District to the east. The primary characteristic is single-family residential development demonstrating examples of Queen Anne, Shingle, Colonial Revival, Spanish Mission Revival, Bungalow, and Tudor Revival architecture. Other distinguishing characteristics of this district include consistent setbacks from the street and garages in the side or back yards. Another interesting feature of this district is the Oakwood Cemetery.

In southeast Hickory is the Kenworth Historic District. This neighborhood historic district is characterized by the largest intact group of Bungalow style homes in the city and was the first planned subdivision in Hickory. The significance of this district comes from the large number of similar style structures, small building lots and the use of similar building materials. Non-residential structures in this district include a former elementary school and a church. The former elementary school is now an apartment complex for elderly and disabled residents.

The importance of historic resources in the region is outlined in the Hickory Horizons Visioning process. That effort realized the connection between the preservation of historic and cultural resources and the quality of life for citizens of the community. Recommendations from this visioning process included establishment of better coordination within the region, form task forces to tackle numerous issues related to historic preservation, and support preparation of educational materials about historic resources.

The city understands the importance of its development history and the during the Hickory City Council-Staff retreat in January 1998 established goals for the preservation of these resources for 1998-1999. These goals are:

Generate positive support for historic preservation within the Hickory Regional Planning area by directing the Historic Preservation Commission to hold quarterly meetings within current historic districts, publish newsletters, co-sponsor events with the Hickory Landmarks Society, and view historic districts and neighborhoods;

And support the preparation of a historic preservation plan.

The city has established a Historic Preservation Commission. The commission has the responsibility for reviewing proposed construction or improvements to structures and awarding certificates of appropriateness. The city has also enacted a Historic District Zoning Overlay for these historic districts and landmarks. This overlay district regulates modifications to structures and is outlined in the city's Design Review Guidelines for historic districts. The purpose of the Design Review Guidelines is to help citizens in making appropriate modifications to structures and to educate the community about the design review process.

The federal government also offers some protection of historic structures and districts through Section 106 of the National Historic Preservation Act only if federal funds are used for the project.

Utilities

Utilities are provided throughout the City of Hickory and in a few select areas outside the city limits. The City of Hickory regional service area has approximately 30,000 customers with the household averaging 2.7 persons or 81,000 total customers served. The incoming revenue from the water and sewer system has come close to matching the growth of expenditures. The total operating revenues increased at a growth rate of 7.3% from 1990 to 1996, while total operating expenditures increased 8.8% over this same period. This produces a positive margin each year.

Sanitary Sewer System

Collection System

The sanitary sewer collection system encompasses approximately 503 miles of sewer serving the City of Hickory and small portions of the Mountain View area, Snow Creek area, a portion of the Section House Road area, a portion of the Kool Park area, and Iron Bridge Road area. The city currently has contracted sewer rate levels with the following communities: the Town of Long View, Burke County, and the Town of Brookford. One of the City Council's Goals and Objectives is to actively pursue such agreements with new communities provided such extensions will not encourage and promote sprawl. The waste flows to the Henry Fork Wastewater Treatment Plant and the Hickory Northeast Wastewater Treatment Plant.

The sanitary sewers range in sizes of 8 inch collectors to a 36 inch outfall along Falling Creek and South Henry Fork River. The predominate sewer size is 8 inches. Most of the existing sewer pipe is clay with PVC pipe being used in the recent years. The age of the oldest sewer collection system in the city is 70 years in downtown and northwest Hickory. The most recent installation of sewer collection systems are in the northwest and in the northeast annexation areas. Several pump stations discharge sewer from residential developments and industrial users outside the city limits to the collection system.

The City of Hickory plans to construct a new system between Robinson Road and Robinson Road. The capacity of this system will be .908 million gallons per day (MGD), but is expected to only require .293 MGD in the beginning. Other planned construction projects for sanitary sewer systems include 62,000 linear feet and two pump stations for the northwest annexation area.

Treatment

The City of Hickory owns and maintains two municipal wastewater treatment plants. The Hickory Northeast Wastewater Plant has the capacity of 6 MGD and currently treats 3.4 MGD. This plant serves areas north of the railroad, west of Springs Road. The Henry Fork Wastewater Plant has a capacity of 9 MGD and currently treats 2.9

MGD. This plant serves areas south of the railroad. A City Council Goal is to operate this newly upgraded plant in a manner that will meet or exceed the requirements of the NPDES permit. Areas east of Springs Road and north of the railroad are served by the city of Conover's new wastewater treatment plant. A contract provides this service to the City of Hickory with 275,000 GPD flowing through an outfall on Lyle Creek. The plants receive primarily domestic wastewater at the Henry Fork Plant. The Hickory Northeast Plant receives both domestic and commercial wastewater. Existing allocations for treatments to Catawba County and other areas outside the city limits are 100,000 GPD.

There are not many residential and commercial developments throughout the city served by individual septic systems. The number of existing septic systems is estimated to be around 5% of existing households.

Water System

Source

The City of Hickory obtains raw water from one source point located in the Lake Hickory watershed. Raw water is transmitted by a pump station through 20 inch and 30-inch pipe to the water treatment plant. Raw water undergoes treatment and then pumped to four clearwells totaling 7.5 million gallons at the water plant and five elevated tanks throughout the distribution system totaling 3.75 million gallons. Also, there is one standpipe that has a capacity of .25 million gallons. The watershed for the intake at Lake Hickory is classified as WS-IV west of the N.C. 127 bridge and WS-V east of the N.C. 127 bridge. Overall, the quality of the raw water is good at this time. The 1995 Catawba River Basin-wide Water Quality Management Plan lists Lake Hickory in the "good-fair" category and states that it is "support threatened" due to high chlorophyll levels brought on by "excessive nutrient loadings." At present, there are ongoing studies of Lake Hickory.

Treatment

The Lake Hickory water treatment plant is a 32-MGD filtration plant, the average daily demand at this time is 11 MGD and the peak one day demand is 15 MGD based on the data provided by the City of Hickory. The treatment plant is adequate for present needs of the city. The plant can be expanded, through the addition of settling basin and filters, by 8 MGD when needed. The plant already has the capability to pump 40 MGD.

Distribution

The water distribution system consists of approximately 490 miles of water mains serving the City of Hickory. The City of Hickory currently has contracted rate levels with the city of Conover, the Icard Township Water Corporation, Alexander County, and the Town of Brookford. Icard has an existing agreement to receive 10 million gallons per month minimum from the City of Hickory. As mentioned under sewer services, one of the City Council's Goals and Objectives is to actively pursue such agreements with new communities provided such extensions will not encourage and promote sprawl. The average daily amount of water supplied to the distribution system is 12.6 MGD.

The distribution system ranges in sizes from 2 to 30 inches. Water mains along major thoroughfares range from 12 to 30 inches and distribution lines within subdivisions equal 8 inches. Most of the water mains are asbestos cement, ductile iron, and PVC. Five pump stations, five elevated tanks, and one standpipe are used to pump and store finished water. The Hickory Water System, according to public officials, is adequate for the present and the immediate future of the City of Hickory.

Gas

Piedmont Natural Gas Company supplies natural gas to the City of Hickory. It operates and maintains extensive gas transmission and distribution lines within the service area.

Electrical

Electrical service is provided through the City of Hickory by Duke Power Company.

Major Community Facilities

Colleges

There are two colleges located within the City of Hickory: Catawba Valley Community College and Lenoir-Rhyne College. The main campus of Catawba Valley Community College is located off Highway 70. Catawba Valley Community College is primarily a technical and vocational school. Lenoir-Rhyne College is located along 7th Avenue NE and is a private Liberal Arts Lutheran College.

Fire Service

The City of Hickory earned an ISO Class 2 fire insurance rating in November of 1995. In order to maintain adequate service to the city, existing facilities and fire hydrant distribution system must match the growth occurring within the limits and as the limits expand. The City of Hickory has six fire stations: Station 1 (Central Fire Station), Station 2 (Highland), Station 3 (West Hickory), Airport Station 4 (Hickory Regional Airport), Station 5 (Fairbrook), and Station 6 (Viewmont). Future fire station planning includes 6 new stations: Northeast Station 7 (St. Stephens), Southside Station 8 (Mt. View area), Station 9 (South Finger Bridge Road Area), Station 10 (MDI Property), Station 11 (Sandy Ford Road/River Road), and Station 12 (Bethlehem, Alexander County).

Hospitals/Medical Facilities

There are two hospitals located in the City of Hickory: Catawba Memorial Hospital and Frye Regional Medical Center. Catawba Memorial Hospital is located on Fairgrove Church Road. Catawba Memorial Hospital contains 254 beds and is a fully accredited community hospital. It has been serving the City of Hickory for the past thirty years.

Frye Regional Medical Center is located on North Center Street. This medical/surgical hospital opened in 1912 and now contains 355 beds.

Libraries

The City of Hickory provides for the public libraries in the community. The main branch, Patrick Beaver Memorial Library is located on 3rd Street NE not far from the downtown area. This is a new facility opened in January of 1998. There are over 100,000 books available at the main branch. The Ridgeview Library branch provides easier access to a library from other neighborhoods. This branch, which opened in June 1998, alone has 10,000 items on record. These libraries provide important revenue to the community. The City Council is committed in its 1998-99 Goals and Objectives to support a Library Department to progress toward the goal of recognition as one of the best library systems in the state and in the nation.

Parks and Recreation

The City of Hickory provides the public with parks and recreation services. Catawba County does not currently provide parks and recreation services. The Department maintains and operates the following facilities:

Area	Size in Acres	Service Function
Brown-Penn/Ridgeview	9.6	Neighborhood
Civitan	7.5	Neighborhood
Cliff Teague	8.1	Neighborhood
Cloninger Mill	20.0	Open Space, Undeveloped
Fairbrook Optimist	6.6	Neighborhood
Geitner/Rotary	96.0	Open Space, City-Wide
Grayfield	6.97	Open Space, Undeveloped
Hickory Optimist	6.0	Neighborhood
Hickory City/Jaycee	20.0	District, City-Wide

Highland	6.0	Neighborhood
Hilton	59.5	Open Space, City-Wide
Kiwanis	16.0	Neighborhood, City-Wide
Neill Clark	22.73	District, City-Wide
Sandy Pines	13.0	Undeveloped
Southside Heights	12.66	Neighborhood
St. Stephens	7.0	Neighborhood
Stanford	47.5	District, City-Wide
West Hickory	5.6	Neighborhood
Westmount Center	3.0	Neighborhood
Winkler	50.0	City-Wide
Caldwell County Site	±150.0	Undeveloped
Total Acres	573.76	

Generally, there are no regional or state parks located in the City of Hickory, but the city maintains and operates the L. P. Frans Baseball Stadium.

The City Council, as part of their 1998-99 Goals and Objectives, wishes to begin the implementation of recommendations in the Parks & Recreation Master Plan. This will be a step towards meeting the city's recreation needs for the next twenty years. The first step will be to begin Phase I development of a multipurpose park on the land purchased by the City of Hickory on the Henry River. This development would include an access road, soccer fields, restroom facilities, and parking facilities. Another item in support of City Council is to locate a floodplain and develop another greenway.

Police Service

The City of Hickory's Police Department has one location in the downtown area. This is a new facility constructed with excess space to handle future growth of the department. To provide more of a 24-hour presence in certain locations, PACT (Police and Community Together), has established a community policing program. Five PACT areas in the City of Hickory: Adam—northwest area, Baker—northeast area, Charles—southeast area, David—Ridgeview area, and Edward—southwest area (and some portions of the northwest area).

Schools

There are two separate school systems between the City of Hickory and Catawba County. The city system includes 10 schools: two high schools—Hickory High and Catawba Valley Alternative High; two middle schools—College Park Middle and Grandview Middle; and five elementary schools—Jenkins Elementary, Longview Elementary, Oakwood Elementary, Southwest Elementary, and Viewmont Elementary. Currently, the high schools include grade 9-12; middle schools, grade 6-8; and the elementary schools, grade Pre K-5. Catawba Valley High School is an alternative school that serves students in grades 6-12 who are experiencing difficulties at their home schools throughout the Catawba County. The Frye School is for K-12 students hospitalized at Frye South, a noted psychiatric facility in the City of Hickory.

The Catawba County School system includes seven school attendance areas that fall in the City of Hickory: one high school—St. Stephens High; one middle school—Arndt Middle; five elementary schools—Clyde Campbell, Mountain View, St. Stephens, Sweetwater, and Webb A. Murray. The county also offers an Extended Day School in the City of Hickory at CVCC. A 10-year facilities study projects that the number of 4,454 to more than 5,150 students by the year 2004-2005.

Year	City of Hickory Schools	Catawba County Schools
1985	4,326	12,587
1990	4,134	12,812

1995	4,168	13,978
1997	4,454	14,701

Historically, the public school system is strongly supported by the community. In 1997, a school bond referendum was passed. This will provide \$50 million for items such as a new middle school in an area off N.C. 127 in the Viewmont area in northwest Hickory, the construction of a second new middle school to replace Grandview (the present College Park is to be converted to an elementary school), and the completion of the installation of fiber optic cable and the wide-area network. The community in Catawba County also showed their support by passing a school bond referendum in 1996. This has provided major renovations and additions at St. Stephens High School. This will place a new elementary school in the St. Stephens community off Spencer Road and may replace St. Stephens Elementary and Sweetwater Elementary.

The City of Hickory has maintained a strong performance record. The first year under the state's new ABCs of Public Education, one Hickory elementary school achieved "Exemplary" status. Preliminary results for 1997-98 indicate that six schools in the system received "Exemplary" status: Jenkins, Oakwood, Southwest, Viewmont, College Park, and Hickory High. High school performance in the Hickory Public School system on Scholastic Assessment Test (SAT) scores in the past two years has been above the state average and just below the national average.

SAT Score Comparison (1997)		
System	SAT Participation	Combined Score
Hickory	81	1,012
Catawba County	49	1,001
Newton-Conover	48	954
State	59	978
National	42	1,016

On a national level, Hickory Public Schools was recognized by the SchoolMatch organization as being among 14 percent of the nation's some 15,600 public school districts that most closely meet the needs of families. This was the fourth consecutive year receiving this recognition.

In addition to the public school system, there are three private schools in the city. Hickory Christian Academy provides preschool through 5th grades. The enrollment for the school in their beginning year in 1995 was 19 students and has grown to its current level of approximately 122 students. The Hickory Day School provides preschool through 8th grades. The enrollment for the school in 1996 was 68 students and has grown to its current level of approximately 106 students. The Tree of Life Agency provides preschool through eighth grades. This private school plans to add a grade each year as need. Enrollment for the school in 1998 was 15 students.

Housing

Housing has been a big issue for the residents in the City of Hickory. While housing may be available, it currently is not meeting the needs of many low and moderate-income homeowners, or the needs of first time homebuyers. To better understand the existing housing situation, Hickory's housing stock has been evaluated based on quantity, age, condition, and type. This information will serve to measure the overall state of Hickory's housing stock. In addition, when combined with population, economic development, and land use recommendation, the housing data will assist in the development of concepts to guide housing related aspects such as density, tenure, mix and design.

Existing Housing Stock

The 1990 Census reported age, type, and value of the housing supply available within the city. Although this data has changed since the Census was published, primarily due to market driven factors, the information is important in understanding the housing trends that have affected the City of Hickory. Based on the 1990 U.S. Census:

There were a total of 12,690 housing units in Hickory in 1990. Of these housing units, 48.1 percent of the housing stock was owner occupied, 44.8 percent of the housing stock was renter-occupied, and 7.1 percent of the housing stock was classified as vacant.

The largest concentration of housing in Hickory fell within the \$50,000 to \$74,999 range (see **Figure A7**), and the 1990 median housing value was listed as \$66,915. These values are compatible with 1990 housing values for both the Hickory MSA and Catawba County, although the city values are consistently slightly higher. Overall, both the MSA and the County had a larger percentage of lower cost housing in 1990.

Of Hickory's 12,690 housing units available in 1990, the largest percent of the homes were built in the 1980's, and the majority of the homes were single family detached units (51.9 percent). The second largest housing type available in Hickory in 1990 were structures consisting of 5-9 units (11.3 percent). The age of housing stock in both the Hickory MSA and Catawba County is equivalent to that in Hickory. More than one-quarter of the housing stock in both the MSA and Catawba County was built between 1980-1990. Of these housing units, nearly 70 percent of each was classified as single-family detached homes, with the second largest concentration consisting of mobile homes and trailers, which comprised nearly 20 percent of the homes in each area. The age of the housing stock for the Hickory area based on 1990 Census information (see **Figure A8**).

The rental units comprised 44.8 percent of Hickory's housing stock in 1990, as previously stated. Of these rental units, 97.2 percent were operated on a cash rental basis, with the average rent ranging between \$300 and \$500 dollars per month. Rental units throughout the MSA and the County also averaged monthly rents in the \$300 to \$500 range, although they both did supply a larger percentages of units renting at lower rates.

Since the 1990 U.S. Census additional housing trends have emerged which have required further analysis of the housing stock. The Catawba County, City of Hickory, and the Metro Area Building Inspections Departments have collected and compiled building permit information. The building permit data serves as an early indicator of growth occurring in particular regions. Based on the inspections information reported by the Western Piedmont Council of Government:

Between 1991 and 1995 housing starts were strong in Catawba County, with building activity increasing more than 33 percent in some tracts. The housing starts data indicated that the residential growth was shifting to the northern and southeastern portions of the County. In addition, large concentrations of mobile home permits were issued in various tracts within the county during the 1991-1995 time period. Mobile homes have become a primary source of affordable housing.

In 1996, over 800 single-family and mobile home permits were issued along with 157 multi-family permits throughout Catawba County. The rapid residential development continued to occur in the northeastern portion of Hickory and along the shores of Lake Hickory.

Metro housing growth identifies residential building activity occurring within the Hickory MSA. During the fourth quarter of 1997 over 450 new residential units were constructed throughout the MSA at an estimated cost of over \$38 million. In conjunction with the new construction, housing unit prices rose faster than the rate of inflation during the same period.

Current Housing Issues

Concerns have been raised regarding the cost of housing within the City of Hickory and the low homeownership percentages. Affordable housing is in great demand throughout the city, and the new homes being built are often expensive. Interviews with city employees, builders, and neighborhood representatives revealed the following information regarding the existing housing stock:

Homeownership rates are low and have decreased since 1980. Research has shown that the construction of multi-family housing has continually outpaced single-family unit construction, making Hickory the regional multi-family housing provider in the area. This trend places pressure on potential residential development sites resulting in higher land costs and increased residential density.

Affordable housing is a large issue for the residents of Hickory specifically because low and moderate income residents and first time homebuyers needs are not being met. The City of Hickory had the highest cost of new construction in the state, with the average new home costing \$224,000 in 1994. The Mountain View area currently has some lower priced housing being built, and the hottest market tends to be for homes ranging in cost between \$90-\$120,000.

Proximity to work is not a driving factor for homeownership. A report published by the Catawba County Chamber of Commerce indicated that the travel time to work for residents is changing. A decrease has occurred in the percentages of persons that live within ten minutes of their place of employment, and a substantial increase is occurring in persons living upwards of 30 minutes from their place of employment. These numbers are driven by the fact that people are moving further from the central city in order to find less expensive housing which adds to the transportation issues.

Certain areas of the city are likely to see an increase in residential development activity in the near future. The U.S. 321 corridor is opening up new areas for more residential activity and the Lake Hickory area is currently acting as a magnet for residential growth on both sides.

Hickory Housing Programs

The City of Hickory has acknowledged the affordable housing issue that affects the community. The Hickory Public Housing Authority currently owns 98 housing units and operates 311 public units with 98 families on the waiting list. There are also 354 vouchers and certificates available for Section 8 housing with a waiting list consisting of over 150 families. Public housing is concentrated in the southeast and southwest portions of the city. The demand for these facilities greatly surpasses the supply.

Since the Authority does not have the means to offer assistance to all families in need, and since the city is not eligible for federal and state assistance, the city and private developers have been forced to create their own housing programs. These programs are designed to encourage quality, affordable, owner-occupied housing for low and moderate-income families. With the help of these housing programs, the city is striving to reach the goal of a homeownership rate of 67.5 percent by the year 2000. The following is a summary of housing assistance programs active throughout Hickory:

Hickory Hollow was a project that started in 1994 in response to the need for affordable housing. Phase I of the project began with the donation of 4 acres of city-owned land for the development of an affordable housing subdivision. The development consisted of eleven lots, of which ten were sold within a 12-month period. This prompted the city to enter into Phase II, consisting of an additional 3.76 acres subdivided into an additional ten lots. Both phases averaged 12,000 square foot lots with housing cost not to exceed \$100,200.

In order to make the subdivision affordable for low and moderate-income families, the majority of the Phase II homes will be sold to families with an income of less than or equal to 80 percent of the median area income limits. The remaining units will be sold to families with incomes not exceeding \$42,500 per year. The city will also monitor the resale of the homes. The city will be given the right to first refusal (opportunity to buy the house directly or find another qualified buyer), and the city will recover their second and third mortgage investments at the time of resale. The homeowners will also be required to pay the city 50 percent of the increase in value from the original gross sale price, not to exceed \$10,000. The proceeds derived will be paid to the city's Community Development Block Grant program to assist with other similar affordable housing activities in the future.

The City of Hickory's First Time Homebuyer's Program was developed to help qualified low to moderate income persons, who have lived within the corporate limits of the city for at least one year, with the purchase a new or existing home. The program allows the city to make loans of up to \$10,000 for the purchase of a home on behalf of the low to moderate income applicant. The loans are for the purpose of assisting the applicant with the down payment, closing costs, discount points, or loan application fees. These loans are made on a case by case basis and are repaid at zero percent interest upon final payment of the first mortgage, refinancing of the first mortgage, or when the house is sold.

The Housing Rehabilitation Loan Program was created to assist in the conservation of existing housing and the preservation of neighborhoods. The program is designed to provide low interest loans at a rate of 3 percent to homeowners residing in residential areas characterized by the concentration of lower income families and

deteriorating housing conditions. The program targets very low, low, and moderate-income homeowners who would otherwise be unable to perform home repairs. It also is designed to stabilize older neighborhoods and prevent deterioration of property, eliminate unhealthy and unsafe housing conditions, conserve energy by making funds available for energy improvements, improve the neighborhood appearance, and reduce the city's role in the rehabilitation process.

Not less than 80 percent of the available funds will go to low and moderate income applicants. The income limits will be based on the U.S. Department of Housing and Urban Development Section 8 Housing Assistance Payment Program. In addition, the eligible properties must be in violation of the city's Minimum Housing Standards as defined in the Hickory City Code, and funds must be used towards the elimination of conditions that, in the judgement of the Rehabilitation Specialist, are hazardous to the health and safety of the occupants.

The Urgent Repair Program (URP) is a housing rehabilitation program sponsored by the City of Hickory. The goal of this program is to eliminate housing conditions that pose an imminent threat to the life and safety of very low and low-income homeowners with special needs. This program is funded by the North Carolina Housing Finance Agency, and offers urgent repair assistance to eligible homeowners with a limit of \$3,500. These funds cannot be used in conjunction with any other state or federal housing assistance program, with the exception of the Weatherization Assistance Program, and at least 50 percent of the funds must be spent on energy related repairs.

The Home Energy Loan Program (HELP) makes funds available for energy-efficiency measures in association with comprehensive rehabilitation of homes. This program is sponsored by the City of Hickory and has been funded through a joint effort between the North Carolina Housing Finance Agency and the Duke Power Company. The assistance provided to homeowners is in the form of a deferred, zero-interest loan for persons with incomes below 50 percent of the median income. Loans at 3 percent annual percentage rates will be provided for homeowners with incomes between 50 and 80 percent of the area median income (as determined by HUD).

Single Family Rehabilitation (SFR) provides rehabilitation funds to low-income homeowners, through funds made available by the Inter-Faith Housing Development Corporation of Hickory. The SFR consists of deferred payment loans to persons whose gross annual income does not exceed 80 percent of the areas median income. In addition, all units receiving SFR funds must comply with the HUD's Housing Quality Standards and N.C. State Building Code standards.

The Community Development Block Grant (CDBG) Housing Rehabilitation Program is similar to the SFR program. The CDBG program provides assistance in the form of 3 percent-amortized loans for homeowners whose household income does not exceed 80 percent of the areas median income. These loans are repayable over a 20-year period, and all units receiving funds must comply with the HUD's Housing Quality Standards and N.C. State Building Code standards.

With the help of these programs it is the intent of the city to produce more mixed and moderate income housing, moving away from traditional public housing. But it is important to realize that each of these programs operate on a limited funds basis.

Housing Summary

The housing situation in Hickory affects several facet of the community. Essentially, the people that are needed to work in the local industries can not afford to own a home near where they work. This has lead to the high rate of multi-family residential development and very low home-ownership rates. It has also led to sprawling development as families have move farther away from Hickory to find affordable real estate and this then contributes greatly to traffic volumes on Hickory streets.

Existing Land Use

Transportation has had a significant impact on the patterns of development in Hickory for over 200 years. The earliest development was centered on the Hickory Tavern then around railroad depot. Roads leading to the depot eventually developed with commercial uses, churches, and educational facilities such as Lenoir College. This early success built on itself and more commercial and manufacturing establishments flourished. The commercial and manufacturing development also had an impact of residential development. As the local economy continued to

prosper, residential development began to spread farther out, away from the center of town. Over 90 years later the city continues to grow.

The inventory and analysis of existing land use distribution in the city will help complete an understanding of historic land use patterns, identify land use conflicts, and to provide a basis for establishing future land use scenarios. Several sources were utilized for this task including field reconnaissance, aerial photography, the city's 1986 Land Development Plan, and the Transportation Plan for the Hickory-Newton-Conover area. The existing land uses for the city have been categorized into the following seven categories: single-family residential, multi-family residential, commercial, industrial, public/semi-public, parks and recreation, and open space. Existing land use in Hickory is illustrated in **Figure A9**.

Single-Family Residential

Single-family residences are located throughout the city. In fact, approximately 32 square miles of the city is zoned for residential uses. As is the case with most cities, the oldest residential areas in the city are located in close proximity to the city center, which was historically the commercial and transportation hub of the city. These older homes are located in the Kenworth, Green Park, Claremont, Ridgeview, and Oakwood neighborhoods, which have varying lot sizes throughout each neighborhood. West Hickory and Highland are single-family neighborhoods that are mixed with industrial and commercial business. Smaller homes on small lots typify the development pattern in these two neighborhoods. There are varying lot sizes as well as a variety in housing sizes in these neighborhoods. Another factor related to development in these close-in neighborhoods is the proximity to many services such as shopping, cultural resources, and public institutions such as the hospital, schools, and libraries.

Residential areas farther out from the inner-ring of neighborhoods are subdivided single-family developments with similar lot sizes, housing size, and styles. A notable exception to this development pattern is the northwest portion of the city where more expensive homes are located on varying lot sizes that are dictated by topography. Recent development patterns have shown an increase in single-family development along the shore of Lake Hickory, in the northeast, and northwest portions of the planning area. Lake Hickory is a magnet to families desirous of the scenic and recreational opportunities along the waterway. Although there is still buildable land on the Hickory side of the lake many new subdivisions are being constructed across the lake in southern Caldwell and Alexander counties. One factor influencing the movement farther from the city center is housing costs. Hickory currently has the highest cost of construction for new housing in the state according to 1994 data. Another factor is the strong inner-ring neighborhoods that are in exceptional condition, keeping housing values high north of downtown.

Multi-Family Residential

Multi-family developments are defined as any housing development of two or more attached living units. Although some apartments were constructed many years ago, they are a relatively new housing alternative in the city. There are few multi-family units in the older northwest and northeast neighborhoods, but are much more numerous in the southern neighborhoods such as Highland, Kenworth, and also in West Hickory. The apartments in the more established northern and southern areas of the city are smaller developments, scaled to fit better with the neighboring single-family homes.

The manufacturing and service industry growth has generated market demand for more affordable housing for employees. This demand is being met, to some degree, by multi-family developments, which are being constructed more frequently, and at larger scales than at any time in the city's history. These newer, larger scale developments are primarily located in the northeast portion of the city. In many instances these developments are located in close proximity of commercial activities and parks. This is most evident for higher density developments in the vicinity of N.C. 127, 8th Street NE, and in the vicinity of the 29th Avenue Drive NE/16th Street NE intersection.

Commercial

There are three basic patterns of commercial development in Hickory; specialty shopping in the city center, neighborhood and citywide commercial development along major thoroughfares; and regional shopping in the I-40/U.S. 70 corridors. There are approximately seven square miles of commercially zoned land in these areas (**see Figure A10**).

The initial importance of the city center was directly tied to the railroad depot located on Union Square. The train stop provided countless numbers of travelers for downtown merchants to entice into their establishments. Both rail and road access resulted in Hickory becoming a regional marketplace. The importance of Hickory as a regional commercial center is evident in market studies that show the city has a higher percentage of retail establishments than city residents alone can support. Much of this retail, though, is no longer in the city center.

The railroad depot provided the volume of shoppers that made the city center the retail hub of the region for many decades. But in recent years there have been changes in automobile circulation in the city center area, changes in the marketplace, the loss of passenger rail service, and changes in residential development patterns, which have resulted in a diminished role for the city center. It is, however, still a viable commercial district. The shops and restaurants in the city center primarily serve daytime workforce and city residents. The vacancy rate is relatively low and new businesses have been recently established. The city center commercial area is unique in Hickory because it is still a pedestrian-scaled area that offers a variety of retail, restaurants, office, and services all within short walking distances of employment concentrations.

Commercial development along major thoroughfares in the city provides services for both nearby residential neighborhoods as well as residents driving from other parts of the city. Commercial development along N.C. 127 is a prime example of this type of development pattern. The retail and office establishments begin north of 8th Avenue NW and continue northward on both sides of the roadway for approximately two miles. These developments are characterized by relatively small setbacks from the roadway, and one-story buildings that offer space for several retail/office establishments. Commercial strip development is also located along Springs Road in the northeast portion of the city. These businesses also serve neighborhood and citywide needs.

In the southern portion of the city along U.S. 70/I-40 corridor, and Catawba Valley Boulevard is an area of large-scale commercial development. These commercial areas include Valley Hills Mall and other "big-box" retail establishments that are oriented to serve the retail needs of residents in the 5-6 county region. A number of hotels and the Hickory Furniture Mart are located along the U.S. 70/I-40 corridor, drawing many tourists and motorists passing through along I-40 to this area. Because there are large amounts of land available and the high volumes of traffic on these roads, these commercial areas are dominated by large retail operations that have extensive setbacks from the road to accommodate large parking areas in front of their business.

Industrial

Industrial areas include manufacturing, warehousing and distribution, Hickory Regional Airport, and developments that mix office uses with industrial operations. A large part of the city's and region's economic history is based on manufacturing and distribution. The manufacturing industry has grown from a solid base in furniture manufacturing to include hosiery, and in recent years has diversified to include a major focus on fiber optic cable. Because the requirements of these types of businesses include large land areas and good transportation access, the areas along the railroad and major thoroughfares has been a magnet for industrial development. The largest concentrations of industrial uses are located in the vicinity of the airport; between the Norfolk and Southern Railroad tracks and U.S. 321; along the Main Avenue corridor. Most of the land zoned for industrial is the located in the southeast portion of the city between I-40 and Highland Avenue. In recent years, industrial areas have also been developed south of U.S. 70. Over eight square miles of the city is zoned for industrial uses (**see Figure A11**).

Another major concentration of industrial uses is at Hickory Regional Airport. This includes the actual airport operation area, hangar and maintenance uses, and some other unrelated uses that are taking advantage of the airport proximity.

Because of the city's history and entrepreneurial heritage there have been many instances where small-scale industrial developments have been located in close proximity to residential areas. An example of that land use relationship is found in the vicinity of 12th Avenue NE and 16th Street NE, where several individual industrial businesses are mixed with residential and commercial establishments. It is likely that many of these businesses were started by someone who lived in the neighborhood and was able to build their business close to home. A different example of this land use relationship is in West Hickory where industrial development has grown in association with the airport and other industrial uses in the area. The industrial growth in this area is beginning to isolate the single-family residential neighborhood in West Hickory.

Public/Semi-Public

This land use category includes schools, churches, cemeteries, hospitals, and government-related operations. These uses in Hickory include city government offices, Frye Medical Center, Catawba Memorial Hospital, the SALT Block, Lenoir-Rhyne College, and Catawba Valley Community College. These facilities are important for both residents of the city and region. Frye Regional Medical Center and Catawba Memorial Hospital serve a large population that is growing and will likely result in the expansion of both medical centers. This potential growth becomes more of an issue with Frye Regional Medical Center, which is located next to single-family neighborhoods, just west of N.C. 127. Catawba Memorial Hospital, which is located in southeast Hickory, is not significantly constrained by nearby development.

Local schools in Hickory are concentrated in the older parts of the city, however newer schools have recently been constructed and are being planned to ensure that the continued population growth in the northeast and south will be served. Both Lenoir-Rhyne College and Catawba Valley Community College play an important role in the city and in the region. Similar in respects to the regional medical facilities, they are serving a growing population as well as a growing business community. They provide cultural activities for the region, particularly Lenoir-Rhyne that has the largest performing arts center in the region. These institutions also are training the current and future employees of regional business. Catawba Valley Community College is continuing to expand their employee-training program. An example is their training center located east of their main campus.

Park and Recreation

Public parks and private recreation areas such as the golf course at Catawba Springs are included in this land use category. The city has a variety of parks to serve different needs, including numerous neighborhood parks, which are located primarily in the northeast and southern sections of the city. The western and northwest portions of the city each have one neighborhood park. Although Hilton Park in the northwest portion of the city and Kiwanis Park in the southern portion of the city are classified as neighborhood parks; they also function as district parks. It is quite common for busloads of school children from outside the city to visit this park. Parks in the city serve a variety of functions from passive to active pursuits such as ballfields, and the city is implementing a policy of providing several activities in one location to help reduce the number of automobile trips created by different activities spread throughout the park system. The most notable new recreation facility is the L. P. Frans Baseball Stadium where the Hickory Crawdads play. This stadium, which was built in 1993, is located in northwest Hickory in the vicinity of the regional airport.

Open Space

The open space land use category is undeveloped land in the city. This land is usually undeveloped because of natural constraints such as floodplain or steep slopes, or in some cases market demand has not yet resulted in the development of the parcel. In the northwest portion of the city most of the open space is related to steep topography formed by the Catawba River drainage. However, there is still land west of U.S. 321 that could be developed in the vicinity of the regional airport. Although there is developable land in this area, care must be taken to ensure that development is compatible with airport operations and water supply watershed protection regulations.

Open space in the northeast portion of the city is a combination of land that has not yet been developed because market demand has not reached that property or because of some limiting characteristic such as floodplains or topography. Open spaces on the south side of I-40 are rural areas that are now beginning to be developed, however some portions of this area including land along the Henry Fork, may be most valuable for their conservation potential due to high quality natural resources, floodprone areas, and steep slopes.

Summary

From its origin as a stop on the railroad to its status as the economic hub of the region, Hickory's land use patterns have changed dramatically. The early development consisted of the rail stop downtown and the commercial that was developed, manufacturing facilities with close-in housing for employees, and housing around the downtown for the people that owned and ran the factories—a very compact development pattern. As the original housing stock aged, mobility was enhanced, and industry expanded, development occurred further out from the city's core to meet the growing population's needs. Most recently, the pattern is almost completely reversed. Due to the high cost

of real estate in Hickory, and the tremendous demand for employees, much of the workforce now lives far away from where they work.

The existing land use inventory and public meetings have revealed several key elements that will significantly influence future land use patterns.

The success of manufacturing in the city has resulted in growth of support industries, direct employment, and commercial establishments. This growth formed the basis of the land use patterns that continue today.

Continued prosperity and increased mobility has led to the development of single-family residential neighborhoods north and south of the city center. Relatively little developable residential land remains in the northwest quadrant of the city, so newer single-family development is occurring in the northeast area, mountain view area, and in southern Alexander and Caldwell Counties. There has been relatively little new residential development between U.S. 70 and the Henry River south of the city.

Manufacturing and service industry successes are also reflected in the rapidly increasing market demand for more affordable housing, in the form of multi-family housing which is being constructed more frequently and at larger-scales than any time in the city's history.

Commercial development has grown significantly in the past few decades but all of the growth has been away from the historic commercial center of the city. Commercial growth located along major thoroughfares such as N.C. 127, Springs Road, and west of U.S. 321 serves a local market. Commercial development along U.S. 70 in the south focuses on regional consumers.

The commercial development along N.C. 127 and Springs Road are essentially commercial strips with smaller buildings and setbacks, and more frequent curb cuts. Regional commercial along U.S. 70 is frequently "big box" development which have much larger setbacks and parking areas to accommodate a much larger number of consumers.

Continued success of manufacturing industries has resulted in the groupings of large-scale industrial facilities near transportation systems. These groupings have created large-scale employment centers that affect the traffic volumes and aesthetics of the area.

Transportation

Hickory has historically been well connected with the surrounding region by a variety of transportation options beginning at the intersection of three roads late in the 18th century. As the region grew during the late 1800's and then through the 20th century, more transportation options became available. The railroad came to Hickory in 1860. The railroad depot was constructed in what is now the city center and has had tremendous influence on transportation and growth patterns of the city and region. As one person stated during the public input meetings, "All roads lead from the city center..." The Catawba River was utilized in the late 1890's for transportation of goods and raw materials. With the exception of losing river transportation, the region's transportation options which includes a combination of interstate, U.S., and state highways, rail, and aviation continue to have significant influence in the economic growth of the community.

Because of the economic and population growth of this region in the past few decades the Metropolitan Planning Organization (MPO) has been very aggressive in planning improvements to the transportation system. The first Hickory-Newton-Conover Urban Area Transportation plan was adopted in 1986. Since the region has experienced growth exceeding the projections in the 1986 plan, the MPO has prepared an updated plan that was adopted in 1997. To supplement the MPO planning effort the city has prepared a plan to focus on the needs of pedestrians. These needs have been addressed in the city's Sidewalk and Bikeway Master Plan, which was prepared in 1997.

Aviation is another transportation option that is available in the city and region. The Hickory Regional Airport is projecting continued growth in all areas of operations and has prepared plans to respond to that growth. Although aviation is growing in the region the importance of the railroad has diminished over the decades. The city lost its passenger service years ago but rail is still an important factor for the city's manufacturing industry. The importance of all these transportation modes to the growth of the city and region is unquestioned and the city's transportation

system needs to continue to meet the needs of the city's residents and businesses. This planning effort will identify the current conditions of the system and then make recommendations to coordinate the vision city residents have for the future of the city with the appropriate transportation network.

Roadway System

The transportation plan for the Hickory-Newton-Conover region has developed a classification system for the roadway system. The roads are classified as local access streets, minor thoroughfares, and major thoroughfares. The transportation plan defines these road classifications in the following manner.

Local Access Streets—These streets provide direct access to property abutting roadways but do not carry heavy traffic volumes. They are intended to serve traffic with origins or destinations along that street and traffic originating on one local street and travelling to another local street.

Minor Thoroughfares—The purpose of these roads is to collect traffic from local access streets and distribute it to major thoroughfares. These roads in many instances supplement the major thoroughfare system by facilitating through traffic. Roads in Hickory that are classified as Minor Thoroughfares include Center Street, 12th Avenue NW, 16th Avenue NW, 6th Street NW, and Sweetwater Road. The transportation plan's recommendations for right-of-way requirements for minor thoroughfares range from 60 feet to 70 feet wide depending on parking requirements for the road.

Major Thoroughfares—These roads function as the primary traffic arteries throughout the city. Their purpose is to move traffic both within the city and between cities. These roads range from two-lane streets carrying traffic to other major thoroughfares to major expressways of four or more lanes. Major thoroughfares in Hickory include I-40, U.S. 321, U.S. 70, N.C. 127, Lenoir-Rhyne Boulevard, Highland Avenue, Fairgrove Church Road, Tate Boulevard, and 4th Street. The transportation plan identifies a variety of potential right-of-way requirements for major thoroughfares depending on the volume and type of projected traffic, existing capacity, desired level of service, and available. The right-of-way range from 300 feet for freeways to 60 feet for roads carrying one-way traffic.

Pedestrian Circulation

Hickory's long history of development has ranged from a primarily pedestrian oriented community to what is now an automobile dominated city. To provide city residents a more pedestrian friendly environment, the city prepared a Sidewalk and Bikeway Master Plan in 1997. The intent of this plan is to "develop a cost effective sidewalk and bikeway plan to provide a more attractive environment for walking and cycling that encourages people to walk and cycle for both transportation and recreation..." This planning effort identified approximately 75 miles of sidewalks and 1.5 miles of bikeways in the city. The task force responsible for this project identified a number of sidewalk deficiencies including:

Most of the existing sidewalks are located in older neighborhoods.

Sidewalks in many locations are discontinuous.

In areas where sidewalks are continuous, they shift from one side of the street to the other.

Most older sidewalks do not conform to Americans with Disabilities Act requirements

There is poor maintenance of sidewalks in some neighborhoods.

Many sidewalks do not have any type of buffer next to the street.

Most major streets do not have sidewalks at all.

Numerous bus stops are located in areas without sidewalks.

Utility poles and mailboxes obstruct some sidewalks.

To address these concerns the Task Force made recommendations for short, mid-range, and long-range improvements to the pedestrian system. Short-range recommendations included comprehensive loop systems to link schools, parks, and neighborhoods. Mid-range improvements include extending sidewalk networks to recently annexed areas. Long-range improvements are the completion of short- and mid-range projects and ensuring that the pedestrian environment is provided for as the city grows.

Transit

Many people require assistance in reaching basic services such as Frye Regional Medical Center or Catawba Memorial Hospital, retail establishments, or employment centers. To meet these needs transit services are provided by the Piedmont Wagon Bus System. This transit service is a joint venture between the Cities of Hickory, Conover, and Newton. This transit option serves approximately 400-500 riders per day in the region. Operation of the bus service is Monday-Friday 6:00 a.m. to 6 p.m., and on Saturdays from 8:00 a.m. to 4:00 p.m. Riders are served by four mini-buses that offer a fixed-route and Americans with Disability Act paratransit service. The fixed route provides access to numerous apartment complexes, shopping centers, the city center, medical facilities and employment centers.

Aviation

Hickory's early transportation system included use of the Catawba River. However that form of transportation has long since disappeared. The region then relied on rail and road travel for many decades until May 1940, when two dirt strips were constructed west of the city. Scheduled airline service began in October 1940 when Penn-Central Airlines started serving this region. Since that humble beginning, numerous improvements and expansions have occurred at the airport to meet the needs of local business and passengers. Hickory Regional Airport currently serves the region that includes Burke, Catawba, Alexander, and Caldwell counties.

The airport has two runways. The primary runway is 6,402 feet in length and is used for air carriers and general aviation; the secondary runway is 4,400 feet in length and is used primarily for general aviation. Access to the airport has been improved by the construction of Clement Boulevard. This new five-lane road provides direct access from U.S. 321 to the airport.

Annual aircraft operations have increased significantly since 1940. In 1989, aircraft operations were estimated at 40,672. Aircraft operations are projected to reach 87,900 in 2010. Passenger service has also increased in the past decades and is projected to grow well into the future. Continued population and economic growth has been reflected in the airport's master plan that was completed in 1990. The airport is currently preparing a new airport layout plan to accommodate additional growth and services.

Many businesses have their headquarters in Hickory and in the region, and corporate executives require direct access to manufacturing facilities and offices in other part of the country. Hickory Regional Airport gives local managers the opportunity to quickly access their corporate aircraft. Because of these needs, providing maintenance and hangar facilities for these fixed-base aircraft are a very important part of the airport's role in the regional economy.

Rail

The railroad was the lifeblood of Hickory in the late 1800's and early 1900's carrying both passenger and freight traffic. Passenger trains no longer serve Hickory, but freight service is still needed for the city's manufacturing industry. Railroad switching yards were located in the city center area until the early 1970's when they were moved to the east side of town. However these switching yards still provide the opportunity for local industry to move goods to market.

Recently a state commission has recommended that passenger rail service be reestablished in Western North Carolina. This proposal includes a passenger stop at the depot in Hickory. This will provide a new transportation option for city residents as well as promote the city as a tourist destination.

Transportation Issues

The Transportation Plan for Hickory-Newton-Conover Urban Area identified several issues driving proposed roadway improvements. Important factors in the development of plan recommendations are the trends in travel, capacity deficiencies, and safety.

Travel trends can be subdivided into three groups: Internal Travel, External Travel, and Through Travel. Internal travel is defined as, where both ends of the trip are located in the planning area. These trips are typically short in length and are generated by housing. In 1992, this type of trip made approximately 66 percent of all trips in the planning area. Internal trips are projected to increase 1.7 percent by 2020 to 525,396 trips per day.

External travel are trips where one end of the trip is in the planning area and the other end of the trip is outside of the planning area. These types of trips are longer than internal trips and have a greater effect on thoroughfares in the area. Thoroughfares that function as radials are most affected by this travel pattern. In 1992 external travel accounted for approximately 29 percent of total trips in the planning area. External travel trips are projected to increase 2.9 percent by the year 2020 to 323,050 trips per day.

Through travel are trips that start and end outside the planning area. These trips only accounted for approximately six percent of the total trips in the planning area, however these trips are projected to increase 3.1 percent annually by 2020 to 56,785 trips per day. The affect of through travel is most notable along U.S. 321 north of I-40. In this portion of the planning area, through travel accounts for 70 percent of traffic.

The location of employment centers, retail centers, and housing are the dominant factors in internal and external travel trends. Industrial employment centers are located in the city along U.S. 321 and Highland Avenue and Tate Boulevard in southeast Hickory. However, due to high housing costs in the city many of the employees of these manufacturing facilities outside of the city limits and have to commute from Burke, Caldwell, and Alexander Counties to the north and eastern Catawba County. A similar situation exists for employees in service establishments. The major employment centers are located along N.C. 127, Springs Road, and U.S. 70 and many of the employees may also have to commute into the city from outlying areas. These scenarios are likely causing some of the congestion on U.S. 321. Congestion on U.S. 321 will increase when the southern portion of U.S. 321 between Hickory and Charlotte is completed. External travel is a major factor for highway congestion, but internal travel trips also contributes to congestion.

A notable issue related to internal trips is the lack of an east-west connector on the north side of the city. Currently, any travel east-west north of city center requires travel south to the city center then back north to the desired destination. An option to this travel pattern is taking 12th Avenue NW, which is through a residential neighborhood. This subject was also discussed in the transportation plan. This part of the city was considered to be deficient because the road system is not well connected.

Capacity deficiencies are determined by comparing traffic volumes with the ability to streets to move traffic at a satisfactory speed. The transportation plan identifies a number of locations where deficiencies exist. These locations are:

U.S. 321, between 13th Street SW and the Catawba River.

U.S. 70, between U.S. 321 and 4th Street SW and in the vicinity of Valley Hills Mall between Robinson Road and Startown Road.

N.C. 127, between Cloninger Mill Road and Rink Dam Road in Alexander County.

U.S. 70A, between Section House Road and I-40.

Lenoir-Rhyne Boulevard, between I-40 and U.S. 70.

Fairgrove Church Road, between Tate Boulevard and U.S. 70.

5th Street NE and 8th Avenue NE, in the vicinity of Lenoir-Rhyne College.

Highland Avenue, between 8th Avenue NE and Sweetwater Road.

Sweetwater Road, between Highland Avenue and Tate Boulevard.

4th Street NW/SW, between 3rd Avenue NW and U.S. 70.

12th Avenue NW-6th Street and 16th Avenue NW.

Center Street, between 2nd/3rd Avenue NW/NE one-way pair to 1st/2nd Avenue SW/SE one-way pair.

Old Lenoir Road, between 12th Avenue NW and U.S. 321.

The transportation plan also identified a number of deficiencies projected for the year 2020. These projected deficiencies include:

I-40, from west to east in the planning area.

U.S. 321, from U.S. 70 to the north planning area boundary.

Lenoir-Rhyne Boulevard.

Fairgrove Church Road.

12th Avenue NW

6th Street NW

16th Avenue NW

8th Avenue NW

9th Avenue NW

Traffic accident records help identify problem areas that could be caused by any number of factors such as capacity deficiencies, poor signage, poor sight distance, or poor road design. The information in Table A1 shows the intersections in Hickory with high accident counts.

Table A1

High Accident Locations, 1992-1993

Intersection Location	Total Accidents
U.S. 70 and Fairgrove Church Road	37
U.S. 70 and 15th Avenue Place SE	33
U.S. 70 and Lenoir Rhyne Boulevard	33
U.S. 321 and Old Lenoir Road	32
U.S. 70 and U.S. 321 (S. Ramps)	31
I-40 and Lenoir Rhyne Boulevard	31

U.S. 70 and 17th Street Drive SE	26
I-40 and Fairgrove Church Road	20
N.C. 127 and 1st Avenue SW	20
U.S. 70 and U.S. 321 (N. Ramps)	18
Center Street and 2nd Avenue SW	17
U.S. 70 and Startown Road	16
U.S. 321 and 2nd Avenue NW	16
U.S. 70 and 4th Street SW	14
N.C. 127 and 2nd Avenue SW	14
U.S. 70 and 11th Avenue SW	13
Fairgrove Church Road and 12th Avenue SE	13
U.S. 70 and Center Street	12
U.S. 321 and 7th Avenue NW	12
Highland Boulevard and 15th Street NE	12
N.C. 127 and 8th Avenue NE	11
Lenoir Rhyne Boulevard and 11th Avenue SE	11
Springs Road and 16th Street NE	11
Springs Road and 18th Avenue NE	10
Source: Hickory-Newton-Conover Urban Area Transportation Plan, 1997. North Carolina Department of Transportation, Western Piedmont Council of Governments.	

In addition to issues identified in the Transportation Plan issues were discussed during public input meetings. The issues voiced in those forums covered a broad spectrum of transportation concerns ranging from the need for more sidewalks to better regional transportation planning are needed. The number of issues discussed provides insight into how important this topic is to residents of Hickory. The following are the issues raised at those public input meetings.

Hickory's transportation system needs to be more pedestrian-friendly and bicycle-friendly. Sidewalks and bike paths are needed. This is of particular concern for areas adjacent to Hickory's schools.

The Transportation Plan should address blindspots and unsafe driving conditions.

Major thoroughfares should be complemented with feeder and service roads as well as landscaped medians and shoulders.

Subdivisions and shopping centers need to be connected to one another.

Hickory should investigate whether the development of public transportation systems are warranted.

Vehicular access to the downtown area needs to be improved.

Land use and zoning decisions should support the development of an efficient transportation system. This system should rely on pedestrians to relieve pressure on the vehicular traffic system. Two easy ways to improve the situation would be to lengthen the "walk" time on "walk/don't walk" signals, and to require sidewalks to be installed with new development.

There is poor east-west transportation access through Hickory.

The development of an alternative transportation route to U.S. 70 should be continued.

Greenways should be developed to link popular pedestrian destinations throughout the community.

There are more vehicles on the thoroughfare system than the system was designed to handle.

Access to downtown from U.S. 321 is poor. An interchange should be developed at U.S. 321 and Main Avenue. Access to downtown from Interstate 40 is also poor.

The Transportation Plan needs to consider the places people will shop in the future.

Alternative transportation options for the elderly are needed.

Cul-de-sacs and dead end streets should not be permitted in the community.

Through truck traffic in residential neighborhoods should be discouraged.

Traffic flow can be improved easily by fine tuning the traffic signalization system.

The development of overpasses at major intersections—rather than at-grade intersections—should be investigated where traffic volume and site factors permit.

Long-range planning of the regional transportation system is necessary to make sure funding is in place for transportation improvements when they are needed.

The community should promote commercial airline service between Hickory Regional Airport, Raleigh, Atlanta, and Washington, D.C.

The transportation plan needs to consider: "What is the optimum circulation system for Hickory?"

An outer loop around Hickory is needed. This loop will provide an opportunity to find new areas for development in Hickory.

No cut through streets should be allowed within the community.

Downtown street system: they all lead out, not in.

Hickory should encourage bus/van service to Charlotte. As an alternative, the feasibility of developing a short-hop commuter airline to Charlotte should be investigated.

Public transportation specifically designed to serve employment centers should be developed.

Bridge overpasses and underpasses are needed for the railroad lines.

Park-and-ride lots should be developed to serve large employment centers in the Hickory region.

Proposed Transportation Improvements

The 1997 Transportation Plan made recommendations to roadway improvements to resolve the issues identified during the transportation planning process (**see Figure A12**). The proposed improvements are for major and minor thoroughfares. The following is a brief summary of the proposed major thoroughfare construction. For a detailed discussion of these improvement please reference the Hickory-Newton-Conover Urban Area Transportation Plan.

I-40—Upgrade roadway to six lanes.

U.S. 321—Prepare a detailed corridor study, however the current recommendation for upgrading to six lanes should be considered.

U.S. 70—Widen roadway to seven lanes between U.S. 321 and Newton-Conover.

N.C. 127—Upgrade road to five lanes between Cloninger Mill Road and planning area boundary.

Clement Boulevard—Extend Clement Boulevard west to connect with S.R. 1653.

Cloninger Mill Road/Kool Park Road—Extend Kool Park Road to Section House Road.

Eastside Thoroughfare—Upgrade 29th Avenue NE and 29th Avenue Drive NE to five lanes from N.C. 127 to Springs Road, then four lanes south from Springs Road to U.S. 70.

Fairgrove Church Road and Extension to Springs Road—Upgrade to five lanes to Section House Road, two lanes to County Home Road.

First Street SW—Upgrade to three lanes between U.S. 70 and one-way pair.

Fourth Street SW—Upgrade Fourth Street to five lanes south of First Avenue NW. Extend five-lanes to 2nd Street SW in Brookford.

Icard Ferry Road—Construct a four lane divided road and bridge across Lake Hickory.

Southern Corridor—Construct multi-lane road from Newton to intersect with I-40 at Long View.

Eighth Avenue NW—Extend Eighth Avenue to Clement Boulevard.

Transportation is important to the economic health of Hickory and the region, and the quality of life for Hickory residents. Hickory's businesses need an efficient transportation system to ship their goods to regional, national, and international markets, and corporate executives need convenient access to company's aircraft. The transportation system also serves the employees of these businesses. These employees need safe, efficient means of travel to their place of employment. Residents of Hickory also desire a more pedestrian friendly environment in their neighborhoods, better connections between residential neighborhoods and commercial areas, and roadways that are pleasant-looking and scaled to road's location in Hickory. To address these concerns a transportation plan will be developed that will make the connection between land use and transportation and the desires of the community. The planning process will also actively incorporate local transportation planning officials and plans and studies that already have been prepared.

The Hickory-Newton-Conover Metropolitan Planning Organization (MPO) prepared the transportation plan for Hickory, Newton, Conover, and surrounding region. Their recommendations will be addressed in this document. The plan will also take into consideration the planning effort for the city center and the transportation recommendations in that document. This planning effort will look at a variety of land use and transportation issues from citywide to neighborhood scales. Review of the transportation plan, information gathered from interviews with city and regional officials, City Council goals, and the public input meetings has generated a number of issues that will be analyzed during this planning effort. These issues include:

Develop more efficient access to major employment centers.

Relieve congestion on major and minor thoroughfares.

Provide more efficient east-west access in Hickory.

Create a better connection between land use decisions and transportation improvements to reduce capital and operating costs.

Improve pedestrian circulation.

Create better connections between neighborhoods, public facilities, and commercial areas.

Develop new roadway cross sections, including aesthetics that is appropriate for residential neighborhoods, neighborhood and regional commercial areas, and city gateways.

Access management for major thoroughfares.

Transit services.

Ensure that transportation improvements in Hickory are compatible with regional transportation improvements.

Provide opportunities for expansion of aviation.

Community Image

Hickory is fortunate to retain much of the historic atmosphere and scenic qualities that have established it as a good place to live and invest. This, coupled with a variety of cultural activities, makes Hickory a unique community with a traditional, high quality of life. Critical to maintaining this image and quality is carefully protecting the essential elements that make up this image.

As part of the public meetings in Hickory, residents discussed issues related to the image of the community. Issues that were raised include the following:

Hickory is blessed with all the positive features of a small town: friendly, helpful people, a family-oriented way-of-life, good schools and churches, excellent location relative to large cities, mountains, and other attractions, and a good arts community. These factors are complemented with an environment of healthy economic growth.

The image of Hickory should be enhanced through the installation of sidewalks connecting destinations, flower and planting beds, water fountains, bike and walking trails, and parks.

The future of Hickory will be built on a strong economic base with large and small employers, and diverse population.

The landmarks of Hickory—large institutions such as schools, the hospital, churches, and civic buildings—should be used to provide a sense of direction in the community.

There is a lack of environmental concern for ponds, lakes, and waterways in the community. These features could be used to complement the character of the community.

The gateways to Hickory are poorly articulated with strip center commercial development and poor overall architectural design. These areas need to be carefully planned since they set the tone for how others experience the community, and how the community perceives itself.

Older homes, schools, trees and other amenities, which define Hickory's sense of history, should be preserved.

Treatment of Hickory's streetscapes should be more carefully considered. Some issues that need to be considered include bike and running paths, crosswalk markings, the burial of utility lines, street curbing, and landscaping along corridors.

The city should encourage connections between commercial areas of Hickory.

Older neighborhoods within Hickory are being invigorated with the influx of young people interested in the future of the community.

Hickory still retains its small-town feeling but offers many city amenities.

Lenoir-Rhyne College and Catawba Valley Community College play an important role in the quality of life of Hickory and Catawba County in general.

Hickory is an important center in western North Carolina because it is an important service, health, and cultural center for surrounding counties in the region.

The street image in Hickory is very confusing. This creates a poor foundation for an overall community image.

Hickory's recent growth should be seen as an opportunity to improve the community's character.

The character of Hickory is defined largely by its strong sense of neighborhoods.

The progress made toward preserving Hickory's architectural heritage has been good in some areas, but spotty at best. Coordinated planning in the downtown area should do much to improve the overall program of preservation in Hickory.

The image of Hickory can be improved by capitalizing on proximity to Lake Hickory.

The city is visually divided by the railroad. Measures should be investigated to overcome this problem.

Community Image Survey

A community image survey was conducted in Hickory to begin to develop a common vision of what participants would like their community to look like. Based on a process first developed by Anton Nelessen and Associates of Princeton, New Jersey, the survey is a process by which a community can participate in evaluating its environment and developing a common vision for the future.

Each person in the community has a different vision. When planners use words like mixed-use or pedestrian-oriented it conveys an idea of what that looks like. The Community Image Survey helps visualize those kinds of choices. The underlying premise is that to create a credible, responsive plan the citizens of the community need to see, participate in, and understand the vision.

The participants in the survey were shown 90 images. These images included various types of residential, commercial, industrial, and infrastructure development. They were asked to rate the images on a scale of 1, indicating what the participant felt was a planning/design failure, to 10, which would indicate a great place to live or work.

Results of the survey were tabulated and analyzed to determine what types of development are acceptable or unacceptable to the participants. Images that are rated highly are the most appropriate or best liked by the participants. These types of development need to be considered in the Plan. The images with the lowest rating are the most inappropriate or least liked. These represent the types of development that the residents fear.

The **five top scoring images** are illustrated.. These represent the favorite images among all participants. They include residential, commercial, and infrastructure examples. At each meeting where the survey was administered, the participants were asked why they preferred these images. Responses include:

- Good landscaping/mature trees
- Pedestrian friendly/pedestrian scale lighting
- Sign control correct scale/ "Neighborhood" scale
- "Village" environment
- No overhead utilities
- "Traditional architecture
- Sign control
- Streets have curb and gutter
- Parking on the street
- Feels safe

Parking is hidden
Well maintained

This multi-family structure was attractive to residents due to its "traditional" architecture and generous setback.

Participants found that the highly rated images had common elements. In general, the preferred images presented a pedestrian oriented development pattern. In fact, two of the top five images were of pedestrian-only spaces. Other positive elements include significant amounts of landscaping, modest signage, screened or hidden parking, and architectural detail.

The participants in the survey also identified several images that they did not like. The **five lowest rated images** are illustrated. We also asked the participants why they did not like the development depicted in these images. Responses include:

No green space
Too many/too big signs
Overhead utility poles and lines
Too much pavement
Not enough landscaping
No street trees
Poor access control
No visual breaks
Too much parking
Poorly designed/maintained buildings
Streets look "fast"

The results of the survey were also tabulated based on the type of development represented in the photograph. The most positive and negative responses for single-family, multi-family, commercial, and transportation development were compiled and are presented below with analysis of positive and negative features.

Single-Family Development

Most Positive Examples



Residential streets with trees
Sense of neighborhood
Walkable

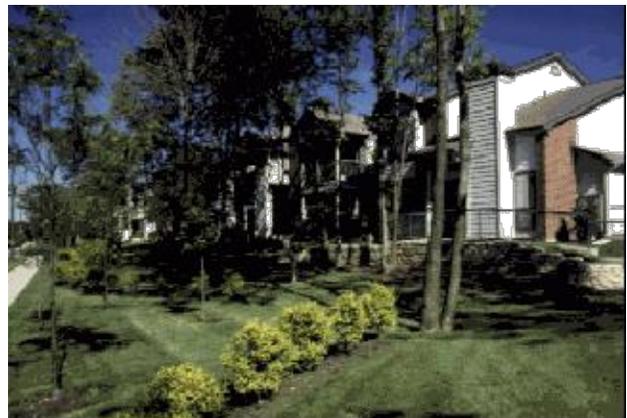
Most Negative Examples



No sidewalks
No trees

Multi-Family Development

Most Positive Examples



Traditional/brick
Architectural detail
Landscaping/green space

Most Negative Examples



Stark
Lack of detail
Not much landscape

Commercial

Most Positive Examples



Modest signage
Landscaping
Architectural detail

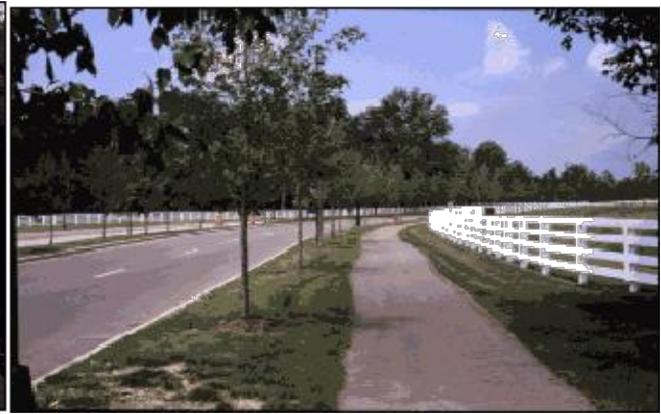
Most Negative Examples



Poor signage
No landscape
Huge parking

Roads

Most Positive Examples



Medians
Landscaping
Bike path

Most Negative Examples



Signage
Overhead utilities
Visual clutter
Poor access control
Don't feel safe—too fast

Hickory is viewed by those inside and outside of the community as a strong residential and business environment with special qualities that make it unique. This identity is strengthened by a strong historic tradition, the presence of Lenoir-Rhyne College, entrepreneurial business leaders, and an actively involved community. In addition, Hickory's positive visual qualities, including downtown, residential areas, the college, and Lake Hickory, begin to define the community. Avoiding the stark monotonous uniformity that typifies much of modern development is a major concern of the residents of the community.