

Catawba

area plan



CHARLOTTE.

Charlotte-Mecklenburg Planning Department
Adopted by Charlotte City Council June 28, 2010

Acknowledgements

The Charlotte-Mecklenburg Planning Department acknowledges the feedback and participation from the public and also would like to thank the following individuals who provided valuable input and countless hours in developing the **Catawba Area Plan**:

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Maps, Graphics and Tables

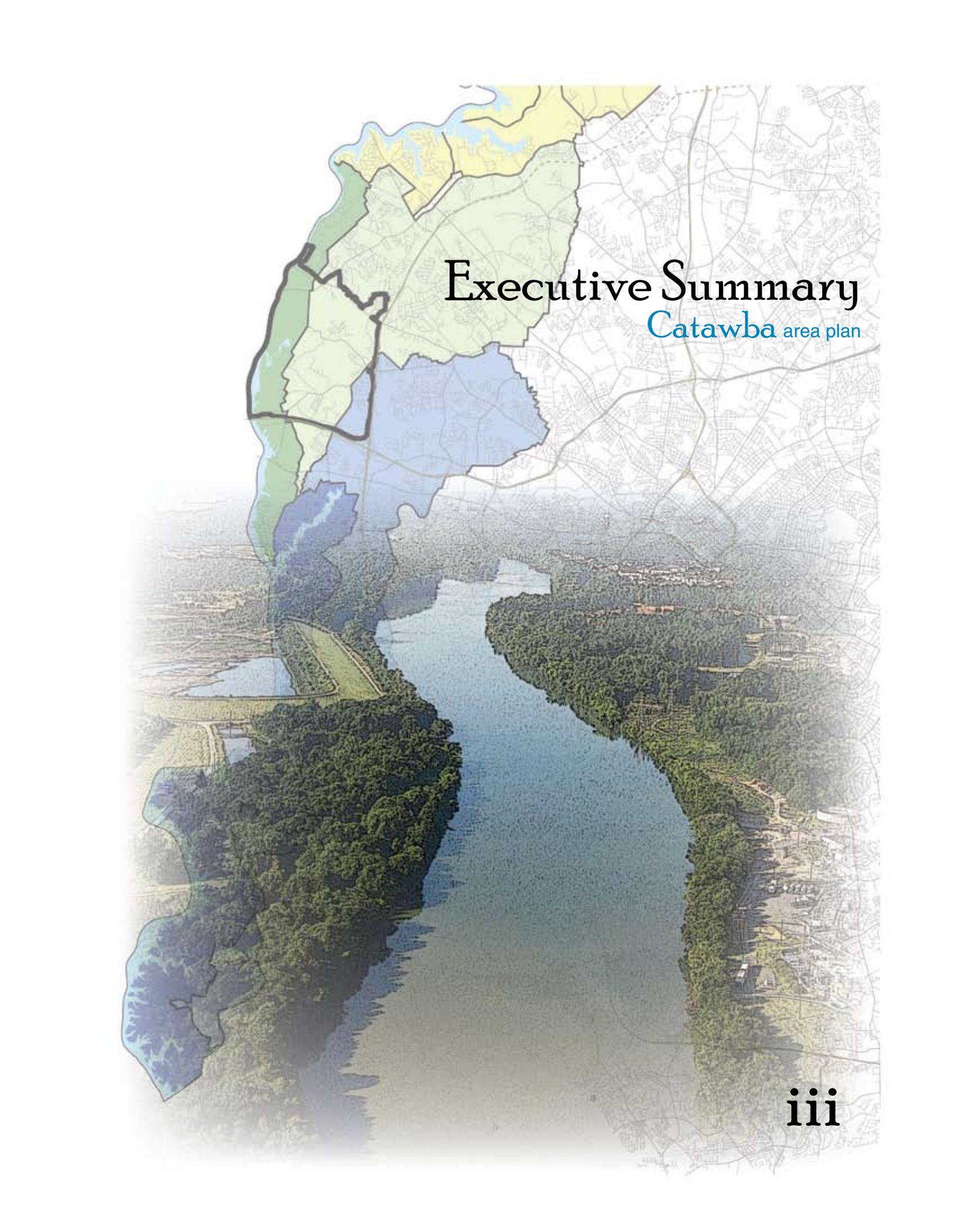
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Executive Summary

Catawba area plan

Executive Summary



This document defines the vision and land use policies for the plan area and provides specific direction to guide future growth and development, consistent with the *Centers, Corridors and Wedges Growth Framework*. More detailed information about the plan can be found in Part I: Concept Plan.

Plan Boundary

The plan encompasses approximately 4,800 acres (see **Map 1**, page 3) and is bounded generally by Mount Holly Road (NC 27) on the north, Interstate 85 on the south, the Catawba River on the west, and Interstate 485 on the east. The southern portion of the plan area is located within the West Growth Corridor as defined in the *Centers, Corridors and Wedges Growth Framework*. The remainder of the plan area is located within a Wedge, large residential areas between

Growth Corridors. Neighborhoods in the plan area include Wildwood, Belmeade Green, Wilson Glen and Cedar Mills. Other features in the area include the U.S. National Whitewater Center, the Historic Tuckaseegee Ford Park, Long Creek, and the Catawba River.

Key Opportunities and Constraints

The plan area has several opportunities and constraints that were identified through the public input process and an examination of the existing conditions (see Appendix). The plan area's proximity to the Catawba River and interstate access contribute to the uniqueness of this area. Other opportunities include preserving the neighborhoods and natural environmental features. Challenges include the relationship between residential and non-residential land uses, and lack of local street connectivity.



The *Catawba Area* will have a central focus on the river, environmental stewardship, protection of green space, and maximization of enjoyment of the river. Proper integration of land uses will create a sustainable community known for its:

- Natural resources protected through the use of innovative and environmentally sensitive development practices;
- High quality design that complements the area's natural features;
- Enhanced public facilities and services;
- Mixture of housing types and neighborhood-serving land uses;
- Viable employment centers in appropriate locations; and a
- Safe and well-connected transportation network that provides options for pedestrians, cyclists, motorists and transit users.

Summary of Goals and Policies

To achieve the future envisioned for the plan area, the following goals and key policies have been identified.

Land Use

Goal:

Maintain the residential character of the Wedge area, encourage industrial / office development in the Growth Corridor along I-85, and strategically place mixed-use and moderate density residential developments along major thoroughfares.

Key Policy Highlights:

Wedge

- Maintain the predominately low-density residential character of the Wedge with developments that are compatible with the surrounding natural environment, and locate neighborhood serving land uses at strategic locations along thoroughfares.
- Encourage industrial land uses to continue on the south side of Mt. Holly Road at the I-485 interchange and the rail lines.
- Recognize industrially zoned parcels along the Catawba River and their limited reuse due to site contamination.

Corridor

- Support office and industrial land uses within the West Growth Corridor.

Community Design

Goal:

Integrate environmentally sensitive design elements into all development by: 1) incorporating existing natural features and topography; 2) minimizing the amount of impervious surfaces, as well as preserving and creating open space and greenways; and 3) utilizing design elements such as green roofs, permeable driveways and parking areas to help minimize the amount and improve the quality of storm water runoff.

Key Policy Highlights:

- Provide and encourage accessibility to Catawba River, Long Creek and other natural amenities through streets, sidewalks and trails.
- Provide a meaningful amount of usable and accessible common open space and integrate the tree canopy into the development.

Transportation

Goal:

Strengthen the relationship between land use and transportation by: 1) improving connectivity to major land uses (such as parks, schools, and employment centers); 2) encouraging mixed-use developments or appropriately located land uses to reduce trips and shorten trip distances; and 3) providing an accessible, safe and efficient street network that supports multiple travel choices for pedestrians, cyclists, drivers and transit users.

Key Policy Highlights:

- Provide key connector streets to support future development and to provide additional routes for people to travel to shopping, recreation and employment uses.
- Provide improved block structure (shorter block lengths) to support increased land use intensities.
- Enhance the pedestrian and bicycle network, and encourage bikeway connections to primary greenways via contiguous open spaces as land development occurs.

Infrastructure and Public Facilities

Goal:

Provide public facilities that serve the area residents and visitors, and help sustain future development without endangering the environment.

Key Policy Highlights:

- Provide water and sewer capacity to support anticipated growth.
- Ensure that the planned regional waste water treatment facility is sensitive to the natural environment and has minimal impact on the surrounding area.
- Provide efficient and environmentally sound storm water facilities throughout the area.
- Support the development of the proposed Carolina Thread Trail, Long Creek Greenway and the overland connector for the Lakewood Greenway.
- Ensure civic infrastructure keeps pace with development.

Natural Environment

Goals:

Balance growth and development with the need to protect the natural environment and critical watershed areas.

Encourage environmentally sensitive land development practices such as the preservation of



New Whitewater Academy Elementary School opened in the area in 2008 along with a new Middle School.

open space, the integration of greenways, and the protection of mature trees.

Key Policy Highlights:

- Protect the quality of the area's water supply.
- Encourage environmentally sensitive land development practices.
- Reduce vehicle emission by supporting development that minimizes the use of single-occupancy vehicles and helps reduce vehicular trips.

Key Implementation Strategies

The Implementation Guide identifies strategies to implement the policies in the Concept Plan. The Implementation Guide is not adopted by elected officials; it is intended to be a guide for staff. It includes a number of improvement projects as well as potential corrective rezonings. Some of the key implementation strategies are:

- Utilize land use and community design recommendations to guide and evaluate development proposals.
- Support CMU's ongoing process to develop a regional waste water treatment facility on the former Clariant plant site.
- Enhance a number of intersections in the plan area to improve traffic flow, area accessibility and safety.
- Research ways to develop more public access points to the Catawba River, including boat ramps, picnic areas and public open space.
- Request easements and/or dedications during the land development process to expand the Long Creek Greenway and Carolina Thread Trail.

Part I:
Concept Plan
Catawba area plan



Part I: Concept Plan



Plan Context

Purpose

This document establishes a vision for the plan area and provides policy direction to guide future growth and development consistent with the *Centers, Corridors and Wedges Growth Framework*. Once adopted, the *Catawba Area Plan* will:

- Update existing plans for the area, including the *Westside Strategic Plan (2000)*; *Mount Holly Road Special Project Plan (1994)*; and *Northwest District Plan (1990)*.
- Refine the boundaries for the West Growth Corridor and Wedge area included in the plan;
- Address key land use, transportation, community design and development issues identified through the planning process;
- Provide guidance for future land use and infrastructure decision; and
- Function as the official streetscape plan for the area.



In recent years the area has experienced growth with new subdivisions being developed bringing in more people.

Plan Boundaries

The plan encompasses approximately 4,800 acres and is bounded generally by Mount Holly Road (NC 27) on the north, Interstate 85 on the south, the Catawba River on the west, and Interstate 485 on the east. See **Map 1**. The West Growth corridor as defined in *Centers, Corridors and Wedges Growth Framework* runs along the southern edge of the plan area bordering I-85, with the remainder of the plan area as a Wedge. Neighborhoods in the plan area include Wildwood, Belmeade Green, Wilson Glen and Cedar Mills.

Other features in the area include the U.S. National Whitewater Center located at Historic Tuckaseegee Ford Park along the Catawba River. The Whitewater center which opened in 2007 on County-owned property is a premier outdoor recreation center.

Organization of this document

This document is organized into three parts as shown below. Only the first part, the Concept Plan, will become adopted City policy. Part 2, Implementation Guide, will be used to guide staff work. Part 3, Appendix, provides supporting information.

Area Plan Document

Part 1: Concept Plan

- Purpose
- Vision Statement
- Goals
- Policies

Concept Plan is adopted by City Council and will act as a policy guide for future decision making.

Part 2: Implementation Guide

- Action Steps identified to Carry Out Plan Policies

Provides direction to staff in implementing plan policies

Part 3: Appendix

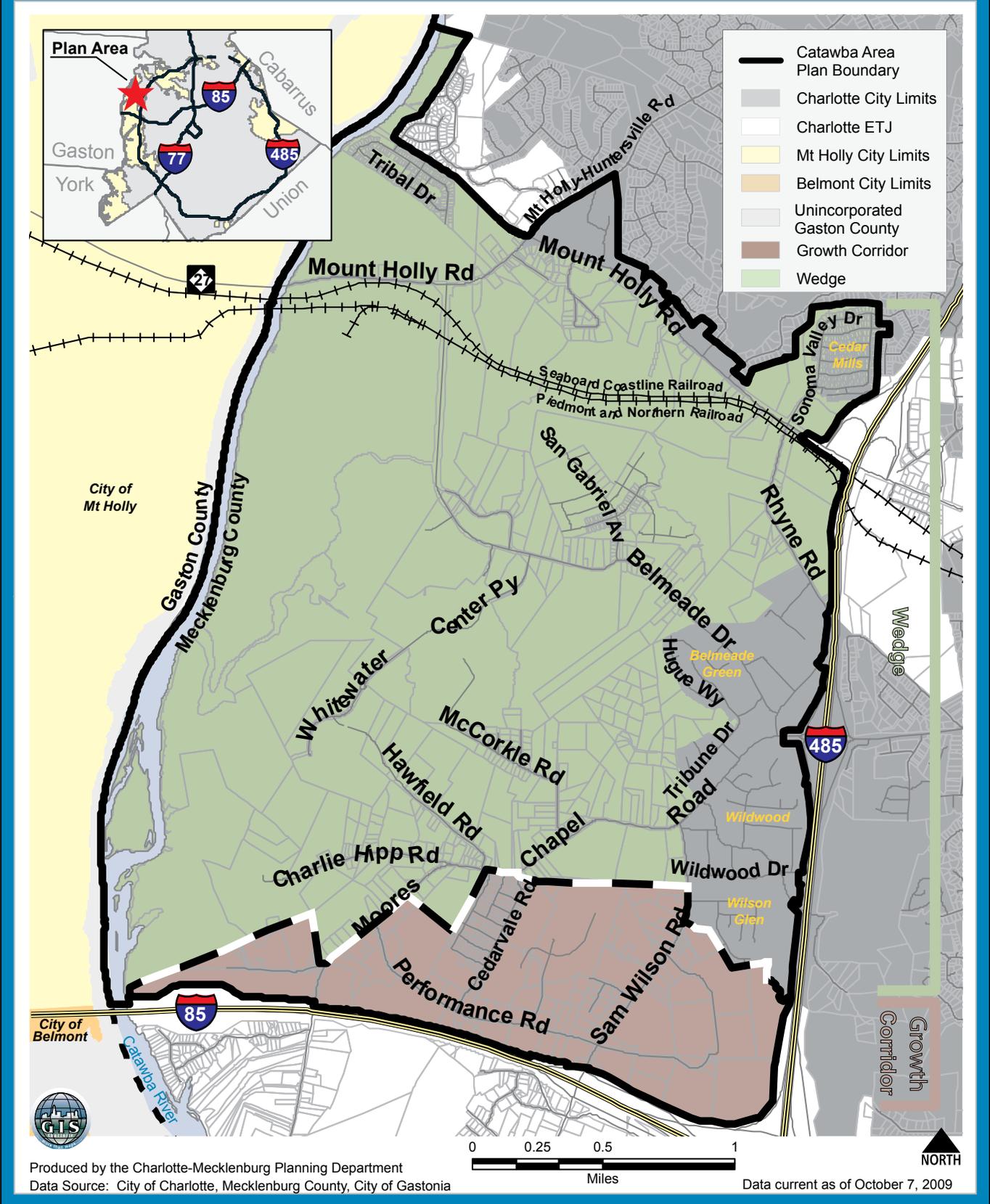
- Existing Conditions Report
- Trends & Forecasts
- Other Supporting Information

Provides additional, supporting information

Catawba Area Plan

Area Plan Boundary

Map 1



Planning Process

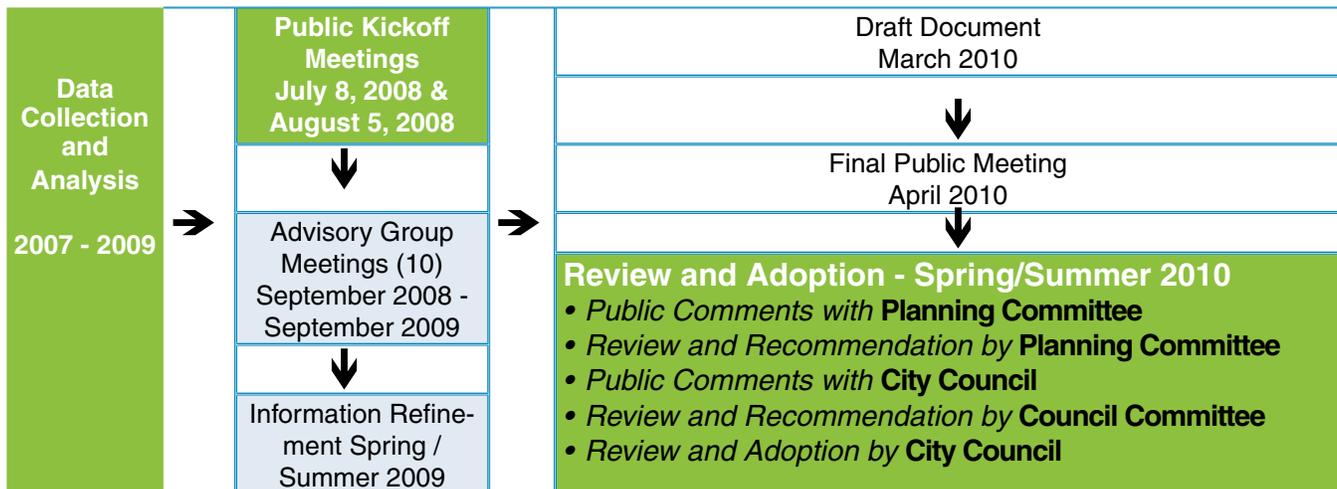
This study was initiated as a result of the plan assessment process which identified a need for an area plan based on an analysis of different criteria such as existing land use patterns, recent rezoning petitions, and population growth. Development of the *Catawba Area Plan* occurred over an approximate 2 year period and included the following key public involvement opportunities:

- Public kickoff meetings were held on July 8th, and August 5th, 2008 with overall approximately 200 people attending.
- A 25-member Citizen Advisory Committee met 10 times over the course of 12 months to assist staff in developing plan recommendations.

- A final public meeting was held on April 13, 2010.
- Additionally, the public was invited to provide input via an online survey, as well as a paper survey before and during the first public kickoff meeting. There were over 130 responses to the survey.

Prior to the plan adoption the Planning Committee of the Charlotte-Mecklenburg Planning Commission hears citizen comments and makes a recommendation to the Charlotte City Council. The City Council also hears citizen comments and makes the final decision concerning adoption of the plan.

Steps in the Area Plan Process

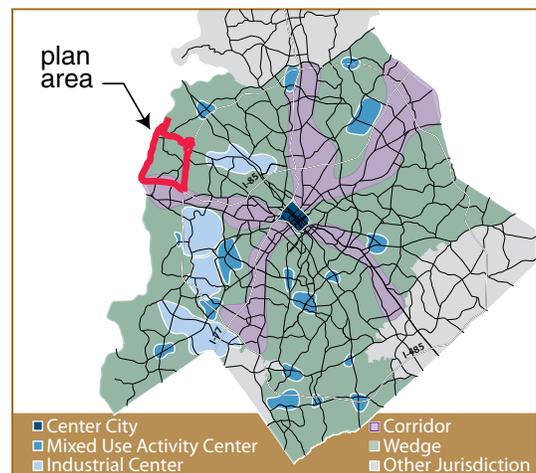


Policy Framework

Adopted and proposed land use and transportation plans and policies with implications for the Catawba area have been taken into consideration in developing this plan and are described below:

Centers, Corridors and Wedges Growth Framework establishes a vision for future growth and development. It does this by identifying three geographic types used to categorize land in Charlotte and its sphere of influence, and outlining the desired characteristics of each of these geographies:

- *Activity Centers* are generally appropriate for new growth, with the type and intensity of development corresponding to the Center type.



- *Growth Corridors* are often priority locations for new growth, especially in identified Transit Station Areas.
- *Wedges* will remain predominately low density residential with limited higher density housing and neighborhood serving commercial uses.

Much of Charlotte’s future moderate to higher intensity development is expected to occur within the five Growth Corridors and in designated Activity Centers. This will help maximize existing infrastructure and services.

This growth framework is important as the Catawba plan area encompasses part of a Growth Corridor and a Wedge. The framework provides direction for intensification and mixing of uses within the Growth Corridor while creating opportunities for lower intensity residential and supporting services in the Wedge area, consistent with plans for future infrastructure improvements. The Catawba plan area does not have an Activity Center located in it as defined by Centers, Corridors & Wedges, however it was one of the considerations when drafting the land use policies for the plan area.

General Development Policies are adopted policies on various topics relevant to development and redevelopment in Charlotte-Mecklenburg. In particular, they address residential location and design, retail-oriented mixed/multi-use centers and transit supportive development. Additionally, the *General Development Policies* provide guidance to minimize the negative environmental impacts of land development and to more closely link land use and development decisions to the availability of infrastructure to support it. This plan builds upon the *General Development Policies’* guidance in these areas: Residential Location and Design, Retail-Oriented Mixed/Multi-Use Centers, Environmental and Infrastructure.

Adopted Land Use Plans include six geographic districts which make up the City of Charlotte’s planning jurisdiction: The Northeast, East, South, Southwest, Northwest and Central districts. Each of these areas have a district plan that addresses a wide range of physical development issues and provides parcel-specific land use recommenda-

tions for all properties within that district plan. This plan will update the *Northwest District Plan*.

2030 Long Range Transportation Plan defines the policies, programs and projects to be implemented over the next twenty years, providing transportation choices in Mecklenburg and western Union County. Several Long Range Transportation Projects have been identified within the Catawba Area and were considered when developing this plan.

Transportation Action Plan defines short and long-term policies for accommodating motor vehicles, transit riders, bicyclists and pedestrians together with an implementation “blueprint” for improvements. The *Transportation Action Plan’s* comprehensive “toolbox” of transportation programs will help implement the recommendations made in this plan.

2030 Transit Corridor System Plan is a long range multi-modal transportation plan that identifies five transportation corridors, a series of Center City improvements, and enhanced bus service and facility improvements throughout the region.

Urban Street Design Guidelines offers a comprehensive approach to designing new and modified streets within the City. They are also a key component of the *Transportation Action Plan*, and were used in developing this plan to assist with street classifications and cross-sections that will guide the design and redesign of streets. The *Urban Street Design Guidelines* also addresses integrating land use and transportation to create synergy between the streets and the land uses adjacent to them.

Greenway Master Plan Update identifies an expanded greenway network and greenway trail system throughout Mecklenburg County. As land is acquired and set aside over time, the greenway system should also improve water quality by reclaiming natural floodplains, protect wildlife habitats and open space, and provide recreational and educational opportunities for residents.

Key Opportunities and Constraints

An understanding of existing conditions, including feedback received from the public during the planning process, reveals opportunities to build upon and constraints to overcome. Key opportunities and constraints highlighted below, were discussed at the first public meeting, and formed the basis for the vision statement and ultimately, plan policies.

Opportunities

- **Residential Neighborhoods:** The majority of the plan area is single family neighborhoods, some of which were built recently and others were built in the 1940's – 60's, with a number of scattered homes on large tracts with some limited agricultural activity.
- **Natural Features and Environment:** The large amount of open space along with key environmental features such as the Catawba River and Long Creek, along with the U.S. National Whitewater Center make the area a great outdoors, recreational center.
- **Community Design:** There is a potential to develop an overall “design theme” reflective of the area’s unique character.
- **Transportation Accessibility:** Interchanges along I-85 and I-485 provide easy access for warehouse distribution centers along the corridor, as well as providing easy access to residents.

Constraints

- **Incompatible Land Uses:** The incompatibility between existing industrial and residential land uses along the interstates, including the mobile home park along Moores Chapel Road, is a potential problem in the area. The proposed new wastewater treatment plant along Long Creek on the former Clariant site, if developed needs to provide ample buffers and screening to avoid creating potential conflicts with surrounding land uses including the U.S. National Whitewater Center located just south of the proposed site.
- **Lack of Identity:** New developments are creating a sense of loss of rural character in the area and potentially developing just another “suburban” community with no real identity or sense of place. Quality of design and building materials should be considered when approving new developments.
- **Traffic:** Traffic congestion, cut through traffic and speeding are becoming a problem. Street capacity and the impact of a new street network are also a concern.
- **Impacts of Wastewater Plant:** With a planned wastewater treatment facility in the area, concerns are being raised regarding the facilities’ impact on the surrounding properties.
- **Loss of Open Space:** Loss of natural habitat and open space due to increased growth in the area, are having an impact on the natural environment.



The preferred future for the plan area is best expressed in a comprehensive vision statement. This statement describes the kind of place the community envisions for the future; it generates common goals, offers the possibility for change and gives the community something to move toward. When developing the vision statement, staff and the Advisory Group considered the opportunities and issues identified during the public meeting, as well as public input from the community survey.

Vision Statement

The *Catawba Area* will have a central focus on the river, environmental stewardship, protection of green space, and maximization of enjoyment of the river. Proper integration of land uses will create a sustainable community known for its:

- **Natural resources protected** through the use of innovative and environmentally sensitive development practices;
- **High quality design that complements the area's natural features;**
- **Enhanced public facilities and services;**
- **Mixture of housing types and neighborhood-serving land uses;**
- **Viable employment centers** in appropriate locations; and a
- **Safe and well-connected transportation network** that provides **options** for pedestrians, cyclists, motorists and transit users.



Catawba Area Plan Goals

To achieve the future envisioned for the plan area, the following goals have been identified. The goals build upon adopted plans and policies.

Land Use - Maintain the residential character of the Wedge area, encourage industrial / office development in the Growth Corridor along I-85, and strategically place mixed-use and moderate density residential developments along major thoroughfares.

Community Design - Integrate environmentally sensitive design elements into all development by: 1) incorporating existing natural features and topography; 2) minimizing the amount of impervious surfaces, as well as preserving and creating open space and greenways; and 3) utilizing design elements such as green roofs, permeable driveways and parking areas to help minimize the amount and improve the quality of storm water runoff.

Transportation - Strengthen the relationship between land use and transportation by: 1) improving connectivity to major land uses (such as parks, schools, and employment centers); 2) encouraging mixed-use developments or appropriately located land uses to reduce trips and shorten trip distances; and 3) providing an accessible, safe and efficient street network that supports multiple travel choices for pedestrians, cyclists, drivers and transit users.

Infrastructure and Public Facilities - Provide public facilities that serve the area residents and visitors, and help sustain future development without endangering the environment.

Natural Environment - Balance growth and development along with the need to protect the natural environment and critical watershed areas.

Encourage environmentally sensitive land development practices such as the preservation of open space, the integration of greenways, and the protection of mature trees.

Overall Plan Concept

Taking the vision statement and goals into consideration, the Concept Map illustrates the recommended development pattern for the plan area. The basic premise is to guide growth and development in a way that protects the area's unique natural environment by focusing industrial and office development in the Growth Corridor along I-85, and strategically placing mixed-use and moderate density residential developments along major thoroughfares in the Wedge, while keeping the majority of the Wedge area as lower density residential, along with park and open space. Retail in the Wedge is neighborhood servicing. Industrial in the Wedge is mainly comprised of the former Clariant plant located along the banks of the Catawba River and Mt. Holly Road; and due to environmental concerns for developing the site for other uses, it is recommended to remain industrial. See **Map 2**, page 11.



Citizen Advisory Group members working on plan vision and recommendations.

Plan Policies

Overview

The following sections set forth plan policies for land use, community design, transportation, infrastructure and public facilities, and the natural environment to realize the vision and goals for the plan area. Goals for each section are briefly summarized, followed by the recommend plan policies. Plan policies will guide future land use and zoning decisions.

Land Use

Goal:

Maintain the residential character of the Wedge area, encourage industrial / office development in the Growth Corridor along I-85, and strategically place mixed-use and moderate density residential developments along major thoroughfares.

This section establishes future land use policies for the area and recommends appropriate land uses to realize the plan vision. In developing these policies, transportation and community design issues were also considered and incorporated as appropriate. However, separate sections for transportation and community design follow and build upon the policies discussed in the land use section.

Information from a market analysis for the plan area (*Catawba Area Plan Market Study*, July 2009 by Warren and Associates) helped to guide the land use policy recommendations. The analy-

sis showed that there is great demand in the plan area for continued residential and commercial development. According to Warren & Associates an additional 2,100 residential units could be built by 2030, not including the 3,500 units that have already been approved but not built (see table below). The market analysis report also documents that while there are 2.5 million square feet of industrial space in the plan area currently, an additional 1.2 million square feet have already been approved, with demand for more than 600,000 square feet by 2030. These projections are a forecast for what demand could potentially be like in the future, based on current and past market performance.

The table below shows total estimated potential development based on the Plan Recommendations, which includes existing and approved (not yet built) development plus potential development of vacant and underutilized parcels. While the market analysis provided guidance in developing the specific land use recommendations, numerous other factors including the plan's vision, goals and infrastructure planning were also taken into account.

The land use policies for the plan area are organized into two major geographic areas – Wedges and Growth Corridors and are illustrated in **Map 3**, page 12. More detailed information is provided for some of the specific land use recommendations and these are numbered on the map, summarized in the **Recommended Future Land Use** table on page 13 and described in the following text. The land use recommendations are also followed by implementation strategies detailed in the Implementation Guide of this document.

Market Analysis

Land Use Category	Total Estimated Development Potential at Build-Out ¹	A) Existing Development	B) Existing Underutilized Development ²	C) Approved Development	D) Potential Development of Vacant & Underutilized Land ³	Additional Demand by 2030 as Projected in Market Study *
Retail (sq. ft.)	1,117,000	40,000	13,000	870,000	222,676	160,000
Office (sq. ft.)	1,296,000	196,000	30,000	310,000	820,000	295,000
Industrial (sq. ft.)	7,940,000	2,530,000	230,000	1,210,000	4,430,000	600,000
Residential (units)	10,620	1,300	180	3,500	6,000	1,240

¹ Total Estimated Development Potential = (A) Existing - (B) Underutilized + (C) Approved + (D) Potential Development Of Vacant and Underutilized Parcels.

² Underutilized parcels are defined as having either a recommended change in Future Land Use; or a Floor Area Ratio (FAR) less than 10% for non-residential; or having a land area more than 1 acre for residential

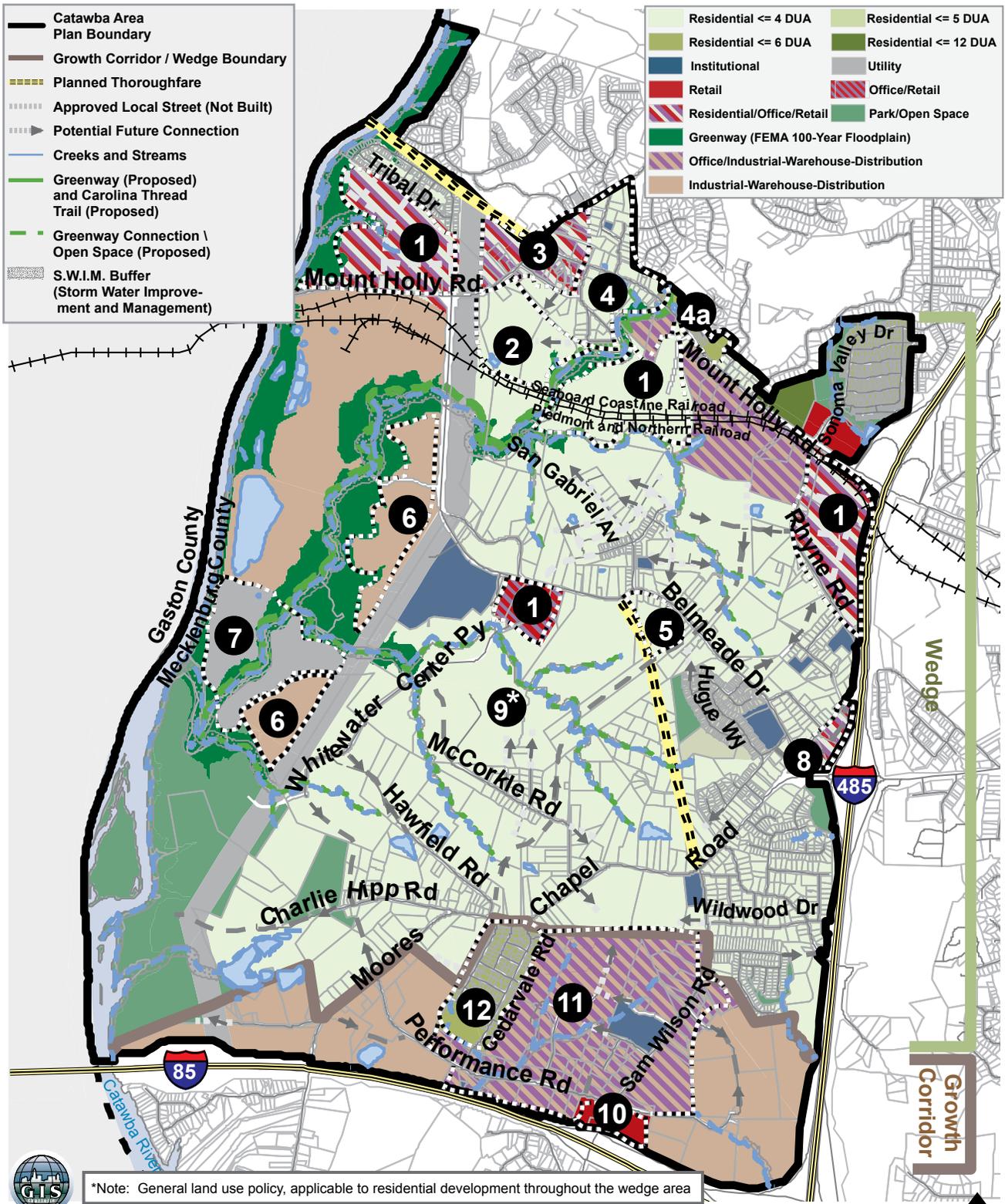
³ Potential development is calculated based on Plan's Future Land Use Recommendations

* Warren & Associates Market Study for Catawba Area Plan, July 2009.

Catawba Area Plan

Recommended Future Land Use

Map 3



Produced by the Charlotte-Mecklenburg Planning Department
 Data Source: City of Charlotte, Mecklenburg County, City of Gastonia

Data current as of October 7, 2009

Recommended Future Land Use Table

Refer to **Map 3**. (See text for complete land use policies beginning on page 14.)

	Area	Recommended Land Use Policy	Additional Land Use Details
Wedge	1	Residential, Office and/or Retail	Limit land uses and intensities to that approved on existing site plans.
	2*	Residential up to 4 dwelling units per acre (dua), and Park/Open Space	Residential up to 4 dua is appropriate if this area redevelops.
	3	Residential, Office and/or Retail	One or any combination of these uses is appropriate, however office and retail uses are limited to Neighborhood Size Center as described in the General Development Policies which limits office and retail to: <ul style="list-style-type: none"> • 30,000 square feet office • 100,000 square feet retail Non-residential and/or mixed use developments should provide an appropriate transition to abutting lower density residential, and be limited to 4 stories in height. Residential as a single use should be limited to up to 12 dua
	4*	Residential up to 4 dua, and Park/Open Space	Recognize the existing residential; however if area redevelops residential density up to 12 dua may be appropriate if parcels are assembled and alternative access to Mt. Holly Road is provided.
	4a	Residential up to 6 dua	Recognize the existing residential density
	5*	Residential up to 4 dua	Residential up to 8 dua would be considered when the new Sam Wilson Rd. extension and new proposed street connections are built.
	6	Industrial-Warehouse-Distribution and Park/Open Space	Industrial uses are appropriate for these sites considering the possibility to redevelop the former Clariant plant site. Class A buffers between residential, institutional and industrial uses are required (refer to zoning ordinance for specific details).
	7	Utilities, and Park/Open Space	Accommodate / recognize proposed wastewater treatment plant on this site.
	8	Residential, Office and/or Retail	Recommended land use mixture: <ul style="list-style-type: none"> • residential up to 6 dua • up to 12,000 square feet office • up to 25,000 square feet retail • Civic and/or cultural facilities are encouraged to be located in mixed-use areas and well integrated with surrounding areas. (see development scenarios, page 17)
	9*	Residential up to 4 dua	Residential up to 4 dua is appropriate for the majority of the Wedge area.
Growth Corridor	10	Retail	Interchange area with such retail uses as restaurants, gas stations, convenience stores and/or hotels. Landscaping and pedestrian network needs to be integrated throughout the site, with any drive-thru operations clearly separated from pedestrians.
	11	Office and/or Industrial-Warehouse-Distribution	One or any combination of these uses is appropriate.
	12	Residential up to 6 dua	If all parcels are assembled, this area may be considered for office / industrial land uses with a site plan addressing design policies in Community Design section.

* Encourage clustered development where appropriate, see Community Design section for details.

Land Use Policies

Wedge Areas

Wedges are the large areas between Growth Corridors primarily composed of lower density residential neighborhoods. The Wedges provide a range of housing choices as well as supporting facilities and services. Most of the Catawba area is located within a Wedge. A large portion of the area is zoned for and developed with residential land uses; however, a portion of the Wedge area along the Catawba River and Mt. Holly–Huntersville Road (NC 27) is zoned for industrial development.

Lower density residential, typically up to 4 dwelling units per acre (dua), is recommended for much of the Wedge area along with neighborhood supporting land uses. Locations for slightly higher density (8 to 12 dua) are also provided along with mixed-use areas (office, retail and residential) along the major thoroughfares.

The existing single family and multi-family land use categories specified in the *Northwest District Plan* and the *Mt. Holly Road Special Project Plan* are recommended to be changed to an assigned density residential. This change will promote a variety of housing types at specific densities appropriate to realize the community vision.



Area is increasingly becoming known as an outdoor recreation center, since the opening of the U.S. National Whitewater Center.

There are some pockets of industrial uses in the Wedge area that have been in industrial use for many decades. Redevelopment of these environmentally contaminated sites should be limited to industrial or other similar uses. In addition, adequate buffers and transitions should be provided for surrounding non-compatible land uses.

Below is a more detailed discussion of the land use policies for Wedge areas that are called out with numbers on **Map 3**, page 12 and highlighted in the **Recommended Future Land Use** table, page 13 for the Wedge:

1. Limit future development to land uses and intensities as on approved site plans for mixed use developments (rezoning petition numbers: 2005-076, 2005-077, 2005-150, 2007-039, and 2008-125).
2. This area includes an existing single-family home, church and retail building, as well as vacant industrially zoned property. The area is appropriate for residential development up to 4 dua if it redevelops. If the area does not redevelop then existing uses are appropriate to remain. However, the vacant industrial land is more appropriate for residential use to complement the adjoining land uses.



Existing local gas station/convenience store provides needed service due to lack of retail centers within the plan area.

The areas along Long Creek should be set aside with adequate buffers and screening for the proposed greenway. Encourage clustered development if appropriate, see Community Design section for more details.

3. Support a mixture of residential, office, and/or retail land uses:
 - a. Residential density up to 12 du/a is appropriate throughout the site or as a single use. Vertically integrated mixed-use, and residential developments limited to four stories in height.
 - b. Building heights, setbacks, access, and buffers are important considerations to provide an appropriate transition to the abutting lower density residential.
 - c. Neighborhood size retail oriented mixed/multi use center is appropriate, however limit office development to 30,000 square feet, and retail to 100,000 square feet.
4. The existing residential density of up to 4 du/a is appropriate to continue however, if area redevelops, residential density up to 12 du/a may be appropriate for parcels fronting Mt. Holly Road, with a site plan that addresses



Industrial uses along both sides of the Catawba River have been in existence for decades.

the design guideline in this area plan and that provides for:

- a. Adequate street network and alternate access to Mt. Holly Road;
 - b. Preservation of mature trees and landscape buffers to abutting lower density residential developments;
 - c. Adequate buffers and screening for the proposed greenway along Long Creek; and
 - d. Building heights limited to four stories.
 - e. Encourage clustered development if appropriate, see Community Design section for more details.
- 4a. The existing residential density of up to 6 du/a is appropriate to continue in this area.
 5. Residential up to 4 du/a is appropriate for this area however, in the event that the proposed Sam Wilson Road extension is built as well as the proposed collector road detailed in the future transportation network map, residential up to 8 du/a would be considered for this intersection. Encourage clustered development if appropriate, see Community Design section for more details.
 6. Industrial and/or flex space is appropriate for these sites (considering the possibility to redevelop the former Clariant plant site). It is not anticipated that warehouse distribution uses would be appropriate for this location considering it is somewhat isolated and far removed from the interstate interchange. The required buffers between residential and industrial uses need to be provided and the areas along Long Creek should be set aside with adequate buffers and screening for the proposed greenway. If parcels are purchased by the County the recommendation would be to maintain it as open space.

7. Charlotte Mecklenburg Utilities (CMU) is pursuing the purchase and development of this site for a future regional wastewater treatment facility along the Catawba River and Long Creek. CMU has identified the need for increased wastewater capacity to serve the Long Creek Basin of western Mecklenburg County and will need additional capacity by 2012. The proposed facility is also being considered as a potential regional facility collaborating with the City of Mt. Holly across the Catawba River in Gaston County. The areas along the Catawba River and Long Creek should be set aside with adequate buffers and screening for the proposed greenway.

8. The land just northwest of the Moores Chapel Road and I-485 interchange is currently vacant with residential uses behind it. This area is recommended for mixed use development including residential, retail and/or office as follows (see also development scenario illustration **Mixed-Use Development Concept**):

- a. Residential density up to 6 du/a;
- b. Up to 12,000 square feet of office space; and

c. Up to 25,000 square feet of retail space.

- If a mixed use development is not feasible residential up to 6 du/a would be appropriate as a single use for the entire site.
- Retail or office would be appropriate as single uses only for the parcels adjacent to Moores Chapel Road and the I-485 Interchange, and they would be limited to 25,000 and 12,000 square feet respectively.
- Civic and/or cultural facilities are also strongly encouraged to be located at this site, and be integrated with the surrounding land uses.

9. Low-density residential is recommended throughout the majority of the Wedge as shown on **Map 3**, page 12 at a density up to 4 du/a. Clustered development is encouraged if it is appropriate, such as areas where the preservation of open space and/or environmentally sensitive areas is particularly important. See Community Design section for details.



Office buildings in the Wedge area should not exceed four stories and should serve the surrounding neighborhood.



Pedestrian friendly retail center with appropriate design details would provide community focal points in the Wedge area.

Mixed-Use Development Concept



Shown above is a conceptual redevelopment plan for a 12.75-acre site in the Catawba plan area bounded by I-485, Moores Chapel Road, and Rhyne Road. The recommended future land use for this area is a mix of residential, office and retail. This scenario depicts a neighborhood commercial center that includes retail/restaurant, a convenience store/gas station, a small office building, and 38 townhomes, surrounding a common "town green".

This is presented solely as an example of how this site could be developed, illustrating some of the community design principles discussed in the plan.

Growth Corridors

Most of the area located north of I-85 and south of Moores Chapel Road is within the West Growth Corridor as defined by the *Centers, Corridors, and Wedges Growth Framework* and shown on **Map 2**, page 11. This part of the Growth Corridor is becoming increasingly attractive to warehouse/distribution companies due to its proximity to the airport, and to the recent completion of a significant portion I-485 which forms the eastern boundary of the plan area and provides a direct connection from I-85 to I-77. This portion of the Growth Corridor will likely continue to develop with more industrial and office land uses taking advantage of the location.

In general, the Growth Corridor area is recommended to continue intensification and mixing of office, industrial and retail where there is already a concentration of these land uses along I-85. The boundaries of the Growth Corridor were reviewed and no change is recommended.

In this plan area, the Growth Corridor includes the following subareas: Interchange Areas, General Corridor Areas and an Established Neighborhood Areas. Policies for property within each of these subareas follow:

• Interchange Area

Interchange Areas are sub-areas of Growth Corridors within approximately ½ mile of “full direction” interstate or expressway interchanges and are typically appropriate for development types requiring high levels of vehicular access. These areas generally have a transportation system that emphasizes vehicular travel, although other modes are also accommodated. The area around the I-85 and Sam Wilson Road interchange is predominately developed with industrial land uses, with a limited amount of office and scattered single family residential land uses.

10. The interchange area of I-85 and Sam Wilson Road is recommended for retail developments such as restaurants, gas stations, convenience stores and / or hotels. However, it is also recommended that these developments provide pedestrian amenities throughout the site including an extensive sidewalk network, plazas and open spaces while at the same time accommodating high levels of vehicular access. The landscaping and pedestrian network needs to be well integrated into the development throughout the entire site, with any drive-thru operations clearly separated from pedestrians.



Industrial / warehouse distribution development is recommended for the Corridor area.



Retail areas should provide pedestrian connections throughout site.

- **General Corridor Area**

General Corridor Areas are those areas within the Growth Corridor boundary that are outside the other three types of sub-areas (Transit Station Areas, Interchange Areas and Established Neighborhood Areas). Typically these General Corridor Areas are appropriate for a range of moderate intensity uses and have a variety of transportation facilities and modes, with specific facilities varying according to location.

11. Office/Industrial-Warehouse-Distribution is recommended for the General Corridor Area around I-85, Sam Wilson Road and Performance Road, which is already the prevalent existing use in the area. One or any combination of these uses is appropriate.

- **Established Neighborhood Areas**

These sub-areas are those existing, primarily low density residential communities that are located within the Growth Corridor. These neighborhoods should be maintained and enhanced and, in general, protected with a transition from more intense development that may locate adjacent to them.

12. Preserve the existing neighborhood located off of Moores Chapel Road at Clearwood Lane, as a residential development up to 6 dwelling units per acre. This residential development is currently zoned for and developed with manufactured housing; however, in the event ALL of the parcels are assembled, this area may be appropriate for office/industrial-warehouse-distribution land uses with a site plan that addresses the design policies provided in the Community Design section of this area plan.

Community Design

Community design policies help to ensure that new development complements the existing or desired character of the *Catawba Area Plan* Community. While design policies alone do not dictate land use or zoning, they are used to strengthen how various land uses fit together. These policies consider not only the built environment in conjunction with the natural environment, but also consider how people move through those spaces as pedestrians, bicyclists, or automobile drivers.

Goal:

Integrate environmentally sensitive design elements into all development by: 1) incorporating existing natural features and topography; 2) minimizing the amount of impervious surfaces, as well as preserving and creating open space and greenways; and 3) utilizing design elements such as green roofs, permeable driveways and parking areas to help minimize the amount and improve the quality of storm water runoff.



Proper design of driveways ensures parking is accommodated without blocking the sidewalk.

Residential Design Policies¹

13. Building Architecture & Site Design			
Policy Number	Single Family Detached	Single Family Attached & Multi-Family	
			Close attention to building and site design serves to enhance the community. Design policies do not result in conformity of design, but provide direction for both new and infill development.
13a	●	●	Preserve historically or architecturally significant structures.
13b	●	●	Avoid blank walls along pedestrian circulation areas.
13c	●	●	Orient building towards street (unless a thoroughfare) or common open space and provide pedestrian access to the street.
13d	●	●	Blend scale/setbacks of buildings with existing structures.
13e	●	●	Encourage clustered development where appropriate, such as areas where the preservation of open space and/or environmentally sensitive areas is particularly important. (see page 23 for detailed illustration)
13f	●	●	Provide a variety of housing types (floor plans, exterior treatments and materials, massing, and roof forms).
13g	●	●	Avoid driveways that block access to, and visibility of, the front entrance of the structure.
13h	●		Porches should be a minimum of 6' deep and at least half the width of the facade (excluding garages.)
13i	●	●	Design residential garages to reduce visual impact from the street.

¹ Adopted by City Council, the *General Development Policies* (GDP) provide guidance for the location, intensity and form of future development and redevelopment throughout the community. Many of the residential and mixed/multi-use center design policies for the plan area are based upon these adopted GDP policies. Additional, **plan-specific policies are shown in bold font**. Plan-specific policies augment the GDP design guidelines.



Orient building towards street (unless a thoroughfare) or common open space and provide pedestrian access to the street.



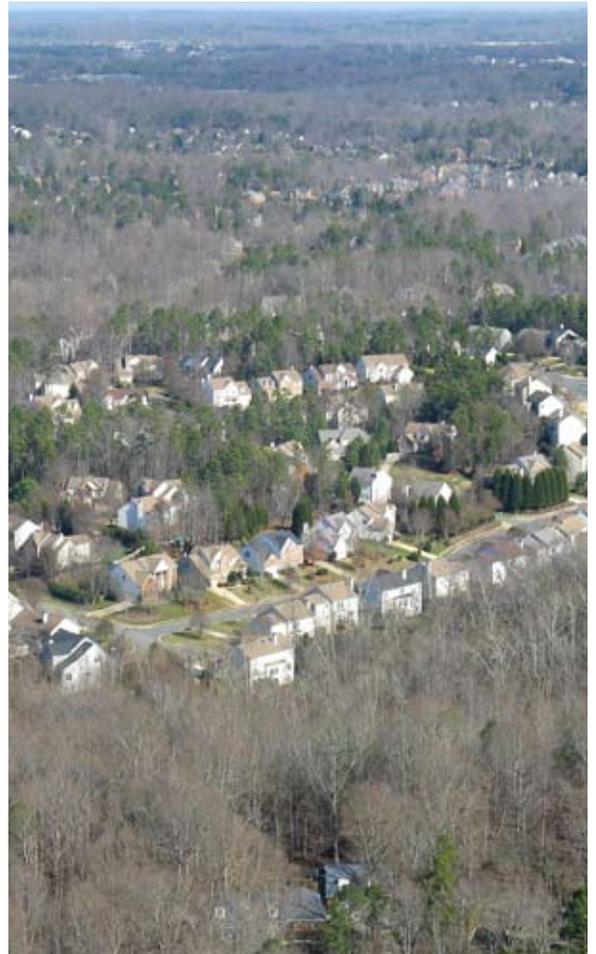
Avoid driveways that block access to, and visibility of, the front entrance of the structure.

14. Natural Environment

Policy Number	Single Family Detached	Single Family Attached & Multi-Family	
			These policies provide direction to accommodate growth and change while protecting the natural environment on which we depend, including the quality of our air, water and land.
14a	●	●	Provide a meaningful amount of usable and accessible open space. In single family development, this should be common open space, or dedicated to the County.
14b	●	●	Incorporate functional, unique, natural, and/or historical elements into the open space.
14c	●	●	Preserve steep slopes along streams or adjacent to significant natural landscape features.
14d	●	●	Preserve at least 10% of the site as “tree save area” consistent with residential tree ordinance.
14e	●	●	Provide and encourage accessibility to Catawba River, Long Creek and other natural amenities through better connected streets, sidewalks and trails.
14f	●	●	Encourage use of pervious driveways, parking areas, and sidewalk surfaces to minimize storm water runoff.
14g	●	●	Design open space to create a network of green spaces.
14h	●	●	Use low maintenance native vegetation as much as possible.
14i	●	●	Preserve prominent stands of existing trees, whenever possible.
14j	●	●	Create a gradual transition between the open space and the built environment where development adjoins natural areas/open spaces.



Provide a meaningful amount of usable and accessible open space. In single family development, this should be common open space.



Preserve at least 10% of the site as “tree save area” consistent with residential tree ordinance.

15. Pedestrian & Vehicular Network

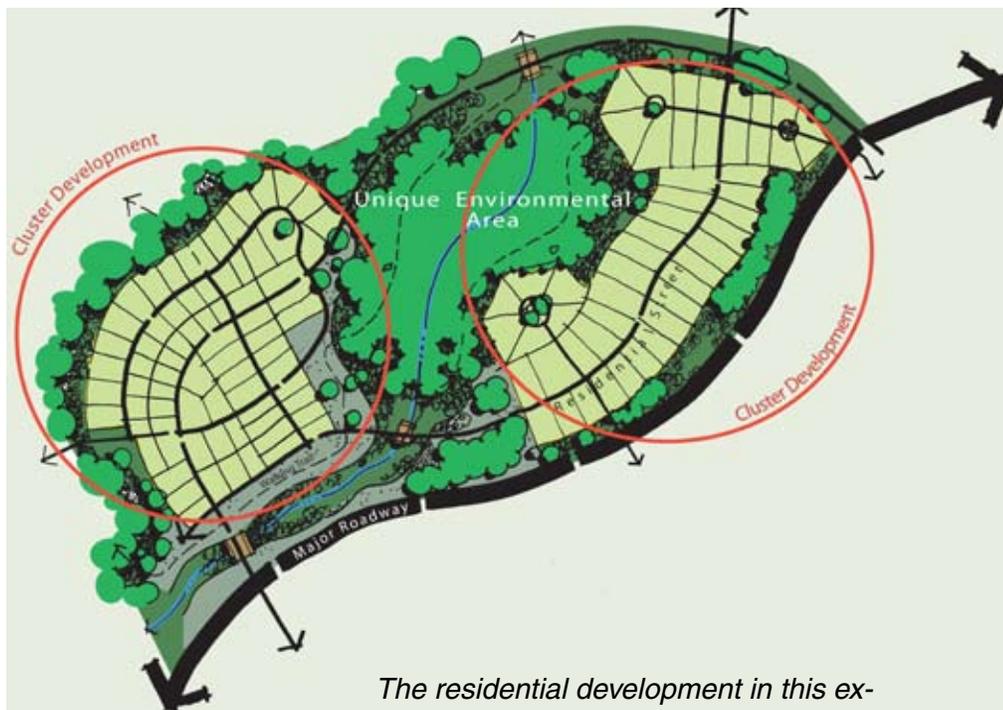
Policy Number	Single Family Detached	Single Family Attached & Multi-Family	
			Providing a safe, accessible and comfortable network of streets, sidewalks and pathways for all modes of transportation is an important step in establishing a livable community. The policies below provide guidance for achieving mobility and connectivity for pedestrians, bicyclists, and automobile drivers.
15a		●	Provide pedestrian amenities such as street furniture and pedestrian scale lighting.
15b	●	●	Provide bicycle parking in appropriate common areas (for example, playground, swimming pools.)
15c	●	●	Provide pedestrian/bicycle connections to nearby parks, greenways, bikeways and trails.
15d	●	●	Provide direct pedestrian and bicycle connections between all abutting or adjacent developments and transit stops.
15e	●	●	Design streets with pedestrian safety and comfort in mind.
15f	●	●	Encourage shared alleys and other forms of access (e.g. shared driveways).
15g	●	●	Design street system to calm traffic.
15h	●	●	Align collectors at thoroughfare intersections to promote safe crossings for pedestrians, cyclists, and automobile drivers.
15i		●	Encourage on-street parking along public and private streets where appropriate to reduce the size of surface parking lots
15j	●	●	Provide multiple vehicular entry points.
15k		●	Design an internal street system with spine road, including: <ul style="list-style-type: none"> • parallel parking, street trees, and sidewalks; • driveways or secondary streets to connect parking lots and primary street; and • sidewalks on secondary streets.



Provide a safe, accessible and comfortable network of streets, sidewalks and pathways for all modes of transportation.

Residential Cluster Development

Residential Cluster Development: In developing larger parcels of land for residential use, it is often advantageous to use clustering, especially where it is important to preserve or protect environmentally-sensitive areas or when the preservation or creation of open space is a high priority. In a cluster development, the residential uses are concentrated in certain areas at a higher density, instead of being distributed evenly across the entire site at a lesser density. This clustering allows portions of the overall site to be improved as usable open space or remain undeveloped, without decreasing the total number of residential units allowed under the zoning regulations. A cluster development could be designed to preserve 25% of a site (for example) as undeveloped land or open space while building the allowable residential units on the remaining 75% of the site.



The residential development in this example is clustered to achieve the maximum number of dwelling units allowed per acre (dua), while also preserving and protecting a significant amount of open space.

Non-Residential Design Policies¹

16. Building Architecture						
Policy Number	Retail/Oriented mixed/multi use	Retail	Office	Mixed Use	Industrial	
						Architecture and landscape design define streets and public spaces as areas of shared use. Streets lined by buildings and trees rather than vast expanses of parking lots provide a visually rich and physically safe environment.
16a	●	●	●	●		Design buildings with transparent openings, ornamentation, and architectural character.
16b	●	●	●	●		Establish entrances with pedestrian interest.
16c	●	●	●	●		Orient buildings towards street and provide pedestrian access.
16d	●	●	●	●		Arrange buildings in an orderly block pattern.
16e	●	●	●	●	●	Discourage tearing down historic or architecturally significant structures.
16f	●	●	●	●		Design buildings with human scale and visual interest in mind.
16g	●	●	●	●		Minimize impacts of drive-thru development.
16h	●	●	●	●	●	Design for pedestrian safety.
16i	●	●	●	●	●	Locate dumpsters and service areas away from residential areas.



Design buildings with transparent openings, ornamentation, and architectural character.



Establish entrances with pedestrian interest.

¹ Adopted by City Council, the *General Development Policies (GDP)* provide guidance for the location, intensity and form of future development and redevelopment throughout the community. Many of the residential and mixed/multi-use center design policies for the plan area are based upon these adopted GDP policies. Additional, **plan-specific policies are shown in bold font**. Plan-specific policies augment the GDP design guidelines.



Orient buildings towards street and provide pedestrian access. Arrange buildings in an orderly block pattern.



Minimize impacts of drive-thru development.

17. Pedestrian & Vehicular Network

Policy Number	Retail/Oriented mixed/multi use	Retail	Office	Mixed Use	Industrial	
						Circulation in and through a site should be comfortable, safe, secure and efficient for pedestrians, bicyclists and automobile drivers.
17a	●	●	●	●	●	Create an interconnected sidewalk system.
17b	●	●	●	●	●	Design short blocks with an organized street pattern.
17c	●	●	●	●	●	Provide pedestrian/bicycle connections to nearby parks, greenways, bikeways and trails.
17d	●	●	●	●	●	Design streets with pedestrian safety and comfort in mind.
17e	●	●	●	●	●	Provide ample sidewalk width to accommodate pedestrian circulation, congregation, outdoor dining, and amenities such as street furnishings, trash receptacles, art work and trees.
17f	●	●	●	●	●	Establish clear “way-finding” signage for pedestrians and automobile drivers.
17g	●	●	●	●	●	Provide safe pedestrian circulation throughout the development, including through parking lots and decks.
17h	●	●	●	●	●	Provide bicycle parking and storage areas.
17i	●	●	●	●	●	Provide safe and secure transit waiting facilities.
17j	●	●	●	●	●	Establish a central vehicular access into the site from the more auto-oriented street and provide secondary access options from the minor streets.
17k	●	●	●	●	●	Design parking lots on a street/block pattern to minimize large surface lots.
17l	●	●	●	●	●	Minimize large surface parking lots with smaller pods and extensive landscaping.
17m	●	●	●	●	●	Encourage commercial or residential uses in parking decks fronting pedestrian circulation areas.
17n	●	●	●	●	●	Design access from surrounding neighborhood so that the appearance is residential in character.
17o	●	●	●	●	●	Provide structured parking where feasible to conserve land and minimize surface parking.
17p	●	●	●	●	●	Integrate landscaping with seating along facades when possible and, when practical, work to integrate the existing tree canopy into the site design.
17q	●	●	●	●	●	Encourage shared driveways and alleys within the development.
17r	●	●	●	●	●	Provide and encourage accessibility to Catawba River through better connected streets, sidewalks and trails.



Create an interconnected sidewalk system.



Provide pedestrian/bicycle connections to nearby parks, greenways, bikeways and trails.



Provide ample sidewalk width to accommodate pedestrian circulation, congregation, outdoor dining, and amenities such as street furnishings, trash receptacles, art work and trees.



Provide safe pedestrian circulation throughout the development, including through parking lots and decks.

18. Natural Environment						
Policy Number	Retail/Oriented mixed/multi use	Retail	Office	Mixed Use	Industrial	Site development should respect the natural environment.
18a	●	●	●	●	●	Preserve steep slopes along stream beds or adjacent to significant natural landscape features.
18b	●	●	●	●	●	Provide a meaningful amount of usable and accessible common open space and integrate the tree canopy into it.
18c	●	●	●	●	●	Consider using pervious pavement for overflow parking.
18d	●	●	●	●	●	Avoid piping creeks and minimize channelization. Use a bridge, rather than a culvert at existing creeks when possible.
18e	●	●	●	●	●	Retain existing landscaping when possible. Mass clearing is not preferable and existing tree canopy should be preserved where practical.
18f					●	Provide large buffers between industrial uses and surrounding areas, including the Catawba River.
18g			●	●	●	Encourage the use of green roofs to reduce storm water runoff and provide other environmental benefits.



Encourage the use of green roofs to reduce storm water runoff and provide other environmental benefits.

19. Freestanding Single Tenant Buildings						
Policy Number	Retail/Oriented mixed/multi use	Retail	Office	Mixed Use	Industrial	Freestanding single tenant buildings (out parcels) can be classified as either independent or interconnected. Independent buildings function separate of the surrounding complex while interconnected buildings share parking and site amenities with other buildings in the same complex whether independent or interconnected. The design of freestanding single tenant buildings should be sensitive to the surrounding neighborhood, both built and natural environments.
19a	●	●	●	●		Design buildings to relate to the scale, height and configuration of the center.
19b	●	●	●	●	●	If drive-thru(s) are included, they must not compromise pedestrian circulation.
19c	●	●	●	●	●	Design to facilitate walking to the freestanding building from other buildings within the center. Provide safe pedestrian pathways and crossings without creating conflicts with automobiles.
19d	●	●	●	●		Design the site so that dumpsters, service areas or auxiliary storage do not interfere with, and are not visible from, the pedestrian circulation area and do not negatively impact surrounding residential areas.
19e	●	●	●	●		The site layout should be clustered in a village arrangement around shared amenities.

Transportation

Goal:

Strengthen the relationship between land use and transportation by: 1) improving connectivity to major land uses (such as parks, schools, and employment centers); 2) encouraging mixed-use developments or appropriately located land uses to reduce trips and shorten trip distances; and 3) providing an accessible, safe and efficient street network that supports multiple travel choices for pedestrians, cyclists, drivers and transit users.

Streets connect people to places. The street network has a direct impact on the community's quality of life. If the design of the street network is efficient the community can benefit from reduced congestion, a range of travel choices, route options, emergency access, a mix of land uses, and pedestrian and bicycle options.

The plan area continues to transition from a more rural to a more developed area. The pace of this transition poses challenges for the transportation system to adequately serve growing travel demand. Within Wedges, or much of the plan area, the transportation focus should be on completing the street network and improving the capacity of the existing transportation system.

Mount Holly Road (NC 27) is the only major thoroughfare within the area and portions of it currently operate at an unacceptable level of service. Unfortunately, the project to improve this street is not included in the draft *2035 Long Range Transportation Plan* (LRTP), meaning that it will not likely be funded prior to 2035. Given there are no capacity improvements funded for this area before 2035, an expanded network of local streets will be even more critical to how the Catawba area transportation system functions in the short-term and long-term. In particular, a more robust local street network, including key connector streets constructed via land development, is necessary to accommodate the level of residential and commercial growth likely to occur in the Catawba Area.

The following policies provide guidance for creating a well-connected system of streets and improving the overall transportation system in the Catawba area.

Transportation/Street Design Policies

This section outlines transportation policies recommended to address both proposed new streets and enhancements to existing streets to make them more pedestrian and bicycle friendly. Recommended street improvements will be requested in conjunction with new development and redevelopment, as part of the land development approval process.

The general locations of the policies discussed below are noted on **Map 4**, page 30 and the policy number is also referenced in the implementation section. The **Description of Street Types** table, page 31, details the street type descriptions for the recommended street connections. **Proposed Streetscape Details**, pages 32-33, should be used as a guide when developing streets.

20. **Provide key connector streets** to support the existing and future travel demand and to provide additional routes to area shopping and other destinations. Connectors form a system of parallel local streets that offer alternatives to thoroughfares for local trips and limited through trips. Most connector streets will be built by the private sector as development occurs. Whitewater Parkway and Verde Creek Road are good examples of connector streets built by the private sector. These streets provide alternate routes to Moores Chapel Road and Belmeade Drive. As shown on **Map 4**, page 30, key connector-streets include:
 - Whitewater Parkway from Whitewater Park entrance to Moores Chapel Road;
 - Completed Verde Creek Road (continuation of Whitewater Parkway) from Belmeade Drive to Rhyne Road;

- McCorkle Road extension from Moores Chapel Road to Whitewater Parkway;
- Hawfield Road extension from Moores Chapel Road to Whitewater Parkway; and
- New proposed Northeast-Southwest Street from Verde Creek Road to Hawfield Road.

Note: *The location of the proposed streets is conceptual. Alternative locations, consistent with the intent of the proposed network, will also be considered. Additional streets may be requested to facilitate improved network and connectivity.*

21. Provide improved block structure as follows based on guidance from the Urban Street Design Guidelines:

- 600 feet typical (800 feet maximum) for Residential less than 5 dwelling units per acre;
- 600 feet typical (650 feet maximum) for Residential equal to or greater than 5 dwelling units per acre;
- 500 feet typical (650 feet maximum) for Commercial uses and Mixed-Use development; and
- 600 feet typical (1,000 feet maximum) for Industrial uses.



Intersection of Mt. Holly Road and Mt. Holly-Huntersville Road is a challenge for pedestrians or bicycles.

22. Construct new thoroughfares. Both the planned relocation of Belmeade Drive to Sam Wilson Road and the new alignment for NC 27 to Gaston County should continue to be coordinated with land development. These realigned thoroughfares would provide more direct routes for longer distance trips crossing the Catawba area, many of which are destined for interchanges on Interstates 85 and 485.

23. Enhance intersections to improve traffic flow, area accessibility and safety.

Improved intersections may include enhancements such as traffic signals, roundabouts, pedestrian countdown signals, painted or textured crosswalks, curb ramps, pedestrian refuge islands, restrictions on right turn movement, bike lanes, and protected left turns. Specific enhancements will be identified during the design phase. As shown in **Map 4**, page 30, recommended improved intersections include:

- Mount Holly Rd (NC 27) and Rhyne Rd;
- Mount Holly Rd (NC 27) and Mt Holly-Huntersville Rd;
- Mount Holly Rd (NC 27) and Belmeade Dr;
- Rhyne Rd and Verde Creek Rd (Future Extension);
- Rhyne Rd and Belmeade Dr;
- Moores Chapel Rd and Rhyne Rd;



Opening of I-485 has increased truck traffic in the area.

- Moores Chapel Rd and Sam Wilson Rd;
- Moores Chapel Rd and Performance Rd;
- Moores Chapel Rd and Charlie Hipp Rd;
- Belmeade Dr and Sam Wilson Rd (Future Extension); and
- Belmeade Dr and Whitewater Center Pkwy.

24. **Improve signage on I-485.** Direct traffic to exit on Moores Chapel Rd. or Wilkinson Blvd. to access Sam Wilson Rd. Currently the exit to I-85 from I-485 does not have access to the Sam Wilson Road exit.

25. **Construct new sidewalks along existing and new streets.** The Catawba area has limited sidewalks along most of the existing thoroughfares. As development occurs, new sidewalks are required to be constructed along existing thoroughfares, following adopted streetscape standards. Additionally, five-foot minimum width sidewalks are required on all new local streets.

26. **Eliminate gaps in the sidewalk system within existing residential areas.** Some neighborhoods do not have sidewalks because they were developed prior to standards requiring

sidewalks. The City's sidewalk program will slowly address these areas, prioritizing continuous and direct routes linking residential areas to parks, schools, and shopping.

27. **Construct bicycle lanes along all thoroughfares.** As development occurs, bicycle lanes should be included along any thoroughfare with a new or relocated curb line. Cross-sections for all Avenue- and Boulevard-classified streets (see **Proposed Streetscape Details**, page 32) should include bicycle lanes.

28. **Encourage trails to greenways via contiguous open spaces.** Tributaries and streams leading to Long Creek are among those areas recommended to provide contiguous open spaces, create focal points for a development, and make key connections to the greenway system. The land dedication for greenways would occur primarily through the land development process.

29. **Expand transit service.** As more residential development occurs and new commercial nodes are created within the plan area, CATS should consider expanding service and partner with the development community to create park-and-ride opportunities as possible termini or major stops for expanded transit service.



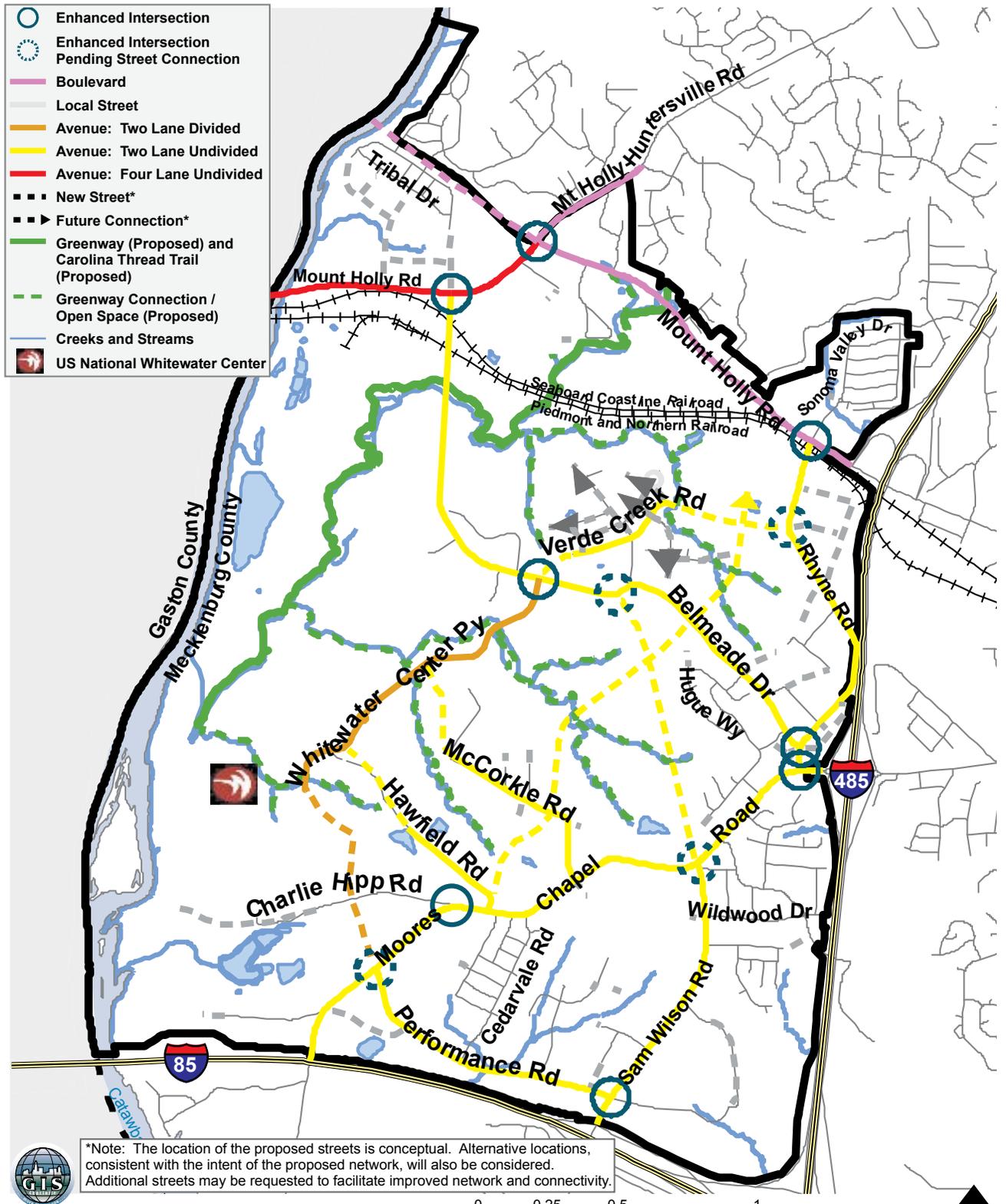
Greenway connections provide transportation options for cyclists and pedestrians.



Route 1 was recently expanded in the area due to increased demand for more transit options.

Catawba Area Plan

Recommended Future Transportation Network and Street Cross Sections Map 4



Produced by the Charlotte-Mecklenburg Planning Department
 Data Source: City of Charlotte, Mecklenburg County, City of Gastonia

Data current as of October 7, 2009

Street Cross-Sections

The following are recommendations for future street cross-sections and streetscape development standards to help define the function and visual appeal of the Catawba Area's proposed street network. The streetscape development standards specifically define the character and width of the area behind the curbs, between buildings and the existing curb line, including accommodations for sidewalks and landscaping. The specifications in the cross-sections are based on typical conditions and may vary upon further study and in unique circumstances.

Based on the City's *Urban Street Design Guidelines*, the future cross-sections have been determined for streets (see **Proposed Streetscape Details**, page 32, and refer to **Map 4** page 30 for specific locations), within the plan area with the exception of the low density residential neighborhood areas, where little change to existing streets is expected. The following street types are recommended for this plan area:

- Boulevard
 - » Four-lane undivided
 - » Two-lane divided
 - » Two-lane undivided
- Avenue
- Local Street

Description of Street Types*				
Street Type				
	BOULEVARDS	AVENUES	LOCAL STREETS	
Description / Function	Intended to move large numbers of vehicles, often as “through traffic”, from one part of the city to another and to other lower level streets in the network.	The most common (non-local) street providing access from neighborhoods to commercial areas. Designed to provide a balance of service for all modes of transportation, including accessibility for transit, pedestrians & bicyclists in addition to carrying significant automobile traffic.	Provide access to residential, industrial, commercial or mixed-used districts. The majority of Charlotte's streets are classified as local streets and are typically built through the land development process.	
Proposed Street Classification **	Mount Holly Road (<i>east of Mt Holly-Huntersville Road</i>) and Mt-Holly-Huntersville Road (<i>north of Mount Holly Road</i>)	<ul style="list-style-type: none"> • Mount Holly Road (<i>west of Mt Holly-Huntersville Rd</i>)*** • Belmeade Drive • Hawfield Road • McCorkle Road 	<ul style="list-style-type: none"> • Moore's Chapel Rd • Performance Road • Rhyne Road • Sam Wilson Road • Verde Creek Road • Whitewater Center Pkwy 	All remaining streets
<p>Source: Charlotte Department of Transportation, 2009</p> <p>* A complete description of all street types are provided in the <i>Urban Street Design Guidelines</i></p> <p>** Proposed Street Classifications are for the Catawba Area</p> <p>*** 4-lane cross-sections applies. All other Avenues have 2- to 3-lane cross sections.</p>				

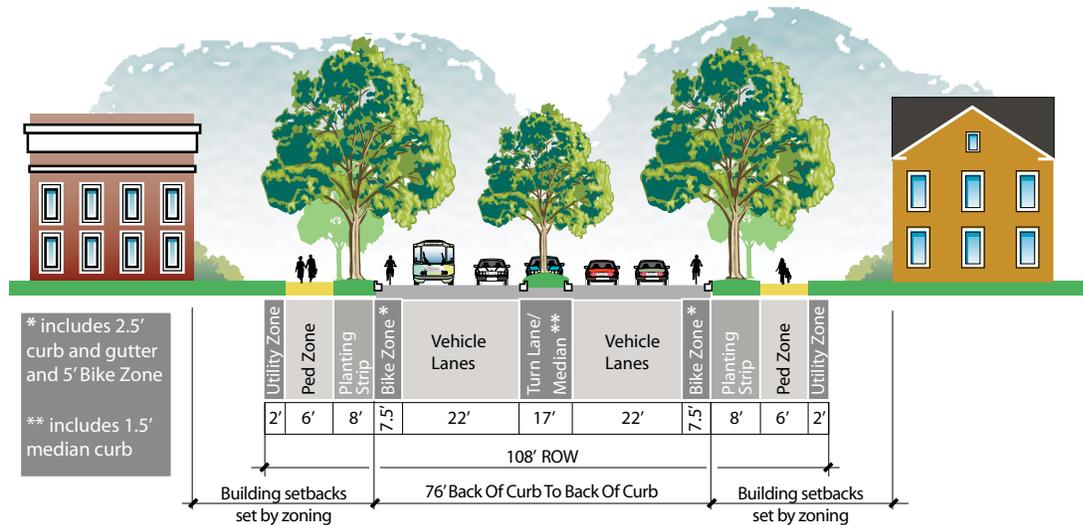
Proposed Streetscape Details

not to scale

Boulevard

Width: 76' from back of curb to back of curb; ROW is 108'.

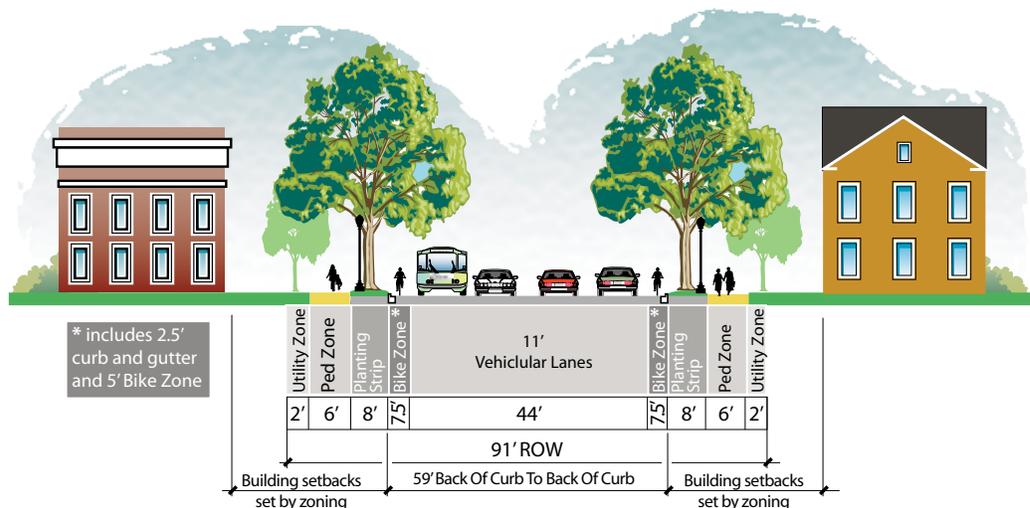
Cross Section: Two lanes in each direction with a wide median to accommodate turn lanes, bike zone, planting strip, sidewalk and utility zone. Building setbacks will vary by zoning districts.



Avenue ~ Four Lane Undivided

Width: 59' from back of curb to back of curb. ROW is 91'.

Cross Section: Two travel lanes in each direction with bike zone, planting strip, sidewalk and utility zone. Building setbacks will vary by zoning districts.



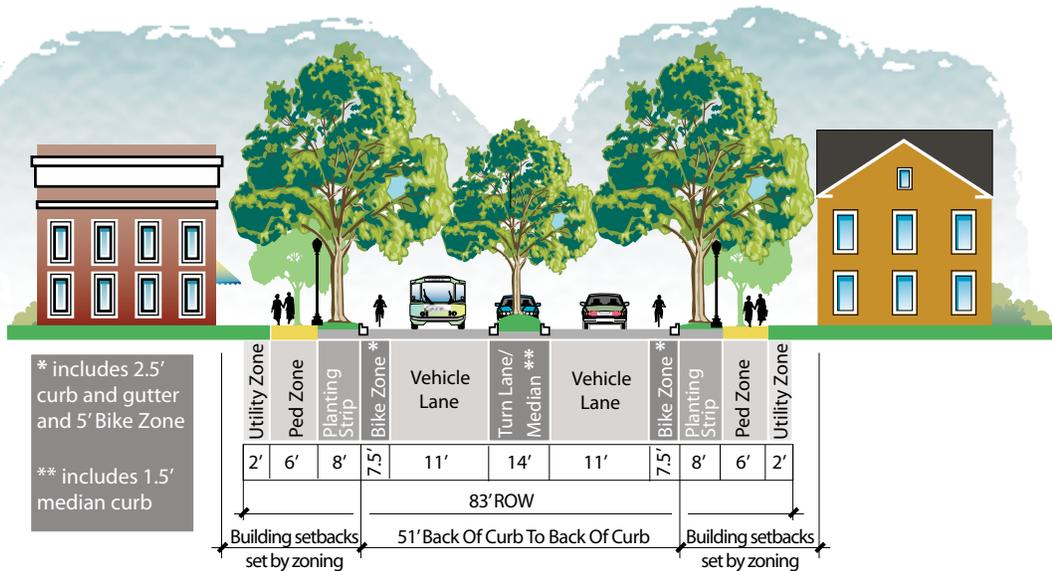
Note: These dimensions reflect typical street sections at mid-block locations. They will be used by the Department of Transportation, in consultation with the Charlotte-Mecklenburg Planning Department, to determine the location of the ultimate curb lines. Variations from the typical street sections, where needed to address physical conditions, enhance operations, or better meet the intent of this area plan, may be identified during future design and analysis phases.

Option: 10' wide multi-use path along one side of the street instead of the sidewalk could be considered when adjacent to a park or open space.

Avenue ~ Two Lane Divided

Width: 51' from back of curb to back of curb. ROW is 83'.

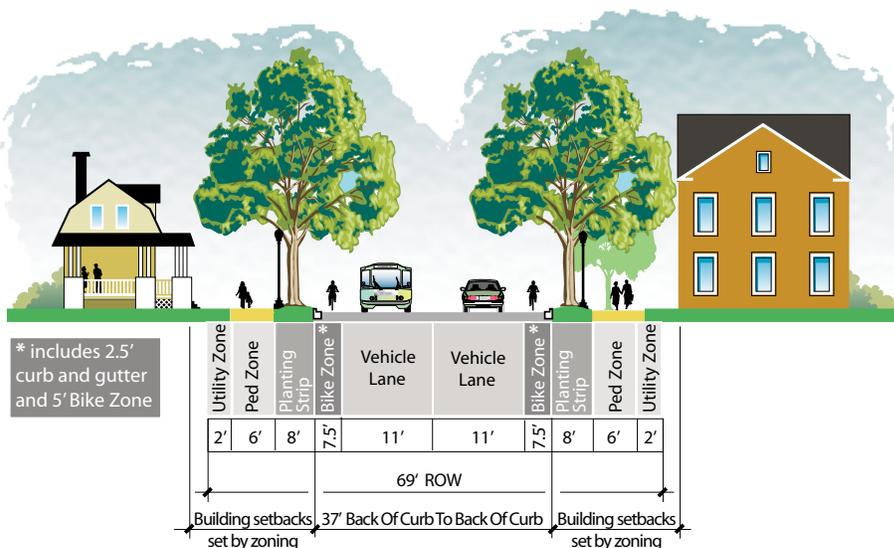
Cross Section: One travel lane in each direction with a median/turn lane, bike zone, planting strip, sidewalk and utility zone. Building setbacks will vary by zoning districts.



Avenue ~ Two Lane Undivided

Width: 37' from back of curb to back of curb. ROW is 69'.

Cross Section: One travel lane in each direction with bike zone, planting strip, sidewalk and utility zone. If a turn lane is added, an additional 11' is required. Add 12' travel lanes for Avenues within Growth Corridor. Building setbacks will vary by zoning districts.



Note: These dimensions reflect typical street sections at mid-block locations. They will be used by the Department of Transportation, in consultation with the Charlotte-Mecklenburg Planning Department, to determine the location of the ultimate curb lines. Variations from the typical street sections, where needed to address physical conditions, enhance operations, or better meet the intent of this area plan, may be identified during future design and analysis phases.

Option: 10' wide multi-use path along one side of the street instead of the sidewalk could be considered when adjacent to a park or open space.

Infrastructure and Public Facilities

This section outlines the Infrastructure and Public facilities policies for the plan area. The policies addressed in the plan cover water and sewer, storm water, police, fire, parks and recreation and schools. As Charlotte-Mecklenburg continues to grow and develop, timely planning for these services is essential to maintain the high quality of life residents have come to expect. Other public facilities, including libraries, medical and social services are not addressed in this land use plan.

The *Catawba Area Plan's* vision includes the statement that the area will be known for enhanced public facilities and services. The Charlotte-Mecklenburg Police Freedom Division and North Division cover this area. Other public facilities and services within the plan boundaries include water, sewer service, and storm water.

Goal:

Provide public facilities that serve the area residents and visitors, and help sustain future development without endangering the environment.

Infrastructure and Public Facilities Policies

30. Ensure that water and sewer capacity is available to support anticipated development and provide a regional waste water treatment facility to address the area's growing need.

Charlotte-Mecklenburg Utilities (CMU) provides public water to most of the plan area. Future facilities needed to enhance capacity in response to continued growth should be built and designed to enhance the environment, consistent with the City's *Sustainable City Facilities Policy* adopted in 2009.

Charlotte-Mecklenburg Utilities is planning a regional waste water treatment facility within the plan area, in addition to an already existing pump station along Long Creek. The property that is being pursued for this facility is on the southern

portion of the Clariant site located just south of NC 27 and the Catawba River.

31. Provide efficient and environmentally sound storm water facilities throughout the area.

Most development in the plan area is subject to the Post Construction Controls Ordinance (PCCO) which became effective in July, 2008 and regulates storm water runoff controls consistent with State and Federal requirements. The PCCO establishes minimum requirements and procedures to control the adverse effects of increased post-construction storm water runoff and non-point source pollution associated with development and redevelopment. Proper management of construction-related and post construction storm water runoff will help to minimize damage to public health, safety, and general welfare, and protect water and aquatic resources.

32. Support the development of the proposed Carolina Thread Trail, Long Creek Greenway and the overland connector for the Lakewood Greenway as well as the Historic Tuckaseegee Ford community park in the plan area (see **Map 5**, page 36).

Demand in the plan area for passive and active recreational land uses will increase as the area's population grows. Providing the greenways and connectors identified in the Mecklenburg County Park and Recreation Department's Master Plan will help meet the needs of area residents. The proposed greenways in the plan area include the



A regional waste water treatment facility is proposed for the area.

Long Creek Greenway and the overland connector for the Lakewood Greenway, running along Moores Chapel Road.

33. Improve existing and explore additional opportunities for more public access to the Catawba River. During the Citizen Advisory Group meetings the issue of increased public access along the Catawba River was of great concern to the community. Currently the only publicly owned land along the river is the land where the Whitewater Center is located, which does provide public access to the river however it's through the privately operated Whitewater Center, and is only for canoeing or kayaking activities. The Mecklenburg County Park and Recreation Department has a planned community park (Gateway Park) just outside the plan area, south of Wilkinson Boulevard, that will have public access to the river.

34. Ensure civic infrastructure (Police, Fire, Parks and Schools) keeps pace with development.

There are no police or fire stations planned for the plan area however, the area is served by neighboring stations (North and Freedom Police Divisions cover the plan area). Fire station number 33 on Mt. Holly-Huntersville Road covers the plan area as well as station 21 on Little Rock Road.

The U.S. National Whitewater Center meets a great outdoor recreation need within the region, but there is also a need for neighborhood and community parks, recreation centers, athletic fields, aquatic facilities and other park amenities as this area continues to grow.

Currently there are two schools in the plan area, Whitewater Academy Elementary School and Whitewater Middle School, which share the same property. There are no other schools (elementary, middle or high school) planned for the plan area.

Natural Environment

A good land use plan balances preservation of the area's natural resources with the demand for new development. This is possible with careful planning and adherence to policies and regulations. The specific environmental policies contained in this plan are based on the more general principles and policies taken from the General Development Policies, 2007.

The protection of the environment and the preservation of fragile natural features, such as creeks, streams and the tree canopy were, from the beginning of the planning process, a concern of area residents. In the issues and opportunities identified by the Citizen's Advisory Group, the environment was listed several times as being both a concern and a defining feature of the area. The main concern with the environment is how to both protect it and accommodate future development in the area.

Goals:

Balance growth and development with the need to protect the natural environment and critical watershed areas.

Encourage environmentally sensitive land development practices such as the preservation of open space, the integration of greenways, and the protection of mature trees.

Natural Environment Policies

The natural environment policies which follow provide direction to accommodate growth and change while protecting the quality of our water, land and air.

Protect the quality of the area's water supply.

35. Protect environmentally sensitive areas such as wetlands, streams, creeks and topography that impact water run-off, by minimizing impervious surfaces, which degrade water quality and transport pollutants into streams and the Catawba River.
36. Use innovative development practices to collect, treat and disperse storm water run-off such as tree save areas, rain gardens, and green roofs.
37. Encourage enhanced erosion control measures on construction sites such as the minimization of denuded areas and the utilization of different techniques to reduce stream turbidity, as well as evaluate stream channel erosion and support stream restoration projects aimed at stabilizing stream banks and improving water quality.

Encourage environmentally sensitive land development practices (see **Community Design Section**, page 20, as well for more details).

38. Preserve the tree canopy, native vegetation and open space where feasible. Incorporate natural features into development projects.
39. Expand the Long Creek Greenway and passive open space around the Historic Tuckaseegee Ford Park and the U.S. National Whitewater Center.
40. Limit development on and around known contaminated sites as feasible.



Rain gardens help mitigate the impact of storm water runoff.



Encourage environmentally sensitive development practices that avoid excessive clearing and grading.



Mixed-use center with residential upper floors, retail at ground level and open space throughout.

Support transportation alternatives.

41. Encourage high quality, mixed-use developments, consistent with the Land Use and Community Design Policies in this document, that promote pedestrian circulation to and through the site and support bicycling and short vehicular trips.
42. Provide transit service options when and where practical.
43. Support developments consistent with the Land Use and Community Design Policies in this document that minimize the use of single-occupancy vehicles and help reduce vehicular trips.
44. Ensure that development in and around the two identified Heritage sites is low scale and low intensity and minimizes any adverse environmental impacts. Heritage sites are identified and surveyed by Mecklenburg County Parks and Recreation Department, Division of Natural Resources, Conservation Section. These properties are noted for their ecological significance, with wildlife or native flora.

Conclusion

As Charlotte continues to attract new residents and businesses, pressures for (re)development will likely intensify. The ability to successfully accommodate growth, while maintaining a high quality of life, is not likely without planning. To that end, this document sets the stage for managing future growth and development consistent with the *Centers, Corridors and Wedges Growth Framework* and the community's vision for the future.

If fully realized the land use recommendations could result in a considerable amount of development. However, these numbers are theoretical and simply represent what the area could accommodate in terms of land available for total build-out. There are of course many other factors that shape what exactly is developed, such as environmental constraints and economics.

The policies in this plan are intended to help ensure that development occurs in such a way that it contributes to the long term sustainability of the community. These policies are also intended to help fulfill the vision set forth for the plan area of environmental stewardship, protecting green space and maximizing the enjoyment of the river.

Part II:
Implementation Guide
Catawba area plan



Part II: Implementation Guide



Introduction

Achieving the vision articulated in this plan will occur incrementally over time through the combined efforts of local government, private property owners, residents, developers and many others. This Implementation Guide is primarily a staff document that outlines specific steps that can be taken by various public and private bodies so that the future envisioned in this plan may be realized. These strategies are listed in the table that follows. The lead responsible agency and tentative time frame is also included. The strategies are numbered sequentially and correspond to the policies discussed in the Concept Plan. This allows staff to track progress of the plan's policies over time.

Some strategies are physical such as installing sidewalks and building new thoroughfare alignments such as the Sam Wilson Road extension. Other recommended strategies involve continued enforcement of adopted City policies and regulations such as the Post Construction Controls Ordinance in dealing with the effects of storm water runoff.

These implementation strategies do not imply a specific public or private sector commitment. The Charlotte City Council will not be asked to adopt this Implementation Guide; however, many of the strategies in this section will require future action by elected officials and will be presented to them for approval as needed on a case-by-case basis.

Finally, since conditions change over time, staff will periodically update this Implementation Guide to reflect changes and progress.

Implementation Strategies

The number of each action corresponds to the policies beginning on page 14 of the Concept Plan.

Recommended Implementation Strategies

Policy #	Action Item	Project Type	Lead Agency	Time Frame
Land Use & Community Design				
1	Limit land uses and intensities to approved site plans.	Zoning	Planning	as development occurs
2-6	Use land use and community design policies to guide and evaluate development proposals.	Zoning	Planning	as development occurs
2 and 4	Pursue corrective rezonings (see Recommended Corrective Rezonings table page 45).	Zoning	Planning	Short (0-5 yr)
7	Support CMU's ongoing process to purchase and develop a wastewater treatment plant at this site.	Utilities	CMU	Short (0-5 yr)
8-12	Use land use and community design policies to guide and evaluate development proposals.	Zoning	Planning	as development occurs
13-19	Use community design policies to guide and evaluate development proposals.	Zoning	Planning	as development occurs
13-19	Consider ordinance revisions as appropriate including: <ul style="list-style-type: none"> • Recommendations in the Single Family Residential Design Standards project (RDS) currently underway. (13b, 13d, 13i) • Recommendations in the Heights in Residential Districts (H.I.R.D.) process currently underway. (16f) • Text amendments to implement <i>Urban Street Design Guidelines (USDG)</i>. (15 and 19) 	Zoning	Planning	Short (0-5 yr)
Transportation and Streetscape				
20	Work with petitioners in the rezoning process to ensure that key connector streets are provided to meet the intent of the proposed network shown on Map 4 , page 30.	Transp.	CDOT / Planning	as development occurs
21	Provide improved block structure based on guidance from the <i>Urban Street Design Guidelines (USDG)</i> , and working with petitioners in the rezoning process.	Transp.	CDOT / Planning	as development occurs
22	Relocate Belmeade Dr. to Sam Wilson Rd. and extend NC 27 to Gaston County via its new proposed alignment.	Transp.	CDOT / Planning	as development occurs

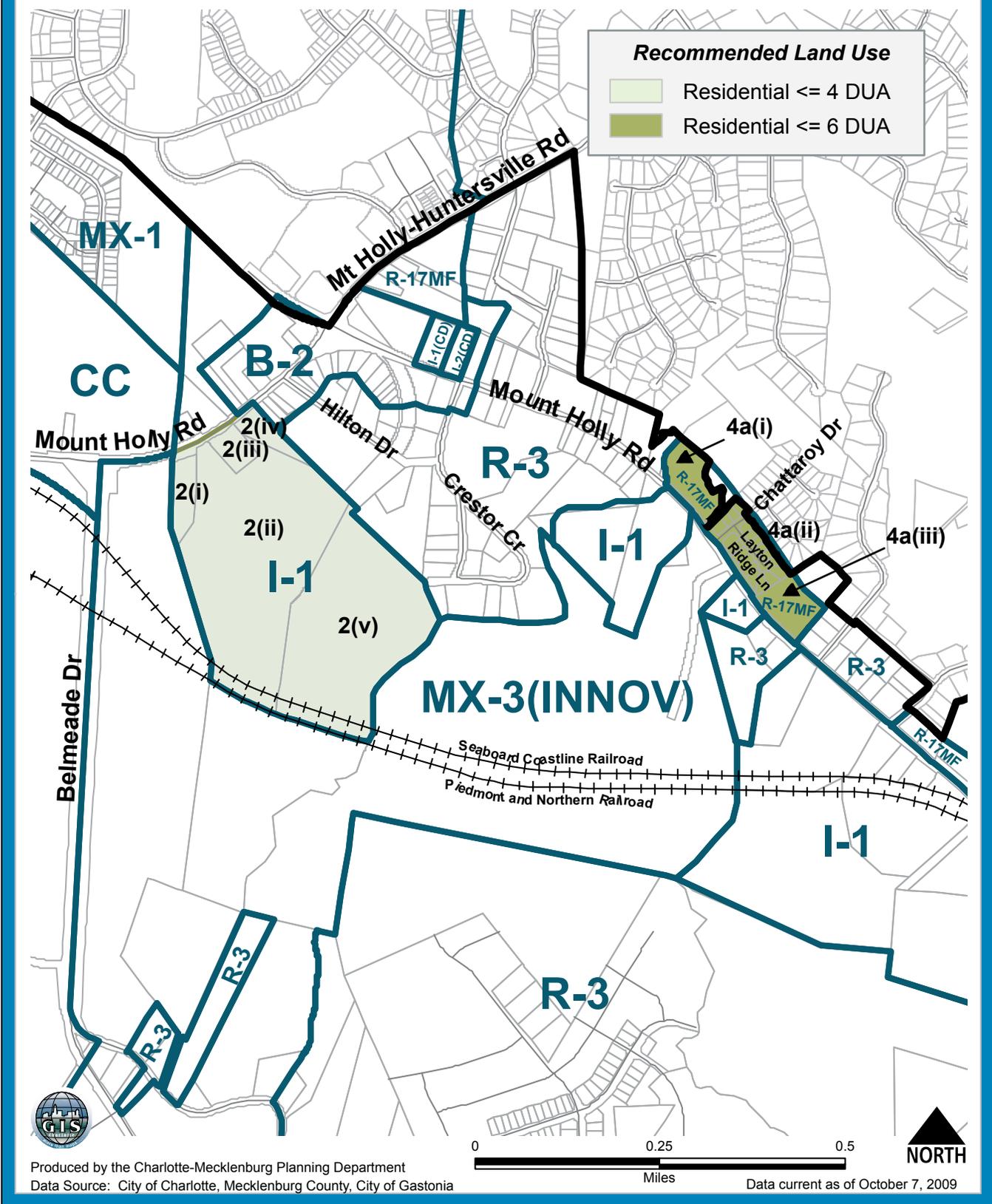
Policy #	Action Item	Project Type	Lead Agency	Time Frame
23	Enhance the following intersections to improve traffic flow, area accessibility and safety: <ul style="list-style-type: none"> • Mt. Holly Rd. (NC 27) and Rhyne Rd.; • Mt. Holly Rd. (NC 27) and Mt. Holly-Huntersville Rd.; • Mt. Holly Rd. (NC 27) and Belmeade Dr.; • Rhyne Rd. and Verde Creek Rd. (Future Extension); • Rhyne Rd. and Belmeade Dr.; • Moores Chapel Rd. and Rhyne Rd.; • Moores Chapel Rd. and Sam Wilson Rd.; • Moores Chapel Rd. and Performance Rd.; • Moores Chapel Rd. and Charlie Hipp Rd.; • Belmeade Dr. and Sam Wilson Rd. (Future Extension) • Belmeade Dr. and Whitewater Center Parkway. 	Transp.	CDOT	as development occurs
24	Work with NCDOT to add signage on I-485 to improve access to Sam Wilson Rd.	Transp	CDOT / NCDOT	Short (0-5 yr)
25	Construct new sidewalks along existing and new thoroughfares, refer to Map 4 , page 30.	Transp.	CDOT	Medium (5-10 yr)
26	Eliminate gaps in the sidewalk system within established residential areas through the City's sidewalk retrofit program.	Transp.	CDOT	Medium (5-10 yr)
27	Construct bicycle lanes along all thoroughfares: Mt. Holly Rd. and Belmeade Drive, and add signage for existing bike lanes on Whitewater Center Parkway.	Transp.	CDOT	Long (>10 yrs) Short (signage)
20, 21 and 27	Pursue ordinance text amendments to implement <i>Urban Street Design Guidelines (USDG)</i> .	Zoning	Planning / CDOT	Short (0-5 yr)
28	Encourage bikeway connections to primary greenways via contiguous opens spaces as new land development occurs.	Transp.	CDOT	as development occurs
29	Review expansion of transit to the plan area as part of CATS' next update to the 5-year Countywide Transit Services Plan.	Transp.	CATS	Medium (5-10 yr)
Infrastructure and Public Facilities				
30	Provide a minimum 100 foot undisturbed natural area as a buffer and screening along the shore line of the Catawba River and Long Creek, where the proposed Charlotte-Mecklenburg Utilities' regional waste water treatment facility is proposed to be developed, refer to Map 3 , page 12.	Utilities	E&PM / CMU	Long (>10 yrs)
31	Consistent with the City's stormwater runoff mitigation polices, new construction should incorporate innovative techniques into their developments such as rain gardens, green roofs, and the preservation of natural features along existing drainage patterns.	Storm-water	E&PM	as development occurs

Policy #	Action Item	Project Type	Lead Agency	Time Frame
32	Acquire land and develop public parks, greenways, and recreation facilities consistent with recommendations of the Mecklenburg County Park and Recreation 10 Year Master Plan.	Park	Park & Rec / CDOT	as development occurs
33	Develop public access points to the Catawba River, including boat ramps, picnic areas and public open space along the river.	Park	Park & Rec / CDOT	as development occurs
34	Build civic infrastructure such as libraries along major or minor thoroughfares in mixed-use areas, consistent with future land use polices illustrated on Map 3 , page 12.	Infrastructure	Police/ Fire/ Schools & Library	as development occurs
Environment				
35	Continue to apply PCCO (Post Construction Controls Ordinance) and other City regulations and policies that address the protection of environmentally sensitive areas that are impacted by storm water run-off.	Storm-water	E&PM	as development occurs
36	Encourage the use of innovative development practices in collecting, treating and dispersing storm water run-off such as rain gardens and green roofs.	Storm-water	E&PM	as development occurs
37	Limit the amount of land cleared, graded or compacted during the land development process to the maximum allowable built upon area, detailed in the watershed overlay zoning districts that apply	Land Development	E&PM	as development occurs
38	Continue to apply the City's Tree Ordinance (and subsequent text amendments) in preserving the tree canopy, by encouraging a 10% tree save requirement for residential sites and 15% for commercial sites	Zoning/ Tree Ord.	Planning / E&PM	as development occurs
39	Request easements and/or dedications during the land development process to expand the Long Creek Greenway and Carolina Thread Trail as well as passive open space.	Zoning/ Tree Ord.	Park & Rec./ Planning / E&PM	as development occurs
40	Use Land Use and Community Design policies to guide and evaluate development proposed.	Zoning	Planning	as development occurs
41 & 43	Use Land Use and Community Design policies to guide and evaluate development proposed.	Zoning / Transp.	Planning / CDOT	as development occurs
42	Review expansion of transit to the plan area as part of CATS' next update to the 5-year Countywide Transit Services Plan.	Transp.	CATS	Medium (5-10 yr)
44	Connect natural heritage sites in the plan area to the greenways and park system to enhance the general public's knowledge of their location. Use land use and community design polices to guide and evaluate development proposals.	Park	Planning / Park and Rec	as development occurs

Catawba Area Plan

Recommended Corrective Rezoning

Map 6



Corrective Rezoning

The Planning Commission will initiate corrective rezonings to implement the land use vision and policies adopted as part of the Concept Plan. Staff-initiated rezoning are most often recommended to:

- Align zoning with existing land use to make future land uses compatible with existing development;
- Align zoning with the currently adopted land use plan; and/or
- Protect environmentally sensitive areas.

The rezoning process will occur only after the completion of the plan and will require additional public input. Proposed rezonings are listed in the table below and shown on **Map 6**. Please refer to the Land Use Policies found on pages 14 and 15 and shown on **Map 3**, page 12.

Recommended Corrective Rezoning

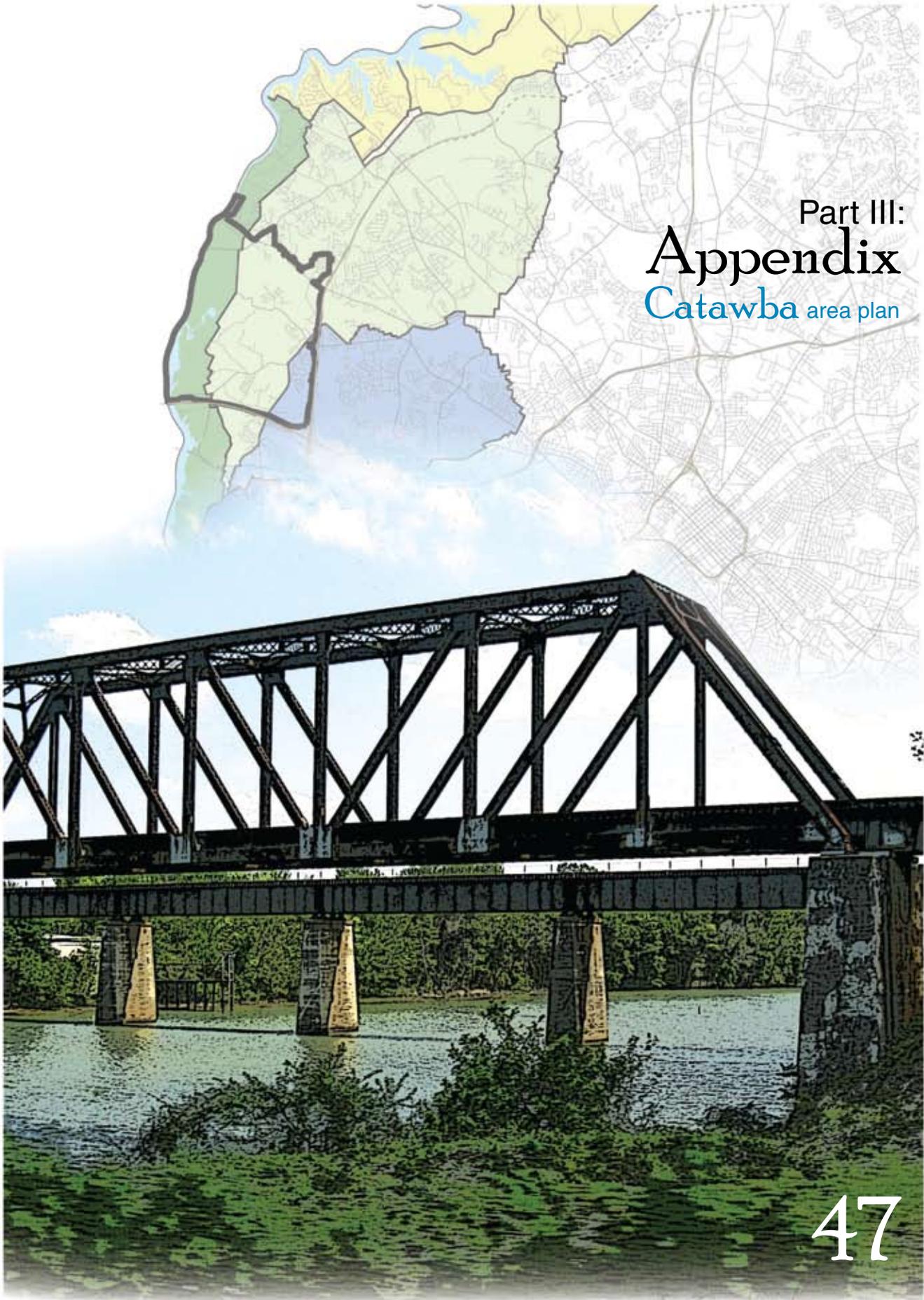
Area	Parcel Key	Parcel ID	Recommended Zoning Changes	Existing Land Use	Previously Adopted Future Land Use	Land Use Non-Conformances
refer to Map 3 , page 12	refer to Map 6 , page 44					

(Wedge) Residential

2						
	2(i)	053-042-16	I-1 to R-4	Single Family	Industrial - Light	No
	2(ii)	053-042-15	I-1 to R-4	Vacant	Industrial - Light	No
	2(iii)	053-042-24	I-1 to R-4	Retail/Institutional	Industrial - Light	Yes
	2(iv)	053-042-14	I-1 to R-4	Single Family	Industrial - Light	No
	2(v)	053-042-02	I-1 to R-4	Vacant	Industrial - Light	No

Area	Parcel Key	Parcel ID	Recommended Zoning Changes	Existing Land Use	Previously Adopted Future Land Use	Land Use Non-Conformances
refer to Map 3, page 12	refer to Map 6, page 44					
4a						
	4a(i)	031-095-01	R-17MF to R-6	Single Family	Greenway	No
	4a(ii)	031-095-05	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-04	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-03	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-02	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-57	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-56	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-55	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-54	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-53	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-52	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-51	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-50	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-49	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-48	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-47	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-46	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-45	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
	4a(ii)	031-095-44	R-17MF to R-6	Single Family	Single Family <= 4 dua	No
4a(ii)	031-095-43	R-17MF to R-6	Single Family	Single Family <= 4 dua	No	
4a(iii)	031-095-58	R-17MF to R-6	Vacant	Single Family <= 4 dua	No	

Part III:
Appendix
Catawba area plan





Existing Conditions Report

A thorough review and understanding of existing conditions – physical, economic and social – was needed to identify the opportunities and constraints facing the plan area, and to develop the plan vision, goals and policies. The following discussion highlights those existing conditions, trends and forecasts most relevant for the plan area.

Introduction

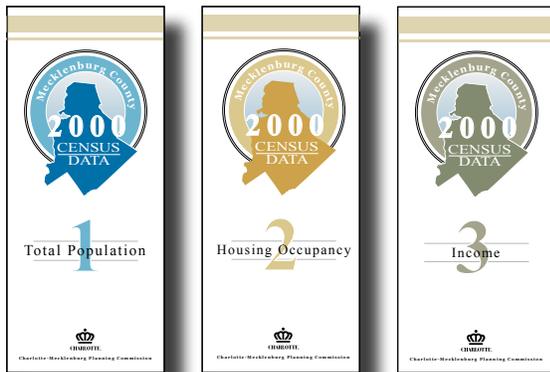
The Catawba plan area encompasses approximately 4,800 acres and contains some of the few remaining large tracts of undeveloped land in Mecklenburg County. Several identifying landmarks have recently opened in the community: the U.S. National Whitewater Center (2006), Whitewater Center Parkway (2008), and Whitewater Academy Elementary School (2008-09 academic year). The area includes several established single-family residential neighborhoods,

primarily located along Moores Chapel and Sam Wilson Roads. More recent subdivisions can be found along Belmeade Road. Cedar Mills, a residential subdivision currently under construction, incorporates a mix of housing densities, recreational amenities for residents, as well as plans for commercial services.

Most of the plan area per the *Centers, Corridors and Wedge Growth Framework* falls in the Wedge category, defined primarily as low-density residential, with services that primarily support the neighborhoods. A swath of land along I-85 and Performance Road has been designated as a Growth Corridor, indicating it is likely a desirable location for additional development and perhaps higher intensity development than at present. A more detailed discussion of the *Centers, Corridors and Wedge Growth Framework* (2008) can be found in the Policy Framework section, page 4, of the Concept Plan.

Demographic Profile

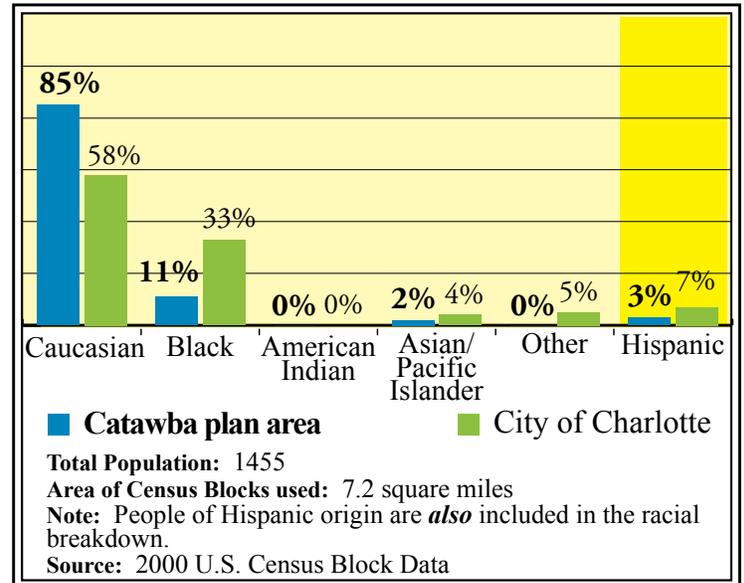
The Catawba plan area has experienced significant new growth in recent years and that growth is expected to continue. According to the 2000 US Census, 1,455 people resided in the plan area; of that, the vast majority (85%) were Caucasian. The population was balanced between male and female. The largest age groups were youth (5-18) and senior citizens (65+).



To get a more up to date picture of the 2008 area population, the number of approved building permits in the plan area were analyzed. From 2000 to 2007, 756 building permits were authorized, primarily for single-family residential construction. Based upon this data, and assuming 10% of these building permits were either not built or were for replacement units, total population for the plan area is estimated at 3,368. Thus, the population more than doubled in seven years. With additional residential projects expected over the next several years, the population will likely continue to increase rapidly.

The median household income was \$27,200, according to 2000 US Census data. This is significantly below the median household income for Mecklenburg County, \$50,638. The average household size was 1.7 and the total number of households was 587, the vast majority of which were owner occupied (478). The median home

Population



Employment



Source: 2000 U.S. Census Block Group Data
Total Employment: 463

value was \$109,800; compared to the median home value for the County which stood at \$141,800.

Total number of jobs in the plan area in 2000 was 463, which translates into 81.7 jobs per square mile.

Zoning

The Catawba plan area encompasses 4,856 acres, of which roughly half has been zoned single-family residential, primarily R-3. At present, there is not much diversity in housing type. There are some manufactured homes scattered throughout the plan area, with one neighborhood located off Moores Chapel Road. Recent new residential developments, such as Cedar Mills off Mount Holly Road and I-485, offer a mix of densities, including townhomes.

As shown in the table below, the second largest zoning category in the plan area is industrial. There is close proximity between some residential and industrial uses, with little physical or visual buffering. Concentrations of industrially zoned land include the Clariant Corporation, situated between the Catawba River and Belmeade Drive, and several industrial sites along Performance Road.

Existing Zoning

Zoning	Percent of Total Area	Acres	Square Feet
Business / Commercial	5.64%	273.84	11,928,329
Industrial	26.89%	1306.19	56,897,685
Mixed-Use (MX)	16.13%	783.25	34,118,342
Neighborhood Service	0.89%	43.13	1,878,907
Multi-Family (R-17)	0.94%	45.60	1,986,123
Single-Family	48.31%	2346.16	106,063,972
Manufactured Homes (R-MH)	1.21%	58.64	2,554,385
	Total Acres	4856.81	420,571,040

Source: Charlotte-Mecklenburg Planning Department, 2008

The third largest zoning category is Mixed-Use (MX). Please see table above and **Map 7**. The purpose of the Mixed Use District is to allow for the development of planned communities that may incorporate a range of housing types and in some instances, compatible nonresidential uses that provide goods, services and employment opportunities primarily to meet the needs of the residents of that community. The **Approved Rezoning, 2001-2009** table, on page 53 lists the rezoning petitions approved from 2000-2009 in the plan area.

Zoning Districts for Map 7

R-3 Single Family up to 3 DUA*	CC Commercial Center for 70,000+ square feet of retail
R-4 Single Family up to 4 DUA	MX-3 (INNOVATIVE) Residential / Commercial Mixed Use - Residential up to 8 DUA
R-5 Single Family up to 5 DUA	Nonresidential allowed up to 15% of project area (<i>Minimum 100 acres</i>)
R-5(CD) Single Family up to 5 DUA (Development must be consistent with approved site plan)	B-2 General Business - Allows Multi-Family up to 22 DUA
MX-1 Residential Mixed Use up to 6 DUA with at least 50% detached dwellings (<i>Minimum 10 acres</i>)	B-2(CD) General Business - Allows Multi-Family up to 22 DUA (Development must be consistent with approved site plan)
R-MH Manufactured Housing and Single Family up to 5 DUA	B-D Distributive Business - (Warehouse, office and wholesale)
R-17MF Multi-Family and Single Family up to 17 DUA	I-1 Light Industrial
NS Neighborhood Services and Retail	I-1(CD) Light Industrial (Development must be consistent with approved site plan)
B-1 Neighborhood Business - Allows Multi-Family up to 22 DUA	I-2 General Industrial
MX-2 (INNOVATIVE) Residential Mixed Use - Residential up to 6 DUA (<i>Minimum 10 acres</i>) Nonresidential allowed on up to 5% of project area (<i>Minimum 36 acres</i>)	I-2(CD) General Industrial (Development must be consistent with approved site plan)

* DUA - Dwelling Units per Acre

Approved Rezoning

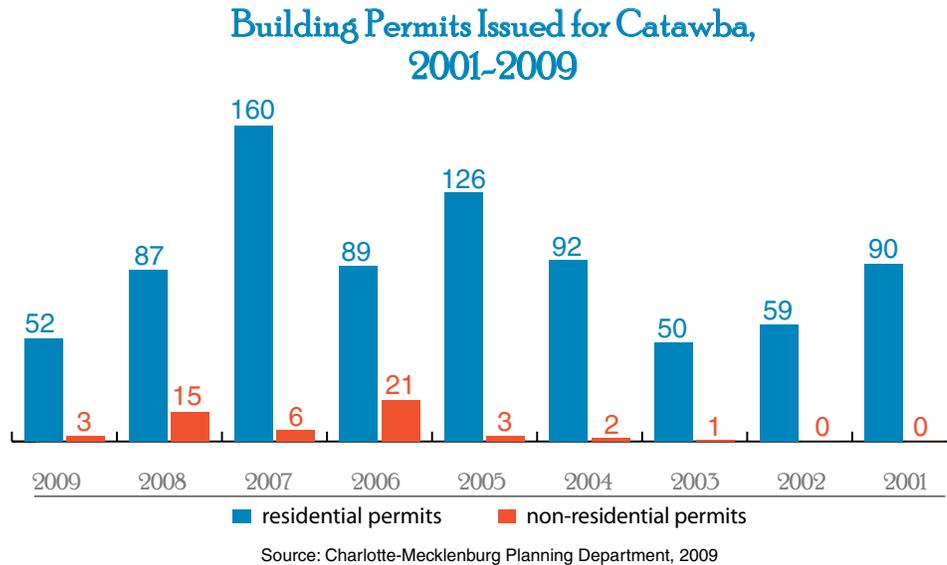
Several rezoning cases have been approved that will significantly increase land use intensity in the years to come. See **Map 8**.

Approved Rezonings, 2001-2009

Petition Number / Name	Request	Acres
2001-008 (C)* Saurer Textile Systems	R-3 (Single Family Residential at 3 dua (dwelling units per acre)), LW/PA (Lake Wylie Protected Area) and B-D, LW/PA to I-1 (Light Industrial), LW/PA	32 ac.
2001-038 America Dev. Services	I-1(CD) SPA (Site Plan Amendment)	38 ac.
2002-076 Hershell Porter	B-D to I-1(CD)	2 ac.
2002-094 Huntersville Investments	I-1, LW/CA (Lake Wylie Critical Area), LW/PA to MX-1 (Mixed Use District) LW/CA, LW/PA	54.5 ac.
2003-088 Crosland	R-3 and R-17MF (Multi-Family Residential at 17 dua), LW/PA to NS (Neighborhood Services) and MX-2 (Mixed-Use Residential) LW/PA	91 ac.
2004-141 Robert E. Lanier	R-12 MF (Multi-Family Residential at 12 dua), LLW/PA (Lower Lake Wylie Protected Area) to I-1(CD), LLW/PA	33 ac.
2004-146 ProLogis	I-1(CD), LLW/PA and R-3, LLW/PA to I-1(CD), LLW/PA and I-1 (CD) SPA, LLW/PA	92 ac.
2005-054 Performance Road Ltd. Partnership	R-3, LW/PA to I-1(CD), LW/PA	10 ac.
2005-076 Crosland, Incorporated	I-1(CD), LW/PA and I-2(CD) (General Industrial Conditional District), LW/PA	130 ac.
2005-077 Crosland, Incorporated	R-3, I-1, and I-1(CD) to MX-3 Innovative (Mixed Use District), NS and O-1(CD) (Office Conditional District)	642 ac.
2005-150 Mt. Holly Developers	R-3 and I-1 to CC (Commercial Center), B-2 (CD) (General Business Conditional District) and MX-2 (Mixed Use District)	131 ac.
2006-103 Jay Vaughn	R-3, LW/PA to I-1(CD), LW/PA	3 ac.
2007-039 AB Ansaldo	MX-3(Innovative), LW/PA to MX-3(Innovative) SPA	50 ac.
2007-072 Sykes Industrial	R-17MF, LLW/PA and R-3, LLW/PA to I-1(CD), LLW/PA	27 ac.
2008-115 Jeff Barefoot	R-3, LW/PA and I-1 to I-2 (General Industrial), LW/PA	11.5 ac.
2008-125 Locomotive Land Co. LLC, et. al.	B-2(CD) and CC SPA	71 ac.
2009-059 Sykes Industrial Solutions Charlotte One, LLC	I-1(CD) SPA	26 ac.
* (C) indicated that the petition was under the county's jurisdiction at the time of approval Source: Charlotte-Mecklenburg Planning Department, 2009		

Building Permits

The plan area has experienced a three-fold increase in building permits during the period from 2003 to 2007; from 51 new building permits in 2003 to 166 in 2007. However the rapid pace of development has slowed considerably starting in 2008 and 2009, in part due to the economic recession experienced locally and in the national economy as a whole. As shown in the chart below, most of the permitting activity has been for residential construction.



Watershed Overlay Zoning

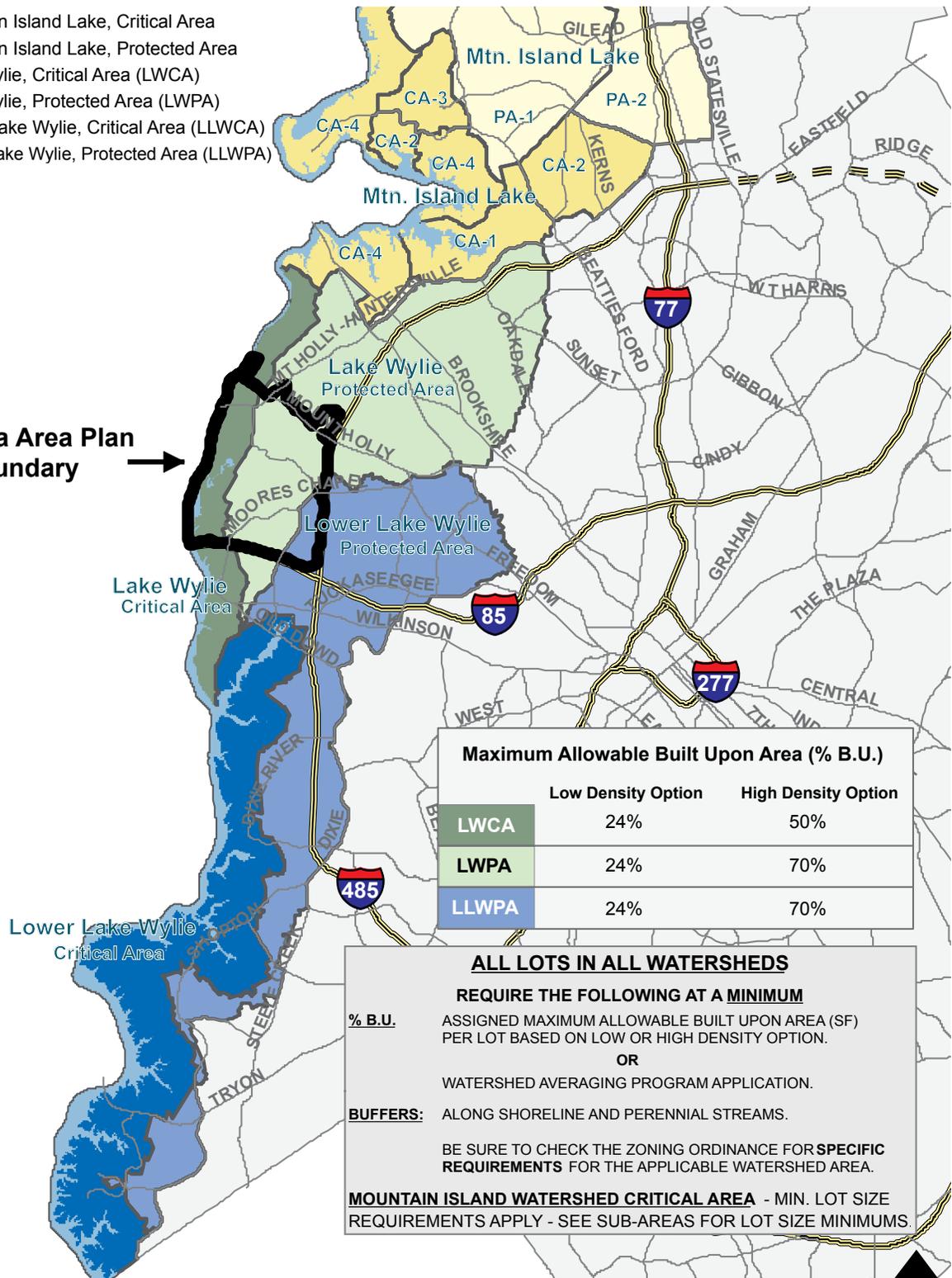
Because of its proximity to the Catawba River, the entire plan area is subject to the requirements of one of the Catawba River/Lake Wylie Watershed Overlay Zoning Districts. These overlay restrictions supplement the underlying zoning requirements with the intent of protecting the public water supply. The storage of hazardous materials is not permitted in the Critical Area Overlay and may be permitted under limited conditions in the Protected Area Overlay. As shown on the map, land adjacent to the Catawba River and extending one-half mile inland lies in the Lake Wylie Critical Area. The Protected Area Overlay extends from the outer boundaries of the Critical Area to approximately 5 miles from Lake Wylie upstream in the Long Creek drainage basin. The Watershed Overlay districts limit the amount of built upon area on a given site, (see details on **Map 9**). The amount of allowable impervious surface or built-upon area permitted varies according to land use type, and overlay district. The Lake Wylie Critical Overlay district is more restrictive than either the Lake Wylie Protected or Lower Lake Wylie Protected Watershed Overlay districts, more details can be found in Chapter 10: Part 6 and 7 of the City of Charlotte Zoning Ordinance.

Mecklenburg County Watershed Overlay Zoning District Boundaries

Map 9

- Mountain Island Lake, Critical Area
- Mountain Island Lake, Protected Area
- Lake Wylie, Critical Area (LWCA)
- Lake Wylie, Protected Area (LWPA)
- Lower Lake Wylie, Critical Area (LLWCA)
- Lower Lake Wylie, Protected Area (LLWPA)

Catawba Area Plan Boundary →



Maximum Allowable Built Upon Area (% B.U.)		
	Low Density Option	High Density Option
LWCA	24%	50%
LWPA	24%	70%
LLWPA	24%	70%

ALL LOTS IN ALL WATERSHEDS

REQUIRE THE FOLLOWING AT A MINIMUM

% B.U. ASSIGNED MAXIMUM ALLOWABLE BUILT UPON AREA (SF) PER LOT BASED ON LOW OR HIGH DENSITY OPTION.

OR

WATERSHED AVERAGING PROGRAM APPLICATION.

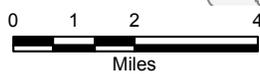
BUFFERS: ALONG SHORELINE AND PERENNIAL STREAMS.

BE SURE TO CHECK THE ZONING ORDINANCE FOR **SPECIFIC REQUIREMENTS** FOR THE APPLICABLE WATERSHED AREA.

MOUNTAIN ISLAND WATERSHED CRITICAL AREA - MIN. LOT SIZE REQUIREMENTS APPLY - SEE SUB-AREAS FOR LOT SIZE MINIMUMS



Produced by the Charlotte-Mecklenburg Planning Department
 Data Source: City of Charlotte, Mecklenburg County, City of Gastonia



Data current as of October 7, 2009

Existing Land Use

As shown in the table, the largest categories of existing land use are vacant (41%), and single-family detached residential (27%). Industrial land uses account for 12% and there is 11% open space (this includes Sadler Island in the Catawba River). The amount of vacant land at present is somewhat misleading, however. Based upon approved rezoning, there are construction plans for 17% of the now vacant land. This would reduce the amount of vacant land to 23%. See **Map 10**, page 57 and **Map 11**, page 58.

Catawba Area Plan Land Use



Agriculture



Industrial



Institutional



Multi-Family



Office

Existing Land Use	Acreage	% of Total
Agriculture	19.76	.43
Industrial	540.41	11.63
Institutional	85.61	1.84
Multi-Family	4.21	.09
Office	10.49	.23
Open Space	508.67	10.94
Retail	16.06	.35
Single-Family detached	1234.83	26.56
Utility	79.53	1.71
Vacant	1892.93	40.72
Warehouse/ Distribution	255.85	5.5
Total	4648.35	100

Source: Charlotte-Mecklenburg Planning Department, 2008



Retail



Single-Family detached



Utility



Vacant

NOTE:

The land use acreage figures are calculated by parcel and do not include rights-of-way. As a result, the total acreage figures will not always match the total acreage figure for the plan area (4,857) which does include rights-of-way as part of that calculation.



Open Space

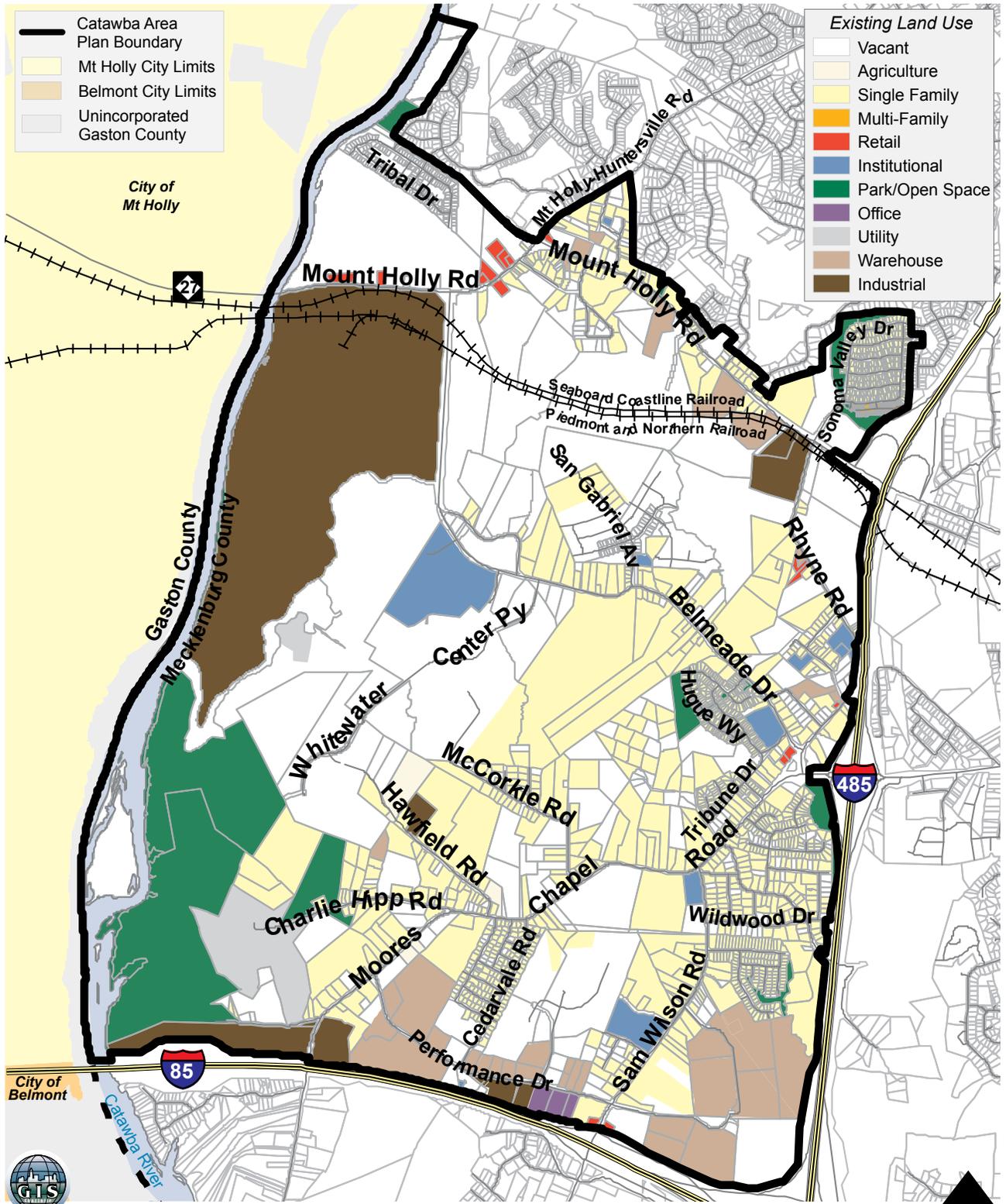


Warehouse/Distribution

Catawba Area Plan

Existing Land Use

Map 10



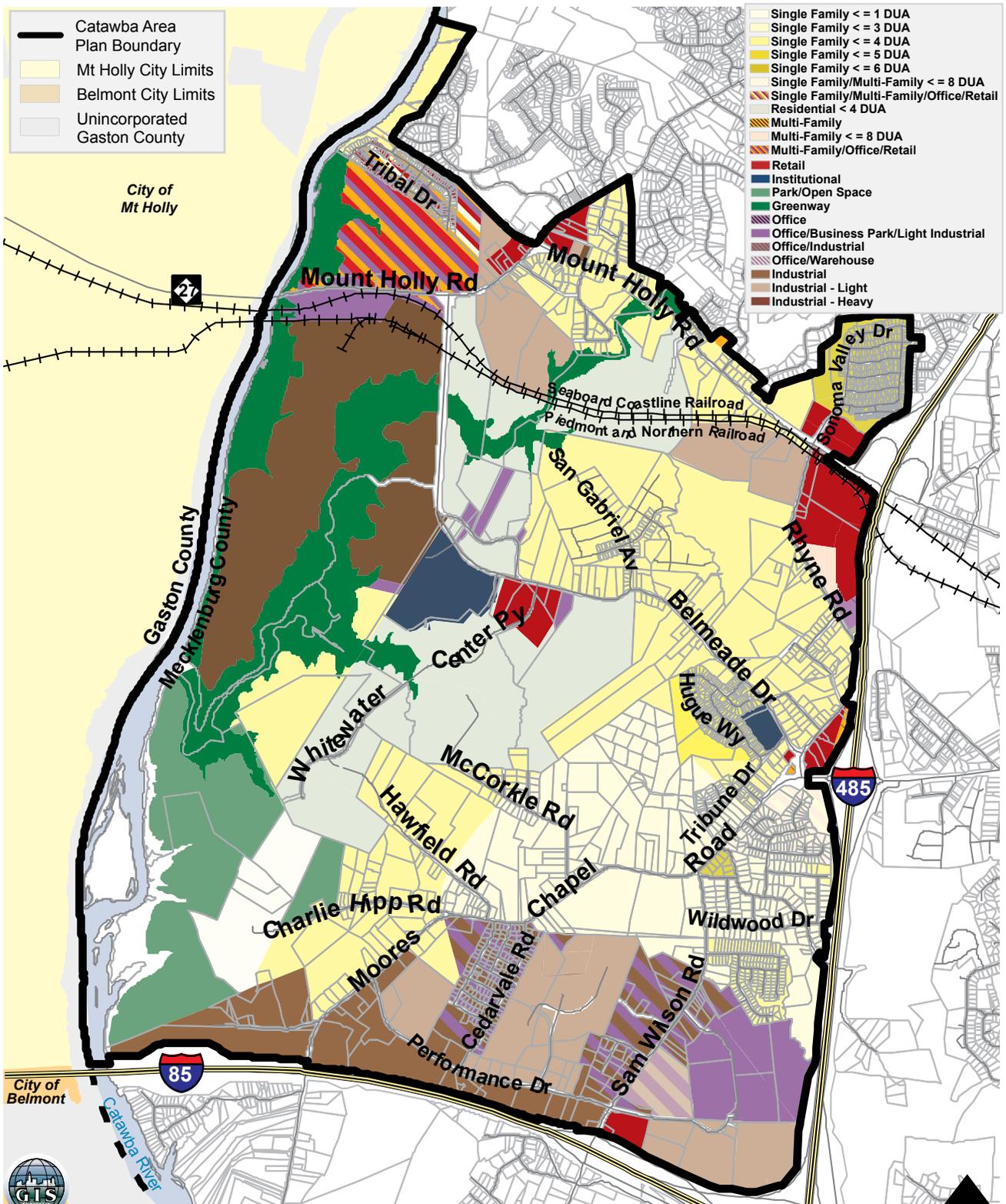
Produced by the Charlotte-Mecklenburg Planning Department
 Data Source: City of Charlotte, Mecklenburg County, City of Gastonia

Data current as of October 7, 2009

Catawba Area Plan

1990 Northwest District Plan Adopted Future Land Use

Map 11



Produced by the Charlotte-Mecklenburg Planning Department
 Data Source: City of Charlotte, Mecklenburg County, City of Gastonia

Data current as of October 7, 2009

Within the plan area, there are few retail services. A local serving convenience and hardware store (6,000 square feet) is located at the intersection of Moores Chapel Road and Belmeade Drive. Residents must go outside the plan area for daily shopping needs. Until recently, residents travelled across the Catawba River to Gaston County/City of Mount Holly for shopping.

There are no multi-tenant retail centers in the plan area at present; however, two new retail centers have been constructed within the last five years and border the plan area. This includes the Catawba Village Center at the intersection of Mount Holly Road and Mount Holly-Huntersville Road and Moores Chapel Village off Kimbrel Drive near the I-485 interchange.

Multi-Tenant Retail Centers

Center Name	Location	Size	Yr Blt	Distance	Major Tenants
Moores Chapel Village Shops 	Moores Chapel east of I-485	52,446	2007	.3 mi from plan area	<ul style="list-style-type: none"> • Food Lion, • CVS Pharmacy
Pawtucket Shopping Center 	7917 Moores Chapel Rd.	51,533	1978	1.8 mi from plan area	<ul style="list-style-type: none"> • Dollar General • Domino's Pizza
Catawba Village Center 	237 Mt. Holly - Huntersville Rd.	61,393	2004	.07 mi from plan area	<ul style="list-style-type: none"> • Food Lion • Fox's Pizza
Paw Creek Crossing 	515 Little Rock Rd.	76,881	1997	1.8 mi from plan area	<ul style="list-style-type: none"> • Bi-Lo • Blockbuster Video

Source: Charlotte-Mecklenburg Planning Department, 2008

Community Design

At present, the overall feel of the plan area is rural. However, as new residential developments are constructed and roads are widened and straightened, rural is giving way to suburban.

The area has been automobile-oriented. There are sidewalks in residential subdivisions but few along the major roads. The community, at present, lacks any consistent design elements that could knit the area together. However, opening of the Whitewater Center and Whitewater Center Parkway presents the opportunity to build upon the grand look and feel of these newest additions to the community. The presence of the Catawba River also represents an obvious opportunity to build upon the natural resources present in the community.



Plan area has large amount of vacant land; however, large portions of area already approved for development.



Providing sidewalks and front porches in residential developments help create a sense of neighborhoods and community.



New retail developments should provide pedestrian amenities throughout the development creating active and inviting open spaces.

Transportation

The Street Network

The number of route choices available to pedestrians, bicyclists and motorists describes the adequacy of an area's street network. A dense, well-connected network offers greater route choice and more direct routes to destinations than does a less connected network. In addition a highly connected network provides greater overall system capacity than a less-connected network.

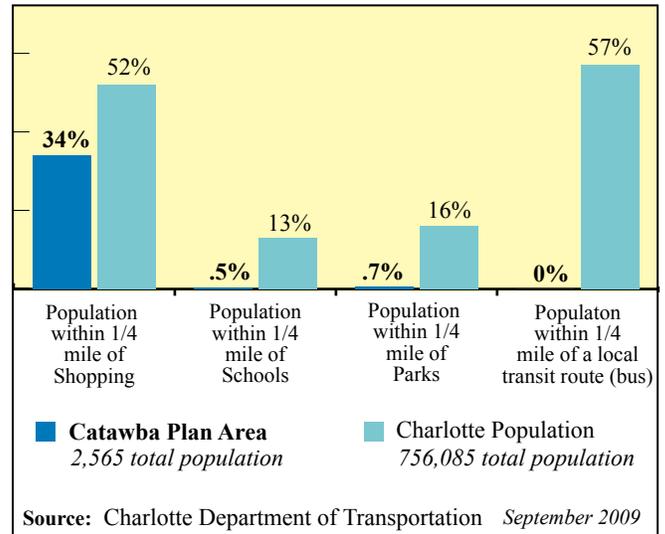
Route choices are measured by the number of lane-miles of streets, number of intersections (nodes), number of blocks (links), and the connectivity index. A lane-mile is one mile of a single roadway lane. The more lane-miles of streets there are, the greater the overall traffic carrying capacity. The connectivity index quantifies how well a roadway network connects destinations and is calculated by dividing the number of roadway links by the number of roadway nodes. A connectivity index of 1.45 or more is desirable for transit station areas and in-town neighborhoods, while an index of 1.35 is recommended for other areas, including the Catawba/Whitewater plan area.

Key measures of the Catawba plan area data include:

Miles of streets:	34
Lane-mile of streets:	67.6 lane miles
Connectivity Index:	1.16
% of streets with sidewalk on both sides	20.3% (6.9 miles)
% of streets with sidewalk on one side	3.2% (1.1 miles)
% of streets with no sidewalk	60.9% (20.7 miles)

Sidewalk percentages will not add up to 100% because not all possible sidewalk configurations are present in the plan area.

Land Use Accessibility



Due to the existing suburban nature of the Catawba area, residents have yet to experience the benefits of a highly connected street network, excellent pedestrian facilities and a balanced mixture of land uses that support a live, work, play and shop lifestyle within neighborhoods. As this area continues to develop, any intensification of land use could result in serious congestion issues unless there is improved proximity of neighborhood-scaled services and connectivity of streets. Currently, the Catawba Area receives low marks relating to land use accessibility relative to the City average, as shown in the table above.

Existing Typical Sections



Mount Holly Road
looking east towards I-485

Near its interchange with Interstate 485, Mount Holly Road was recently widened to four travel lanes. Sidewalks exist only along the edge of the new Cedar Mill subdivision.



Mount Holly Road
looking east from Belmeade Road

West of Mount Holly-Huntersville Road, existing Mount Holly Road is to remain two lanes. Rural in character, this section of Mount Holly Road lacks sidewalks.



Moore's Chapel Road
looking east near Wildlife Road

In the future Moore's Chapel Road will be widened east of Sam Wilson Road towards Interstate 485 to four travel lanes, bicycle lanes, planting strips and sidewalks. Today, however, Moore's Chapel Road is mostly a rural two-lane road lacking curbing and sidewalks, except where bordering newer development.



Belmeade Road
looking northwest near Moorebrook Drive

Belmeade Road is currently being realigned near the new Whitewater Parkway and will someday connect more directly to Moore's Chapel Road via a planned extension of Sam Wilson Road. Today, Belmeade Road is mostly a rural two-lane road lacking curbing and sidewalks.



Sam Wilson Road
between Margo Drive and Wilson Glen Drive

In the future, Sam Wilson Road will be widened south of Moore's Chapel Road towards Interstate 85 to four travel lanes, bicycle lanes, planting strips and sidewalks. Today, however, Sam Wilson Road is a rural two-lane road lacking curbing and sidewalks.



Performance Road
looking west near Cedarvale Road

Performance Road is mostly a two-lane rural road lacking curbing and sidewalks, except in limited locations where abutting properties have recently redeveloped. Performance Road must also function as the primary access to industrial areas close to Interstate 85.



Rhyne Road
looking north

Rhyne Road is mostly a two-lane rural road lacking curbing and sidewalks, except in limited locations where abutting properties have recently redeveloped.



McCorkle Road
looking north near Moore's Chapel Road

McCorkle Road is an example of a local street of ample pavement width yet lacking curbing and sidewalks. Many older subdivisions in the Catawba Area have such streets.



Whitewater Parkway

Newly constructed, Whitewater Parkway is a two-lane curvilinear street with intermittent median and limited intersections, one of which is a traffic circle. Whitewater Parkway serves as the new entrance to the U.S. National Whitewater Center, replacing the temporary access off Hawfield Road. The new street is an example of how street improvements can respect the pastoral character of suburban areas of Charlotte like the Catawba area.



Moorebrook Road
looking north of Rhyne Road

Moorebrook Road is an example of the most rural and low volume roads in the area. Such roads are very narrow and have poor pavement. Unless redevelopment would occur, such roads could likely remain, so long as their traffic needs remained very low.



Tribune Drive
north of Amos Hoard Road

Tribune Drive is an example of a residential local street with sidewalks not built to current standards, mostly due to narrow planting strips.

The Thoroughfare Plan

The Mecklenburg-Union Thoroughfare Plan is the adopted major roadway plan for Mecklenburg and Union counties and is used to assure that the most appropriate street system is developed to meet existing and future travel needs. Streets are classified and designed according to their intended functions so that land use and traffic conflicts are minimized. The street classifications applicable to the *Catawba Area Plan* are as follows:

Thoroughfares: Mount Holly-Huntersville Road and Mount Holly Road are major thoroughfares serving the Catawba/Whitewater area. As major thoroughfares, these streets are designed or will be designed to accommodate large volumes of traffic at moderate speeds and provide access to major commercial, employment and residential land uses. Moores Chapel Road, Sam Wilson Road and Sam Wilson Road Extension are minor thoroughfares that collect traffic from the local collector streets and carry it to the major thoroughfares. Minor thoroughfares are designed to carry moderate traffic volumes at moderate speeds and provide access to residential, commercial and institutional land uses.

Collectors and Locals: Existing Belmeade Drive, Rhyne Road, Performance Road and Whitewater Parkway are major collectors. Cedarvale Road, Charlie Hipp Road, Wildwood Drive and Wilson Glen Drive are minor collectors. Collectors are designed to carry traffic between the thoroughfares and local streets at moderate volumes and speeds and provide access to adjacent land uses. The remaining roadways are local streets that carry low traffic volumes, have slow operating speeds and provide access to individual properties. Much of the local street network in this area is very disconnected.

Level Of Service

Level Of Service (LOS) measures the quality of service provided by a transportation facility to its users. The City of Charlotte evaluates level of service for pedestrians, bicyclists and motorists and uses the results to help balance their competing needs when planning and designing streets. Levels of service range from A through F, with desirable levels of service based on the street typologies of the *Urban Street Design Guidelines*.

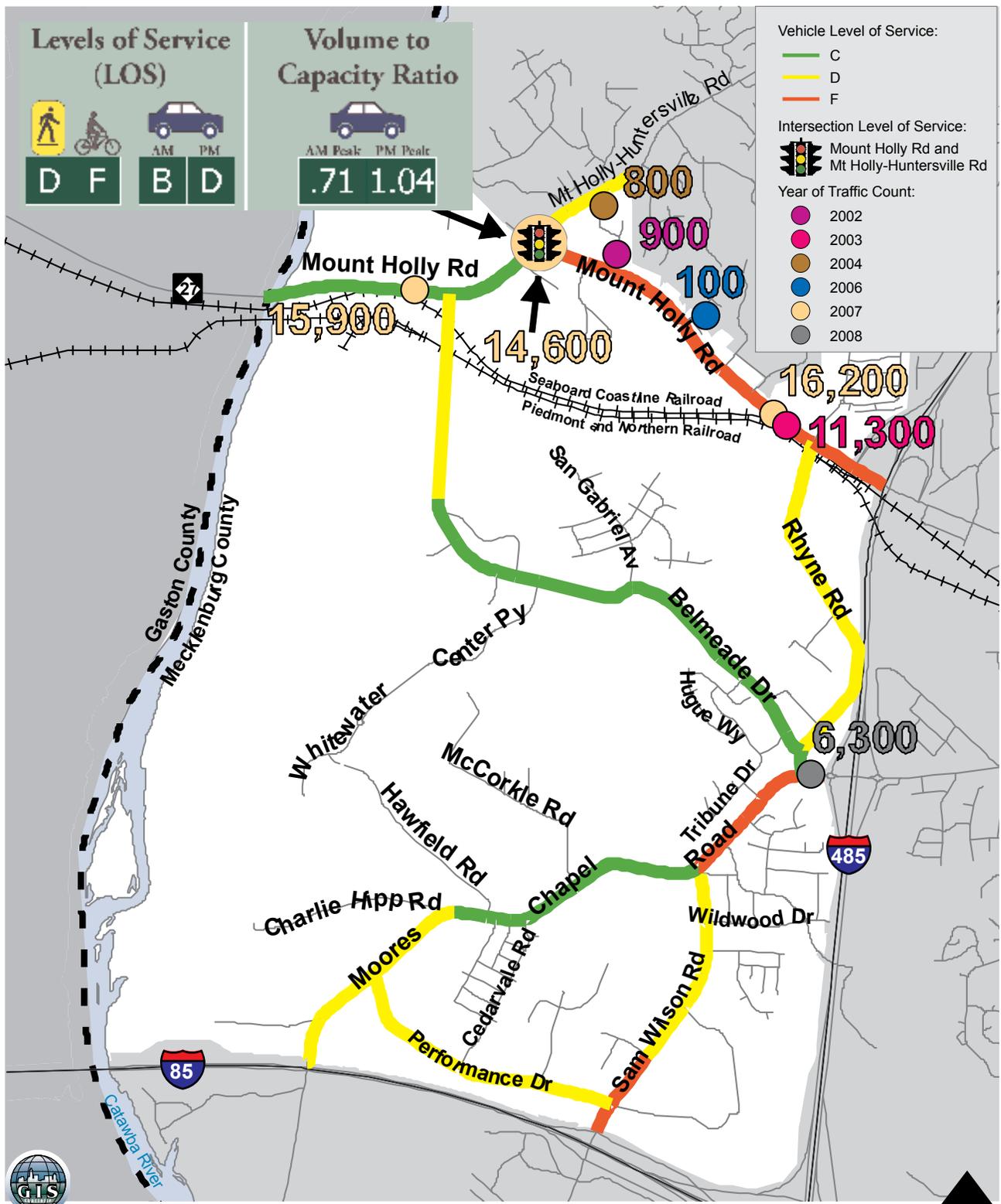
Pedestrian and bicycle level of service is rated according to the level of comfort and safety offered by the design features at signalized intersections, while motor vehicle level of service is based on motorist delays. Motor vehicle quality of service is also measured by the Volume to Capacity ratio (V/C), which describes an intersection's ability to process traffic within peak time periods. Values greater than .95 suggest an intersection is near its capacity during this time period and that motorists may experience substantial congestion.

Level of Service is measured for each of the following modes: Pedestrians, Bicyclists and Vehicles and are presented graphically on **Map 12** for reference.

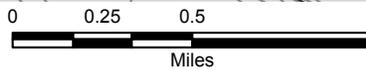


New Whitewater Parkway with traffic circle.

Vehicle Level of Service, Intersection Level of Service and Traffic Counts (Average Daily Volume)



Produced by the Charlotte-Mecklenburg Planning Department
 Data Source: City of Charlotte, Mecklenburg County, City of Gastonia



Data current as of October 7, 2009

Motor Vehicle Network: The Catawba area is currently experiencing moderate levels of congestion. Congestion levels are expected to increase unless more transportation investments are made to ensure that transportation facilities are timed to keep pace with growth.

Level Of Service (LOS) in Year 2030 can be modeled to forecast the quality of service provided by a transportation facility to its users. The City of Charlotte uses the model results to help balance their competing needs when planning, designing and constructing streets. The following table and **Map 12**, page 65 reflect the changing conditions by 2030 for general roadway conditions and for specific signalized intersections.

Future Level of Service (LOS) for Motor Vehicles			
Roadway	Segment	2005 LOS	2030 LOS
Mount Holly Road (NC 27)	I-485 to Rhyne Rd	D	F*
Mount Holly Road (NC 27)	Rhyne Rd to Mt Holly-Huntersville Rd	F	F*
Mount Holly Road (NC 27)*	Mt Holly-Huntersville to Belmeade Dr	C	C*
Belmeade Dr (realigned)	Mount Holly Rd to Moore's Chapel Rd	—	D*
Moore's Chapel Rd	Rhyne Rd to Sam Wilson Rd	F	F
Moore's Chapel Rd	Sam Wilson Rd to Charlie Hipp Rd	C	C
Rhyne Rd	Mount Holly Rd to Moore's Chapel Rd	D	D
Sam Wilson Rd	Moore's Chapel Rd to Performance Rd	D	F
* Future performance highly dependent upon 2030 LRTP improvements, which are no longer funded in the draft 2035 LRTP Update.			
Source: Charlotte Department of Transportation, September 2009			

The City has over 200 miles of narrow or rural (farm-to-market) roads that serve as the primary routes for developing areas of the City. These roadways quickly become overburdened by traffic resulting in significant congestion and sometimes unsafe conditions. The *Transportation Action Plan* recommended additional funding to make improvements to “farm-to-market” roads located within the Charlotte city limits. Examples of improvements include new curb-and-gutter, new sidewalks, additional lane width, and turning lanes to improve traffic flow. Examples of farm-to-market roads within the plan area include Rhyne Road and Moore's Chapel Road.

Additional Potential Farm-To-Market (FTM) Projects *	
FTM Project	Project Limits
Sam Wilson Road	From Moore's Chapel Road to Old Dowd Road
Moore's Chapel Road	From Wilkinson Boulevard to Little Rock Road
Mount Holly Road	From Belmeade Drive to Gaston County Line
Rhyne Road	From Moore's Chapel Road to Mount Holly Road (NC 27)
* Projects identified in the <i>Transportation Action Plan</i> .	
Source: Charlotte Department of Transportation, August 2009	

Pedestrian & Bicycle Facilities

Pedestrian System: Of the 33 miles of streets in the Catawba area, only 21% have sidewalks on both sides of the street, 24% have sidewalk on one side and 63% have no sidewalk at all. Additionally, there is one signalized intersection in the area at Mount Holly Huntersville and Mount Holly Roads, which does not have an acceptable LOS for pedestrians. Improvements to this intersection could include a number of treatment options, including reducing the crossing widths, provision of sidewalks, the addition of pedestrian refuge islands, increasing crossing time and installation of pedestrian signals.

Bicycle System: There are currently no designated facilities for bicyclists in the Catawba area. However, new road projects, such as the newly realigned Belmeade Drive, include space for bicycle lanes. Elsewhere, bicyclists must share travel lanes with motor vehicles using the area's street system.

There is only one signalized intersection within the area at Mount Holly Huntersville and Mount Holly Roads, which does not have an acceptable LOS for cyclists. There are currently no bicycle lanes existing at any intersections. Through redevelopment, the improved intersection of Moore's Chapel and Sam Wilson Roads may include bicycle lanes. Bicycle LOS may be improved with restrictions on right turning movements, or by adding a bicycle lane to the left of an exclusive right turn lane, which alleviates the risk of a crash



Street markings help with traffic calming.

involving right turning motorists. Likewise, protected left turns would reduce the risk of a crash from a left turning motorist. These provisions should improve the intersection bicycle LOS.

The *Transportation Action Plan* and the MUMPO long-range plan specify that bicycle facilities be included as part of road improvement projects as shown in the table below. Unfortunately, many of these roadways are identified for a 2030 horizon year, which means the funding is not guaranteed. Most of these projects are on roads under the jurisdiction of the NCDOT and will be subject to their design approval and budget timetable.

Whitewater Parkway provides a good opportunity for a signed bicycle route. A designated signed route does not preclude consideration for bicycle lanes. Whitewater Parkway is a direct route across the Area and also provides connections to future bicycle facilities.

The Future Level of Service analysis assumes that the following improvements of the *Long Range Transportation Plan (LRTP)* are implemented by 2030:

Improvements Necessary to Achieve Future LOS	
LRTP Project **	Description
Mount Holly – Huntersville Road	Widen to 4-lane facility, with sidewalks and bike lanes, from Mount Holly Road to Brookshire Boulevard.
Mount Holly Road (NC 27)	Widen to 4-lane facility, with sidewalks and bike lanes, from Interstate-485 to Belmeade Drive.
Mount Holly North Loop (NC 27 Future)	New 4-lane facility, with sidewalks and bike lanes, from Mount Holly-Huntersville Road to Catawba River.
Sam Wilson Road Extension	New 2-lane facility, with sidewalks and bike lanes, from Moore's Chapel Road to Belmeade Drive.
** These projects previously listed on the 2030 LRTP are no longer funded or included in the draft 2035 LRTP Update.	
Source: Charlotte Department of Transportation, August 2009	

Infrastructure and Public Facilities

Libraries

There are no public libraries in the plan area. The closest facilities include the Mountain Island Branch, located north of the area between Brookshire Boulevard and Rozzelles Ferry Road and Freedom Regional Library, south of the plan area, also located off Freedom drive.

Schools

On a 50-acre site, the new Whitewater Academy Elementary School opened for the 2008-09 school year with approximately 400 students. Access to the school is from a realigned Belmeade Drive. Adjacent to the elementary school a new Middle School facility opened for the 2009-10 school year. See **Map 13**. There are no high schools in the area. The community is served by West Mecklenburg High School.

Fire

At present, the plan area lies in Charlotte's Extra-Territorial Jurisdiction and is served by two volunteer Fire Stations: *West Mecklenburg* serves the vast majority of the plan area, and *Cook Volunteer Station* services the northwestern tip off Mount Holly Road. The City Fire Department is considering several sites along Belmeade Drive for a future fire station when the area is annexed.

Parks/Recreation

One of the defining assets of the plan area is the quality and quantity of natural areas and open space. However, the only park in the community is the Historic Tuckaseegee Ford Park which consists of 270 acres of mostly passive open space with bike/hiking trails and canoe/kayak access to the Catawba River. See **Map 13**. The park also includes the Catawba Riverfront Natural Heritage site (4 acres). The U.S. National Whitewater Center occupies approximately 106 acres of the Historic Tuckaseegee Ford Park. The public has access to this park for a fee.

Recognizing the need for additional park facilities, the County purchased 21 acres of land off Hawfield Road in 1990. This park property is currently

land banked for future development. Also, Sandler Island (37 acres) in the Catawba River, which is managed by Duke Power, provides additional open space within the plan area.

The Long Creek Bluff, located south of Belmeade Drive and west of the Duke Power ROW, is another Natural Heritage site in the plan area. Mecklenburg County Park and Recreation Department's Division of Natural Resources, recommends that this land remain protected from future development.

The Mecklenburg County Park and Recreation 10 Year Master Plan identifies the acquisition of a 100 foot ROW for a future greenway which would connect the Historic Tuckaseegee Ford Park to the Long Creek Bluff (approximately 3.5 miles), and eventually to the Robert L. Smith Regional Park (a 145+ regional park that currently includes three soccer fields, a playground and restroom building) outside the plan boundary. This greenway would include a 10 foot-wide paved impervious surface for walkers, runners, cyclists and strollers. Mecklenburg County Park and Recreation Department has identified an overall need for community parks, recreation centers, aquatic facilities, athletic fields and other park amenities within in the plan area as it continues to develop.

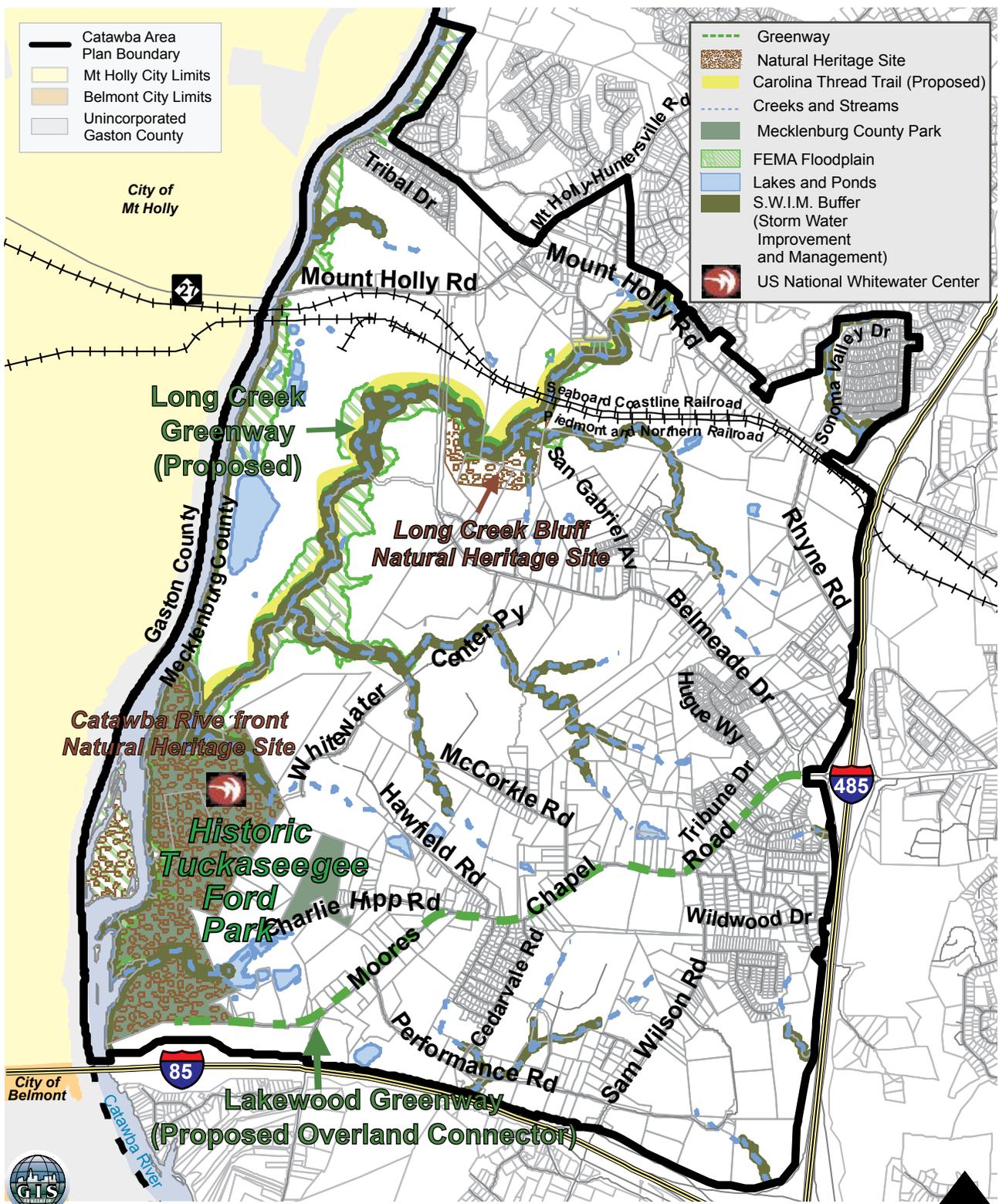
Water and Sewer

The entire plan area is served with public water and sewer, with the exception of some residentially zoned land between Moores Chapel Road and the Catawba River.

Catawba Area Plan

Parks, Greenways and Hydrology

Map 14



Produced by the Charlotte-Mecklenburg Planning Department
 Data Source: City of Charlotte, Mecklenburg County, City of Gastonia



Data current as of October 7, 2009

Natural Environment

Tree Cover

Large portions of the plan area are still forested with the largest portions along Long Creek. The percent of the area that has an extensive tree canopy is estimated at around 2,900 acres or 60% of the area, as determined using CityGreen GIS software by American Forests.

Natural Heritage Sites

There are two Natural Heritage Sites in the plan area, the *Catawba Riverfront site*, which consists of 4 acres located within the Historic Tuckaseegee Ford Park, and the *Long Creek Bluff site* near the proposed Long Creek Greenway and Duke Power ROW. The sites are shown on **Map 14**.

The Catawba Riverfront site includes Sadler Island in the Catawba River. The site has been carefully catalogued by the County's Parks and Recreation Department and recommended for preservation, with minimal disruption to the natural environment, due to the high ecological significance of the site. In fact, part of the site has not been disturbed by development and care is needed not to disturb the fragile nature of the site. Steep slopes may help in this regard. Other than a few walking trails, the land has not been disturbed. However, the Duke Power line ROW has degraded portions of the site and logging and/or farming practices has also disturbed native ecology.

Topography

The topography of the plan area is primarily level, with slopes between 15 and 25% primarily concentrated along the Catawba River. Slopes greater than 25%, as shown on **Map 14**, are adjacent to the Storm Water Improvement and Management (S.W.I.M.) Buffer and the proposed Long Creek Greenway near the Catawba River. Floodplain areas are primarily concentrated along the Catawba River and follow the proposed Long Creek Greenway.

Land Quality

The area includes several contaminated sites where some pollutant has been released into the environment, thereby making either the soil, groundwater or both pos-

sibly unfit for some future use unless remediation is performed. Remediation refers to a cleanup or other method to remove or contain a toxic spill or hazardous materials. The largest contaminated site in the plan area is the Clariant Plant located off Mount Holly Road and the Catawba River. Smaller contaminated sites are along Performance Road.

Water Quality

The Catawba community lies in the Lake Wylie Watershed. The water quality in this section of the Catawba River (I-85 to Mtn. Island dam) is considered impaired and listed on the State's 2008 list of impaired waterways. The degradation is evident especially when compared with the water quality of the Lake Norman or Mountain Island Lake watersheds. This is due to the fact that there are more sources of pollution in the Lake Wylie watershed than in the other watersheds. Long Creek has been declared "impaired" by the NC Division of Water Quality due to Turbidity (a measurement of stream clarity). High turbidity is caused by in-stream channel erosion and upland sources such as erosion from construction sites. In-stream erosion increases as the watershed is developed with more impervious surfaces. To ensure that the water quality remains good, future development will need to incorporate best management practices so that the water quality is maintained or improved.

Air Quality

Mecklenburg County's air quality is most significantly affected by ozone and particulate matter. Since the 1980's, the County has consistently exceeded the 8-hour ozone standard, which is set by the Environmental Protection Agency (EPA). This means that several days a year, the air is unhealthy to breathe, particularly for sensitive groups. Mobile sources of fine particulate matter, primarily cars, are the main culprit contributing to the County's air problems. Therefore, improving air quality is directly contingent upon reducing the time and distance individuals spend traveling in cars. Strategies to reduce the number of vehicle miles travelled per person, also referred to as VMT, include concentrating an appropriate mix of complementary land uses, providing pedestrian connections between land uses, adding bicycle lanes and providing transit options where feasible.



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