

**UNION COUNTY PUBLIC SCHOOLS**  
**MONROE, NORTH CAROLINA**

**INTEGRATED PLANNING FOR SCHOOL AND COMMUNITY  
(IPSAC)**

**LAND USE STUDY FINAL REPORT**

PREPARED AND SUBMITTED BY  
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NOVEMBER 5, 2004

OR/Ed. Lab

## OVERVIEW

School systems nationwide are facing difficult planning challenges arising from an increasing student population, an aging school infrastructure, and increasing complexity in pupil assignments. These challenges are shared by the communities that must fund building and renovation projects. The Operations Research / Education Laboratory (OR/Ed. Lab) has developed a system of Integrated Planning for School and Community (IPSAC) which fully integrates community and regional data, economic and demographic forecasts, demographic and land use studies, digitized pupil and school location files, and mathematical optimization algorithms.

The integrated planning system is comprised of multiple data-driven processes including:

- Enrollment Forecasting
- Land Use Study
- Out-Of-Capacity Analysis
- School Location Optimization Scenarios
- Attendance Boundary Optimization and Redistricting

This report documents findings from the *Land Use Study* of the geographic area encompassing the school district. The objective of the Land Use Study is to quantify future growth by school attendance. The Land Use Study includes two components: community interviews and Geographic Information Systems (GIS) analysis.

**Community Interviews:** The community interviews allow the Lab to compose an impression of future growth of the study area by interviewing planners, town managers, mayors, utility works, chambers of commerce, economic development officials, etc. By involving the community in the study, these critical interviews cultivate an understanding of infrastructure development plans (transportation, water, sewer), recent subdivision permits, residential zonings, available land for development, and comprehensive plans developed by the local government agencies.

**GIS Analysis:** The Lab also performs spatial analyses based on GIS parcel data using state-of-the-art ArcGIS software. The GIS analysis provides quantitative data concerning available parcels and subdivision lots that then can be used to identify areas of future growth. Student demographic analysis can also be conducted at this stage to better understand socio-economic compositions that could be used to influence school assignment decisions.

Through the combination of the community interviews and the data-intensive GIS analysis, the Lab is able to articulate school population growth by school attendance.

The Lab also conducted a Geocoding Error Analysis for two consecutive years of student data. This report is available separately.

## PART ONE: COMMUNITY INTERVIEWS

### INTRODUCTION

Union County lies in south central North Carolina, southeast of Charlotte, and is part of the Charlotte metropolitan region. The rapid growth of the Charlotte area is the primary growth driver in Union County. Union County has found favor among families who desire rural character but also proximity and access to activities associated with urban areas. The attitude of many local elected officials in Union County is to favor growth.

This Land Use Study not only describes the relative level and location of growth that has occurred since the previous IPSAC study was conducted in 2002, but also the growth that is anticipated in Union County. The findings of this report were derived from a series of interviews conducted with stakeholders during May 19-21, 2004. Additional information was obtained from the North Carolina State Data Center, the North Carolina Department of Commerce, the North Carolina Department of Transportation, the Charlotte-Mecklenburg Chamber of Commerce, the Charlotte Regional Partnership, the Lancaster County, South Carolina Economic Development Corporation and various Web sites.

This report consisted of sections that include discussion of:

- **Key trend and status indicators:** population, employment, and economic development.
- **Growth in Union County:** causes, factors constraining growth, and economic development activities.
- **Transportation:** planned highway improvements, and other transportation modes.
- **Water/Sewer:** current and planned infrastructure.
- **Anticipated residential development:** areas with current and anticipated high residential growth, summary of interviews, and information on subdivisions approved/under construction.
- **Anticipated non-residential development:** current and anticipated commercial and industrial development, major manufacturers, and a summary of interviews.

### KEY TREND AND STATUS INDICATORS

The Union County population projections for the period 2000-2010 are characterized by North Carolina State Data Center (SDC) as “high growth, high in-migration” similar to the period from 1990-2000. According to North Carolina SDC data, the estimated Union County population increased by 10,117 from July 2002 (138,928) to June 2004 (149,045). This equals a rate of increase for that two-year period of 7.3 percent as contrasted with the estimated statewide average population growth rate of 2.9 percent. In terms of percentage of population growth, Union County currently has the greatest percentage rate of population growth in North Carolina.

SDC projections for the period 2000-2010 show an overall 42.3 percent population increase for Union County (52,341 persons) versus a 17.3 percent average increase for North Carolina. In-migration to the county is estimated to contribute 29.6 percent of this population increase.

North Carolina Department of Commerce data reveals that Union County demonstrated an overall increase in the number of jobs in 2003 (89 more jobs created than lost). The unemployment rate in the

county has generally been lower than the statewide average. While the median household income (\$50,638 in 2000, ranked second in the state<sup>1</sup>) has been higher than the average for North Carolina, per capita personal income was reported to be lower than the North Carolina average. *Table 1* summarizes this information.

**TABLE 1: KEY TREND AND STATUS INDICATORS**

Indicator	Union County	North Carolina
Population Increase 20002-2004	7.3%	2.9%
Unemployment Rate (February 2004)	5.6%	6.4%
Unemployment Rate (2003)	4.9%	6.5%
Per Capita Personal Income (2001)	\$24,890	\$27,308

*Data source: North Carolina Department of Commerce*

The Union County population is projected to continue its growth at a rate approximately 1.5 times the North Carolina statewide rate through 2009, as shown in *Table 2*.

**TABLE 2: PROJECTED ANNUAL COUNTY POPULATION TOTALS 2004-2009:**

Location	July 2004	July 2005	July 2006	July 2007	July 2008	July 2009
Union County	149,045	153,440	157,927	162,611	167,378	172,307
% Change	N. A.	2.9%	2.9%	3.0%	2.9%	2.9%
North Carolina	8,562,210	8,709,947	8,857,140	9,006,662	9,160,357	9,319,179
% Change	N. A.	1.7%	1.7%	1.7%	1.7%	1.7%

*Data source: North Carolina State Demographics Unit.*

Of the 541 North Carolina municipalities, Monroe had the 22nd largest municipal population (30,392), Indian Trail the 49th largest (16,152) population, Stallings the 78th largest (8,847), Weddington the 87th largest (7,708), Unionville the 103rd largest (5,992), Wesley Chapel the 148th largest (3,753), Fairview the 152nd largest (3,694), Waxhaw the 169th largest (3,188), and Wingate the 188th largest (2,685) in July 2003.

Approximately 25 percent of Union County employment in 2003 was in the manufacturing sector. Other sectors with a significant share of county employment included construction (15%), government (15%), retail trade (10%), educational services (9%), and healthcare and social assistance (8%).

## GROWTH IN UNION COUNTY

Union County residents were characterized by those interviewed as possessing the full range of opinions towards growth, from favoring continued growth to favoring sharp limits to growth. Many residents were

<sup>1</sup> North Carolina Department of Commerce,  
[http://cmedis.commerce.state.nc.us/countyprofiles/files/pdf/Union\\_2004Q2.pdf](http://cmedis.commerce.state.nc.us/countyprofiles/files/pdf/Union_2004Q2.pdf)

said to favor relatively low-density residential development, typically at one unit per acre, and evenly distributed throughout a parcel, as opposed to being clustered in one portion of a parcel with the remainder maintained as open space. This preference may be a result of fear that the resulting open space might be developed at a later time; however, this is not allowed under existing ordinances. Land prices are relatively high, particularly in the western part of the county, where costs may reach \$200,000 per acre. Residential development was characterized as taking place with approximately equal shares of residential units constructed in unincorporated areas of the County and in the various municipalities.

During the 2004 land use study interviews, overall residential development density in unincorporated Union County was characterized as taking place at the level of density allowed by zoning plus 25 percent as allowed as part of the county's "Smart Growth" provisions. Overall residential density is anticipated to increase slightly until a level of density of that allowed plus 15 percent is reached in 4-5 years. Planners noted that some increase in density may become apparent in approximately two years, as that is the time span of development from the submission of a sketch plan through the planning and construction process to occupancy of housing units.

Given the relatively rapid residential growth taking place in Union County, some stakeholders who were interviewed believed there is a potential for developing and enacting an "Adequate Public Facilities Ordinance". However, other stakeholders stated that there are few instances, particularly in North Carolina, of such an ordinance being enacted and successfully applied.

### *Growth in the Charlotte Region*

Some persons interviewed believed that there is frustration and concern throughout the Charlotte region with the inability to keep up with the growth taking place, and that a regional approach is becoming favored as a means to avoid shifting growth within the region and placing undue burdens on particular counties or municipalities. There is said to be a desire to better accommodate growth rather than to stop it, especially given the increasingly stringent air quality regulations.

As part of the study, OR/Ed staff contacted Chambers of Commerce and Economic Development Commissions in Charlotte/Mecklenburg County, and York and Lancaster Counties in South Carolina to gather information on industrial or commercial development in those surrounding areas that could impact the growth of Union County. While those contacted were not able to provide information on potential developments, the consensus was that development trends in the area are expected to follow current patterns. Business growth is predominant in Charlotte/Mecklenburg County, with residential growth taking place at the highest rates in York County, South Carolina and Union County, North Carolina.

According to information from the Charlotte Regional Partnership, unemployment in the Charlotte metropolitan area peaked at 7.1 percent in July 2003, and has declined in the subsequent period. During that period, 6,100 net new jobs were created, with most of the improvement occurring in Mecklenburg County. The Greater Charlotte Economic Update<sup>2</sup> anticipates a total of 16,000 new jobs to be added to the regional economy in 2004, with most of the gains occurring in health care, retailing and financial, business, and personal services.

### *Growth in Union County Municipalities*

Planners in Indian Trail stated that they typically have two to three residential subdivisions under review at any given time. While this town has pursued a relatively aggressive annexation policy in the past,

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<sup>2</sup> *Greater Charlotte Economic Update*, July 12, 2004, Wachovia Corporation.

planners believe that annexation will be conducted less aggressively in the future, with a change in emphasis from quantity to quality of development.

No change is anticipated in the relatively low residential growth rate of *Marshville*. Those interviewed stated that situation may change once the US 74 Bypass is constructed, but no change is deemed likely in the near term.

Marvin and Weddington are both experiencing residential development at an average density of one unit per acre. Planners anticipate development in those towns, as well as in Wesley Chapel, to occur at that density in the future. Changes in the rate of residential development in those towns were seen as being dependent on changes to the tax rate in Mecklenburg County. If taxes increase in Mecklenburg County, that could increase demand for residential development in Union County.

Residential development is taking place in Mineral Springs at a pace similar to that in 2002; however, development is anticipated to increase once construction is underway at Stonebridge, in which Union County has approved construction of 589 homes.

Monroe continues to grow to its north and west. Planners stated that more than one half of housing in the city is now rental units, and that officials would like to see a greater share of owner-occupied units in the city.

Stallings planners stated that the town has generally reached the limits to its expansion, as further expansion is constrained by the presence of surrounding municipalities.

The Unionville/Fairview area was said to be experiencing an increase in residential development, although that development has not occurred as quickly or to the degree envisioned by those interviewed in 2002. Construction of the US 74 Bypass was seen as the major factor that will be likely to spur increased development in this area.

Waxhaw encompassed approximately 1,900 acres two years ago, but now has 7,000 acres in its jurisdiction. The town continues to experience growth of commercial as well as residential development.

Planners have calculated that build-out of undeveloped land now in Weddington would yield an additional 3,840 houses, if developed according to current zoning regulations. According to planners, a recent newspaper article stated that there were 2,296 housing units in Weddington.

Wingate officials anticipate growth will remain flat until the US 74 Bypass has been constructed to I-485. There is little undeveloped land available in the city limits, with the largest undeveloped parcel 60 acres in size. Jesse Helms Park, under construction outside the Wingate city limits, may attract some residential growth to that area.

### *Factors of Growth*

The leading factor of growth in Union County remains its location within the Charlotte-Mecklenburg metropolitan region. Union County is experiencing a substantial population increase in the western area as a result of its desirability as a suburban residential location. Waxhaw, Weddington, and other western suburbs continue to experience high demand for single family homes.

A major factor of growth during the next five years will be the availability and cost of undeveloped land in the western area of the county. While residential development is anticipated to continue at a relatively rapid pace in that area, a reduction in the amount of available raw land may lead development further east.

However, eastward expansion towards Monroe is constrained by the increasing lack of easy highway access to Charlotte and Mecklenburg County.

### Constraints on Growth

The primary constraints on growth continue to be the presence of an endangered species, the Carolina Heelsplitter, in the Goose Creek basin in the northwestern area of the County, and in the Waxhaw Creek basin south of Waxhaw and Mineral Springs. Habitat protection restricts development to a maximum of six percent impervious coverage, requires a 200 foot buffer along affected streams, and will result in construction of separate sewer lines along each side of affected streams. The presence of this species has not only directly constrained development in the northwestern area of Union County, it has indirectly constrained development in Monroe and Wingate as a result of delays in constructing the US 74 Bypass. The current US 74 carries a high volume of traffic, which is compounded by at-grade intersections of major cross streets. This reduces the level of highway access between Monroe and areas in the northwest of Union County to Charlotte and Mecklenburg County.

### Zoning

The City of Monroe adopted a new development code in December 2003. Planners stated that the new ordinance offers additional flexibility on lot sizes, and that developers generally are pleased with the changes. The development density in the eight residential proposals approved since adoption of the new code is lower than in previous residential developments by approximately one unit per acre. There were no subdivisions approved during 2003.

Unionville gained its own zoning jurisdiction in October 2003, and its zoning ordinance is modeled on the county's ordinance.

The Town of Fairview, which will be the largest town by area in Union County, has applied to conduct its own zoning, but has not yet received permission to do so. Lake Park and Hemby Bridge do not conduct their own zoning at this time.

The County's annexation law is unique in that it allows additional annexation to take place from a municipality's satellite parcel. This provision was added in 2003.

## **TRANSPORTATION**

Principal highways through Union County include US Highways 74, between Anson County and Mecklenburg County; and US 601, between Cabarrus County and Lancaster County, South Carolina. Major highway projects in progress or planned in Union County include:

1. **US 74 turn lanes**—lengthening of turn lanes on US 74 and installation of turn lanes on cross streets is nearly done, with completion scheduled for Summer 2004.
2. **US 74 Monroe Bypass**—contracts for construction of the eastern portion, between Marshville and US 601N will be let in Fall 2004. However, there has been a delay to starting construction of the eastern portion of the Bypass due to a desire by the U.S. Fish and Wildlife Commission to see both the eastern and western portions of the project considered as a single project. The alignment for the western portion, from US 601N to the I-485 area has not yet been determined, although Option D, which would tie into the existing highway closest to the I-485 interchange is now the preferred alternative. Environmental issues with wetlands that were thought to have been resolved in April 2004 are now anticipated to be resolved in late summer of that year.

3. ***US 601S widening south from US 74 to the South Carolina state line***—this project has been accelerated, with planning in progress and contracts for construction to be let in October 2005.
4. ***US 601N widening between the proposed US 74 Monroe Bypass and the current US 74 highway***—this project has been added to the Transportation Improvement Plan (TIP) with construction projected to start in 2006.
5. ***Airport Road (SR 1349) widening to multi-lanes and resurfacing***—under construction.
6. ***Indian Trail Road widening to four lanes from US 74 to Monroe Road***—project is on schedule, with planning in progress and right-of-way acquisition scheduled for 2010.
7. ***Stallings Road widening to five lanes from US 74 to Monroe Road***—project is on schedule, with construction scheduled to start in 2008.
8. ***Providence Road (NC 16) widening from Rea Road Extension to south of I-485 interchange in Mecklenburg County***—construction to start in 2006 with completion planned for 2008.
9. ***Charles Street (SR 2188) widening in Monroe***—planning in progress for construction to start in 2010 between Sunset Drive and Franklin Street.
10. ***Martin Luther King Jr. Parkway in Monroe***—portions have been constructed with city and county funds, design of section between Lancaster Avenue and Charlotte Avenue in Monroe is now in progress with construction scheduled for 2009.
11. ***Weddington Road interchange with I-485***—scheduled for October 2006, to improve access to/from Charlotte and Union County.

Highway improvements (resurfacing, intersection and other improvements) to be conducted as part of the North Carolina Moving Ahead program include:

- Stevens Mill Road from Idlewild Road to Lawyers Road;
- Old Waxhaw-Monroe Road from NC 75 to Providence Road;
- New Town Road from SC state line to Twelve Mile Creek Road;
- North Main Street from the railroad crossing to McIntyre Road in Wingate;
- Secrest Short Cut Road/Idlewild Road from US 74 to the Mecklenburg County line;
- Rocky River Road from NC 200 to Lawyers Road;
- Indian Trail-Fairview Road from Stinson-Hardis Road to Idlewild Road;
- Goldmine Road from Price Short Cut Road to Dover Street;
- Lawyers Road from Mecklenburg County line to US 601; and
- NC 218 from US 601 to NC 205.

Other significant highway improvements in the TIP that are planned, but not yet funded for Union County include:

- ***US 74***—upgrade to freeway standards from the Monroe Bypass east to the Rockingham Bypass.
- ***NC 16***—widening to multi-lanes from Rea Road Extension in Weddington to NC 75 in Waxhaw.



- ***Charlotte Avenue in Monroe***—widening to multi-lanes from the railroad to Concord Avenue.
- ***Rea Road Extension in Weddington***—construction from NC 16 to NC 84.

Monroe planners stated that the high expense for construction of the US 74 Bypass leaves few funds for other highway construction and/or improvement projects, and that other projects are unlikely to be undertaken until the Bypass has been completed. There has been discussion of seeking approval to construct the Bypass as a toll facility; however, there is potential competition with a Gaston County highway that is also under consideration for construction and operation as a toll facility.

Other highway improvements that are not currently programmed into the Transportation Improvement Plan (TIP) in which local planners in Union County expressed interest include:

- ***Upgrading and realignment of several highways in Indian Trail***—an extension of Williams Rescue Road from US 74 to Old Monroe Road, which would extend Chestnut to US 74 across from Smith Road with a subsequent downgrading of Stallings Road and Indian Trail Road to local streets. The purpose of this realignment as proposed by Indian Trail, would be to take through traffic off Stallings and Indian Trail Roads.
- ***Expansion to four lanes with bike lanes and relocation of sections of NC 84 from Monroe west to Rea Road.*** This project is currently scheduled for a feasibility study.
- ***Waxhaw Parkway***—this project is on the thoroughfare plan and small segments have been constructed by various developers as part of residential developments; however, this project is considered unlikely to be a state-funded highway project for the foreseeable future. Completion is currently anticipated to be done by developers as additional development is approved.
- ***A truck bypass around downtown Waxhaw*** (Not planned).
- ***Construction of Dave Lyle Boulevard in Lancaster County, South Carolina*** was said to be back in planning, with a high priority for construction. (Waxhaw)

Other highway improvements that are not currently programmed into the Transportation Improvement Plan (TIP) in which NCDOT staff expressed interest include:

- ***Idlewild Road, Secrest Short Cut, and Lawyers Road***—additional improvements including wider shoulders and safety improvements, plus widening of Secrest Short Cut to four lanes.
- ***Old Charlotte Highway***—widening to four lanes to create an alternative route to US 74.
- ***Waxhaw-Indian Trail Road***—potential candidate for widening.

Neither commercial passenger air service nor passenger rail service is currently provided in Union County. Greyhound Bus Lines operates service through the county, with a scheduled stop in Monroe. Eastbound departures are scheduled at 1:45 am, 9:35 am, and 5:00 pm. Westbound departures are scheduled at 12:01 pm, 2:45 pm, and 10:55 pm. Commercial passenger air service is available at Charlotte-Douglas International Airport west of Charlotte.

The Monroe Airport is planned for expansion to serve as a reliever airport for Charlotte-Douglas International Airport. The expansion will require realignment of Goldmine Road to accommodate a runway extension.

### Commuting Patterns

According to U.S. Census data<sup>3</sup>, approximately 53 percent of Union County residents who were employed work in the county (32,613 of 61,217 employed residents). The majority of Union County residents who commute to another county travel to work in Mecklenburg County (24,892 or 40.6 percent). Other counties that serve as significant employment destinations include Cabarrus (551), Anson (332), Stanly (212), Gaston (184), and Iredell (125). In addition, 1,357 Union County residents were reported as working in South Carolina.

The majority of commuters from other counties who work in Union County travel from Mecklenburg County (4,853 or 10.6 percent). Significant numbers of in-commuters also travel from Anson (2,027), Stanly (646), Cabarrus (525), Iredell (245), Gaston (226), and Rowan (181) Counties. A total of 3,351 South Carolina residents were reported as commuting to Union County to work in 2000.

### **WATER/SEWER**

Water lines serve each of the municipalities in Union County as well as many unincorporated areas. Union County operates a significant sewer collection network and treatment plants. The City of Monroe also operates municipal sewer collection and treatment facilities. Union County and the City of Monroe have agreed to share water and wastewater resources more effectively, resulting in the county providing some water to the city, and the city treating some wastewater from the county.

Most areas of Union County have soil that is poorly suited to the installation of septic systems, resulting in the need for extensive wastewater collection and treatment facilities.

### Water

The capacity of the water treatment plant that Union County shares with Lancaster County, South Carolina has been expanded from 18 million gallons per day (MGD) to 36 MGD, and Union County's share of the total output is now 18 MGD. A new four million gallon storage tank at Sims Road in Waxhaw was scheduled to be cleaned and placed on-line in late June. This tank will supplement the current two million gallon tank at that location. A new storage tank is planned for construction in the northeastern area of the county in two to three years.

The New Salem water main extension to supply some areas in the northeastern area of the county has been completed.

There has not been any action taken to increase the size of the water main that supplies the eastern portion of the county with water from a source in Anson County. There is, however, a study under way to implement an additional water supply of 20 MGD from the Rocky River in the northern area of the county.

A new water storage tank was placed in service in the spring of 2004 in Stallings, and has resolved low water pressure in that area. Monroe still plans to make improvements in two years to its water system to increase water pressure in the western area of the city. Monroe still possesses excess water and sewer capacity and is willing to expand those capacities to serve new development; however, planners stated that those in new developments will need to pay a greater share of the costs for such facility expansions.

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<sup>3</sup> U.S. Bureau of the Census, 2000 Decennial Census of the Population, Washington, DC.

The City of Monroe and Union County operate separate municipal water supply systems, and will supply development that occurs in their respective ETJs. This may involve some future swapping of customers among water suppliers in some areas.

Wingate purchases water from Union County, which receives it from either the Anson County source or the Catawba River source. Local officials stated that there is no water capacity or pressure problems.

### Sewer

Union County plans to expand the Twelve Mile Creek wastewater treatment plant from 2 ½ MGD to 6 MGD. Plans for this expansion will be developed starting in approximately one year. The county also plans to construct a new wastewater treatment plant on Grassy Branch, about one mile upstream from the Rocky River. This plant should be open in about six years, with a projected capacity of 5 MGD. This outflow from Grassy Creek is upstream on the Rocky River from the intake location for the county's planned water treatment plant.

Union County is preparing to take two package wastewater treatment plants off-line. Union County owns one plant; a private developer owns the other.

Sewer lines have been extended that now serve the Parkwood Schools, and work is under way on a sewer line to serve the Western Union School.

A regional wastewater treatment plant that was under consideration with Mecklenburg County at the time of the 2002 study is no longer under consideration. There are no plans at this time to implement a spray application that was under consideration by Marshville in 2002. The planned Grassy Creek wastewater treatment plant will treat that waste instead.

Wingate's wastewater treatment now functions at approximately 50-60 percent of capacity on sunny days and at full capacity on rainy days. New customers may tie on to existing sewer lines but lines may not be extended. Wastewater currently flows north into the Union County system, which sends the wastewater to Monroe for treatment and discharge. In the future, Wingate's wastewater will flow to the new treatment plant to be constructed on Grassy Branch.

## **ANTICIPATED RESIDENTIAL DEVELOPMENT**

This section summarizes current and potential residential subdivision development activity that was mentioned in interviews. Information is presented first for the unincorporated county, and then for each municipality that conducts its own development approval process. Note that the comprehensive table listing residential development was compiled from tabular information provided by the various municipalities, and includes some subdivisions that are not described in the text. The text describes only subdivisions that were discussed by local planning staff and/or local elected officials. Currently approved residential development mentioned by Union County Planning staff includes:

- ***Crane Valley Phase 2***: located on Crane Road, will contain 38 lots.
- ***Demere***: a 113-lot subdivision on the Callum property at Billy Howey Road and New Town Road.
- ***Hunter Oaks***: located on Rea Road, has been completely platted with Phase 10 currently under construction.
- ***Longview***: in the Marvin area, will contain approximately 430 total lots. Phases 3 and 4, with a total of approximately 40 lots, are the only sections of this subdivision now under construction.

- **McNeely Ridge:** in the Mineral Springs area, 28 lots approved, being developed quickly.
- **Providence Downs South:** including Fincher Valley and Maggie Valley, with 91 lots, on Waxhaw-Marvin Road.
- **Providence Glen:** by Centex Homes, on NC 16, with 71 lots, priced from the \$200,000s.
- **Rose Hill:** will contain 38 lots, for which Chris Mathisen filed a permit application in May 2004, on Tilley Morris Road.
- **Wesley Oaks:** by Centex Homes, in the Wesley Chapel area will have approximately 400 lots.
- **Willow Creek:** by Don Galloway Homes, with 83 lots, located on NC 16, priced from the \$250,000s.
- An unnamed 239-lot subdivision by Steve Schreiner, on New Town Road, is likely to be constructed with relatively expensive homes. (Listed under Indian Trail in *Figure 3*)
- An unnamed subdivision by the R. D. Harrell Company with 314 lots has been approved.
- An unnamed 183-lot subdivision by Centex Homes has been approved.
- Shea Homes has received approval for a 205-lot subdivision in the Lester Davis Road/NC 16/Deal Road area.

The following subdivisions are proposed but have not yet received final approval:

- A total of 441 lots in a subdivision called Wesley Springs on Billy Howey Road, with 330 lots in the main parcel, 65 lots in a parcel across Billy Howey Road, and 46 lots in a parcel across a creek.
- A development pieced together with approximately 700 acres south of Weddington Road across Willoughby Road and Arbor Road toward New Town Road west of Clarence Secrest Road.

*Figure 3* provides summary information on annual totals of residential permits issued for the 2002-2004 period for the unincorporated area of the county and the various municipalities with building permit approval. Note that the completeness of information varies, as there was a lack of uniformity of information provided by the various jurisdictions. Information is as complete as possible; however, due to differences in information systems among local jurisdictions, not all information is available for each listing.

**FIGURE 3: UNION COUNTY RESIDENTIAL PERMITS AND PERCENT OF DEVELOPMENT COMPLETE 2002 AND 2004.**

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
<b>Unincorporated Union County—2003</b>						
Blackstone, Ph. 3	Shea Homes	NC 84	16 (2003) 5 (2004)			From \$290,000s
Chatelaine	RR Development	Twelve Mile Creek Road	80			
Crane Valley, Ph. 1	Bill Nolan/Mel Graham	Newtown / Crane Roads	38 (2003) 3 (2004)			
Crane Valley, Ph. 2	Graham Enterprises	Newtown / Crane Roads	38	N. A.		
Gardens on Providence				N. A.	0% grading just started	
Heathwood	Doug Frick	NC 75	61		70%	\$250,000-\$400,000
Hidden Meadows	Vann Love	Lathan Road	39			
Hunter Oaks, Ph. 10	Pace/Dowd	Rea Road	122	N. A.		\$190,000-\$300,000s
Lathan's Pond	Vann Love	Lathan Road	15			
Longview, Ph. 4A & 4B	Mel Graham	Tom Short Road	52 (2003) 35 (2004)			
Marsh Field	Cody Helms	Helms Short Cut Road	10			
McNeely Ridge	Grace Properties	McNeely Road	28	N. A.		
New Town Village, Ph. 2	Centex Homes	New Town Road	75			From \$170,000s
Oldstone Forest, Ph. 2	Arrowhead Development	Waxhaw Parkway	41			
Providence Downs, Ph. 3D	Bill Nolan	Crane Road	16			

<b>Subdivision Name</b>	<b>Developer</b>	<b>Location</b>	<b>No. Lots</b>	<b>% Complete 2002</b>	<b>% Complete May 2004</b>	<b>Sales Price</b>
Providence Downs	Hampshire Homes/Nolan	Marvin-Weddington Road	181	50%	Additional sections approved since 2002.	
Providence Downs South Fincher Valley 1 & 2 Maggie Valley	Marvin Waxhaw Assoc.	Waxhaw-Marvin Road	91			
Providence Glen, Ph. 1	Centex Homes	NC 16	71	N. A.		\$290,000-\$370,000s
Shannamara, Ph. 3B	Greg Williams	Limerick Drive	13			
Unnamed—Shea Homes	Shea Homes	Lester Davis Drive	205	N. A.		
Shiloh Trace, Ph. 1	Robert Wright	Wesley Chapel-Stouts Road	46 (2003) 35 (2004)			
St. Johns Forest, Ph. 1	Terry Knotts	NC 84	110 (2003) 12 (2004)	N. A.		\$110-\$180,000s
Stone Crest	Cody Helms	Pine Oak Road	30			
The Reserve, Ph. 1, 2, & 4	Centex Homes	New Town / Crane Roads	161 (2003) 87 (2004)			\$180,000-\$300,000s
Therrell Farms	Therrell Farms, LLC	NC 16	36	N. A.	10%	
Victoria Lake	Performance Development	NC 16	33			
Villages of Wesley Chapel	Landcraft Properties	Airport Road	102	N. A.	Construction starting	From \$120,000s
Weddington Chase, Ph. 2	John Weiland	NC 16 / New Town Rd.	77 (2003) 24 (2004)			\$400,000-\$800,000s

<b>Subdivision Name</b>	<b>Developer</b>	<b>Location</b>	<b>No. Lots</b>	<b>% Complete 2002</b>	<b>% Complete May 2004</b>	<b>Sales Price</b>
Weddington Chase		New Town / Broomes Old Mill	207		New section under construction.	
Wesley Springs (see also Wesley Chapel listing)	Centex Homes	Billy Howey Road	441			
Wensley Park	Cindy Hahn	Airport Road	44			Low \$100,000s
Willow Creek	Willow Group	NC 16	83			\$220,000s +
Woodbridge	Mathisen Company	Stallings Road	88 (2003) 28 (2004)			
Woodhall	Keith Bell	Waxhaw-Marvin / Crane Roads	67			
<b>Unincorporated Union County—2004</b>						
Cane Pointe, Ph. 3	Primestar Properties	Nesbit Road	7			
Grayson	D & D Properties	Rogers Road	105			
Lake Park Garden District, Ph. 2	Mathisen Company	Sages Avenue	39			
Locklyn			15		90%	\$250,000-\$300,000
Rose Hill	Mathisen Company	Tilley Morris Road	47	N. A.		
<b>Total Lots 2003-04</b>			<b>3,098</b>			

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
<b>Indian Trail</b>						
Arbor Glenn	Provident Dev. Corp.	Secrest Short Cut	282	25%	80%	\$150,000
Bon Terra	R. D. Harrell Company	Poplin Road	1,395	0%	25%	Townhouses \$100k+ Single-fam. \$150k+
Brandon Oaks	Pace/Dowd Properties	Brandon Oaks Parkway	1,000	60%	80%	\$160,000
Brookhaven			565	N. A.	25%	N. A.
Brook Valley		Wesley Chapel-Stouts Rd.	229	0%	25%	\$195,000
Callonwood South			80	Concept	0%	N. A.
Chandler Forest			54	N. A.	0%	N. A.
Chestnut Oaks II		Potter Road	31	N. A.	0%	N. A.
Colton Ridge	Dean Harrell	Pioneer Lane / Waxhaw- Indian Trail	250	25%	75%	\$190,000
Cornerstone	Mercedes Homes	Rogers Road	296	50%	80-95%	\$130,000
Crismark	Ty-Par Realty	Stevens Mill Road/Mill Grove Rd	950	Starting	25%	\$130,000-\$300,000
Green Meadows			157	85%	90%	\$100,000
Hemby Commons	Love Construction	Indian Trail-Fairview Road	110	50-75%	90%	\$150,000
Holly Park	Ryan Homes	Rogers / Wesley Chapel	340	50%	50%	\$160,000
Laurel Creek			85	Starting	0%	N. A.
Meridan Apartments			252 units		90%	N. A.
Meriwether	Mulvaney Homes	Rogers Road	400	75%	80-90%	\$110,000-\$140,000



Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
Oakstone	Brookwood Homes	Haywood Road	126	0%	25%	From the \$100,000s
Schreiner (unnamed)		New Town Road	239	N. A.	0%	N. A.
Smith (unnamed)			13	N. A.	0%	N. A.
Stoney Creek	AJM Development	Old Charlotte Highway	37		75%	\$235,000
Summer Creste			16	N. A.	0%	N. A.
Taylor Glen	R. D. Harrell	Wesley Chapel-Stouts Rd.	796	10-15%	50%	\$185,000
The Summit at Taylor Glen			58	N. A.	0%	N. A.
Wincrest	Love Homes	Rogers Road	115	25%	80%	\$140,000
<b>Marshville</b>						
Unnamed			17		75%	
Typical year for town			9			
<b>Marvin</b>						
Innisbrook at Firethorne		Marvin Road	40	N. A.	0% 2-3 year build-out	\$500,000 +
Wyndham Hall Plantation	John Poore Builders	Marvin School Road	40 (2002) + 37(2004)		100% 0%, construction to start in 2005	From the \$500,000s
Marvin Creek, Ph. 1&2	Toll Brothers	Rea Road / Joe Kerr Road	308	N.A.		

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
<b>Mineral Springs</b>						
Brantley Oaks, Ph. 2	Sunbelt Financial	Pleasant Grove Road	~30		0%	
Stonebridge	US Land, Steven Rosenberg	Doster Road	589	Concept approved by County	0%	
Victoria Ridge (see County)		McNeely Road	38	N. A.		
2003 total permits			15			
2004 (to May)			12			
<b>Monroe</b>						
Brekonridge	Craft Builders	Brekonridge Center Road			Built out	
Fox Hunt	Noah Williams	Fowler Secrest Road	48	N. A.	Starting (0%)	\$225,000-\$300,000
Hamilton Place	Dan Moser Company	Rocky River Road	300 (2002) 130 Ph. IV (2004)	300 lots open	50 of 300 open 130 open 5-yr. build-out	\$150,000-\$160,000
Hilton Meadows	Anne Edwards	Secrest Short Cut	100	N. A.	0% (roads only)	
Myers Meadows	Nash Group	Myers Road	20	0%	1-2 lots open	\$150,000-\$250,000
The Palms		Goldmine Road	18	N. A.	0%	\$180,000-\$220,000
Savannah Way	Williams Group	Fowler-Secrest Road	100	0%	75% 2-3 yr. build-out	\$210,000-\$250,000

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
Southwinds		Next to Walter Bickett School	165 patio + 237 single family			
The Oaks			42			
Windy Ridge	Isaacs Group	South of Goldmine Road	~100	N. A.	Starting (0%)	\$180,000-\$210,000
2003 Subdivisions			0 approved			
2004 Subdivisions			8 approved			
<b>Stallings</b>						
Arlington Downs	Portrait Homes	Pleasant Plains Road	110		100%	
Callonwood	Starwood Carolina	Pleasant Plains Road	473 total 120 now permitted	Concept	25%	\$100s- \$300s
Chestnut	Mathisen	Chestnut Lane at Weddington-Matthews Road	63		95%	\$220s +
Chestnut Oaks	Reece Gibson	Potter Road	198		70%	\$180 +
Curry Place	Rick Duncan	Potter Road	181		40% of 85 units in Ph. 1	\$140 +
Emerald Lake/ Buckingham	L. C. Tyson	Lawyers Road	175			
Madison Ridge	L&M Dev. for Dan Moser	Stallings Road	124			
Morningside	Knotts Development	Morningside Lane	81		100%	
Shannamara		Stevens Mill Road	700		45%	

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
<b>Unionville</b>						
Loxdale Farms	R.L. Rushing	Tom Helms Road	48	0% ?	50%	
Old Gate	Ted Baucom First homes ready for occupancy in Spring 2005	C J Thomas Road	56	N. A.	0%	
CO's issued since 10/03			2			
<b>Waxhaw</b>						
Alma Village		NC 16	195	60-70%	95%	\$170,000-\$220,000
Anklin		Waxhaw-Marvin Road	150			\$400,000
Bonds Grove	Site Plan Approved		84	N. A.	0%	\$200,000-\$300,000
Camberly	Brookwood Home Builders	NC 16	185	Starting	42 homes constructed	\$160,000-\$220,000
Cureton	Site plan approved	NC 16 at Gray Byrum Road	658	N. A.	0% 3-5 year build- out	\$250,000-\$700,000
Deerfield Plantation		Mill Pond Drive	80		55%	\$280,000-\$400,000
Harrison Park		Waxhaw Parkway	225	Starting	50%	\$80,000-\$120,000
Hermitage Place		NC 75	94		95%	\$170,000-\$220,000
Kingston on Providence	George Steele	NC 16	85		90%	\$140,000-\$190,000
Lawson	Steven Pace	Cuthbertson Road	997 total 448 Phase 1	N. A.	Starting June 2004	\$350,000-\$1.2 million

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
Magnolia Ridge	Sunbelt Group	Rehobeth Road	48		90%	\$160,000-\$225,000
Mill Bridge	GS Carolina	Waxhaw-Marvin Road	1,785	N. A.	0%	\$180,000-\$1 million
Quellin Estates	NV Homes		267		50%	\$300,000-\$600,000
Park Providence	Pulte Homes	NC 16 / Gray Byrum Rd.	85		20%	\$180,000-\$250,000
Providence Farms			21		70%	\$300,000-\$400,000
Providence Grove	Ryland Homes Site plan approved	NC 16 / Bonds Grove Church Rd.	225		0%	\$250,000-\$450,000
Shea Homes	Shea Homes Site plan under review	Bonds Grove Church Road	153	N. A.	0%	\$250,000-\$350,000
Southbrook	Ridgeline Developers	Blythe Mill Road	84		85%	\$140,000-\$200,000
Southern Estates			25		75%	\$150,000-\$300,000
Waxhaw Farms		Waxhaw-Monroe Road	32		40%	\$300,000-\$400,000
Waxhaw Meadows		Waxhaw-Indian Trail Road	15		70%	\$250,000-\$350,000
Waxhaw Ridge	Isaac Grossman	Helms Road	85	N. A.	0%	\$120,000-\$200,000
Woodleaf	Realty Network	Rehobeth Road	68	Starting	50%	\$120,000-\$200,000
<b>Weddington</b>						
Eagle Chase	John Weiland	Beulah Church Road	45	N.A.	0% Sketch plan stage	
Hadley Meadows		Beulah Church Road	62	N.A.	0% Preliminary plat approval 5/10/04	

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
Highgate	Harrington/Dowd	NC 16	212	0%	50% Overall Phase 1=90% Phase 2=0%	\$680,000-\$3 million
Highgate III	Harrington/Dowd	NC 16 / King Manor Drive	23	N.A.	0% Waiting approval	
Lake Forest Preserve	Parker Orleans	Cox Road / NC 84	211	N.A.	0% Planning Bd. approved; Town Council preliminary plat approval 6/14/04	
Preserve at Brookhaven	John Weiland	Antioch Church Road	33	N.A.	0% Preliminary approval PB 6/28/04; TC 7/12/04	
Providence Forest Estates	Parker Orleans	Hemby Road at NC 16	38	N.A.	0% Town Council preliminary plat approval 5/10/04	
Stratford Hall	Fairview Developers	Weddington-Matthews Road at Tilley Morris Road	34	N.A.	Preliminary approval PB 6/28/04; TC 7/12/04	
Unnamed	Jerry Pettus	NC 16 / Ennis Road	16	N.A.	To PB 10/04	
2002 Foundation Permits			31			
2003 Foundation Permits			17			

Subdivision Name	Developer	Location	No. Lots	% Complete 2002	% Complete May 2004	Sales Price
2004 Foundation Permits (through May)			7			
<b>Total (2002-May 2004)</b>			<b>55</b>			
<b>Wesley Chapel</b>						
Blackstone, Ph. 2	Shea Homes	Weddington Road	17			
Kings Grant			18			
Quintessa		Weddington Road	89			
Wesley Springs (see also County listing)	Centex Homes	Billy Howey Road	4			
2002 Certificates of Occupancy (COs)			143			
2003 C Os			142			
2004 COs (through May)			48			
<b>Wingate</b>						
Glencroft	Craft Builders		201 total Phase 1=35	0%	Phase 1=60%; Phase 2 not yet permitted	\$100,000-\$150,000
The Trellis	Ron Mac Mahan		177 total Phase 1=36; Phase 2 permitted	0%	Phase 1=100%; Phase 2 may construct in 2 years	\$100,000-\$130,000

The following subdivisions are currently under development in Indian Trail:

- **Arbor Glen**, by Provident Development Group: approximately 300 lots; 70 constructed in 2002, with Phase 2 about to start. This subdivision is now over 75 percent built out.
- **Bon Terra**, by the R. D. Harrell Company: 1,395 residential lots and some commercial/mixed use development. Construction was about to start at the time of the 2002 interviews; Bon Terra is now approximately 25 percent built out, with amenities and common facilities in place; however, the commercial component has not yet been completed.
- **Brandon Oaks**, by Pace Development: 1,000 lots approved and 60 percent constructed in 2002; now 80-85 percent constructed.
- **Brookhaven**, by Weiland Homes: approved by Union County, and annexed into Indian Trail. (R. Black—Union County)
- **Callonwood**, by Starwood Carolina LLC: approximately 300 lots approved; 88 in Indian Trail and the remainder in Stallings. The concept had been approved in 2002; roads are now in place and residential construction is anticipated to start soon.
- **Colton Ridge**, by R. D. Harrell Company: 251 lots approved, 25 percent built in 2002; 75-80 percent built out.
- **Cornerstone**, by Mike Helms: approximately 300 lots approved and 50 percent constructed in 2002; now approximately 95 percent built.
- **Crismark**, by Carlton Tyson: approximately 450 acres approved for 1,000 homes, from the \$150,000s. Construction had started at the time of the 2002 interviews; the subdivision is currently approximately 25 percent built out.
- **Holly Park**, by the Mathisen Company: 380 lots approved; approximately 50 percent built in 2002, now approximately 80-90 percent built out.
- **Meriwether**, by the Mulvaney Company: approximately 800 lots approved and approximately 75 percent built in 2002; now 90-95 percent built out.
- **Oakstone**, by the R. D. Harrell Company: 78 single-family and 48 townhouses, not occupied in 2002; now in the process of completing build out.
- **Taylor Glen**, by the R. D. Harrell Company: approximately 450 lots approved, now at least 50 percent built out. Two of the final phases of development have not yet been built and have been sold to another developer who plans to start construction in one to 1 ½ years.
- **Wincrest**, by Vann Love: 115 lots of which 25 percent had been built in 2002; now 50-75 percent built.

The Indian Trail Planning Office was said to typically have two to three subdivision plans under review at any time. A 180-unit subdivision by MDC Homes, adjacent to Bon Terra was starting the review process at the time of the interview in May 2004, but was tabled by the planning board as a result of its being viewed as being too ordinary in its design.



The following subdivisions that were under construction in 2002 have now been completed.

- ***Bent Creek***, by R. D. Harrell Company: 267 lots, and nearly built out in 2002.
- ***Cranston Crossing***, by Duncan Homes: 37 lots, 80 percent completed in 2002.

Only a small amount of multi-family housing has been constructed in Indian Trail since the 2002 study. Approximately 20 townhouse units have been constructed in Bon Terra, and although approved, no single-family attached units have been constructed in Crismark, Taylor Glen, Oakstone, or Holly Park. The current town council was said not to favor further approval of construction of townhouses, but to favor single-family houses that sell from the high \$200,000s to the \$300,000s.

The vast majority of residential subdivisions in Indian Trail are served with municipal water and sewer; however, it was stated that Union County has imposed an unofficial moratorium on development north of Old Monroe Road, in the Goose Creek and Crooked Creek basins. The county is not issuing sewer taps for *new* subdivisions in those areas, but will issue taps to new phases of *existing* subdivisions. The effect of this policy is to shift potential development from those areas south toward Wesley Chapel. Indian Trail officials desire a change in the town's tax base from the current 80 percent residential/20 percent commercial ratio to 60 percent residential/40 percent commercial.

Indian Trail was characterized as having pursued an aggressive annexation policy during the past five years, and has annexed proposed as well as completed subdivisions. That policy is expected to become less aggressive, with future annexation conducted only after assessing if such development can be served by the town's current service capacities.

Residential development in Marshville is taking place at approximately the same level as it was in 2002. A moratorium on new subdivisions, which precludes approval of subdivisions other than subdividing a single lot into two lots, has been in effect since spring 2003 due to a lack of sewer capacity. There is one existing 17-lot subdivision with starter homes that is under construction, and it is nearly built out. Once that subdivision has been built out, residential growth is anticipated to decrease to approximately nine homes per year until sewer capacity becomes available.

There is a moratorium on further subdivision approvals in Marvin until late October 2004. Residential development in Marvin is typically at a density of one acre per unit. Residential developments currently under construction include:

- ***Innisbrook at Firethorne***, located on Marvin Road, with 40 lots; approximately five building permits have been issued. Build-out is anticipated in two to three years, and sales prices are \$500,000 and up.
- ***Wyndham Hall Plantation***, which had 40 lots approved in 2002, has completed construction on most of those lots now. A subsequent phase containing 39 lots is anticipated; final plat approval for that phase is expected by the end of 2004.

Subdivisions currently developed in Union County that were mentioned as likely to be annexed by Marvin include *Walden Pond* as well as:

- ***Providence Downs***: Phase 4, with 40 lots that had just been approved at the time of the 2002 study, is now approximately 50 percent built. Additional sections of this subdivision have been approved for construction.

- **Weddington Chase** has an additional section behind the existing development.

Potential residential developments in Marvin include:

- An unnamed 311-unit subdivision by Toll Brothers next to Marvin Elementary School.
- Ezzell Valley, which would develop approximately 100 acres of the Ezzell property.
- A 90-acre parcel behind the current commercial area that could include some mixed-uses (commercial and/or office).

Mineral Springs is experiencing residential development at approximately the same density, one unit per acre, as in 2002. In a typical year, approximately 15-20 individual homes are constructed in Mineral Springs. In 2003, 15 permits were approved for single-family houses; in the first four months of 2004, 12 permits were approved. Current residential development includes the following:

- **Brantley Oaks:** construction on Phase II with approximately 30 lots has started recently.
- **Western Union Park:** development has slowed since 2002, with only an occasional permit application being filed.
- **Stonebridge:** located on Doster Road, approved by Union County for 589 homes, with approximately 150 lots having been sold to national builders for construction. Water mains are now being extended to serve that future subdivision.
- **Victoria Ridge:** located on 65 acres on McNeely Road, is in the sketch plan phase of the permit approval process. Thirty-nine one-acre lots on septic systems are proposed, and 6.5 acres along a stream will be dedicated for a greenway. Lot prices are less than \$40,000 so local planners expect that this should be a relatively reasonably priced subdivision.

The Jackson Woods and Forest Green Park subdivisions have been annexed by Mineral Springs.

Subdivisions approved by Union County in the vicinity of Mineral Springs include:

- An unnamed 314-lot subdivision by the R.D. Harrell Company, on Billy Howey Road.
- An unnamed 183-lot subdivision by Centex Homes on Shannon Road.

A portion of the former Pittenger property located south of NC 75 has been zoned for 3.5 units per acre, which could result in as many as 4,200 dwelling units on that property.

The local official who was interviewed expressed an interest in maintaining the town's character—a quaint downtown with large residential lots and a rural feeling. There is interest in developing a pedestrian system throughout the town, to include additional sidewalks along highways and through greenways along streams.

Current residential development in Monroe includes:

- **Fox Hunt,** located on Fowler Secrest Road, by Noah Williams; in the early planning stage in 2002 with approximately 100 lots envisioned, the subdivision was recently approved with only 48 larger sized lots, with homes to be priced at \$225,000-\$300,000.

- **Hamilton Place**, located off Rocky River Road, by Dan Moser Company; approximately 50 of the 300 lots that were available in 2002 are still available. Phase IV, with 130 lots has been added, and site grading will start later in 2004. Build-out is anticipated to take five years, and sales prices are anticipated to be \$150,000-\$160,000.
- **Hilton Meadows**, located on Secrest Short Cut, by Anne Edwards; in the early planning stage in 2002 with approximately 100 homes planned, this subdivision recently was submitted for re-approval. Roads are in place; however, no building permits have been issued.
- **Myers Meadows**, located on Myers Road, by the Nash Group; only one or two of the 20 lots available in 2002 are still undeveloped; sales price is \$150,000-\$250,000.
- **Savannah Way**, located on Fowler Secrest Road, by the Williams Group; approximately 25 of the 100 lots available in 2002 are still undeveloped. Phase II, with approximately 40 lots was recently approved; home prices average \$210,000-\$250,000.
- **Windy Ridge**, located south of Goldmine Road, by the Isaacs Group; approximately 100 homes approved, with the first construction permits approved in May 2004. Roads have been constructed, and the homes will be priced at \$180,000-\$210,000.

Brekonridge, which was under development in 2002 by Craft Builders, is now completely constructed.

Monroe adopted a new development code in December 2003 that is more flexible than the previous code in terms of lot size, which has been received favorably by developers. There have been eight subdivisions approved since this new code was adopted. No new subdivisions were approved in Monroe in 2003.

An apartment complex has been approved for construction behind the Monroe Mall. These apartments were originally targeted for the high-end market, but the developer has recently applied for tax credits for low-income residents. More than 50 percent of housing in Monroe is now rental units, and planners would prefer not to see an increase in the percentage of rental units in the overall housing market.

The current status of subdivisions that had been approved or were under construction in Stallings in 2002 is as follows:

- **Shannamara**: approved by Union County, and then annexed by Stallings in stages. The number of homes in the Stallings Town Limits has not changed since 2002; however, the town will annex more of this subdivision in the next six to eight months, and plans to annex the entire subdivision. Union County has approved 230+ lots.
- **Chestnut Oaks**: a townhouse development off Potter Road now approximately 70 percent built, with anticipated build-out in two years.
- **Callonwood**, by Starwood Carolina: construction on townhouses and single-family homes started in August 2003; approximately 120 units have been permitted, and construction is progressing quickly.
- **Curry Place** Phase I: 85 units approved; approximately 40 percent have been permitted.
- **Emerald Lakes**, by L. C. Tyson: this subdivision has many vacant lots; the town will annex the subdivision as it is developed.

- ***Madison Ridge***, by Dan Moser: 124 units approved.

The following residential developments that were approved/under construction in 2002 are now completely built out:

- ***Arlington Downs***, by Portrait Homes: townhouse development.
- ***Chestnut***, off Weddington-Matthews Road.
- ***Morningside***, by Cambridge Homes.

A multi-family development to be built by Crosland on a parcel of approximately 23 acres off Stevens Mill Road on Stallings Road will be annexed as it is constructed. No additional multi-family developments have been proposed for construction in Stallings, as the town is seeking commercial development. Stallings' tax base is comprised currently of 80 percent residential/ 20 percent commercial properties.

The town of Stallings is nearly at its limits of expansion, due to its being surrounded by other municipalities.

The Unionville/Fairview area has not realized the level of residential development that was projected in the 2002 interviews; however, local officials have now received several requests for zoning changes. Most residential development since 2002 has been comprised of minor subdivisions, i.e., with four lots or less. Only two certificates of occupancy have been issued for new residences in Unionville between October 2003 and May 2004, and construction has started on nine houses.

Current residential development in Unionville includes the Loxdale Farms subdivision (48 lots) on Tom Helms Road. It is located in the only area in Unionville served by municipal sewer, and is now approximately 50 percent built out. The 56-home Old Gate subdivision located on C.J. Thomas Road has been approved and construction of infrastructure will start in summer 2004, with construction of residential units to start in the fall. The first homes will be ready for occupancy in spring 2005.

There is a potential subdivision with 21 single-family homes that would be served by the sewer main that serves Loxdale. A 205-acre parcel is on the market for development with 176 lots. The Clarence Fowler farm, which was cited as a likely candidate for development in the 2002 interview, has been annexed by Monroe and by Unionville. The portion in Monroe is viewed as a possible candidate for development; the portion in Unionville is not likely to be developed.

The action that is seen as generating the largest impact on development in Unionville is construction of the US 74 Monroe Bypass.

Waxhaw is seen as an attractive location by developers as a result of that municipality allowing development at higher densities than surrounding towns. The current status of residential developments that were approved/under construction in 2002 is as follows:

- ***Alma Village***, on NC 16; 203 single-family units selling for an average price of \$170,000, approximately 60-70 percent built in 2002; approximately 95 percent built out.
- ***Camberly***, on NC 16; 185 single-family units with an average sales price of \$160,000; in early stage of construction in 2002; 42 houses now built on 149 approved lots.

- **Harrison Park**, a mixed-use development with 207 cluster homes and single-family homes with an average sales price of \$160,000; approximately 50 percent of each type of home now built.
- **Lawson**, by Steven Pace on Cuthbertson Road and NC 16; 997 units approved, of which 448 are in Phase I, priced from \$350,000-\$1,200,000; ground broken in June 2004.
- **Mill Bridge**, on Waxhaw-Marvin Road at Kensington Drive; 458 of a total of 1,785 planned units have been permitted; sales price range from \$180,000-\$1,000,000.
- **Quellin**, 267 single-family units selling for \$300,000-\$500,000; approximately 100 units will be occupied by July 1; 28-30 units have been sold per month.
- **Woodleaf**, by Cobblestone Builders, on NC 16, 140 units approved with sales prices of \$120,000-\$180,000; grading and utilities had been completed in 2002; approximately 50 percent occupied, but sales were reported to be relatively slow.

The following potential residential development were mentioned, but have not yet been approved:

- A development of 150 townhouses proposed in 2002 for construction at Blythe Road and Waxhaw Parkway has not been constructed.
- An unnamed subdivision planned by Toll Brothers on the Mecklenburg County border.

Local planners stated that growth in Waxhaw is likely to take place to the north of the historic town center, as the area south of NC 75 is perceived as a less desirable residential location, as evidenced by the relatively slow sales in the Woodleaf subdivision.

Weddington enacted a change to its zoning ordinance in 2002, in which clustered development was allowed. There has been little impact from this change, as it is density-neutral, and residential development is still based on an R-40 yield (approximately one-acre lot size).

The impact of the county property revaluation has been to increase land prices. An acre of undeveloped land with a tax value of \$30,000 now sells for approximately \$80,000. The impacts from the increase in the value of land are viewed as being greater than the change in zoning. The status of subdivisions in Weddington is as follows:

- **Highgate**, by Harrington Dowd, is completely platted and approximately one-half built. Phase 1 with 128 lots is 90 percent completed, build-out of Phase II (91 lots) is anticipated to occur within two years. Homes are priced from \$680,000-\$3,000,000.

Potential residential development in Weddington includes the following:

- 215 lots on two parcels to the west of Weddington High School, in which construction could start in one and ½ years.
- 24 lots on Providence Road, on which construction could start in 2005.

In addition, planners identified several other tracts that could be locations of future residential development varying from 10 to 200+ single family homes. Those parcel locations are not specified in this report, as their development is purely speculative at this point in time.

Residential development in Wesley Chapel since the 2002 interviews consists of activity in the following subdivisions:

- ***Quintessa***: 89 lots
- ***Blackstone Phase 2***: 17 lots
- ***Kings Grant***: 18 lots
- ***Wesley Springs***: located only partially in Wesley Chapel, four lots

A developer has an option to purchase a parcel with approximately 100 acres to the north of Quintessa, which could be developed with approximately 150 single-family houses.

A sense of the magnitude of residential development in Wesley Chapel may be gained from a review of the number of certificates of occupancy recorded in recent years—143 certificates in 2002; 142 certificates in 2003, and 38 certificates issued in the first four months of 2004. The number of building permits approved monthly on average remains 20-30, as in 2002.

Wesley Chapel adopted a land use plan that calls for continued development at a density of one unit per acre. Commercial uses will be limited to areas currently approved for such uses, and a town hall site is planned adjacent to the currently approved commercial use area. Municipal water and sewer service is available in a significant portion of the town including major subdivisions, and the average price for new single-family housing is in the \$200,000s to the \$300,000s.

Residential growth in Wingate is seen as contingent upon construction of the US 74 Bypass to I-485 in Mecklenburg County. Until the Bypass is completed, growth is seen as remaining relatively flat. No additional subdivisions have been approved since the two subdivisions that were approved in 2002. The status of those subdivisions is as follows:

- The developer of *The Trellis* has declared bankruptcy. This subdivision was to have contained 177 single-family homes selling for \$110,000-\$135,000. Only the first phase has been constructed, consisting of 36 homes, which are being completed by the bank that repossessed the property. Phase 2 has been permitted, but no construction has taken place. Construction on that phase may start in two years. The remaining phases have not been approved or permitted at this time. Once sewer issues are resolved with Monroe, the remaining phases may be constructed; however, this is anticipated to be further than two years in the future.
- ***Glencroft***, by Craft Builders, with 201 houses. Phase 1, for which infrastructure was being constructed in 2002 is now under construction. Permits have been issued for 35 homes, of which 20 have been constructed. Phase II will not be permitted until Wingate's current lack of wastewater treatment capacity has been resolved.

A subdivision has been proposed for a 25-acre parcel on Elm Street. The developer will develop five lots initially under R-20 zoning, and if there is demand for additional homes, will develop

Wingate officials are receptive to development, but want to maintain a density of ½ acre minimum lot size. Wingate has not annexed any property since the 2002 study. There is not much vacant land in the city limits. The largest vacant parcel is approximately 60 acres in size, and there are several vacant five to ten acre parcels.



Wingate University started a graduate program in pharmacy in 2003, and plans to reach its target of 1,800 students in 2010. The pharmacy school will add approximately 250 students to the University. There were 60-70 students enrolled in the pharmacy program in 2003-04, and 60-70 additional students are anticipated for the 2004-05 academic year. Those students live mostly in the Monroe area, and commute to school.

### **ANTICIPATED NON-RESIDENTIAL DEVELOPMENT**

The Monroe Corporate Center was cited as having experienced a greater amount of recent industrial growth than any other site in Union County. Uncertainty about the preferred route for the segment of the US 74 Bypass extending westward from US 601 was cited as having reduced business growth in the US 74 corridor west of Monroe.

An industrial park has been annexed by Stallings. Stallings has also annexed a 23-acre parcel at the I-485 interchange with Idlewild Road that will see a Lowe's Foods market, an Eckerd's Drugs, and Wachovia Bank, among other commercial uses. This development is under construction. A conditional use permit has been approved for development of a regional mall on an 83-acre parcel on the opposite side of Idlewild Road; however, site plan approval has not yet occurred. This proposed development has not moved forward since the 2002 land use interviews were conducted, as the site lies in the Goose Creek basin, which contains Carolina Heelsplitter habitat and required permits have not been obtained from the US Fish and Wildlife Department. While the developer still retains an option to construct the mall, economic development representatives stated that the developer is also looking at an alternative site in Mint Hill. The likelihood of a regional mall being developed at the I-485/Lawyers Road site was seen by interviewees as being uncertain at this time.

Commercial development in Wesley Chapel includes construction of a Harris Teeter shopping center at Weddington and Waxhaw-Indian Trail Roads. Plans for commercial/office space across the street from the Harris Teeter have been approved and construction is planned to start in summer 2004, with a ten-year build-out period. There is still interest in industrial development on several sites off NC 75 between Waxhaw and Mineral Springs.

The area near the Corning plant on US 601 at the Cabarrus County border at this time is not an area of focus for industrial or commercial development. There has been no commercial or industrial development in Marshville or Mineral Springs since 2002, and there have been no rezonings in the past two years for commercial or industrial development in Unionville. There has been no business or industrial development in Wingate since July 2002, and only two small commercial developments, each with approximately 10,000 square feet of space.

A lack of easy transportation access due to delays in approving and constructing the US 74 Bypass was cited as the biggest disadvantage Union County must overcome in recruiting additional business/industrial development. The US 74 corridor and the southwestern area of the county were cited as areas favored for development of employment centers, i.e., office, warehouse, or industrial developments. Union County is perceived as a complement, not a competitor to Mecklenburg County for economic development, particularly as Mecklenburg County has become more developed and has a decreasing number of large sites for such development.

### **Current Commercial/Industrial Development**

Locations in the county that are currently experiencing business/industrial development include:

- The area near the Monroe Airport. A speculative building has been built in the Corporate Center at the airport, but does not have a tenant at this time. Goulston Technologies will expand to the

Corporate Center, and Goodrich Corporation will also locate at an existing building in the Corporate Center.

- Old Hickory Industrial Park, by Crosland Development Group: 10-12 businesses now, but development is taking place at a slower pace than anticipated. Some areas may be rezoned for office uses, which are currently more marketable.
- Indian Trail Industrial Park, by John Hatcher: located on US 74; approximately 50 percent developed in 2002, and now 75-80 percent developed.
- Industrial Ventures, by Carlton Tyson: located on US 74, approximately 80 percent built out.
- Waxhaw has approved approximately 1,000,000 square feet of commercial development including 500,000 square feet in Cureton, which will include a Harris Teeter grocery store. The remaining 500,000 square feet of commercial space is included in six projects located south from Cureton to Waxhaw.
- The I-485/Idlewild Road interchange (see previous discussion)
- The Potters Road/Chestnut Lane intersection now has all four quadrants zoned for commercial uses. Three of the quadrants are in Indian Trail, and are zoned for neighborhood commercial center uses; the fourth quadrant has been rezoned B-4 by Stallings. Development is likely to occur first on the Stallings quadrant, as that town allows liquor by the drink, while Indian Trail does not, which results in Stallings being a more attractive location for restaurants.

#### Anticipated Non-Residential Development

Locations in Union County cited as being future sites for new commercial/industrial activity include:

- A major grocery store company is looking for a store site in Unionville.
- Indian Trail plans to construct a neo-traditional town square with commercial space, restaurants, townhouses and apartments on a 50-acre tract across Indian Trail Road from the current town hall.
- A sketch plan is under review for a new Wal-Mart on US 74 in Indian Trail.
- The Pittenger property of approximately 120 acres on the north side of NC 75 across from Western Union School Road is seen as a potential industrial site.
- A possible downtown corridor with retail and specialty commercial uses is under discussion in Weddington.
- Marvin may approve commercial uses for a potential town center development on New Town Road.
- Business/industrial development may occur in conjunction with the Pharmacy School being instituted at Wingate University, resulting in some interest for sites between Wingate and the US 74 Bypass to the north.



## MAJOR EMPLOYERS

Major Union County employers include those described in *Table 4*. While manufacturing remains a strong source of employment, service industry employment has been growing. The poultry processing industry remains a major employer in the Marshville area. Many industrial companies are located in the Monroe area.

**TABLE 4: MAJOR PRIVATE-SECTOR EMPLOYERS IN UNION COUNTY**

<b>Name</b>	<b>Location</b>	<b>Product/Service</b>	<b>2002 Employees</b>	<b>2003 Employees</b>
Tyson Foods, Inc.	Monroe	Poultry processing	1,300	1,525
Allvac	Monroe	Nickel-based alloys	1,000	1,120
McGee Brothers Co., Inc.	Monroe	Construction	975	1,100
Union Regional Medical Center	Monroe	Healthcare	775	900
Pilgrim's Pride, Inc.	Marshville	Poultry processing	920	720
Century Contractors, Inc.	Stallings	Construction	N. A.	600
Wal-Mart	Monroe	Retail	N. A.	600
Charlotte Pipe & Foundry	Monroe	Plastic pipe and fittings	500	573
Scott Health & Safety	Monroe	Aviation safety equipment	400	488
Boggs Group	Monroe	Road construction	N. A.	425
JAARS	Waxhaw	Bible translation	300	350
Yale Security, Inc.	Monroe	Hardware	400	350
Perfect Fit Industries, Inc.	Monroe	Home furnishings	450	300
Dunn Manufacturing, Corp.	Monroe	Textile products	300	300

Note that the majority of the ten largest private employers are located in Monroe. The major public sector employer is Union County including Union County Schools.

## **PART TWO: GEOGRAPHIC INFORMATION SYSTEMS DATA ANALYSIS**

The Operations Research and Education (OR/Ed.) Lab has conducted an analysis of Union County GIS parcels and Union County Public Schools (UCPS) student populations for the school years 2002-03, 2003-04, and 2004-05. The results presented are a summary of that analysis.

### **BACKGROUND**

The Lab received a parcel shp file from Union County GIS in April 2004. The data was considered to be the most accurate and up-to-date parcel information at the time of this analysis. It should be noted that the County is currently overhauling the parcel database, which will eventually include street addresses of individual parcels, essential to accurate student geocoding. The revised database will not be completed in time to benefit this study.

The parcel file included numerous fields, most of which are irrelevant to this study. The primary attributes used by the Lab were LEGALADD, ZONING, and IMPROV. Determining whether a given parcel is residential and whether it is developed is of great importance in this analysis. There does not exist a single reliable indicator for these parcel conditions in the current database. As a result, the Lab must often use a combination of indicators to locate developed residential parcels.

Using a topological analysis, the parcel layer was determined to have 1441 overlap errors and 1958 gap errors. These errors will affect any layers that might be constructed from the parcels, such as planning segments. It is not known at this time whether the revised parcel database will address these errors.

In addition to the parcels database, the Lab also received shp files for centerlines, municipality boundaries, water features, and various other features.

## GIS DATA QUALITY AND STUDENT GEOCODING ACCURACY

The following table lists the geocoding statistics for the student datasets.

	2002-03	2003-04	2004-05
Base	24332	26811	29448
Located to parcels	7135 (29%)	8831 (33%)	19172 (65%)
Located to streets	15129 (62%)	15603 (58%)	8699 (30%)
Unmatched	2068 (9%)	2377 (9%)	1577 (5%)

The located student population is a key ingredient in the Lab's parcel analysis and the accuracy of the geocoding may have an impact on the accuracy of the study, particularly in the Allocation of Gain. The inconsistencies within and among student databases and the street address databases will almost certainly compromise this accuracy. The extent of these inconsistencies is apparent only after extensive examination of both the student addresses and the GIS reference datasets – parcel and centerline files in the case of Union County. Even in the best of situations, some standardization of address data is to be expected. A detailed statistical analysis of the geocoding errors is available as a separate document.

To achieve a level of accuracy necessary for the Land Use Study GIS analysis, the Lab recommends the following:

- Communicate directly with the county GIS department and resolve discrepancies among student, street, and parcel datasets. The outcome of such communication should be a glossary of standard addressing terminology and ultimately a standard street nomenclature.
- Review the street addresses in student datasets for errors in spelling, non-standard abbreviations, nicknames, etc., in relation to the standard street addressing scheme.

## SUBDIVISION PARCEL ANALYSIS

The Lab chose to concentrate this analysis on subdivision parcels for several reasons, including the inconsistencies within and between databases containing street addresses. The primary reason for using subdivision parcels is based on the Lab's experience forecasting growth in Union and other North Carolina counties: subdivision development is a major contributor to student population gains.

The Lab used the subdivision files generated during the 2002-03 IPSAC study as a foundation for this analysis. Newly subdivided parcels identified in the latest parcel file supplemented these existing subdivision parcels. In most cases, the LEGALADD attribute was useful in aggregating the parcels into a subdivision cluster, however, there were many cases in which the parcels clearly defined a subdivision but there was no data in the attributes. These parcels were added manually.

Once the subdivision parcels were identified and aggregated by subdivision name, the Lab was able to classify the parcels as developed or available. A combination of attribute filters was used to accomplish this.

## STUDENT GENERATION RATES AND THE ALLOCATION OF GAIN

The subdivision parcel identification described above enabled the Lab to estimate the number of developed and available parcels within identified subdivisions. These quantities were aggregated to 2005-06 high school areas and the Student Generation Rate (SGR) and Allocation of Gain (AOG) were calculated. *Table 5* summarizes this information. The 2003-04 AOG and a historical student gain AOG are included for comparison.

### Remarks

- The historical student gain AOG was calculated using geocoded 2002-03 and 2003-04 student populations.
- The SGR was calculated using students per (developed) parcel.

**TABLE 5: SGR AND AOG BY 2005-06 HIGH SCHOOL AREA**

<b>High School Area (2005-06)</b>	<b>2004-05 SGR</b>	<b>Student Gain AOG</b>	<b>2003-04 AOG</b>	<b>2004-05 AOG</b>
Forest Hills	0.4709	0.1405	0.0200	<b>0.0490</b>
Monroe	0.3638	0.0917	0.0450	<b>0.0370</b>
Parkwood	0.4904	0.0926	0.0600	<b>0.1085</b>
Piedmont	0.5445	0.0461	0.1400	<b>0.0535</b>
Porter Ridge	0.3989	0.1460	N/A	<b>0.1560</b>
Sun Valley	0.4520	0.1110	0.3000	<b>0.1817</b>
Weddington	0.7767	0.3722	0.4350	<b>0.4143</b>

## ENROLLMENT PROJECTIONS

Because of the lack of enrollment data for those schools impacted by the new 2004-05 elementary school boundary changes and new 2005-06 middle/high school boundary changes, the Lab used estimates of the first-month 2005-06 middle and high school ADMs based on planning segment populations. These estimates were reconciled with the projected growth predicted by the 2004-05 Land Use Study.

The following table was compiled by UCPS and is based on 2003-04 student enrollments.

**TABLE 6: ESTIMATED 2005-06 FIRST-MONTH ENROLLMENTS**

<b>Middle/High School</b>	<b>Estimated 2005-06</b>
Porter Ridge Mid	<b>1006</b>
Porter Ridge High	<b>1213</b>
Sun Valley Mid	<b>915</b>
Sun Valley High	<b>1025</b>
Weddington Mid	<b>1472</b>
Weddington High	<b>1862</b>
Piedmont Mid	<b>801</b>
Piedmont High	<b>938</b>
Monroe Mid	<b>848</b>
Monroe High	<b>951</b>
Parkwood Mid	<b>1051</b>
Parkwood High	<b>1343</b>
East Union Mid	<b>823</b>
Forest Hills High	<b>949</b>

### **OUT-OF-CAPACITY WORKSHEET**

The following page contains the Out-of-Capacity worksheet based on the updated system-wide population projections and Allocation of Gain. The projection timeframe is limited to five years as several schools are scheduled to open within that time which will consequently alter the current projections.

Porter Ridge Middle and High schools, scheduled to open in 2005-06, are populated using enrollment estimates provided by UCPS. These estimates are based on the geocoded student counts within the proposed attendance boundaries of the impacted school districts. Also note that other schools scheduled to open after 2005-06 were included but enrollments were not estimated at the time of this study.

# Union County Public Schools Out-of-Capacity Worksheet

## Elementary Schools

Marshville Elem  
 Union Elem  
 Wingate Elem  
 Benton Heights Elem  
 East Elem  
 Walter Bickett Elem  
 New Elem F (2006-07)  
 Prospect Elem  
 Waxhaw Elem  
 Western Union Elem  
 Kensington Rd. Elem (2005-06)  
 Fairview Elem  
 New Salem Elem  
 Unionville Elem  
 Hamby Bridge Elem  
 Porter Ridge Elem  
 Sardis Elem  
 Indian Trail Elem  
 Shiloh Elem  
 Antioch Elem  
 Marvin Elem  
 Weddington Elem  
 Wesley Chapel Elem  
 New Elem E (2006-07)  
**Totals**

Capacities				Current		Projected Enrollment									
2004-05	2005-06	2006-07	2007-08	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	
619	619	619	619	495	497	499	501	503	505	507	509	510	513	514	
486	486	486	486	394	398	403	408	413	417	422	426	430	435	439	
619	619	619	619	728	767	806	845	888	929	964	1000	1035	1078	1116	
670	670	670	670	694	702	710	718	727	735	743	750	757	766	774	
450	450	450	450	798	811	824	837	851	864	876	888	900	914	926	
450	450	450	450	633	647	660	673	688	702	714	727	739	753	767	
		670	670												
486	486	486	486	529	529	530	530	530	531	531	531	531	532	532	
670	670	670	670	576	627	676	726	782	834	880	926	971	1025	1075	
578	578	578	578	630	681	732	782	839	891	938	985	1030	1086	1136	
		670	670												
670	670	670	670	567	608	648	688	733	775	812	849	885	929	969	
289	289	289	289	303	317	331	345	361	376	389	402	415	430	444	
670	670	670	670	707	717	727	737	748	759	768	777	786	797	807	
870	870	870	870	768	815	861	907	959	1008	1049	1092	1133	1184	1230	
670	670	670	670	545	601	655	710	771	828	879	930	979	1039	1093	
670	670	670	670	687	716	745	774	806	836	863	889	915	947	976	
670	670	670	670	712	766	818	871	930	985	1033	1082	1129	1187	1240	
670	670	670	670	811	854	898	938	986	1030	1089	1108	1148	1192	1234	
870	870	870	870	588	729	889	1049	1230	1396	1544	1694	1838	2013	2174	
670	670	670	670	1164	1323	1478	1633	1809	1971	2115	2260	2400	2570	2726	
670	670	670	670	787	869	949	1029	1120	1203	1277	1352	1425	1513	1593	
578	578	578	578	871	929	986	1043	1108	1167	1220	1273	1324	1387	1444	
		670	670												
12695	13265	14605	14605	13965	14905	16824	16742	17782	18741	19691	20450	21279	22288	23210	

## Middle Schools

East Union Mid  
 Monroe Mid  
 Parkwood Mid  
 Piedmont Mid  
 Porter Ridge Mid (2005-06)  
 Sun Valley Mid  
 Weddington Mid  
 New Mid (2007-08)  
**Totals**

1000	1000	1000	1000	841	856	881	904	924	947	962	1020	1054	1073	1097
1000	1000	1000	1000	864	857	875	892	907	925	951	980	1005	1020	1038
1000	1000	1000	1000	942	979	1031	1082	1126	1179	1256	1341	1416	1459	1513
1000	1000	1000	1000	1190	809	835	880	882	908	946	988	1026	1046	1073
	1000	1000	1000		1017	1092	1164	1227	1303	1412	1534	1643	1703	1780
1150	1150	1150	1150	1362	925	1012	1096	1170	1258	1386	1528	1654	1724	1814
1000	1000	1000	1000	1390	1487	1664	1875	2043	2243	2534	2857	3143	3303	3507
		1000												
6150	7150	7150	8150	6589	6932	7410	7871	8279	8762	9466	10247	10941	11329	11822

## High Schools

Forest Hills High  
 Monroe High  
 Parkwood High  
 Piedmont High  
 Porter Ridge High (2005-06)  
 Sun Valley High  
 Weddington High  
 New High (2007-08)  
**Totals**

910	910	910	910	1003	1025	1044	1063	1083	1114	1145	1172	1210	1253	1299
840	840	840	840	980	962	976	990	1005	1029	1052	1073	1102	1134	1169
1235	1235	1235	1235	1260	1309	1351	1393	1437	1508	1575	1636	1721	1817	1919
1200	1200	1200	1200	1428	949	970	990	1012	1047	1081	1111	1153	1200	1251
	1400	1400	1400		1227	1286	1347	1410	1511	1607	1695	1815	1953	2100
1225	1225	1225	1225	1635	1037	1106	1177	1250	1369	1480	1592	1722	1863	2054
1400	1400	1400	1400	1635	1884	2041	2201	2369	2635	2891	3122	3442	3807	4195
		1200												
6810	8210	8210	9410	7941	8393	8776	9162	9566	10212	10831	11391	12165	13048	13986

## Special

Wolfe School  
 South Providence  
 Career Center

71	71	71	71	71	71	71	71	71	71	71	71	71	71	71
99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

## System Total

25555	28625	29965	32165	28670	30406	32184	33950	35802	37890	40063	42264	44560	46840	49194
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Adequate Capacity
  Two-year Warning
  Out of Capacity

OR/Ed. Laboratory  
 Institute for Transportation Research and Education  
 North Carolina State University

October 19, 2004

OR/Ed. Lab, ITR@ NCSU

## **OPTIMAL SCHOOL SITE SCENARIOS**

The Lab constructed many optimal school site/attendance boundary scenarios to reflect a medium-range building timeline. These scenarios optimized locations for a total of five new elementary schools and one new high school by 2008-09. The culmination of the scenario runs are described here.

**Scenario ES 7:** One new elementary school (F) opening 2006-07. Impacting current East, Walter Bickett, Benton Heights, and Wingate elementary districts. In addition to determining an optimal site and attendance boundaries for new elementary school F, this scenario establishes an optimal boundary for Benton Heights Elementary. New school capacity: 670. Both East and Walter Bickett have reduced capacities (450).

**Scenario ES 8:** Four new elementary schools (G, H, I, and J) by 2008-09. Impacting current Antioch, Hemby Bridge, Indian Trail, Marvin, Porter Ridge, Sardis, Shiloh, Waxhaw, Weddington, Wesley Chapel, and Western Union elementary districts. This scenario also produces optimal boundaries for new elementary school E and “Kensington Road Elementary”, using predetermined sites. New school capacities: 670.

## **LIST OF INTERVIEWS AND DATA SOURCES FOR LAND USE INTERVIEWS**

### **Interviews:**

Personal interviews were conducted with the following:

Union County: Mike Shalati, County Manager  
Union County Planning Department: Richard Black, Planning Director  
Union County Utilities: Jon Dyer, P.E., Public Works Director  
Union County Economic Development Commission: Jackie Morgan,  
Economic Development Specialist  
City of Monroe: Wayne Herron, A.I.C.P., Director of Planning and Development  
Town of Indian Trail: Lee Bailey, Director of Planning  
Town of Marshville: Nadine Bennett, Planner (with Centralina COG)  
Town of Marvin: Karen Dunn, Zoning/Subdivision Administrator  
Town of Mineral Springs: Rick Becker, Mayor; Nadine Bennett, Planner  
(with Centralina COG)  
Town of Stallings: Tammy Tucker, Town Planner and Zoning Administrator  
Town of Unionville: Ken Austin  
Town of Waxhaw: Mike Simpson, Town Manager; Brad Robinson, Planner  
Town of Weddington: Karen Dunn, Zoning/Subdivision Administrator  
Town of Wesley Chapel: Bill Pugh, Community and Regional Planner  
(with Centralina COG)  
Town of Wingate: Dryw Blanchard, Town Administrator  
NCDOT: Tom Thrower, P.E., Division Traffic Engineer, David Naylor, P.E.,  
Deputy Division Traffic Engineer; Scott Cole, P.E., District Engineer

Telephone interviews were conducted with the following:

Charlotte Chamber of Commerce: Tony Crumbley, Vice President, Research  
Charlotte Regional Partnership: Vanessa Goeschl, Director of Research  
Lancaster County Economic Development Corporation: Sheri Hammond,  
Office Manager



**Data Sources:**

Data were compiled from the following sources, in addition to those cited above:

North Carolina Department of Commerce  
North Carolina State Planning Center  
US Bureau of the Census

Internet Sites:

U.S. Census Bureau: [www.census.gov](http://www.census.gov)  
U.S. Fish and Wildlife Service: <http://endangered.fws.gov>  
North Carolina State Demographics Unit: <http://demog.state.nc.us>  
North Carolina Department of Commerce: <http://cmedis.commerce.state.nc.us>  
North Carolina Department of Transportation: [www.dot.state.nc.us](http://www.dot.state.nc.us)  
Union County: <http://www.co.Union.nc.us/>  
Union County Planning Department: <http://www.co.Union.nc.us/>  
City of Monroe: [www.monroenc.org/](http://www.monroenc.org/)  
Town of Indian Trail: [www.indiantrail.org](http://www.indiantrail.org)  
Village of Lake Park: [www.lakeparknc.com](http://www.lakeparknc.com)  
Town of Marshville: [www.co.union.nc.us/2nd\\_pages/municipalities/marshville.com](http://www.co.union.nc.us/2nd_pages/municipalities/marshville.com)  
Town of Marvin: [www.co.union.nc.us/2nd\\_pages/municipalities/marvin.htm](http://www.co.union.nc.us/2nd_pages/municipalities/marvin.htm)  
Town of Stallings: [www.co.union.nc.us/2nd\\_pages/municipalities/stallings.htm](http://www.co.union.nc.us/2nd_pages/municipalities/stallings.htm)  
Town of Waxhaw: [www.waxhaw.com](http://www.waxhaw.com)  
Town of Weddington: [www.co.union.nc.us/2nd\\_pages/municipalities/weddington.htm](http://www.co.union.nc.us/2nd_pages/municipalities/weddington.htm)  
Village of Wesley Chapel: [www.wesleychapelnc.com/](http://www.wesleychapelnc.com/)  
Charlotte Chamber of Commerce: [www.charlottechamber.com](http://www.charlottechamber.com)  
Charlotte Regional Partnership: [www.charlotteregion.com](http://www.charlotteregion.com)  
Lancaster County Economic Development Corporation: [www.lancastersc-edc.com](http://www.lancastersc-edc.com)  
Lancaster County Chamber of Commerce: [www.lancasterchambersc.org](http://www.lancasterchambersc.org)  
York County Economic Development Board: [www.ycedb.com](http://www.ycedb.com)  
South Carolina Department of Commerce: [www.callsouthcarolina.com](http://www.callsouthcarolina.com)