



New Hanover County, North Carolina – 2015 Forecast Report Population, Housing and Commercial Demand

Thank you for purchasing this report, which contains forecasts of population growth, housing demand and demand for commercial space for goods and services for New Hanover County, North Carolina (a portion of the Wilmington NC Metropolitan Statistical Area or MSA).

The analytical methods used to prepare these forecasts have proven to be more accurate than the industry standard of straight-line (linear) forecasts. Our goal is to maintain the most accurate forecasting models, which are based on our history of forecasting:

- In 1982 the City of North Port, Florida, asked Dr. Paul Van Buskirk (author of the Metro Forecasting Model) to forecast the population of their city in 2007, then 25 years into the future. In 1980 North Port had a permanent population of 6,350 people. Dr. Van Buskirk forecasted that in 2007 there would be a permanent population of 57,452; in 2010, the Census counted 57,350 people in North Port. This forecast was 99.7% accurate 25 years into the future.
- In 2002 the City of Cape Coral, Florida, engaged Dr. Van Buskirk to prepare a population forecast for their city to use in planning for future commercial sites, fire stations and schools. His 2010 forecast was 155,179 permanent residents; in 2010, the Census counted 154,305 permanent residents.

The information in this report can be used by businesses, property owners, developers, lenders and planners to help understand the past and future of the New Hanover County metro area and then use accurate forecasts in decision-making:

- ✓ **Businesses:** Metro's growth forecasts help make marketing decisions because growth forecasts can be compared to forecasts of other metropolitan areas.
- ✓ **Property Owners:** Housing and commercial demand forecasts help property owners understand how their land may increase or decrease in value based on the current and future supply versus demand for their respective land uses.
- ✓ **Developers:** Current and forecasted demand versus supply are used in due-diligence reviews and pro forma preparation, as well helping to broadly gauge absorption.
- ✓ **Lenders:** Loan requests for new construction can be compared to the forecasted demand for commercial or residential projects.
- ✓ **Planners:** Population, housing and commercial forecasts are used to evaluate the need for zoning changes desired by their clients.

For more detailed forecasts of population, housing and commercial demand, see our [website](#).

9001 Highland Woods Boulevard, Suite 2, Bonita Springs, FL 34135
239-913-6949 www.MetroForecasting.com

New Hanover County, North Carolina – A Portion of the Wilmington, NC MSA Population, Housing and Commercial Demand Forecast

The New Hanover County metro area is located in southeaster North Carolina. In 2014 the permanent population was 216,298 according to the US Census, up from 202,667 in 2010 and as far back as 1790 the population was 6837. This metro area is ranked 40th in percent population growth in 2014 out of the 381 MSAs tracked by the Census.

Metro Forecasting Models (MFM) uses proprietary modeling software to forecast the future population of this MSA in 5-year increments. Whereas forecasters often apply linear extrapolation of past census data, a technique which becomes inaccurate over longer periods, MFM forecasting methodology has been documented to be far more accurate over time (see page 8).

Figure 1 below is a population graph of the New Hanover County metro area showing

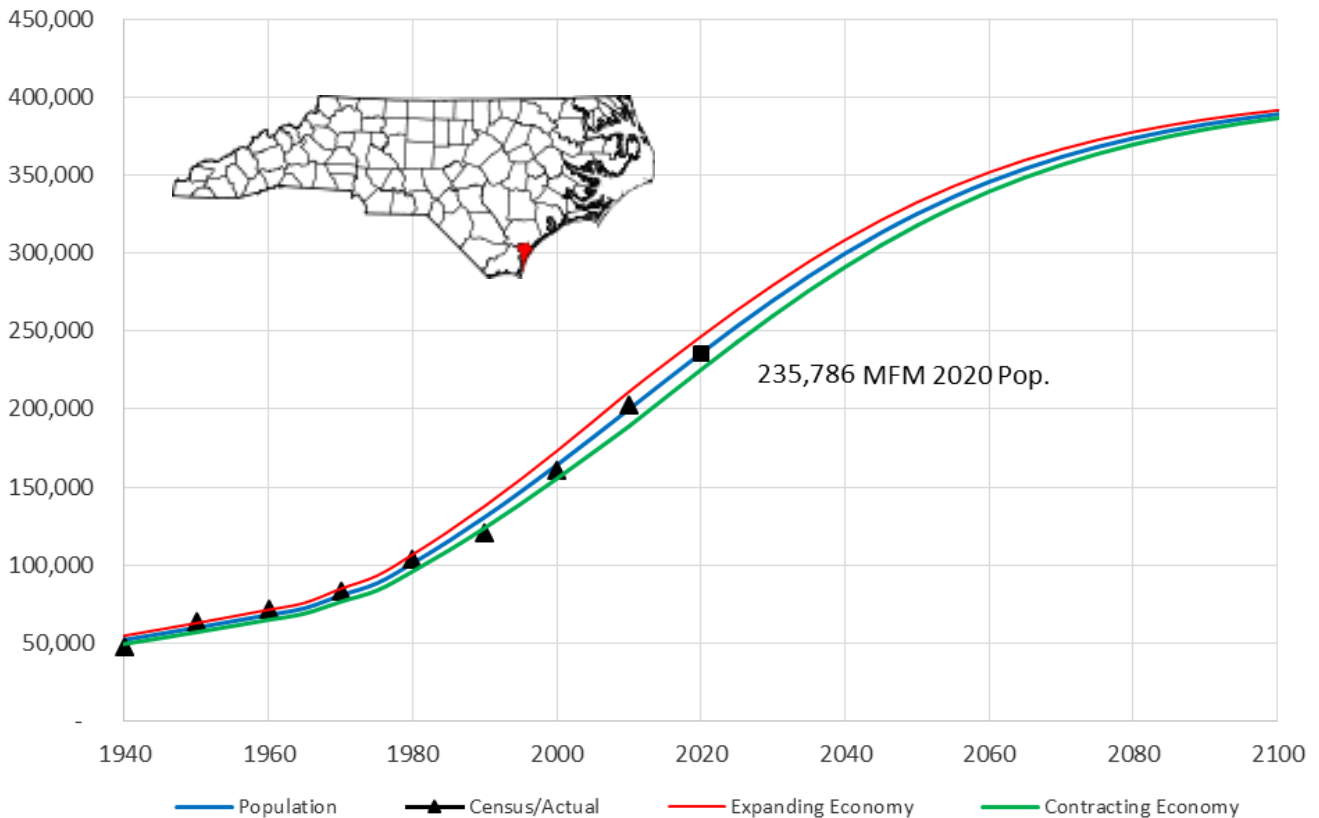
actual change in population from 1940 to 2100.

After the MFM Composite Forecast Curve is established (the blue line), similar curves are generated for both an expanding and contracting economy for the entire MSA. In statistical jargon, these similar curves are each two standard deviations from the mean (composite) curve.

We find that MSA growth falls within these boundaries 95% of the time, barring catastrophic events (war, natural disaster, etc.) that permanently alter development potential.

Figure 1 presents a summary of our population forecasts for 2020 and beyond for the New Hanover County metro area (a portion of the Wilmington NC MSA).

Figure 1. MFM Population Forecast in 2015 New Hanover County, NC



Source: US Census & Metro Forecasting Models, LLC

Population Forecast

Table 1 presents our specific analysis and population growth forecast for the New Hanover County metro area in 5-year increments for three different economies. The blue column, labeled “Composite,” shows how the population will grow over time in a balanced economy.

The orange column, labeled “Expanding,” presents a higher forecast for the population growth curve in a “Bull Market” economy. The data presented in this column provides a reliable guide for our clients who need to understand how this MSA will grow under favorable economic conditions.

The green column, labeled “Contracting,” presents a lower forecast for the population growth curve in a “Bear Market” economy. The data presented in this column provides a guide for our clients who need to understand how economic trends, business decisions and government policy (national or local) could affect this MSA’s growth under less favorable economic conditions.

As the economy cycles from bull to bear markets, the day-to-day or year-to-year population growth will revert to the Composite forecast. Depending upon the significance of economic trends and government and business policy, the change in growth can appear to be a never-ending boom-bust cycle.

The general population tends to mentally forecast growth by what has happened over the last year of their lives. If last year showed low or no growth, then next year would be the same or worse under that scenario. If last year was a good year, then next year will be just as good or better. The Composite forecast provides a balanced view of what the future holds for this MSA.

The population forecasted in Table 1 provides a reliable guide for wise industry leaders who understand the pace of the last few years’ growth does not mean that growth will continue in the same pattern. The expanding and contracting economy forecasts provide ranges for strategic planning by governments and the private sector.

Year	Composite	Expanding	Contracting
1970	82,996*	83,732	77,506
1975	88,292	91,803	84,880
1980	103,471*	105,110	97,496
1985	115,428	119,610	111,336
1990	120,284*	135,208	126,333
1995	147,033	151,759	142,370
2000	160,307*	169,067	159,280
2005	181,856	186,891	176,846
2010	202,667*	204,962	194,814
2015	217,958	222,994	212,903
2020	235,786	240,703	230,827
2025	253,098	257,827	248,310
2030	269,656	274,136	265,102
2035	285,263	289,448	280,992
2040	299,773	303,631	295,822
2045	313,091	316,604	309,480
2050	325,172	328,337	321,910
2055	336,015	338,837	333,098
2060	345,654	348,149	343,070
2065	354,150	356,338	351,879
2070	361,583	363,488	359,601
2075	368,042	369,692	366,323
2080	373,624	375,045	372,142
2085	378,424	379,642	377,151
2090	382,533	383,574	381,445
2095	386,039	386,925	385,112
2100	389,021	389,773	388,233

Source: Metro Forecasting Models, LLC
 * Indicates actual US Census data

Housing Demand Forecast

Table 2 presents the New Hanover County metro area housing demand forecast in 5-year increments. As explained for Table 1, the blue, orange, and green columns represent three economic conditions. This housing demand forecast provides information for home builders, urban planners, retailers and local governments for their future planning. The blue column, labeled “Composite,” shows how the demand for housing will grow over time in a normal economy.

Housing demand drives many other industries such as material suppliers, contractors, professional services, retailers, restaurants and government. A growing population will need these services and many more to meet their day-to-day needs.

The data presented in this table provides information and guidelines for our clients who need to understand how the demand for housing units impacts this metro area’s growth under different economic conditions. The formation of households, trends in household size and vacancy rates play key roles in forecasting housing demand.

As population growth cycles from periods of lower growth to higher growth, housing demand will revert to the Composite forecast. Depending upon the significance of government and private sector policy, the change in growth can appear to be a never ending boom-bust cycle.

The 2010 Census counted 101,436 housing units versus our forecasted demand of 104,788 units. The model accurately identified an undersupply of housing units in 2010. With the future local and national economy being uncertain back in 2010, permitting of new housing units did not keep up

with potential demand resulting in yearly increases in housing permits since 2009 with 1,649 permits issued in 2014 (see **Figure 4**). The Census permitting data tells us there were approximately 107,605 existing housing units at the end of 2014. Our forecast demand of 111,488 units in 2015 exceeds the supply of housing. This indicates a pent up demand for 3,883 homes and implies the housing market should remain healthy for the foreseeable future.

Most home builders forecast growth based on the recent orders for new homes. If last year showed little or no demand for new housing units, will next year be the same or worse? If last year was a good year for housing, will next year be just as good or better? The Composite forecast provides a balanced view of what the future holds for this MSA.

The housing demand forecast in **Table 2** provides benchmarks for planners, builders and developers who understand the pace of the last few quarters’ growth does not mean that growth will continue at the same rate.

Table 2: New Hanover County, NC Housing Units Demand Forecast			
Year	Composite	Expanding	Contracting
1970	31,858	32,140	29,750
1975	35,670	37,089	34,292
1980	44,209	44,909	41,656
1985	52,628	54,535	50,762
1990	58,689	65,971	61,640
1995	73,304	75,661	70,980
2000	81,741	86,208	81,218
2005	93,375	95,960	90,803
2010	104,788	105,974	100,727
2015	111,488	114,063	108,902
2020	120,607	123,122	118,070
2025	129,462	131,881	127,013
2030	137,932	140,223	135,602
2035	145,915	148,055	143,730
2040	153,337	155,310	151,315
2045	160,149	161,946	158,302
2050	166,328	167,947	164,660
2055	171,875	173,318	170,383
2060	176,805	178,081	175,483
2065	181,151	182,270	179,989
2070	184,953	185,927	183,939
2075	188,257	189,101	187,378
2080	191,112	191,839	190,354
2085	193,567	194,190	192,916
2090	195,669	196,201	195,113
2095	197,463	197,916	196,988
2100	198,988	199,372	198,585
Source: Metro Forecasting Models, LLC			

Commercial Demand Forecast

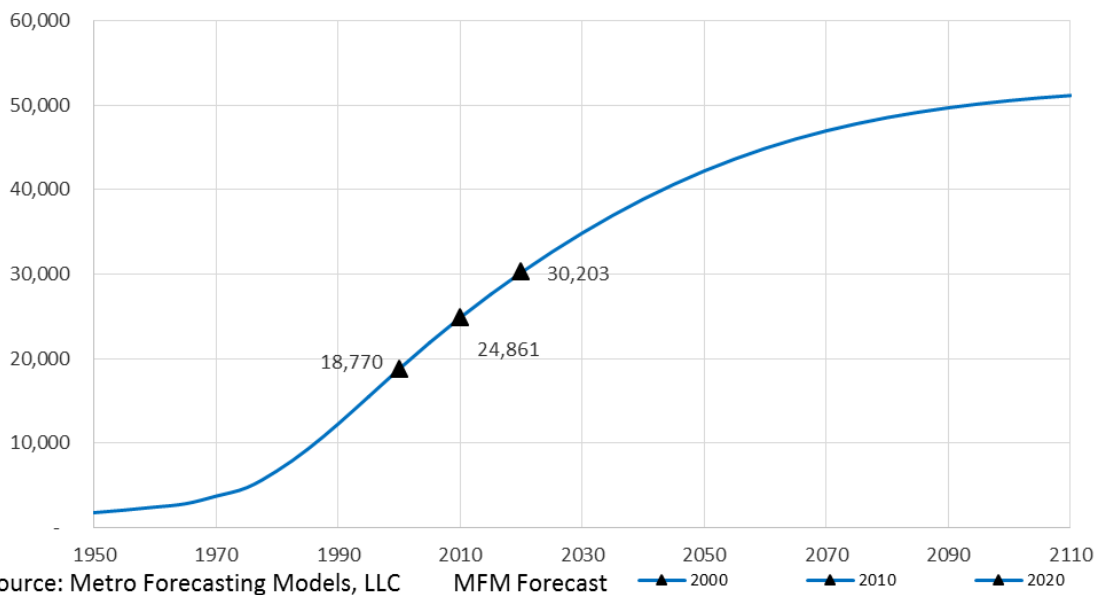
Table 3 presents the New Hanover County metro area commercial retail trade and services demand forecast in 5-year increments. The demand for retail and office space increases as the population grows.

When the increased population meets certain thresholds, the market can support new or expanded stores and services. For example a small population may want a big-box retail store but not have enough people to support the economic investment by the retailer. In those cases, the demand for the big box store is met by neighboring communities that are large enough to meet the minimum investment expectation by the retailer. The New Hanover metro area provides much of the commercial goods and services supply to serve the demand for the population living adjacent to New Hanover County.

Table 3: New Hanover County Commercial Demand Forecast - Sq. Ft. Bldg.

Year	1,000's SF
1970	3,706
1975	4,709
1980	6,710
1985	9,264
1990	12,264
1995	15,506
2000	18,770
2005	21,909
2010	24,861
2015	27,621
2020	30,203
2025	32,619
2030	34,874
2035	36,966
2040	38,891
2045	40,647
2050	42,233
2055	43,653
2060	44,913
2065	46,022
2070	46,992
2075	47,834
2080	48,561
2085	49,186
2090	49,722
2095	50,178
2100	50,566

Figure 2. New Hanover County Commercial Demand Forecast 1,000's SF



Source: Metro Forecasting Models, LLC

MFM Forecast 2000 2010 2020

The demand forecast shown in **Table 3** is the *total* composite demand for commercial and office space in this metro area. A community can limit the type of commercial development allowed through local zoning codes. Where demand for commercial space exists but supply is not available, the demand is met outside that community. For example, neighborhood shopping centers may require a population of only 8,000–15,000 to be self-sustaining, while community and regional shopping centers may need a threshold population of 30,000 and 150,000 respectively.

Source: Metro Forecasting Models, LLC

A metro area may also have more commercial space than the area's population could naturally support. In these cases, demand for certain services from the population of neighboring communities may be met by the local metro area's supply.

The forecasted commercial demand in **Table 3**, combined with the knowledge of the existing commercial supply and vacancy rates, is useful in determining how much new space will be needed in 5-year steps. Note the demand is not linear; one 5-year step may forecast a demand rate that is greater or less than the previous 5-year period. **Figure 2** helps illustrate the changing demand for commercial space over time.

New Hanover County Overview

The New Hanover metro area ranked 40th nationally according to the Census for percentage population growth in 2014. This metro area had a population of 202,667 in 2010 and an estimated Census population of 216,298 in 2014. The major economic drivers for this metro area include healthcare, education, construction and manufacturing. The largest employers in this metro area are the New Hanover Regional Medical Center, The Shaw Group (construction), Cellco Partnership (information), University of North Carolina, New Hanover County School System, Corning, General Electric (manufacturing).

New Hanover County political subdivisions:

- City of Wilmington
- Carolina Beach
- Kure Beach
- Wrightsville Beach

Historic Residential Building Permitting

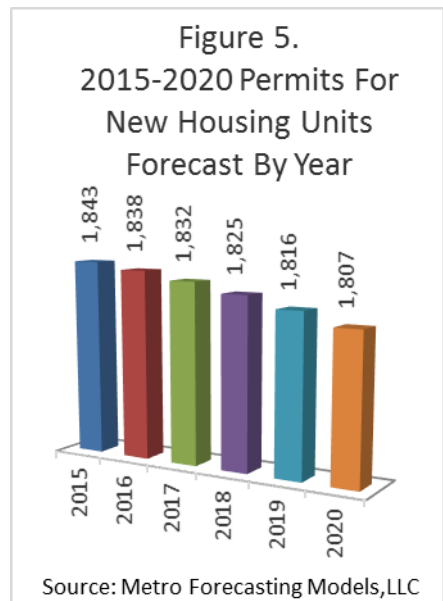
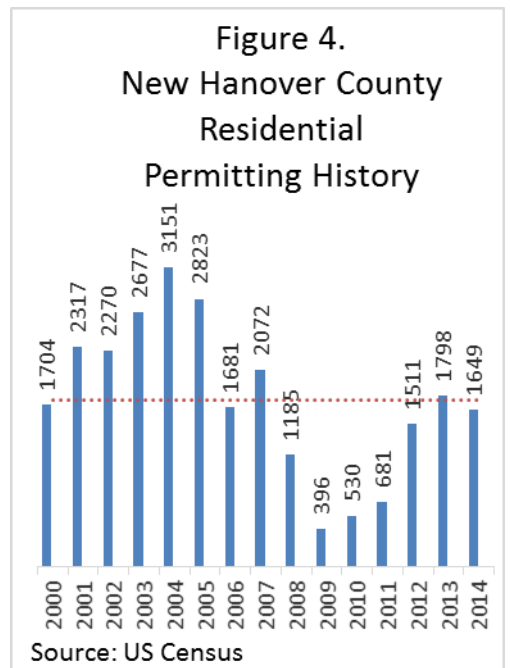
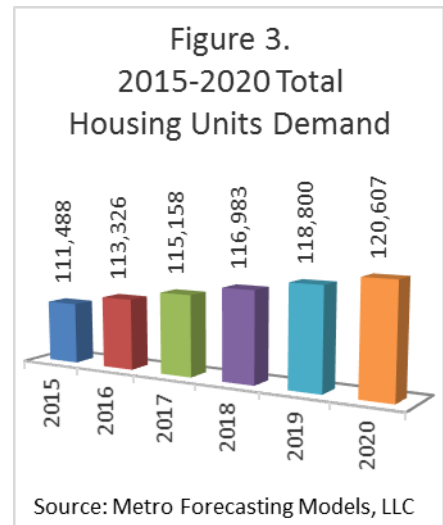
New Hanover County has experienced a wide range of annual residential building permitting, from a high of 3,151 permitted units in 2004 to a low of 396 in 2009. In 2014 the metro area permitted 1,649 residential units. Over the last 14 years (2000–2014), the New Hanover metro area has on average issued 1,763 housing unit permits per year, as indicated in **Figure 4** by the dashed red line.

5-year Forecast (2015-2020)

The permanent population of this metro area is forecasted to grow by 8.2% from 217,958 in 2015 to 235,786 through 2020, increasing by 17,828 residents during this period. Housing demand resulting from the forecasted 5-year population growth is 9,119 new units from 2015–2020, as shown in **Figure 3**. Note these new units are in addition to the previously mentioned pent up demand for over 3,883 new units. Due to the weak economy, new housing construction slowed and began to recover in 2012 as demonstrated in Figure 4. The demand for commercial space for goods and services to support the growing population will increase by 2.58 million square feet of building area from 2015 through 2020.

10-year Forecast (2015-2025)

The permanent population of this metro area is forecasted to grow by 16.1% from 2015 through 2025, increasing by 35,140 during this period to a total of 253,098 residents in 2025. Our 10-year forecast for new housing to serve the additional population is 17,975 units from 2015–2025. The growing population will increase demand for commercial space for goods and services by an additional 4.99 million square feet of building area from 2015 through 2025.



MFM Back-Cast Analysis Description

Our proprietary population growth forecast model is capable of running different growth scenarios using historic population and housing data. Over time, an MSA's year-to-year housing demand or population growth may be above or below our forecasted population if the economy is expanding or contracting, as demonstrated in **Figure 6** and **Figure 7**.

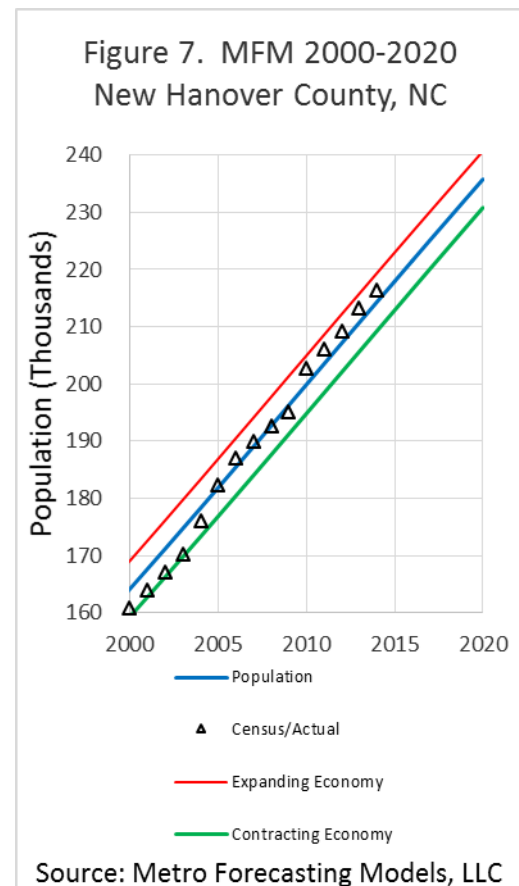
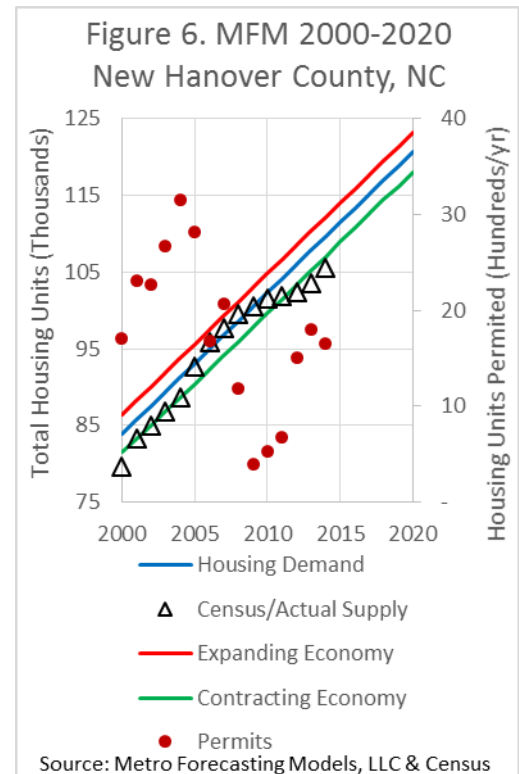
MFM uses the divergence of actual population from our growth curve forecast to measure where a specific MSA is within the growth cycle. When the measured or actual population is slightly above or below our forecast, we use statistical analysis to determine the significance of the divergence. **Figure 6** shows how potential housing supply was below the forecasted demand from 2000-2005 and did keep pace from 2005-2010. From 2010 to 2014 the population increased and yet housing construction did not keep pace. The MFM composite forecast from 2015-2020 predicts more housing is needed to adequately supply the growing population. For an MSA that shows slower than forecasted housing construction for a period of years such as New Hanover County, we can demonstrate a growing potential **pent-up demand** for future housing, government services and commercial uses.

New Hanover Metro Area Back-Cast Analysis

The New Hanover metro area has shown growth consistent within the economic boundaries of our forecast since the 2005 Census. The forecasted population for 2015 using a back-cast analysis is 217,958 versus the 2014 Census *estimated* population of 216,298, as illustrated in **Figure 7**.

While the local economy is in a recovery mode broadly speaking, this metro's housing demand and supply appear to be out of equilibrium based on our forecast of pent-up demand. However, the local job market has a significant impact on purchasing versus renting. Looking ahead, New Hanover County will have consistent positive growth for the next ten years. As we do our updates, we will monitor New Hanover County's growth to see if the population trends above the red line shown in Figure 7.

The growth since 2009 is a clear indicator that population growth has accelerating compared to the historic trend. Since the New Hanover metro area is still recovering from the recession, we anticipate the rental market to remain strong and housing construction to accelerate to satisfy the housing needs of new residents through 2020.



Metro Forecasting Models Detailed Metro Analysis

The information presented in this report is for the New Hanover County as a whole. Metro Forecasting Models consist of two basic models. The first is the Metro Forecasting aggregate model that forecasts for the entire metro area; the second is the Metro Forecasting disaggregate model that divides the metro area into hundreds or thousands of zones and forecasts the distribution and timing of growth for each zone.

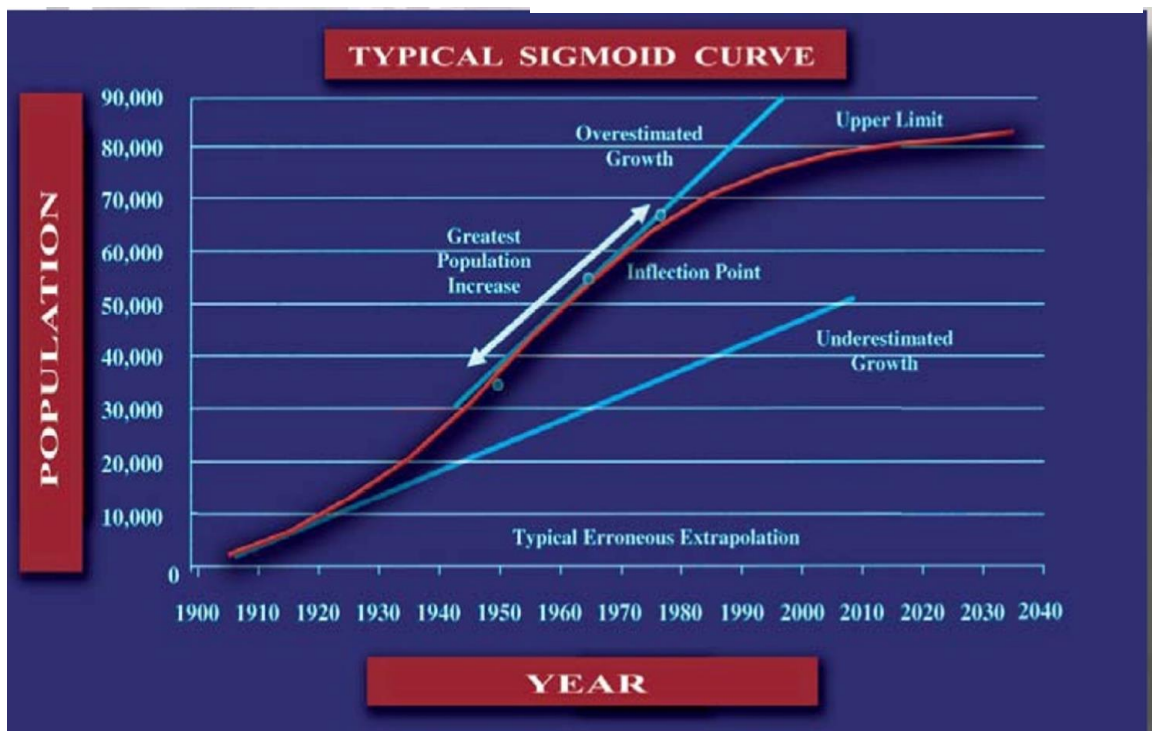
Historically, and unfortunately, population forecasts have underestimated growth for fast growing areas. Accurate population forecasting is necessary to optimize the return on both public and private investment. For example, underestimating growth results in physical improvements that become obsolete (buildings are too small, roads too narrow, pipes too small). Overestimating growth can result in premature financial investment and under-utilization of capital improvements, resulting in a negative return on capital investment. Other negative impacts can result such as low economic activity, lower property values, and poor quality of life from inappropriate apportionment of land to support the future population.

Data Collection and Input Process

For the MFM disaggregate forecast, we collect many thousands of data points from each MSA including specific attributes for *every* parcel within the MSA. We then group the collected data in hundreds or thousands of discrete areas known in the planning industry as Traffic Analysis Zones (TAZ for short). For example our model disaggregates the Lee County, Florida metro area into 1,434 discrete zones (see the TAZ map for Lee County, FL on the next page) and forecasts population growth for each of these zones. A TAZ is a specific geographic area that contains many lots/parcels/tracts with a combined population typically less than 3,000 people.

Our algorithms analyze each TAZ's development potential on an individual basis. The model then groups the zones by order from most likely to be developed to least likely. This same analysis is then repeated in 5-year increments until theoretical build-out is determined. From the forecasted data we can identify those zones that are built out, those that are experiencing rapid growth and those that demonstrate slow growth.

Figure 9. Typical Sigmoid Curve



Additional Model Outputs

The disaggregate model can provide many different reports to satisfy the needs of our varied clients. The following demand forecasts, indicating where and when development is anticipated to take place, are available for MSAs disaggregated by TAZ or other defined communities or neighborhoods in 5-year increments to build out:

- Population growth
- Multifamily and single family demand
- Multifamily and single family household size and vacancy rates
- Commercial demand for space
- Shopping center demand by type
- K-12 students for each school type
- Fire station demand

- Public parks differentiated by type
- Agricultural lands

Our disaggregate model has been used by governments and developers to determine where specific needs and markets exist or will exist and when. Government agencies have purchased property for future uses at lower prices, saving public funds. Developers and planners have used the model to demonstrate the need for a zoning change to local governments based on the model's demand forecasts. Call us or email today to discuss the MSAs you are interested in learning more about and what additional data we may have to assist you with making good planning and spending decisions.

Figure 10. Lee County, Florida, with 1434 zones.

