

3. EXISTING AND PROJECTED CONDITIONS

Location and History

The Greater Hickory MPO is located in the foothills of western North Carolina about 45 miles north of Gastonia, 50 miles northwest of Charlotte, 70 miles west of Winston-Salem and 75 miles east of Asheville. The MPO planning area, which is defined as the entire Hickory-Lenoir-Morganton Metropolitan Statistical Area (MSA), is approximately 1,637 square miles covering all of Alexander, Burke, Caldwell and Catawba counties (Map 3-1, page 3-2). There are 24 municipalities in the MPO planning area. Brookford, Catawba, Claremont, Conover, Hickory, Long View, Newton, Maiden, Connelly Springs, Drexel, Glen Alpine, Hildebran, Morganton, Rutherford College, Valdese, Cahah's Mountain, Cedar Rock, Gamewell, Granite Falls, Hudson, Lenoir, Rhodhiss and Sawmills and Taylorsville.

For an area to qualify having a "Metropolitan Planning Organization," an area must be "urbanized." To be urbanized an area must have at least 50,000 persons residing in an urban environment. The MPO achieved "urbanized status" following the 1980 Census. To meet federal requirements, a comprehensive transportation plan was adopted for the area in 1986. The plan was then updated and approved in 1996. As a result of Census 2000, the MPO area grew tremendously from about 65,000 to 180,000 people. This size of the MPO also increased from 11 to 27 local governments. The MPO's name was changed after the 2000 Census to the Greater Hickory MPO from Hickory-Newton-Conover MPO. After the 2010 Census, the MPO's population increased to over 200,000 people. After merging with the Unifour Rural Planning Organization (RPO), the MPO's population grew to over 360,000 persons.

Technical Comparison Strategy for the Plan Update

The strategy used for the Plan update takes advantage of the most recent planning within the region in order to evaluate past trends and draw conclusions for the future. The horizon year for transportation planning in the region is currently 2040. For this plan update, the horizon year was extended to 2045. This data was used in the new travel demand model for the region.

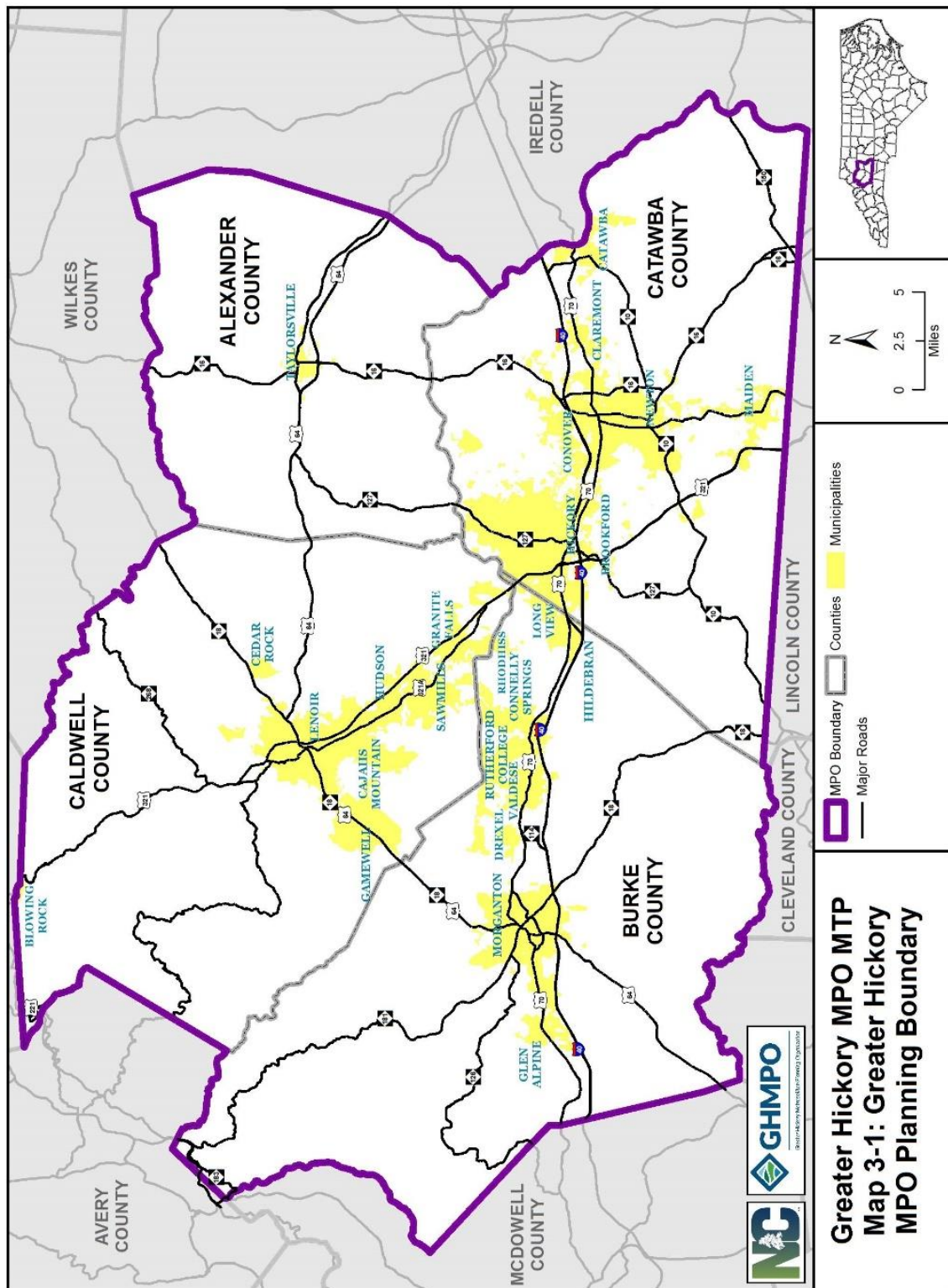
The New Travel Demand Model

In order to develop the best traffic projections for the expanded MPO area for the next Plan update, WSP/Parsons Brinckerhoff undertook the development of a new four-county travel demand model using the TAZ structure established for this update.

Data Collection for the New Model

The goal of transportation planning is to develop and integrate a transportation network, which enables people and goods to travel safely and efficiently. In order to verify the adequacy of transportation planning for the Greater Hickory MPO area, the new model was developed with a Plan horizon year of 2045. The base year for the new model is 2015.

To achieve the goal it is necessary to collect and then project social economic data for the MPO planning area. The new transportation model analyzes several socio-economic inputs including housing units, households, population in households, population in group quarters, total population and employment data broken down by type of employment (manufacturing, retail trade, highway retail, service and office sectors). These factors are used to determine traffic flows on various thoroughfares throughout the Greater Hickory MPO planning area.



To better inventory traffic and transportation facilities, and effectively gather and project socio-economic data used by the model, the MPO planning area is broken down into roughly homogenous Traffic Analysis Zones or TAZs. In 2015, the Greater Hickory MPO area was broken down into 1,131 Traffic Analysis Zones. The Traffic Analysis Zones of each County comprising the Greater Hickory MPO are shown in Maps 3-2 (Alexander County), 3-3 (Burke County), 3-4 (Caldwell County) and 3-5 (Catawba County) on pages 3-6 to 3-9. TAZs are made up of 2010 Census Blocks so that demographic information could be collected more easily. Data from each Census block within each TAZ were tabulated to determine the number of housing units, households, population in households, and group quarters population in each TAZ as of 2010. To update the data to 2015, building permit information from 2010, 2011, 2012, 2013 and 2014 were collected within each TAZ. These additional housing units were to the existing year 2010 inventory to determine the total number of housing units and households within each TAZ in 2015. Regional building permit data and population estimates from the NC Office of Management and Budget were then used to update the TAZ data to 2015 estimates.

Employment data for 2015 for each TAZ was provided by INFOUSA. Employment was broken down into five different types based on trip generation and North American Industry Classification System (NAICS) Code. The INFOUSA data was then crosschecked with employment data from the North Carolina Labor and Economic Analysis Division (NCLEAD), NC Department of Commerce and with selected employers for improved data accuracy.

Housing unit projections for 2045 were based on input from planners and economic developers from the 28 member local governments of the Greater Hickory MPO. Their input was then compared with the most recent population projections available from the North Carolina Office of Management and Budget (NCOMB) to ensure that the planners' projections were reasonable. Group quarters population remained the same unless the planners provided information on additional group quarters construction in a TAZ. The 2045 number of persons per household for each TAZ equaled the number of persons per household in 2015.

Employment projections for 2045 were based on input from the region's planners and economic developers. The 2045 employment projections were then crosschecked with 2045 population projections for reasonableness.

Population Results

TAZ 2015 population totals for each individual TAZ (Greater Hickory MPO and Unifour RPO) can be found in Appendix A, Table A-1. The population totals are also shown visually by County in Maps 3-6, 3-7, 3-8, and 3-9 on pages 3-10 to 3-13. Darker browns on the maps represent higher population TAZs while lighter colors represent lower TAZ population totals. In the Alexander County portion of the Greater Hickory MPO, 2015 resident population was concentrated along NC Highway 127 and along Lake Hickory (Map 3-6). In the Burke County portion of the Greater Hickory MPO, 2015 resident population was concentrated around Morganton and in the George Hildebran area (Map 3-7). The southern end of Caldwell County is more densely populated than the rest of the county (Map 3-8). High population counts in Catawba County included northeast Hickory along Springs Road and the Mountain View area (Map 3-9).

Projected population growth for the Greater Hickory MPO area and projected growth of the four-county area between 2015 and 2045 is shown in Table 3-1 on page 3-4. The MPO Planning Area's population is expected to grow from 366,023 in 2015 to 389,189 in 2045. The 0.20% annual growth rate is slightly less than growth rate predicted by the North Carolina Office of

Management and Budget for Catawba County, but is more than the growth rates predicted for Alexander, Burke and Caldwell Counties.

Table 3-1. Greater Hickory MPO and Hickory MSA Population Projections, 2015-2045						
Year	2010	2015	2045	Growth 2015-2045	Percentage Growth 2015-2045	Percentage Average Annual Growth 2015-2045
Greater Hickory MPO Planning Area	365,497	366,023	389,189	23,126	6.3%	0.20%
Alexander County	37,198	38,305	40,400	2,095	5.5%	0.18%
Burke County	90,912	89,139	92,777	3,638	4.1%	0.13%
Caldwell County	83,029	82,397	87,431	5,034	6.1%	0.20%
Catawba County	154,358	156,182	168,541	12,359	7.9%	0.25%
Hickory MSA	365,497	366,023	389,189	23,126	6.3%	0.20%

Source: Greater Hickory MPO, NC Office of Management and Budget, US Census Bureau, WPCOG Data Center, 2017.

Maps 3-10, 3-11 3-12 and 3-13 on pages 3-14 to 3-17 show 2045 TAZ population projections for the four-county area. Individual TAZ population projections for 2045 can also be found in Appendix A, Table A-2. Map 3-10 shows that population growth will continue in the Bethlehem area along Lake Hickory. Burke County's growth pattern is predicted to shift to areas near Lake James and Morganton through 2045 (Map 3-11). The southern end of Caldwell County will continue to be a focus of population growth (Map 3-12). Population growth is also predicted near the City of Hickory and Lake Norman areas (Map 3-13).

Employment Results

Current and projected employment numbers for the Hickory MPO Planning Area TAZs can be found in Appendix B, Tables B-1 and B-2. Data seen in Maps 3-14, 3-15, 3-16 and 3-17 on pages 3-18 to 3-21 show general employment patterns across the four-county area. Little employment activity is currently occurring in the Alexander County portion of the MPO area except near the intersection of Rink Dam Road and NC Highway 127 (Map 3-14). The highest employment concentration in the Burke County portion is located at intersection of Interstate 40, Enola Road and NC Highway 18 in Morganton (Map 3-15). In Caldwell County, the highest employment totals can be found along the US Highway 321 corridor (Map 3-16). The largest 2015 Catawba County portion employment areas are located along US Highway 70, Catawba Valley Boulevard, Fairgrove Church Road and Tate Boulevard in Hickory (Map 3-17).

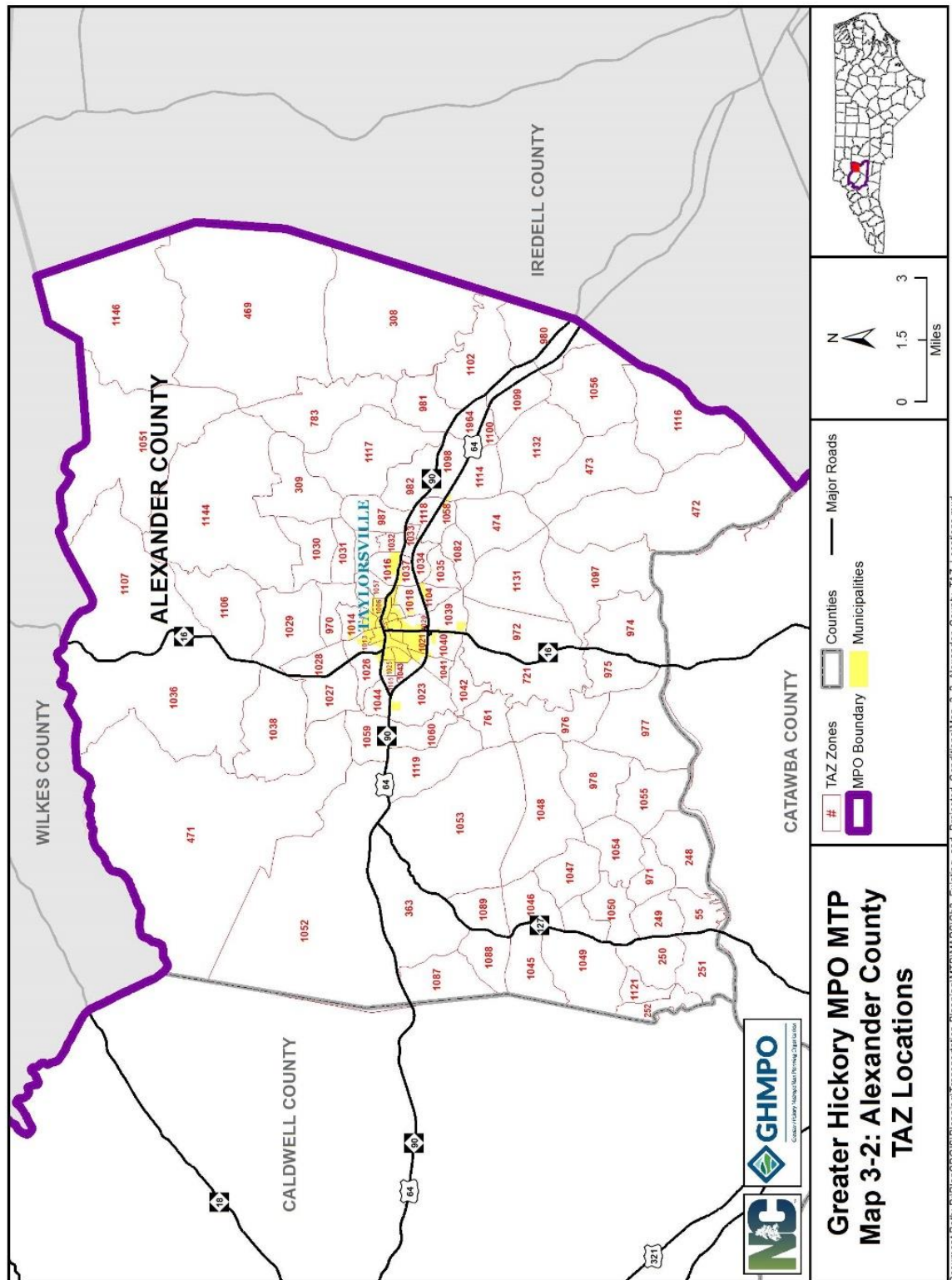
Results in Table 3-2 on page 3-5 show that employment in the Greater Hickory MPO Planning Area is expected to grow from 145,272 in 2015 to 155,506 in 2045. The number of industrial jobs is anticipated to grow 7.8% between 2015 and 2045 as growth in new high-tech manufacturing will continue to replace traditional manufacturing industries such as apparel, furniture and textiles. Retail employment (for example, department and grocery stores) is expected to grow 16.1% due to new commercial development in Hickory and Morganton. The number of jobs in highway retail (for example, gas stations and restaurants) is predicted to increase 12.7% between 2015 and 2045. Service employment (for example, health care and business support services) is anticipated to grow 4.9% through 2045 with a 3.4% loss anticipated for office employment. Since

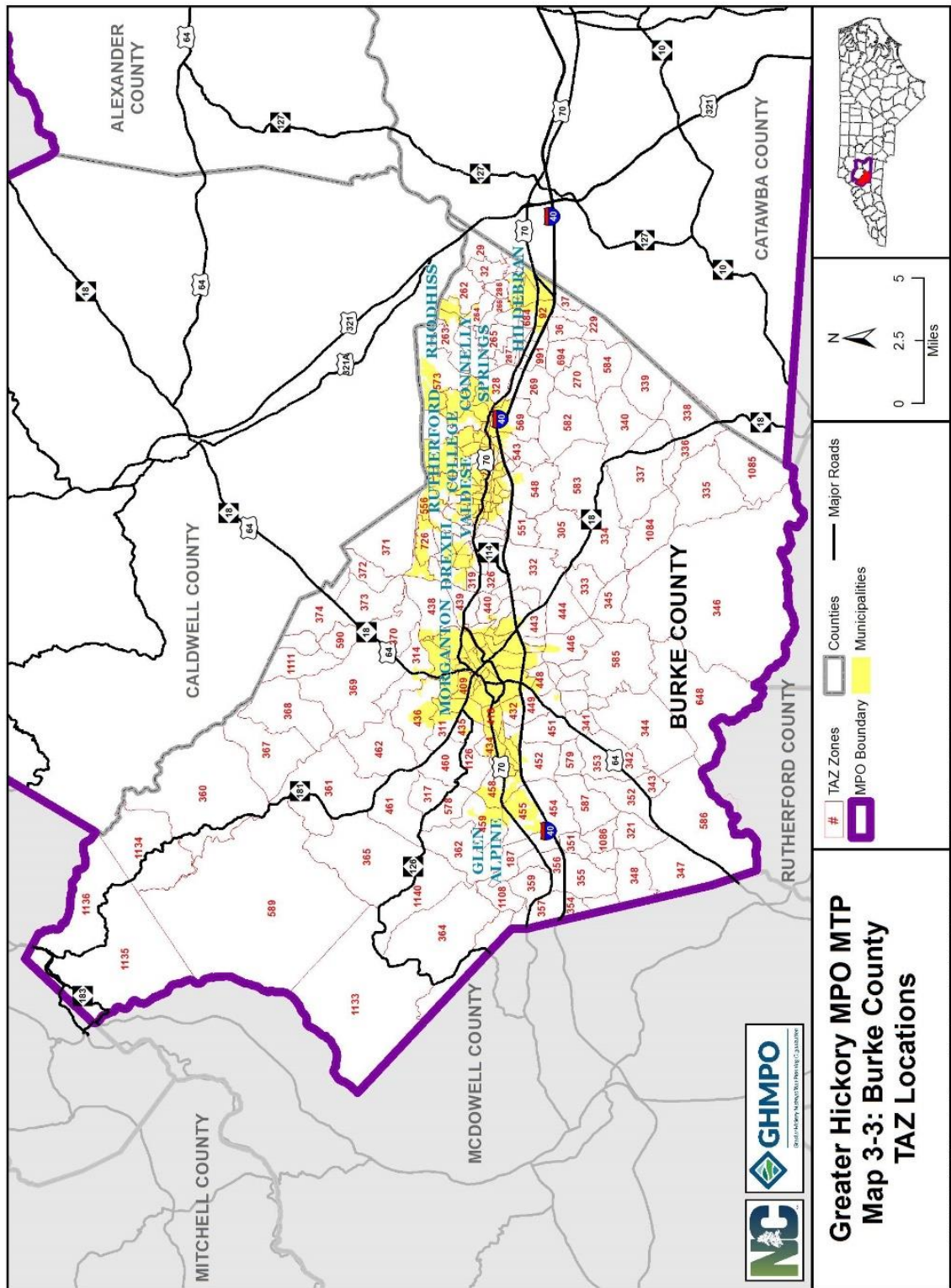
service sector employment has different vehicle trip characteristics than manufacturing employment, this factor was calculated into the new travel demand model.

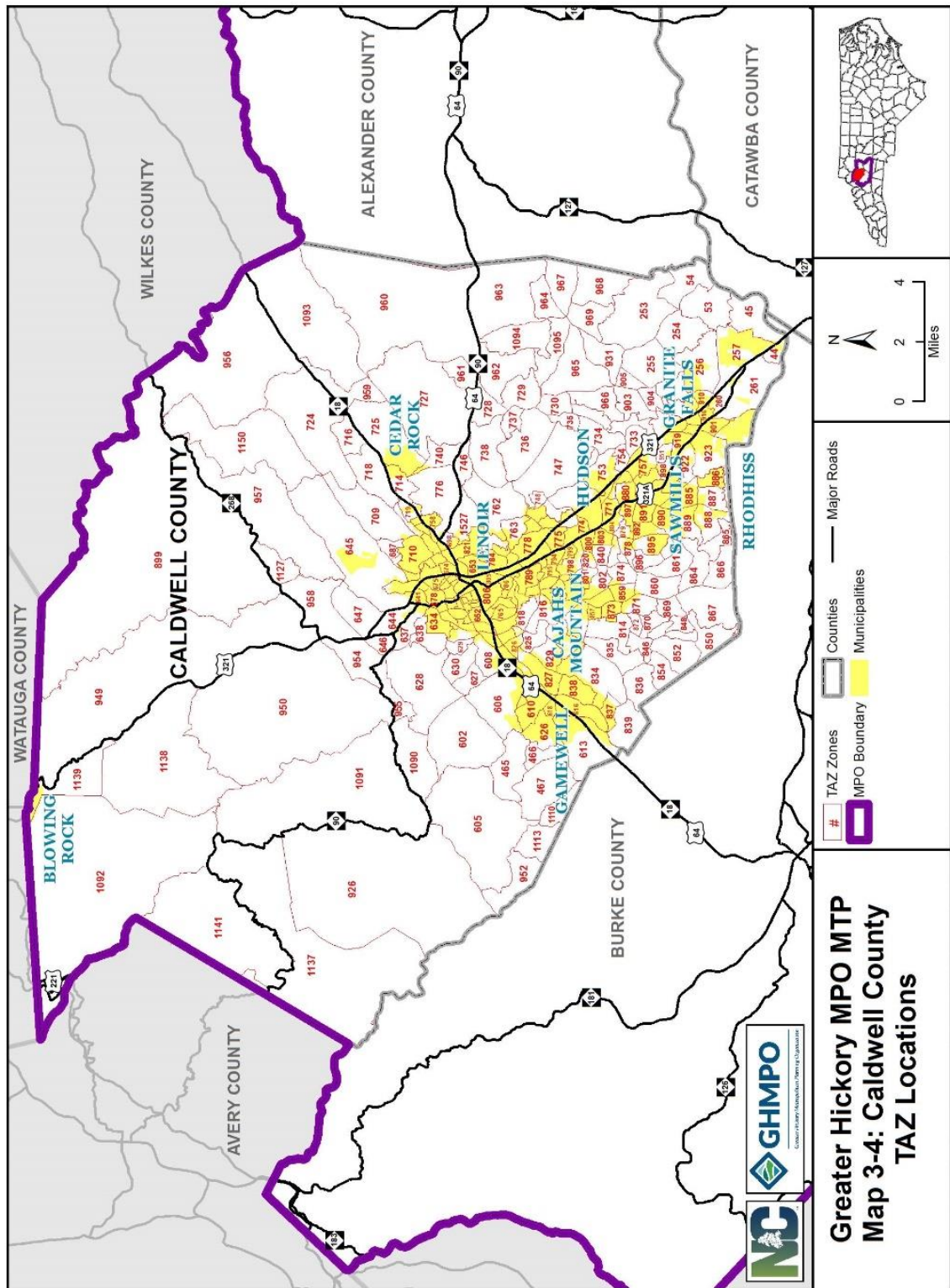
Table 3-2. Greater Hickory MPO Planning Area Employment by Sector, 2015-2045				
Employment Classification	2015	2045	Employment Growth	Percentage Employment Growth
Industrial Employment	40,829	44,023	3,194	7.8%
Retail Employment	18,319	21,273	2,954	16.1%
Highway Retail Employment	12,149	13,697	1,548	12.7%
Service Employment	49,597	52,019	2,422	4.9%
Office Employment	13,559	13,095	-464	-3.4%
Special Generator Employment	10,819	11,399	580	5.4%
Total Employment	145,272	155,506	10,234	7.0%

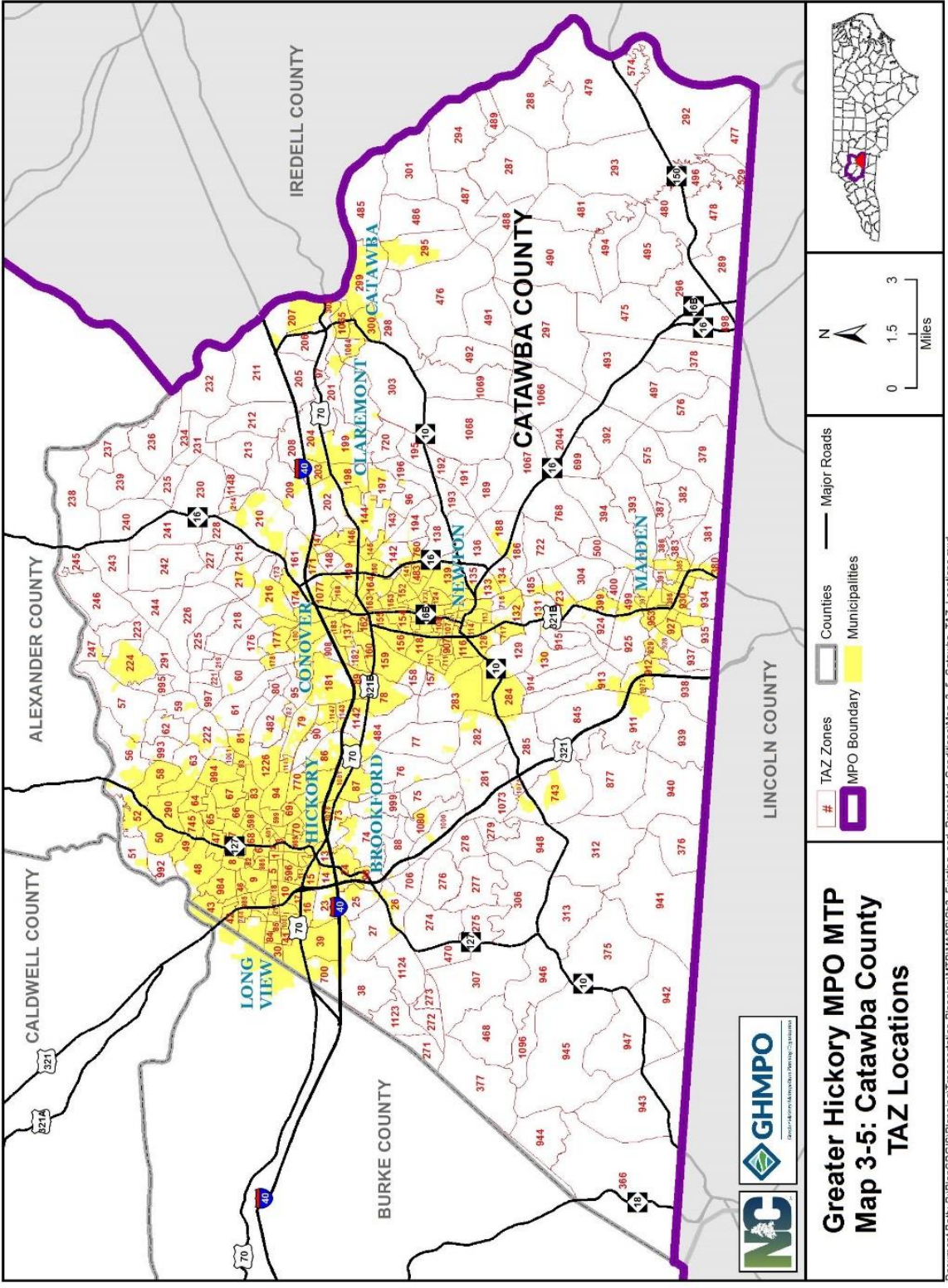
Source: Greater Hickory MPO, WPCOG Data Center, 2017.

County level employment trends through 2045 are displayed in Maps 3-18, 3-19, 3-20 and 3-21 on pages 3-22 to 3-25. The MPO portion in Alexander County will likely will little employment growth with possible exception of the area near NC Highway 127 and Rink Dam Road (Map 3-18). Employment growth in Burke County is expected to occur along the I-40 corridor in Morganton as well as along the I-40 corridor near Lake James (Map 3-19). Employment growth in Caldwell County will likely occur in TAZs along the US Highway 321 corridor between Hickory and Lenoir (Map 3-20). Catawba County should see medical employment growth near Catawba Valley and Frye Medical Centers as well as retail growth along the I-40 corridor in Hickory (Map 3-21).









**Greater Hickory MPO MTP
Map 3-5: Catawba County
TAZ Locations**

Document Path: P:\planCDGIS\Planning\Transportation Planning\Map3_5_Catawba_TAZ_Locations.mxd

