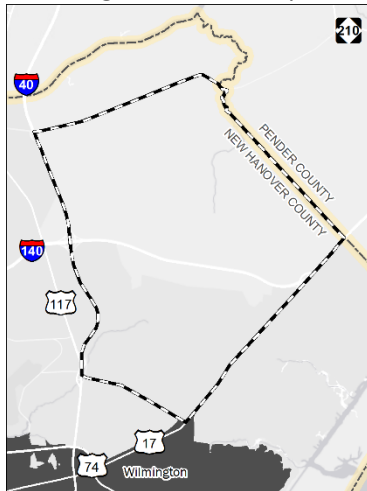

Northeast New Hanover County Future Streets Plan: Task 1 Current Conditions Technical Summary

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Introduction

New Hanover County, in coordination with the Wilmington Urban Area Metropolitan Planning Organization (WMPO), is developing a Future Street Plan for northeastern New Hanover County. The plan will serve as a framework for a future street system in the northeastern area of the county, bound by Holly Shelter Road (SR 1002) and the county line to the north, I-40 to the west, US 17/US 17-Business (Market Street) to the east, and Gordon Road to the south. This report will outline the existing conditions within the Plan's study area, including relevant local plans, land use ordinances, bicycle and pedestrian facilities, and roadway network.



Much of the anticipated population and employment growth in this Plan's study area is expected to occur to the north and east, with some infill development occurring in the already populous southern corner (Figures 1 & 2). According to the U.S. Census Bureau's 2011-2015 American Community Survey estimates, many characteristics of the NNHC study area are similar to the rest of New Hanover County. The proportion of non-white individuals, individuals of Hispanic origin, and persons in a limited English proficiency household are all representative of the New Hanover County community. Within the entire study area, the percentage of persons living in poverty is lower than the rest of the County as a whole. A census block group-level analysis can be found in Figures 3 through 6.

Community and cultural assets tend to be clustered in more heavily populated areas, where transportation access is most convenient and zoning allows for community land uses. The majority of these community and cultural resources are places of worship, schools, and parks (Figure 7). These include the Murrayville and Eaton elementary schools, as well as the Smith Creek and Ogden public parks. Although not within the study area, there is also convenient access to medical facilities, such as Wilmington Health at Porters Neck, for local residents. As this area develops, more of these community amenities will be needed for residents to easily access them.

Local Plans and Studies

New Hanover County and WMPO will consider existing county-wide plans and plans from nearby communities in developing the Northeast New Hanover Future Street Plan (NNHC). The planned land uses and facilities in these documents will help guide decisions during the planning process, as well as form and strengthen the shared vision for the area's future.

New Hanover County Comprehensive Plan (2016)

The New Hanover County Comprehensive plan examined land use, demographic, economic, transportation, environmental, and health data and trends in the County and sought public input to produce a plan for future land use and development. The County and surrounding areas are experiencing growth rates above the State

average; New Hanover County's population is expected to increase 57 percent by 2040. The Plan's future land use map characterizes the NNHC study area as majority community mixed use, with some general residential and conservation areas.

The Comprehensive Plan identified three growth nodes in New Hanover County. Two of the growth nodes border on the study area for the NNHC: on the western side of the study area, northwest of the I-40/I-140 interchange at Cape Fear Community College North Campus, and on the eastern side of the study area, near the interchange of US 17 and Market Street. These areas are experiencing rapid growth rates, and are ideal zones for promoting residential development that encourages pedestrian and bicycle activity and public transit.

Pender County Collector Street Plan (2016)

WMPO and Pender County created the Collector Street Plan to determine needs for future roadway connectivity in southern Pender County. The plan focused on connecting neighborhoods and local streets to larger arterial roads. The plan identifies several preferred scenario street networks that will increase connectivity between Pender and New Hanover counties for motor vehicles, with design considerations for pedestrians and bicycles.

Cape Fear Transportation 2040 – Metropolitan Transportation Plan (2015)

WMPO's Metropolitan Transportation Plan is a guide for regional transportation policy and programming, and is used to develop priority projects for the statewide and metropolitan transportation improvement programs (STIP and MTIP). Future roadway projects affecting the Northeast New Hanover County Future Street Plan include the extension of Military Cutoff Road (R-3), the Hampstead Bypass (R-38), the widening of Gordon Road (R-6), and Market Street (US 17-Business) access management improvements (R-10). The plan includes several park-and-rides in and around the study area, including Cape Fear Community College North Campus, I-40 at Holly Shelter Road, and along Market Street. Fixed route service expansion is also planned along Market Street as far north as the proposed park-and-ride at Porters Neck Road. This Plan must be fiscally constrained, as it must identify funding sources for all of the proposed projects.

Wilmington MPO Comprehensive Transportation Plan (2015)

The WMPO's Comprehensive Transportation Plan contains all of the roadway, bicycle, and pedestrian facilities recommended in other complementary plans. Roadway projects listed in the WMPO MTP and the NCDOT STIP are mapped in conjunction with active transportation projects outlined in the Wilmington/New Hanover County Comprehensive Greenway Plan. Further details regarding those plans can be found in their respective section of this chapter. In contrast with the MTP, this plan does not need to be fiscally constrained.

Wilmington/New Hanover County Comprehensive Greenway Plan (2013)

This plan identifies existing trails and makes recommendations for additional facilities to further develop the greenway network in New Hanover County. Public input was solicited to find out residents' concerns and desired facilities. There are few existing greenway facilities in the NNHC study area, but the plan proposes several greenways and bicycle lanes within the study area. These are typically located along major roadways, including Market Street, College Road, Gordon Road, and Holly Shelter Road, and connected to utility easements.

Castle Hayne Community Plan (2008)

The Castle Hayne community is located in the northwest portion of the study area for the NNHC. The Community Plan identified potential zoning changes to facilitate growth of the downtown area and commercial corridor, located on Castle Hayne Road. The plan also recommended strategies to encourage use and improve accessibility to the WAVE Transit system, and provisions for improving pedestrian and bicycle accommodations.

Street Network

Existing Functional Classification

Functional classification is used by the Federal Highway Administration (FHWA) and local agencies as a means of defining the intended function of a particular roadway. The WMPO member jurisdictions refer to the functional classification of roadways in their land development codes and regulations in an effort to better coordinate land use and transportation planning. The WMPO reviewed the federal functional classification of all roadway elements in the WMPO Planning Area Boundary following the decennial census and the organization's Transportation Advisory Committee proposed changes to the federal functional classification of WMPO Planning Area Boundary's roadways. However, several of the proposed changes were not accepted by the NCDOT due to statewide constraints that were not directly related to the functional nature of existing conditions in the WMPO Planning Area Boundary roadway network. Therefore, the Transportation Advisory Committee adopted the "Wilmington Urban Area MPO's Local Functional Classification Maps" for member jurisdictions to refer to for non-federal local planning purposes on August 26, 2015.

I-40, US 17, and US 17-Business are categorized as principle arterials, indicating that they are designed to promote daily mobility for a high number of motor vehicles. The remaining roads within the study area are designated as either collectors (Holly Shelter Road, Sidbury Road, and Blue Clay Road, among others) or local roads. They are primarily concentrated in the more residential southern half of the study area (Figures 8 & 9).

These local streets are oriented in an irregular pattern, consistent with typical suburban development. Roadway connections between developments are limited and not spaced at equal intervals. This stands in contrast with a typical grid pattern of more urban development. While this irregular pattern does reduce the number of motor vehicles passing through residential areas, it does not promote easy access to destinations and community amenities. This is particularly true for biking and walking trips within the community.

Existing & Future Transportation Plans

One project has been funded in the current and draft State Transportation Improvement Program (STIP) of significance to the study area. Military Cutoff Road (U-4751) will be extended northward to US 17 as a multi-lane roadway. This extension is scheduled for construction in October of 2017. Another NCDOT project related to this Plan is the access management improvements (U-4902) to US 17-Business (Market Street), which are anticipated in 2018.

The Hampstead Bypass has been submitted through the Strategic Transportation Investments prioritization process, but is not funded in the 2016-2025 FY STIP. The Hampstead Bypass is a proposed roadway project in the Cape Fear Transportation 2040 Metropolitan Transportation Plan (MTP) that would connect the extension of Military Cutoff Road to Pender County. The NCDOT STIP identifies this project (R-3300) as two segments. The Draft STIP of FY 2017-2027 programs funding for the B segment from NC 210 to US 17 north of Hampstead.

These projects are have statewide importance. They will improve the mobility of local residents to locations outside of the study area, as well as make it more efficient for drivers to pass through the region. In order for future residents to access these facilities, the feeder network of collector streets and local roads will need to be constructed to move people from residential neighborhoods to commercial locations or larger arterials. New construction will likely occur in the eastern and northern portion of the study area, where new residential development is expected. These planned projects and others that will affect the NNHC study can be found in Figure 10.

Bicycle & Pedestrian Infrastructure

Existing Conditions

There are very few bicycle and pedestrian-dedicated facilities located within the boundaries of the NNHC, with only one active greenway located in Smith Creek Park (Figure 11). With few exceptions, the sidewalk connectivity within the study area is generally very low. Only a few residential blocks have sidewalks installed along the roadway, and there are no sharrows or bicycle lanes that would allow cyclists to safely share the road with motor vehicles. Most residents are not currently able to access other neighborhoods or commercial locations via biking or walking using adequate facilities.

Future Considerations

There is a complete network of active transportation facilities outlined in the Wilmington-New Hanover County Comprehensive Greenway Plan (2013). The planned facilities for bicycles and pedestrians within the study area consist of multi-use paths (greenways) and dedicated bicycle lanes. Currently, multi-use paths are planned along Market Street and Military Cutoff Extension. The majority of these are regional resources, serving to connect the community with a larger, regional greenway network. By contrast, there are few planned facilities, such as sharrows and sidewalks, specifically designed to make active transportation easier within the northeastern New Hanover community itself. Future facility plans will need to include these local branch systems to promote access to regional connections. These projects may be funded through cost sharing between New Hanover County and NCDOT if they were constructed in conjunction with TIP projects.

Zoning and Land Use

Existing Conditions

The majority of land in the NNHC study area is vacant and undeveloped. Those parcels which have been developed are a mixture of uses, including residential development to the south of the study area and more natural resource-based and industrial uses north of US 17. Commercial and office-related locations are relatively evenly distributed and are clustered along major state route.

The NNHC study area is predominantly zoned in favor of residential uses. Commercially and industrially zoned areas are limited to the peripheries of the study area, primarily adjacent to major roadways (Figure 12). With this current zoning ordinance in place, there will be limited opportunity for commercial, retail trade, and other centers of employment to develop within the study area itself. Unless there is more commercial development than is currently planned, this will cause residents to be reliant on a well-connected, traditional roadway network to access destinations outside of the study area with a motor vehicle.

Future Considerations

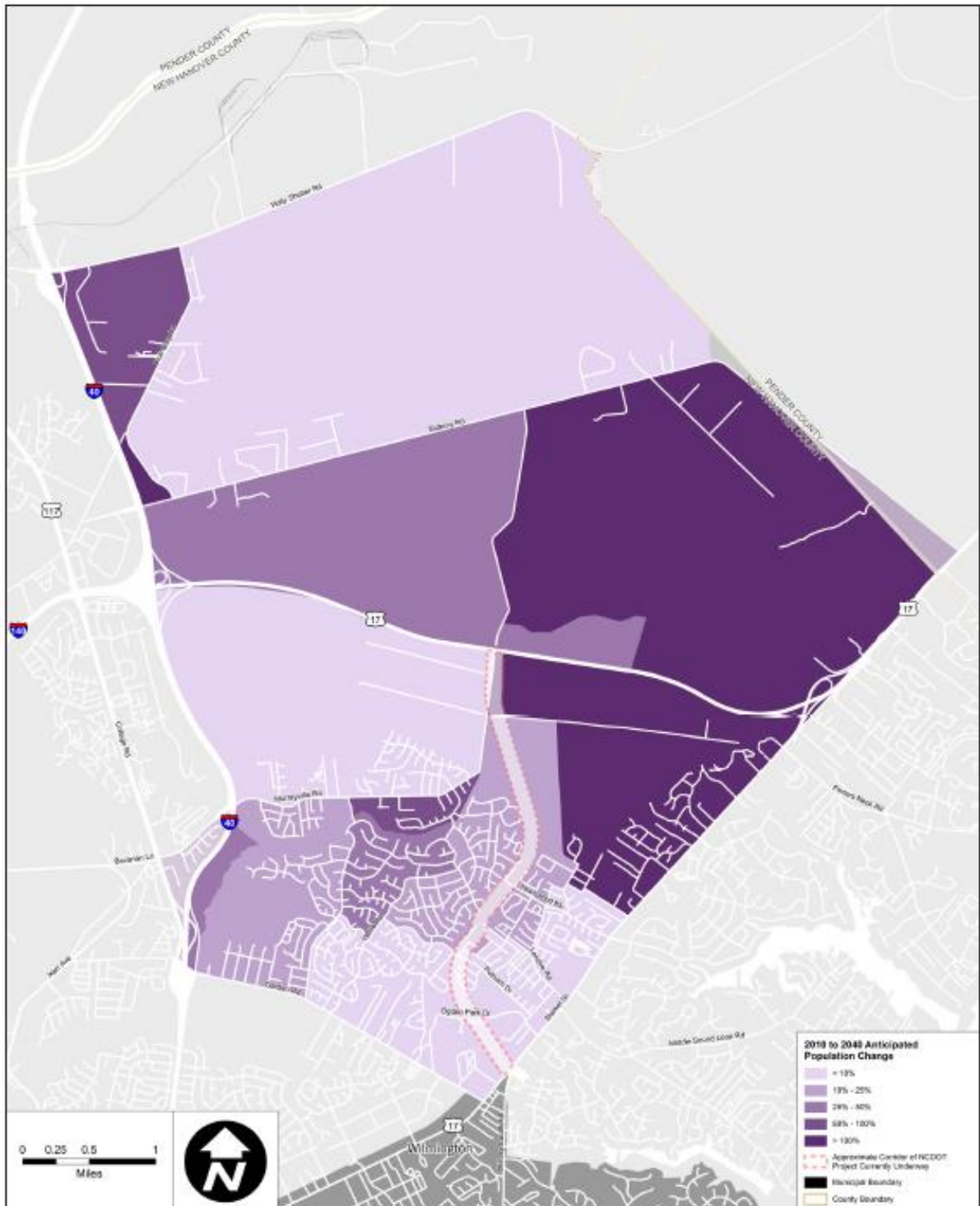
Widespread residential development will be limited within the NNHC study area as a result of environmental considerations. In addition to the wide coverage and variety of wetlands, floodplains and habitats of native plant and animal species will make certain areas very difficult to develop. These are especially prevalent to the east and north of the study area (Figure 13). In the near-term, development will likely be limited to the frontiers of previously existing development, as well as along major roadways.

Given the limited potential for some parcels within the study area to develop, much of the study area will be available for natural conservation, recreation, and other low-impact land uses. This type of development

pattern will also offer more access to open space recreation and greenways in the study area. These environmental limitations will also affect opportunities for future streets networks.

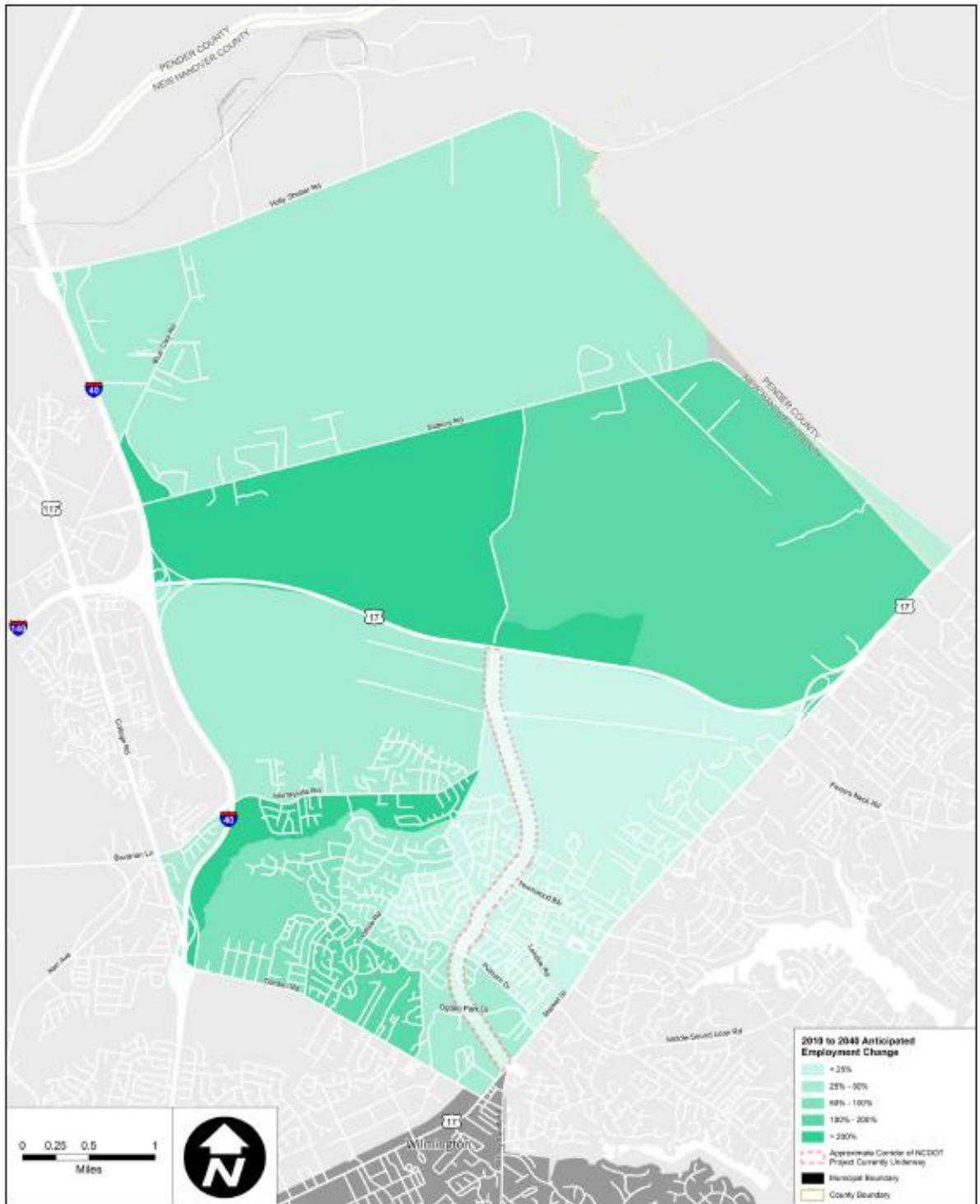
Current Conditions Figures

Figure 1. Anticipated Population Growth



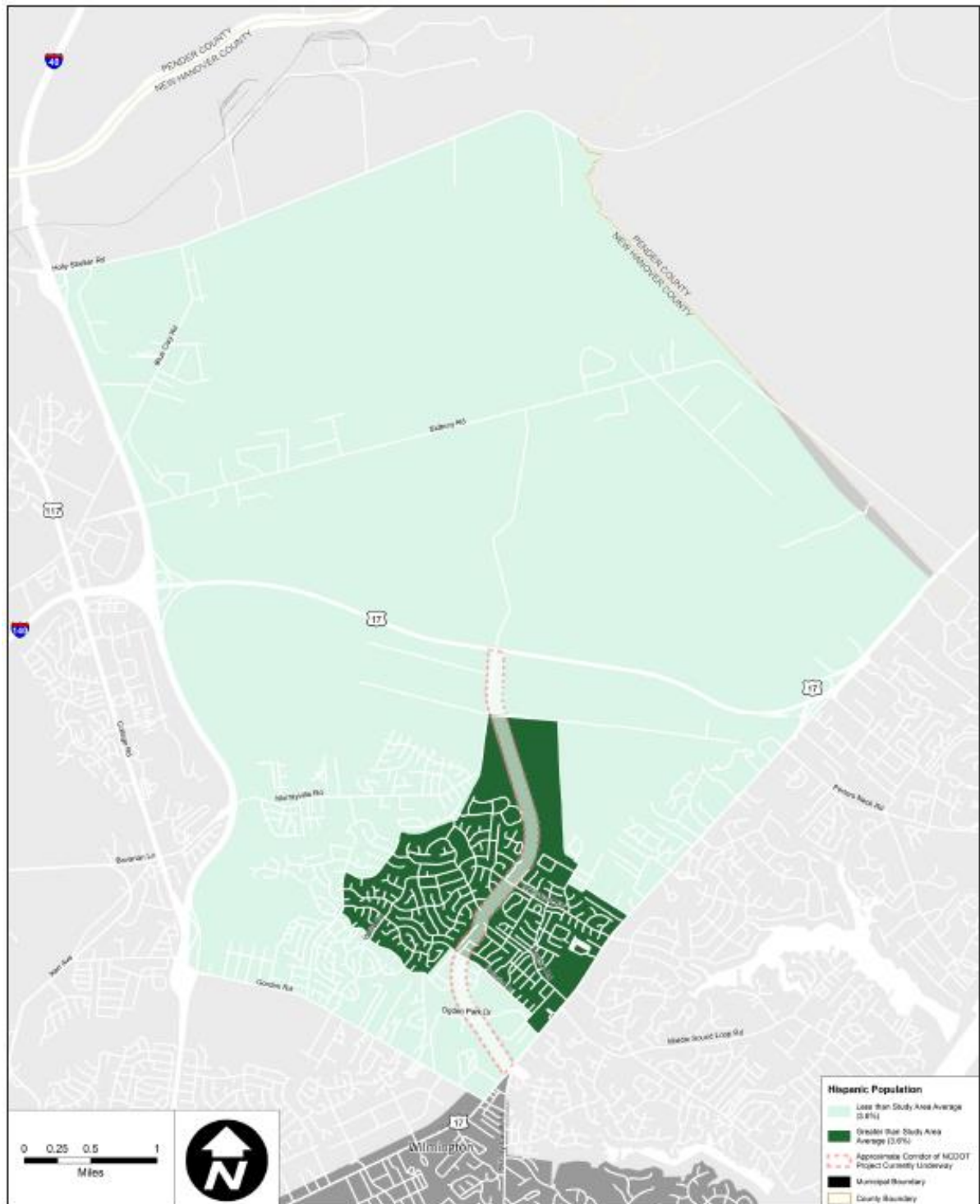
Northeast New Hanover County is currently a residential area with relatively few employment centers. As this area develops, it will continue to be a primarily residential region. Some growth is expected in the more developed southern corner of the study area, but the most robust development is expected in the north and east. These data projections were gathered using growth projections located in the WMPO's travel demand model.

Figure 2. Anticipated Employment Growth



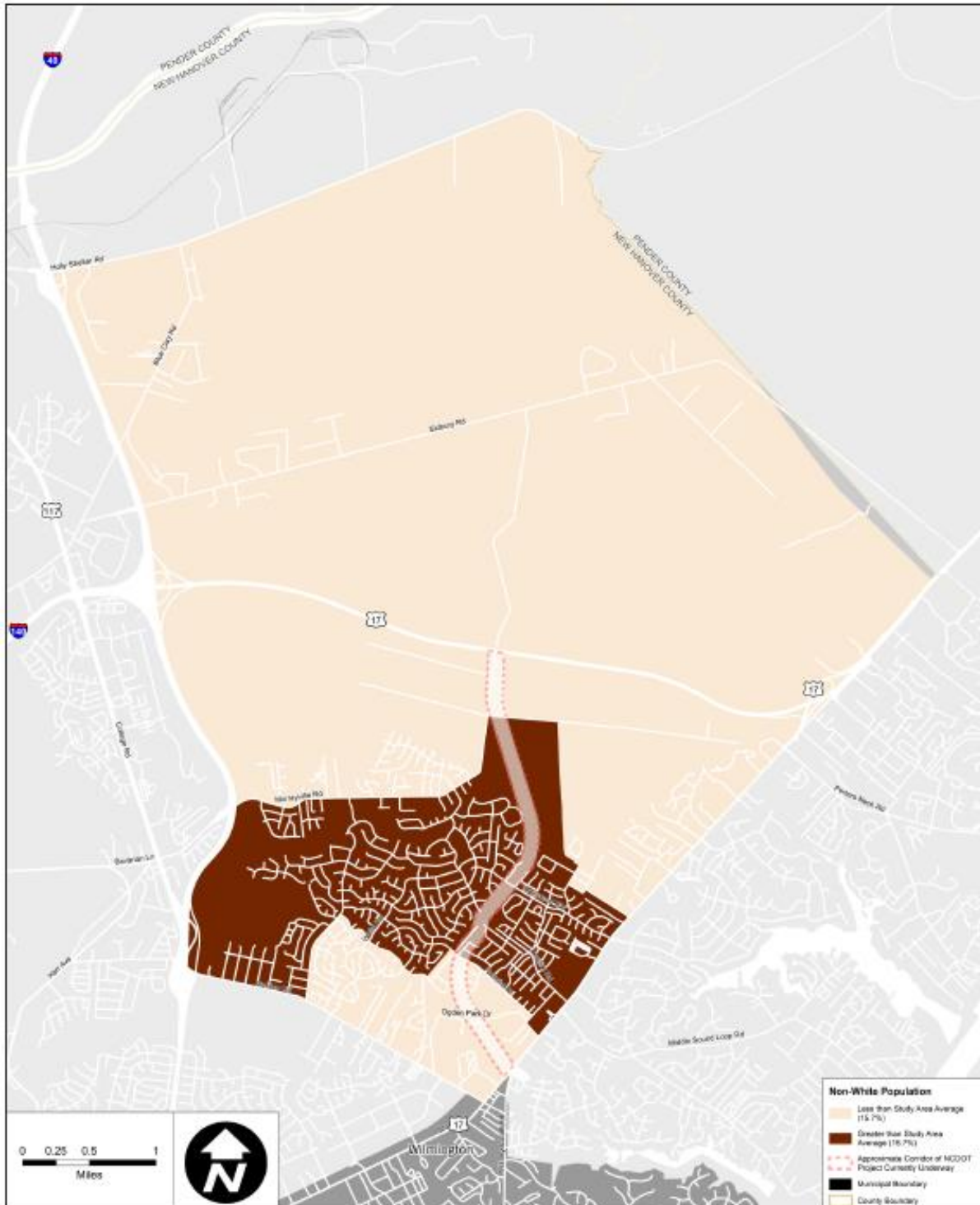
Employment is expected to grow along with the population, although this will occur at a relatively lower level in terms of the total number of jobs created. Employment growth will be concentrated near major roads. These data projections were gathered using growth projections located in the WMPO's travel demand model.

Figure 3. Hispanic Population



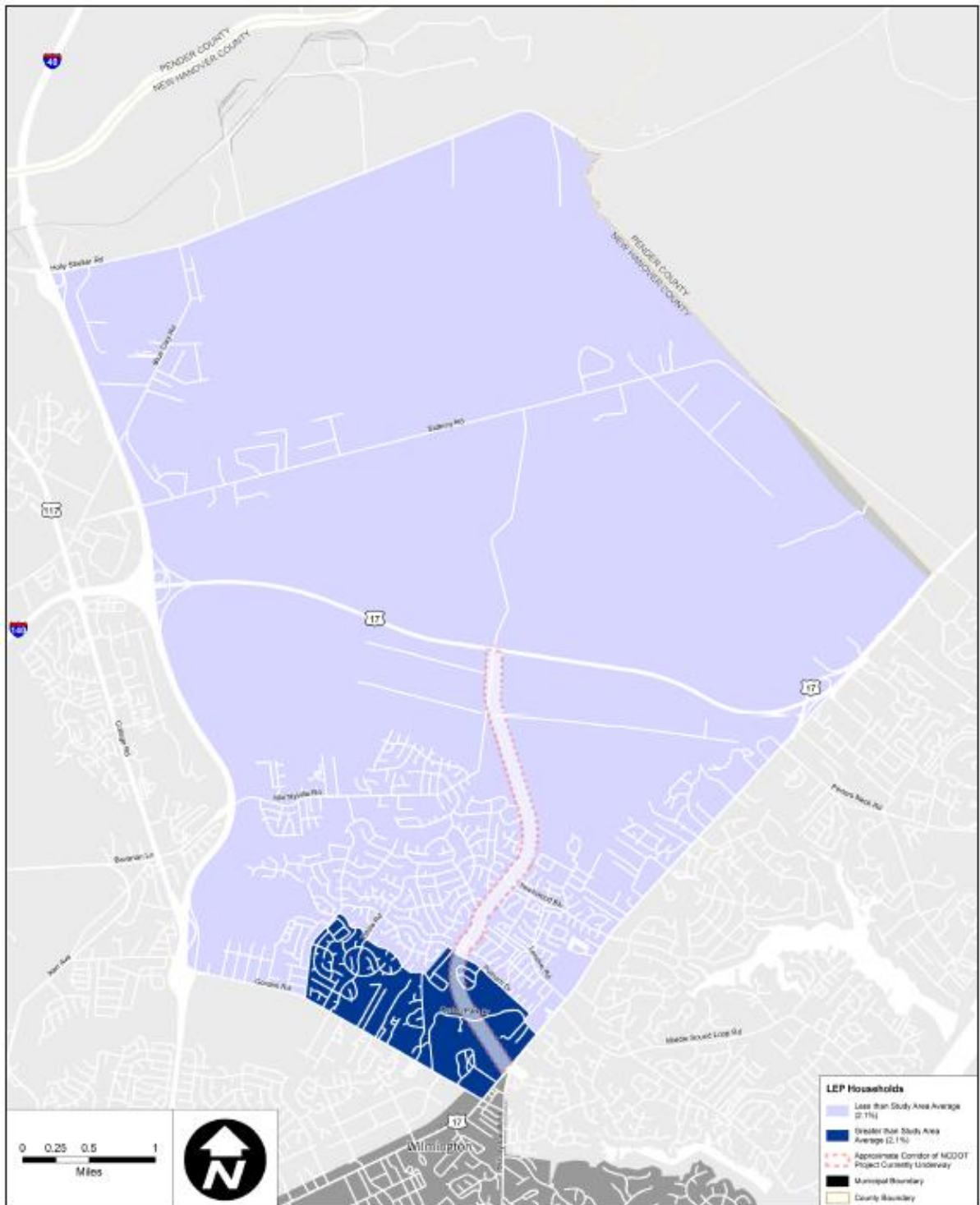
The Hispanic population is defined by the U.S. Census as those who identify as being of Hispanic or Latino origin, regardless of race. As might be expected, the Hispanic and Latino population is concentrated in the more populous southern half of the study area. The proportion of individuals of Hispanic origin in New Hanover County as a whole is roughly 5.4%. (Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates.)

Figure 4. Non-White Population



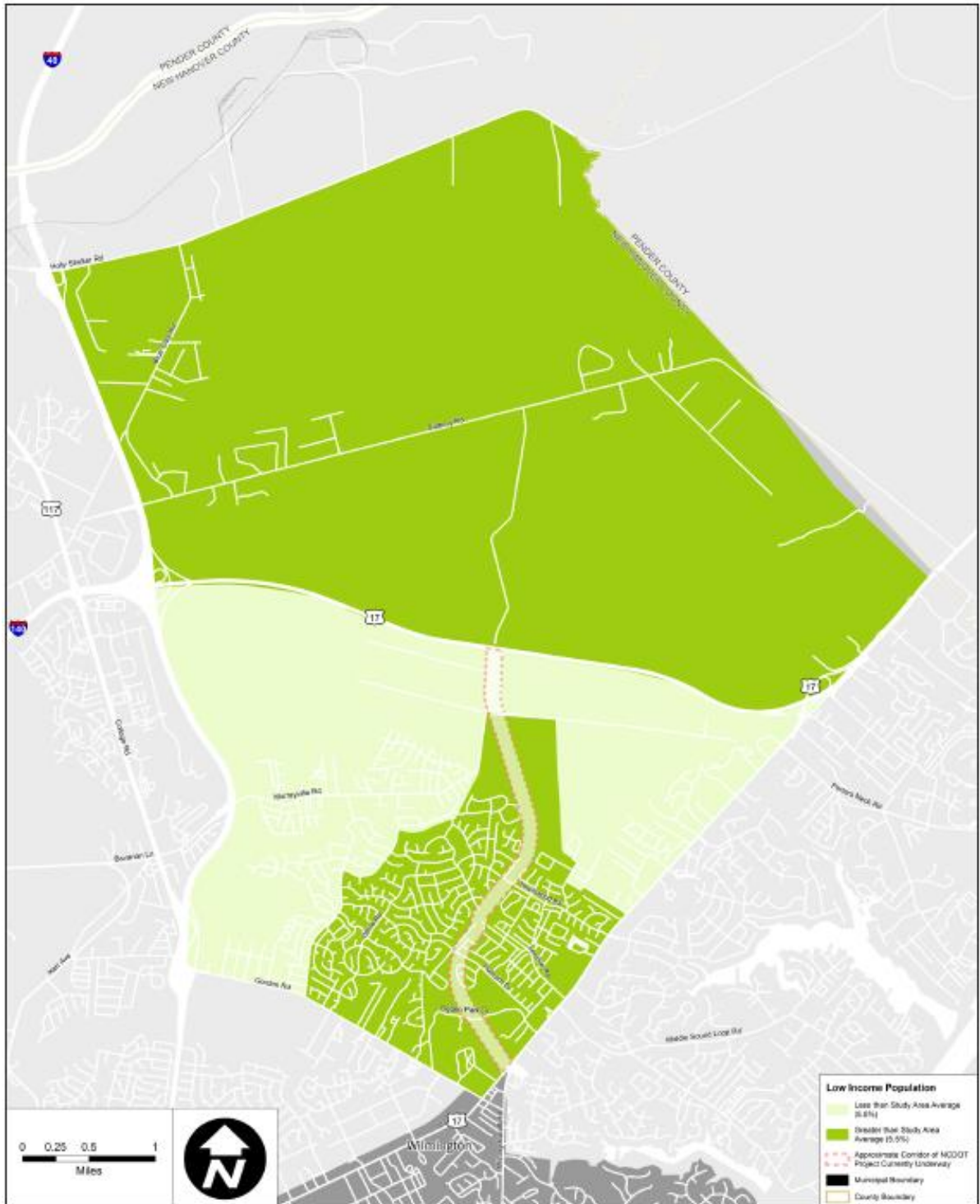
Non-white individuals are those who identify as any race other than "White" according to the U.S. Census. The majority of the non-white population in the study area is co-located with the major population center southern half. These rates are consistent with population of New Hanover County as a whole, which is roughly 19.2% non-white. (Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates.)

Figure 5. Limited English Proficiency (LEP) Population



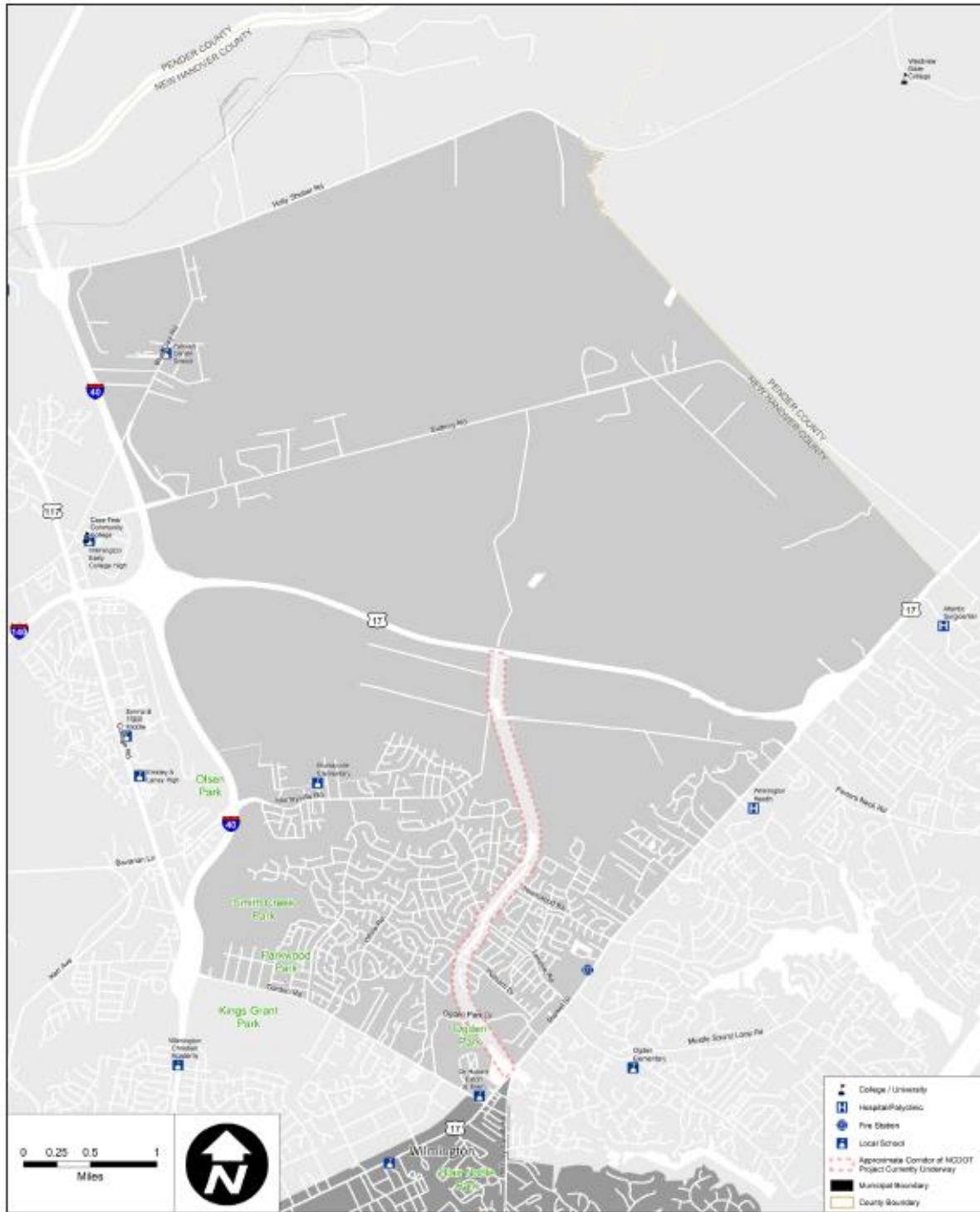
Limited English proficiency (LEP) individuals are those who would self-describe themselves as speaking English less than "Very Well." According to this relative measure collected by the U.S. Census Bureau, most of the LEP households are concentrated in the more populous southern corner of the study area. Of these individuals, most of them are native Spanish speakers. (Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates.)

Figure 6. Low Income Population



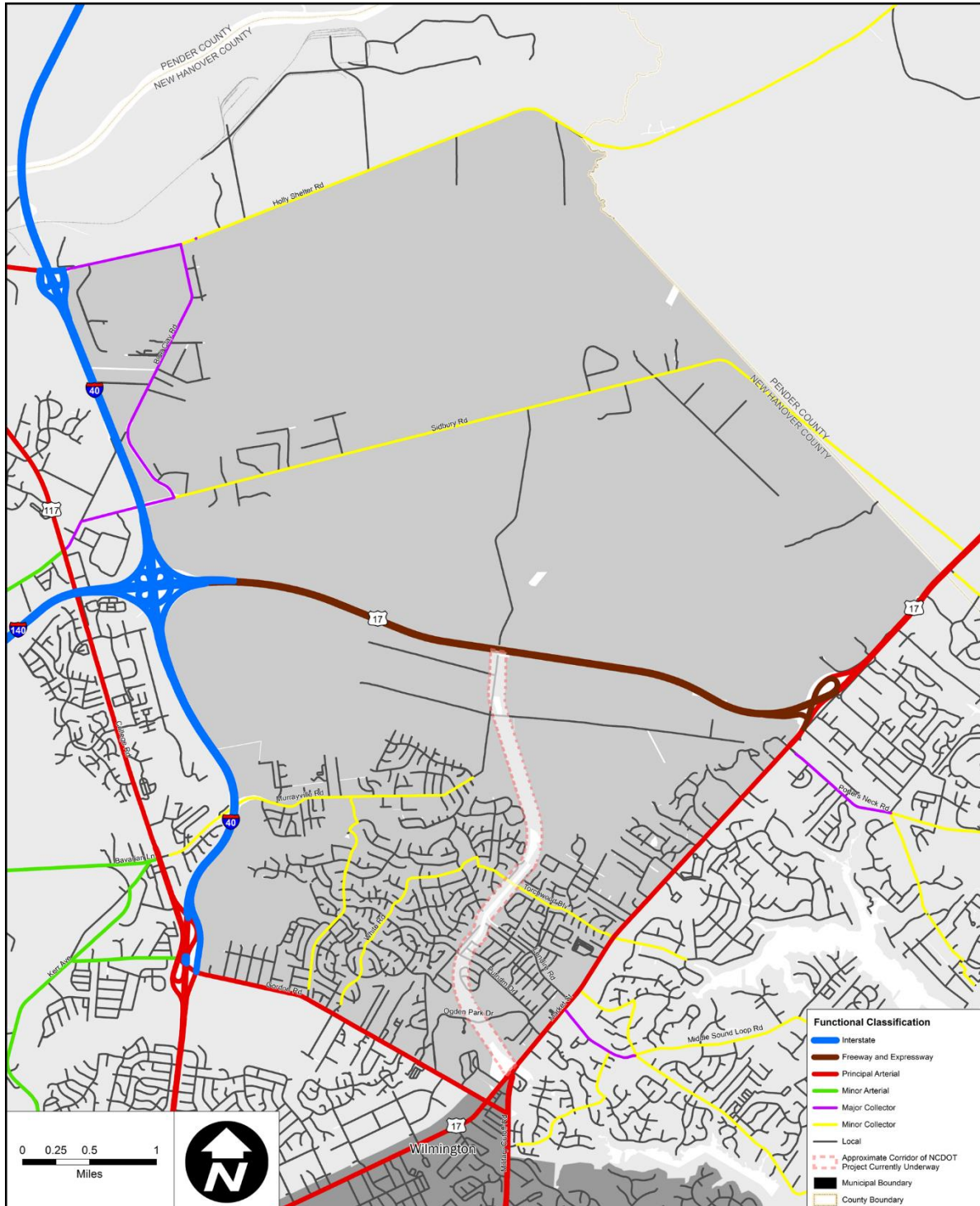
Low Income population is defined as individuals who live in a household whose income is less than the established poverty threshold. As might be expected, these counts are concentrated in areas of higher population density. However, the rates for the study area in northeast New Hanover County are much lower than the County as a whole. (Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates.)

Figure 7. Community Features



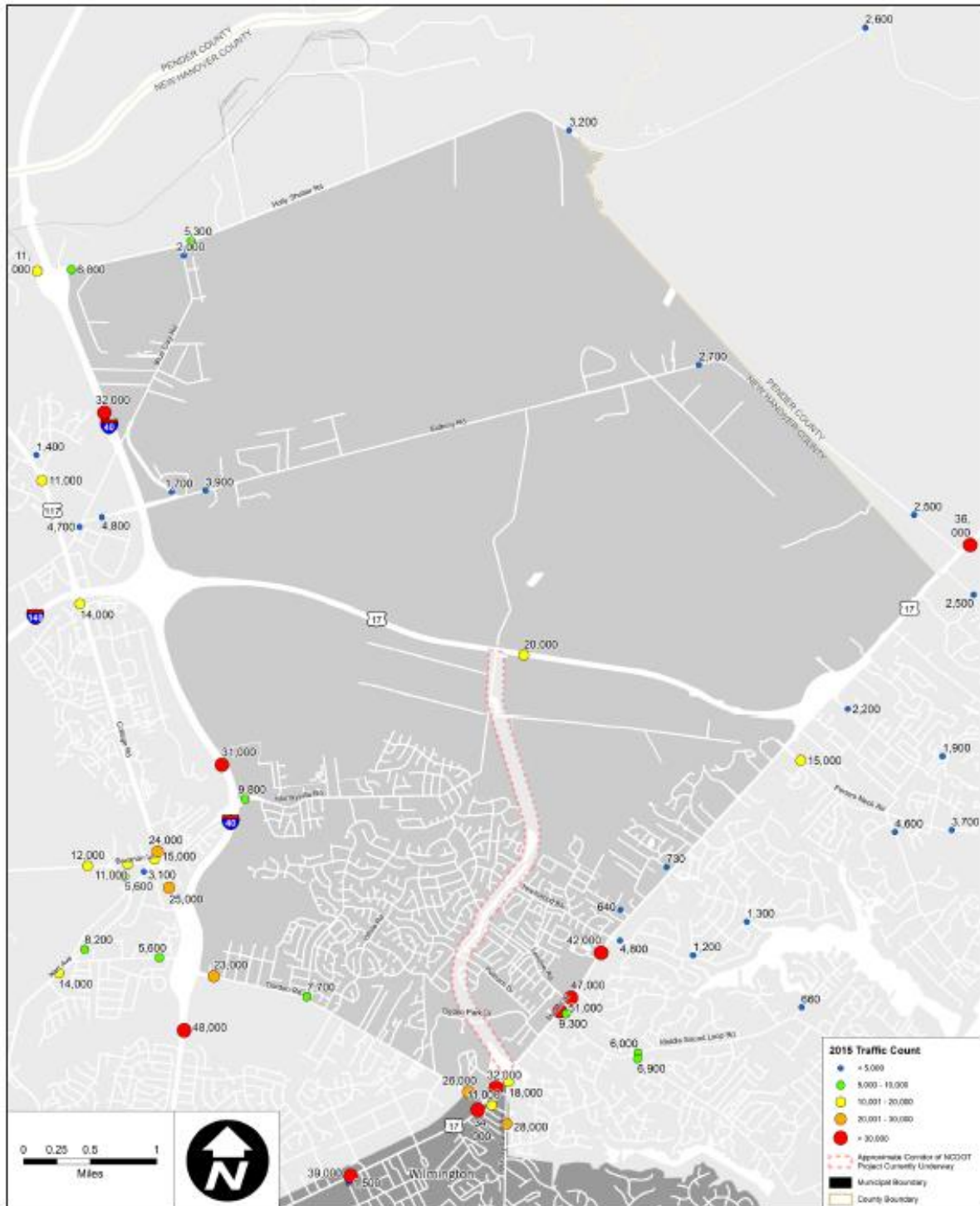
Community features tend to cluster in heavily populated areas, where transportation access is most convenient and zoning allows for community land uses. Access to these community amenities will need to be heavily considered as the Plan's study area develops. (Source: NC One Map & New Hanover County.)

Figure 8. WMPO Functional Classification



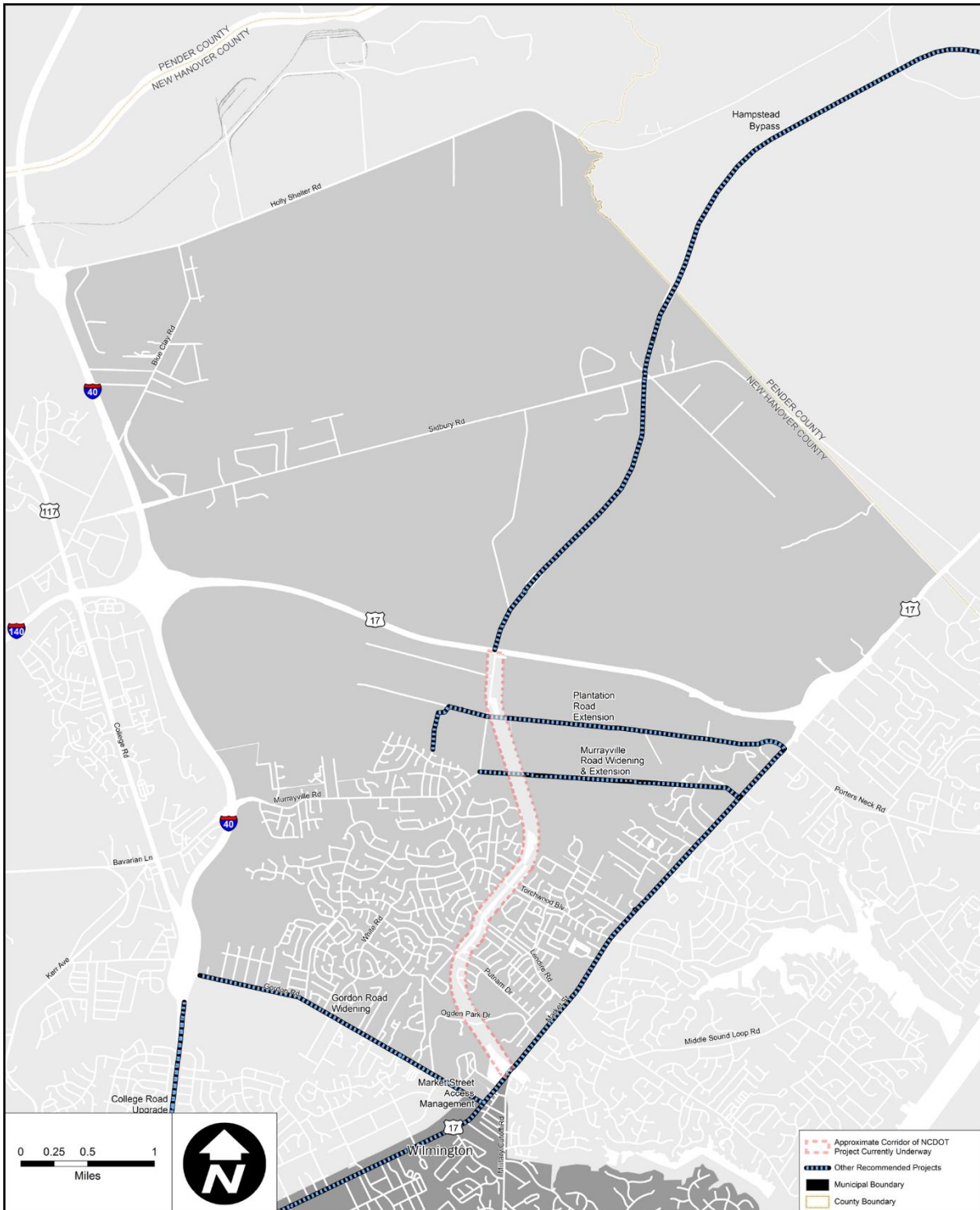
Functional classification is used by the Federal Highway Administration (FHWA) and local agencies as a means of defining the intended function of a given roadway. The WMPO member jurisdictions refer to the functional classification of roadways in their land development codes and regulations in an effort to better coordinate land use and transportation planning.

Figure 9. Annual Average Daily Traffic



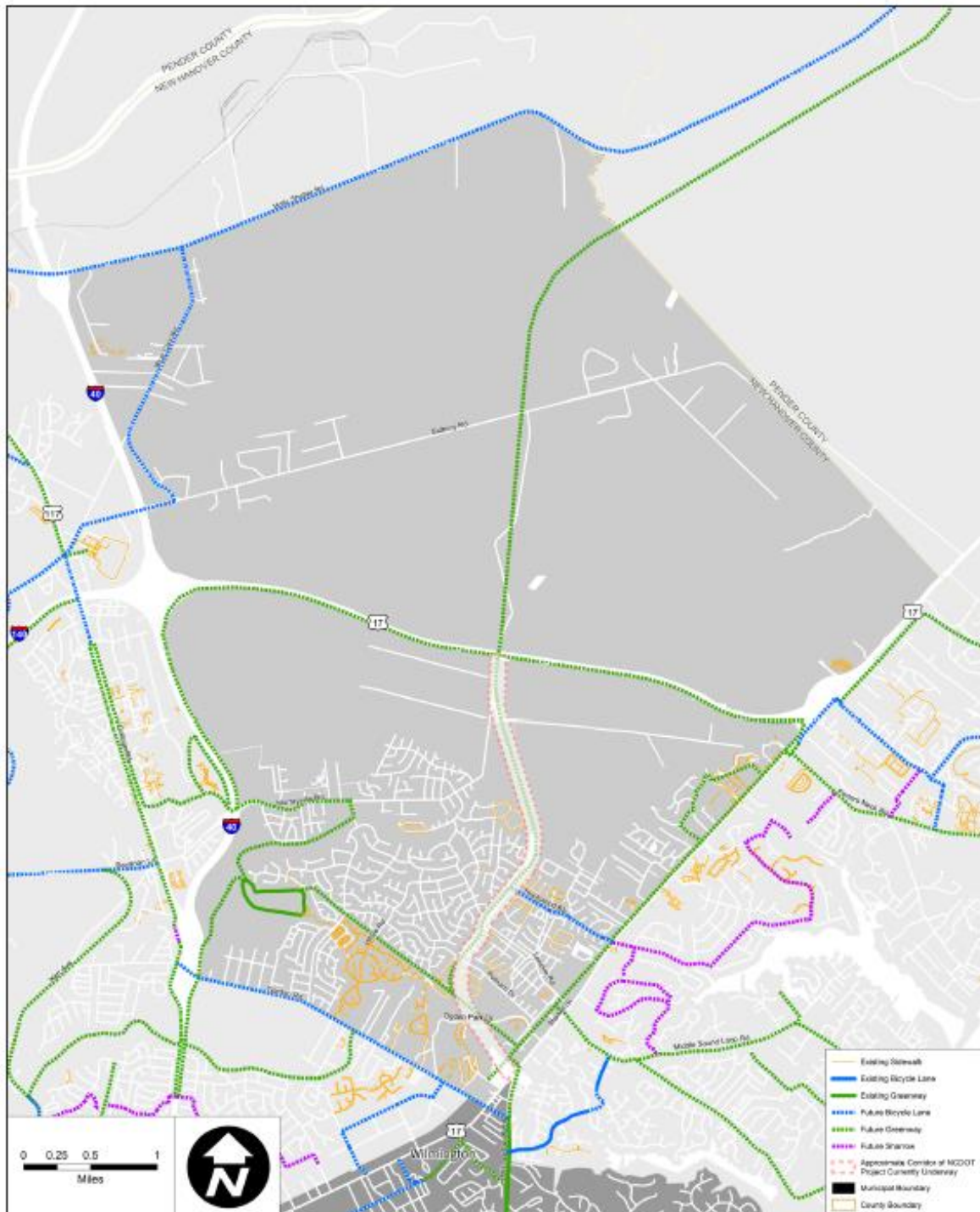
Average annual daily traffic (AADT) is the average count of the number of motor vehicles on a road in a typical day. The highest concentration of vehicular traffic is along US 17-Business to the south of the Study Area and I-40 to the west. The study area is also bisected north and south by another heavily trafficked roadway (US 17). The rest of the AADT in the Study Area is indicative of low-volume residential traffic. (Source: NCDOT.)

Figure 10. Other Recommended Projects



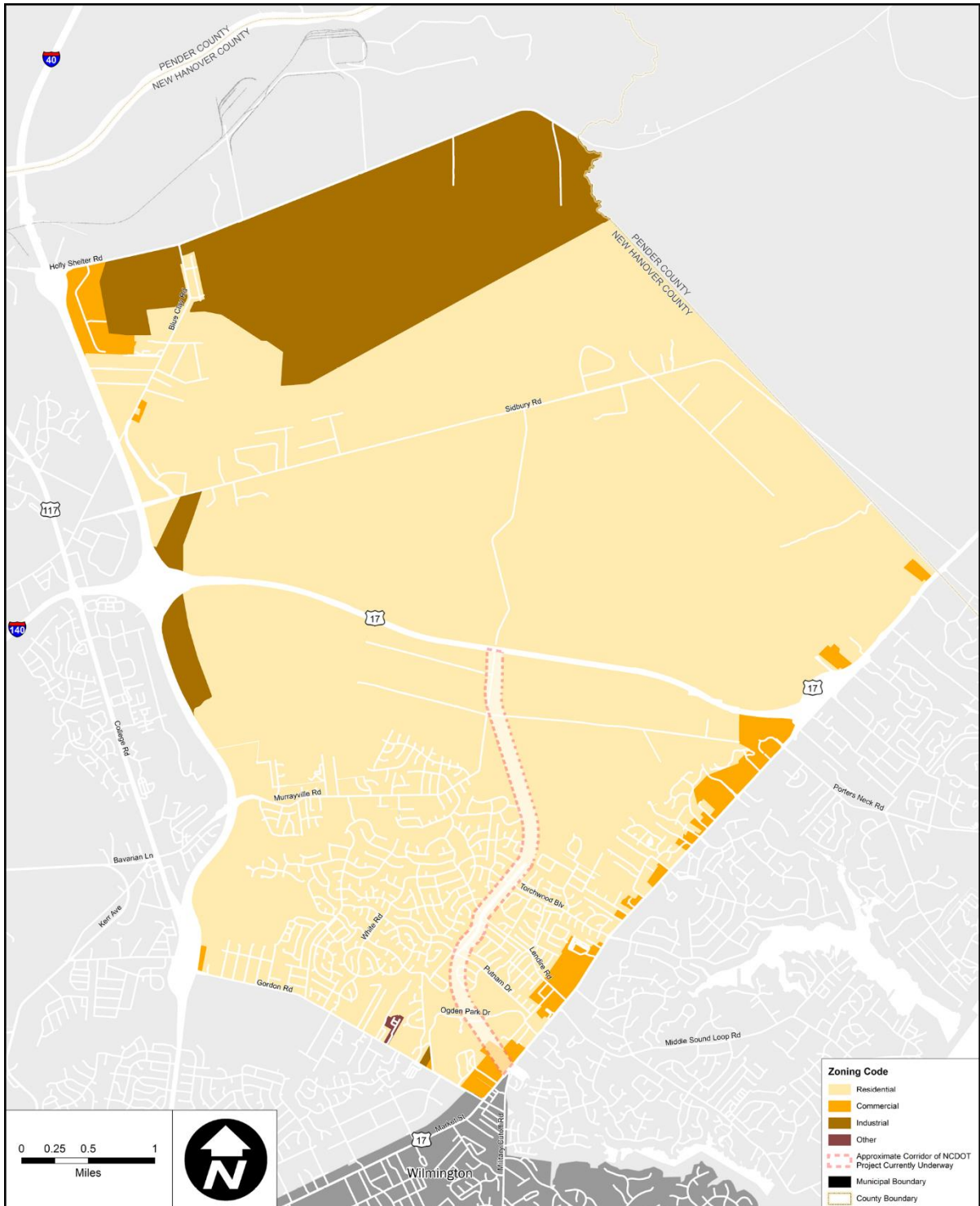
Several projects are in planning and construction phases parallel to the NNHC Future Streets Study. Future roadway projects affecting the Northeast New Hanover County Future Street Plan include the extension of Military Cutoff Road, the Hampstead Bypass, the widening of Gordon Road, and Market Street (US 17-Business) access management improvements.

Figure 11. Bicycle & Pedestrian Facilities



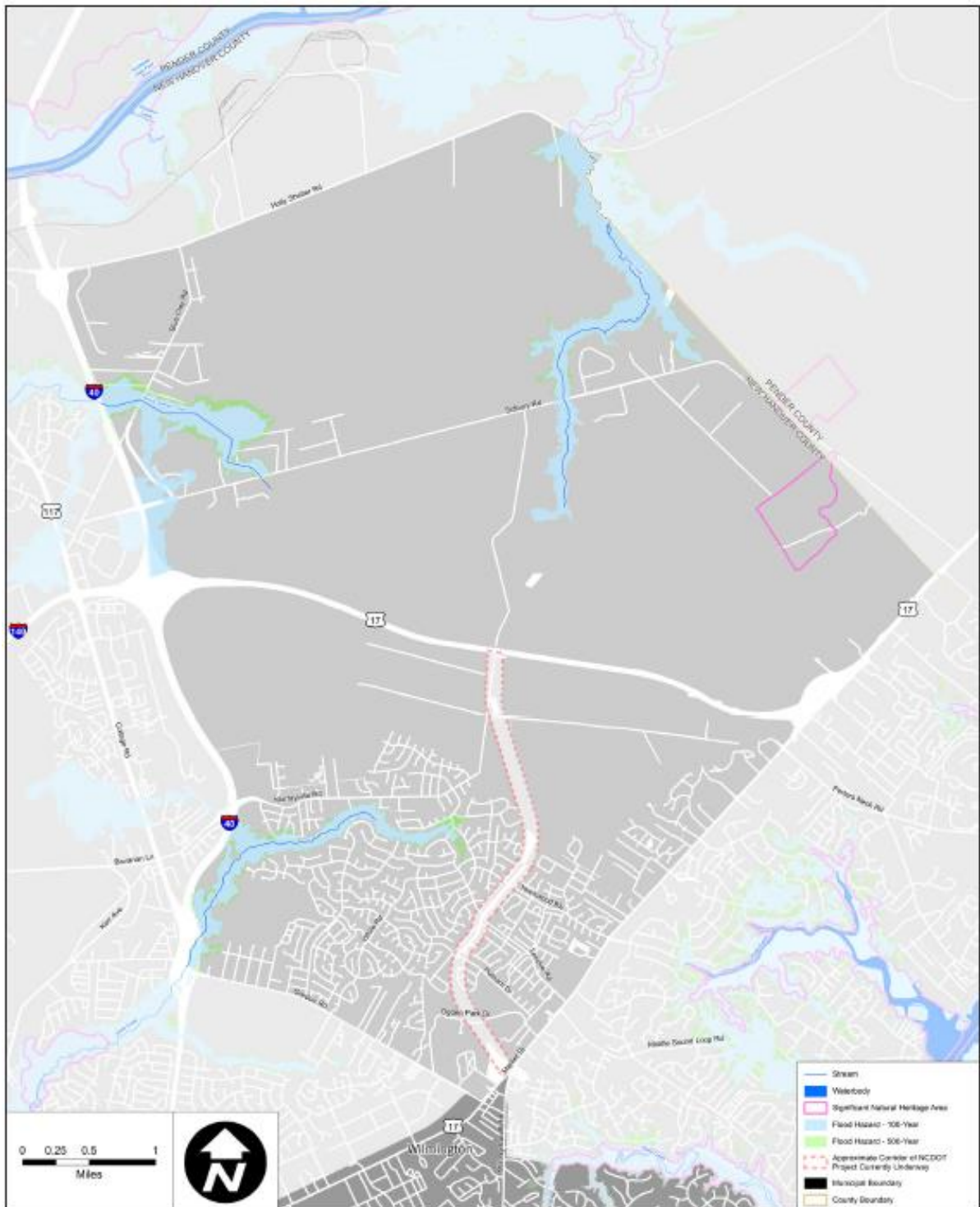
There are very few bicycle and pedestrian-dedicated facilities located within the boundaries of the NNHC. With few exceptions, the sidewalk connectivity within the study area is generally very low. Only a few residential blocks have sidewalks installed along the roadway, and there are no sharrows or bicycle lanes that would allow cyclists to safely share the road with motor vehicles. There are few planned facilities, such as sharrows and sidewalks, specifically designed to make active transportation easier within the Northeast New Hanover community itself. (Source: WMPO & New Hanover County.)

Figure 12. Zoning Classification



The NNHC study area is predominantly zoned in favor of residential uses. Commercially and industrially zoned areas are limited to the peripheries of the study area, primarily adjacent to major roadways.

Figure 13. Environmental Features



Almost all of the Plan study area is located in an environmentally sensitive area. Environmentally valuable wetlands and floodplains cover all of northeast New Hanover County and will be barriers to future development in the region. There are also a wide variety of local species whose habitat falls within the study area, including a significant natural heritage area in the northeast along the New Hanover and Pender county boundary. (Source: WMPO & New Hanover County.)