

MIDDLE SOUND/OGDEN

... Future Directions

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Patti A. Logsdon, Staff Planner
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MIDDLE SOUND/OGDEN
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NEW HANOVER COUNTY PLANNING DEPARTMENT

MAY 1987

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I. OVERVIEW

A. Summary of Recommendations

This plan addresses three critical areas of concern in the Middle Sound/Ogden community: traffic, development, and the environment. The traffic concern is basically a problem of an increasing number of automobiles using inadequate roadways. A number of options are presented as potential solutions to the traffic problem. While no one specific option is recommended, two options receive higher priority: 1) widen Market Street to 5 lanes from Eastwood Road to beyond Bayshore Estates, and 2) establish alternate access route(s) for Middle Sound Loop Road.

Related areas of concern for many Middle Sound/Ogden residents are residential density and the high rate of development. Several zoning options for controlling residential development are presented. The recommended action is to rezone undeveloped land in the study area to lower residential density, such as the R-20 Residential District or the RA Rural Agricultural District.

Finally, environmental quality is recognized as a critical issue. Several recently enacted environmental regulations are cited as potential protective measures.



B. Middle Sound/Ogden Community

Middle Sound/Ogden, a low-density, primarily residential community, has retained much of the rural atmosphere that existed when the loop road was first constructed between the Creeks and Sound. Surrounded by water, the area is home to several marinas and waterfront-oriented lifestyles. The community has come under increasing development pressures in recent years, development which is attracted in part by the waterfront and rural ambiance. Yet, this new development may be detrimental to the amenities that attract it in the first place. In addition, growth in Middle Sound/Ogden and nearby communities has created a strain on the infrastructure, especially the transportation network. While growth is inevitable, it must take place in a rational manner that provides adequate services, environmental protection, and a livable community.

C. Community Planning Process

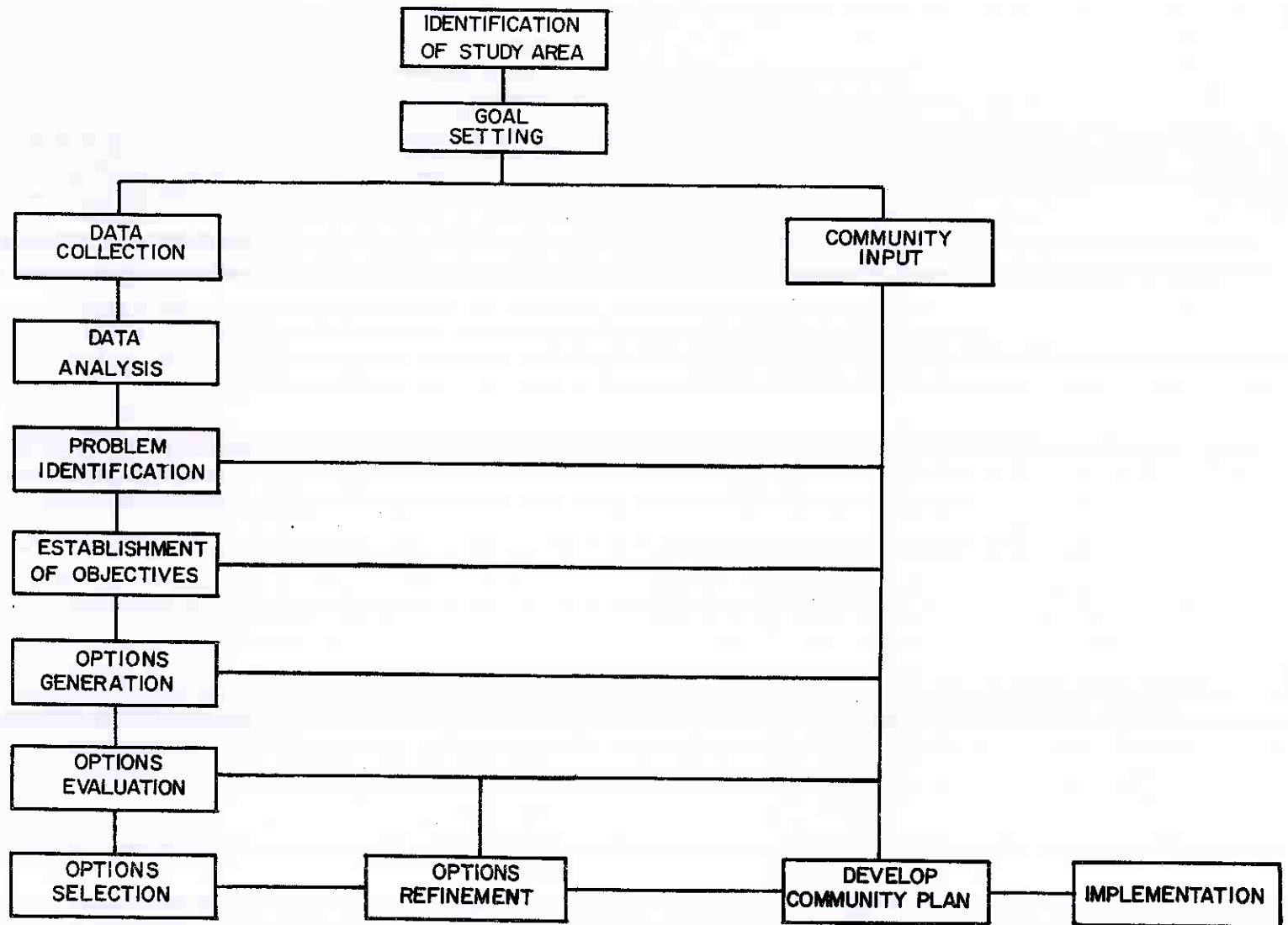
This plan is intended as a policy guide for the future growth and development of the Middle Sound/Ogden community. It represents an implementation action of the 1986 Wilmington - New Hanover Land Use Plan Update, which mandates neighborhood-level planning. The development of this plan has been a cooperative effort between residents, landowners, County Planning staff and others.

As illustrated in Figure 1, the planning process for the Middle Sound/Ogden community involved several steps. The first step in the process was the identification of the study area. Middle Sound/Ogden was defined as the area bounded by Pages Creek, Howe Creek, Middle Sound, and Market Street, including all of Middle Sound Loop Road, the El Ogden subdivision, and both sides of Market Street (see Figure 2). After the community was identified, an overall planning goal was set: "to provide a framework for managing the future growth and development of the area."

Since community input is a vital element in the planning process, the concerns of residents were solicited and used in the data collection, problem identification, and establishment of objectives. These data and community input were used to generate, evaluate, select, and refine options which represent potential solutions to area problems. This document, as the final plan, will serve as an implementation tool by which future decisions that will affect the area can be made.

FIGURE 1

COMMUNITY PLANNING PROCESS



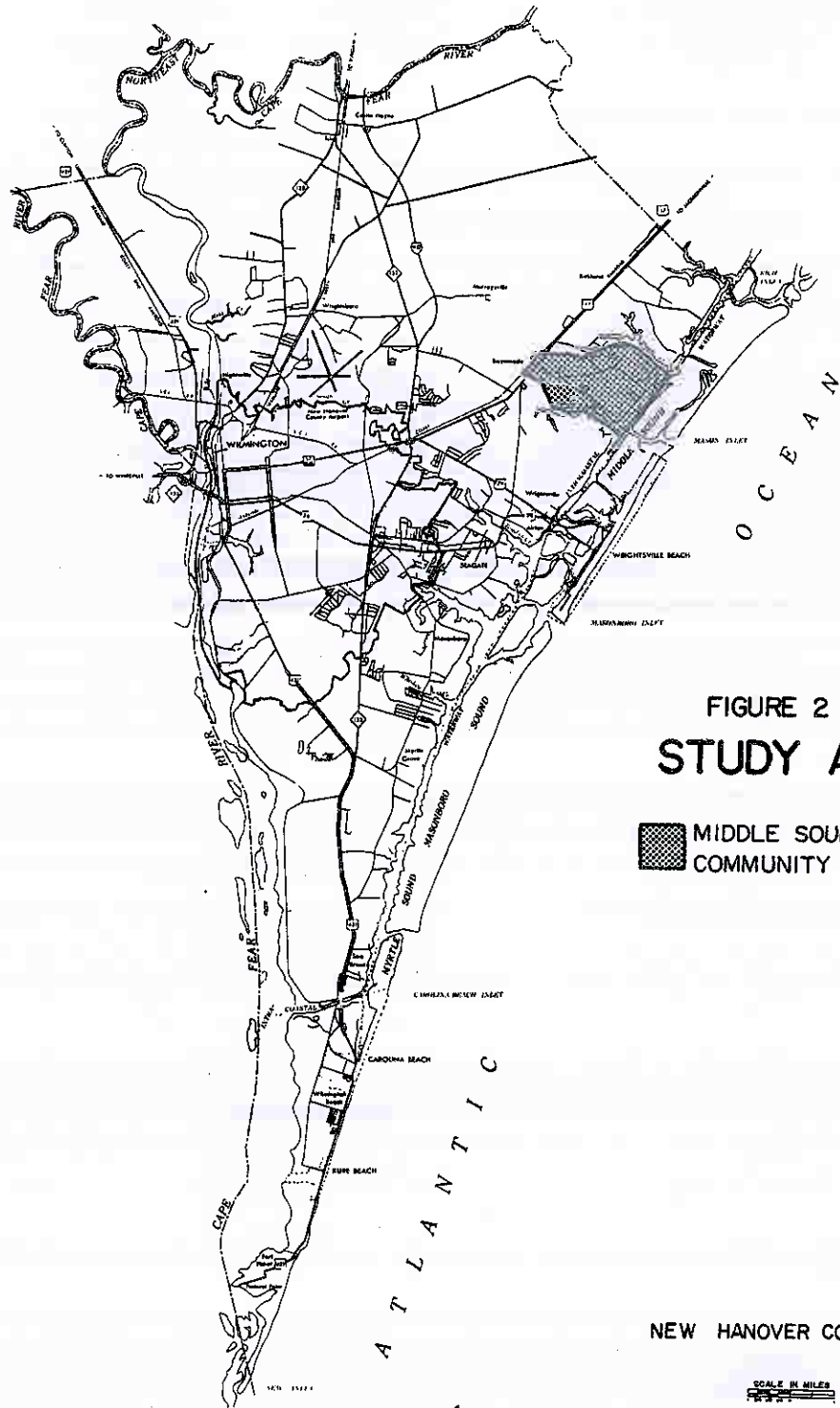


FIGURE 2
STUDY AREA

 MIDDLE SOUND/OGDEN
 COMMUNITY

NEW HANOVER COUNTY

SCALE IN MILES




II. COMMUNITY RESOURCES

A. Population and Housing

According to the 1980 census, the population of the Middle Sound/Ogden community was 2,811 persons (see Figure 3). The population was slightly younger, on average, than the County as a whole, and households were slightly larger. The median age of Middle Sound/Ogden residents was 29.3 years compared with New Hanover County's median age of 30.1 years. Approximately one-third of the study area population was composed of persons under 19. Average household size was 3.01 persons per household compared to averages of 2.93 and 2.69 persons per household for the unincorporated County and Countywide, respectively. Although there are a few black and other minority households in the community, the area contains a mostly white population. Also in 1980, there were 982 housing units in the area, with the majority consisting of single-family dwelling units. However, as a result of the need for more accurate data as it relates to the community today, County Planning staff conducted a housing inventory in late Fall 1986. As indicated by Figure 4, there were approximately 1,106 housing units, which is a 12.6% increase from 1980. Taking the increase in the total number of dwelling units into consideration, the current population is estimated to be 3,233, based on the 1980 average household size of 3.01 persons.



B. Existing Land Use

The land use pattern in Middle Sound/Ogden, as shown in Figure 5, is predominantly residential in character with the exception of the area along U.S. 17 (Market Street), which is devoted primarily to commercial uses. Subdivisions containing single-family detached housing are the principal residential land use. Other residential land uses within the area include a duplex development, and mobile homes and mobile home parks.

Non-residential uses include ^{now 2} four commercial marinas located along Pages Creek and the Sound, and a small convenience store located on Mason Landing Road. Other non-residential land uses include a school and school play ground, a private recreation area, and several churches scattered throughout the community.



FIGURE 3

1980 CENSUS DATA

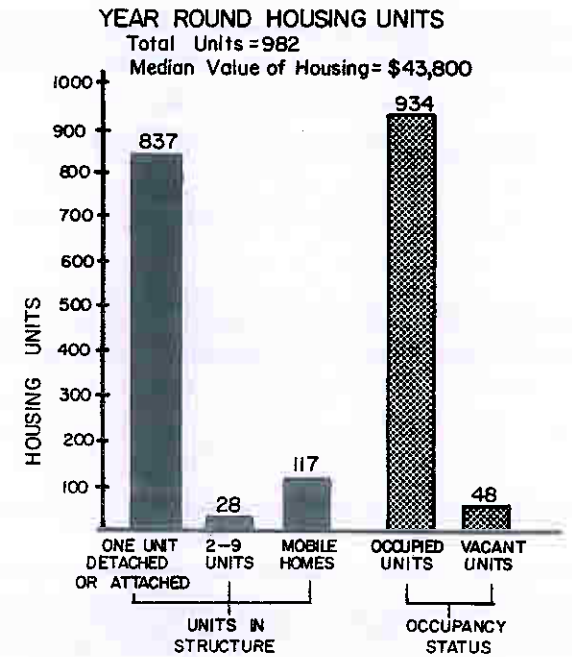
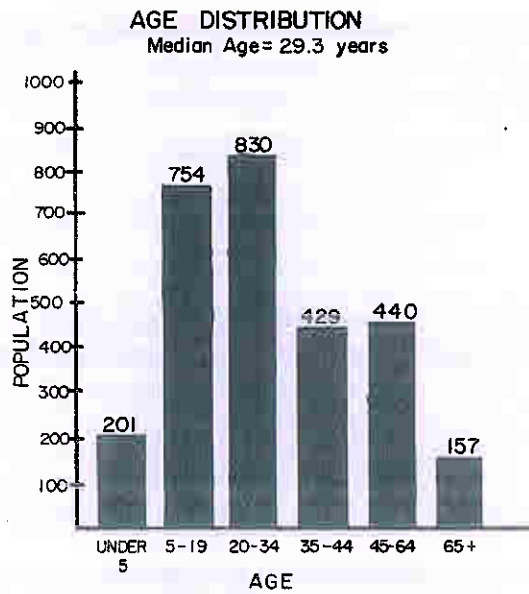
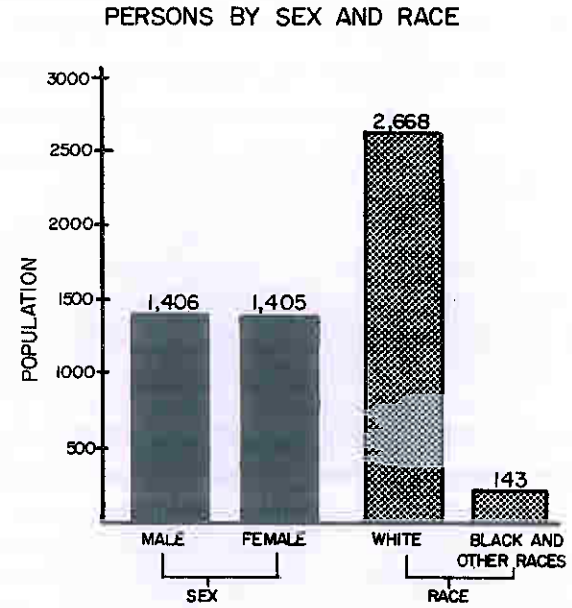
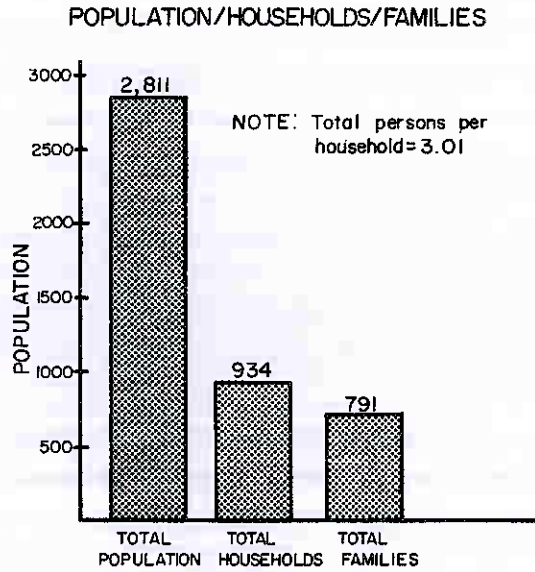
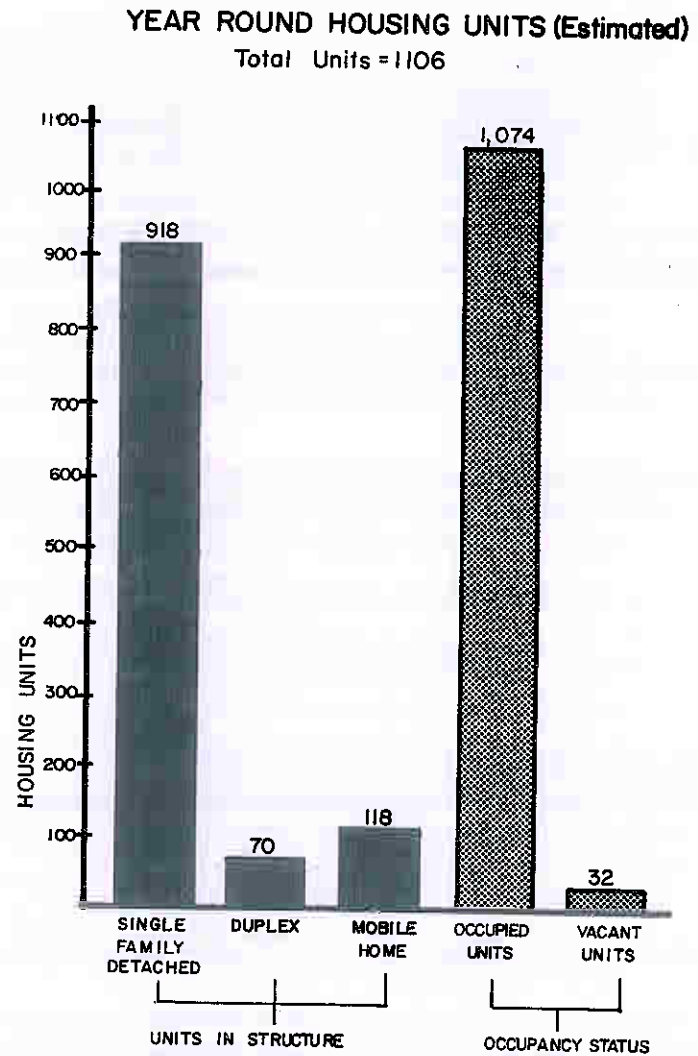
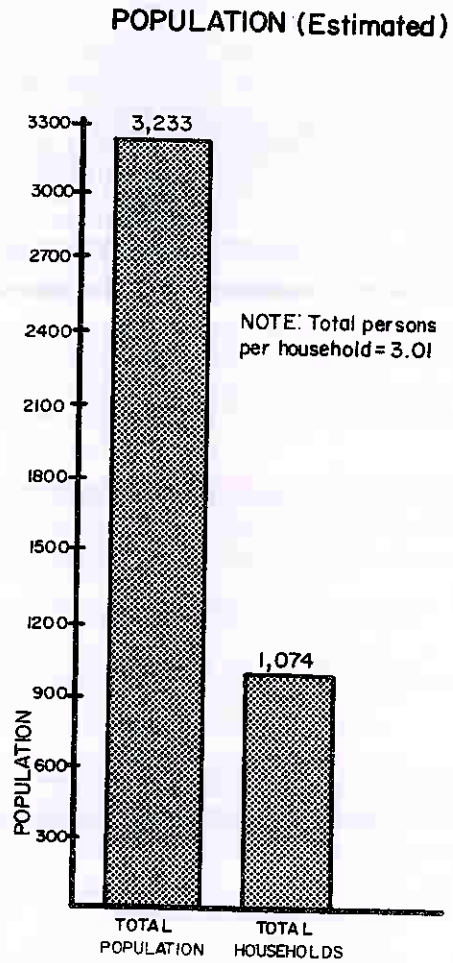
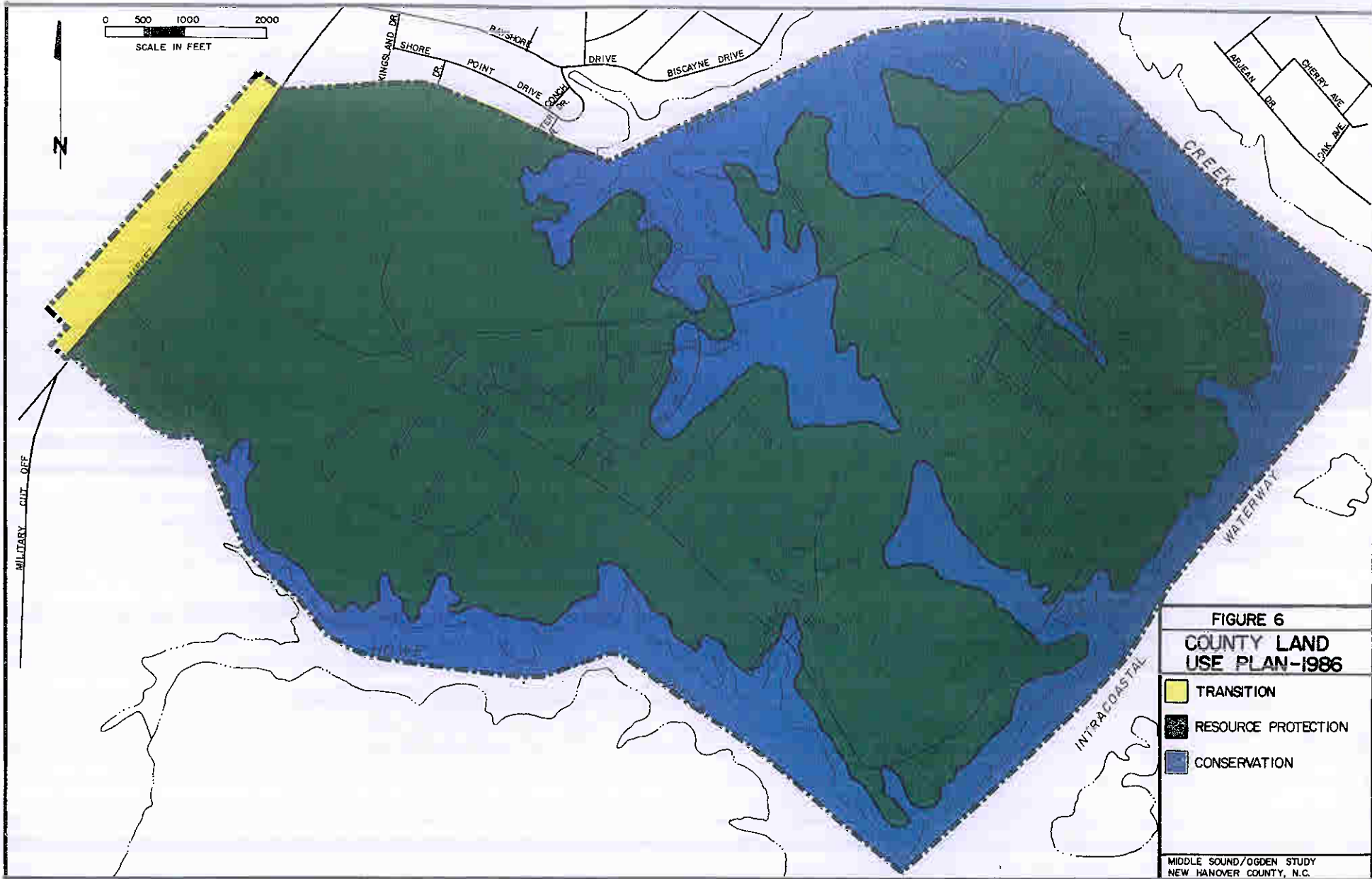
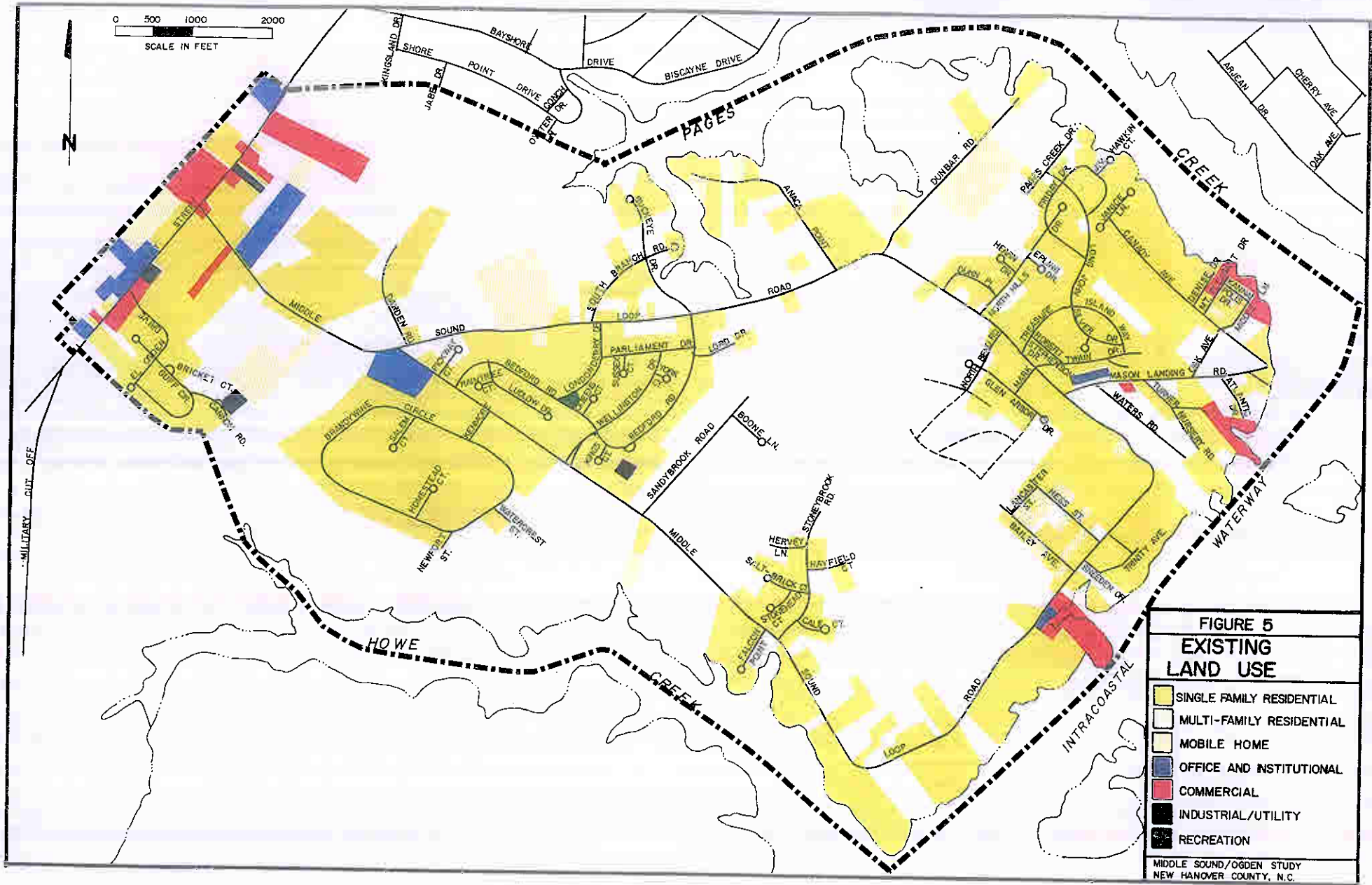


FIGURE 4

1986 HOUSING INVENTORY







C. Land Regulation and Developable Land

1. Land Classification

According to the County's 1986 Land Classification Map, the Middle Sound/Ogden community, as indicated in Figure 6, is designated Conservation, Resource Protection, and Transition.

The Conservation class is located along Pages and Howe Creeks and Middle Sound. The purpose of this class is to provide for maximum protection of land. The Conservation class generally includes all land within the 100 year floodplain, land which is undesirable for intensive development due to physical or environmental constraints. Other than water dependent uses and exceptional developments which preserve natural features, lands in the Conservation class are required to be preserved in their natural state.



The Resource Protection class is located within the interior of the study area. The purpose of the Resource Protection class is to protect culturally or environmentally sensitive areas from urban land uses. Residential density in both the Conservation and Resource Protection class is not to exceed 2.5 dwelling units per acre. Constraints within an area, however, may require densities to be as low as 1.0 unit per acre.

The Transition class is located on the west side of Market Street. The purpose of this class is to provide for future urban development of land that will receive adequate public services. High density development that exceeds 2.5 dwelling units per acre may be located within a Transition class if the development is adequately served by sewer and the municipal or County water system, and has direct access to a minor or major arterial as classified under the New Hanover County Thoroughfare Classification System.



2. Existing Zoning

A major factor in determining the potential for future development of an area is zoning. As indicated in Figure 7, the existing zoning districts in the Middle Sound/Ogden community are R-10, R-15, and R-20 Residential Districts, and B-2 Highway Business District. The following discussion and Figure 8 describe the zoning districts in the study area.

R-10 Residential District

The purpose of the R-10 Residential District is to insure that residential development having access to a state approved public water system, but dependent upon septic tanks for sewage disposal will be developed at densities to insure a healthful environment. The minimum lot area is 10,000 square feet for single-family dwellings and 15,000 square feet for duplexes, which are allowed by Special Use Permit. Both mobile homes and mobile home parks are permitted uses. The maximum allowable density is 3.3 units per net acre.



R-15 Residential District

The R-15 Residential District insures that residential development not having access to public/community water systems and dependent upon septic tanks for sewage disposal will be developed at sufficiently low densities. The minimum lot area for a single-family dwelling or mobile home is 15,000 square feet, and for a duplex, 25,000 square feet. Mobile home parks are also a permitted use. The maximum allowable density is 2.5 dwelling units per net acre.



R-20 Residential District

The R-20 district is intended for low density residential and recreational purposes. The minimum lot area for a single-family structure is 20,000 square feet, and for a duplex, which are allowed only by Special Use Permit, 35,000 square feet. In this district, mobile homes also require a Special Use Permit, while mobile home parks are not permitted. The maximum allowable density is 1.9 dwelling units per net acre.

In these residential districts, Performance Residential Development is permitted. Performance Residential is typically a cluster development in which a number of dwelling units are grouped, leaving some land undivided as open space. The number of units that can be built under Performance Residential is no greater than the number that can be built in a traditional subdivision. Under Performance Residential, however, large areas of land are left open for common use.

B-2, Highway Business District

The B-2 district is intended to provide for the appropriate clustering and development of roadside business uses which accommodate the needs of both the motoring public and businesses which generate high traffic volumes. In this district, the primary means of ingress and egress is along collector roads, minor arterials, and/or major arterials as designated on the County's Thoroughfare Classification Plan. A B-2 District may be no less than 5 acres in area.

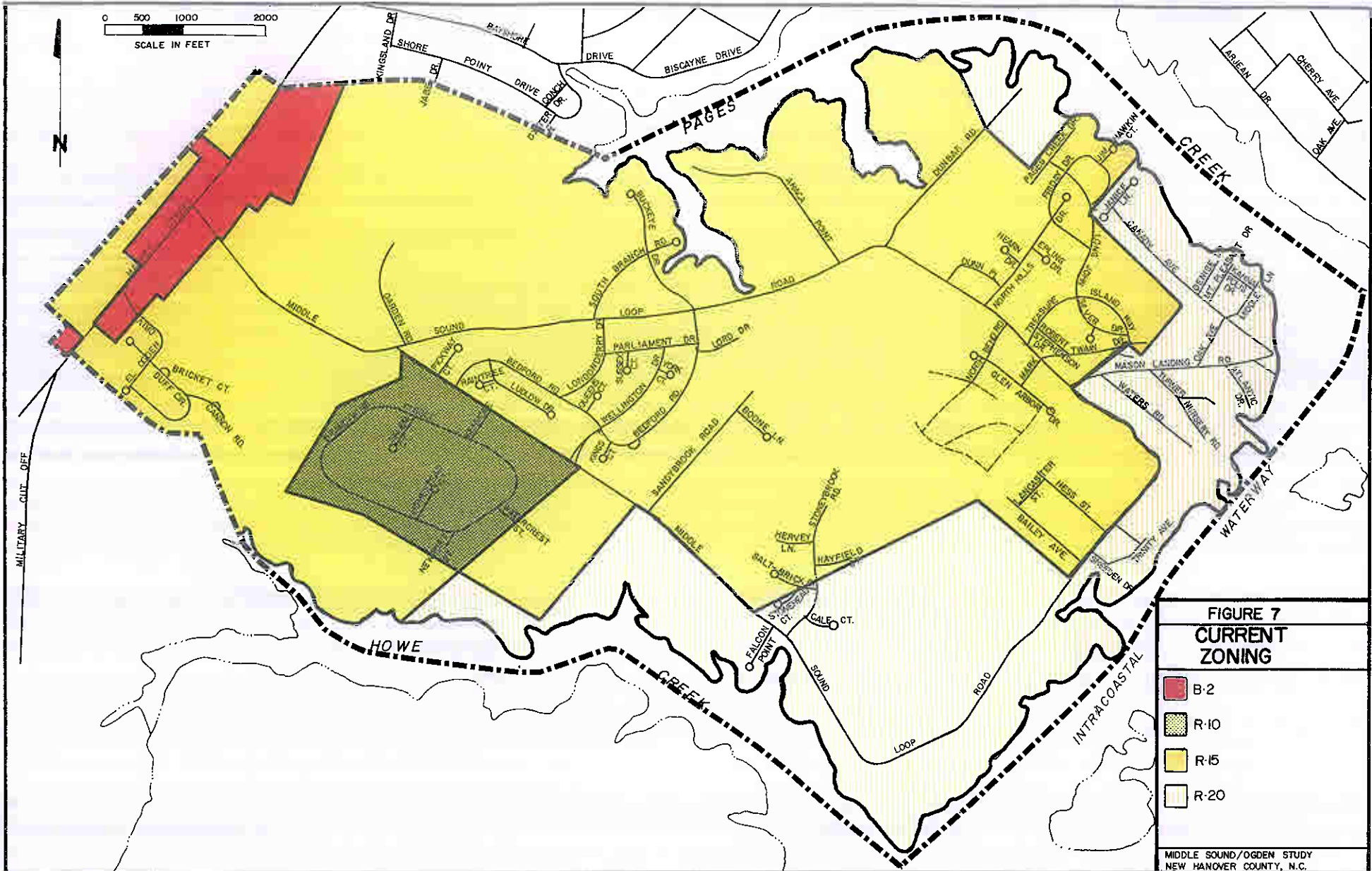


FIGURE 8

EXISTING RESIDENTIAL ZONING

ZONING	CONVENTIONAL RESIDENTIAL- MINIMUM LOT SIZE	PERFORMANCE RESIDENTIAL- MAXIMUM DENSITY	SINGLE FAMILY DWELLING	DUPLEX	MULTI-FAMILY	MOBILE HOME	MOBILE HOME PARK*
R-10	10,000 sq. ft.	3.3 units/acre	P	S	P	P	P
R-15	15,000 "	2.5 "	P	P	P	P	P
R-20	20,000 "	1.9 "	P	S	P	S	-

P= PERMITTED

S= SPECIAL USE PERMIT REQUIRED

--= NOT PERMITTED

*MOBILE HOME PARKS WITH A DENSITY GREATER THAN 2.5 UNITS PER ACRE ARE NOT PERMITTED IN RESOURCE PROTECTION AND CONSERVATION CLASSES



3. Developable Land

As a result of concerns about residential development, planning staff identified developable (vacant) land in the study area. There are approximately 900 acres of undeveloped land that is zoned R-15, and approximately 300 acres of undeveloped land zoned R-20. Undeveloped R-15 and R-20 land, as well as developed land, is shown in Figure 9.

The large amount of undeveloped land in the Middle Sound/Ogden community points out the potential for new development. In the last several months, for example, two new residential subdivisions have been proposed.

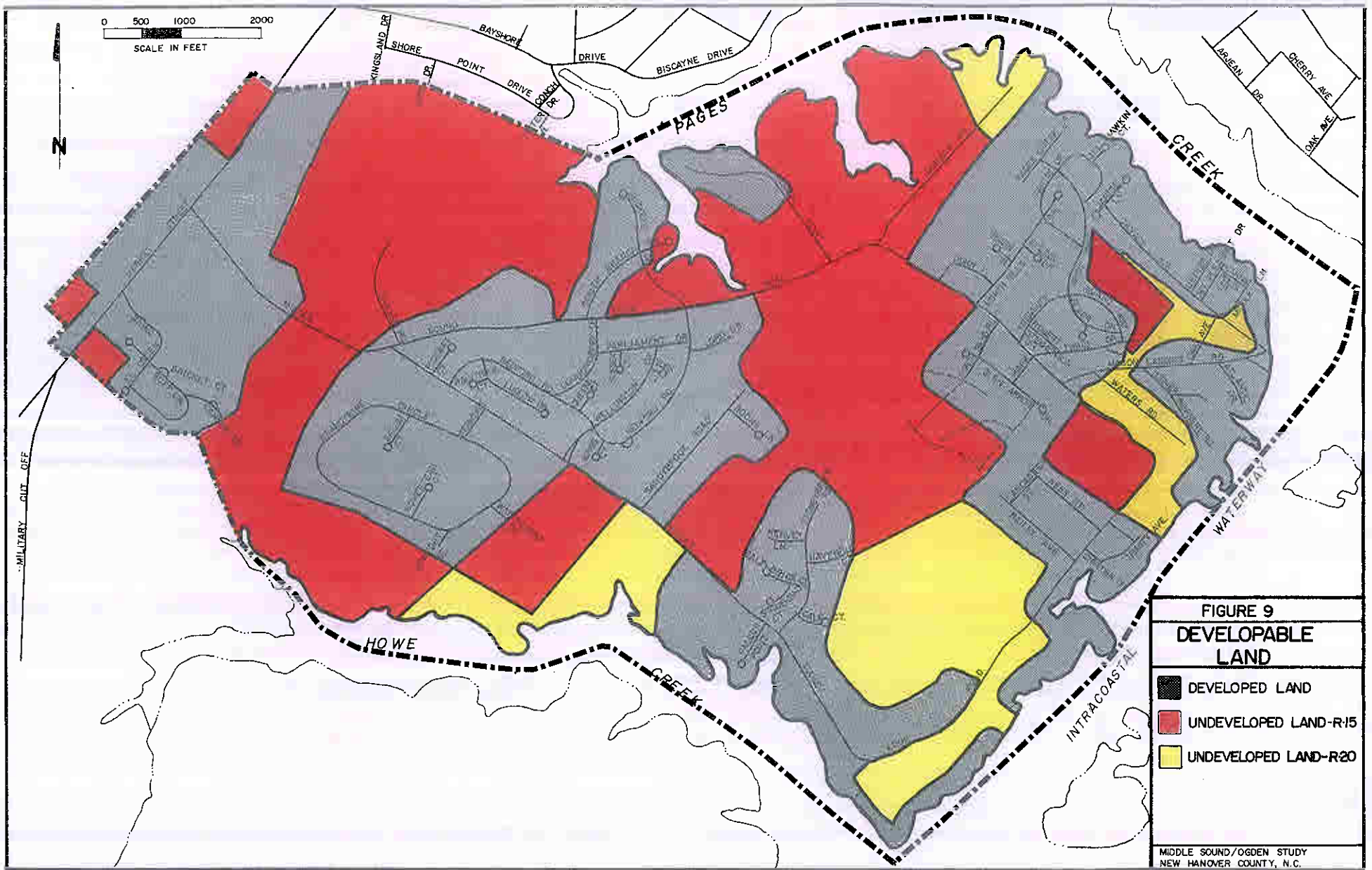


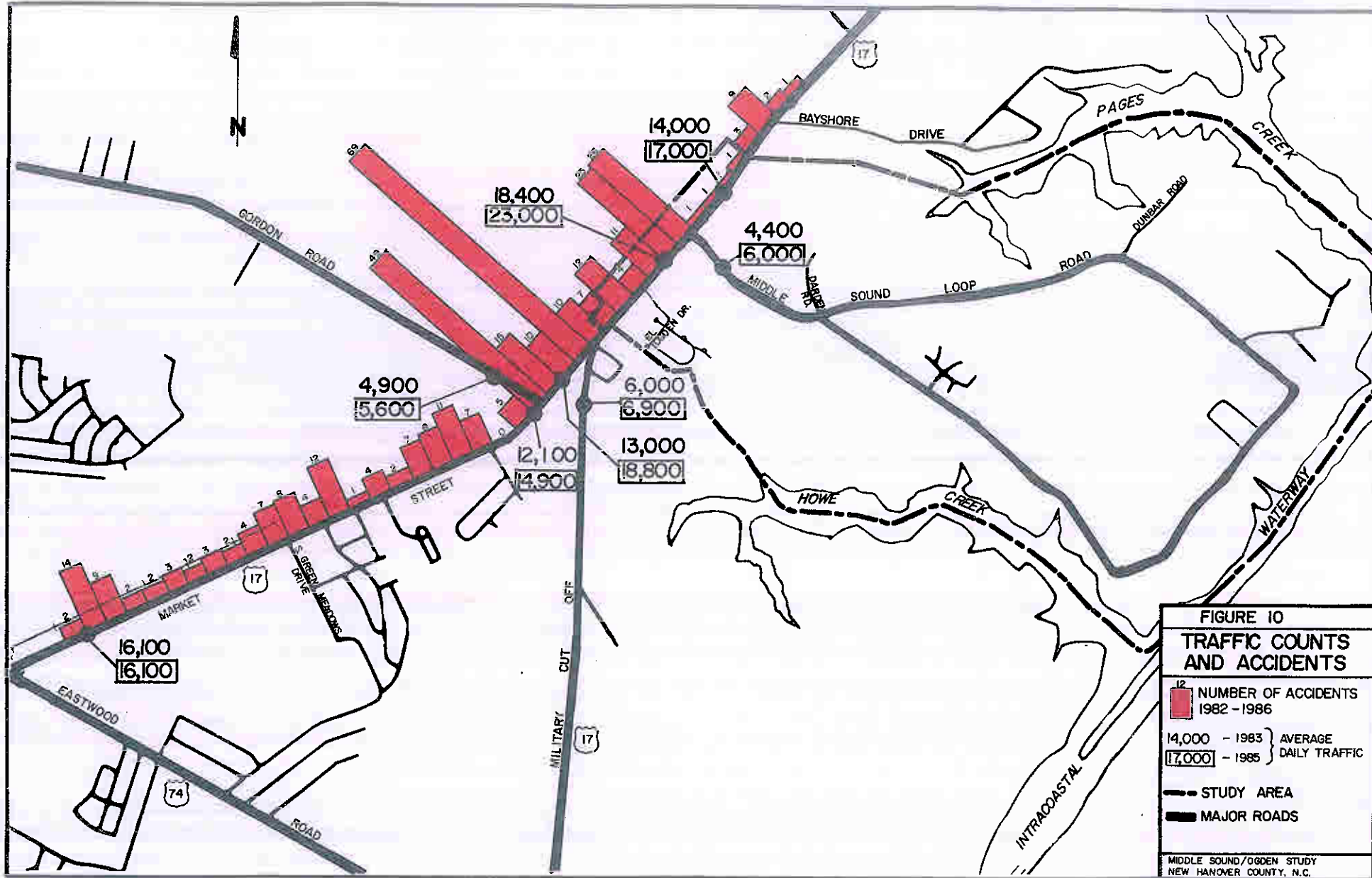
D. Transportation Network

The transportation network in the Middle Sound/Ogden community can best be described as "overloaded." The number of automobiles using area roads has increased dramatically in the past several years. Market Street (U.S. Highway 17) is the major artery serving Middle Sound/Ogden. U.S. 17, which runs along the entire coastal area of North Carolina from Virginia to South Carolina, is heavily used, both by travelers and local area residents. Morning and evening rush hour traffic is particularly heavy, due to commuters to and from Wilmington.



Figure 10 shows average daily traffic counts in the Middle Sound/Ogden area in 1983 and 1985. Traffic along Market Street between Bayshore Drive and Gordon Road increased 21 to 42 percent in this two-year period. Traffic counts along this section of Market Street ranged from 15,000 to 23,000 in 1985, although a two-lane road such as Market Street is designed for no more than 16,000 vehicles per day. Traffic counts on Gordon Road and Military Cutoff near Market Street each increased approximately 15% from 1983 to 1985.







Corner of Middle Sound Loop Road and Market Street during morning rush hour. Photo courtesy of Wilmington Star-News.

Middle Sound Loop Road traffic was estimated, based on Market Street traffic counts, to have increased from 4,400 to 6,000 vehicles per day during the two-year period. It is likely, however, that traffic is higher than 6,000 vehicles per day, since the average residence generates 6 - 8 vehicle trips per day. The 1986 housing inventory revealed 985 occupied housing units that must use Middle Sound Loop Road to gain access to Market Street, resulting in 5,910 to 7,880 vehicles per day for residents alone. Traffic on Middle Sound Loop Road is compounded, especially during the morning rush hour, by the existence of Ogden Elementary School on the Road. The Sheriff's department directs morning traffic at the Market Street/Middle Sound Loop Road intersection when school is in session.



Automobile accidents which occurred along Market Street from July 1982 to July 1986, are also shown on Figure 10. The greatest number of accidents occurred at the intersections of Market Street with Military Cutoff, Gordon Road, and Middle Sound Loop Road. The majority of these accidents were classified by the North Carolina Department of Transportation as either rear end, left turn, or angle collisions. Since these types of accidents indicate the need for left turn lanes, the middle lane of Market Street was changed from a passing to a left turn lane in 1984.

E. Environmental Resources

The Middle Sound/Ogden community has been blessed with a variety of environmental resources that contribute greatly to the high quality of life enjoyed by the residents. These resources include the waters of Middle Sound and the Creeks, the soils, and the natural conservation areas.

1. Water Quality

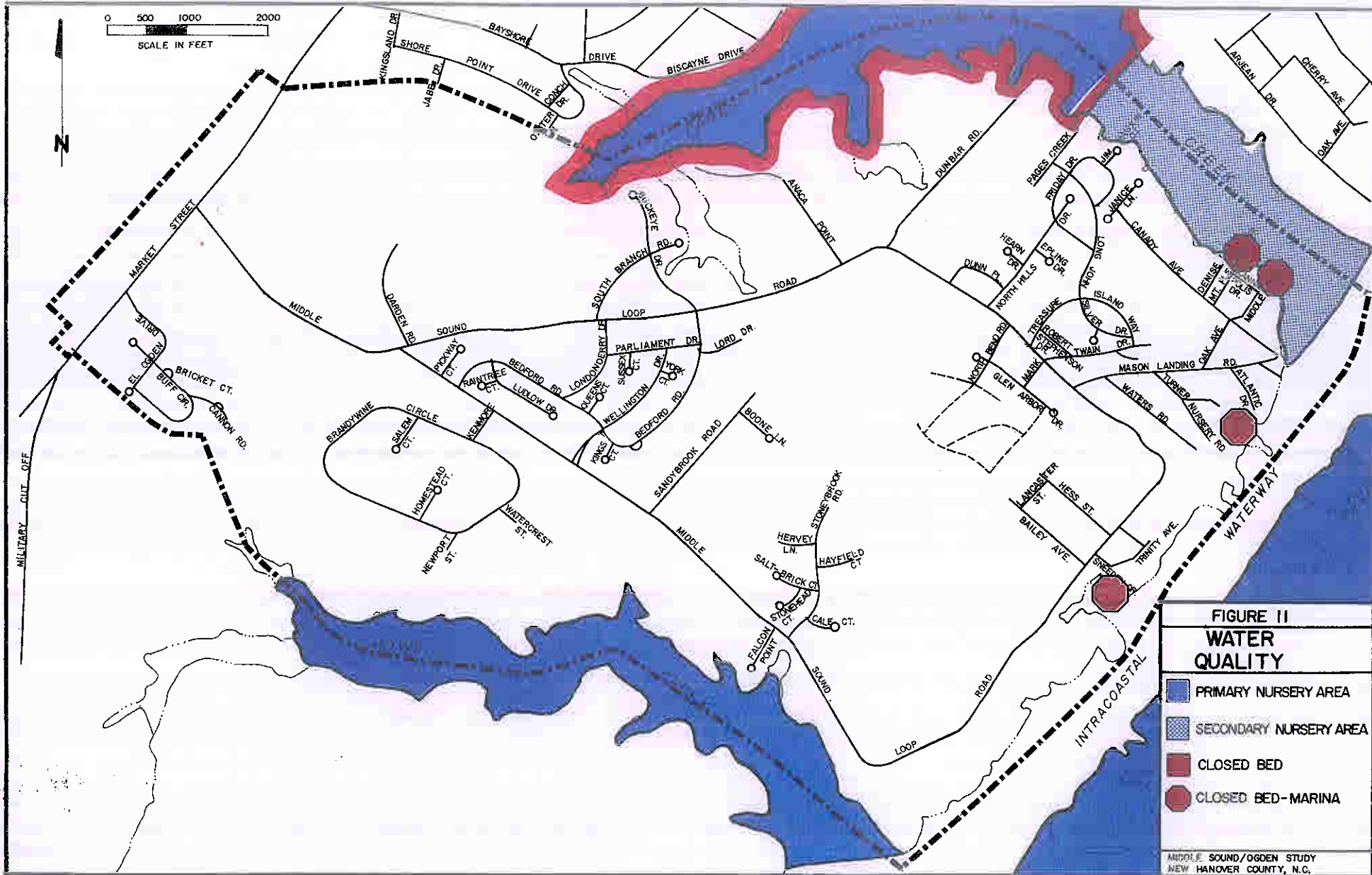
The residents of this area have enjoyed clean, productive waters suitable for shellfishing, swimming, and as primary nursery habitat for fisheries. These waters, however, are facing increasing pressure from marinas, failing septic systems, and stormwater runoff from surrounding residential development.

Figure 11 shows the locations of primary and secondary nursery areas. Nursery areas are vital in providing juvenile habitat for important species of finfish and shellfish. Primary areas are generally considered more productive than secondary areas due to such factors as creek bottom characteristics.



Figure 11 also shows the locations of shellfish beds presently closed to harvesting. The closing of shellfish beds, which is determined by the N. C. Division of Health Services, is usually due to pollution from one or more sources. These include organic wastes and fecal coliform from malfunctioning septic tanks, discharge of human wastes from boats, and stormwater runoff from impervious surfaces such as parking lots.

It is important to note, however, that all Middle Sound waters in the study area are classified SA by the N.C. Division of Environmental Management (DEM). SA is the highest saline water classification available, and these waters are considered to be suitable for shellfishing or swimming.



0 500 1000 2000
 SCALE IN FEET



MILITARY CUT OFF

INTRACOASTAL WATERWAY

MIDDLE SOUND/OGDEN STUDY
 NEW HANOVER COUNTY, N.C.

2. Soil Classes

The soils of the Middle Sound/Ogden Community support a variety of biotic communities and allow for residential development. These soils range from high, dry sandy bluffs to mucky soils with several feet of partially decomposed organic material.

Figure 12 shows the classes of the soils of the study area as related to their suitability for septic tank development. Class I soils are generally very suitable for septic system use and Class IV soils are unsuitable under any condition. Classes II and III fall in between.

Also indicated by Figure 12, the Class IV soils are concentrated in the marsh areas and along the major drainage ways. There are numerous areas of Class I soils, however, along the waterfront. To a great extent, development has occurred on those soils most suitable for septic systems. The County's sewer system, which is planned for the Middle Sound area by 1991, will eliminate the problem of poor septic systems, but will also open up areas with poor soils for new development.



3. Conservation Areas

Middle Sound/Ogden has a number of biotic communities, or areas with certain types of vegetation, animals, and physical features, that contribute significantly to the natural environment. Figure 13 shows the major wetland communities that aid in stormwater retention and groundwater recharge, and that support wildlife, birds, and the estuarine ecology.

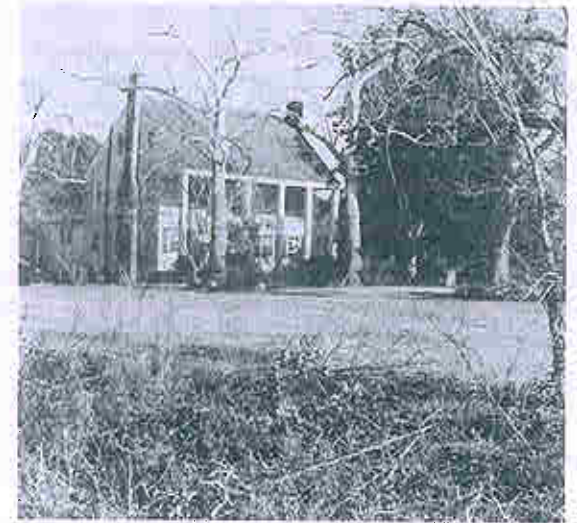
The salt and brackish marshes are dominated by such species as Spartina and black needle rush. The swamp forests have canopies of cypress, gums, and maples. The pocosins are defined by a scattered pine overstory with a thick shrub understory and are occasionally supported by deep organic soils. Natural ponds are interspersed within these areas.

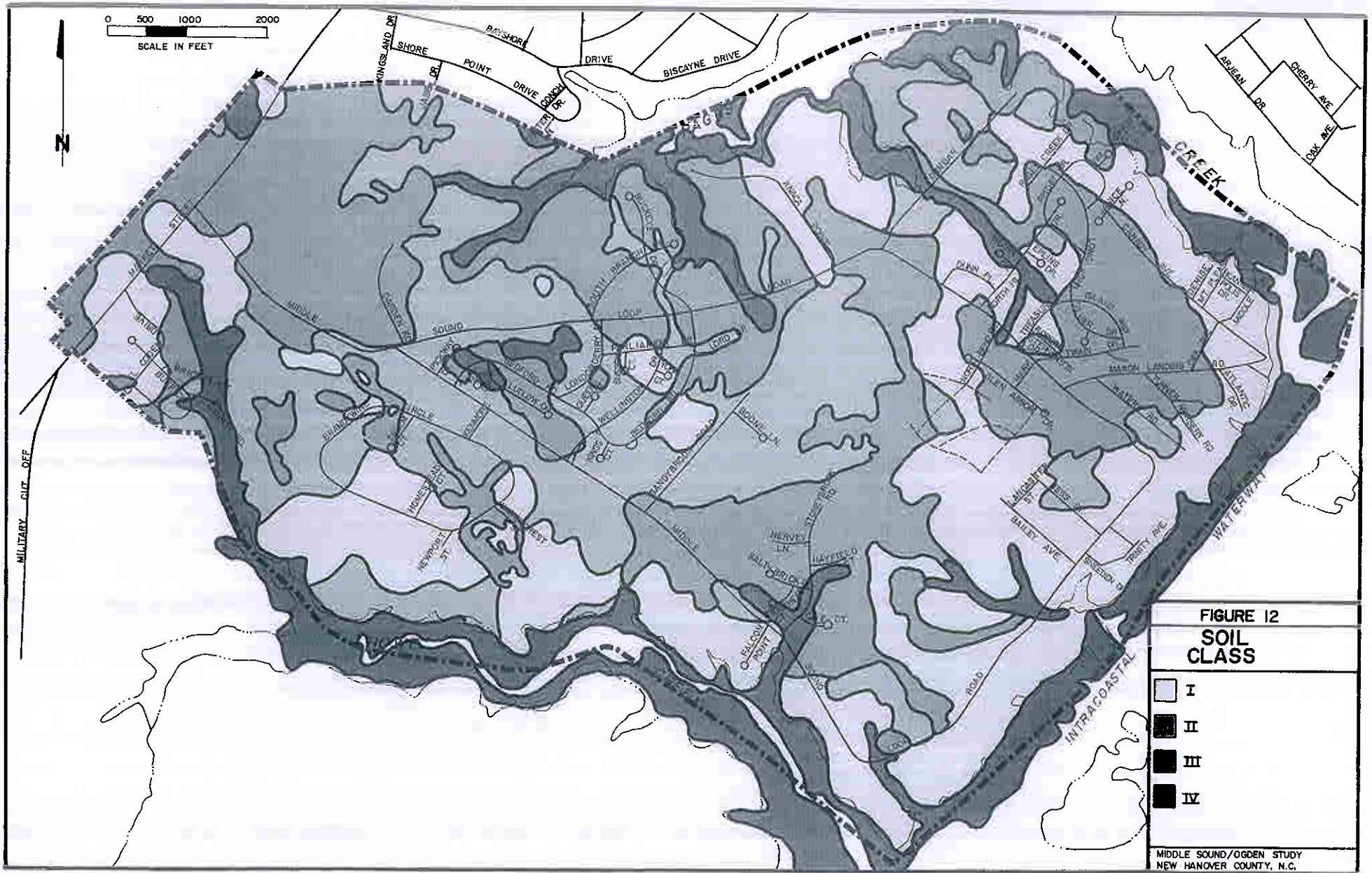
To a great extent, these conservation areas have remained undeveloped because they are generally associated with soils that are unsuitable for septic tanks. Upon the completion of the County's sewer system, however, these areas will begin to feel more development pressure.

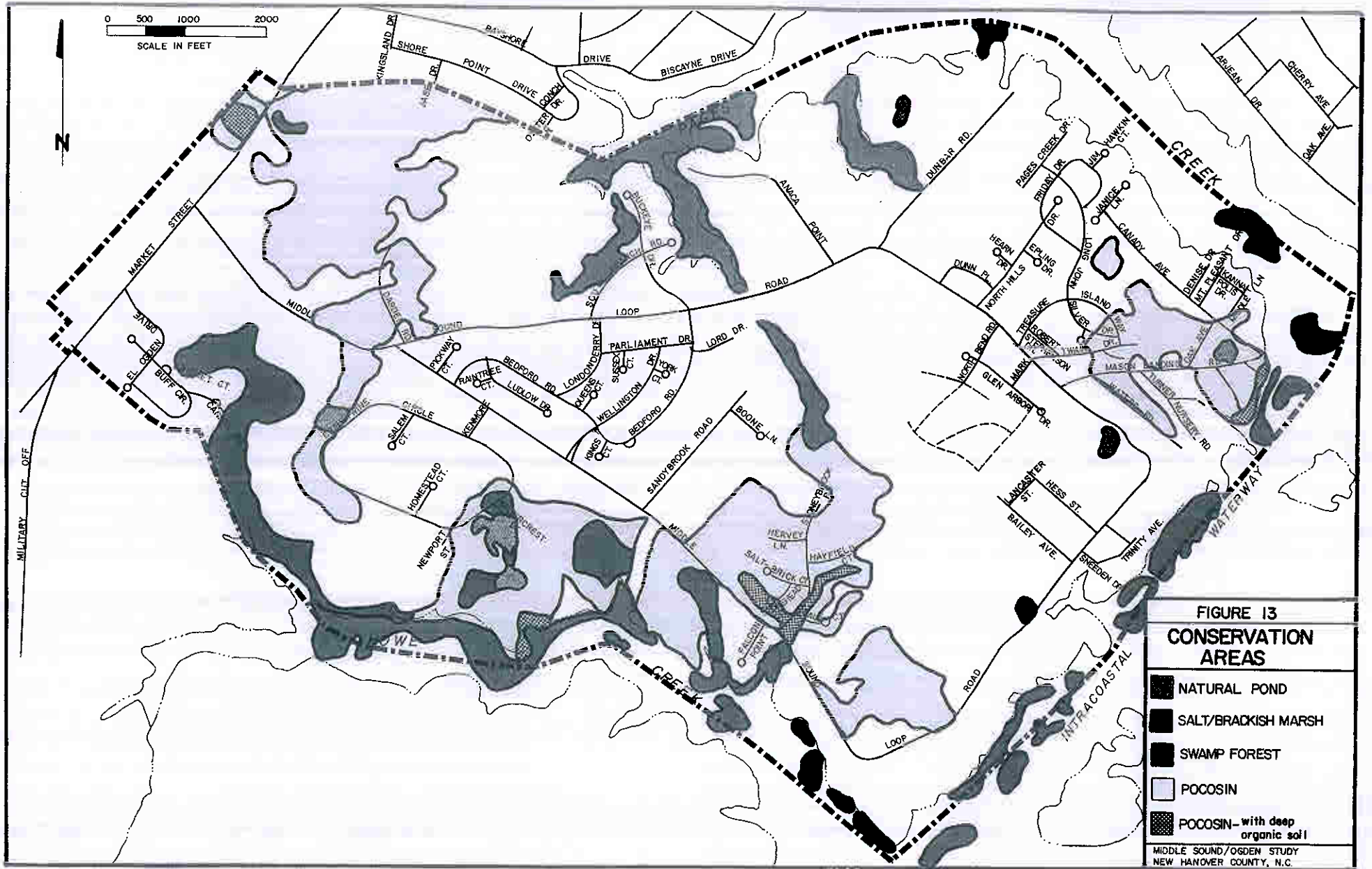


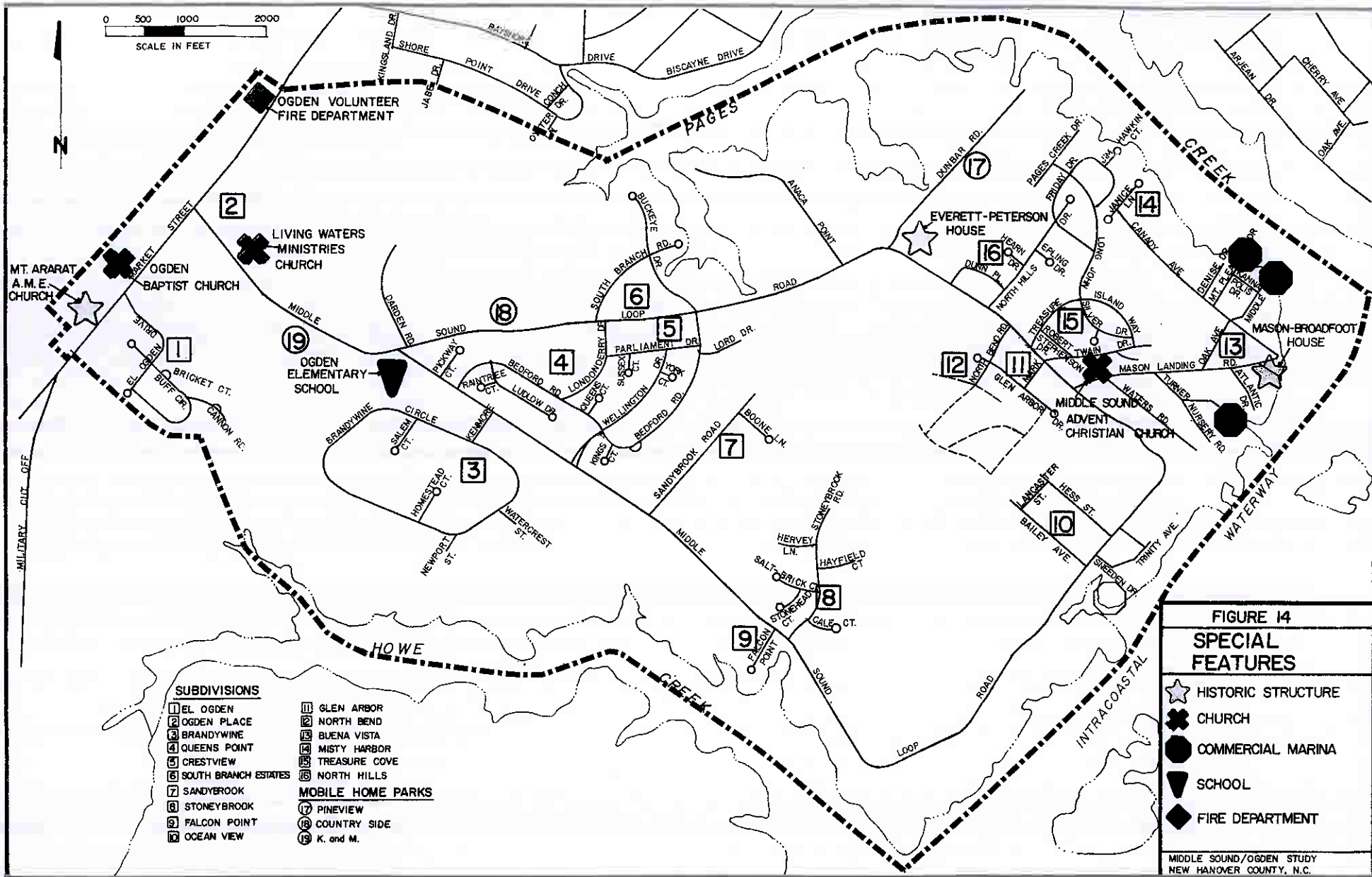
F. Special Features

In almost all communities there are special features worthy of recognition. Special features identified in the Middle Sound/Ogden Community, as shown in Figure 14, include three historical properties: Mt. Ararat A. M. E. Church, the Everett-Peterson House, and the Mason-Broadfoot House. These historical properties were identified in the historical/architectural inventory conducted by the County. Other special features identified in the study area include the Ogden Elementary School and playground; Queens Point swimming pool and play area; community churches; commercial marinas; the volunteer fire department; residential subdivisions; and mobile home parks.









III. ISSUES AND CONCERNS

A. Community Concerns

In order to identify the major issues important to residents of the Middle Sound/Ogden community, the Planning Department conducted a mail survey and two community meetings. Of approximately 850 questionnaires mailed to residents and property owners in October 1986, 401 were returned by December 1, for an excellent response rate of 47%. Attendance at the two community meetings was also good, with approximately 150-200 citizens present at the first meeting on November 20, and 75-100 citizens in attendance at the January 12, 1987 meeting.

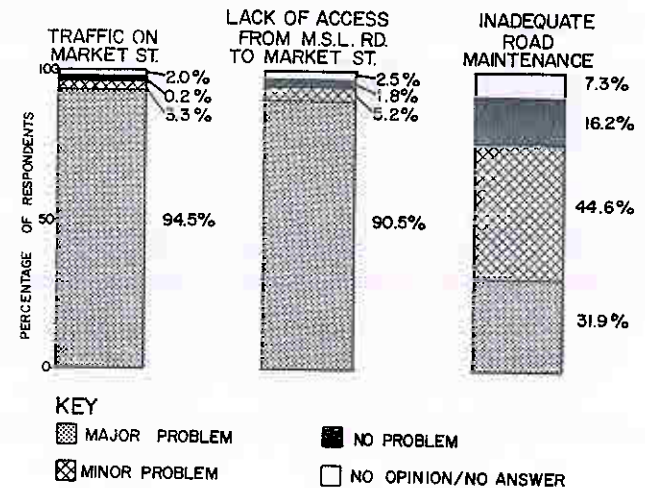
Areas of concern included traffic, development, and environmental issues. Respondents to the survey were asked to rate 18 issues as a "major problem," "minor problem," or "no problem." Additional space was permitted for comments. The following discussion and graphic illustrations (Figure 15 a-f) describe citizen response to the survey and community meetings. The questionnaire is included in Appendix A.

1. Traffic

Not surprisingly, traffic congestion was identified as the biggest problem in the Middle Sound/Ogden community. Almost all of the survey respondents (98%) felt that traffic congestion on Market Street in the Ogden area is a problem. Ninety-six percent identified lack of another road connecting Middle Sound Loop Road (MSLR) to Market Street as a problem. Inadequate road maintenance is a major problem for 32% of the respondents, and a minor problem for 45%. Specific comments and suggestions about traffic included: "add another access from MSLR, either to Market Street or Military Cutoff; widen Market Street to 4 or 5 lanes and lengthen turning lanes; extend Smith Creek Parkway or another bypass to the area; widen and straighten MSLR; provide better road maintenance; install more traffic lights on Market Street; lower speed limit on MSLR; improve the signal light sequences at Gordon Road and at MSLR; and add bike lanes or pedestrian paths."



FIGURE 15A
TRAFFIC CONCERNS

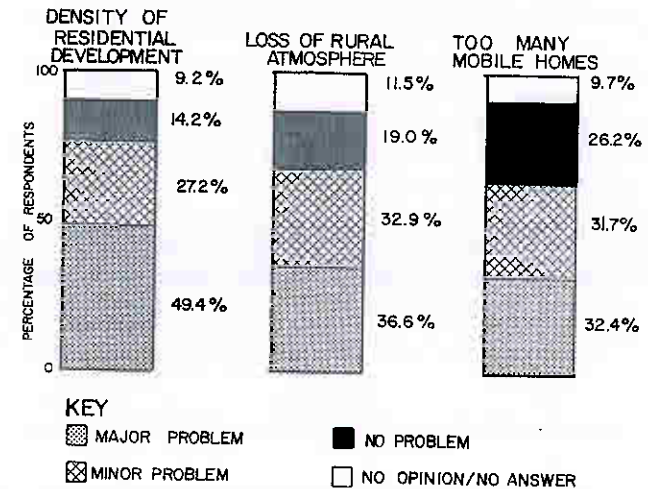


2. Development

Increased residential development is a related area of concern. Over three-fourths (77%) of the survey respondents felt that density of residential development is a problem, with almost half (49%) identifying it as a major problem. Citizens expressed concern over the relationship between the increasing residential density on MSLR and traffic problems. While more traffic is one obvious ramification of development, other issues were also raised. Loss of rural atmosphere was identified as a major problem for 37%, and a minor problem for another 33% of respondents. On the issue of mobile homes, 64% felt they are a problem, with approximately half that number (32%) saying mobile homes are a major problem. However, over one-fourth (26%) of the respondents see mobile homes as no problem. Comments and suggestions regarding density and development included: "slow/stop growth, at least until traffic problems are resolved; downzone to lower density (i.e. larger lots, single-family housing); restrict mobile homes and mobile home parks; restrict multi-family/high-density developments; preserve rural atmosphere; curtail business/retail in the area; and provide a variety of housing opportunities/zoning, including small homes."



FIGURE 15B
DEVELOPMENT CONCERNS

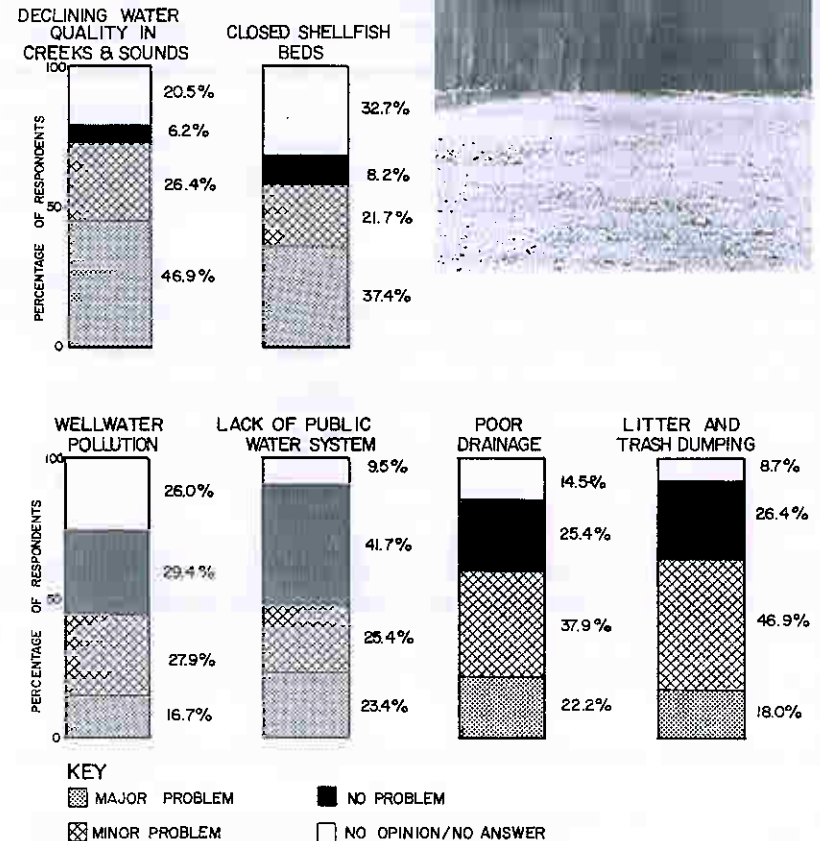


3. Environment

Several environmental issues were included in the survey. Declining water quality in the Creeks and Sound is seen as a problem by 73% of respondents, while closed shellfish beds are a problem for 59%. Some residents are particularly concerned about preserving the water quality in Howe Creek, one of the least developed creeks in the county. Well water pollution is a problem for 45% of survey respondents, although it is considered a major problem by only 17%. The percentages of respondents who rated these three water-quality issues as a problem are significant, considering that many persons, one third, had "no opinion" on each issue. Lack of a public water system was identified as a problem by 49% of respondents, although 42% see it as no problem. Poor drainage is a problem for 60%. Litter and trash dumping is a major problem for only 18% of respondents, but an additional 47% identified it as a minor problem. Additionally, several people brought up the issue of the County sewer system. According to the survey, 42 respondents want a sewer system, mainly for water quality reasons. Eight respondents were either opposed to mandatory sewer hookup, or cited concerns about hookup costs and construction problems. Other comments concerning environmental issues were: "preserve natural areas, including Sound, wetlands, and woods; reduce pollution and litter (stricter regulations and enforcement); provide better drainage; tighten "perk test" restrictions; and control animals (dogs barking and running loose)."



FIGURE 15C
ENVIRONMENTAL CONCERNS



4. Other Issues

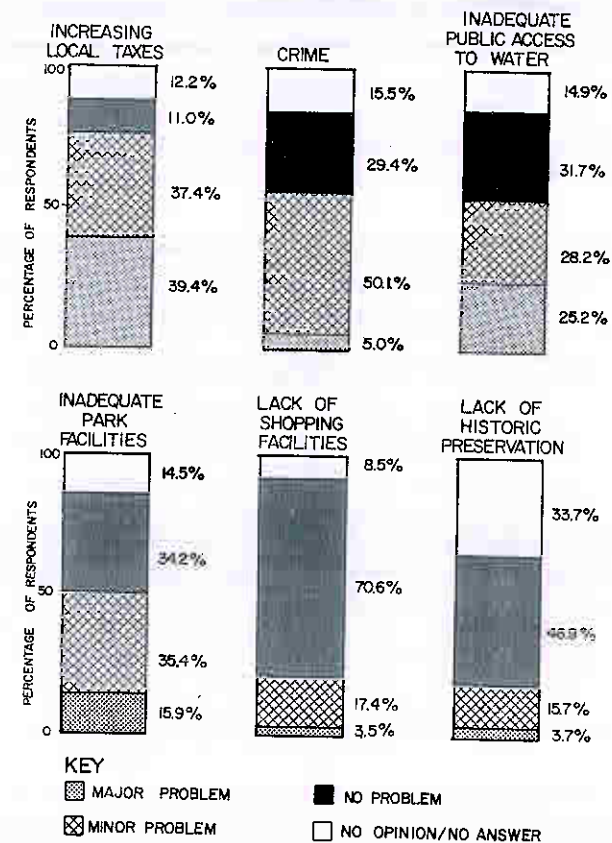
The remaining six issues in the survey did not fall into a specific category, but generally dealt with socio-economic concerns and community facilities. Increasing local taxes is a problem for 77% of respondents. Several respondents specifically commented on their concern for high taxes, although two people suggested raising taxes if necessary to provide services. Crime is a major problem for only 5% of survey respondents, but is a minor problem for an additional 50%.

Regarding recreation, 53% of respondents felt that inadequate public access to the water is a problem, but 32% felt this issue is no problem. Most people that specifically commented on public access want a public boat ramp/waterway access, but some are opposed to public access because it might draw crowds of non-residents. Inadequate park facilities are a problem for 51%, and are not a problem for 34% of respondents. However, several people specifically requested community recreation facilities, including a park, community center, pool, and sporting facilities.

Lack of adequate shopping facilities is not a problem for a majority (71%) of respondents, and was cited as a problem by only 21%. Several people commented that they would like retail activity restricted in the area. Finally, only 19% of respondents felt that lack of historic preservation in the area is a problem, while 47% felt it is no problem. Other miscellaneous comments included: *"improve/expand/move Ogden School; provide a library branch; stop annexation/consolidation; provide consistent house numbers; provide a new voting place; provide paid fire service; and provide more public input and education on the planning process."*



FIGURE 15D
OTHER CONCERNS

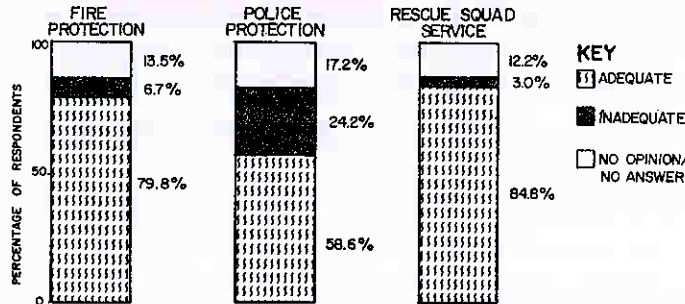


5. Protective Services

The survey also asked residents to rate protective services in the area. Rescue squad service and fire protection received high ratings, with 85% and 80%, respectively, rating these services as adequate. Police protection was rated as adequate by 59% of respondents. Comments indicated that several people rated protective services as inadequate because of the traffic situation.



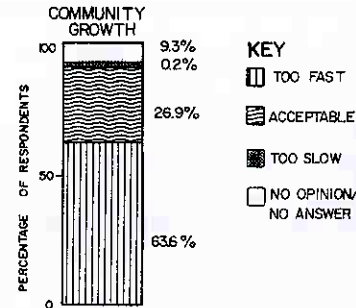
FIGURE 15E
PROTECTIVE SERVICES



6. Growth Rate

Finally, the survey asked about the growth of the Middle Sound/Ogden community. Sixty-four percent of respondents felt the area is growing too fast, while 27% felt growth is occurring at an acceptable rate. Concern over the growth rate is reflected in comments mentioned earlier regarding density and development.

FIGURE 15F
GROWTH RATE



B. Middle Sound Lookout

Middle Sound Lookout is a citizen group which was forming at the time the Planning Department began to study the area. The overall objective of the group is to "work together as a community to preserve the quality of life on Middle Sound." Middle Sound Lookout has functioned effectively as a focal point for the community in organizing and expressing common goals and desires. This citizen group has contributed significantly toward development of this Plan and will likely be called upon in implementing the Middle Sound/Ogden community plan.

C. Plan Objectives

As mentioned earlier, the overall goal of the Middle Sound/Ogden community plan is "to provide a framework for managing the future growth and development of the area." Based on the survey of residents, community meetings, and dialogue with representatives of Middle Sound Lookout, specific objectives were developed. These objectives address the three major areas of concern - traffic, development, and the environment:

1. Alleviate traffic problems.
2. Provide rational methods for controlling development and improving services.
3. Encourage protection of the natural environment.

IV. POTENTIAL SOLUTIONS

A. Transportation

1. Summary of Problems

Traffic congestion has been identified by residents as the biggest problem in the Middle Sound/Ogden community. While the entire County has experienced high levels of development and concomitant growth in traffic, the Ogden area has undergone some of the highest actual and percentage increases in traffic. The traffic problem is compounded by an inadequate road network in the area. Problems which need to be addressed include the width of Market Street, access to and from Middle Sound Loop Road (MSLR), road maintenance, the width of MSLR, bicycle/pedestrian access, traffic signals, and speed limits.

By State law, North Carolina counties do not have the authority to build and maintain roads. While New Hanover County is not in the "road-building business", the subdivision review process gives the County limited control over traffic flow. In addition, the County can make recommendations to the North Carolina Department of Transportation. There are also a number of actions that citizens can take, either individually or as a group, which can impact the transportation improvement decision-making process.

Based on the stated objectives, data analysis, and community input, a number of potential transportation solutions were identified. Transportation improvement options are listed below, with advantages and disadvantages noted. Although not stated below, cost is a significant disadvantage for most of the options, since a given transportation improvement project must compete with numerous other traffic projects statewide.

2. Proposed Transportation Options

- a. Widen Market Street, preferably to 5 lanes from Eastwood Road to beyond Bayshore Estates.

Advantages

- o Would relieve traffic congestion, both for residents and travelers passing through.
- o Would increase safety of residents by allowing greater access for emergency vehicles.
- o May reduce number of traffic accidents.

- b. Install double left-turn lanes out of MSLR in conjunction with Market Street widening.

Advantage

- o Would relieve morning traffic congestion on MSLR.

Disadvantage

- o Would not be effective without widening Market Street.

- c. Lengthen right-turn lanes on Market Street.

Advantages

- o May somewhat alleviate congestion, especially during evening rush hour.
- o May reduce traffic accidents, especially rear-end collisions
- o Would be relatively inexpensive.

- d. Add a reversing lane to Market Street that could be reversed in direction to accommodate morning and afternoon rush hour traffic.

Advantages

- o Would alleviate both morning and evening traffic congestion.
- o May be less expensive than widening Market Street to 5 lanes

Disadvantage

- o May create traffic accidents.



e. Establish alternate access route(s) out of/into MSLR (see Figure 16).

1. Northern access - Darden Road to Market Street at Ogden Village Shopping Center.

Advantages

- o Would provide alternate access for northbound traffic from MSLR.
- o Would increase safety of MSLR residents by providing additional access for emergency vehicles.

Disadvantages

- o Would not relieve Wilmington-bound traffic in the morning, or traffic from Wilmington in the evening.
- o May encourage further development of Middle Sound.



2. Southern access to Market Street.

Advantages

- o Would provide access to Wilmington-bound residents of MSLR and El Ogden in the morning.
- o May alleviate traffic back-up for northbound Market Street traffic in the evening.
- o Would increase safety by providing additional access for emergency vehicles.

Disadvantages

- o May not be effective without widening Market Street.
- o Intersection may be too near the Market Street/Military Cutoff intersection.
- o May encourage further development of Middle Sound.

3. Southern access to Military Cutoff.

Advantages

- o Would provide alternate southern access to residents of MSLR and El Ogden.
- o Would direct traffic off of Market Street.
- o Would increase safety by providing alternate access for emergency vehicles.

Disadvantages

- o Would not provide direct route to downtown Wilmington.
- o May encourage further development of Middle Sound.

f. Improve traffic light sequences on Market Street at MSLR and Gordon Road; add other traffic signals as necessary.

Advantages

- o May improve traffic flow on Market Street.
- o Additional signals (i.e. at El Ogden) would give easier access to Market Street to those streets not presently served by a traffic signal.

Disadvantage

- o May not be effective without widening Market Street.

g. Widen MSLR.

Advantages

- o Would increase safety.
- o May allow for turning lanes.
- o May allow for bike/pedestrian paths.

Disadvantage

- o May encourage further development of Middle Sound.

h. Establish bike/pedestrian paths on MSLR.

Advantages

- o Would increase safety of bikers/joggers/pedestrians currently using MSLR.
- o Would provide recreation and/or alternative transportation for MSLR residents.
- o Would be relatively inexpensive if done in conjunction with MSLR widening.
- o Would be ideal for an exercise loop.

i. Provide better road maintenance.

Advantages

- o Would facilitate safer and more pleasant driving conditions.
- o May allow addition of bike path, if resurfaced (can be widened when resurfaced).

- j. Coordinate streets in new development with existing road network.
Advantages
- o Provides for more efficient road network - increases cost-efficiency and reduces travel-time.
 - o To a certain degree, shifts the burden of providing services to those responsible for development.
- Disadvantage
- o May encourage cut-through traffic in some neighborhoods.
- k. Reduce speed limit on MSLR.
Advantages
- o May increase safety by slowing traffic.
 - o 55 mph speed limit is not compatible with present MSLR conditions.
 - o Relatively inexpensive.
 - o Does not require lengthy DOT process.
- Disadvantage
- o May encourage traffic violation.
- l. Have Sheriff's Department direct traffic in the evening rather than (or in addition to) the morning.
Advantage
- o May improve evening rush hour traffic flow.
- Disadvantage
- o May involve additional costs for Sheriff's Department.

- m. Consider moving Ogden School to highway location.
Advantage
- o Would reduce morning and afternoon traffic congestion on MSLR.
- Disadvantages
- o May be difficult to find a suitable site.
 - o Probably is not realistic.
- n. Encourage carpools/public transit in Middle Sound/Ogden.
Advantage
- o Would reduce number of automobiles on area roads.
- Disadvantages
- o May not have enough community support.

3. Recommendations

Any one of the proposed options has the potential to improve the traffic situation; however, several options combined may result in much better traffic flow. While all of the proposed options can be considered, some of the options should receive a higher priority.

The most effective way to relieve traffic congestion in the Middle Sound/Ogden area would be to widen Market Street. While adding a reversing lane and lengthening right turn lanes on Market Street would provide some relief, the road should be widened to 5 lanes from Eastwood Road to beyond Bayshore Estates.

The second most urgent need in the area is probably to establish an alternate access for Middle Sound Loop Road, as shown in Figure 16. An alternate access may help relieve traffic congestion, particularly during the morning rush hour, and would increase safety by providing additional access for emergency vehicles. The most feasible way to achieve this option will probably be through the subdivision review process. As vacant land becomes subdivided, streets in the new developments can be coordinated with the existing street network. While this may be a long term process, it is probably the most realistic way to provide additional access, given monetary constraints of the Department of Transportation.



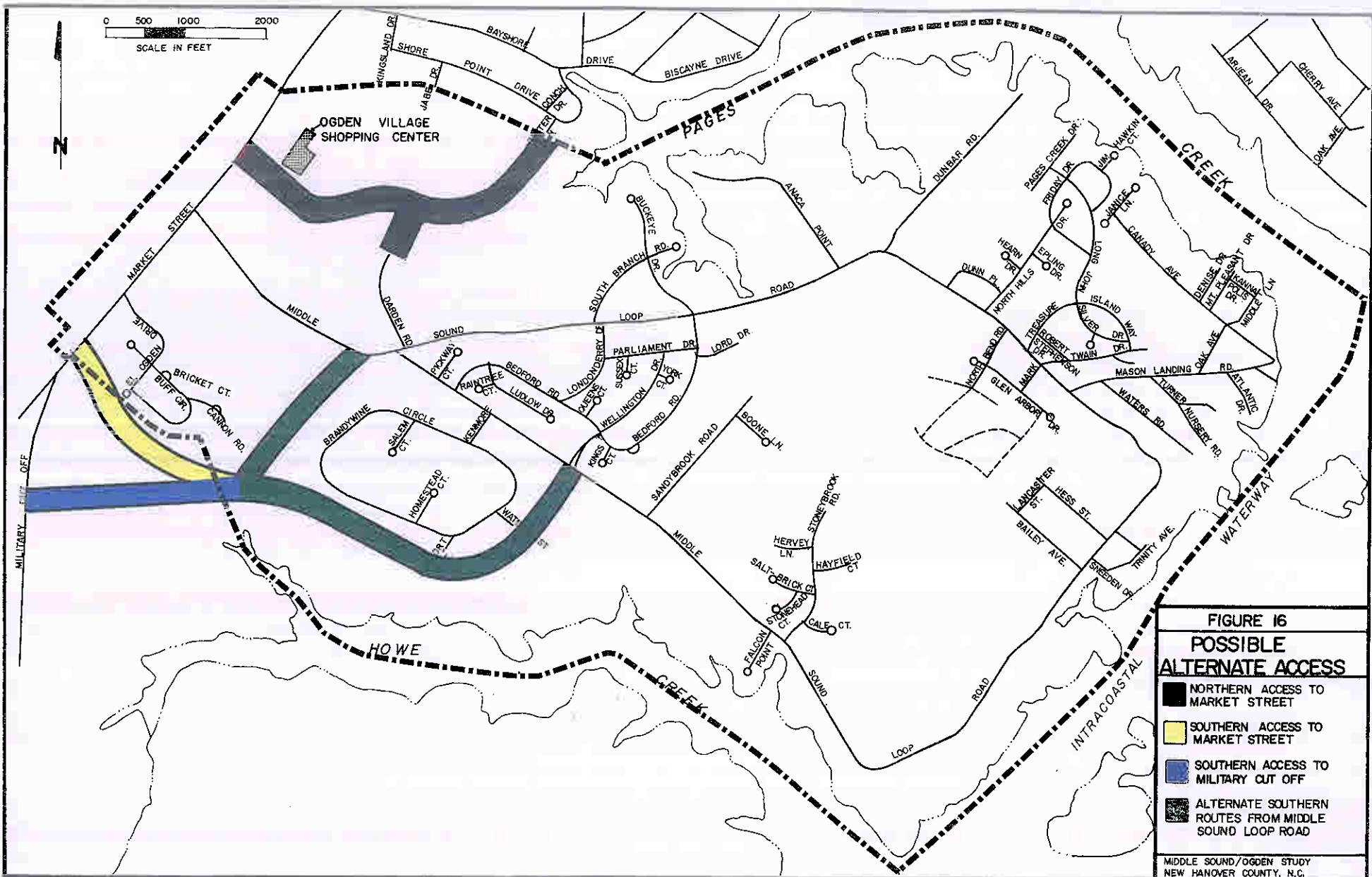






FIGURE 16

POSSIBLE ALTERNATE ACCESS

-  NORTHERN ACCESS TO MARKET STREET
-  SOUTHERN ACCESS TO MARKET STREET
-  SOUTHERN ACCESS TO MILITARY CUT OFF
-  ALTERNATE SOUTHERN ROUTES FROM MIDDLE SOUND LOOP ROAD

MIDDLE SOUND/OGDEN STUDY
NEW HANOVER COUNTY, N.C.



Other than the subdivision review process, most major transportation improvement projects in New Hanover County (such as widening roads) are handled by the State, through the North Carolina Department of Transportation (DOT). Opportunities for citizen participation exist at several steps in the planning process.

On the local level, two committees composed of local representatives prioritize transportation improvement projects for the Wilmington Urban Area (Wilmington, Wrightsville Beach, and New Hanover and Brunswick Counties). The Technical Coordinating Committee (TCC), made up of local and state government agency staff, makes recommendations to the Transportation Advisory Committee (TAC), which is made up of local elected officials. Both the TCC and TAC hold quarterly public meetings, coordinated by the Wilmington Planning and Development Department, and citizen participation is encouraged.

Another opportunity for citizen involvement is through the annual Transportation Improvement Program (TIP) public hearings. Conducted by the NC DOT in March or April of each year, these regional hearings (New Hanover County is in Division 3) play a major role in the allocation of funds for road projects statewide. While the Wilmington Urban Area TAC makes a Unified Request each year, public interest at the TIP meetings also helps determine which projects are funded.

Minor projects, such as road maintenance, speed limit assignments, and bike paths do not require the lengthy TIP process. Contact agencies are listed in Appendix B.

B. Residential Development

1. Summary of the Problem

A major concern of many Middle Sound/Ogden residents and land owners is the rate of growth in the community. Specific concerns include:

- Density and rate of development.
- Loss of rural atmosphere.
- Too many mobile homes/multi-family developments.



2. Proposed Zoning Options

Realizing the potential for development of the land, several zoning options were examined (see Figure 17). The maximum potential development of housing units was calculated based on the number of acres of undeveloped land and the maximum allowable density of each zoning option. It should be noted that these calculations do not take into account the following factors:

- Conservation Areas (natural ponds, wetlands, etc.)
- Existing "permanent" large estates
- Any development that might be built at densities lower than the maximum allowable densities
- Non-residential uses (i.e. recreation)

The maximum potential densities indicated in Figure 17 are, therefore, liberal estimates of what might eventually be developed in the Middle Sound/Ogden community. Figure 17 also shows which housing types would be permitted under each zoning option.

FIGURE 17

PROPOSED ZONING OPTIONS

		MAXIMUM POTENTIAL HOUSING UNITS*	SINGLE FAMILY DWELLING	DUPLEX	MULTI-FAMILY	MOBILE HOME	MOBILE HOME PARK*
OPTION 1: LEAVE AS IS	R-15	3,926	P	P	P	P	P
	R-20		P	S	P	S	—
OPTION 2: REZONE	R-20	3,386	P	S	P	S	—
OPTION 3: REZONE	R-20S	3,386	P	—	—	—	—
OPTION 4: REZONE	RA	2,546	P	S	P	S	S

P = PERMITTED

S = SPECIAL USE PERMIT REQUIRED

— = NOT PERMITTED

*INCLUDES CURRENT HOUSING STOCK OF 1106 UNITS

*MOBILE HOME PARKS WITH A DENSITY GREATER THAN 2.5 UNITS PER ACRE ARE NOT PERMITTED IN RESOURCE PROTECTION AND CONSERVATION CLASSES



Of the options proposed, both the R-15 and R-20 Residential Districts, which were discussed in the Land Regulation section, already exist in the study area. Other more restrictive options considered were the R-20S Residential District and the RA Rural Agricultural District. In providing the opportunity for a variety of housing types, R-20S is the most restrictive. In this district, only single-family detached housing is permitted. Minimum lot area is 20,000 square feet and the maximum allowable density is 1.9 units per net acre. The RA district has the most restrictive density requirement. In this district, the maximum allowable density for single-family housing is 1.0 unit per net acre for Performance Residential Developments, while conventional subdivisions require 30,000 square feet per lot.

The advantage(s) and disadvantage(s) of each proposed zoning option are listed below. It should be noted that an advantage of each option, with the exception of R-20S, is that Performance Residential Development, which permits cluster development, is allowed, thereby potentially providing greater open space and preservation of the natural amenities that support the high quality of life in the area.

- a. Option 1: Leave as is (R-15 and R-20 Residential Districts).
Advantages
 - o Provides the opportunity for diversified housing types.
 - o Lengthy political process of rezoning would be avoided.Disadvantage
 - o Allows density that may not be compatible with the existing transportation network.

- b. Option 2: Rezone all undeveloped land to R-20 Residential District.
Advantage
 - o Permits lower density development than R-15 zoning.Disadvantage
 - o More difficult to provide a variety of housing types.

- c. Option 3: Rezone all undeveloped land to R-20S Residential District.
Advantage
 - o Insures that only single-family housing will be developed.Disadvantages
 - o Significantly limits the variety and supply of affordable housing.
 - o Creates a checkerboard pattern of development.
 - o Negatively impacts the environment by discouraging the preservation of open space and natural amenities.

- d. Option 4: Rezone all undeveloped land to RA Rural Agricultural District.
Advantage
 - o Limits the density of development to the greatest extent of all options.Disadvantage
 - o More difficult to provide a variety of housing types at an affordable cost.

3. Recommendations

The existing zoning pattern in the Middle Sound/Ogden community is generally consistent with current uses. Traditionally, residential development in the area has been low density development. Since development opportunities still exist, rezoning all undeveloped land either R-20 or RA would be appropriate to safeguard against high density residential development, and to preserve the existing character of the area.

Petitions (applications) for rezoning property must be reviewed by County planning staff before acceptance. After a petition has been accepted, it is referred to the County Planning Board and if approved, the request is then referred to the Board of Commissioners. However, if a petition is denied by the Planning Board, it may be appealed to the Board of Commissioners. Petitions and supplementary information must be received by the planning department fifteen (15) working days before the Planning Board meeting to provide adequate time for processing and advertisement. The steps involved in the rezoning process are illustrated in Appendix C.



C. Environmental Protection

1. Summary of Problems

The environmental resources of the Middle Sound/Ogden community are facing increasing pressure from development. Development has the potential to eliminate conservation areas such as swamp forest, increase stormwater runoff into the Middle Sound waters, worsen septic tank pollution, and pollute shellfish beds.

2. Environmental Protection Measures

A number of regulatory and physical measures have been taken, however, to help protect Middle Sound resources. These can be broken down into Federal, State, and County protection measures.

- a. Federal: The primary Federal measure of protection is the preservation of wetlands by regulating dredging and filling activities within wetlands under the U.S. Army Corps of Engineers' 404 permitting process. In order for an area to be considered a wetland by the Corps, it must display wetland vegetation, hydric soils, and a saturated hydrology.



- b. State: North Carolina has adopted several laws that provide protection to coastal areas. The Coastal Area Management Act, (CAMA) administered by the Division of Coastal Management, regulates all development activities within 75 feet of the mean high water line. Marinas, bulkheads, residential developments, piers, and other projects must all meet certain CAMA requirements designed to protect the estuarine environment.

The Division of Environmental Management regulates both point source discharges, such as sewage from package treatment plants, and stormwater runoff from developments. No point source discharges are permitted within Middle Sound because its waters are classified SA. Recently, the State revised its stormwater runoff regulations. These include both limits on the amounts of impervious surfaces and performance criteria such as retention of stormwater.



- c. County: The County has taken several major actions to protect the environment along the County's waterways. First, the County has begun construction of a sewer system. One of the primary purposes of the sewer system is to eliminate failing septic tank systems and sewage package treatment plants that contribute to the pollution of the estuarine system and the closing of shellfish beds. The Middle Sound area is scheduled to receive sewer service by the middle of 1991, as indicated in Figure 18.

Second, the County has adopted a Conservation Overlay District (COD) as part of the Zoning Ordinance. The COD places several restrictions on new development: 1) a specified amount of certain natural areas must be preserved, such as 50% of swamp forest; 2) performance drainage criteria must be met, including stormwater retention; 3) setbacks from natural areas are mandatory.

Third, the County has established the Clean Community Commission, which is dedicated to promoting clean-up and beautification campaigns within the County. The Commission will aid community groups by arranging pick-up of trash and junk appliances and cars, with the help of local industries.

Fourth, the County recently adopted a junk car ordinance. This ordinance makes it illegal for any person to have on their property more than one inoperative vehicle, unless that property is a legally permitted junkyard.

V. REFERENCES AND CREDITS

A. References

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- U.S. Department of Commerce. Bureau of the Census. United States Census of Population: 1980. Vol. 1, General Population Characteristics, pt. 35, North Carolina.
- Wilmington-New Hanover Planning Department. "Classification of Soils in New Hanover County for Septic Tank Suitability." 1980.

B. Credits

Many officials and citizens gave generously of their time in attending meetings and/or providing information. Their contributions to the Plan are gratefully acknowledged:

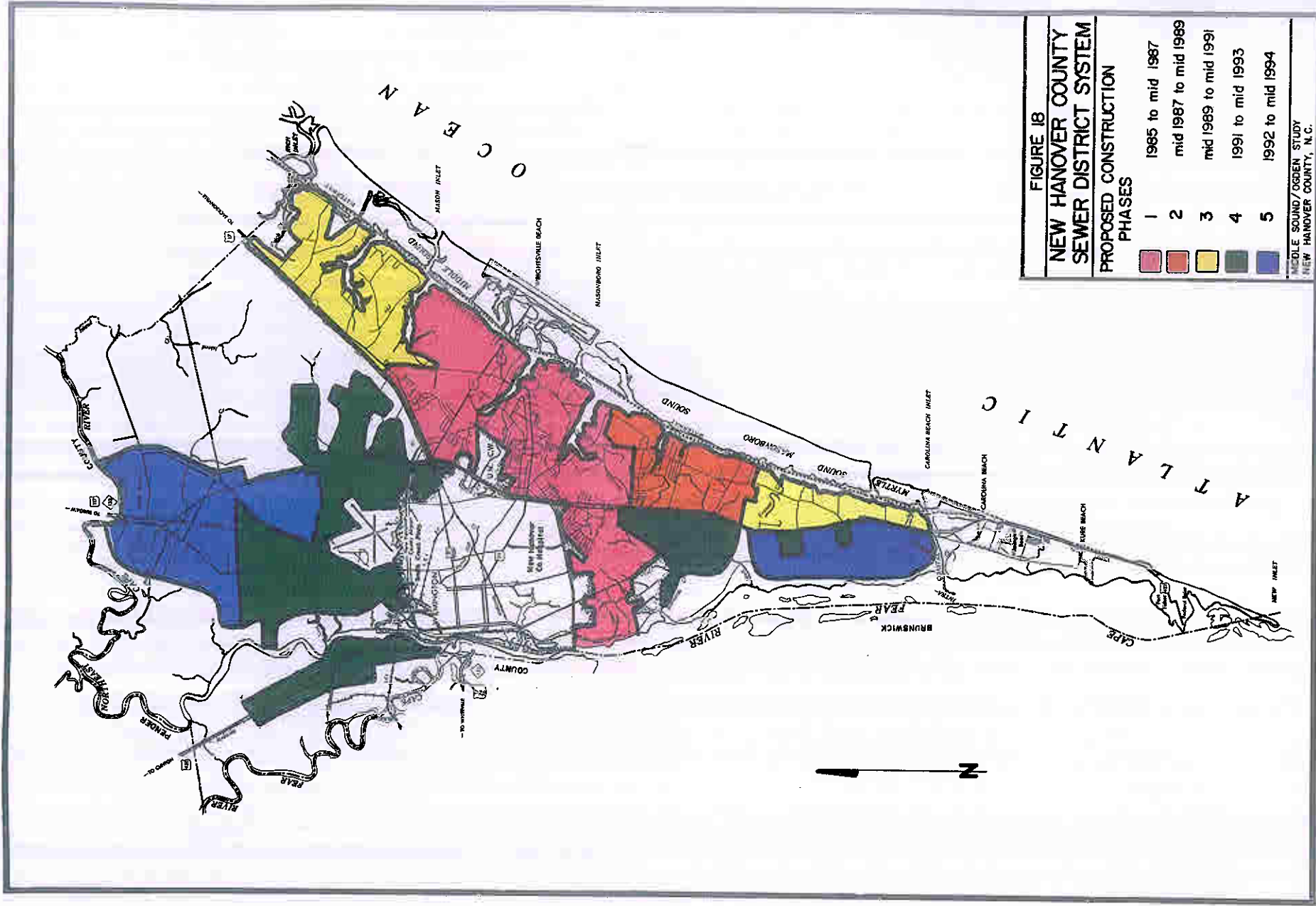
C.H. Johnson
Roger Hawkins
Bob Parr
Wayne & Jeannie Jones
Louis & Laura Reda
Sam & Bobbie Cox
Bob & Glenda Shelby
Gloria Crowell
Margaret Bishop
Carol Bullis
Betty Roderick
Mr. & Mrs. Russell Mathis
Larry F. Baldin
Shelton R. Tate
Don & Aileen Blanton
Courtney Hackney
W M & Ahie Miskel
Angela & Paul Holliday
Danny & Martha Conner
Frederic S. Riesz
Buddy Harrelson
Buddy & Carol Baldwin
Theresa H. Hoyle
Doris & Gordon LaGarde
Robert Murphy
Chris Wilson
Stephen & Luguiel Jaffe
H. R. Canaday
A. C. Godbee
David Register
Mr. & Mrs. Beryl Cooper
James Prosser
C L Shephard
Wilbur E. Bryant
Nelva Malpass

Carol Sprouse
Richard Andrews
C R Thompson
Gary N Combs
James Rabon
Betty E Juker
Charles Peterson
Arlena Straw
John Kelly
Laura & Robert West
Jeff Sasser
Richard Gwathmey
Barbara Pyatt
Bea Clemmons
Mrs. Robert J Sayyeau
Calvin C Chalmers
Marilou & George Stephenson
John E. Covil
Beverly Kidd
Irene Hulbert
Pat Bellamy
Marie Smith
Scott Bittler
John R. Huntsman
Joe Saillor
Earnest Puskas
Mr. & Mrs. T.G. Reich
Maury W. Koonce
Coco & Paul Foster
Mary Lawson
Bonnie Bozeman
W. E. Bellamy, Jr.
Carolyn K. Mazingo
David Fulton
Edie Meviel

Gutherie Blake
Lee Garris
Edward & Smith
James J Mulder
G. C. Gorman, Jr.
Morris Thompson
James E. Parker
Mr. & Mrs. Dwight Peterson
Pat Painter
Mr. & Mrs. James A Poteat
Mildred Hamilton
Valerie Harrelson
Hal Shields
Bernice & Robert Pearson
Leon Skinner
Scott Bittler
C H Johnson
Richard A Harris
Mr. & Mrs. Robert Traut
Aubrey Johnston
C C Chalmers
John & Maureen King
Steve Clemmons
Lila Peterson
Joseph Huegy
Mrs. Jerry Langley
Jeff Sasser
Sandy Strickland
Ronald W. Vogler
Stephen Blanton
Phyllis McClelland/UCB
Libby Harrelson
Marsha Waller
Mrs. Olive Rogers
Glenn V. Knapp

John Howland
W. S. Funderburg
Johnny & Shelley Bullard
William M Cash
Dorothy White
Esso Clemmons
Becky Smith
R. N. Roberts
Walter Bell
Roger Johnson
Louise Smith
Linda Bedo
E. O. Evans
Michael Powell
C J Spencer
L.O. Gay
Patricia E. Gray
Larry W. Mitchell
Mr. & Mrs. G W Peterson
Mr. & Mrs. David Rozier
Mr. & Mrs. R E Coleman
Katie Koonce Newkerk
Pat Rawls
G F Cameron
W. D. & Jane Thompson
Cecil Robinson
Barbara Walser
James Boynton
Mr. & Mrs. J E Wiggins
Gary Newman
Edith Register
Helen M Laycock
Tom & Janet Broadfoot

.... and many more



VI. APPENDICES

APPENDIX A MIDDLE SOUND/OGDEN COMMUNITY SURVEY

The purpose of this survey is to seek the opinions and advice of Middle Sound/Ogden residents and landowners concerning the future of the Middle Sound/Ogden community.

1. Do you feel each of the following items is or is becoming a major problem, a minor problem, or no problem in your community?

	<u>Major Problem</u>	<u>Minor Problem</u>	<u>No Problem</u>	<u>No Opinion</u>
a. Poor drainage				
b. Declining water quality in the Creeks and Sound				
c. Closed shellfish beds				
d. Lack of another road connecting Middle Sound Loop Road to Market Street (US 17)				
e. Lack of a public water system				
f. Litter and trash dumping				
g. Lack of adequate shopping facilities				
h. Traffic congestion on Market Street in the Ogden area				
i. Crime				
j. Lack of preservation of historic community landmarks				
k. Inadequate road maintenance				
l. Loss of rural atmosphere				
m. Density of residential development				
n. Wellwater pollution				
o. Inadequate park facilities				
p. Too many mobile homes				

Major Minor No No
Problem Problem Problem Opinion

	<u>Major Problem</u>	<u>Minor Problem</u>	<u>No Problem</u>	<u>No Opinion</u>
g. Increasing local taxes				
r. Inadequate public access to the water for boating, fishing, etc.				
s. Other (Please List)				

2. Do you feel the following services are adequate or inadequate?

	<u>Adequate</u>	<u>Inadequate</u>	<u>No Opinion</u>
Fire Protection			
Police Protection			
Rescue Squad Service			

3. Do you feel the Middle Sound/Ogden community is growing
() too fast
() at an acceptable rate
() too slow
() no opinion

4. Imagine the year is 1996. What changes, if any, would you like to see from the present in the Middle Sound/Ogden community? What ways do you suggest, if any, to accomplish these changes?

Please feel free to add further comments. Thank you for your cooperation in completing and returning this survey.

APPENDIX B
CONTACT AGENCIES

1. Zoning and Subdivision Review

- a. New Hanover County Planning Department
Current Planning Section
320 Chestnut Street
Wilmington, NC 28401
341-7165
- b. Zoning Inspector
New Hanover County Inspections Department
414 Chestnut Street
Wilmington, NC 28401
341-7118

2. Transportation

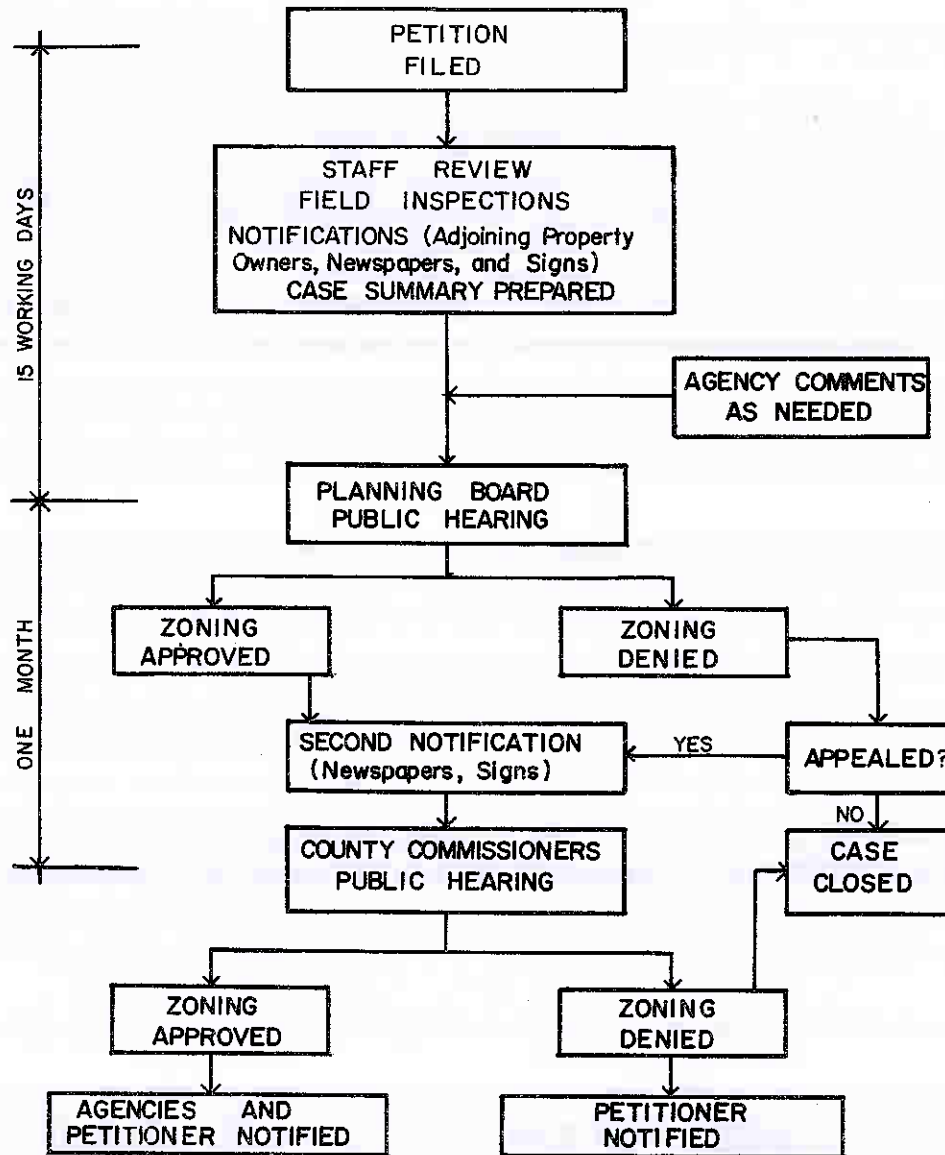
- a. Transportation Planner/Bicycle Advisory Committee
Wilmington Planning and Development Department
409 Market Street
Wilmington, NC 28401
341-7832
- b. Tommy Pollard
DOT Board Representative - Division 3
1014 Richlands Highway
Jacksonville, NC 28540
455-5552
- c. Department of Transportation - Division 3
124 Division Drive
Wilmington, NC 28401
763-5133
- d. Maintenance Office
Department of Transportation - Division 3
124 Division Drive
Wilmington, NC 28401
762-3854

3. Environment

- a. Division of Coastal Management;
Division of Environmental Management; and
Division of Marine Fisheries
7225 Wrightsville Avenue
Wilmington, NC 28403
256-4161
- b. U.S. Army Corps of Engineers - Wilmington District
Regulatory Branch Permits
P.O. Box 1890
Wilmington, NC 28402
343-4511
- c. New Hanover Clean Community Commission
320 Chestnut Street
Wilmington, NC 28401
762-0965
- d. New Hanover County Animal Control Center
220 Division Drive
Wilmington, NC 28401
763-0586

APPENDIX C

REZONING PROCESS



** This Plan was adopted by the New Hanover County Board of Commissioners at a Public Hearing on May 4, 1987. **