

ROUTE 214 STUDY
LEDYARD, CONNECTICUT

Prepared in cooperation with the U.S. Department of Transportation, Federal Highway Administration and the Connecticut Department of Transportation. The opinions, findings, and conclusions expressed in this publication are those of the staff of the Southeastern Connecticut Regional Planning Agency and do not necessarily reflect the official views or policies of the Federal Highway Administration or the Connecticut Department of Transportation.

PREPARED FOR THE LEDYARD DEPARTMENT OF PLANNING
by the
SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
139 Boswell Avenue, Norwich, Connecticut 06360

December, 1984

TABLE OF CONTENTS

| | <u>Page</u> |
|---|-------------|
| THE FUNCTIONS OF ROUTE 214..... | 1 |
| HIGHWAY CONDITIONS AND CHARACTERISTICS..... | 5 |
| ACCIDENT LOCATIONS..... | 6 |
| IMPROVEMENT NEEDS..... | 6 |
| IMPROVEMENT FUNDING..... | 8 |

LIST OF ILLUSTRATIONS

Figure

| | | |
|----|---------------------------------|---|
| 1: | Existing Land Use - 1980..... | 2 |
| 2: | 1982 Average Daily Traffic..... | 4 |
| 3: | Accident Locations..... | 7 |

The Functions of Route 214

The roadway which is the subject of this study serves several purposes, both within the state highway system and as one of the most important thoroughfares in the Town of Ledyard.

The state highway system consists of a hierarchy of roadways, which in Southeastern Connecticut includes the interstate expressways such as Routes I-95 and I-395, such major arterials as Routes 2 from Pawcatuck to Norwich and Route 12 from Groton northwards, as well as less important thoroughfares, such as Route 164 from Preston to Jewett City. Route 214 would fit somewhere towards the bottom of this hierarchy. It is about 7 1/4 miles in length and is contained entirely within the Town of Ledyard. It provides an east/west connection between Route 12 and Route 2.

The functions of Route 214 within the Town of Ledyard are illustrated on the land use map, Figure 1, taken from the Ledyard Plan of Development of 1982. On this map, we have indicated Ledyard Center, which constitutes the Town's institutional heart. It contains the Town Hall, an elementary school, the high school, the Bill Library, the Town's post office, and a fire station. It also contains some professional offices as well as several retail commercial establishments, including Holdridge Farm Nursery Inc., a large retailer of plants and nursery stock.

The first function of Route 214 is to provide a connection between Ledyard Center and the most intensely developed residential areas of the Town, along Route 12. The map also illustrates the difficulty of providing another such link in the future because of the barrier caused by the water supply holdings of the City of Groton Department of Public Utilities, which effectively divide the Town into two parts.

The map also suggests that Route 214 has two other functions. First, it serves as a major connection all the way across the Town from Route 12 to Route 2, and, second, it provides access to the land uses, principally residential in nature, along its length. The relative importance of all these functions within each section of Route 214 is shown

LEDYARD CONNECTICUT

EXISTING LAND USE - 1980

LEGEND

- ○ SCATTERED RESIDENTIAL **
- ▨ RESIDENTIAL - LOW DENSITY
- ▩ RESIDENTIAL - MEDIUM & HIGH DENSITY
- ▧ COMMERCIAL
- ▦ INDUSTRIAL
- ▥ INSTITUTIONAL
- ▤ ACTIVE RECREATION
- ▣ RESERVED OPEN SPACE
- ▢ MAJOR WETLANDS

** NOT EXACT LOCATIONS

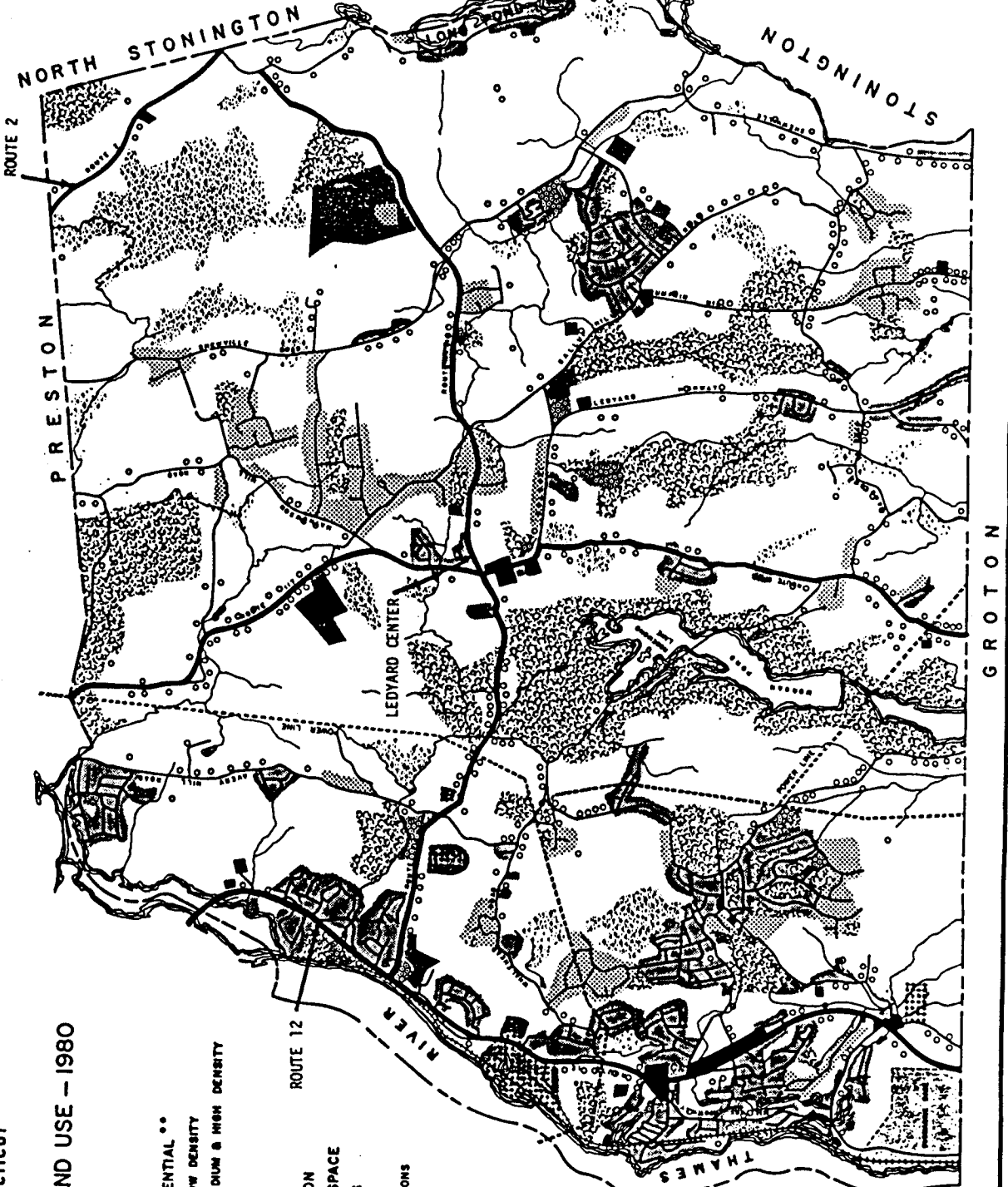
SOURCES: 1980 AERIAL PHOTOGRAPHS, SCOW,
U.S.S. TOPOGRAPHIC MAPS,
TOWN OF LEDYARD PLANNING
DEPARTMENT.

PREPARED BY THE TOWN OF LEDYARD
PLANNING DEPARTMENT, 1984.



1:5000
SCALE IN FEET

FIG. 1



in the discussion below of the Average Daily Traffic (ADT) figures.*

Figure 2 shows that the ADT on the segment of Route 214 from Route 12 to Route 117 at Ledyard Center was 2,600 vehicles per day, while east of Route 117, the ADT dropped markedly to 880 vehicles per day. By way of comparison, the ADT on Route 117 in the southern portion of the Town is shown as 2,800 vehicles per day, very close to that on the westerly section of Route 214. It is worth noting here that the state is currently upgrading Route 117 because of the traffic problems now being experienced on that thoroughfare. The figure shows that traffic on the major regional highways, Routes 2 and 12, are far higher than they are on either Route 214 or Route 117.

The ADT figures illustrate the importance of the link between Ledyard Center and the densely developed western residential sections of the Town. The light traffic on the eastern section of Route 214 seems to indicate that travel from the Highlands, an area of relatively intense residential development in the southeastern quadrant of the Town, to Ledyard Center, must utilize other roads than Route 214. It appears likely that Gallup Hill Road and Colonel Ledyard Highway are the most commonly used travel paths for this purpose.

The ADT figure of 880 vehicles for the segment of the highway, stretching from Ledyard Center to Route 2, indicates very light use at the present time. As the land use map shows, from Shewville Road to the eastern border of the Town, Route 214 is relatively undeveloped. However, this section serves the Mashantucket Pequot Indian Reservation, which now contains thirty housing units and may well contain more in the future. Also, from Shewville Road westwards to Route 12, a driver along Route 214 is struck by the number of houses with individual driveways providing access from the highway.

* ADT's in this report are taken from Traffic Log of State Numbered Routes and Roads, 1982, Connecticut Department of Transportation.

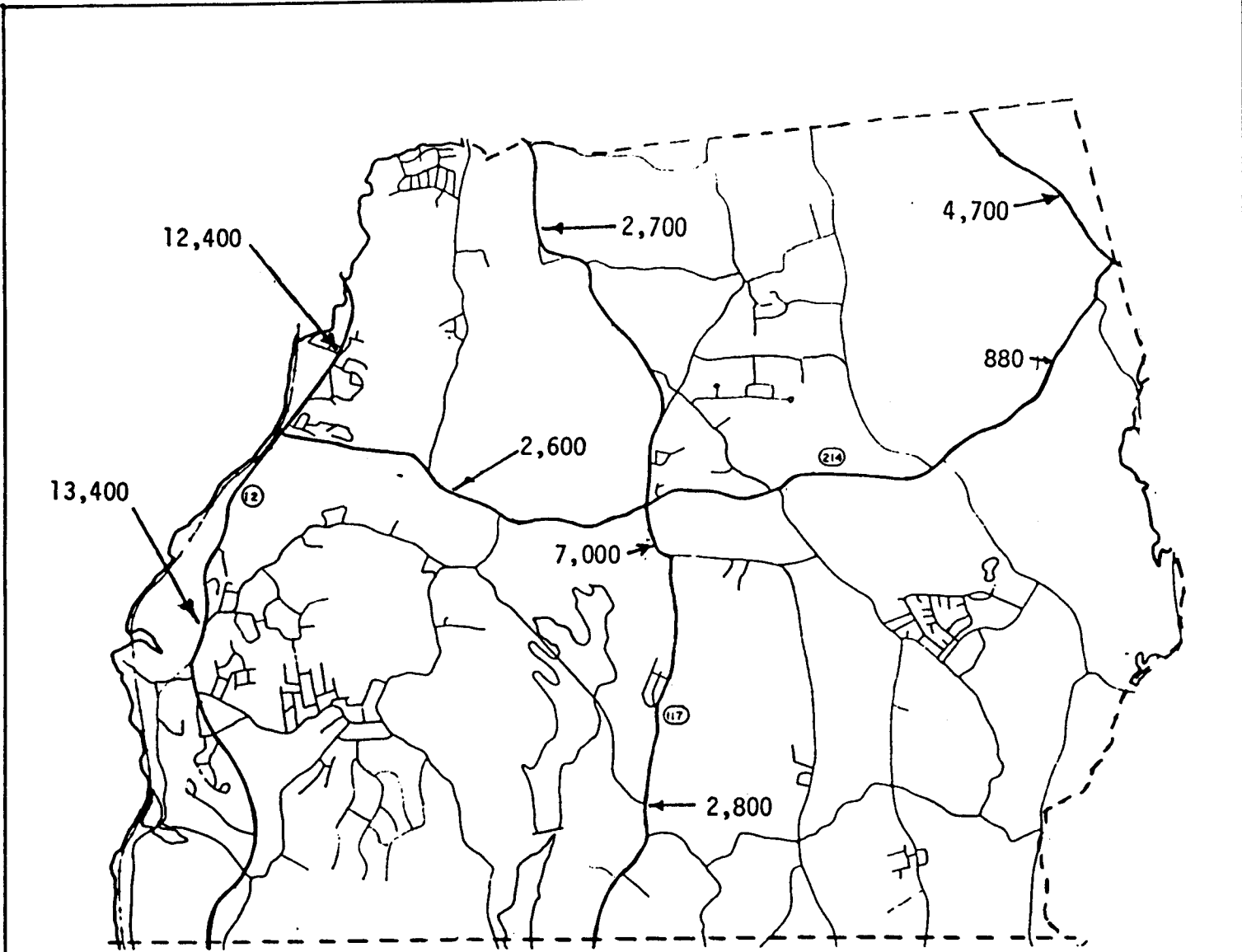
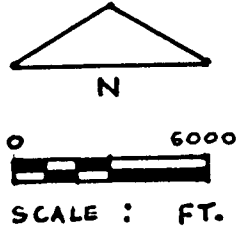


FIG. 2

1982 AVERAGE DAILY TRAFFIC
STATE ROADS IN LEDYARD

Source: Connecticut Department of Transportation



Highway Conditions and Characteristics.

Inspection of the straight line diagrams for Route 214 provided by the Connecticut Department of Transportation, as well as several inspection trips over the highway from Route 2 to Route 12, give a good idea of its condition and physical characteristics. The straight line diagrams are a series of charts which report the results of examinations of the roadway by the Department. Mile by mile, they give data on such characteristics as entering driveways and roads, utility poles, locations of abutting houses and other buildings, pavement width, horizontal and vertical curves, site distances, and grades (slopes).

In driving over Route 214, one is struck by several salient features. First, the pavement is narrow. This is borne out by the diagrams, which show it to be eighteen to twenty feet wide for most of the length of the highway. Next, in several places, notably in the vicinity of Avery Hill Road, Spicer Hill Road, and Shewville Road, there are sharp curves. Not only are these somewhat difficult for a driver to negotiate, but they cause a reduction in the sight distances along the roadway, which prevents a driver from seeing an oncoming vehicle until it is relatively close to him. The straight line diagrams give the "computed safe speed" in the vicinity of Avery Hill Road at 38 MPH.

At several places along the highway, there are abrupt changes in grades. Slopes are also relatively steep. The diagrams indicate five locations over the length of the highway where the slopes are 10% or greater. Again, the abrupt changes in slope are difficult for a driver to negotiate and cause reduction in sight distances.

Another important characteristic is the large number of residential driveways which lead into the highway. These tend to slow traffic and reduce safety because of the vehicles turning into them or exiting from them.

Finally, the condition of the pavement should be noted. It appears to be comparatively rough. It would seem that resurfacing of much of the highway would be desirable.

The physical characteristics of the highway are very closely related to the numbers and locations of accidents. These are discussed below.

Accident Locations.

Figure 3 shows the locations of accidents on Route 214 as listed by the Connecticut Department of Transportation for the three-year period from January 1, 1981 to December 31, 1983. No distinction is made here between kinds of accidents or their severity. The accidents listed are those reported by police authorities and vehicle operators in which a person was killed or injured, or in which damage to the property of any one person was in excess of \$400.

The chart simply shows the places where they have occurred and the number of them in any particular location. This gives a good indication of the places where they are likely to occur in the future. There are three important clusters indicated. The first is located in the vicinity of Avery Hill Road, the second is west of the intersection of Route 214 with Route 117 approaching Ledyard Center, and the third is in the vicinity of Shewville Road. In all three of these locations, the straightline diagrams indicate restricted sight distances.

Improvement Needs.

It would seem that the most immediate needs for improvements are at the locations with the highest numbers of accidents, as shown above. Something could be done to alleviate the vertical and horizontal curves in the vicinity of Avery Hill Road, Shewville Road and Route 117. As for longer term improvements, it would seem that the overall objective should be a general upgrading of the entire roadway. Here it should be noted that the portion of the highway east of Route 117 serves an area that is likely to be developed at a faster rate than the already developed area west of Route 117. At the present time, there are several subdivisions to the east of Spicer Hill Road which are in the process of being developed. Also, the Mashantucket Pequot Tribe may develop their reservation more intensively. Therefore, this section of Route 214 should perhaps receive

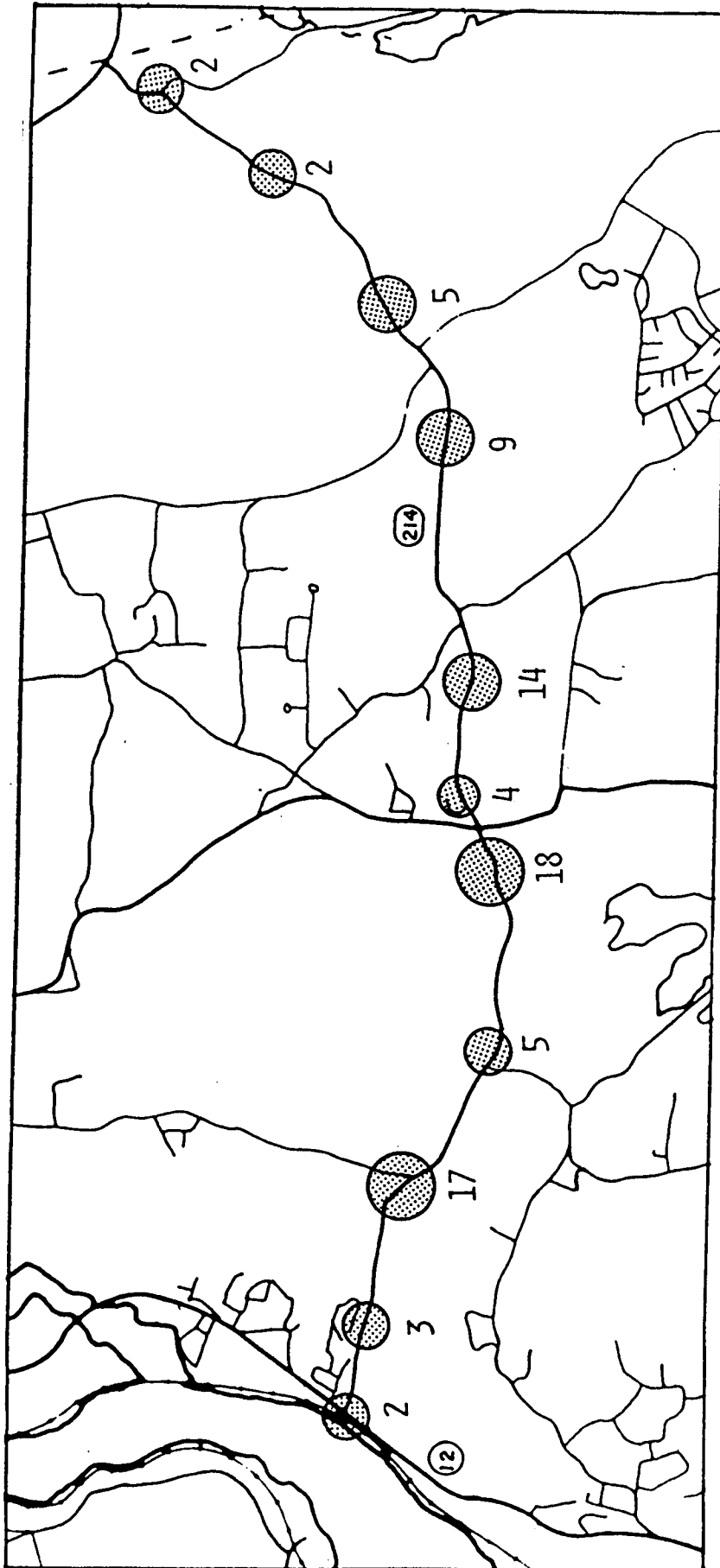
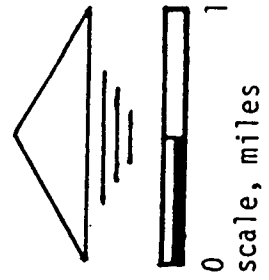


FIG. 3

ACCIDENT LOCATIONS, ROUTE 214
 January 1, 1981 - December 31, 1983



SOURCE: Connecticut Department of Transportation

priority in planning for long-term improvements. At the present time, there is still much undeveloped frontage along the highway in this area, and, therefore, improvement projects of all sorts will have less impact on adjacent properties than would be the case further to the west.

Improvement Funding.

Improvements to the section of Route 214 between Route 12 and Avery Hill Road would be, according to State and Federal criteria, eligible for support under the Urban System Program. Funding under this program is 75% Federal and 25% State. Since Route 214 is under State jurisdiction, there would be no local share.

The Town has already requested that widening and straightening improvements in the vicinity of Avery Hill Road be included in the Transportation Improvement Program for Southeastern Connecticut. The Transportation Improvement Program (TIP) is the planning document published annually by SCRPA which prioritizes the various transportation projects to be undertaken with federal funding in the region in the next five years. Inclusion in the TIP would mean that the projects should be initiated within the next five years. More extensive improvements in the Urban System portion of Route 214 could possibly be included in the TIP in future years.

The remainder of Route 214 from Avery Hill Road eastward to Route 2 is not eligible for funding under any of the Federal-aid Highway programs with the exception of the Safer Off-System Roads Program. This program would again provide support under the formula of 75% Federal funds and 25% State funds. Eligible activities include but are not limited to the correction of safety hazards, removal of roadside obstacles, pavement construction and reconstruction and the installation of traffic control devices. It would seem that the kinds of improvements discussed in previous paragraphs of this report could be funded by this program.

It appears very unlikely that Route 214 would ever revert to the status of a Town road. This is because it serves an important function

in the state highway network, and there is no alternative roadway that could fulfill that function. However, it might be possible for the Town to make improvements with its own resources, i.e., with its own funds or maintenance crew and equipment. Discussion with personnel of the Connecticut Department of Transportation indicates that minor improvements could be coordinated with maintenance operations which are the responsibility of the Department's District II office in Norwich, while improvements of large scope would have to be reviewed by the Department and meets its design criteria.

The Department also controls the flow of monies under the Federal highway improvement programs. Thus, if the roadway is to be improved under these programs, the Town must continue to speak through its legislators and other public officials to ensure that state officials understand its needs.