

## **CIRCULATION PLAN ELEMENT**

One of the basic concerns of communities within the metropolitan area is transportation, and particularly automotive traffic and circulation. In today's highly mobile society, an adequate circulation system is of vital importance since the modern economy and way of life is so dependent on the automobile for the efficient movement of goods and people. An adequate street system is likewise essential to the community in providing municipal services to its residents in an efficient and economical manner.

The importance of the circulation system had become even more dramatized in recent years as communities within the metropolitan areas continued their growth and development within a street framework which was already outmoded in terms of modern vehicular demands. Future population and employment growth within the Township and regionally along with anticipated increases in motor vehicle registrations, will add to the burden on existing street systems.

### **REGIONAL HIGHWAY STRUCTURE**

Chatham Township lies beyond any major regional highways, although, geographically, the Township is in a location surrounded by several major existing transportation arteries. Interstate Route 287 lies west of the Township with access available at Madison Avenue in Morristown and at Blackberry Lane in Morris Township. To the south of the Township is Route 22 and Interstate Route 78. North of the Township is Route 24 which provides a connection between Route 287 to the west and Route 78, the Garden State Parkway and the New Jersey Turnpike to the east.

For the most part the Township is served by a connector road system consisting largely of County operated, two-lane roadways which lead to the major regional highway network. Access to this highway network, in many instances, involves travel through built-up, congested areas, both residential and commercial. The Township itself is a corridor community and, as such, is concerned about maintaining an adequate circulation system in order to safely and efficiently accommodate present and future traffic. At the present time, major roads in the Township are used as a means of access between other communities and employment centers located beyond the Township in all directions.

## EXISTING ROAD SYSTEMS

There are approximately 52 miles of streets and roads in Chatham Township. Based on jurisdiction, location and function, this mileage has been broken down as follows:

County Roads	12.4
Municipal Arterial & Collector Roads	6.2
Local Municipal Streets	<u>33.4</u>
Total:	52.0

These roads, along with their mileage and rights-of-way are indicated in Table 17. It is evident from this table that most of the major road system consists of roads with rights-of-way of only 50 feet. With the exception of portions of Shunpike Road and Southern Boulevard in the Hickory Tree area and part of Woodland Road, all roads have only two travel lanes.

According to traffic volumes measured at points along the County road system, which is further discussed in the following section, the major traffic flow pattern is along Shunpike Road (Cty 628), starting east of Loantaka Way; Southern Boulevard (Cty 647), west of Noe Avenue and north of River Road; and Passaic Street (Cty 647). Shunpike Road extends northwest/southeasterly through the Township connecting Chatham and Madison Boroughs and municipalities in Essex and Union Counties. Southern Boulevard and ultimately Passaic Street also extends northwest/southeasterly through the Township and is a major artery leading into New Providence and ultimately to Route 22 in the Scotch Plains area. Based on the volume and functionality, County roads in Chatham Township have been classified as minor arterial in function in the Morris County Transportation Master Plan.

Located within the framework of the primary road system are the major and local Township roads. Most of these have 50 foot rights-of-way and 30 foot pavement

**ROAD SYSTEM INVENTORY**  
**Township of Chatham**

Table 17

<u>Road Name</u>	<u>Road Length (Miles)</u>	<u>Predominant Right-of-Way (Feet)</u>
<i>COUNTY ROADS</i>		
Fairmount Avenue (Portion) (Cty 638)	2.3	50 & 66
Green Village Road (Cty 646)	1.7	50
Loantaka Way (Cty 636)	0.8	50
Meyersville Road (Cty 638)	1.0	50
Passaic Street (Cty 647)	0.1	50
River Road (Portion) (Cty 647)	0.5	50 & 66
Shunpike Road (Cty 628)	2.8	50
Southern Boulevard (Cty 647)	2.6	50 & 66
Spring Valley Road (Cty 601)	0.6	50
Subtotal:	12.4	
 <i>MAJOR MUNICIPAL ROADS</i>		
Bridge Avenue	0.3	50
Central Avenue	0.1	50
Fairmount Avenue (Portion)	0.3	50
Hillside Avenue	0.4	66
Lafayette Avenue	1.0	50
Mt. Vernon Avenue	0.5	50
Noe Avenue	0.7	66
River Road (Portion)	2.2	50
Woodland Road	0.7	66
Subtotal:	6.2	
 <i>LOCAL TOWNSHIP ROADS</i>		
All Other Roads	33.4	Varies 50 Standard
TOTAL:	52.0	

Source: Chatham Twp. Tax Maps & Morris County Master Plan - Circulation Element, 5/5/92

widths with curbs. Some older developed sections have lesser widths and lack curbing and adequate storm drainage improvements. The major roads serving most of the local roads are Shunpike Road, Southern Boulevard, Fairmount Avenue, River Road, Meyersville Road, Lafayette Avenue and Noe Avenue. They function more as major collector streets as well as serving an arterial purpose.

## **TRAFFIC VOLUMES**

A primary indicator of traffic problems is the volume of traffic in terms of road capacity, and particularly intersection capacity. In this regard, traffic volumes on the County roads in the Township have been compared to data in the 1978 Master Plan. This traffic volume data was provided by the Traffic Engineering Section of the Morris County Department of Public Works and is incorporated into the Morris County Master Plan Transportation Plan. Measured vehicular volume indicates that heaviest volumes occur on Shunpike Road and Southern Boulevard, as well as on the section of Passaic Street at River Road. Volumes ranging from 12,145 vehicles to well over 15,000 vehicles in a 24-hour period were recorded on these routes. Peak hour volumes (usually 8 a.m. to 9 a.m. and 5 p.m. to 6 p.m.) were as high as 1,660 vehicles in 1990. Other roads experiencing relatively high volumes include Loantaka Way, Fairmount Avenue, Green Village Road and other sections of River Road.

As shown in Table 18, traffic volumes on major roads have increased significantly since 1979. Shunpike Road, east of Loantaka Way carries the highest volume of traffic daily, with 15,113 vehicles last recorded in 1988. The greatest increases in daily volume, in terms of percentage 64.1% and 52.6% respectively, occurred on Green Village Road and Shunpike Road.

Concerning the rush hour traffic, Shunpike Road and Southern Boulevard had roughly equal volumes during both the morning and evening peak hours. During the evening peak hour, Shunpike Road had the heaviest traffic with 1,644 vehicles counted. Using 2,084 vehicles per hour as the standard capacity of a two-lane road, Shunpike Road functioned at almost 80% capacity during the typical evening rush hour in 1988. The 2,084 figure is an estimate provided by the Morris County Department of Transportation and Management.

**TRAFFIC COUNTS, 1979 TO 1990**  
**Township of Chatham**

Table 18

Road Name & Location	1979 Volume	1990 Volume	Change		1990 Peak Hours	
			Number	%	AM	PM
Green Village Rd (Cty 646) @ Harding Township Boundary	4,450	7,303*	2,853	64.1	835	780
Loantaka Way (Cty 636) South of Shunpike Rd.	5,710	8,700*	2,990	52.4	1,120	1,096
Passaic St. (Cty 647) @ Union Cty Boundary	8,130	12,145	4,015	49.4	1,237	1,290
Shunpike Rd. (Cty 628) 100' East of Loantaka Way	9,903	15,113*	5,210	52.6	1,660	1,644
Southern Blvd. (Cty 647) 100' West of Noe Ave.	11,495	13,611**	2,116	18.4	1,531	1,543
Southern Blvd. (Cty 647) North of River Road	10,929	13,364**	2,435	22.3	1,295	1,498

\* Count Performed in 1988

\*\* Count Performed in 1989

Source: Morris County Master Plan - Circulation Element, 5/5/92

More recent peak hour traffic counts were performed in the Hickory Tree area in 1997 in connection with proposed townhouse development of the Tublitz tract. These counts indicated substantially less traffic than revealed by the County data reported above. Some sample peak hour counts recorded in 1997 were as follows:

	<u>A.M.</u>	<u>P.M.</u>
Shunpike W. of Green Village Rd.	973	1,067
Shunpike W. of Southern Blvd.	1,438	1,440
Shunpike E. of Southern Blvd.	1,107	1,127
Southern Blvd. S. of Shunpike	1,182	1,193
Green Village Rd. N. of Shunpike	778	824
Green Village Rd. S. of Shunpike	668	863

Given the limited amount of information available, there is no apparent reason for the lower volumes recorded in 1997.

### **ADDITIONS AND IMPROVEMENTS TO ROAD SYSTEM**

The street system has changed only slightly in recent years, primarily with the addition of a few residential streets. New streets built since 1978 include Karlin Drive, Jodi Lane, Buttonwood Court, Tree Top Lane, Molino Drive and Cobblestone Drive. One street, formerly located between Cypress and Evergreen Roads, was vacated. Although relatively small in area, several street rights-of-way were included in the 8 acre cession to Madison Borough. They are Alma, Lee, Rachel and Roscoe Avenues.

There have been major improvements made to existing roads and intersections in the Township. The 1982 Reexamination describes improvements since 1978, and listed improvements planned in the future. Since 1982 these planned improvements and others have been implemented and are listed as below:

1. The widening and improvement of Southern Boulevard was continued by the County, and extends from Shunpike Road to Fairmount Avenue.
2. The intersection of Green Village Road and Shunpike Road was improved with channelization and traffic signals.

3. The intersection of Shunpike Road and Noe Avenue was improved.
4. Fairmount Avenue was widened and improved between Meyersville Road and River Road.
5. With the Chatham Glen development, further improvements were made to the intersection of Southern Boulevard and River Road. The developers also widened and improved River Road along its frontage on the Chatham Glen site.
6. Also related to the Chatham Glen site, Mt. Vernon Avenue was widened and improved, and its intersection with River Road was realigned.
7. Rearrangement of access between the Chatham Mall and Shunpike Road by providing separate ingress and egress, the latter involving a new driveway opening opposite Green Village Road.
8. Restriping Shunpike between Southern Boulevard and Noe to reduce lanes from 4 lanes to 2 lanes so a shoulder could be provided for safety considerations.
9. Shoulder striping of Southern Boulevard.

In addition, the Morris County Master Plan recommends a variety of short and long term road improvements consisting of the following:

1. Intersection Improvement at Loantaka Way and Shunpike.
2. Resurfacing of Shunpike Road between Noe Avenue and Green Village Road.
3. Widening and turn lane additions to Shunpike Road, Green Village Road and Southern Boulevard.
4. Road reconstruction on Shunpike Road between Green Village Road and Loantaka Way.

## **TRAFFIC PROBLEMS**

There are numerous problems associated with the Township's major road system varying in degree and intensity depending upon the particular road. Many roads suffer from several unfavorable conditions. The more significant problems found are as follows:

- Insufficient right-of-way
- Poor horizontal or vertical alignment
- Steep grade
- Visual obstruction
- Lateral interference
- Inadequate drainage
- Geometrics of intersection design

For the most part, the above problems occur at or near intersections. As previously noted, major improvements to several intersections have been accomplished since the 1978 Plan was adopted.

The Circulation Plan Element of the 1978 Master Plan contains only one major road proposal. This consists of what has been referred to as the Hickory Tree By-pass and involves a new road extending from Woodland Road opposite Dodge Drive, southerly and easterly across Loantaka Way and Green Village Road, to Southern Boulevard just east of Nash Field. It would appear that circumstances and conditions which have recently evolved will preclude establishment of this road. Among the factors affecting the road's implementation are the identification of wetlands along most of its alignment, including properties in the vicinity of that alignment. Due to those constraints, the 1989 Master Plan Revision study excluded the proposed road.

## **HICKORY TREE CIRCULATION**

A traffic and circulation study of the Hickory Tree area of the Township was undertaken in 1997. This study was intended to evaluate traffic and circulation in this area in an attempt to develop a reasonably comprehensive plan to address the continued development and possible future redevelopment of the Hickory Tree area. Several alternative plans were proposed in the plan ranging from restructuring of the intersection of Shunpike Road and Green Village Road South with the Chatham Mall exit to the recommended plan of an additional connection between two legs of Green Village Road incorporating appropriate road geometry. The study also encourages safer pedestrian routes, bicycle access, improved performance of the existing intersections and safer ingress/egress for vehicles accessing the retail uses found in this area.

## **PUBLIC TRANSPORTATION**

An important consideration relating to traffic and circulation is the availability of public transportation. Public transportation in Chatham Township is limited to two bus routes. One of these is Lakeland Route 24, a New York Midtown route, which follows the northerly leg of Green Village Road, loops around Hickory Mall by way of Southern Boulevard, Hickory Place and Green Village Road and continues along Shunpike Road to River Road in Summit. The Lakeland route has irregular service.

The other bus route is a non-daily local County service route (MCM-8). In Chatham Township it follows Fairmount Avenue and Meyersville Road. MCM-8 is a large loop route originating in Morristown, runs easterly along Columbia Turnpike to Livingston Mall, then southerly through Chatham and Chatham Township into Long Hill Township and from there along Maple Avenue through Basking Ridge, and along Route 202 to Morristown.

Rail and bus facilities, primarily serving the commuting population, are available locally in Chatham and Madison Boroughs. These facilities include NJ Transit and Lakeland bus services. The existence of the railroad, particularly, has had much to do with the Township's popularity as a residential location by persons working in New York City, Newark, Jersey City and other regional urban centers.

At the time of this writing, NJ Transit is providing funding for municipalities along the Morris and Essex railroad line. This grant (up to \$50,000) is providing Chatham Township with the means to create a jitney bus service for commuters from various sections of the Township to the train station in Chatham Borough. A survey conducted by the Township Committee indicated that the service is desirable if funded through the NJ Transit grant rather than from municipal taxes.

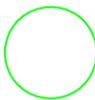
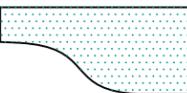
Chatham Township is also conveniently located to air travel facilities. Morristown Airport in Hanover Township is only 4 miles away and provides private, corporate and charter aviation services. Newark Airport is less than 15 miles from the Township.

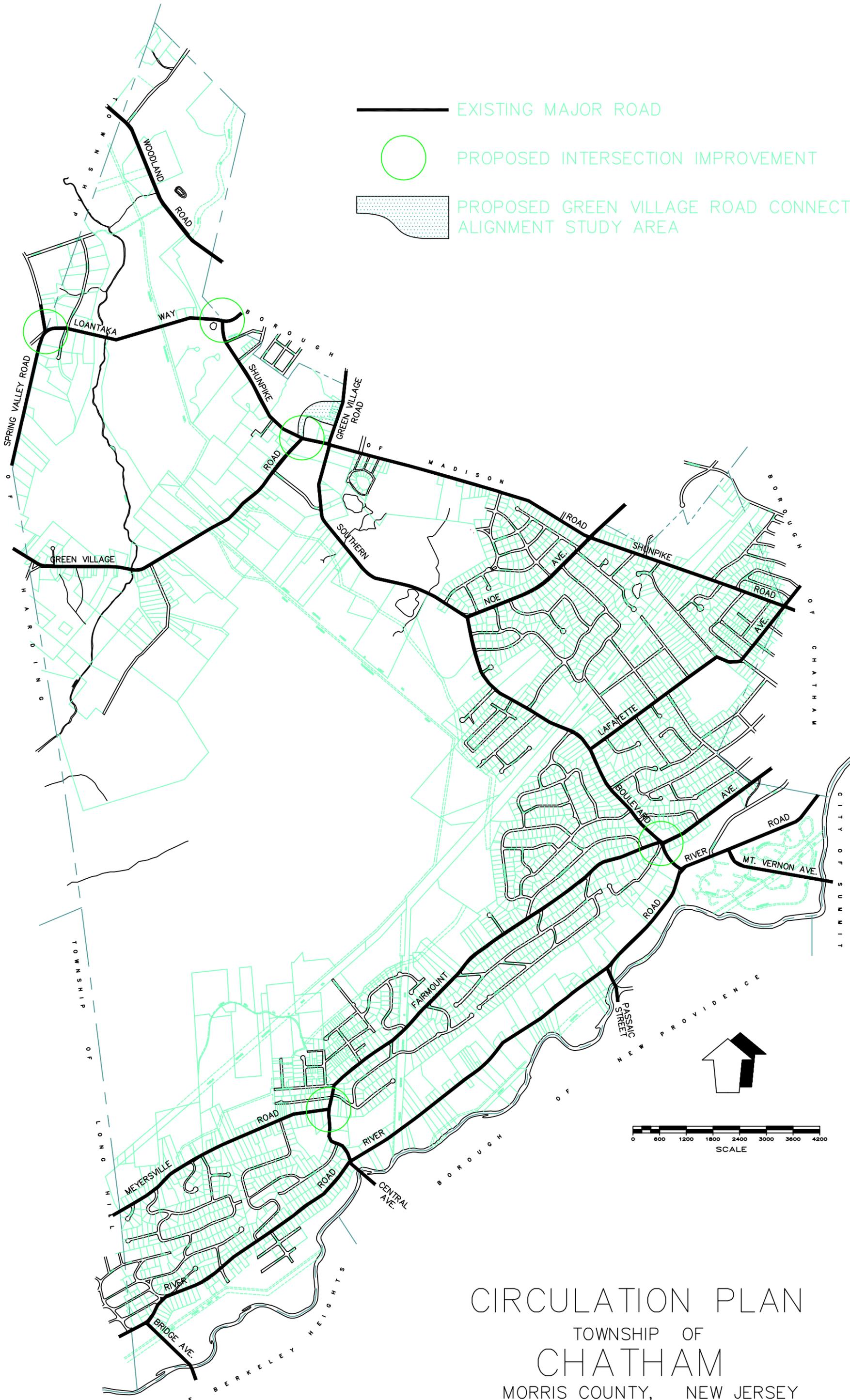
## **CIRCULATION PLAN**

The basic purpose of a circulation plan is to establish a coordinated system of existing and proposed thoroughfares, coordinated with the land use plan, to adequately and safely carry future traffic volumes. To this end, a circulation plan should establish appropriate alignments and widths and make provision for suitable intersection design and other necessary traffic improvements.

The 1989 Master Plan Study presented a very basic, proposed Circulation Plan which essentially reflected existing roads along with identification of certain major road intersections in need of redesign or other related improvements. In that Study it was pointed out that several proposals reflected in the 1978 Master Plan were excluded from the proposed plan since they had already been implemented or, due to changing circumstances, were found unnecessary or no longer realistic. The proposals in the 1978 Plan excluded from the 1989 proposed Circulation Plan and which are also excluded from this Circulation Plan are the following:

1. Proposed road extending from Southern Boulevard to Woodland Road crossing Green Village Road southwesterly of Hickory Tree. Determination of the existence of wetlands would eliminate any likely possibility of this road being constructed.

-  EXISTING MAJOR ROAD
-  PROPOSED INTERSECTION IMPROVEMENT
-  PROPOSED GREEN VILLAGE ROAD CONNECTION ALIGNMENT STUDY AREA



CIRCULATION PLAN  
 TOWNSHIP OF  
**CHATHAM**  
 MORRIS COUNTY, NEW JERSEY

PREPARED BY ROBERT CATLIN AND ASSOCIATES  
 CITY PLANNING CONSULTANTS DENVER, NEW JERSEY

2. Proposed connecting road extending from Mt. Vernon Avenue across River Road to Hillside Avenue. Development of Chatham Glen and steep slopes between River Road and Hillside Avenue preclude construction of such a connection.
3. Improvements at intersections already accomplished as follows:
  - Shunpike Road - Green Village Road
  - Shunpike Road - Green Village Road - Southern Boulevard
  - Shunpike Road - Noe Avenue
  - Southern Boulevard - Noe Avenue
  - Southern Boulevard - Lafayette Avenue
  - River Road - Hillside Avenue - Mt. Vernon Avenue
  - River Road - Fairmount Avenue - Central Avenue

The major features and content of the Circulation Plan are as follows:

### **Existing Major Roads**

For the most part, future traffic volumes will be accommodated within the existing street framework which includes the following arteries:

#### County Roads

Fairmount Avenue  
Green Village Road  
Loantaka Way  
Meyersville Road  
Part of River Road  
Southern Boulevard  
Spring Valley Road  
Shunpike Road

#### Major Municipal Roads

Bridge Avenue  
Central Avenue

Lafayette Avenue  
Mt. Vernon Avenue  
Noe Avenue  
Passaic Street  
River Road  
Woodland Road

Except for minor adjustments, the existing alignments of the above roads cannot be improved to any significant degree.

### **Proposed Green Village Road Connection**

This proposal is new to the Master Plan of Chatham Township. It represents an essential ingredient in the Township's efforts to create a "town center" environment in the Hickory Tree area as well as an important feature of an overall proposal for improving traffic circulation and traffic safety throughout that area.

To a large degree the current interests in promoting a town center at Hickory Tree evolved from a Design Study of the Future of the Hickory Tree Center prepared by James Akers Associates in 1988 at the direction of The Great Swamp Watershed Association. In an effort to implement the objectives embodied in that Design Study and to address the circulation problems at Hickory Tree, the Township, in 1997, commissioned Frost, Christenson & Associates, to undertake a traffic and circulation study of the area. That study culminated in the drafting of a Traffic and Circulation Plan, Hickory Tree Area, September, 1997. That report is incorporated herein by reference.

The major feature of that Plan is a proposal to connect the two legs of Green Village Road presently disconnected by 600 feet along Shunpike Road. The basis for and description of this proposal are best presented by excerpts from the Frost, Christenson report which are presented below:

".....traffic 'problems' in the study area are not currently caused by a lack of roadway or intersection capacity. While certain long term improvements should be instituted, particularly in the area of roadway alignment, general widening of roadways and intersections should not be required. Instead, efforts to improve

the flow of traffic through the area should reflect the need to improve the "drive-ability" of the roadways.

"The roadways in the study area serve two distinctly different roles; providing for through traffic movements and providing access to the study area land uses. Through traffic requires continuous movement at reasonable speeds. Access oriented traffic requires frequent turns and stops. When the two are mixed, the competing requirements can and do cause problems.

"In addition, both components of the traffic stream require as little driver "confusion" or distraction as possible. Driver decisions should be based on normally anticipated vehicular activity, and distractions and unexpected movement should be eliminated. Whenever drivers are confronted with the unexpected, reaction times are extended, and driver decision (both time required and action) is adversely impacted.

"Specific conditions exist with the study area which contribute to driver indecision experienced in the traffic stream. For instance:

- Drivers from the south, on Green Village Road, must make a right turn at the intersection of Green Village Road/Shunpike Road, and then immediately turn left across opposing traffic to enter the Chatham Mall. This is an unexpected maneuver to following vehicles.
- Drivers from the west on Shunpike Road, after proceeding through the signal at the intersection of Green Village/Shunpike Road, must immediately make a left turn across opposing traffic to enter Chatham Mall. This is an unexpected maneuver to following vehicles.
- Drivers at one mall, desiring to shop at the other, must enter the traffic stream, and access the other location. This always requires at least one left turn, and increases traffic conflicts.
- Drivers at a non retail land use, desiring access to retail establishments, must enter the traffic stream, usually travel an extremely short distance,

slow or stop, and exit the traffic stream. The short travel distance, and quick stops are unexpected to other motorists.

"The combination of through traffic and locally oriented traffic increases driver confusion. The multiplicity of access locations to the adjacent land uses causes vehicular activity to deviate from the norm. While these conditions cannot be eliminated, certain steps can be taken to minimize their occurrence.

"One step to improve the traffic flow through the study area would be to separate the two competing services provided by the study area roadways. It is not possible to provide a by pass for through traffic, leaving the existing roadways to provide only access to the existing development. However, the potential exists to move in this direction. At the same time, it would be desirable to create an improved environment for interactivity between the various land uses in the area.

"The connection of the two (2) legs of Green Village Road would eliminate traffic from the section of Shunpike Road between the two retail mall areas, and would simplify turning movements for both through traffic and locally oriented traffic. Because of the proposed development of the Tublitz tract, the potential for such a connection was investigated.

"The Tublitz tract has frontage on or across from both legs of Green Village Road. On the northern leg, a fifty (50') foot wide connection from the main portion of the tract to Green Village Road exists, separating the currently developed business portion of the study area from residential development on the west side of Green Village Road to the north. The south and east side of the main portion of the tract is adjacent to the signalized exit from the Chatham Mall, almost opposite the termination of the south leg of Green Village Road at Shunpike.

"To determine the feasibility of this connection, three (3) possible alternates were considered. Each requires the reconstruction of the existing Chatham Mall exit.

- Reconstruction of Chatham Mall exit.

The property line between the Chatham Mall and Tublitz property is located immediately north of the termination of Green Village Road (south leg). Redesign

of this intersection should encompass all traffic movements through the intersection. This would require property from both the Chatham Mall and the Tublitz property.

In addition, realignment of Green Village Road south of Shunpike will be required. As part of this alignment, a limited amount of right-of-way will have to be acquired from the owner of the office building in the southwest quadrant of this intersection. Closing of the existing driveway entrance closest to the Green Village Road/Shunpike Road intersection may also be necessary."

The proposed connection is shown on the Circulation Plan Map. It represents the preferred alignment of the three alternatives presented in the Frost, Christenson Report. It has been selected because of its acceptable geometry. It would extend from Shunpike Road opposite the south leg of Green Village Road in a wide curve and intersect the north leg of Green Village Road about 150 feet north of Garfield Avenue. The latter intersects the easterly side of Green Village Road in Madison. The alignment immediately north of Shunpike Road involves use of part of the Chatham Mall shopping center and would eliminate the exit driveway from that center. Direct connections to the proposed townhouse development on the Tublitz property would also be eliminated and that development served directly from the proposed connection.

Implementation of the proposed connection will require significant effort on the part of various parties, especially the Township in negotiating adjustment to the proposed townhouse site plan layout with the developers of the Tublitz property. This effort is justified in that the proposal remains what appears to be the last and only opportunity to accomplish significant traffic improvements to the area.

Other related traffic improvements proposed in the Frost, Christenson Report which are incorporated herein as part of the Circulation Plan are as follows:

- Shunpike Road

The existing barrier median should be extended to prevent entering and exiting left turns to/from Shunpike Road to/from the Chatham Mall.

- Hickory Square Shopping Center

A comprehensive study should be undertaken to determine if improved internal circulation can be developed, and if any of the access points can be eliminated and/or improved.

- On Street Parking

All on street parking in the study area should be prohibited, and enforced.

- Local Access

To the extent possible, specific attention should be addressed to the location of any future driveway openings to minimize or eliminate vehicular conflicts due to multiple destinations within the study area.

- Roadway Alignment

The vertical and horizontal alignment of Shunpike Road, west of Green Village Road (south leg) and Green Village Road, south of Shunpike Road should be improved.

### **Intersection Improvements**

All major road intersections in the Township should be properly engineered for safe traffic movement with adequate sight distances, good geometrics of design, suitable horizontal alignments and appropriate lighting, signing, marking and signaling. As previously indicated, several intersections have received major improvement since 1978. Remaining intersections which still warrant study or some degree of improvement area as follows:

Green Village Road South - Shunpike Road  
Loantaka Way - Spring Valley Road  
Loantaka Way - Shunpike Road  
Fairmount Avenue - Meyersville Road

These intersections are circled on the Circulation Plan map.

### **Road Widths**

In order to effectively carry traffic, adequate road widths should be established for the various major Township roads. Since many of the existing major roads are County roads, appropriate right-of-way and pavement widening should be undertaken, where possible, by the County or through negotiation between the Township and the County. Widening of portions of County roads, as well as municipal roads, can also be accomplished as development along them takes place.

As a general rule, major roads should have 66 foot rights-of-way to allow ample room for future pavement widening where necessary. However, existing development conditions along some roads will make such a width impracticable.

Substantial pavement widening will also be difficult along many sections of existing roads. In all probability, most roads will remain two-lane roads for the foreseeable future. However, where possible, shoulder space should be provided as well as turning lanes at intersections.

### **Pedestrian and Bicycle Circulation**

The Circulation Element of the 1978 Master Plan also reflects existing and proposed sidewalks. Sidewalks are related to other proposals concerning pedestrian circulation which are addressed in the Walkway/Bikeway plan which also address bicycle circulation and bike paths.