



## VI. CIRCULATION ELEMENT



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### 1.0 INTRODUCTION

Travel patterns within Randolph Township reflect its location in the center of Morris County with significant levels of commercial and residential development to the west and to the east.

To develop recommendations for future improvements to the Randolph Township circulation system, the existing transportation system must be reassessed. This assessment is accomplished through an evaluation and update of information provided in the 1992 Master Plan regarding the Township's roadway classifications, traffic volumes, traffic safety problem areas and proposed roadway improvements.

### 2.0 ROADWAY CLASSIFICATIONS

A functional system of streets and highways provides a graduated system of traffic flow. Efficient and safe operation of the system requires that specific facilities be designed to serve a specific purpose within the street hierarchy. Classification of roadways are made according to the movement served by that roadway and not according to traffic volumes on the roadway. The functional classifications with respective definitions are summarized in Table VI-1.

The current Randolph Subdivision Ordinance places roadways in six classifications. The classifications can be found in the Land Development Ordinance (LDO) on Page V:37. As a summary, roadway classifications within the LDO include: Local, Sub Collector, and Minor Collector streets, Major Collector, Minor Arterial, and Major Arterial. New Jersey State Department of Transportation (NJSDOT) has recently updated the classification of roadways located throughout the state. In some cases, roadways in the Randolph have been classified by NJDOT differently than the Township. Until such time as this difference is resolved, the Township's classification is the accepted class.

The New Jersey Residential Site Improvement Standards (RSIS) also include street classifications, although they only pertain to residential streets. Regardless, their classifications are important to note here because of their impact on the level of street improvement required for residential roadways.

<b>Table VI-1</b>
<b>FUNCTIONAL CLASSIFICATION OF ROADS</b>
<u><b>Freeway/Expressway:</b></u> Primary function is to serve through traffic and provide high speed mobility. Access provided from major streets at interchanges. Limited or no access to abutting land uses.
<u><b>Major Arterial:</b></u> Intended to provide a high degree of mobility and serve longer trips than minor arterials. Principal function is movement, not access. Should be excluded from residential areas.
<u><b>Minor Arterial:</b></u> Interconnects and augments the major arterial system. Accommodates trips of shorter lengths. Operating speeds and service levels are lower than major arterials. Should be excluded from identifiable residential neighborhoods.
<u><b>Collector:</b></u> Provides both land access and movement within residential, commercial and industrial areas. Penetrate but should not continue through residential areas.
<u><b>Major Collector:</b></u> Primary function is to collect and distribute traffic between local streets and the arterial system.
<u><b>Minor Collector:</b></u> Primary function is to provide land access.
<u><b>Sub Collector:</b></u> Primary function is to provide inter-neighborhood traffic movement.
<u><b>Local:</b></u> Provide land access and can exist in any land use setting. Movement is incidental and involves travel to and from a collector facility.
<i>Source: Transportation Land Development Institute of Transportation Engineers, 1988.</i>

Figure VI-1 *Circulation Map* illustrates Randolph's roadway classification system, as well as problem areas and recommended circulation improvements. A brief description of the mode and function of each major roadway defined by its classification is included below.

## 2.1 Major Arterials

New Jersey Route 10 varies in width from two to six lanes within the Township. A six lane cross section with three lanes of travel in each direction exists from the Township of Denville municipal border to a point approximately 1,500 feet west of the intersection with Millbrook Avenue. The remaining length of Route 10 consists of a four lane cross section with two lanes of travel in each direction. Route 10 is a major arterial traversing the northern portion of the Township in an east-west direction. Route 10 is divided by a paved median from the Denville Township boundary west to just west of the Millbrook Ave intersection.

## 2.2 Minor Arterials

Sussex Turnpike (County Route 617): is a minor arterial road traversing Randolph in a north-west to southeast direction. At the northwest boundary with Roxbury Township, Sussex Turnpike begins at a grade-separated interchange with Route 10, providing access to/from Morris Township and points southeast.

Dover-Chester Road (County Route 513): is a minor arterial traversing the Township in a southwest to northeast direction. Route 513 provides access to Chester Township to the southwest and continues north to Quaker Church Road. At the intersection with Route 10, Dover-Chester Road provides one left turn lane for each direction and one straight through lane with channelized right-turn lanes, as well as near-side jughandles.

Just north of Route 10, Dover-Chester Road is a two-lane roadway with a “T” intersection with Quaker Church Road.

Quaker Church Road (County Route 513): is a minor arterial traversing the Township in an east to west direction. Quaker Church Road stretches east from Dover Chester Road to Reservoir Avenue.

Reservoir Avenue (County Route 513) is a minor arterial stretching in a north to south direction between Quaker Church Road and the municipal boundary with the Town of Dover.

West Hanover Avenue (County Route 650) is an east-west minor arterial road beginning an offset intersection with Brookside Road intersection with Sussex Turnpike and continuing to the eastern boundary with Denville and Morris Townships. West Hanover Avenue provides access to various residential neighborhoods in the southeastern part of Randolph, while at the same time carrying through traffic to and from points east of the Township.

## 2.3 Major Collectors

Millbrook Avenue (County Route 670 south of School House Road) is a 2-lane north-south major collector roadway connecting Sussex Turnpike with South Morris Street in the Town of Dover. North of Route 10, Millbrook Avenue is designated as County Route 656. It collects and distributes traffic between minor collectors and the arterials such as Route 10 and Sussex Turnpike.

School House Road/Center Grove Road (County Route 670) is a major collector roadway connecting Millbrook Avenue to the Town of Dover. It is a 2-lane roadway except for the 4- to 5-lane cross-section that exists from Lawrence Road north to Quaker Church Road. Route 670 collects and distributes traffic to/from Route 10 and provides access to/from the County College of Morris.

South Salem Street (County Route 665) connects Dover to the northwest with a grade separated interchange at Route 10 to the southeast. This roadway passes through Victory Gardens Borough which is straddled on both sides by Randolph Township.

South Morris Street is a two-lane major collector roadway connecting Dover to the northwest with Route 10 to the southeast. A majority of this roadway lies in Dover; however, all traffic oriented to/from westbound Route 10 that utilizes South Morris Street must pass through Randolph.

Canfield Avenue is a two-lane major collector roadway connecting Route 46 to the north with Route 10 to the south. Uses along Canfield Avenue include the Canfield Industrial Park, Canfield Mews Apartment Complex, Aspen Community Complex and a New Jersey Department of Motor Vehicles Inspection Station.

Lawrence Road/Everdale Road/Shongum Road is a two-lane major collector roadway system which collects and distributes traffic between residential subcollectors and West Hanover Avenue.

Calais Road/Pleasant Hill Road: Calais Road is a two-lane, east-west major collector roadway connecting residential areas in Randolph and Chester Townships to the west with Sussex Turnpike to the east. Pleasant Mill Road provides some widened improved sections where residential subdivisions have been constructed.

## 2.4 Minor Collectors

Quaker Church Road/Franklin Road: is a two-lane minor collector roadway that collects and distributes traffic between residential properties and the north/south roadways that access Route 10.

Park Avenue is a two-lane minor collector roadway connecting Sussex Turnpike to the north with Dover-Chester Road to the south.

Carrell Road is a two-lane minor collector roadway that varies in width with widened improved sections including curbing near the newly developed residential subdivisions. Carrell Road has residential uses on both sides.

## 3.0 VEHICULAR TRAFFIC VOLUMES

Randolph Township, like many other municipalities in New Jersey continues to experience a significant increase in housing. As noted in the 1992 Plan, Randolph's road system is affected by traffic growth from neighboring municipalities in addition to locally-generated traffic. Although it is undesirable to have a high volume of "through" traffic traveling along Township roadways, Randolph Township's geographical location does not permit otherwise. The following discussion about Township major routes taken from the 1992 Master Plan is still relevant today and is repeated below with minor revisions.

Route 10 is the most heavily traveled roadway in the Township. Traffic volume is highly directional with heavy eastbound volume during morning peak hour and the reverse during the evening peak hour. Route 10 heavy eastbound traffic flows during morning peak hour causes vehicles to wait at more than one signal cycle length at the signalized intersections. This is the case in particular at the intersection of Route 10 with Center Grove Road.

Sussex Turnpike is the second most heavily traveled roadway in the Township, particularly the section between Millbrook Avenue and West Hanover Avenue. The traffic data suggests that this roadway is used by traffic with origins and destinations outside the Township.

Eastbound traffic flows along Sussex Turnpike are heavy during the morning peak period. Passing is virtually impossible and traffic flow becomes dense when slower vehicles or other interruptions are encountered during peak hours. This is especially evident at the Millbrook Avenue traffic signal. Improvements have been completed in conjunction with the Acme Supermarket development.

Dover-Chester Road traffic volumes are less than Sussex Turnpike but still heavy. North-south traffic traveling through the township generally uses Dover-Chester Road.

Millbrook Avenue traffic volumes are significant with the majority of Millbrook Avenue traffic having either an origin or destination within Randolph Township.

Center Grove Road: The section of Center Grove Road south of Route 10 experiences relatively high traffic because of the nearby access to the County College of Morris.

West Hanover Avenue traffic is a mixture of local and through traffic. An analysis of West Hanover Avenue indicates that passing is virtually impossible when traffic flow becomes dense during peak hours.

## 4.0 VEHICULAR CIRCULATION PROBLEM AREAS

A number of areas were identified in the 1992 Master Plan as vehicular circulation problem areas. Some of these problems have been corrected. Those areas that still need improvement are numbered below in Table VI-2 and are located on Figure VI-1 *Circulation Map*.

Table VI-2	
CIRCULATION PROBLEM AREAS	
<u>Problem Area</u>	<u>Problem Description</u>
1	Steep roadway grade; limited sight distance
2	Limited sight distance
3	Limited sight distance
4	Limited sight distance
5	Dangerous reverse curve
6	Limited sight distance
7	Difficult alignment
8	Difficult alignment
9	Difficult alignment
10	Limited sight distance
11	Limited sight distance
12	Limited sight distance
13	Limited sight distance

All of the traffic safety problem areas identified above should be considered when reviewing development applications which may impact these locations.

During the preparation of technical reports prepared as part of this master plan process, additional traffic issues were noted. For instance, during the preparation of the Route 10 Corridor Study, it was noted that access to Morris County Community College presently occurs from driveways on Center Grove Road and Dover Chester Road. During morning peak hours, the turning lanes from Route 10 suffer from very heavy traffic volumes. The Township encourages and would support an application for direct ingress and egress to the college campus from Route 10 eastbound lanes. It was also noted that the intersection of Irish Spring Road and eastbound Route 10 poses safety issues. An acceleration lane does not exist and the road's sight distance and signage is poor. This is a concern in particular,

because Irish Spring Road serves as a leg of the westbound to eastbound U-turn movement for the highway.

The Mount Freedom Village Center Study Technical Report states that Sussex Turnpike is slated for roadway improvements by the State of New Jersey Department of Transportation to better accommodate the high volumes of east-west traveling to/from Morristown. These proposed improvements include realigning and widening Sussex Turnpike from two lanes to four lanes through Mount Freedom from Calais Road to West Hanover Avenue. Associated road improvements include development of sidewalks along the southern section of Sussex Turnpike within the commercial core area of Mount Freedom. Sidewalks are proposed to continue along portions of the northern section of the Turnpike as well, from Harvey Terrace east to the end of the road improvements along West Hanover Avenue. After its completion, Sussex Turnpike will be on average about 46 feet wide in the Village Center area. Also, planned is the realignment of West Hanover Avenue with the Brookside Road right-of-way. This will allow for this area to be redesigned as a four-way intersection. Sidewalks will be provided at all four corners of this intersection.

The Mount Freedom Village Center Study identifies the need for additional local roads and alleys to support the future vision for Mount Freedom expressed in the Village Center Study. The purpose of these new roads is explained in detail in the Village Center Study and summarized below:

- New local roads are proposed in the Zion Tract to support new development proposed for this area north of Sussex Turnpike and West Hanover Avenue intersection. New local roads are also proposed Kensington Square required linking housing proposed for this new development to the rest of the Village Center. Roads for Kensington Square will be under private ownership.
- Woodlawn Terrace is recommended in the Village Center Study to be extended to intersect with Sussex Turnpike. This road extension allows for access to the properties along Sussex Turnpike from the back where parking would be located and shared by the businesses proposed to be located along this route. This would eliminate the numerous driveways that front on to Sussex Turnpike presently causing congestion and vehicular conflicts.
- Alleys and lanes are proposed for the Mount Freedom area to allow residents to access garages, located at the rear of the parcels or parking provided behind commercial buildings.

## 5.0 PUBLIC TRANSPORTATION

As stated in the 1992 Master Plan, several modes of public transportation are available in Randolph Township including bus and limited paratransit service. The issues involved with each form of public transportation are discussed below.

## 5.1 Bus Service

Morris County Metro operates the MCM2 bus line under agreement with New Jersey Transit. The following MCM2 bus stops in Randolph Township identified in the 1992 Master Plan have not changed. These bus stops exist at:

- County College of Morris (origin of eastbound route to Morristown).
- Intersection of Quaker Church Road and Dover-Chester Road.
- A&P Shopping Center at the intersection of Center Grove and Quaker Church Roads
- K-Mart / South Salem Street and Route 10.

Bus service currently operates Monday through Friday during daytime and early evening hours. The eastbound route originates at the County College, makes the next two stops listed above, followed by a stop in Dover and Victory Gardens before the final stop in Randolph at the K-Mart Shopping Center. This route continues to Morristown providing access to three rail stations and peak hour service to the Prudential Business Campus. The westbound route originates at the Morristown Rail Station and terminates at the County College.

As in 1992, Lakeland Bus Lines operates a route through Morris County to/from Port Authority Bus Terminal in New York City. The nearest stop for peak hour service is in Denville while off-peak service is available to/from Dover where parking is available.

New Jersey Transit does not have formal plans to expand bus service to/from Randolph Township as funding is not available.

Eventually, expansion of existing bus routes must be considered as development of the Village Center occurs. Initially, one stop could be provided at the corner of Sussex Turnpike and Millbrook Avenue. When the Village Center develops along Sussex Turnpike between Calais Road and West Hanover Avenue, a bus stop on either end of this corridor should be considered.

## 5.2 Rail Service

New Jersey Transit's passenger rail system provides service to Hoboken and New York via station in Dover, the nearest opportunity for Randolph Township citizens. This station is located along the Boonton line. Parking is provided at the Dover rail station for a fee. Some residents also use stations in Morris Plains and Morristown.

## 5.3 Other Types of Public Transportation

The Morris Area Paratransit System (MAPS) provides transportation for elderly and handicapped persons. Using small buses and vans, MAPS provides transportation to doctors, clinics, social services and other locations. MAPS provides transportation service upon request. Information on this service is available through Morris County. Morris County does not provide any other shuttle bus service.

## 6.0 PEDESTRIAN CIRCULATION

The Randolph Township has a well planned trail network that connects several residential areas within the Township with open space, historic sites, and other places of interest. Figure VI-2 *Trail Map* identifies the trail network that extends throughout the Township that includes trails that have been constructed during the previous decade as well as those trails that are planned for the future. The Township's existing trail network connects to other Townships within Morris County through connection to the County's Patriots Path trail.

### 6.1 Morris County Parks Trail System

The Morris County Parks Commission is continually enhancing Patriots Path, which is a network of hiking, biking, equestrian trails, and green open spaces that link several townships together with Federal, state, county, and municipal parks, watershed lands, historic sites and other points of interest across Morris County.

Patriots Path's purpose is to protect and enhance the environment and aesthetic integrity of the stream valleys and uplands through which it passes, while providing opportunities for passive outdoor recreation. Morris County Parks Commission has several existing trails within Randolph, which include right-of-ways along Willow and Deepdale Drives (where there are plans to connect to the future county park at Greystone), Roc Etam Road, and New Berry Place (where there are plans to connect to the future Denbrook Greenway Trail).

The County's fifty-mile Patriots Path trail network is located throughout Morris County and is comprised of various trail surfaces including crushed stone and gravel, pavement, and exposed earth and rock. Several miles of trails lie on cinder and gravel beds of old railroad lines. The trails are used for hiking, horseback riding, cross-country skiing, biking, walking, and jogging. Similar trail surfaces and uses are found in Randolph's existing trail network.

### 6.2 Randolph Township Trail System

Randolph's existing trail network connects the existing open space, county and state-owned lands within the heart of the Township with surrounding neighborhoods, which include Shongum, Ironia, and Millbrook. The watershed protection area in the southern part of the Township, which is located between Combs Hollow Road and Old Brookside Road, is also linked to the trail network. This area also connects to Calais Road in Mendham.

Trail right-of-ways utilize existing road and sidewalk networks where it is feasible to do so. Using existing road and sidewalk networks allows for a more comprehensive connection to existing neighborhoods, thereby providing greater access to residential communities. Areas that use existing roadways and sidewalk networks include Dover Chester Road, Doby Road, Dolly Bridge Road, Calais Road, Beaver Dam Road, and Rickland Drive.

Other trails are proposed to tie in north of the existing trail network that is located in the center of the Township. These future trails would improve linkages with the Millbrook neighborhood and the existing trail network utilizing existing open space and high priority lands that are located south of Route 10. The Township has made prior efforts to cross Route 10 and extend through the County

College of Morris campus, thereby linking to Quaker Church Road as well as the existing trails to the northwest. A sidewalk plan, subject to availability of future funding, for this portion of the Township is discussed in the Route 10 Corridor study. The intent of additional sidewalks in this area is to interconnect the residential neighborhoods with commercial areas along Route 10 and the Township's trail system. A long term goal is to connect the north side of Randolph with the southern portion which is presently divided by Route 10.

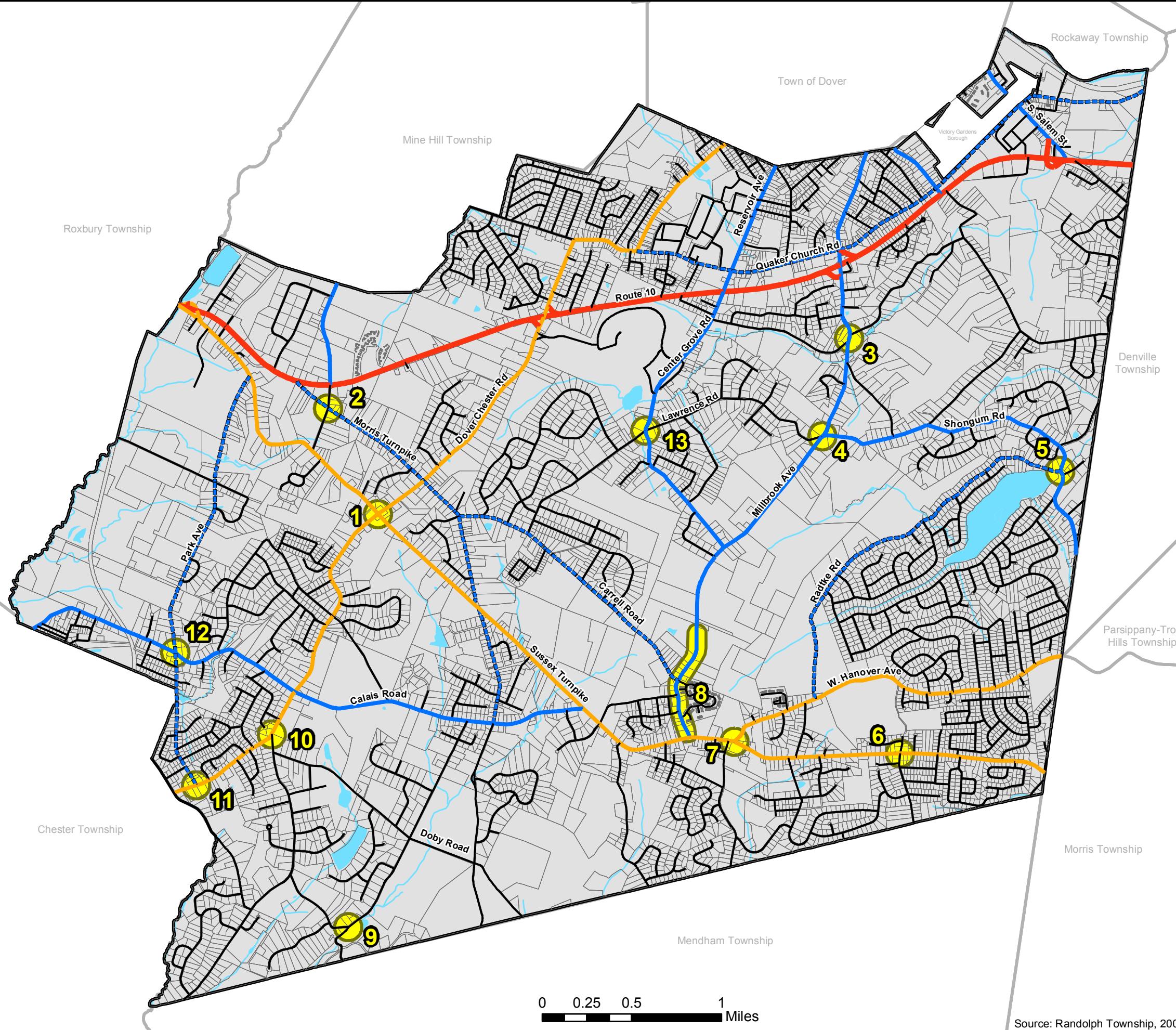
A second trail extension proposed for the future is noted on VI-2 *Trails Map* as extending along an abandoned railroad bed. Completion of this trail requires clearing brush from the railroad bed and formally designating the route as a trail.

As stated in the Mount Freedom Village Center Study, a technical report completed during the master planning process, one of the primary goals for the future of this area is that it becomes as pedestrian friendly as possible. Recommendations which are subject to resident input and approval to improve pedestrian connectivity within Mount Freedom are described in detail in the Village Center Study.

## 7.0 CIRCULATION RECOMMENDATIONS

The primary objective of the Circulation Element is to outline the means for the safe and efficient movement of vehicles and pedestrians to, from and within the Township. The following recommendations are provided in conjunction with the others outlined in this element to help meet this objective:

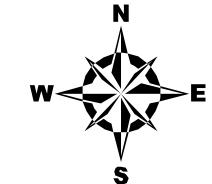
1. Future residential and commercial development should continue to be encouraged to interconnect their sites with vehicular and pedestrian linkages, particularly in the Village Center as outlined in the Village Center Study and the Route 10 Corridor Study as summarized above.
2. New Jersey Department of Transportation should be strongly encouraged to move forward with improving Sussex Turnpike.
3. The Morris County Metro (MCM) bus route should be expanded to serve demands along the Sussex Turnpike corridor, including Village Center.
4. Opportunities to expand mass transportation in Randolph Township should be pursued with the assistance of developers and other government agencies.
5. Complete the recommendations identified above, and in the Route 10 Corridor Study regarding vehicular and pedestrian circulation.
6. Complete the recommendations identified above, and in the Mount Freedom Village Center regarding vehicular and pedestrian circulation.
8. New Jersey Transit is encouraged to explore the possibility of a transit stop located in Randolph.



# CIRCULATION MAP

## Randolph Master Plan

Randolph Township, New Jersey



### Legend

- Township Boundary
- Streams
- Parcels

**Functional Classification**

- Major Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local Road

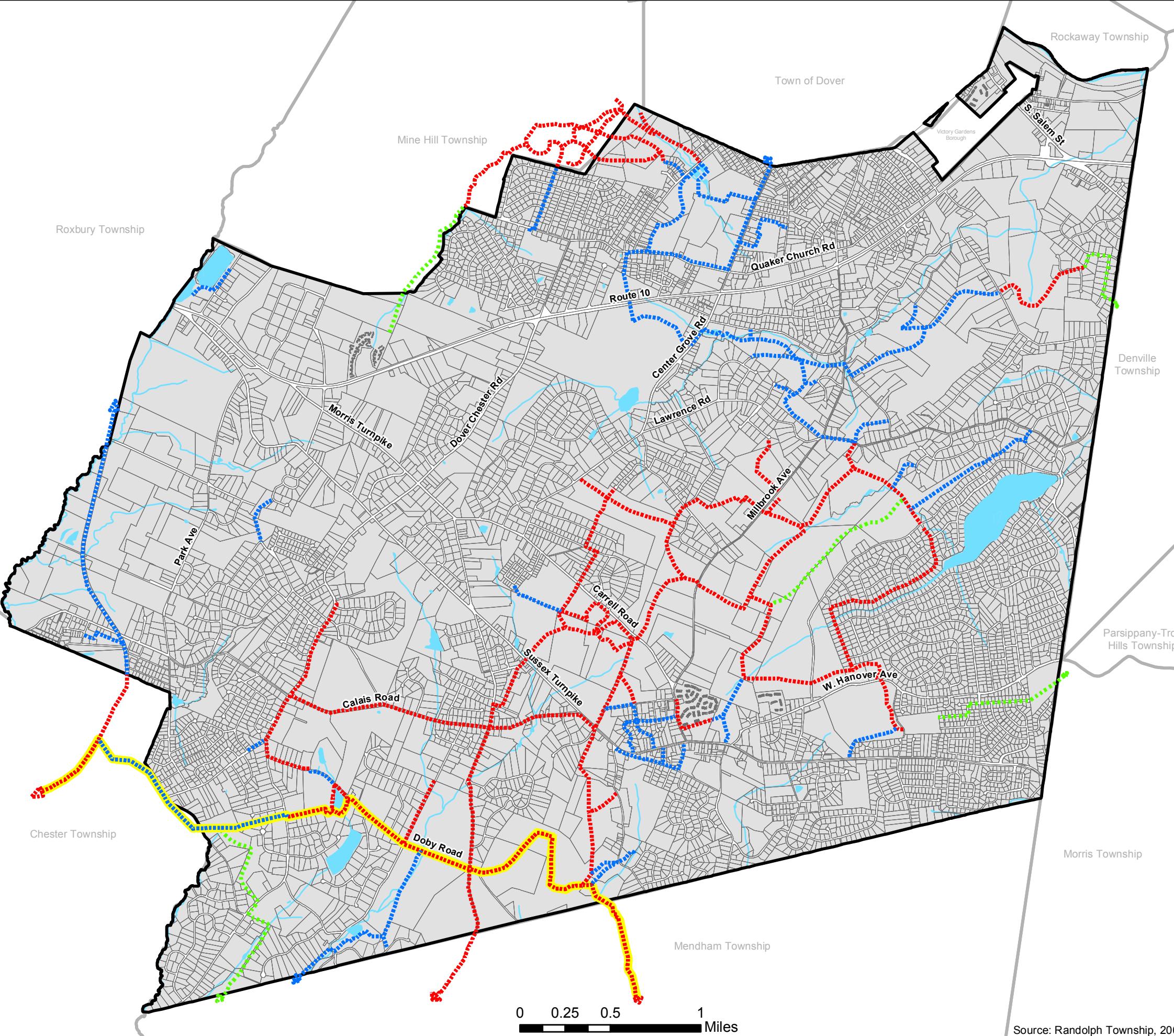
**Problem Area**

**FIGURE VI-1**



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& ASSOCIATES

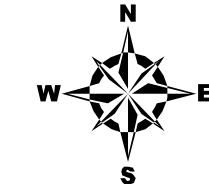
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## TRAILS MAP

### Randolph Master Plan

Randolph Township, New Jersey



#### Legend

- Parcels
- Township Boundary
- Streams
- Patriots Path
- Existing Trails
- Future Trails
- MCPC Future Trails

FIGURE VI-2



ROBERT  
MICHAELS  
& ASSOCIATES

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