
CIRCULATION PLAN ELEMENT

(Amended May 19, 1997; Reorganized February 25, 2008)

The scale and design of Harding's roads and bridges have an important impact on the rural and historic character of the community. Notwithstanding Harding's proximity to large metropolitan areas, its roads and bridges have remained relatively unchanged for generations.

ROADWAY CLASSIFICATIONS

The Municipal Land Use Law¹ requires that the standardized Federal Highway Classification System be taken into account in developing circulation plans and categorizing roads for master planning purposes. The purpose of road classification is to make distinctions among roads in terms of their existing or proposed function and the engineering design standards that may be applied to them. Utilizing this system as a basis, there are five categories of roadways within Harding..

Freeways (Interstate 287)

A "freeway" is a high speed, high capacity, limited access highway providing no direct access to abutting properties. Design features include the separation of opposing traffic lanes by a continuous center barrier or median strip, and full access control and grade separation at interchanges which are generally widely spaced. Freeways usually have four or more lanes and right-of-way widths in excess of 150 feet.

Interstate 287, which passes through the township without a major interchange, is classified as a freeway under the jurisdiction of the New Jersey Department of Transportation. Current NJDOT plans call for widening the highway to provide an extra travel lane in each direction in order to provide for growing traffic levels. The new lanes in Harding are expected to be provided within the median strip in the existing right of way. Noise barriers may be built in some instances, but the exact locations are not known at this time. The township expects to be consulted about the location, design and landscaping of noise barriers, including public hearings on the subject.

Traffic congestion has increased along I-287 in recent years and the extension of I-287 in the northern part of the state will further increase traffic volumes. As a result, the extension may to some extent nullify the congestion, reducing benefits of the widening.

Minor Arterial Highways (Mt. Kemble Avenue - Rt. 202)

This category of road serves as a feeder to and from the freeway system. Arterial highways also provide direct access to abutting properties (within the limits of the newly

¹ Municipal Land Use Law. 40:55D-28 b4.

adopted state highway access code) a secondary function that interferes with the flow of traffic. Arterials usually intersect at grade and utilize timed traffic signals, jug handle intersections, center barriers, and lane markings to facilitate traffic flow. In Harding Township, Mt. Kemble Ave. functions as a minor arterial roadway (see Circulation Plan Element - Recommended Road Policies).

Collector Roads (Blue Mill Rd., Glen Alpin Rd., James St., Lee's Hill Rd., Long Hill Rd., Sand Spring Rd., Spring Valley Rd., Tempe Wick Rd., Village Rd. and Woodland Ave.)

"Collector roads" in Harding are under the jurisdiction of the county in the case of Lee's Hill Rd., Spring Valley Rd., James St., Blue Mill Rd. (from Village to James), Glen Alpin Rd., Long Hill Rd., Tempe Wick Rd. and Village Rd. Blue Mill Rd. (from James to Spring Valley), Sand Spring Rd., and Woodland Ave. are under the jurisdiction of the township. This category of road usually has one or more local roads feeding into it. Its function is to gather traffic from local roads and provide "intra" and "inter" town traffic circulation. As a result, higher levels of traffic than for "local" roads are characteristic of these roads. They also provide direct property access.

Local Roads (Anthony Wayne Rd., Brook Dr. (So. and No.), Blackwell Pl., Douglas Rd., Fawn Hill Dr., Featherbed Ln., Goosedown Dr., Hunter Dr., N. Loantaka Ln., Millbrook Rd., Military Hill Dr., Orchard Dr., Peachcroft Rd., Post House Rd., Shalebrook Dr., Spencer Pl., Stark Dr., St. Clair Rd., Tall Pines Rd., Tiger Lily Ln., and White Deer Lane)

"Local roads" are under the jurisdiction of the township. Their principal function is to serve the very limited circulation need of providing access to abutting properties of usually small areas. They also serve as easements for the various public utilities and often provide for neighborhood pedestrian access because of their characteristic low traffic volumes. Local roads in Harding typically have no curbing and little or no shoulder. Many of these roads were built as part of subdivision developments and as such were built to a modern design standard minimizing the need for additional improvements for safety or maintenance reasons. Roads on federal reservations are under the jurisdiction of the applicable federal agency.

Rural Historic Local Roads (Bailey's Mill Rd., Cherry Ln., Dickson's Mill Rd., Kitchell Rd., Lindsley Rd., Meyersville Rd, Miller Rd., Pleasantville Rd., Pleasant Plains Rd., Red Gate Rd., Sand Spring Ln., Van Beuren Rd., Woodland Rd. and Young's Rd.)

This category of road is under the jurisdiction of the township and serves the same function as local roads with typically very low traffic volumes. These roads, however, are distinct from local roads in that they retain their historic design characteristics. They are characteristically very narrow (often 18 feet or less) and closely follow the natural features of the terrain. Indeed, most of these roads have changed very little from Harding's early settlement period. This category of road is often closely associated with environmentally sensitive areas and/or areas worthy of historic preservation.

Existing Roadway Mileage

Harding Township has within its boundaries approximately 47.6 miles of public roads and streets (exclusive of 9.9 miles of private roads). The roadway miles under the various jurisdictions are as follows:

ROADWAY MILEAGE IN HARDING: 1993

Roads	Jurisdiction	Miles
I-287	NJDOT	3.6
Mt. Kemble (Rt. 202)	NJDOT	3.0
Great Swamp Access	US Fish & Wildlife	0.9
Jockey Hollow	US Park Service	1.3
	Total Fed. & State	8.8
County Roads	Morris Co. Freeholders	12.8
Township Roads	Harding Twp. Cmte.	26.0
Private Roads	Private	9.9
	Total County & Local	48.7
	Grand Total	57.5

Traffic Volumes and Trends

Increasing regional traffic due to development in other communities has affected Harding over the last decade. The increase in commuter traffic on many roads within Harding is of special concern because of the impact on residential areas. The table below compares traffic volumes between the years of 1979 and 1992. These figures show a marked increase in traffic over that time period. However, it is important to note that these figures predate the extension of limited access Route 24 from the Short Hills Mall to I-287 and thus the impact of that event on reducing traffic in Harding is not reflected.

Office development in nearby communities has been a primary cause of traffic increases on roads used by commuter traffic. The 1980's saw a rise in office development in our region especially in communities to the north and east of Harding. Three factors, however, are expected to slow and in some cases perhaps reverse that trend. First, as infrastructure is increasingly strained and vacant land disappears, the capacity for additional development is diminishing in these communities. Second, increasingly restrictive growth policies in these communities resulting from, at least in part, a heightened awareness of the need to protect the Great Swamp is slowing growth rates. Third, the opening of the extension of the limited access Route 24 may have a substantial effect of relieving traffic on Harding's roads. For these reasons a tailing off of the growth in traffic is foreseen.

Traffic increases have not affected many roads, especially local roads. This will not change in the foreseeable future. Road policies and planning in Harding need to reflect these facts.

PLANNING CONTEXT

The Land Use Plan element and the State Development and Redevelopment Plan recognize the importance of the township's location between the Morristown National Historical Park and the Great Swamp National Wildlife Refuge and have set a limited growth context for Harding. This context will permit road policies that are designed to minimize the environmental impact on the Great Swamp (especially from stormwater runoff) and to preserve the scale and character of existing roads and bridges to promote historic preservation goals.

It is recognized that some limited road work may need to be undertaken to reduce long term maintenance costs for roads and bridges and to improve public traffic safety. In addition, development will occur, albeit at generally low densities. The principal purpose of this element is to recommend road policies that balance environmental protection and historic preservation goals with the important needs of public safety and convenience.

Planning Concerns

Much attention and concern by Harding's citizens and officials has been focused upon Harding's road system in recent years. This results from a number of factors, most important of which are:

- An increase in traffic on certain township roads, especially "through" traffic.
- The relocation and improvement of Route 24 and the widening of I-287 which are expected to slow the rise in traffic volumes using county and local roads to bypass congestion on those major roadways.
- Increasing recognition that road standards and improvements can have important environmental consequences on the Great Swamp and on the rural-historic character of the township.
- Concern that various road and bridge reconstruction proposals by the county may change the character of affected county roads.
- Adoption by the NJ Department of Community Affairs of residential site improvement standards governing the design and construction of roadways in connection with residential development throughout the state.

Three overriding areas of concern have emerged in connection with Harding's road system:

1. Most of Harding's roads are in good condition. However, road and bridge work will need to be done in the future to maintain public safety and control long term maintenance and repair costs. Ways will need to be found to accomplish this in a manner that is consistent with Harding Township's historic, aesthetic and environmental goals.
2. Many of Harding's roads represent an important historic legacy which is central to the character and quality of life of the region. Road maintenance and improvement policies must be sensitive to this fact.

Emphasis should be placed on preserving the scale and character of these roads, consistent with the low density development pattern established in those areas. The policies embodied in this plan should guide the township's (and county's) road programs.

3. Road improvements in connection with new development must be consistent with protection of the Great Swamp National Wildlife Refuge and the rural-historic preservation goals in the Great Swamp watershed and in rural-historic areas.

PLANNING OBJECTIVES

Substantial areas of Harding Township are located within the Morristown National Historical Park, in the northwestern portion of the township, and the Great Swamp National Wildlife Refuge, along the southern and southeastern portions of the township. The State Development and Redevelopment Plan² has designated almost all of the remainder of Harding located between these two large areas Planning Area 5, Environmentally Sensitive Areas. This planning designation (PA-5) is consistent with this Master Plan because it calls for limited growth and an emphasis on environmental protection and preservation. Road policies in Harding need to emphasize maintenance of existing roadways rather than new road improvements to be consistent with these objectives.

A number of reports and studies of the Great Swamp in recent years have raised concern that development in the Great Swamp Watershed is having a substantial detrimental impact on water quality and quantity in the Great Swamp. Road improvements in particular can change the amount and rate of runoff and increase pollutants flowing into the Great Swamp. Road improvement standards and policies should be designed to minimize these effects.

The impact of "over-designed" road improvements on the rural and historic character of Harding is a concern of the township. Indeed, in many respects the roads in Harding define the character of the community. Harding's roads have an "organic" character because they have slowly evolved over a long period of time, beginning as trails following the path of least resistance in the natural terrain. This pattern is still evident in the terrain-following, curvilinear roadscape we see throughout the township today.

Harding is endowed with an important historic legacy. The Historic Preservation Plan element identifies historic landscapes and villages throughout the township, worthy of preservation efforts. Many of Harding's roads are important components of these historic landscapes because they retain their historic character. In other instances, roads are closely related, physically and/or visually, to historically significant structures. This creates a situation where substantial changes to the road, affecting its character, could alter the significance and value of the historic structure especially those built in the 18th

² The New Jersey State Development and Redevelopment Plan. The New Jersey State Planning Commission, June 12, 1992. The Morris Co. Planning Board has recommended that all of Harding be included in Planning Area 5.

and 19th century characteristically close to the road. These issues are more fully discussed in the Historic Preservation Plan element.

This close association of the community of Harding to its roads and the importance of its roadways to its character is a distinguishing attribute of the township that should be fostered and protected. Harding's roads have traditionally been viewed as much more than just modes of transportation. They are attractive public spaces, safe for both motorists and pedestrians alike, tying the community together. In order to protect this close relationship of the community to its roads, policies should be encouraged which promote the following:

1. Road improvement policies should emphasize maintenance and repair so that the existing scale and character of Harding's roadways can be maintained.
2. Speed limits should be set at levels consistent with the character of individual roadways and they should be actively enforced.
3. Regional highway plans should be supported which will minimize future "through" traffic through Harding.

Finally, there are important financial consequences to road construction or upgrading that must be considered. Major infrastructure investments in roads can become financial burdens not only in terms of the initial capital investment but also as a result of long term maintenance costs. Road improvements must be carefully considered to assure that they are needed and are cost effective.

RECOMMENDED ROAD POLICIES

The primary focus of this plan is to recommend road and bridge policies that:

1. Control and limit long term public investment in roads and bridges.
2. Promote road improvements that are consistent with the environmentally sensitive and historically significant characteristics of the township.
3. Promote safe traffic speeds in order to ensure the safety of residents and wildlife in the township.

In order to achieve these goals, the township and county must actively maintain and repair existing roadways and bridges in their current configuration and design. New roads should be designed to fit into the existing landscape with the minimum disturbance necessary and with the minimum width necessary for public safety. An active policy of controlling speeds on township roadways should be undertaken.

Highway and Road Improvement Policies

Freeways

The I-287 widening plan and any additional improvements to the highway should be pursued in a manner consistent with the environmentally sensitive character of Planning Area 5 through which it passes, in conformance with the State Development and Redevelopment Plan. These should include best management practices to control highway and construction stormwater runoff, especially at stream crossings. The effect that the project may have on Primrose Brook, a trout production stream draining into the Great Swamp, is of particular concern. The township should review the drainage and stormwater runoff provisions for that stretch of highway to make sure they afford maximum protection, and also to be sure proper protective measures are in place during construction. In addition, the historic preservation goals of the Harding Township Master Plan should be recognized and respected to the extent possible.

Minor Arterials

The New Jersey Department of Transportation has designated Mt. Kemble Avenue (Route 202) as a "Principal Arterial" road. The existing road, however, does not have the physical characteristics and traffic carrying capacity of this category through Harding. Major improvements to Mt. Kemble Avenue, consistent with a "principal arterial" designation, could adversely impact environmentally sensitive and historically significant areas through which it passes. Since Route 202 closely parallels the alignment of I-287 in the Harding area, the latter highway is the more appropriate conduit for future traffic increases. For these reasons, NJDOT is urged to reclassify this section of Route 202 to "Minor Arterial". Road policies for Mt. Kemble Avenue should emphasize concern for the environmentally sensitive character of Planning Area 5. In addition, the historic preservation goals of the Historic Preservation Plan element should be respected, particularly in view of the road's proximity to the Morristown National Historical Park and other historic properties.

Collector Roads

Tempe Wick Road and Village Road are categorized by the County as minor arterial roads. However, they are categorized as collector roads in this plan because they are similar in character and function to other collector roads in Harding. For this reason, the County and the Federal Highway Administration should consider redesignating Tempe Wick from its current designation as a minor arterial highway to a collector road. The higher classification is inappropriate for this roadway because of the road's close association with a historic area (the Morristown National Historical Park). The higher classification would put unnecessary emphasis on its functional aspects at the expense of its historic aspects.

There is limited potential residential or employment growth that will affect collector roads in Harding. The completion and opening of Route 24 extension will divert traffic. In addition, many of these roads traverse areas that have been designated as historically

significant in the Historic Preservation Plan element. Many of these roadways are historic, dating to the early settlement of the township, and were used in the Revolutionary War era by troops based in Jockey Hollow. For these reasons, emphasis should be placed on road design that is sensitive, to the extent possible, to the character of the surrounding areas, especially historically significant areas such as historic villages and the many historic homes built close to the road.

It must be recognized, however, that collector roads perform important circulation functions. To a large extent they are used by commuter traffic with work destinations outside Harding. Although they are generally in good condition in Harding, better maintenance and repair should be emphasized. Pavement widths of 20-22 feet (or average existing width) are recommended (for both township and county roads), consistent with the scale of existing collectors in Harding. The construction of shoulders, curbing and "highly engineered" drainage structures should be avoided because they would damage the historic character of the township and encourage increased speeds inconsistent with the objectives expressed in the Traffic Speed Control section below.

Local Roads

The policy objective for local roads should be to maintain these roads in their existing configuration. To enhance the public safety, local roads should be posted with maximum speed limits of 25 mph. New roads should be built, to the extent possible, in keeping with Harding's rural and historic character.

Rural Historic Local Roads

The preservation of the existing character of rural historic local roads is important to retaining the rural character of the township. Because the "rural historic local roads" have undergone little improvement or alteration they should have their own distinct road policy. Special emphasis should be given to maintaining their existing historic character. Maintenance and improvements to these roadways should be limited to their existing alignment and a width not to exceed 18 feet (or average existing width). To the extent practical, the Harding Township Public Works Department should perform the necessary maintenance and repair work on these roads, closely monitored by township officials, to avoid compromising the environmental and historic aspects of these parts of the township. To enhance the public safety, the maximum speed limit should be posted at 25 mph.

New Residential Subdivision Roads: Special Area Designation

New residential access roads are the most important area of road policy consideration in Harding for a number of reasons:

- Most of the township lies within the Great Swamp Watershed. Land disturbance associated with road construction can increase pollution and stormwater runoff into the Great Swamp National Wildlife Refuge.

- Most of the area in the township where future development is feasible is zoned for low density single family residential development.
- The relatively small areas in the township where nonresidential development can occur are not anticipated to require any significant road improvements.

For these reasons, it is expected that most, if not all, new roads and drives in Harding will be local access roads/drives providing access to a relatively small number of single family homes. This can be predicted with some confidence because of the pattern, size and ownership of the remaining vacant areas. Since the remaining, privately owned vacant land lies within the Great Swamp Watershed, it is important that road standards reflect the planning goals for this area. Road improvement standards for new residential subdivision roads should be as follows:

- Four lots or less - graded to a width of sixteen feet and improved to a width of 12 feet.
- More than four lots - graded to a width of 20 feet and improved to a width of 16 feet.
- Where appropriate, common access driveways should be encouraged to minimize disturbance.

In accordance with the above, the NJ Department of Community Affairs has designated the Great Swamp Watershed in Harding a *Special Area* and adopted specific standards for residential site improvements intended to implement the Harding's subdivision road policies.

Bridge Improvements

Bridges are important focal points that can substantially contribute to (or detract from) the attractiveness of a community. Harding is very fortunate in having bridges (with few exceptions) that are well suited to the rural and historic character of the community. Many bridges are located in, or directly contribute to the character of, historically significant areas. In addition, bridge construction or reconstruction can have a significant adverse impact on the township's brooks and associated wildlife. Of special concern is the Great Swamp because all streams in Harding drain directly into that environmentally sensitive area. Construction that changes the amount, velocity or content of runoff should be avoided because it can have a substantial effect on the Great Swamp. For all these reasons, bridge construction or reconstruction should be and is of special concern to Harding Township.

The bridges and culverts in Harding that span a stream more than 4 feet wide are under the jurisdiction of Morris County. The county should be encouraged to actively maintain existing bridges to avoid the need for replacement. To reduce repair costs and the need for replacement, the township (and county where appropriate) should pursue weight and speed limitations. The realignment of bridge approaches should be avoided in order to preserve the quality of streams and protect the community's character. In circumstances where replacement is unavoidable, such as excessive deterioration; replacement bridges

should be designed to be consistent with the scale of the existing roadway as well as the historic settings, environmental characteristics and classification of the streams they cross. In addition, historic styles of bridge construction appropriate to the character of the township should be incorporated, including the use of traditional materials.

Traffic Speed Control

The promotion of safe speeds must be an important objective of township policies because of the close association of the Harding community with its roads, the small scale and curvilinear design of those roads, as well as the increasing number of driveways for which there is limited visibility. Speed in this context is especially dangerous and should be checked to protect pedestrians and school children, joggers, cyclists and wildlife.

Speed limits along the township's roads should be carefully reviewed to assure they are set at levels that are safe in consideration of the character of each roadway. Where warranted, reductions of speed limits should be actively pursued with the NJ Department of Transportation. The widening or straightening of township or county roadways in Harding will not necessarily promote traffic safety. Such actions will likely encourage higher traffic speeds in the context of a community of many older buildings and villages located close to roadways.