Traffic Carrying Roads

One of the purposes of this Master Plan is to designate the roadway system in a hierarchical network of roads to serve the agricultural community. The *Functional Master Plan for the Preservation of Agriculture and Rural Open Space* retained the roadway classification from the existing *Master Plan of Highways*. That classification included major highways and arterials that could serve a much more densely developed area than that proposed in this Master Plan Area. (See Figures 5 and 6.)

This Master Plan changes those roadway classifications to a system more appropriate for the retention of farmland with very minimal future development. For example, White Ground Road, which is a lightly traveled rural road running between MD 28 and MD 117, was identified in the previous plan as a major highway with a realignment to conform to major highway alignment standards. This Master Plan recommends that White Ground Road be classified as a rustic road.

A. 1980 Functional Master Plan for the Preservation of Agricultural and Rural Open Space

The 1980 *Functional Master Plan for the Preservation of Agriculture and Rural Open Space* stated that, "the transportation guidelines are designed to avoid artificially stimulating the market for conversion of farm land to residential development. The system should provide facilities that meet, primarily, the safety and maintenance needs of an active agricultural community." The Plan further included recommended transportation guidelines as follows:

- "**Support** State and County roadway programs that facilitate development in the Germantown and I-270 corridor so that the corridor city, Clarksburg, can be opened in a timely and sequential fashion.
- **Support** development of the bikeway network expressed in the *Master Plan of Bikeways*.

- **Support** the Sugarloaf Regional Trails system in identification of the approved trail systems.
- **Encourage** use of Scenic Setback Regulations in area master plans. These regulations permit a setback greater than 50' from the front lot line to conserve the scenic value of a roadway if indicated in an adopted and approved master plan.
- **Amend** the *Master Plan of Highways* in conformance with this Functional Master Plan.
- **Access** impact of proposed major highways and arterials on existing rural settlements such as Hyattstown, Barnesville, Poolesville."

B. Current Conditions

1. History of Roadway Improvements

For the most part, the roads in this area have remained in the condition that they were in 1980 in that no major projects have been completed in this area. However, several projects have been considered, and some minor ones completed, to improve roads or bridges.

In the mid-1980s, the Montgomery County Department of Transportation (MCDOT) embarked on a program to pave all County roads. That program became controversial and, after much discussion, many of the roads were paved, but a few were left unpaved. Reaction to this improvement program led to interest in a program to preserve some of the County roads and eventually to the creation of the Rustic Roads Program.

At the same time, MCDOT also initiated a program to reconstruct bridges as necessary so that no bridge would have to be posted for restricted traffic. This program also became controversial. Two of the projects initiated but not completed were the replacement of the bridges across Seneca Creek on White Ground Road and Dry Seneca Creek on Montevideo Road. The White Ground Road bridge project would not only have replaced the bridge but would have relocated it and realigned the road approaches to the bridge in accordance with the major highway alignment then in the *Master Plan of Highways*. The determination was eventually made that this project was excessive for the road. Minimum repairs were made to keep the bridge functional and no replacement or realignment was included in the project. The Montevideo Road bridge has a very interesting truss design: the road has right-angle turns at either end of the bridge, and the bridge has a three-ton weight restriction. After much discussion and a much publicized personal examination by a Council member, the project was dropped.

The two bridges on Brookeville Road have been replaced. The height and width of the replacement structure is similar to the bridges, but the white Jersey barrier parapets are not in character with the road or the surrounding area.

Several years ago, the State Highway Administration constructed asphalt curbs along a portion of Old Hundred Road (MD 109) north of Barnesville Road to correct a drainage problem. This seemingly minor and insignificant improvement created a barrier that may have interrupted the travel patterns of mole salamanders which live in the area. Salamanders unable to climb the curbs were run over by vehicles on the roadway. When this difficulty was recognized, quite a concern arose about their ability to survive and reproduce. The State Highway Administration is in the midst of a $12,000 research project about this issue. This information was much in the news in the spring of 1995. This situation is cited here as an example of the relationship between the natural environment and the man-made environment.

Minor maintenance or safety projects have been accomplished on the roads in the Master Plan area in a routine manner. For example, Whites Ferry Road has had a minor improvement completed at a curve/driveway entrance where

several accidents occurred. Owens Park on Beallsville Road (MD 109) has an acceleration/ deceleration lane with concrete curbs. This lane is one of the most out-of-character roadway features in this Master Plan area. When acceleration/ deceleration lanes are essential to provide safe access, the design should be custom-engineered to blend with the adjacent countryside.

In several locations along the roads in the Agricultural Reserve Area, subdivision streets with curbs and gutters have been created. This Master Plan recommends developing an alternative to the standard subdivision street such as would be used in the developing part of the County.

2. Traffic

Because the roads in the Study Area are, for the most part, lightly traveled, few traffic counts are available. In recent years, the County traffic count program has been severely curtailed for budgetary reasons and the resources available for traffic counts is being used in those parts of the County where the count information is more critical. As part of this Master Plan effort, a number of special two-hour counts were taken at various locations as spot checks on current traffic conditions. Available turning movement counts between 1990 and 1995 were reviewed.

The commuter travel pattern is identified and illustrated in Figures 7 and 8. This map shows peak-hour traffic volumes for the inbound traffic. The volumes vary greatly from road to road. The largest volumes are on the state roads, particularly on the eastern side of I-270.

The most troubling commuter traffic is on Barnesville Road. Traffic counts indicate that approximately 40 percent of the traffic crossing the County line on MD 28 turns left on Mouth of Monocacy Road to Mt. Ephraim Road, from which it turns right and uses Barnesville Road to MD 121 and Clopper Road (MD 117) toward Germantown and Gaithersburg. Barnesville Road is a good road (smooth surface and gentle grades) but it has an elementary school and it goes through the Town of Barnesville. Traffic engineering measures to control speed would be appropriate on this road, particularly near the school and in the vicinity of Barnesville. Barnesville Road is recommended as a rustic road based upon its historic significance and rural landscapes. The traffic volume is judged not to detract from the rustic character of the road.

This Master Plan Area has only two traffic signals—one at Beallsville (MD 28/ MD 109) and one at Sunshine (MD 650/MD 97). Other intersections are controlled by stop or yield signs.

C. Future Conditions

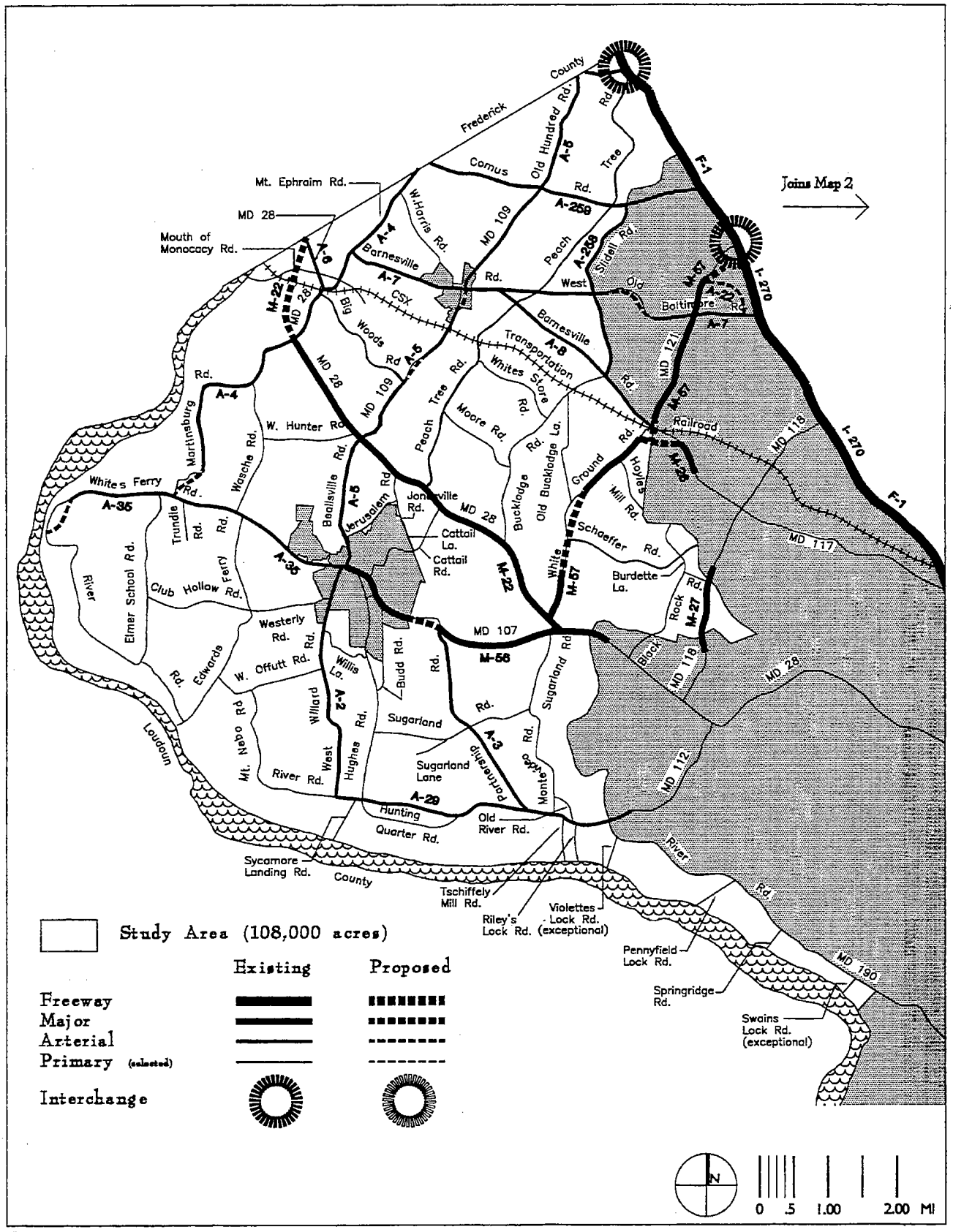
The traffic analysis for a master plan study is usually based upon a computer modeling process that evaluates land use scenarios and roadway network options in order to provide a transportation system that is in balance with the planned land use. As a functional master plan focused only on the roadways, this Rustic Roads Master Plan is different. Land use for the Master Plan Area is not being re-evaluated. In this Master Plan Area, the traffic is light (see above comment above regarding the two traffic signals) and the land use is very low density.

Computer modeling was not performed for this Master Plan effort. Instead, previous traffic modeling projects were reviewed; in particular, the *Clarksburg Master Plan*. The computer modeling for that plan was based upon full master plan buildout for the Clarksburg Master Plan area; full Master Plan buildout for the Damascus, Germantown, Goshen, and Shady Grove areas; and for the remainder of Montgomery County and the region, land development levels represent a long-term, year 2020 growth level. The resulting forecast is for increased traffic volumes in the future on the roads in the Rustic Roads Master Plan Area but none of a magnitude that would require any roads to have more than two travel lanes.

Within the 96,000-acre Agricultural Reserve, development is limited to one dwelling unit per 25

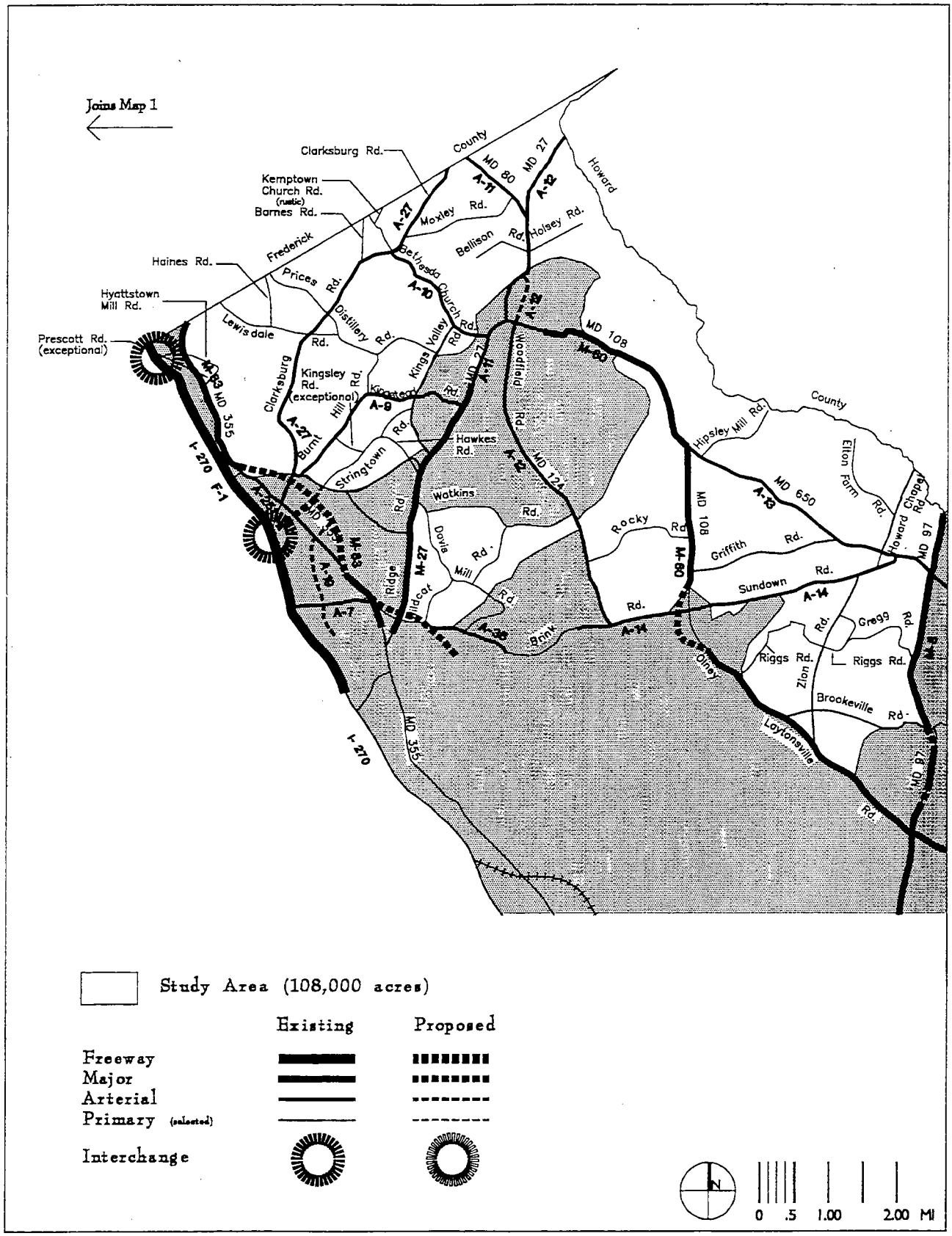
1980 Highway Recommendations–map 1

Figure 5



1980 Highway Recommendations–map 2

Figure 6



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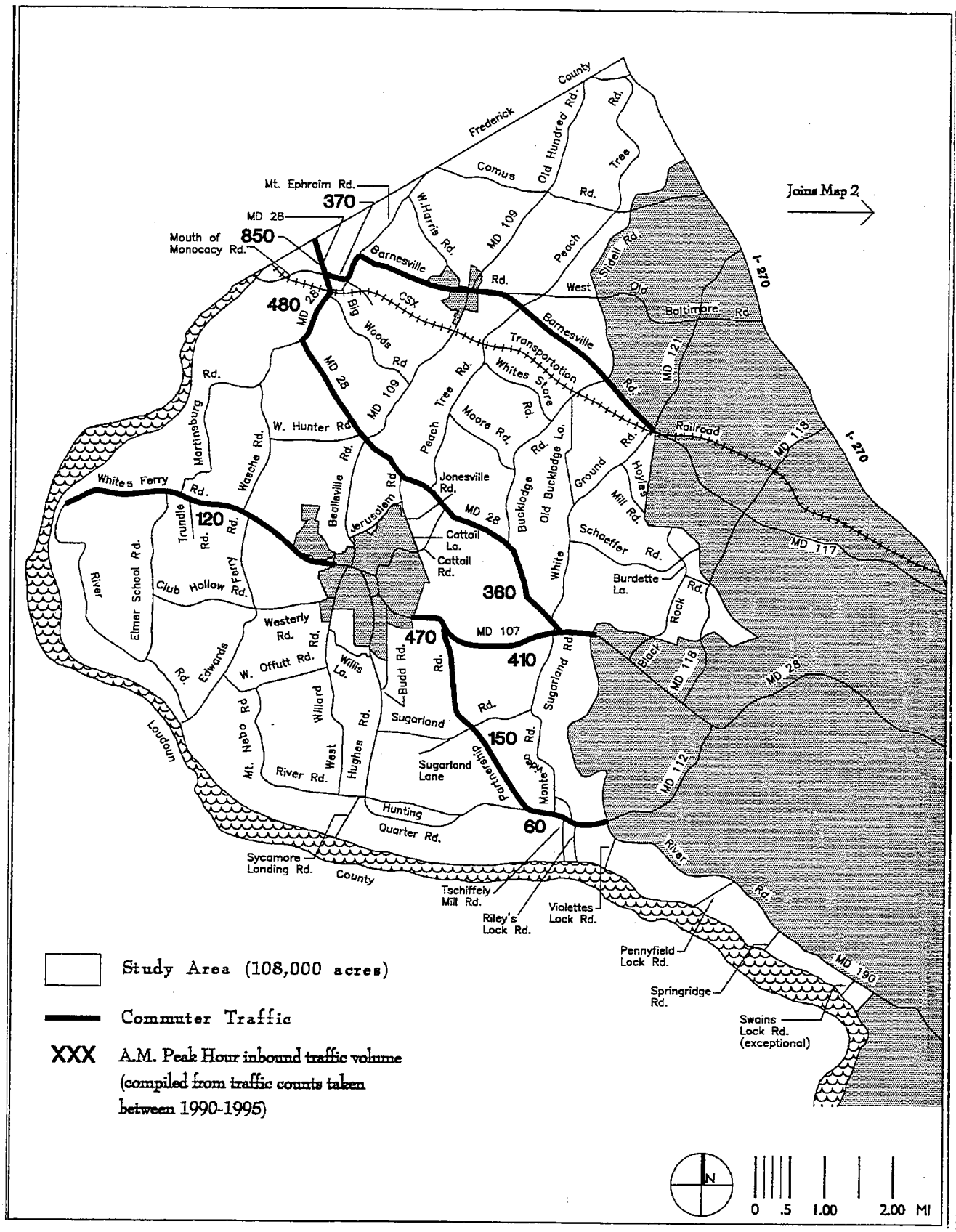
Roads Which Are Used As Commuter Routes–map 1

Figure 7



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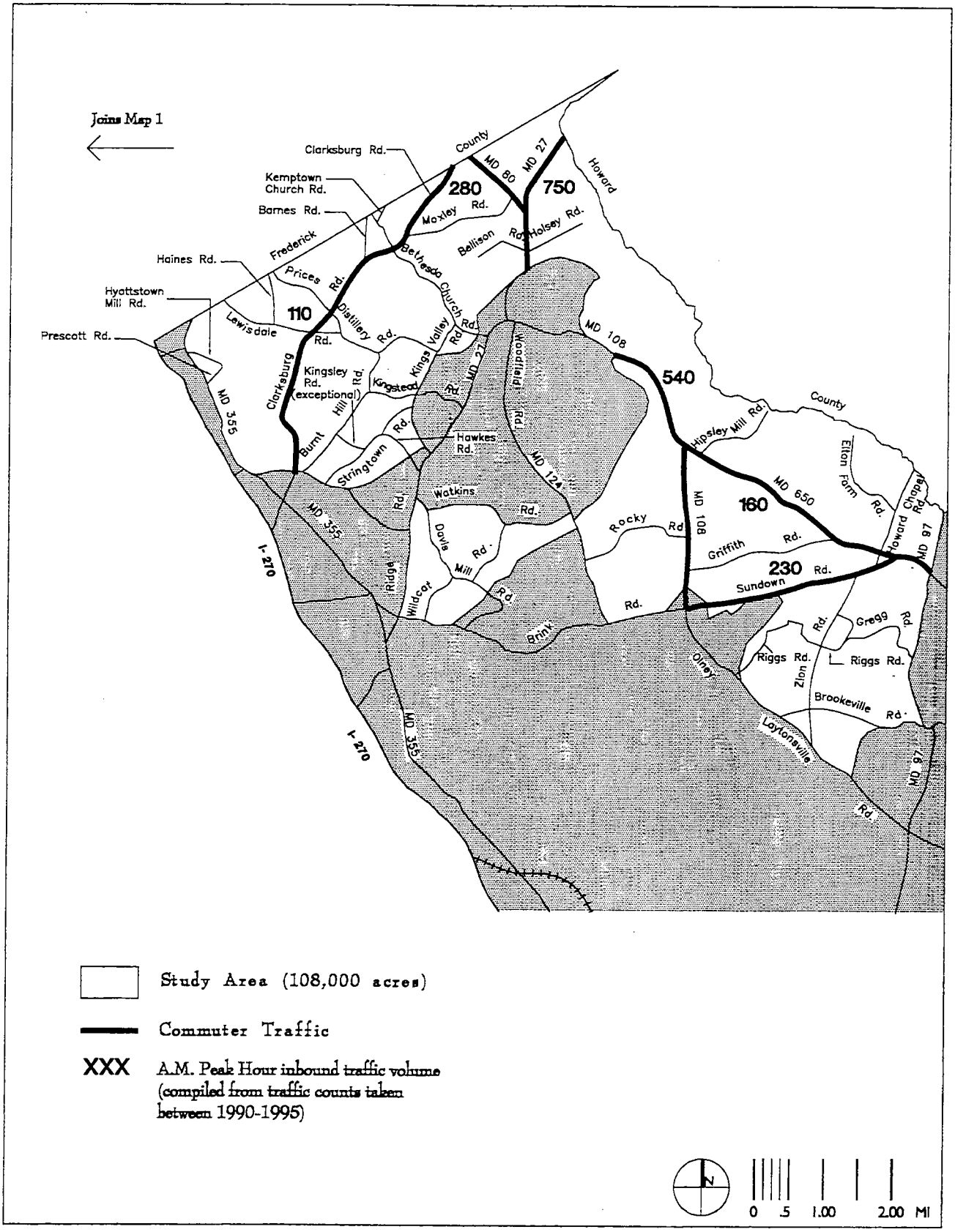
Roads Which Are Used As Commuter Routes–map 2

Figure 8



acres. Approximately 16,500 acres of the Agricultural Reserve are in public ownership. The remaining 79,500 acres could theoretically hold 3,180 dwelling units at one dwelling per 25 acres. Over 800 houses have been built on lots over 10 acres in size since 1980. Clearly, the traffic resulting from future residential development can be accommodated on the two-lane road system.

Two of the municipalities in the area experienced growth during the 1980s. Between 1980 and 1990, Laytonsville annexed 382 acres and grew by 53 persons (population 248) and Poolesville annexed 588 acres and grew by 386 persons (population 3,796).

Some of the public land uses located in this Master Plan Area have the potential to add traffic to the roads and, through the use of trucks, to damage the roadways. The solid waste industrial complex near Dickerson is a particular concern of citizens.

When the facility is operational, most access is planned to be by the CSX main line and the spur across Mouth of Monocacy Road into the PEPCO site. Access during construction of the facility is officially via MD 28 and the short section of Martinsburg Road to the PEPCO entrance. Martinsburg Road south of the PEPCO entrance shows evidence of damage such as would occur from usage by heavy trucks. Martinsburg Road is a very high quality rustic road. The politicians road portion (between Wasche Road and the PEPCO entrance) is particularly vulnerable to damage from truck traffic.

The proposed Dickerson Facility Plan, prepared by the Montgomery County Department of Environmental Protection, indicated that approximately 650 trucks per day are using MD 28 and Martinsburg Road to reach the site. The report indicates that this number will be only 133 by sometime in 1996. Nevertheless, the Montgomery County Department of Environmental Protection is planning to widen MD 28 to provide a bypass lane so automobiles can bypass trucks waiting to turn left onto Martinsburg Road. This widening will alter the adjacent banks, remove several small trees (12-inch caliper range), and provide concrete curbs.

The Resource Recovery Facility operations will include the transfer of trash from the recovery facility north of Martinsburg Road, across Martinsburg Road, and into the landfill site south of Martinsburg Road. The use of the planned haul road (see Martinsburg Road description in Chapter 5) rather than the existing roads is vital to the protection of the adjacent rustic roads.

1. Roadway Users

The roadway system in this area of the County is intended to serve the agricultural community. The farming activities have a variety of traffic moving across and along the roads. Modern farm machinery is large and moves, sometimes slowly, along roads with special care, often preceded and followed by trucks with blinking lights to alert motorists that a large piece of equipment is being moved. This procedure is carried out without much difficulty on the low volume roads. When traffic volumes become heavier, the interference between the farm machinery and other traffic is increased. The right-of-way should be given to the moving farm machinery. To give the farm machinery priority would emphasize the importance of agriculture and would also benefit drivers working under the greater constraint. The motorist in an individual automobile should be required to stop and allow the machinery to proceed. This does not always happen but should be encouraged, particularly on the smaller roads. The traffic law may need to be reviewed as it relates to priority on the roads.

The application of sludge, especially if it is a first time application, may have a significant impact upon the roads. Sludge is used by farmers to fertilize their fields. This is an agricultural use and part of the farm activity of the area. Montgomery County has an obligation under the inter-regional agreement to use not only sludge from the facilities at Riffleford Road and in

Damascus, but also from the Blue Plains facility. Further trucking of sludge on County roads occurs from programs in Poolesville. The first applications to farm fields can be as high as three trucks of sludge per acre, which means that a 50-acre field could require 150 trucks traversing the roads to get to the field.

Various types of large trucks and automobiles are used and travel on the roads within the Study Area. The largest agricultural land use, 68,000 acres, is the production of grain—corn, wheat, soybeans, etc. Some of the equipment needed for grain production are 10- to 18-wheeler trucks with trailers to deliver supplies and take products to markets, tractors coupled to planters, trucks with chemical spray tankers, "nurse" tanks of chemical refills, and tillage vehicles. Much of the heavy equipment used for farm purposes is housed in the agricultural reserve. Two types of traffic are associated with landscapers and nurseries that are located in this area—trucks delivering bulk products and supplies and consumer traffic.

Many of the roads, particularly those that are being considered for designation as rustic, do not have a base course, and continuous heavy weight breaks up the roadway surface.

Farmers complain that both the restricted bridges and the one-lane bridges interfere with some of their farm operations as they go from one field or farm to another.

Recreational traffic includes people going to the parks, driving the roads for 'a day in the country,' going to pick-you-own orchards, direct marketing fruit and vegetable outlets or nurseries, recreational saddle horse riding, and cyclists who use many of the roads in the Study Area. The use of the roads by cyclists results in some frustration both for the cyclists and for drivers of other vehicles. Courtesy and consideration for other roadway users would go a long way towards avoiding that frustration.

D. Recommendations

Traffic will increase on some of the roads in this Study Area, particularly those roads that carry the commuter traffic, but is not forecast to exceed volumes that can be accommodated by a two-lane road. The following recommendations are made for the roads in the Master Plan Area. The Roadway Classification Table, which lists each of the master-planned roadways including those recommended as rustic or exceptional rustic roads, is found in Chapter 6.

1. Bikeways

The *Master Plan of Bikeways* identifies four regional bicycle tour routes located in the Agricultural Reserve Area. The bicycle tour routes are designated as on-road (Class III) routes which are unsigned. The bicycle tour routes are designed for the experienced cyclists who share the existing road pavement with automobiles and other traffic. The roadway width, along with factors such as the volume, speed, type of traffic, grade, and sight distance, was considered when determining the feasibility of a bicycle route.

The four regional bicycle tour routes are the Old Farm Trail, Seneca Brownstone Trail, Ferryland Trail, and the Builder Designer Trail. The bicycle tour route map (Figure 9) illustrates the location of each trail.

This Plan confirms the on-road (Class III) bikeway for New Hampshire Avenue extending to Damascus. This Plan deletes the off-road (Class I) bike path proposed for Barnesville Road. Construction of a bike path along Barnesville Road in a manner that would blend into the rural character of the road and the adjacent countryside appears difficult and the need for such a path is questionable. Recreational cyclists are able to use the C&O Canal towpath, which extends from the District of Columbia to Cumberland, Maryland. Other trails and paths

are planned in the nearby parks. Recreational cyclists should be encouraged to use those trails.

2. Roadway Character

The single, most distinctive feature in the character of rural roads is the way drainage is handled. Most roads do not have drainage facilities. The water flows from the road into vegetation adjacent to the edge of the road. An accompanying feature of the appearance of the roads in the Agricultural Reserve Area is the way the road flows into the landscape with features coming right to the roadway edge. In most cases, this is a very attractive element to the experience of driving the roadway and to the interconnectedness of the roadway character and the adjacent land, creating a special feel for the area that is not present elsewhere in the County. The presence of wide, man-made drainage ditches interrupts the flow of the land from the road to the adjacent countryside. With very few exceptions, the roads in this Master Plan Area do not have these man-made drainage ditches. Generally, stormwater flows across the adjacent land and infiltrates naturally. Adequate drainage is vital; inadequate drainage causes standing water on roadway surfaces, flooding, and erosion. This Master Plan supports providing for adequate drainage but recommends that a roadway design without drainage ditches be retained wherever possible.

Kemptown Church Road is one of the few roads with modern drainage ditches. This road was reviewed as a potential rustic road. One of the reasons it is not recommended is because the drainage ditches along its side do not present a rustic appearance, although it is a very pleasant road.

There are frequently noxious plants along roadsides, some of which are outlawed and required by County or State law or regulation to be controlled, such as various types of thistle, Johnson grass, and mutifloraroses. Hedgerows may be overrun by invasive growth of noxious vines, such as honeysuckle, which need be curbed or eliminated. Furthermore, reduced mowing should not result in impaired driver vision around bends or corners.

Wild flowers grow along many of the rustic and country roads. These flowers add significantly to the beauty and character of the roads and preservation of stands of wild flowers is encouraged by this Master Plan. The two following stories, told by people living in the Agricultural Reserve, illustrate different experiences with maintenance workers. The first occurred several years ago on Martinsburg Road where a stand of a variety of wild flowers had grown. This area is reported to have been very beautiful and interesting, not because it had individually exceptional plants, but because it was a very nice grouping. The flowers were mowed before they formed seed and the area has never regrown. Mowing after the plants had set seed would have addressed the needs of the road and may have allowed the continuation of this area of wild flowers.

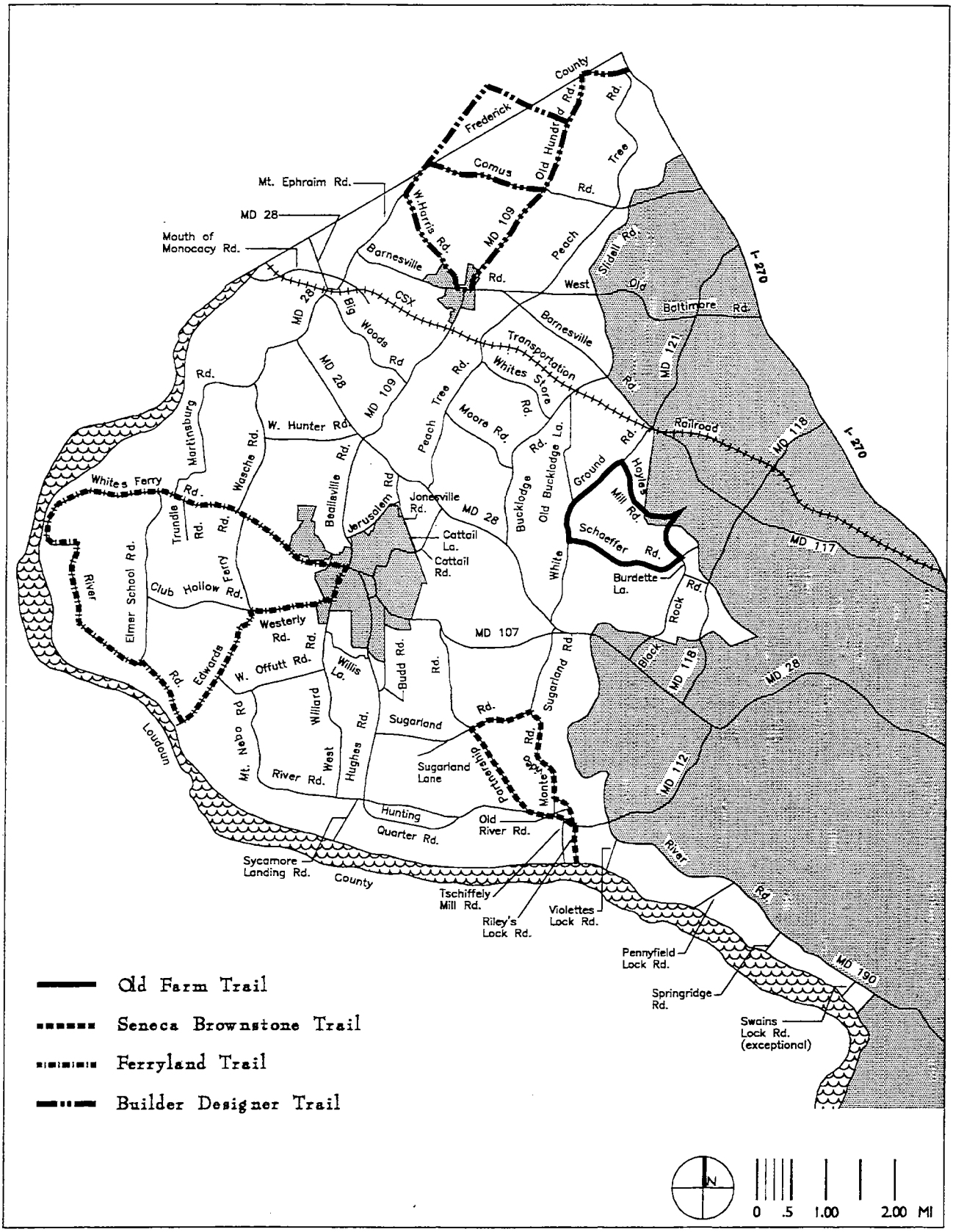
The second story occurred on one of the rural roads and concerned a stand of daylilies. A woman was standing at her window overlooking the road and admiring the golden color of the lilies with the sunlight on them, hearing in the distance the sound of the mower coming down the road. The operator of that mower stopped when he got to the daylilies, lifted the blade, drove down the road beyond the daylilies, put the blade down and continued with the mowing. This practice should be encouraged. The State of Texas rewards its maintenance staff who are protective of the flowers that grow along State highways. Montgomery County might emulate that practice.

3. Bridges

The bridges in this Master Plan Area are varied and of interesting character and historic value. On the rustic roads, many of the bridges have been identified as significant features. Generally, the design is far more attractive and more appropriate to the type of road than new construction would be.

Bicycle Tour Routes

Figure 9



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Federal bridge standards are intended to be applied anywhere in the United States and are not custom-tailored to unusual roads. A recent example of this is the development of plans to reconstruct a bridge on Whites Ferry Road east of Wasche Road. Because Whites Ferry Road is identified in the *Master Plan of Bikeways* as a tour bike route, federal standards have been interpreted as requiring that a parapet wall along the bridge be 52 inches high, resulting in plans to install a Jersey barrier topped by a rail. This design seems excessive for a road carrying the traffic volumes that Whites Ferry Road carries. The design also seems out of character with the adjacent farms. Bridge designs that are aesthetically acceptable are needed for this area of the County.

4. Roadway Network

This Master Plan recommends a roadway network that provides a hierarchical system of roads which can adequately serve the traffic needs of the area. The roadway network consists of roads which carry longer-distance traffic—generally that which goes in and out of the Master Plan Area and smaller roads which carry traffic between larger roads but generally within the Master Plan Area. (See Figures 10 and 11.) In other parts of the County, the larger roads are arterials and the smaller roads are residential primary streets. The term "residential primary street" seems inappropriate for the agricultural community, as does the development of roads to the standards used elsewhere in the County. This Master Plan proposes that the classification of roads in this Master Plan Area differ from that used in the developing part of the County. For this Master Plan, the arterials are being called country arterials and the smaller roads, country roads. This Master Plan recommends the creation of these two new roadway classifications.

The new roadway classifications would have flexible standards that would allow MCDOT to provide safety improvements and minor upgrading in a manner that would be compatible with the existing roadway and the character of our agricultural land. Thus, the design standard that is used in the developed area of the County would not be introduced into the Agricultural Reserve Area of the County. The design would be appropriate for the design speed and the traffic volume. Few roadway improvements are expected in this area in any event. It would be both cost efficient and aesthetically pleasing to fit the roadway with the character of the area through which it passes, rather than imposing the "look alike" standard used elsewhere. The new classifications of country arterial and country road would only apply to existing roads. New roads would not be built to these standards.

The Study Area contains one short segment of a major highway—Darnestown Road (MD 28) from the Planning Area boundary to Whites Ferry Road (MD 107)—which is recommended to remain a major highway. Whites Ferry Road (MD 107) from MD 28 to Poolesville, and Darnestown Road (MD 28) from its intersection with MD 107 to the County line, are being recommended for reclassification from major highways to country arterials. White Ground Road which, in the 1980 Plan is classified as a major highway, is being recommended for designation as a rustic road. The other arterials in the Master Plan Area will have a classification change from arterial to country arterial.

The country road classification is used for roadways that carry low volumes of traffic, but some traffic other than that destined for locations along the roadway. Lewistown Road is one such road. The country arterial classification is used for roads that carry traffic that is arterial in nature, such as MD 28 and Clarksburg Road.

The idea of the classification is that there not be rigid standards for improvements to these roads, but that improvements be custom-designed, based on the traffic volume and the design speed and the character of the road. The use of this classification will result in more time-consuming design work when roadway improvements are needed for safety, but should result in lower construction costs. The classification would serve to retain the rural characteristics of the road.

The country arterial, country road, and country lane classifications will need to be reviewed by the Montgomery County Road Code Committee. The suggested design features for the country arterial and country road are shown in Appendix C. The Road Code Committee should consider including the existing roadway pavement width as the minimum, with the ultimate width no wider than four feet above the existing width. The width of the pavement would be determined by the design speed and traffic volumes of the road. Some of the roads do not have shoulders at this time. To preserve this feature, the Road Code Committee should consider permitting no shoulders on the road. If there is a need for shoulders, the shoulders could have an ultimate width no wider than four or eight feet, preferably with grass shoulders to maintain the rural character of the road. Drainage facilities would be constructed only if sheet flow creates problems and then would be custom designed to blend into the countryside; infiltration should be the first choice.

Clarksburg Road is probably the best example of a road where this new classification could be applied. Clarksburg Road is a very high-quality country road. It is not recommended for designation as a rustic road because of its accident history and because it seems to many people as they drive along the road that it has a feeling of being unsafe due to the lack of any shoulders in many places and the abrupt dropoffs to the adjacent land. Correction of these factors should not require extensive or expensive reconstruction nor would it substantially change the roadway character. The road is very beautiful, and this Master Plan does not recommend that it be upgraded with shoulders and standard drainage ditches.

5. Road Alignments

The 1980 Master Plan highway recommendations included realignments for several roads—White Ground Road, Whites Ferry Road, Darnestown/ Dickerson Road (MD 28), and others. The future realignment of Whites Ferry Road (MD 107) east of Poolesville is recommended by this Master Plan; all others are deleted. This Master Plan also recommends a modification to Partnership Road at its intersection with Whites Ferry Road (MD 107). Figure 12 illustrates the intersection modification. This modification will provide improved sight distance for drivers turning from Partnership Road onto MD 107.

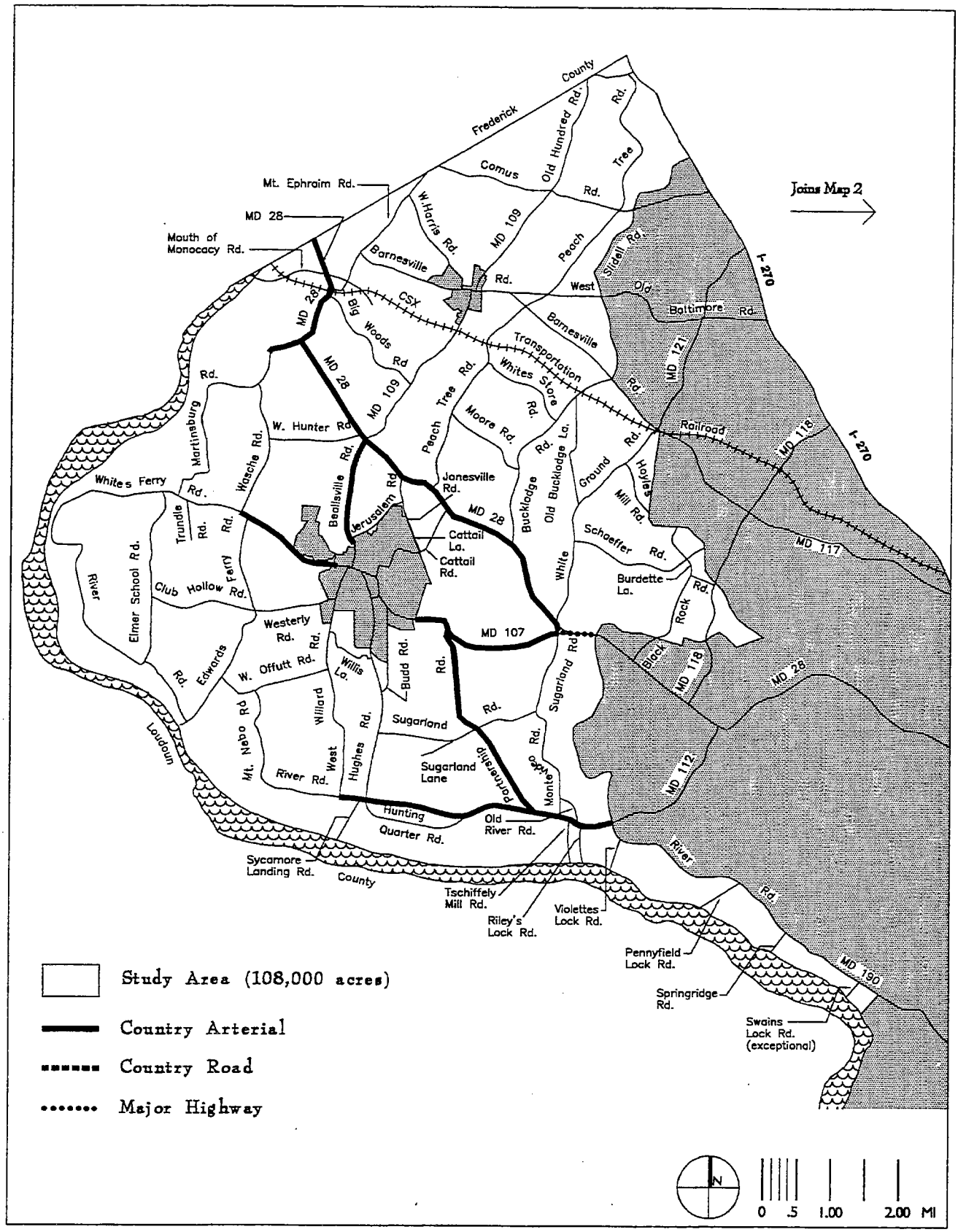
This Plan deletes the previously proposed realignment for Darnestown Road (M-22) west of Martinsburg Road to intersect with Dickerson Road at the Frederick County line. Severe environmental constraints would be associated with this construction. In addition, a new bridge or underpass would need to be built to cross the CSX Railroad. The realignment was based upon a more extensive transportation network than is needed to support the agricultural community.

6. Access to Future Residences

Another issue that has surfaced in recent years is the design of access roads (country lanes) for subdivisions in the Agricultural Reserve Area. Current practice is to require public streets built to secondary residential design standards. Shared driveways can be used under MCDOT policy for up to four houses. Experience has indicated that beyond four houses there tend to be problems among the owners. State Highway Administration policy allows driveways for as many as five houses. Other access is provided through public streets. The introduction of secondary residential streets in this area of the County is out of character with the adjacent roadways and is considered excessive, particularly when the streets will connect to off-site rustic roads. Private streets are presently allowed in the RE-2 and RE-2-C zones. An amendment to Chapter 49 of the Montgomery County Code - Streets and Roads, the Design Standards for Roadways in Montgomery County, and other governing legislation is needed to provide standards for the access roads which serve as internal streets for clustered lots in the agricultural zones.

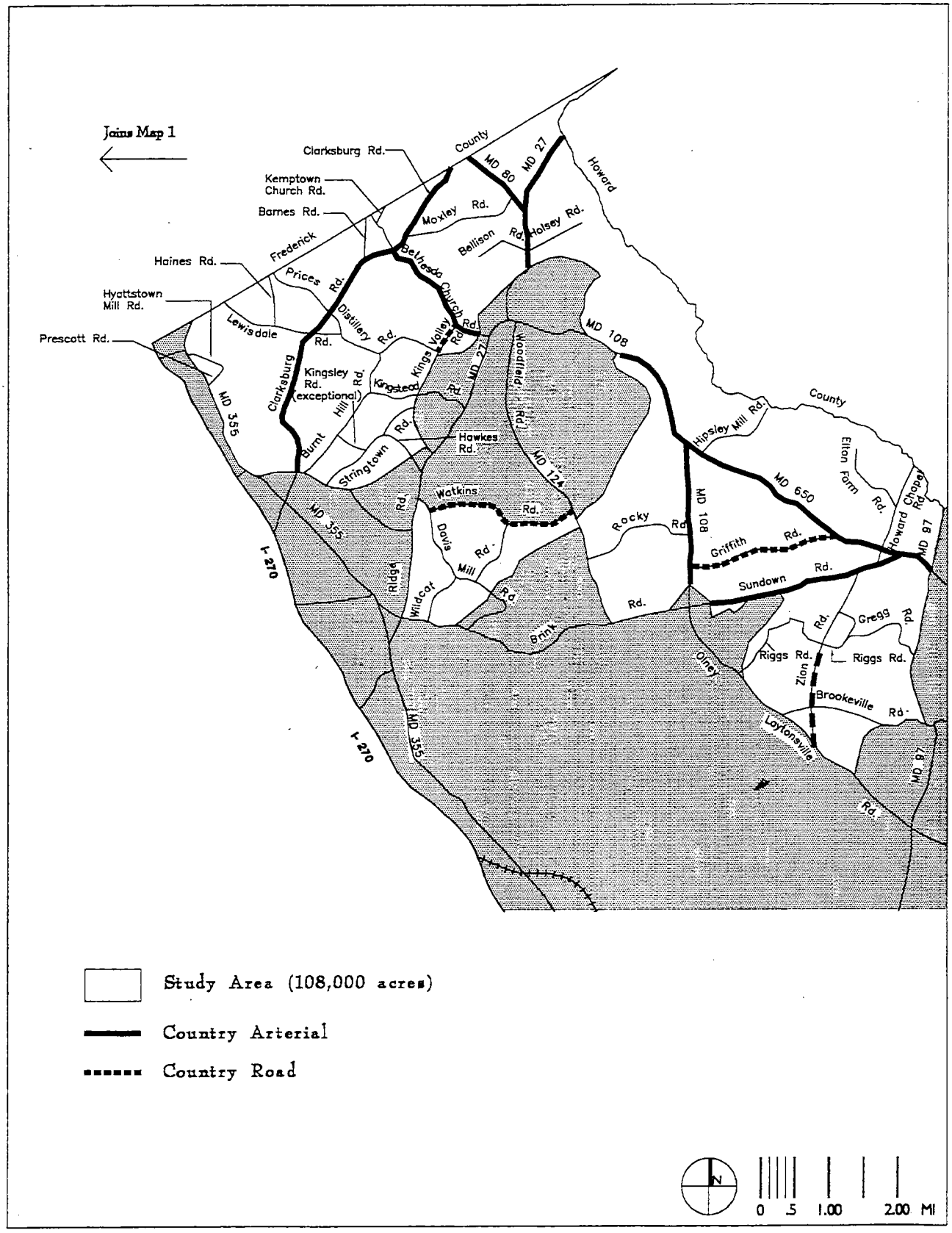
Traffic Carrying Roads–map 1

Figure 10



Traffic Carrying Roads–map 2

Figure 11



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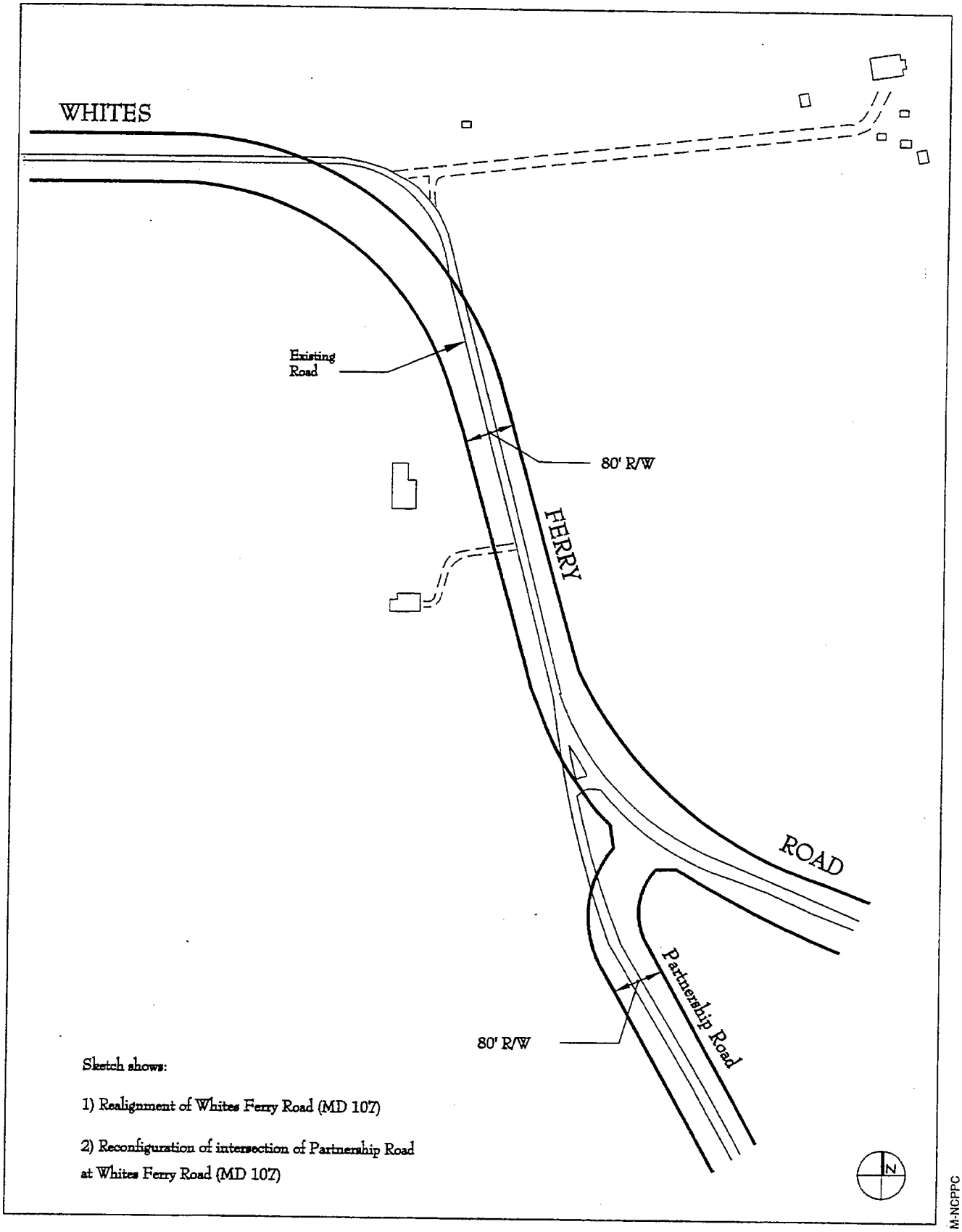
Realignment of Whites Ferry Road

Figure 12



Sketch shows:

1) Realignment of Whites Ferry Road (MD 107)

2) Reconfiguration of intersection of Partnership Road at Whites Ferry Road (MD 107)

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