

Environmental Assessment

4(f) INVOLVEMENT

for

CONTRACT NO. M - 376 - 151 - 37
MARYLAND ROUTE 97
[GEORGIA AVENUE]
FROM MD. RTE 28 AT NORBECK
TO MD. RTE. 108 AT OLNEY

FOR PUBLIC
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prepared by
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

and
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Landscape at school N of Queen Mary Drive. + Edward Rail?

Curbed on outside - shoulder on inside.

Now levels E & F

County wants 4 lane

108 multi lane only in Alney.

Originally wanted loop around Alney - Parts are in.
Trent Road is crossing point of the ring.

Service Phillips probably will be extended

Beane Farm up for development

30' if open median

6 lane area could stay as 4 for now until needed

3' bike lane.

6 to Emory Lane Transition at Favenner's to 4

Signals at King Lane & Emory

Montage rd up to Emory Church Rd

* 54' w/2 lanes ~~each~~ direction

Above 28, old 97 stays as service rd.; both
lanes of new 97 are E. of 97

REPORT NUMBER: FHWA-MD-EA-81-02-D

FEDERAL HIGHWAY ADMINISTRATION
REGION III

Maryland Route 97
From Maryland Route 28
To Maryland Route 108

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT

4 (f) INVOLVEMENT

U. S. Department of Transportation
Federal Highway Administration

and

State of Maryland
Department of Transportation
State Highway Administration

Submitted pursuant to 42 U.S.C. 4332 (2) (C) 23 U.S.C. 128 (a)
49 U.S.C. 1653 (f), 16 U.S.C. 470 (f)
CEQ Regulations (40 CFR 1500 et Seq.)

M. S. Caltrider
State Highway Administrator

8/18/81
Date

By:

Hal Kassoff
Hal Kassoff, Director
Office of Planning and
Preliminary Engineering

8/31/81
Date

By:

Emil E. Lynch
Federal Highway Administration
Division Federal Highway
Administrator

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- S U M M A R Y -

MARYLAND ROUTE 97
Norbeck to Olney
Montgomery County, Maryland

1. ADMINISTRATIVE ACTION:

- (x) Environmental Assessment
- (x) Draft Section 4(f) Evaluation
- () Final Section 4(f) Evaluation

2. ADDITIONAL INFORMATION:

Additional information concerning this action may be obtained by contacting:

Mr. William F. Schneider, Jr.
Chief, Bureau of Project Planning
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202
Telephone: (301)-659-1130
Hours: 8:15 AM - 4:15 PM

Mr. Roy D. Gingrich
District Engineer
Federal Highway Administration
The Rotunda - Suite 220
711 West 40th Street
Baltimore, Maryland 21211
Telephone: (301)-962-4011
Hours: 7:45 AM - 4:15 PM

3. DESCRIPTION OF PROPOSED ACTION:

The Maryland State Highway Administration and the Federal Highway Administration propose to dualize existing Maryland Route 97 from the Maryland Route 28 intersection in Norbeck, Maryland north 3.1 miles to the Maryland Route 108 intersection in Olney, Maryland. See Figure I-1. This action would extend the existing divided highway to the rapidly growing Olney Town Center. This proposed action would implement the primary transportation improvement recommended in the Olney Master Plan, approved June 3, 1980. The engineering features and environmental impacts of the Alternates Under Consideration are summarized in Table S-1, the Cost Effectiveness Analysis.

4. ALTERNATES CONSIDERED:

Three highway alternates are under consideration in this study, each offering different solutions and degrees of environmental impact. Only one basic highway alignment is

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suitable for study; improvements to or dualization of the existing two-lane highway. The density of existing residential and commercial development prohibits the serious study of any other alignment. These three alternates are briefly described as follows, and illustrated and described in detail in Section III-C of this document:

Alternate 1 - the No-Build Alternate, would leave Maryland Route 97 as it presently exists. The existing narrow 2-lane roadway would remain unchanged, with traffic volumes overloading the roadway. Traffic signals would be installed as warranted.

Alternate 2 - Improvements to Existing Roadway would provide the maximum feasible improvements along Maryland Route 97. Termed the TSM Alternate (Transportation System Management), Alternate 2 would retain Maryland Route 97 as a two-lane roadway for most of its length. Roadway improvements would be made at both the northern and southern project termini, to improve the transition from the two-lane roadway to the existing six-lane roadway at Norbeck and the five-lane roadway at Olney. Improvements to the existing intersections along Maryland Route 97, consisting of pavement widening and channelization, would also be made to improve traffic flow and safety. Because traffic volumes vary by intersection, intersection "standard" details have been developed for minor intersections and major intersections. As a part of intersection improvements at Maryland Routes 97 and 108 completed in 1979, Maryland Route 97 was widened to four thru-lanes from Maryland Route 108 to Spartan Road. Alternate 2 envisions the extension of the existing widened roadway south from Spartan Road to King William Drive, then tapering back to the two-lane roadway.

Traffic signals may be installed, as warranted, at Emory Lane and King William Drive. Sidewalks for pedestrians would be provided along Maryland Route 97 north of King William Drive; no special provisions would be made between Norbeck and this location.

Alternate 3-4 - the Build Alternate, would continue the six-lane divided urban highway of Maryland Route 97 north from its present terminus at Maryland Route 28 to Emory Lane.

From Emory Lane to Emory Church Road, the new highway would transition from six lanes to four lanes. The existing two-lane portion of Maryland Route 97 would remain along the west side of the new highway to serve as a service road between Maryland Route 28 and Emory Church Road. North of Emory Church Road, Alternate 3-4 envisions the four-lane highway replacing the existing roadway, and connecting with the widened portion of Maryland Route 97 at Spartan Road.

Major bus system improvements were evaluated in lieu of the highway alternates under consideration. Because of financial constraints and existing street network congestion, bus system improvements were determined not to be cost-effective.

5. PROJECT CONSISTENCY WITH NATIONAL URBAN POLICY:

The improvement alternates being considered for the dualization of Maryland Route 97 between Norbeck and Olney are consistent with National Urban Policy and energy conservation goals. The consistency of this project with the five U. S. Department of Transportation policy objectives, developed in response to these issues, is discussed as follows:

a. Urban Impact

Transportation improvements to Maryland Route 97 are fully consistent with County land use and development plans and do not impair the viability of Central City areas. Planning for the dualization of Maryland Route 97 dates back to the early 1960's. Land use and development plans since that time reflect this dualization with strips of land dedicated or reserved for highway purposes. As discussed in Section I-C-6 of this Assessment, the Adopted Olney Master Plan (1980) shows the dualization of Maryland Route 97. In addition to consistency with land use plans, the development pattern between Norbeck and Olney has generally followed the highway reservations.

Completion of the proposed action will not adversely effect the Central City (Washington, D. C.) or Rockville. The Olney Master Plan restricts commercial

development which could offer employment competition for these areas. In accordance with the existing land use plans, completion of the proposed action will facilitate development in Olney in accordance with the Master Plan. Dualization of Maryland Route 97 can be expected to result in a faster pace for this planned development than would result if improvements were not made.

b. Energy Conservation

Transportation improvements associated with the Build alternates will result in a reduction in the quantity of fuel consumed compared to the No-Build for an average vehicle trip between Norbeck and Olney in the year 2010 (a 14% reduction for Alternate 2, a 48% reduction for Alternate 3-4).

c. Neighborhood or Minority Effects

Implementation of either Alternate 2 or 3-4 is not expected to result in significant adverse neighborhood effects. Because all planned roadway improvements are along the existing Maryland Route 97 roadway, no neighborhoods would be divided. No displacements are envisioned with Alternate 2. Alternate 3-4 would displace three (3) families from two (2) residences. No members of minority groups would be displaced or adversely affected.

d. Use of Existing Facilities

Although the dualization of Maryland Route 97, using strips of undeveloped land reserved for highway purposes, has been a part of land use planning in the Olney area since the early 1960's, this Assessment fully considers an improvement to existing facilities (TSM Alternate 2). As described in Section III-C, TSM Alternate 2 consists of improvements to the existing 2-lane portions of Maryland Route 97. No residences or businesses would be displaced and the total cost for this alternate is substantially less than the dualization Alternate 3-4. However, the

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level of safety and traffic service provided by Alternate 2 is substantially less than would be provided by Alternate 3-4.

In addition to the use of existing highway facilities, the benefits associated with an expanded bus system were evaluated. Three local bus routes, operated by the Washington Metropolitan Area Transit Authority (WMATA), serve the study area. As described in Section I-C-3, these bus routes are oriented to the Silver Spring METRO Station. Due to budget and fleet limits, Montgomery County and WMATA must evaluate requests for expanded bus service in a cost-effective and service efficient manner. Expansion of the existing bus system along the presently congested roadway is not realistic and would not be a cost-effective solution to the improvement of transportation service in the study area.

e. Consideration of Alternates

A Cost Effectiveness Analysis of the alternates under consideration is presented on Table S-1 of this section. More detailed discussion of these impacts is provided in the sections of this document that are referenced in this Table.

ANALYSIS ITEM	ALTERNATE		
	1 NO-BUILD	2 TSM	3-4 BUILD
<u>ENGINEERING CONSIDERATIONS</u>			
1. Project Length	3.08 Miles	3.08 Miles	12 3.08 Miles
2. Total Roadway Pavement Area (Square Yards)	46,000 SY	55,200 SY	120,700 SY
3. Number of Thru Travel Lanes	2	2	4 to 6
4. Design Speed	25 MPH to 50 MPH	25 MPH to 50 MPH	50 MPH
5. Total Right-of-Way Required	0	4.5 Ac.	44.1 Ac.
6. Bicycle Accommodation	None	None	Shared Roadway
<u>ESTIMATED CONSTRUCTION COST</u> (Millions 1981 Dollars)			
1. Roadway/Intersection	\$ 0	\$ 1.13	\$ 6.13
2. Engineering & Overhead	0	\$ 0.47	\$ 2.18
3. Right-of-Way Acquisition	0	0.36	\$ 1.94
5. Relocation Expenses	0	0	\$ 0.09
Total Estimated Cost	\$ 0	\$ 2.16	\$ 10.34
MARYLAND ROUTE 97 NORBECK TO OLNEY Montgomery County, Maryland SHA NO. 376-151-371		COST EFFECTIVENESS ANALYSIS TABLE S-1 SHEET 1 OF 7	

ANALYSIS ITEM

ALTERNATE

1
NO-BUILD

2
TSM

3-4
BUILD

SOCIAL IMPACT (IV-B)

1. Residences displaced	None	None	Two (3 families)
2. Persons relocated	None	None	11
Total	None	None	None
Minority			
3. Private Property required			
Residential	None	4.1 Ac.	43.5 Ac.
Commercial	None	0.4 Ac.	0.6 Ac.
4. Availability of comparable, suitably priced housing within the study area to replace all displaced residences.	-	-	Yes
5. Effect on pedestrian travel.	None	None	Adverse ef- fect for persons crossing wide roadway
6. Requirement for Last Resort Housing.	None	None	Two families in one of the residences.

ECONOMIC IMPACT (IV-C).

1. Businesses displaced	None	None	One abandon- ed junk-yard
2. Farms displaced	None	None	None
3. Potential for sales loss due to cus- tomer inconvenience caused by con- struction activities	None	None	Minor
4. Long-term effect on business	Adverse - Congestion and Safety	Adverse - Congestion	Minor - Adverse due to limited limited num- ber of med- ian cross- overs.
5. Yearly reduction in tax revenue due to conversion of taxable land to right- of-way (1981 \$)	None	\$4,800.	\$25,200.

MARYLAND ROUTE 97
NORBECK TO OLNEY
Montgomery County, Maryland

SHA NO. 376-151-371

COST EFFECTIVENESS ANALYSIS

TABLE S-1
SHEET 2 OF 7

ANALYSIS ITEM	ALTERNATE		
	1 NO-BUILD	2 TSM	3-4 BUILD
TRAFFIC OPERATIONS (IV-D)			
1. Ability to accommodate development planned in accordance with local and regional land use plans.	Inadequate	Inadequate	Adequate
2. Projected Average Daily Traffic Volume and Peak-Hour Level of Service along Md. Route 97 in the design year (2010): *			
o Just south of Emory Lane (No ICC)	29,200 F	29,200 F	36,000 D
(With ICC)	-	-	53,300 D
o Just south of Old Baltimore Rd. (No ICC)	27,400 F	27,400 F	35,200 D
(With ICC)	-	-	46,300 D
o Just south of Maryland Route 108 (No ICC)	25,500 C	25,500 C	28,800 C
(With ICC)	-	-	42,700 D
3. Anticipated level of traffic congestion and delay along Md. Route 97 in the year 2010.	Severe Congestion	Significant Congestion	Minor
4. Projected Vehicle Miles of Travel along Md. Route 97 in the year 2010. (No ICC)	30.8 Million	30.8 Million	32.10 Million
(With ICC)	-	-	53.2 Million
* Traffic Data for "No ICC" and "With ICC". "With ICC" refers to Inter-county Connector, see Section IV-D.			
MARYLAND ROUTE 97 NORBECK TO OLNEY Montgomery County, Maryland SHA NO. 376-151-371	COST EFFECTIVENESS ANALYSIS TABLE S-1 SHEET 3 OF 7		

ANALYSIS ITEM

ALTERNATE

1
NO-BUILD

2
TSM

3-4
BUILD

SAFETY OPERATIONS (IV-D)

1. Anticipated degree of roadway safety provided to the motorists.
2. Anticipated accident rate, number of accidents per 100 million vehicle miles of travel along Md. Route 97.
3. Anticipated total number of accidents in the year 2010 along Md. Route 97.
(No ICC)
(With ICC)

Inadequate

Inadequate

Adequate

400
(Est.)

375
(Est.)

155
(Est.)

120 to 180
-

110 to 120
-

45 to 55
80 to 90

ENERGY (IV-E)

1. Gallons of fuel consumed by one auto making a peak-hour trip in the year 2010 along Md. Route 97 between Norbeck and Olney
2. Fuel Usage Rate, miles per gallon, for above trip.
3. Construction energy requirements.

0.21 gal.

0.18 gal.

0.11 gal.

14.7 mpg

17.1 mpg

28.0 mpg

None

Data not Available

AIR QUALITY (IV-F)

1. Consistency with state implementation plan for Air Quality.
2. Number of violations of National and State one hour CO standard in 2010.
3. Range of one-hour CO concentrations (ppm) predicted at receptor sites in 1990 and 2010
1990
2010
The maximum allowable concentration is 35 ppm.
4. Number of violations of National and State eight-hour CO standard in 2010.

Yes

Yes

Yes

None

None

None

6.9 to
8.7
6.8 to
9.2

6.8 to
8.7
6.9 to
9.2

6.5 to
7.6
6.6 to
8.0

None

None

None

MARYLAND ROUTE 97
NORBECK TO OLNEY
Montgomery County, Maryland

SHA NO. 376-151-371

COST EFFECTIVENESS ANALYSIS

TABLE S-1
SHEET 4 OF 7

ANALYSIS ITEM	ALTERNATE		
	1 NO-BUILD	2 TSM	3-4 BUILD
<u>AIR QUALITY (IV-F) (Cont'd.)</u> 5. Range of eight-hour CO concentrations (ppm) predicted at receptor sites in 1990 and 2010 1990 2010 The maximum allowable concentration is 9 ppm.	1.7 to 3.0 1.6 to 2.6	1.5 to 2.9 1.5 to 2.6	¹⁶ 1.4 to 1.8 1.5 to 2.2
<u>NOISE LEVELS (IV-G)</u> 1. Existing Noise Levels, 1980, dBA 2. Predicted Noise Levels at selected receptors in 2010, dBA 3. Number of selected receptors with <u>"Significant"</u> <u>"Severe"</u> Impacts 4. Number of selected receptors exceeding Federal Design Noise Levels	51 to 67 60 to 68 None None 0	- 60 to 68 None None 0	- 62 to 71 3 None 1
<u>IMPACTS TO WATER RESOURCES (IV-H)</u> * A detailed sediment control plan would be developed during the design phase to minimize the generation and transport of sediment to streams. Although some slight reduction in water quality due to siltation can be anticipated, this impact will be temporary. Incorporation of effective storm-water management techniques will minimize the amount of roadway pollutants entering the stream system after construction. Infiltration systems, revegetation and maintenance of existing natural vegetation will provide filtration of both roadway pollutants and sediment. Groundwater recharge in the study area would not be affected. Adverse impacts on sole source aquifers are not anticipated.	Negligible Adverse (roadway runoff)	Minor Adverse * (roadway runoff, temporary erosion during construction)	Moderate Adverse * (roadway runoff, temporary erosion during construction)
<u>STREAM MODIFICATION IMPACTS (IV-I)</u>	None	None	None
MARYLAND ROUTE 97 NORBECK TO OLNEY Montgomery County, Maryland SHA NO. 376-151-371	COST EFFECTIVENESS ANALYSIS TABLE S-1 SHEET 5 OF 7		

ANALYSIS ITEM

ALTERNATE

1
NO-BUILD

2
TSM

3-4
BUILD

WETLAND IMPACTS (IV-J)

* No wetland would be required and care will be taken to ensure that adjacent wetlands are not adversely impacted by hydrologic changes, sedimentation or construction activities.

None

None
*

None
*

FLOODPLAIN IMPACTS (IV-K)

None

None

None

TERRESTRIAL & AQUATIC ECOLOGY IMPACTS (IV-L)

None

None

None

IMPACTS TO ENDANGERED SPECIES (IV-M)

The Maryland Department of Natural Resources and the U. S. Fish & Wildlife Service have determined that no populations of endangered species inhabit the study area for this project.

None

None

None

FARMLAND IMPACTS (IV-N)

Farms Displaced

None

None

None

Acres of "Prime" farmland soils required

0

2 Ac.

23 Ac.

Acres of "Unique" farmland soils required

0

0

0

IMPACTS TO HISTORICAL & ARCHEOLOGICAL SITES (IV-O)

1. Impacts to historic sites
 - * 0.25 acres of historically associated property with the Robert Mackall House required for road-way right-of-way.
2. Impacts to archeological sites.

None

None

One Site
*

None

None

None

MARYLAND ROUTE 97
NORBECK TO OLNEY
Montgomery County, Maryland

SHA NO. 376-151-371

COST EFFECTIVENESS ANALYSIS

TABLE S-1
SHEET 6 OF 7

ANALYSIS ITEM	ALTERNATE		
	1 NO-BUILD	2 TSM	3-4 BUILD 18
<p><u>SECTION 4(f) INVOLVEMENT (IV-P)</u></p> <p>* The Maryland Historic Trust has determined that implementation of Alternate 3-4 would adversely impact the Robert Mackall House. 0.25 Acres of historically associated property would be required. The State Historic Preservation Officer has determined this site to be eligible for the National Register of Historic Places.</p>	None	None	One Site *
<p><u>CONSTRUCTION IMPACTS (IV-Q)</u></p> <p>1) Temporary traffic congestion and increased travel times will result due to construction activities. This would be a greater aproblem with Alternate 3-4.</p> <p>2) Noise levels in adjacent areas will temporarily increase above levels normally experienced near roadway as a result of certain construction activities and equipment.</p> <p>3) Sprinkling and other approved methods will be used to control dust.</p> <p>4) Solid waste, hazardous, and toxic materials will not be disposed of on-site. Defoliants will not be used.</p>	None	Minor 1), 2), 3), 4)	Adverse 1), 2), 3), 4)
<p><u>CONSISTENCY WITH LAND USE & DEVELOPMENT PLANS (IV-R)</u></p> <p>1) Adoption of the No-Build or TSM would seriously inhibit the planned development of Olney in accordance with the <u>Olney & Vicinity Master Plan</u> (adopted June, 1980).</p>	No 1)	No 1)	Fully Consistent
<p>MARYLAND ROUTE 97 NORBECK TO OLNEY Montgomery County, Maryland</p> <p>SHA NO. 376-151-371</p>	<p>COST EFFECTIVENESS ANALYSIS</p> <p>TABLE S-1 SHEET 7 OF 7</p>		

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6. ENVIRONMENTAL ASSESSMENT FORM:

The following Environmental Assessment Form is a requirement of the Maryland Environmental Policy Act and Maryland Department of Transportation Order 11.01.06.02. Its use is in keeping with the provisions of 1500.4(k) and 1506.2 and .6 of the Council of Environmental Quality Regulations, effective July 31, 1979, which recommend that duplication of Federal, State, and Local procedures be integrated into a single process.

The checklist identifies specific areas of the natural and social-economic environment which have been considered while preparing this Environmental Assessment. The reviewer can refer to the appropriate sections of the document, as indicated in the "Comment" column of the form, for a description of specific characteristics of the natural or social-economic environment within the proposed project area. It will also highlight any potential impacts, beneficial or adverse, that the action may incur. The "No" column indicates that during the scoping and early coordination processes, that specific area of the environment was not identified to be within the project area or would not be impacted by the proposed action.

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
<u>A. Land Use Considerations</u>			
1. Will the action be within the 100 year floodplain?	—	<u>X</u>	<u>IV-K</u>
2. Will the action require a permit for construction or alteration within the 50-year floodplain?	—	<u>X</u>	<u>IV-K</u>
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?	—	<u>X</u>	<u>IV-J</u>
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?	—	<u>X</u>	—
5. Will the action occur on slopes exceeding 15%?	—	<u>X</u>	—

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
6. Will the action require a grading plan or a sediment control permit?	<u>X</u>	<u>—</u>	<u> </u>
7. Will the action require a mining permit for deep or surface mining?	<u>—</u>	<u>X</u>	<u> </u>
8. Will the action require a permit for drilling a gas or oil well?	<u>—</u>	<u>X</u>	<u> </u>
9. Will the action require a permit for airport construction?	<u>—</u>	<u>X</u>	<u> </u>
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?	<u>—</u>	<u>X</u>	<u> </u>
11. Will the action affect the use of a public recreation area, park, forest, wildlife, management area, scenic river or wildland?	<u>X</u>	<u>—</u>	Insignifi- cant Access Changes <u>IV-P</u>
12. Will the action affect the use of natural or man-made features that are unique to the county, state or nation?	<u>—</u>	<u>X</u>	<u> </u>
13. Will the action affect the use of an archeological or historical site or structure?	<u>X</u>	<u>—</u>	<u>IV-O</u>

B. Water Use Considerations

14. Will the action require a permit for the change of the course, current, or cross-section of a stream or other body of water?	<u>—</u>	<u>X</u>	<u>IV-I</u>
15. Will the action require the construction, alteration, or removal of a dam, reservoir, or waterway obstruction?	<u>—</u>	<u>X</u>	<u> </u>
16. Will the action change the overland flow of stormwater or reduce the absorption capacity of the ground?	<u>X</u>	<u>—</u>	Insignifi- cant changes <u>IV-H, I</u>

		<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
17.	Will the action require a permit for the drilling of a water well?	_____	<u>X</u>	_____
18.	Will the action require a permit for water appropriation:	_____	<u>X</u>	_____
19.	Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?	_____	<u>X</u>	_____
20.	Will the project require a permit for the construction and operation of facilities for sewage treatment and/or land disposal of liquid waste derivatives?	_____	<u>X</u>	_____
21.	Will the action result in any discharge into surface or sub-surface water?	<u>X</u>	_____	<u>IV-I</u>
22.	If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	_____	<u>X</u>	_____
<u>C. Air Use Considerations</u>				
23.	Will the action result in any discharge into the air?	<u>X</u>	_____	<u>IV-F</u>
24.	If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	_____	<u>X</u>	_____
25.	Will the action generate additional noise which differs in character or level from present conditions?	<u>X</u>	_____	<u>IV-G</u>
26.	Will the action preclude future use of related air space?	_____	<u>X</u>	_____
27.	Will the action generate any radiological, electrical, magnetic, or light influences?	_____	<u>X</u>	_____

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
<u>D. Plants and Animals</u>			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	<u> </u>	<u>X</u>	<u>IV-M</u>
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	<u> </u>	<u>X</u>	<u>IV-M</u>
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?	<u> </u>	<u>X</u>	<u> </u>
<u>E. Socio-Economic</u>			
31. Will the action result in a pre-emption or division of properties or impair their economic use?	<u>X</u>	<u> </u>	<u>IV-B, C</u>
32. Will the action cause relocation of activities, structures, or result in a change in the population density or distribution?	<u>X</u>	<u> </u>	<u>IV-B, C</u>
33. Will the action alter land values?	<u>X</u>	<u> </u>	<u>IV-R</u>
34. Will the action affect traffic flow and volume?	<u>X</u>	<u> </u>	<u>Beneficial Change IV-D</u>
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?	<u> </u>	<u>X</u>	<u> </u>
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	<u> </u>	<u>X</u>	<u> </u>
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans - including zoning?	<u>X</u>	<u> </u>	<u>IV-R</u>

	<u>YES</u>	<u>NO</u>	<u>COMMENTS</u>
38. Will the action affect the employment opportunities for persons in the area?	_____	<u>X</u>	_____
39. Will the action affect the ability of the area to attract new sources of tax revenue?	<u>X</u>	_____	Beneficial IV-C
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	_____	<u>X</u>	_____
41. Will the action affect the ability of the area to attract tourism?	_____	<u>X</u>	_____
<u>F. Other Considerations</u>			
42. Could the action endanger the public health, safety or welfare?	_____	<u>X</u>	_____
43. Could the action be eliminated without deleterious affects to the public health, safety, welfare or the natural environment?	_____	<u>X</u>	Existing roads are unsafe
44. Will the action be of statewide significance?	_____	<u>X</u>	_____
45. Are there any other plans or actions (federal, state, county or private) that, in conjunction with the subject action could result in a cumulative or synergistic impact on the public health, safety, welfare or environment?	_____	<u>X</u>	_____
46. Will the action require additional power generation or transmission capacity?	_____	<u>X</u>	_____
47. This agency will develop a complete environmental effects report on the proposed action.	_____	<u>X</u>	See Introduction

I
DESCRIPTION
OF
PROPOSED
ACTION

I. DESCRIPTION OF PROPOSED ACTION:

A. PROJECT LOCATION

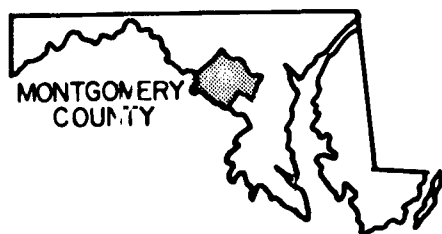
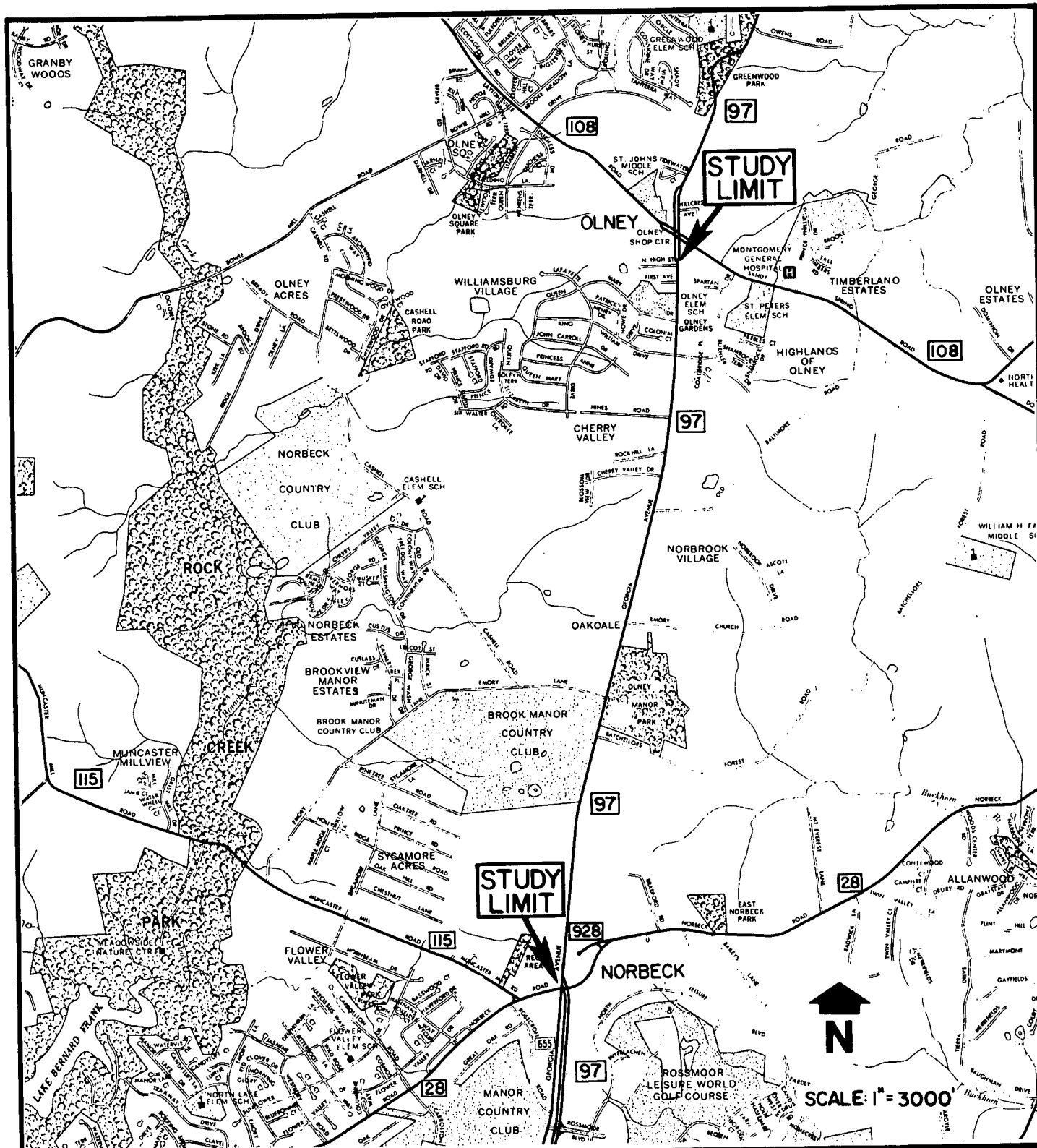
The study area for this project is located along Maryland Route 97 in the northeast section of Montgomery County, Maryland; approximately 10 miles north of the District of Columbia. Maryland Route 97, Georgia Avenue, begins in the District of Columbia and extends north to Pennsylvania, connecting the District with Silver Spring, Wheaton, Olney, Brookeville and I-70. The study area extends from Norbeck, Maryland to Olney, Maryland; a distance of approximately 3.1 miles (see Fig. I-1).

The southern limit for this project is the intersection at Maryland Route 28 in Norbeck. Immediately south of Maryland Route 28, Maryland Route 97 is a six-lane divided urban highway. Improvement alternates begin just north of this intersection, where Maryland Route 97 transitions to a two-lane rural highway. The northern limit for this project is the Maryland Route 108 intersection in Olney. Because this intersection was recently improved with four and five-lane urban highway approaches, improvements to Maryland Route 97 would terminate where the existing two-lane rural highway transitions to the five-lane urban highway, south of Maryland Route 108.

B. PROJECT DESCRIPTION

Improvements to Maryland Route 97 have been under consideration by the Maryland State Highway Administration and the Maryland-National Capital Park & Planning Commission since the 1930's. These improvements have ranged from "Main Highway/Principal Highway" to a "Controlled Access Route with Service Roads". In response to residential and commercial development, Maryland Route 97 has been widened from the District of Columbia to Maryland Route 28. These improvements, undertaken over a span of 50 years, have resulted in a highway facility that safely accommodates existing traffic volumes. The completion of the Silver Spring Metro Station along Georgia Avenue has relieved traffic congestion within the District, but increased traffic demands north of the Station for commuters desiring to access the Station.

The 1980 Adopted Olney Master Plan, an update of the 1966 Master Plan for Olney and Vicinity, recommends widening the existing two-lane portion of Maryland Route 97 to a four-lane divided highway with an open median and paved shoulders. The Plan also recommends provision of a median width sufficient to permit widening to an ultimate six-lane divided highway.



KEY MAP OF MARYLAND

STUDY AREA LOCATION MAP

FIGURE I-1

The development of Olney is greatly influenced by Maryland Route 97 because it is the major north-south travel route. Planning for the Olney area has included the satellite concept of development since the Montgomery General Plan, 1964 (The General Plan for the Physical Development of the Maryland-Washington Regional District and the Master Plan of Highways). This type of development concentrates growth and commercial activities in the "Town Center", with surrounding areas remaining rural or as open space.

The three alternatives for improving Maryland Route 97, which are presented in this Assessment, include the No-Build, Upgrade Existing Facility (termed TSM, Transportation System Management), and the Build (a four and six-lane divided highway). They are discussed in detail in Section III of this document.

C. DESCRIPTION OF THE EXISTING ENVIRONMENT

1. Social Environment

a. Existing Communities

In accordance with the satellite development concept of the Olney Master Plan, intensive commercial and residential development is located in the Olney Town Center near the intersection of Maryland Routes 97 and 108. As evident on Figure I-1, the street and general development pattern is fairly light in the remainder of the study area.

Figures I-2 and I-3 show the location of study area development immediately adjacent to Maryland Route 97. As evident on these photoplans, portions of land along the east side of the roadway have been either reserved or dedicated for future highway use. Set-backs are particularly well defined in the vicinity of Olney Manor Park (at Emory Lane) and in the Highlands Subdivision (at King William Drive).

b. Population

The study area lies entirely within Congressional District No. 8. Pertinent characteristics of this district are compared to the population of Montgomery County in the Table below.

	POPULATION				HOUSING		
	<u>1980</u>	<u>1970</u>	<u>% Change</u>	<u>% Black 1980</u>	<u>1980</u>	<u>1970</u>	<u>% Change</u>
Cong. Dist. No. 8	24,100	12,900	+87.3	6.8	7,000	3,300	+110.4
Mont. Co.	579,100	522,800	+10.8	8.8	216,200	161,400	+34.0

c. Community Facilities & Services

Major community facilities (churches, schools, parks, fire companies, libraries, post offices, etc.) located in the study area are identified on Figure I-4. Major health care needs are served by Montgomery County General Hospital and the Montgomery County Health Clinic, both located just northeast of the study area along Maryland Route 108.

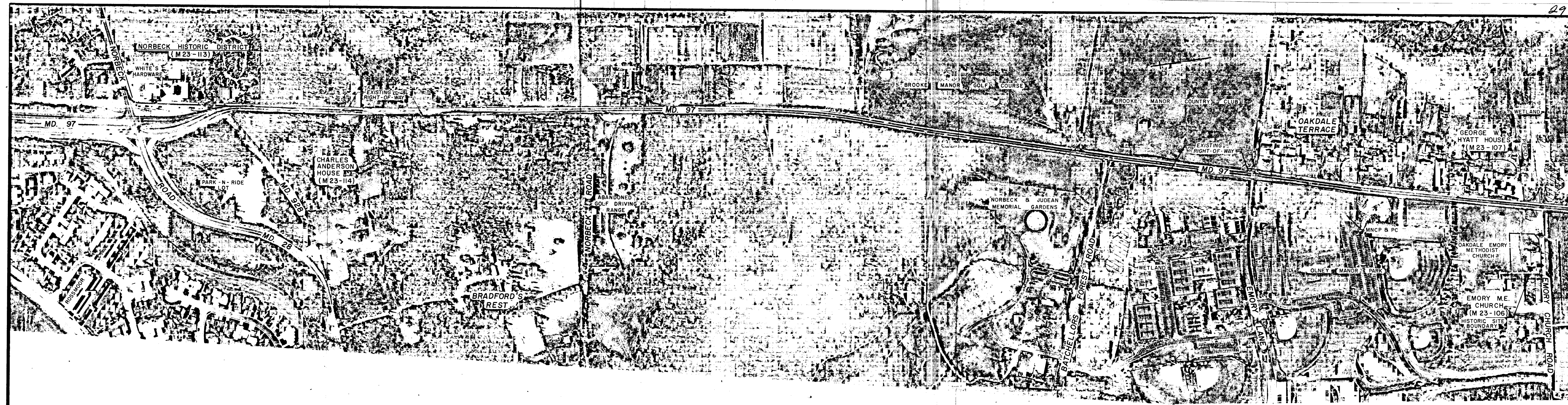
Elementary school students living north of Emory Church Road attend Olney Elementary School. Those students living generally south of Emory Church Road attend Cashell, Sherwood or Flower Valley Elementary schools (located outside the study area). Secondary school students generally attend Farquhar Middle and Sherwood High Schools, both of which are located outside of the study area.

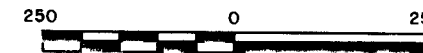
The majority of the study area is served by Montgomery County sewage and water. Generally, those developments surrounding the Olney Town Center and the west side of Maryland Route 97 have County service, or are programmed to receive service.

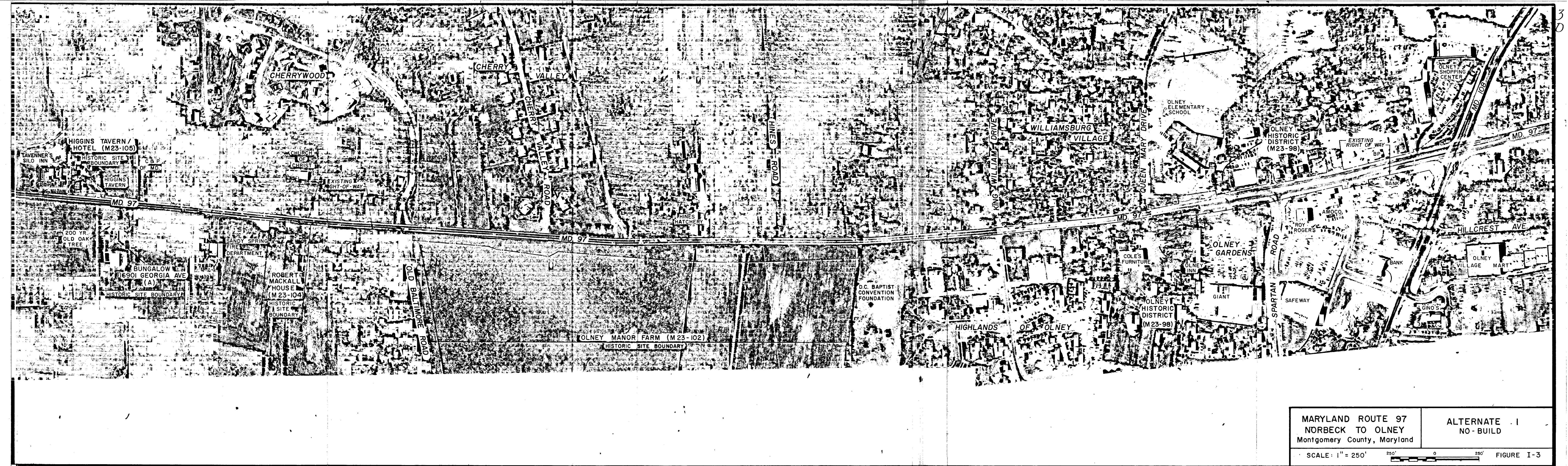
Community services, such as grocery stores, shopping centers, service stations, restaurants, fast-food outlets and small commercial establishments, are generally clustered around the Maryland Routes 97 and 108 intersection, the Olney Town Center. Several small businesses are scattered along Maryland Route 97 (see Economic Activity, I-C-2).

d. Bikeways

Although formal bikeways are not presently available in the study area, several have been proposed by M-NCP&PC in the Olney Master Plan. Bikeway No. P-42 is planned to extend from Prince Phillip Drive to Olney Mill Road along Maryland Route 108. This bikeway has been recommended for construction in the Olney Master Plan. Additional bikeways in the study area have been



MARYLAND ROUTE 97 NORBECK TO OLNEY Montgomery County, Maryland	ALTERNATE I NO-BUILD
SCALE: 1" = 250'  FIGURE I-2	



proposed along Maryland Route 97 (PA-7, Norbeck to Olney) and Emory Lane-Batchellor's Forest Road (PA-5).¹

2. Economic Environment

a. Commercial Activity

While several service-oriented commercial establishments are located within the study area to serve the needs of the residents, the majority of this commercial activity is concentrated in the Olney Town Center. Small businesses (antique stores, restaurants, etc.) located along Maryland Route 97 south of the Town Center include:

<u>Business</u>	<u>Located Near Intersection of Maryland Route 97 and</u>
White's Hardware Store	Maryland Route 28
Nursery	Norbeck Avenue
Tavener's Silo Inn/ Sandwich Shop/Antiques	Emory Church Road
C&P of Maryland	Emory Church Road
Hines Hatchery	Hines Road
Coles Furniture	Queen Mary Drive
Office Building/ Giant Grocery Store/ Safeway, etc.	Spartan Road

b. Agricultural Activity

The preservation of farmland in the Olney area is an important aspect of the Olney Master Plan (M-NCP&PC, adopted June 3, 1980). As specified in this Plan, the northern portion of the study area has been designated as a "Receiving Area", in which development will be encouraged. To facilitate this goal, the Olney Master Plan has defined a Transferable Development Rights (TDR) concept which offers farmers an economic incentive to resist development pressures by allowing them to sell their lands development

¹ Master Plan On Bikeways, M-NCP&PC, April, 1980.

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LEGEND FOR FIGURE I-4

★ HISTORIC SITES

1. OLNEY HISTORIC DISTRICT, 3 BUILDINGS, M 23-98
2. OLNEY MANOR FARM, M 23-102
3. ROBERT MACKALL HOUSE, M 23-104
4. HIGGINS TAVERN/HOTEL, M 23-105
5. EMORY M. E. CHURCH, M 23-106
6. GEORGE W. HYATT HOUSES, 3 HOUSES, M 23-107
7. NORBECK HISTORIC DISTRICT, 2 BUILDINGS, M 23-113
8. CHARLES ANDERSON HOUSE, M 23-114
9. BUNGALOW, 16902 GEORGIA AVE., A



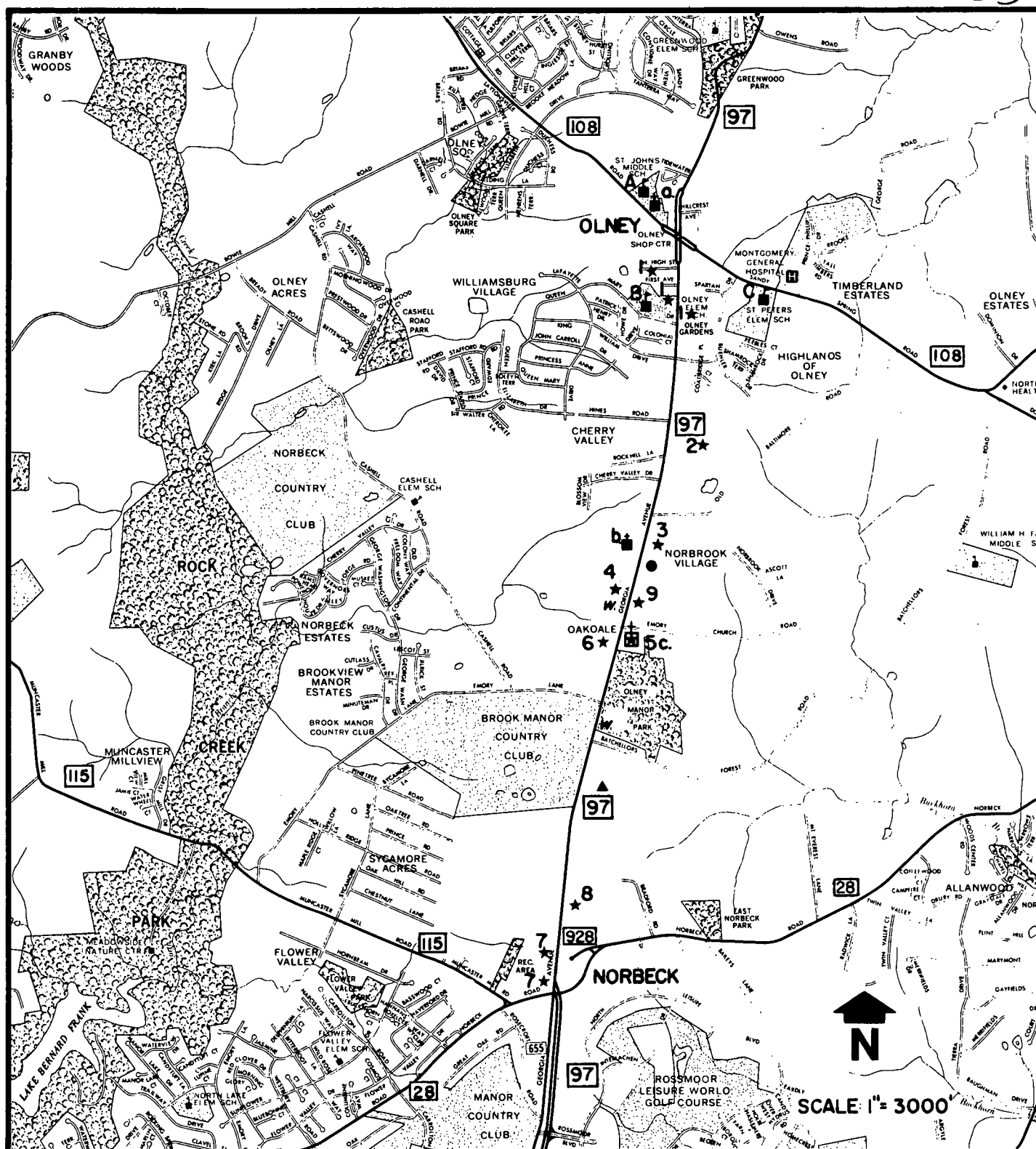
SCHOOLS

- A. ST. JOHNS MIDDLE SCHOOL
- B. OLNEY ELEMENTARY SCHOOL
- C. ST. PETERS ELEMENTARY SCHOOL



CHURCHES

- a. ST. JOHNS EPISCOPAL CHURCH
- b. CHURCH OF CHRIST
- c. OAKDALE EMORY UNITED METHODIST CHURCH



rights, while keeping the land itself for agricultural use. The TDR approach assumes that development rights can be shifted from one land parcel to another. Therefore, controls on development need not reduce the land's economic value to the owner, because development rights remain in the owner's hands and can be sold or "transferred," to other properties.

The Olney Master Plan recommends use of the TDR Concept in the Agriculture area, located northwest of the study area. This is where TDR would be most effective, since the opportunity still exists to prevent conversion and to retain a viable farm community. Receiving Areas located near Olney are shown on Figure I-5 (Proposed Land Use) of this Assessment. The reader is referred¹ to the Olney Master Plan for details of this important concept.

Very little land within the immediate project area is in active agricultural production. A portion of the Olney Manor Farm (east side of Md. Route 97, north of Old Baltimore Rd.) is still used as pastureland. This 205 acre farm has been designated as Receiving Area "A" by the Olney Master Plan and has been approved for conversion to 560 residences (thereby preserving 2,290 acres of farmland in the agricultural areas). Corn and vegetables are grown on several other small farms in open areas along Maryland Route 97.

The U. S. Department of Agriculture, Soil Conservation Service (SCS) has identified areas of "prime" and "unique" farmland soils in Montgomery County. Within Montgomery County, 53,220 acres have been classified as "Prime Farmland" and 580 acres have been classified as "Unique" (other than prime). According to the Important Farmlands Map for Montgomery County (1979), a large portion of the study area contains "prime" farmland soils. Bands of this soil cross the study area generally between King William Drive and Cherry Valley Drive, and between south of Old Baltimore Road and the Brooke Manor Country Club. In addition, two small areas of "unique" farmland soils lie along the west side of Maryland Route 97, just south of the Brooke Manor Country Club.

3. Transportation System

a. Highways

Maryland Route 97 originates in the District of Columbia as Georgia Avenue and extends north to the Maryland-Pennsylvania State Line. From the District of Columbia to the

¹ Olney Master Plan, Final Draft, September 1, 1979, page 10,
Adopted June 3, 1980.

intersection of Maryland Route 28 at Norbeck, Maryland Route 97 is a six-lane divided urban highway. The portion immediately south of the study area is six lanes, with curb and gutters located along the outside and a 54-foot wide open median. Just north of the Maryland Route 28 intersection, the roadway quickly narrows to two lanes (21 feet in width) with dirt shoulders. Development along this portion is primarily rural-residential with some local businesses. Approximately 1600 feet south of the Maryland Route 108 intersection, the roadway widens to an urban five-lane section with a center left-turn lane or a short section of raised median. The area around this intersection is commercially developed with surrounding residential subdivisions.

Maryland Route 97 and Maryland Route 108 are the two major highways that provide principal access to Olney. Maryland Routes 115/28 serve east-west traffic just south of the study area.

b. METRO

Montgomery County, in conjunction with the Washington Metropolitan Area Transit Authority (WMATA), operates three bus routes in the study area.

Y-8 Bus Line: During most of the day (9:10 AM to 11:10 PM), this line operates from the Montgomery General Hospital, along Maryland Route 97 to the Silver Spring METRO Station. Service is local, and operates every half-hour. Service during the remaining hours terminates at the Rossmoor Leisure World (the Maryland Routes 97/28 intersection).

Y-9 Bus Line: This line operates during the peak period every half-hour along Maryland Route 97 from Montgomery General Hospital to the Silver Spring METRO Station. Service is local between Olney and Glenmont and express between Glenmont and Silver Spring.

Z-2 Bus Line: This route provides service along Maryland Route 108 east to New Hampshire Avenue, then south to the Silver Spring METRO Station. The line terminates in Olney on Spartan Road, near Maryland Route 97. Service is every half-hour from 6:35 AM to 8:00 PM.

In addition to the Metrobus System, WMATA is also responsible for the development of a region-wide rapid transit system. The Metrorail Red Line is a "U"-shaped route, with outlying stations and storage yards at Shady Grove and Glenmont (at the tops of the "U"). Transit service to Silver Spring (most northern

station in operation on the Glenmont line, located just inside of the Beltway), began in early 1978. Due to the limited funding, the operational date for the Glenmont Station is in negotiation; the Station will probably open after 1990.

4. Natural Environment

a. Physiography-Geology

The study area lies along a ridgeline in the Eastern-Piedmont Plateau Physiographic Province. Terrain is relatively level and elevations range from 490 to 570 feet above mean sea level.

Existing Maryland Route 97 follows the ridgeline that divides the area's drainage between Rock Creek on the west and the Anacostia and Patuxent Rivers on the east. As a result, this area is generally well drained.

Surface soils are predominantly composed of Chester and Glenelg silt loam on moderately eroded, 3-8% slopes. They are well-drained and include some of the best agricultural land in Montgomery County.

b. Water Resources

The majority of study area residents use water supplied by the Washington Suburban Sanitary Commission (WSSC). Generally, those residences on the west side of Maryland Route 97 are, or are programmed for WSSC service. Residences on the east side of Georgia Avenue, south of Old Baltimore Road, depend on private wells and are not planned for WSSC service. Groundwater yields range from 1 to 180 gallons per minute.

No permanent streams cross the study area. Run-off is carried by shallow ditches which are generally dry between periods of rainfall.

c. Terrestrial & Aquatic Ecology

Agricultural and recent residential development has left little undisturbed natural habitat in the study area. The majority of the study area has been developed or is old-field habitat. Although little forestland remains, some older residential lots contain significant numbers of mature hardwood trees (primarily of oak, maple and ash) representative of the forested areas. One large white oak tree, estimated to be 200 years old, is present

along the east side of Maryland Route 97 on the lawn of 16901 Georgia Avenue. This tree is not in good condition.

The old-field habitat varies from tall grasses to a dense mixture of herbaceous vegetation, vines, shrubs, conifers and sapling hardwoods. These areas provide a wide variety of habitats and food sources for many wildlife species. The amount of old-field habitat in the study area has increased due to the reduction of agricultural activity.

Due to the ephemeral nature of the ditches draining the study area, no aquatic community of any significance is present.

d. Wetlands

Two small wetlands are located in the project area. One, a seasonally flooded deciduous woodland along the north side of Batchellor's Forest Road (see Fig. I-2), appears to be largely fed by groundwater seepage and contains a Red Maple overstory and Skunk Cabbage as groundcover. The second, along the west side of Route 97 opposite Emory Church Road (see Fig. I-2), is an emergent wetland characterized by a dense growth of Cattail. Both of these wetlands are located beyond the area where construction associated with this project is planned.

e. Endangered Species

The Maryland Department of Natural Resources and the U. S. Fish and Wildlife Service have determined that no known populations of threatened or endangered species occur within the project area (see Section V, letters dated March 27, 1980 and November 21, 1980).

f. Floodplains

The Environmental Planning Division of the Maryland-National Capital Park and Planning Commission has investigated the occurrence of 100-year floodplains along the project alignment. As a result of this investigation, they have determined that "As a result of the ridgeline topography encountered and the relative proximity to mapped stream systems, we are satisfied that no floodplain areas will be encountered by your alignment proposals" (see Section V, letter dated November 14, 1980). 100-year floodplains are not shown for the study area on available U. S. Department of Housing and Urban Development (HUD) mapping.

5. Cultural

a. Public Parkland

Olney Manor Recreational Park is the only public park in the study area. This park was the County's first recreational park, and offers five high-quality ballfields, 18 tennis courts (including one tournament court), handball, paddleball, basketball and shuffleboard courts, two small ponds and a picnic playground area. In addition, the Adopted Parks, Recreation, Open-Space Plan (PROS 1) recommends the Olney Manor Park be considered as a site for an outdoor swimming pool (estimated to be needed by 1985).

Oakdale Local Park is scheduled for development in FY 1983. This planned park will be located immediately west of the Cherrywood community. The Southeast Olney Elementary school site, if designated as a surplus school site, has been recommended to be retained as a park site.

b. Historic Sites

The Maryland Historical Trust has identified nine sites within the study area which are of historical significance (refer to March 14, 1980 letter, Section V). These sites, identified below, are shown on Figures I-2 and I-3. It has been determined that four of these sites (denoted below by asterisks) are potentially eligible for the National Register of Historic Places (refer to the May 19, 1981 letter, Section V). The remaining sites are Maryland Inventory significance.

<u>Site</u>	<u>Description</u>
M 23-98	Olney Historic District
M 23-102	Olney Manor Farm *
M 23-104	Robert Mackall House *
M 23-105	Higgins Tavern/Hotel *
M 23-106	Emory M.E. Church *
M 23-107	George W. Hyatt Houses
M 23-113	Norbeck Historic District
M 23-114	Charles Anderson House
A	Bungalow, 16901 Georgia Ave.

Impacts to these historic sites are discussed in Section IV-O and P.

c. Archeological Sites

An archeological reconnaissance of the study area has been completed by the Division of Archeology of the Maryland Geological Survey. The report of this reconnaissance (dated September 2, 1980) is available for public review at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland. This reconnaissance revealed that two historic archeological sites are located near the project study area.

The Oak Grove site (18 MO 171) is located on the west side of Maryland Route 97, just south of Hines Road. It is composed of the foundations of a house and the remains of six associated outbuildings. A seventh and southernmost outbuilding is still extant and appears to be associated with an adjacent farm (Hines Hatchery). During a field inspection, a stone barn foundation, an associated "1904" cornerstone, and possible evidence of the house foundation were located. The site name is derived from a set of concrete pylons with the inscription "Oak Grove" set on either side of what was apparently the original driveway to Georgia Avenue. The site is heavily overgrown and no testpitting was conducted.

The Brooke Manor Park site (18 MO 172) is presently part of Olney Manor Park, and the Maryland-National Capital Park & Planning Commission appears to have made a deliberate effort to preserve the site. Field inspection revealed a basement-foundation constructed of stone set in concrete, with evidence of a recent cinder block addition. The trees surrounding the foundation have been left in place. It is not known if the building was demolished prior to park development. No evidence of the outbuildings or diagnostic artifacts was located.

These two archeological sites may be potentially eligible for the National Register of Historic Places under the criteria outlined by the Advisory Council on Historic Preservation (1979). These sites are further discussed in Section IV-O.

6. Existing & Proposed Land Use

The Maryland Route 97 study area extends 3.1 miles from Norbeck to Olney, along the existing two-lane rural highway. Norbeck, located at the intersection of Maryland Routes 28 and 97, consists of several commercial establishments, Rossmoor Leisure World (a retirement community), Manor Country Club, and extensive residential subdivisions. Between Maryland Route 28 and Old Baltimore Road, Maryland Route 97 is lined with rural residential and agriculture land uses. Brooke Manor Country Club, Olney Manor Park and a cemetery occupy a major portion of the land along Georgia Avenue. The remaining portion is primarily residential and

agricultural development, with a few scattered commercial establishments. North of Old Baltimore Road to the Maryland Route 108 intersection, residential and commercial development is more intense. With the exception of Olney Manor Farm, very little undeveloped land remains. Olney, located at the intersection of Maryland Routes 108 and 97, consists of intense commercial and residential development and is the Olney Town Center. See Figure I-5.

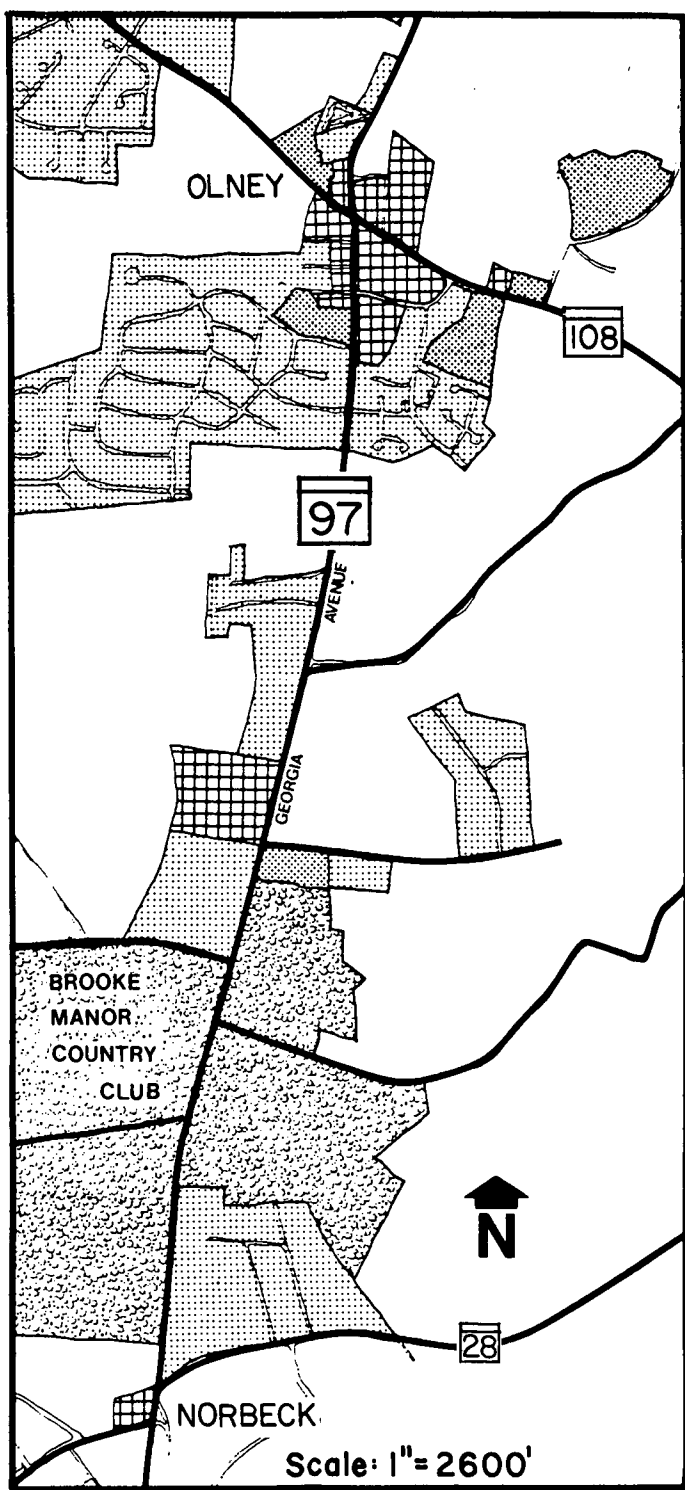
The Maryland-National Capital Park & Planning Commission (M-NCP&PC) is the agency responsible for planning future development in Montgomery County. This agency prepared a County Master Plan in 1964. Titled "On Wedges and Corridors", this document defined planning and zoning policies which placed development along major transportation corridors radiating from Washington, D. C. (including Md. Route 97), while maintaining wedges of open space between these corridors. To complement the County Master Plan, area master plans for individual planning districts throughout the County were also prepared. These districts encompass smaller areas and their plans reflect not only the needs of the County, but also the needs of smaller, homogeneous regions having unique resources or problems.

The Maryland Route 97 study area lies entirely within the Olney and vicinity planning area.

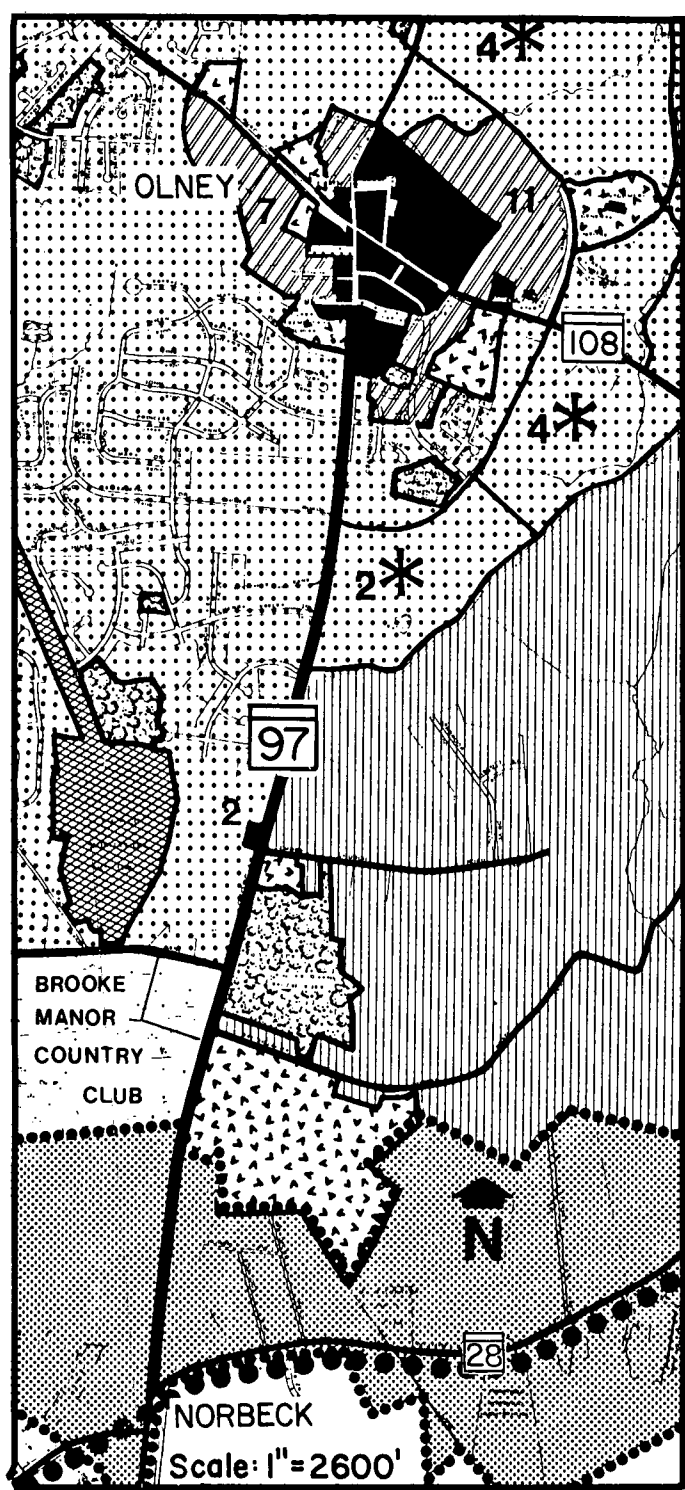
The Olney Master Plan, adopted June 3, 1980, affirms the land use pattern first proposed for Olney in the 1964 County General Development Plan: a small urbanized area surrounded by open space. As Figure I-5 illustrates, the proposed land use concentrates commercial and residential development around the existing town center at Maryland Route 108. Development becomes less dense as one moves further south away from the Maryland 97/108 intersection.

Maryland Route 97 is identified as a regional access route on the Proposed Access Plan. Georgia Avenue (Maryland Route 97) was originally planned to be expanded to a six-lane divided highway with an open median and paved shoulders. However, the Transportation Plan recommends that Maryland Route 97 be initially widened to four lanes, with provisions for additional lanes. The Olney Master Plan contains a detailed discussion of the proposed improvements including right-of-way requirements (reservations and dedications). Improvements to Maryland Route 97, as recommended in the Master Plan, will facilitate the planned development of this important corridor.

EXISTING



PROPOSED



LEGEND

EXISTING

- STRIP COMMERCIAL
- RESIDENTIAL
- CHURCH/INSTITUTION
- PARKS/OPEN SPACE
- RURAL

SOURCE:

Olney Master Plan
Montgomery Co., Md.
Adapted June 3, 1980

PROPOSED

- RURAL RESIDENTIAL
- RESIDENTIAL, 1 FAMILY
- RES., TOWNHOUSE OR APT.
- COMMERCIAL/OFFICE
- INSTITUTIONAL
- PARK
- PRIVATE OPEN SPACE
- FEDERAL PUBLIC UTILITY
- AGRICULTURAL/OPEN SPACE
- TDR AREA (du's/ACRE)
- PLANNING AREA BOUNDARY
- NORBECK STUDY BOUNDARY

EXISTING AND PROPOSED LAND USE

FIGURE I-5

II NEED FOR THE PROJECT

II. NEED FOR THE PROJECT:

A. PURPOSE OF STUDY

The purpose of this project planning study is to develop alternates which will provide a safe and efficient means of satisfying major highway capacity requirements in the Maryland Route 97 study area for the year 2010. These alternates should be consistent with area land use plans, environmental considerations, travel needs, and national environmental and energy policy goals.

B. RELATIONSHIP TO OTHER ONGOING HIGHWAY PROJECTS

The Maryland State Highway Administration is currently conducting three (3) related highway projects which interact with this study of improvements to Maryland Route 97, between Norbeck and Olney. Two of these related projects are planning studies; one, Maryland Route 28, is a design project. The status of these three related projects, and the relationship to the Maryland Route 97 study, are discussed as follows:

- Maryland Route 28 -

The State Highway Administration has received location and design approval for the widening, reconstruction, and relocation of Maryland Route 28 (Norbeck Road) from Bauer Drive easterly for approximately 2.3 miles to east of Bradford Road, along Maryland Route 28, at the community of Norbeck. The reconstruction will consist of a four-lane urban highway with service roads. This project is now in final design, construction is estimated to begin in mid-1983.

An improved at-grade intersection will be provided at Maryland Route 97. These intersection improvements are compatible with Maryland Route 97 Alternates 1, 2 and 3-4. Improvements to Maryland Route 28 will enhance east-west traffic movements.

- Maryland Route 115 -

The State Highway Administration held a Location Public Hearing for improvements to Maryland Route 115, between Montgomery Village Avenue and Norbeck, on July 23, 1979. Six alternate alignments were under consideration for location approval. As a result of

public and agency comments on the Draft EIS and the Location Public Hearing, a relocation alternate was selected by the State Highway Administrator. This alignment, Alternate 4, consists of a four and six-lane divided arterial highway extending eight miles from Montgomery Village Avenue to Norbeck. The recommended Alternate 4 follows the Master Plan alignment M-83, from Montgomery Village Avenue to Muncaster Mill Road (existing Md. Route 115), and the Master Plan alignment for the Intercounty Connector (ICC), from Muncaster Mill Road to Norbeck. The Final EIS is presently in the review process, and Location Approval is expected in 1981.

Improvements to Maryland Route 115 will enhance east-west traffic movements and provide significantly better access to the Shady Grove Metro Station.

- Intercounty Connector -

Land use plans developed for the Maryland Route 97 Study Area have historically shown a major circumferential highway, originally part of a proposed Outer Beltway. This facility has been reduced in scope, and renamed the Intercounty Connector (ICC). The current Master Plan alignment of the ICC extends from west of I-270 near Gaithersburg easterly to the Baltimore-Washington Parkway near Beltsville. The ICC has been included in this study only for the purpose of analysis.

Public Alternates Workshops are scheduled for the spring of 1982. Circulation of the Draft Environmental Document and the Location Public Hearing are anticipated in late-1982.

- Norbeck Park n Ride Lot -

A 250-space fringe parking lot is under construction at the intersection of Maryland Routes 97 and 28. This lot is expected to be completed in fall-1981.

C. DEFICIENCIES OF THE EXISTING FACILITY.

Maryland Route 97, Georgia Avenue, extends from the District of Columbia to Norbeck as a six-lane urban highway. From Norbeck to the Pennsylvania State Line, Maryland Route 97 is primarily a two-lane rural highway. In more developed areas, Olney for instance, the roadway has been widened to accommodate greater volumes of through and turning traffic. Within the study area, the two-lane roadway generally follows the rolling terrain. Numerous streets and driveways line the roadway. Traffic signals are located at Maryland Route 28, the Sandy Spring Fire Station (demand responsive), and Maryland Route 108.

The following table compares the geometrics of existing Maryland Route 97 in the study area with accepted highway design criteria for a two-lane rural highway:

<u>Geometric Feature</u>	<u>Existing Md.Rte.97 Norbeck to Olney</u>	<u>Accepted Highway Design Criteria</u>
Pavement width	10.5' per lane	12' per lane
Shoulder width	2' to 4' Dirt	6' to 10' Paved
Distance to nearest roadside obstruction	2'	6' minimum
% Grade	6%	4% maximum
% of roadway with adequate passing sight distance	30%	60% to 80% Min.

As evident in this comparison, existing Maryland Route 97 is an inadequate and substandard two-lane rural roadway. Coupling these geometric deficiencies with the important transportation function that Maryland Route 97 plays in the Olney Master Plan, it is readily apparent that capacity and safety improvements are required. Not only is the existing roadway inadequate to handle today's traffic volumes, but it is grossly inadequate to handle the future traffic volume projected on the basis of development planned in the Olney area.

D. TRAFFIC

Counts of Average Daily Traffic (ADT) volumes conducted by the Maryland State Highway Administration reflect the recent growth experienced in the Olney area. ADT volumes for selected study area roadways are presented below:

	<u>Y E A R</u>				
<u>Roadway</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Md. Rte. 97 S. of Md. Rte. 28	19,100	19,200	20,300	20,800	20,700
Md. Rte. 97 N. of Md. Rte. 28	17,100	19,500	20,000	23,000	22,900
Md. Rte. 97 S. of Md. Rte. 108	10,500	13,000	13,500	20,000	16,000
Md. Rte. 108 W. of Md. Rte. 97	4,050	9,800	10,100	13,000	15,000

As indicated above, traffic volumes along Maryland Route 97 in the study area have increased since 1975, due primarily to the development of residential areas in Olney and northwest along Maryland Route 108.

Quality of traffic flow is measured in terms of "Level of Service". This measure, ranging from L/S "A" (best) to L/S "C" (minimum desirable) to L/S "F" (worst), is specific for each roadway segment and intersection. It is also dependent on highway geometry and traffic characteristics. The 1979 peak hour "Levels of Service" for Maryland Route 97 range from breakdown operation (L/S "F") in the southern portion of the project to capacity operation (L/S "E") in the northern portion.

E. SAFETY

As discussed in the preceding section on traffic, the existing 2-lane portion of Maryland Route 97 is carrying traffic volumes which approach the roadway's capacity. As traffic along this road has increased, the total number of accidents per year and the annual accident rate have also increased. A detailed accident

analysis for Maryland Route 97, between Maryland Routes 28 and 108, has been completed for the years 1976 through 1979.¹ During this four-year period, a total of 346 accidents were reported. Because it is difficult to compare absolute accident numbers between highways (i.e., a highway with high traffic volumes should be expected to have more accidents than a highway with low traffic volumes), an accident rate is most frequently used to adjust for highway length and traffic volumes (termed "exposure"). The total number of accidents occurring on the study area portion of Maryland Route 97 are listed below by severity, along with the appropriate accident rate (the number of accidents occurring per one hundred million vehicle miles, 100 MVM):

MARYLAND ROUTE 97 ACCIDENT NUMBERS & RATES
1976 through 1979

<u>Accident Severity</u>	<u>No. of Accidents</u>	<u>Md.Route 97 Rate (Acc/100 MVM)</u>	<u>Statewide Rate for Similar 2- Lane Highways (Acc/100 MVM)</u>
Fatal	2	2.29	4.44
Personal Injury ₂	125	143.06	125.63
Property Damage ₂	219	250.62	200.22
Total	346	395.97	330.29

As evident, the accident rate for Maryland Route 97 (395.97 Acc/100 MVM) was significantly higher (20%) than the statewide accident rate for similar two-lane highways (330.29 Acc/100 MVM). The total cost of these 346 accidents is estimated at approximately \$1,600,000 (\$1980).

The 41% of these accidents which have involved a fatality or injury to one or more persons has remained constant, and slightly exceeds the expected parameter of 39% for similar design highways now under State maintenance.

¹ Copies of this report, dated March 16, 1981, are available for inspection at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland.

² The number of 1979 property damage accidents was statistically increased to adjust for non-reported accidents resulting from the reduced reporting policy adopted by the Montgomery County Police in the spring of 1979.

A summary of collision types on Maryland Route 97, between Maryland Route 28 and Maryland Route 108, includes:

1976-1979 PERCENT FREQUENCY FOR COLLISION TYPES

<u>Manner of Collision</u>	<u>Md. Route 97 %</u>	<u>Statewide %</u>
Opposite Direction	6.07	7.84
Rear End	33.24	17.33
Left Turn	17.34	3.14
Sideswipe	2.89	5.87
Angle	18.78	12.26
Fixed Object	10.40	33.62
Pedestrian ¹	1.44	1.85
Other	8.67	14.75

The predominant collision types exceeding their respective statewide parameters are rear end, angle and left-turn collisions which comprise 69% of the total reported accidents. These conflicts represent those accidents occurring at the county intersecting roads servicing the pockets of residential development along Maryland Route 97.

Two high accident intersections (HAI) have been identified along the study area portion of Maryland Route 97, as follows:

<u>Location</u>	<u>Year Listed</u>	<u>No. of Accidents</u>
Md. Route 97 @ Md. 28	1978	17
Md. Route 97 @ Md. 108	1977	21

¹ These five pedestrian accidents consisted of four pedestrians injured and one pedestrian fatality. There were no bicycle accidents reported.

III ALTERNATES CONSIDERED

III. ALTERNATES CONSIDERED:

A. PROJECT HISTORY

Important events in the history of this project are summarized in this section. The reader is referred to Section V of this document for a complete listing of the agency and public coordination.

1. Initial Project Planning Public Meeting

This meeting was held at 7:30 PM on October 9, 1978 at the Olney Elementary School. Comments received from elected officials, private citizens, civic organizations and business representatives recognized the need for highway improvements, and generally supported the project as proposed. Minor adjustments were made to the Systems Planning Report to reflect these comments, and a Final Report was circulated in late 1978.

2. Alternates Public Meeting

An Alternates Public Meeting was held at 7:30 PM on September 25, 1980 at the Olney Elementary School. Four preliminary alternates (three Build Alternates and the No-Build) were presented to the public. Each alternate was described, illustrated, and compared. Estimates of cost and environmental impacts were presented. Large-scale maps of each alternate were presented in a workshop format with small discussion groups at separate tables. Pertinent questions or concerns were recorded at the table discussions. Concerned individuals were also given an opportunity to ask questions or make public statements.

Thirty-eight persons attended the meeting and participated in the group discussions. Two oral and six written comments were made. The vast majority of the people who attended this meeting agreed Maryland Route 97 needed improvement. The most controversial issue seemed to be the location of the park-n-ride lots. A Project Status Report, dated January 8, 1981, was distributed to the mailing list. This Report responded to specific issues raised at the meeting and recommended further study of the No-Build (Alternate 1), Improvements to the Existing Road (Alternate 2, the Transportation Systems Management Plan), and a Build Alternate (a combination of the southern portion of Alternate 3 and the northern portion of Alternate 4).

B. SELECTION OF ALTERNATES

Four preliminary alternates were developed during the initial planning process and presented to the public during the Alternates Public Meeting. These alternates provided a variety of means to solve existing transportation and safety deficiencies, and serve the future transportation needs of the study area. The location of existing development and the adopted Master Plan for the Olney planning area restricted alternates to improvement along the existing alignment of Maryland Route 97. These alternates are briefly described and compared below:

Alternate 1 - the No-Build Alternate, would leave Maryland Route 97 (Georgia Avenue) as it exists. The narrow two-lane roadway would remain unchanged, except for routine maintenance.

Alternate 2 - Transportation Systems Management (TSM), would signalize and/or channelize (provide separate right and left-hand turn lanes) at selected intersections along Maryland Route 97 to improve traffic flow.

Alternate 3 - Master Plan improvements to Maryland Route 97 would consist of a multi-lane highway along the alignment envisioned in the Olney Master Plan. Six lanes with a 50-foot wide median and full control of access would be provided from Maryland Route 28 to Batchellors Forest Road. North of Batchellors Forest Road, four lanes with a 54-foot median would be provided to the northern end of the project. Existing Maryland Route 97 would be retained as a service road from Maryland Route 28 to Emory Church Road.

Alternate 4 - Shifted Master Plan improvements, envisioned the same type of improvements as described for Alternate 3. The centerline of the alignment north of Batchellors Forest Road would be shifted slightly east to avoid impacts to the community along the west side of Maryland Route 97. Vertical alignment would more closely follow the existing alignment to reduce the amount of grading required. A service road would be provided between Maryland Route 28 and the vicinity of proposed Maryland Route 115, relocated.

The following Summary of Alternates, extracted from the Alternates Public Meeting Brochure, briefly compares these alternates:

- SUMMARY OF ALTERNATES -

<u>Parameter</u>	<u>1</u> <u>No-Build</u>	<u>2</u> <u>TSM</u>	<u>3</u> <u>Master Plan</u>	<u>4</u> <u>Shifted</u> <u>Master Plan</u>
Families Displaced	0	0	3	2
Businesses Displaced	0	0	2	1
Total Properties Affected	0	8	57	39
Total Acreage Required	0	4	37	35
Estimated Total Cost (1980 \$)	0	\$556,000	\$12,262,000	\$10,353,000

In addition to these four roadway alternates, six sites were considered for Fringe Parking Lots in the Olney area. As a result of public and agency comments, these six sites were deleted from further consideration.

C. DESCRIPTION OF ALTERNATES UNDER CONSIDERATION

1. Alternate 1: No-Build Alternate

Plan, scale 1" = 250'	Figures I-2 and I-3
Typical Sections	Figure III-1
Comparison Table	Table S-1
Design Speed	Varies 25 MPH to 50 MPH

Alternate 1, the No-Build, would leave the two-lane Maryland Route 97 (Georgia Avenue) as it exists. Normal maintenance, such as resurfacing, would be provided as necessary within existing right-of-way. Traffic signals may be installed at Emory Lane and King William Drive, as warranted.

2. Alternate 2: TSM - Improvements in Existing Location

Typical Sections	Figure III-1
Typical Intersection Schematics	Figure III-2
Comparison Table	Table S-1
Design Speed	Varies 25 MPH to 50 MPH

Alternate 2, the TSM (Transportation Systems Management) Alternate would retain Maryland Route 97 as a two-lane roadway for most of its length. In addition to repaving the entire two-lane roadway, improvements would be made at selected existing intersections to improve traffic flow and safety. Roadway improvements would also be made at both the northern and southern project termini to improve the transition from the two-lane roadway to the existing six-lane roadway at Norbeck and the five-lane roadway at Olney.

Beginning at the existing intersection of Maryland Routes 28 and 97, Alternate 2 envisions roadway improvements to the northbound roadway (three lanes) of Maryland Route 97 to accommodate a better transition to the existing two-lane roadway north of Maryland Route 28. The right-turn lane (NB Md. Route 97 to EB Md. Route 28) would become a lane drop. The remaining two NB lanes would continue through the intersection and gradually taper to the one NB lane. The left-turn bay would remain unchanged (NB Md. Route 97 to WB Md. Route 28). The southbound (SB) lane of Maryland Route 97 would also be gradually widened to two SB lanes and a left-turn bay at this intersection.

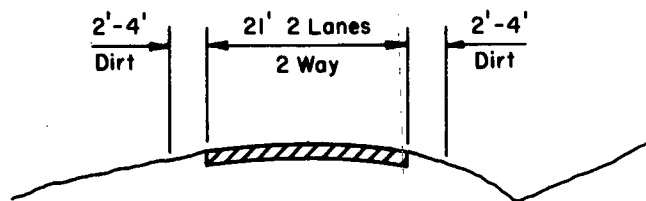
Improvements to the existing intersections along Maryland Route 97, between Norbeck and Olney, consist of pavement widening and channelization to improve traffic flow and safety. Because traffic volumes vary by intersection, two intersection "standard" details have been developed. Intersection detail Type "A" is for a minor intersection, and Type "B" is for a major intersection (see Intersection Plans, Fig. III-2):

Type "A" - Minor Intersection

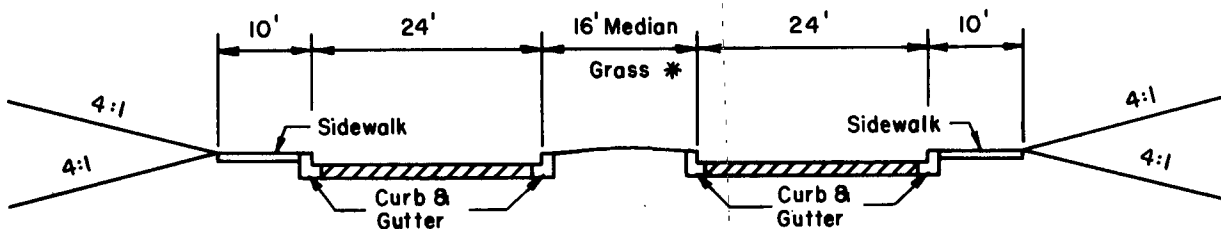
To accommodate the occasional left-turning vehicle, a 10' wide paved shoulder would be added to the existing two-lane roadway. This shoulder, beginning 300' before the intersection and terminating just past the intersection, could be added on one or both sides of Maryland Route 97. This lane would permit thru-vehicles to pass stopped vehicles waiting to turn left. Improvements would not be required for the cross street.

NOTE:

Dimensions Of All Roadways, Shoulders, Medians, Safety Grading Widths, Etc. Are Approximate And Are For The Purpose Of Determining Cost Estimates And Environmental Impacts, And Are Subject To Change During The Final Design Phase.

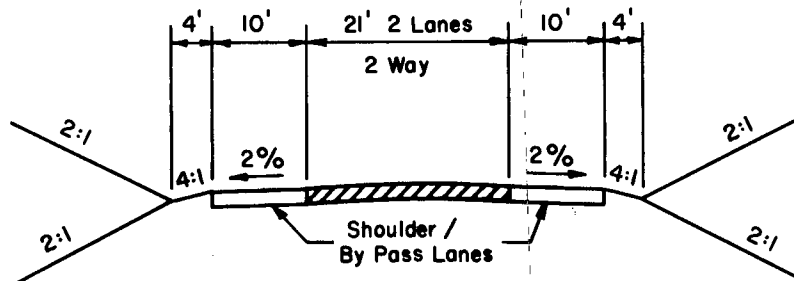


NO-BUILD : MD. ROUTE 28 TO SPARTAN ROAD
TSM : MAINLINE, BETWEEN INTERSECTIONS, MD. ROUTE 28 TO KING WILLIAM DRIVE

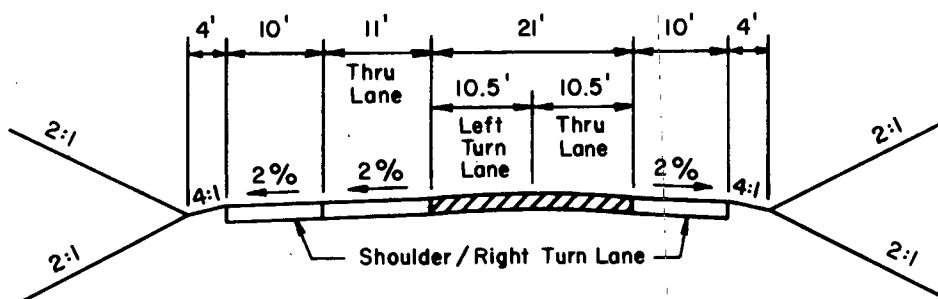


NO-BUILD : SPARTAN ROAD TO MD. ROUTE 108
TSM : KING WILLIAM DRIVE TO MD. ROUTE 108

* MEDIAN IS PAVED BETWEEN NORTH HIGH AND SPARTAN ROAD.



TSM : TYPE "A" INTERSECTION IMPROVEMENT AT NORBECK AVENUE, EMORY CHURCH ROAD, CHERRY VALLEY ROAD AND HINES ROAD



TSM : TYPE "B" INTERSECTION IMPROVEMENT AT EMORY LANE AND OLD BALTIMORE ROAD

MARYLAND ROUTE 97
 NORBECK TO OLNEY
 Montgomery County, Maryland

SHA No. 376-151-371

TYPICAL SECTIONS
 NO-BUILD ALTERNATE 1
 TSM ALTERNATE 2

FIGURE III-1

Type "B" - Major Intersection

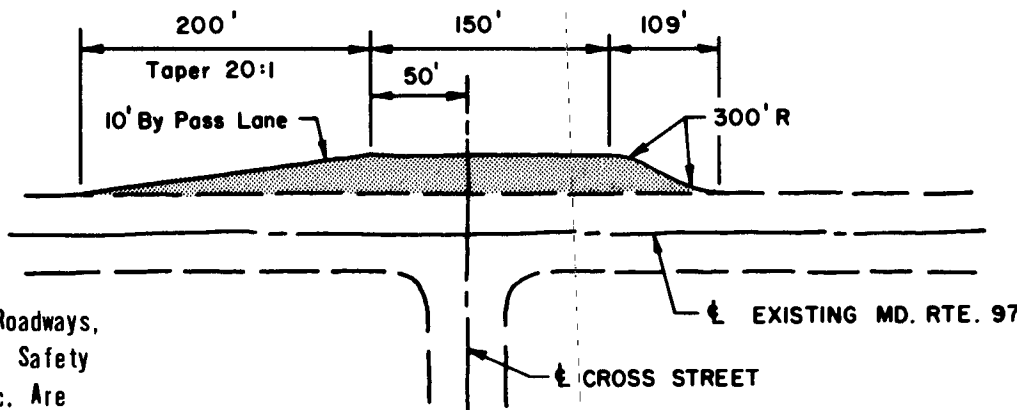
To accommodate heavy volumes of left and right-turning vehicles, three lanes would be added to the existing two-lane Maryland Route 97 at major intersections. Beginning approximately 200' before the intersection, and terminating at the intersection, a 10' paved shoulder for right turns only would be added on the west side of Maryland Route 97 (where right-of-way is more critical). On the east side of Maryland Route 97, an 11' travel lane would begin 500' before the intersection, and a 10' paved shoulder would begin 200' before the intersection. These lanes would taper back to the existing roadway approximately 500' after the intersection. Lane use and designations would be as follows:

right-turn lane -	new 10' paved shoulder
SB thru-travel lane -	existing Md. Route 97 travel lane
left-turn lanes -	existing Md. Route 97 travel lane
NB thru-travel lane -	new 11' lane
right-turn lane -	new 10' paved shoulder

Improvements could be made at cross-streets, as required.

These intersection details envisioned with Alternate 2 would be undertaken at the following locations:

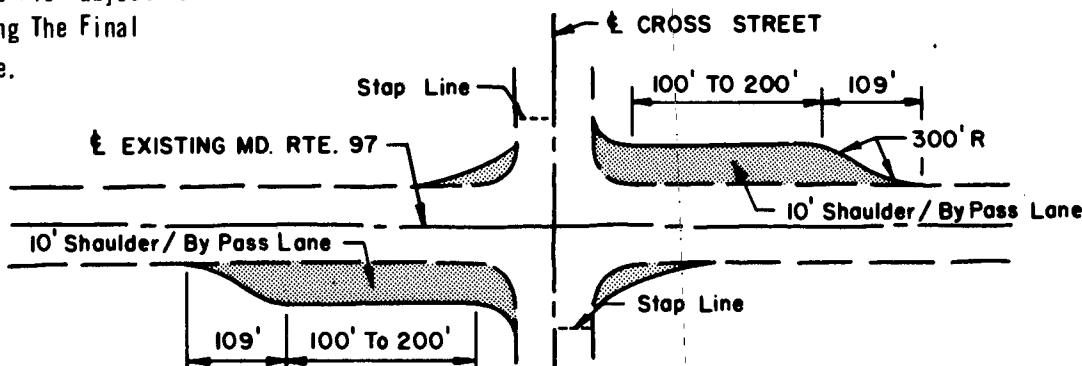
<u>Intersection with Maryland Route 97</u>	<u>Intersection Treatment Type</u>
Batchellors Forest Road	"A"
Emory Lane	"B"
Emory Church Road	"A"
Sandy Spring Fire House	Special Bypass Lane
Old Baltimore Road	"B"
Cherry Valley Road	"A"
Hines Road	"A"



NOTE

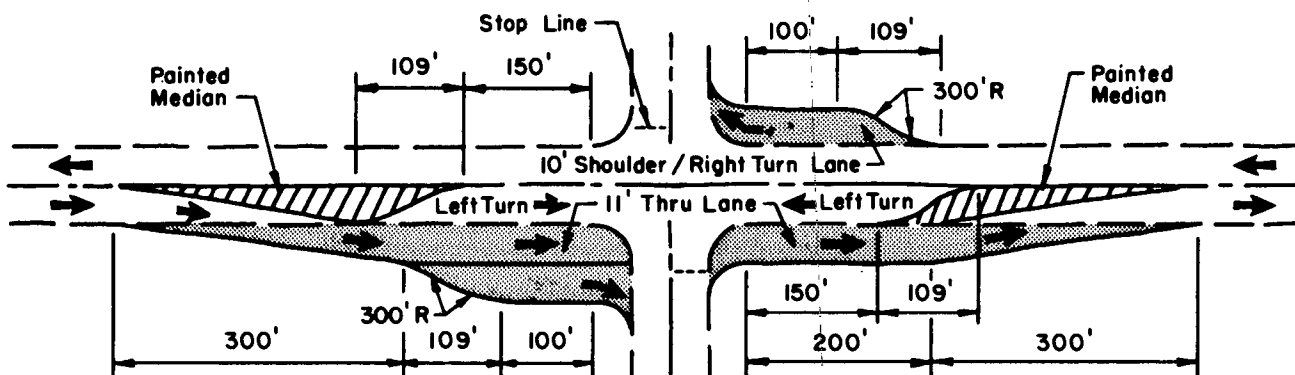
Dimensions Of All Roadways, Shoulders, Medians, Safety Grading Widths, Etc. Are Approximate And Are For The Purpose Of Determining Cost Estimates And Environmental Impacts, And Are Subject To Change During The Final Design Phase.

BY PASS LANE IMPROVEMENT



TYPE "A" INTERSECTION IMPROVEMENT

AT EMORY CHURCH ROAD,
CHERRY VALLEY ROAD AND HINES ROAD



TYPE "B" INTERSECTION IMPROVEMENT

AT EMORY LANE AND OLD BALTIMORE ROAD

MARYLAND ROUTE 97
NORBECK TO OLNEY
Montgomery County, Maryland

INTERSECTION PLANS
TSM ALTERNATE 2

SHA No. 376-151-371

FIGURE III-2

As a part of intersection improvements at Maryland Routes 97 and 108 completed in 1979, Maryland Route 97 was widened to four lanes with a median from Maryland Route 108 to North High Street, five lanes from North High Street to Spartan Road, and tapered back to the existing two-lane roadway at Queen Mary Drive. Alternate 2 envisions the extension of the existing four-lane roadway with median south from North High Street to King William Drive, then tapering back to the two-lane roadway before Hines Road. This widening on the east side of Maryland Route 97 will better accommodate the increasing traffic volumes in the Olney Town Center.

Traffic signals may be installed, as warranted, at Emory Lane and King William Drive. Sidewalks would be provided along Maryland Route 97 north of King William Drive.

3. Alternate 3-4: Build

Plans, scale 1" = 250'	Figure III-4 and III-5
Typical Sections	Figure III-3
Comparison Table	Table S-1
Design Speed	50 MPH

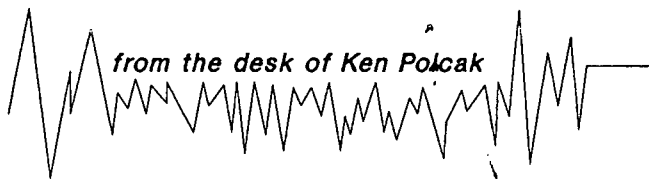
Alternate 3-4, the Build Alternate, is a combination of previously considered Alternates 3 and 4. It would continue the six-lane divided urban highway of Maryland Route 97 north from its present terminus at Maryland Route 28 to Emory Lane. From Emory Lane to Emory Church Road, the new highway would transition from six lanes to four lanes. The existing two-lane portion of Maryland Route 97 would remain along the west side of the new highway to serve as a service road between Maryland Route 28 and Emory Church Road. North of Emory Church Road, Alternate 3-4 envisions the four-lane highway replacing the existing roadway, and connecting with the widened portion of Maryland Route 97 at Spartan Road.

Mainline

Roadway improvements envisioned with Alternate 3-4 begin at the Maryland Route 28 intersection where the six-lane divided highway, which exists from this intersection south, would be extended north to Emory Lane. As shown on Figure III-4, this new highway consists of three highway lanes in each direction, separated by a 50' median containing 10' paved shoulders along each roadway and a 30' grassed area. Curb and gutters and a sidewalk (where required) would be located to the right of each roadway. This new highway would require a 200' strip of right-of-way located immediately east of the existing two-lane highway. Land is held in reservation between north of Norbeck Avenue to Olney Manor Park; land has been dedicated for highway purposes from the southern to the northern limits of Olney Manor Park.

OFFICE OF ENVIRONMENTAL DESIGN

from the desk of Ken Polcak



Mark Dwall

x 1178.

—

o planning studies

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M. 000-000



ROADWAY ESTIMATE

DATE: JUNE 22 88 PDMS NO.: 53 52 CONTRACT NO.: N 300 5
ROUTE: MD ROUTE 97 COUNTY: NONT. FEDERAL NO.:
PROJECT DESCRIPTION: MD ROUTE 23 AT NORBECK TO MD ROUTE 23
AT OLNEY
TYPE IMPROVEMENT: ALT. 3-4 3000 YEAR OF COSTS: 105
TYPICAL SECTION: 4/6 LANE DIVIDED HIGHWAY LENGTH: 3.06 MILES
PREPARED BY: D.W. WALLACE BUREAU OF: RUTH EL KUPPER & KAWL
RIGHT OF WAY: TYPE: PARTIAL CONTROL WIDTH: EXISTING: 40' PROPOSED: VARIES
130' MIN.

ESTIMATED COST

Category 1 - Preliminary	13.5% of CAT 2, 3, 5, 6 & 7	\$ 615,000
Category 2 - Grading		\$ 305,400
Class 1	122,150 CY @ \$2.50/CY	= 305,380 ✓
Borrow	@	=
Other	@	=
Category 3 - Drainage	20% of CAT 2, 3, 5, 6 & 7	\$ 760,200 ✓
Category 5 - Paving	Rigid Flexible ✓	\$ 2,299,400 ✓
3" Surface Course	20,114 Tons @ \$32/Ton	= 643,650 ✓
6" Base Course	40,228 Tons @ \$30/Ton	= 1,206,840 ✓
6" Subbase	129,776 SY @ \$5/SY	= 648,880 ✓
Asphalt Cement	@	=
Paving Section		
Category 6 - Shoulder		\$ 791,100 ✓
3" Surface Course	54,63 Tons @ \$32/Ton	= 1,748,320 ✓
4" + 3" = 7" Base Course	32,777 SY @ \$7/SY	= 229,440 ✓
Curb & Gutter	31,343 LF @ \$10/LF	= 313,430 ✓
Other	SEE SHA 2600 61.3-9 @	= 73,350 ✓
Category 7 - Landscaping (Erosion & Sediment Control)		\$ 705,170 ✓
Category 8 - Utilities		\$ 300,000
Signing/Marking	\$ 2,000 LANE/MILE x 4 LANE x 3 MILE	\$ 24,000 ✓
Lighting/Signalization	2 SIGNALS @ \$35,000	70,000 ✓ 94,000 ✓
		\$ 5,571,800
ROADWAY CONSTRUCTION COST		\$ 5,571,800
CONTINGENCIES (10%)		\$ 557,200

TOTAL NEAT ROADWAY COST \$ 6,129,000

NEAT INTERCHANGE COST (w/opt structures) 0

TOTAL NEAT ROADWAY CONSTRUCTION (Enter Line 4B Form 61.3-1) \$ 6,129,000

REMARKS RIGHT OF WAY & RELOCATION # SHA MEMO MAY 15, 1981

UTILITY \$ (PEPCO) 100,000 SHA MEMO MAY 25, 1981

\$ 200,000 EST for Telephone & Assoc work

TOTAL NEAT \$ 6,129,000
+ 26% O.V. 1,594,000
10% O.C. 1,197,000



RIGHT OF WAY ESTIMATE

DATE: May 5, 1981 PDMS NO.: 153163 CONTRACT NO.: M 376-101-1
ROUTE: Md. Rte. 97 COUNTY: Montgomery FEDERAL NO.: N/A
PROJECT DESCRIPTION: Md. Rte. 97 (Georgia Ave) Norbeck (Md. Rte 28) to
Olney (Md. Rte 108)
TYPE IMPROVEMENT: 4 Lanes/6 Lanes Divided Hgw YEAR OF COSTS: 81
TYPICAL SECTION: 6 Lane Divided - Conventional LENGTH: 3.1 mi
PREPARED BY: D. Stires/J. Ketchum BUREAU OF: Right of Way Activities
RIGHT OF WAY: TYPE: Conventional WIDTH: EXISTING: 40 + PROPOSED: 140 +

ESTIMATED COST

UNIMPROVED PROPERTIES AFFECTED, NO. 90

	ACREAGE	ZONING	COST PER ACRE	
1.	26,716 S.F.	C-1	8.00/SF 345,480'	\$ 217,728
2.	361 S.F.	C-0	8.00/SF	2,838
3.	39.65 acs	RE-2	18.00/ac	713,700
4.	3.78 acs	R-200	21,000/ac	79,380
5.				

TOTAL COST OF LAND. \$ 1,009,696

IMPROVEMENTS AFFECTED, NO. 4 Not including Lot
(INCLUDING LOT)

1.	1 1/2 Sty Brick Dwelling 35% Damage to 80,000 Imp Value	\$ 28,000	17027 GA. Ave
2.	2 sty Frame Dwelling 17017 Georgia Ave	85,000	
3.	Conc Block Service Station (Abandoned Junk Yard No Number	20,000	
4.	2 sty Frame Dwelling & Minor Out Bldg = 15621 GA. Ave	45,000	
5.			
6.			
7.			
8.			
9.			
10.			

TOTAL COST OF IMPROVEMENTS. \$ 178,000

RELOCATION ASSISTANCE COSTS 72,000

OTHER DAMAGES. N/A

COST OF LAND, IMPROVEMENTS & RELOC. ASSISTANCE COSTS 1,259,696

CONTINGENCIES (25%) \$ 314,924

NEAT RIGHT OF WAY COSTS (Enter Line 3 Form 61.3-1)

\$1,574,620

REMARKS: Because the bulk of the residential land is undeveloped and unsubdivided
the value of this area leans towards a "raw" acreage figure. The value of improvements
does not include the lot value underlying said improvement.



Maryland Department of Transportation

State Highway Administration

October 28, 1981

61
James J. O'Donnell
Secretary

M. S. Caltrider
Administrator

MEMORANDUM

TO: Mr. Thomas Hicks, Director
Division of Traffic

Mr. Clifford T. Carter, Assistant Chief Engineer
Division of Construction

Mr. Edward M. Loskot, Chief
Bureau of Highway Design

Mr. William Krieger, Chief
Bureau of Acquisition Activities

Mr. Pierce E. Cody, III, Chief
Bureau of Highway Maintenance

Mr. Jerry L. White, Chief
Bureau of Planning & Program Development

✓ Mr. Charles M. Anderson, Chief
Bureau of Landscape Architecture

Mr. Thomas Neukam, Chief
Bureau of Highway Statistics

Mr. William Carlson
District Traffic Engineer

Mr. Robert Houst, Chief
Engineering Evaluation Unit

Mr. Richard Krolak, Chief
Environmental Evaluation Unit

FROM: Wm. F. Schneider, Jr., Chief
Bureau of Project Planning

SUBJECT: Contract No. M 376-151-371
Maryland Route 97 (Georgia Avenue)
From Maryland Route 28
To Maryland Route 108

*Mtg 11/12 @ 9:30
Rm 311 - 707/108*

The Public Hearing on the subject project was conducted on October 26, 1981. Prior to presenting a team recommendation to

My telephone number is 659-1107

October 28, 1981
Page 2

the Administrator, a Value Engineering Study will be performed on the build alternate presented at the hearing.

We are forming a Value Engineering Team for this purpose, and are requesting that you designate a representative for the team so that your unit's expertise can be input into the study.

The first Team meeting will be held on November 12, 1981 at 9:30 in room 311 at the 707 Building in Baltimore. Please advise me of who will represent your division/bureau by November 9, 1981.

If you have any questions, please contact the Project Manager on extension 1107.

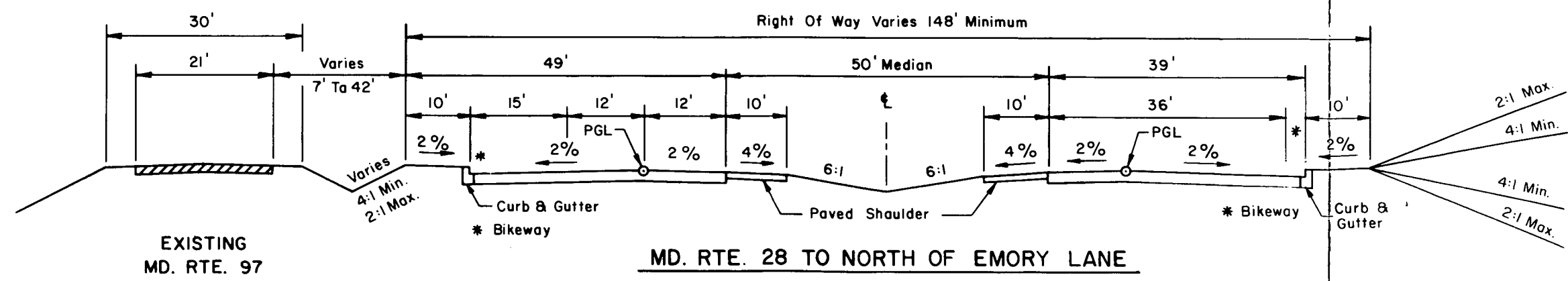
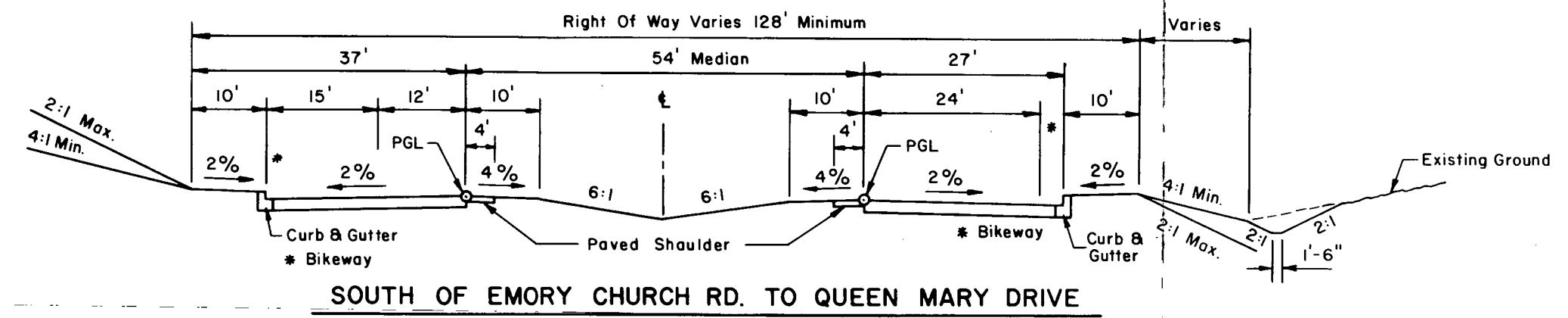
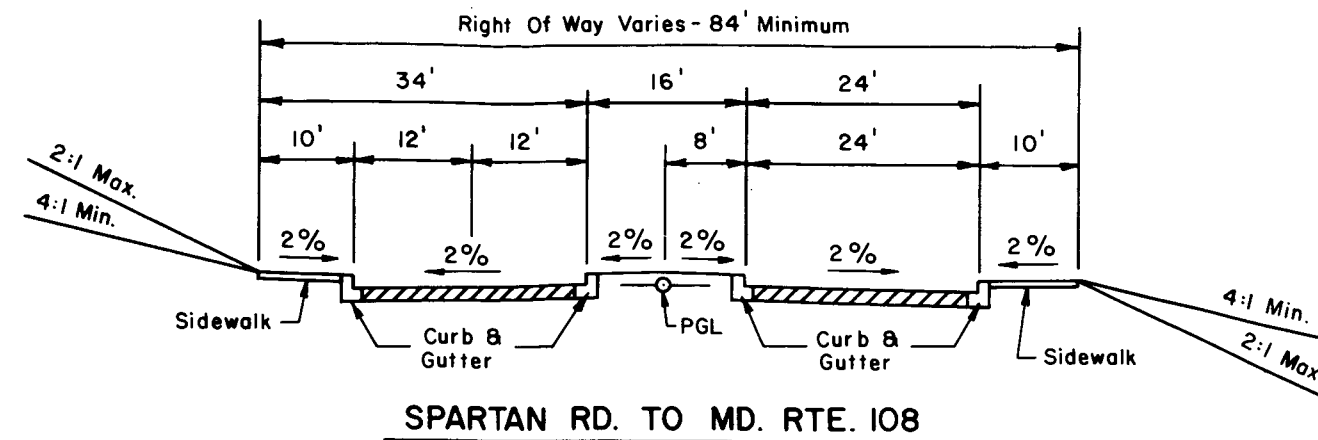
by:


Walter L. Hanrahan
Project Manager

WFS:WLH:cms

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CCF 1981



NOTE:
 Dimensions Of All Roadways, Shoulders,
 Medians, Safety Grading Widths, Etc
 Are Approximate And Are For The Purpose
 Of Determining Cost Estimates And
 Environmental Impacts. And Are Subject
 To Change During The Final Design Phase.

MARYLAND ROUTE 97
 NORBECK TO OLNEY
 Montgomery County, Maryland

SHA No. 376-151-371

TYPICAL SECTIONS
 BUILD ALTERNATE 3-4





NOTE: LOCATION OF MEDIAN OPENINGS/CROSSOVERS SUBJECT TO CHANGE DURING FINAL DESIGN

MARYLAND ROUTE 97 NORBECK TO OLNEY Montgomery County, Maryland	ALTERNATE 3-4 BUILD
	4 LANES / 6 LANES DIVIDED HIGHWAY
SCALE: 1" = 250'	
FIGURE III - 5	

From Emory Lane to Emory Church Road, the new highway transitions from a six-lane divided highway with a 50' median to a four-lane highway with a 54' median. This transition will be accomplished in accordance with current design practice. Because a significant volume of traffic exits Maryland Route 97 at Emory Lane, this lane reduction will not result in a highway capacity bottleneck (see Figure IV-1).

North of Emory Church Road, Alternate 3-4 continues as a four-lane divided highway, consisting of two highway lanes in each direction, separated by a 54' median containing four-foot paved shoulders and a 46' grassed area. Curb and gutters and a sidewalk would be located to the right of each roadway. This new highway would require a 200' strip of right-of-way located generally along the centerline of the existing roadway. Land has been dedicated for highway purposes in front of the Sandy Spring Fire House and in front of the Highlands of Olney subdivision at King William Drive.

From Queen Mary Drive to Spartan Road, Alternate 3-4 transitions from a four-lane divided highway with a 54' median to a four-lane divided highway with a raised concrete median 16' wide. The existing raised concrete median between North High Street and Maryland Route 108 would be extended south to Spartan Road.

Access Control

Access to the new divided highway would generally be permitted at all existing driveways and business entrances fronting the highway, except in areas where the existing roadway will be retained as a service road. This access would be to one direction only; i.e., to the northbound roadway for all properties on the east side of Maryland Route 97 and southbound for all west side properties. Median crossovers would be provided at all intersecting cross-streets; "mid-block" crossings would not be permitted.

Service Road

To reduce the number of driveway entrances to the new highway, Alternate 3-4 envisions retaining the existing two-lane highway as a west side service road between Maryland Route 28 and the businesses near Tavenners Silo Inn. This service road would be two-way between Maryland Route 28 and Emory Lane, and one-way southbound from the Tavenners Silo Inn parking lot to Emory Lane. Access connections between this service road and the new highway would be provided at Maryland Route 28, Norbeck Avenue (temporary), Emory Lane, Emory Church Road, and the entrance to the business area parking lot (egress from the new highway only). Except for intersection improvements, where required, no other improvements are envisioned for this roadway.

Pedestrians & Bicyclists

Sidewalks along Maryland Route 97 will accommodate pedestrian travel (see Fig. III-3). Paved sidewalks presently exist along Maryland Route 97, between Spartan Road and Maryland Route 108. South of Spartan Road, paved sidewalks will be provided adjacent to parks, communities and businesses. Paved sidewalks will be added in the remaining areas as warranted. Traffic signals along Maryland Route 97 will be equipped with pedestrian signals and activation buttons.

A shared-bicycle facility will be provided in the curb lane of Maryland Route 97, between Maryland Route 28 and Spartan Road. North of Spartan Road, the existing pavement width will not accommodate a shared-bicycle facility.

Interchanges

Interchanges are not proposed as part of Alternate 3-4; however, the provision has been made for a future interchange with Maryland Route 115 Relocated. Maryland Route 115 Relocated, as presented in the Final Environmental Impact Statement (1980), would pass under Alternate 3-4 approximately 600' north of Norbeck Avenue. Should this interchange be completed, the west side service roadway would become bisected, and terminate at turn-arounds immediately north and south of the interchange. Access would be controlled along Maryland Route 97 between Maryland Route 28 and Batchellors Forest Road.

The Final EIS for Maryland Route 115 Relocated addresses the social economic and natural impacts of this interchange, including right-of-way required and estimated construction cost.

Intersections

Alternate 3-4 envisions at-grade intersections with median crossovers at most of the intersecting cross-streets. Left-turn storage lanes would be provided at all of these intersections. Separate provisions for right-turns are limited to the intersection of Emory Lane (SB), Old Baltimore Road (NB), and King William Drive (NB). Except where noted below, all intersections would be STOP sign controlled for the cross-street:

<u>Intersection Location/Description</u> ¹	<u>Separation Between Intersections</u> ¹
Md. Route 28 *	2,510'
Temporary: Norbeck Rd. - Old Md. Rte. 97 Service Road	2,860'
Batchellors Forest Road	805'
Emory Lane * (Olney Manor Park & Md. Rte. 97 Service Road)	1,670'
Emory Church Road - Old Md. Rte. 97 Service Road	1,355'
Sandy Spring Fire House Co. 40 **	1,090'
Old Baltimore Road	775'
Cherry Valley Drive	1,340'
Hines Road	1,255'
King William Drive *	830'
Queen Mary Drive	760'
Spartan Road	1,015'
Maryland Route 108 *	

* Traffic Signal
 ** Demand Actuated Signal

¹ The number and location of median openings/crossovers subject to change during final design.

Drainage Structures

Drainage structures, box culverts and pipes will be designed to maintain existing drainage characteristics. Detailed hydrologic studies will be made to determine precise location and adequate size of these drainage structures.

Maintenance of Traffic & Utility Services

Vehicular and pedestrian traffic and public utility services would be maintained with a minimum of interruptions during the construction of this project.

Vehicular and pedestrian traffic on intersecting roads would be maintained by the construction of temporary roadways, the use of existing roads to detour traffic around a construction site, or by utilizing existing roads.

Interruptions to utility services during the construction period will be kept to a minimum by exercising care and protection for facilities not directly affected by the project and by construction of utility relocations where necessary.

4. Fringe Parking Lot

The Proposed Access Plan for the Olney Town Center identifies a "potential fringe parking area"¹ near the intersection of Maryland Routes 97 and 108 for the purpose of encouraging ride-sharing. In response to this suggestion, the Maryland Department of Transportation (Md DOT), Office of Transportation Planning, evaluated the potential demand for such a site.² As a result of Md. DOT's analysis, demand for this lot is estimated to range between 50 and 115 spaces by 1990, depending on transit service. Because a 250-space fringe parking facility is being constructed at the intersection of Maryland Routes 28 and 97 (northeast quadrant), initial site location investigations focused near the intersection of Maryland Routes 97 and 108 in Olney.

Six potential sites were presented at the Alternates Public Meeting in September, 1980. These sites were compared on the basis of access, construction constraints and overall suitability. As a result of public and agency comments, all six sites were deleted from further consideration.

¹ Olney Master Plan, adopted June 3, 1980, page 115

² Md. DOT Technical Memorandum, dated November 6, 1979

IV

COMPARISON OF ALTERNATES

IV. COMPARISON OF ALTERNATES:

A. INTRODUCTION

This chapter discusses the potential environmental effects associated with the three alternates being considered for improving Maryland Route 97 from Maryland Route 28 to Maryland Route 108. Avoidance or minimization of all adverse effects was a primary goal in the development of these alternates. These effects are quantified and compared in Table S-1.

B. SOCIAL IMPACTS

Social impacts associated with highway improvements to Maryland Route 97 consist of relocation and right-of-way impacts, changes in access, air quality impacts (see Section IV-F), and noise impacts (see Section IV-G). None of these impacts are considered to be significant.

Because the majority of roadway improvements are planned along the east side of existing Maryland Route 97, where few old residences are located and newer residential development accommodates the planned road with set-backs, few residences would be displaced. No residences would be displaced by Alternate 1 (No-Build) or Alternate 2 (TSM). Alternate 3-4 (Build) would displace three (3) families from two (2) owner-occupied residences. Approximately eleven (11) individuals would be displaced, none of which are believed to belong to minority groups or are elderly or handicapped. Last resort housing may be required for two families in one of the residences.¹

1 It is the policy of the Maryland State Highway Administration to ensure compliance with the provisions of Title VI of the Civil Rights Act of 1964 and related civil rights laws and regulations which prohibit discrimination on the grounds of race, color, national origin, sex, age, religion, or physical or mental handicap in all State Highway program projects funded in whole or in part by the Federal Highway Administration. The State Highway Administration will not discriminate in highway planning, highway design, highway construction, the acquisition of right-of-way, or the provision of relocation advisory assistance. This policy has been incorporated into all levels of the highway planning process in order that proper consideration may be given to the social, economic, and environmental effects of all highway projects. Alleged discriminatory actions should be addressed to the Equal Opportunity Section of the Maryland State Highway Administration for investigation.

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No right-of-way would be required for Alternate 1 (No-Build). Alternate 2 (TSM) requires 4.1 acres of residential property. Alternate 3-4 (Build) requires 43.5 acres of residential property.

Changes in access associated with Alternate 2 (TSM) are minor, and would be limited to channelization at intersections and addition of a median/barrier between King William Drive and Spartan Road. From King William Drive to Maryland Route 108, left turns would be limited to cross streets. Alternate 3-4 (Build) would continue the divided roadway section, which presently exists south of Maryland Route 28, north to Maryland Route 108. Left-turns would be limited to cross streets. While some out-of-direction travel would be required, the additional distances would be less than one-half mile (see Figures III-4 and III-5).

Pedestrian and bicycle travel will remain unchanged with Alternates 1 and 2. Alternate 3-4 (Build) will significantly improve pedestrian and bicycle safety with the addition of sidewalks and a shared curb-side bicycle lane between Maryland Route 28 and Spartan Road (see Figure III-3). Crossings will be limited to intersections. Coordination with the Montgomery County Public Schools indicates that all students residing on the east side of Maryland Route 97 who attend the Olney Elementary School are currently bused across Maryland Route 97. School students will not be required to cross Maryland Route 97 with any of the alternates.

C. ECONOMIC IMPACTS

Economic impacts associated with highway improvements to Maryland Route 97 consist of relocation and right-of-way impacts, changes in business access, and tax loss. None of these impacts are considered to be significant.

No businesses would be displaced by Alternates 1 or 2. One apparently abandoned junkyard would be displaced by Alternate 3-4 (Build).

Adverse changes in business access are limited to the Build Alternate. As evident on Figures III-4 and III-5, the addition of a median will necessitate some out-of-direction travel (less than one-half mile).

Alternate 2 requires the acquisition of 0.4 acre of commercial property, Alternate 3-4 requires 0.6 acre. Alternate 2 would result in a total net property tax loss (residential and commercial) of \$4,800 (1981), Alternate 3-4 would result in a \$25,000 loss. These short-term losses would be, however, more than offset by an increased tax base resulting from additional planned commercial and residential development.

D. TRAFFIC & SAFETY IMPACTS

Future traffic volumes are dependent upon future land use and the transportation facilities available. Through its process of area master plans, the Maryland-National Capital Park & Planning Commission (M-NCP&PC) has predicted the type, pattern and distribution of land uses for the Olney area (Ref. Olney Master Plan adopted June 3, 1980). The land use map from this plan, a portion of which is reproduced on Figure I-5 of this report, was used by the traffic forecasting section of the Washington Council of Governments (COG) to produce the "COG Round 1 Cooperative Forecast" trip table. Projections of future traffic volumes for the No-Build, TSM and Build Alternates for the years 1990 and 2010 were made by the Maryland State Highway Administration on the basis of COG's data.

In addition to land use assumptions, the other important element of these traffic forecasts is the background roadway network assumed to be in place. The major highway facility in this portion of the county, which would affect traffic projections along Maryland Route 97, is the Intercounty Connector (ICC). Historically referred to as the Outer Beltway, this circumferential highway would extend from I-270 near Gaithersburg easterly to the Baltimore-Washington Parkway near Beltsville. The highway is now being re-evaluated by the Maryland State Highway Administration, and alternatives include both route location and facility type. Other important "background" roadways assumed in the traffic assignment process include improvements to Maryland Route 28 and the relocation of Maryland Route 115. The following summarizes the assumptions regarding these three important facilities:

<u>Md.Route 97</u> <u>Alternate</u>	<u>Md.Route 28</u> <u>Assumption</u>	<u>Md.Route 115</u> <u>Assumption</u>	<u>Intercounty Connector</u> <u>Assumption</u>	
			<u>1990</u>	<u>2010</u>
No-Build	Build	Build	No-Build	No-Build
TSM	Build	Build	No-Build	No-Build
Build	Build	Build	No-Build	Build
Build *	Build	Build	No-Build	No-Build

* An additional assignment for the Build Maryland Route 97 was completed, assuming a No-Build ICC in 2010. See Figure IV-1.

Given these land use and network assumptions, projections of the volume of traffic (Average Daily Traffic, ADT)¹ and the quality of traffic flow (Level of Service, LS)² anticipated along

¹ See Appendix A for definitions.
² Ibid.

Maryland Route 97 for each of the project alternates in the design year (2010) are shown on Figure IV-1. ADT volumes for cross streets are also noted on this Figure.

The following traffic characteristics were assumed in the engineering analysis of the three alternates (number of lanes, level of service, intersection details, etc.) and the assessment of air quality and noise impacts:

Diurnal Curve Data: During an average day, the percent of total daily traffic occurring during any one hour varies from less than 1% in the early morning hours (3 AM to 4 AM) to 6 to 10% during rush hours. Percentages for the three alternatives under consideration are given below:

<u>Alternate</u>	<u>Maximum Peak Hour</u>	<u>Average Off-Peak Hour</u>
No-Build	7.0%	5.1%
TSM	7.0%	5.1%
Build	8.7%	4.9%

Directional Distribution: During rush hour, 55% of the total hourly traffic is headed in the peak direction (south in the morning, north in the evening). During off-peak hours, traffic is uniformly split 50/50.

Truck Percentages: The automobile-truck mix varies throughout the average day.

	<u>Gasoline Powered</u>	<u>Diesel Powered</u>	<u>Total</u>
% Trucks during Average day	1.4%	2.6%	4.0%
% Trucks during Peak Hour	1.6%	3.4%	5.0%

Compared to the existing traffic volumes along Maryland Route 97 (see Section II-C of this Assessment), future traffic volumes are expected to increase significantly. Because Maryland Route 97 is the only north-south arterial highway in this vicinity of Montgomery County, traffic is not easily diverted to other routes. As a result, projected 1990 traffic volumes will remain approximately the same for all three alternates. For example, along Maryland Route 97, just south of Emory Lane, a 1990 ADT of

23,400 is predicted for the No-Build and TSM Alternates (in comparison to the 1979 ADT of 22,900). The 1990 ADT for the Build Alternate is projected to be 28,000, only 20% higher than the No-Build.

By the design year 2010, the projected ADT for the No-Build and TSM is approximately 29,000 (see "B" on Fig. IV-1). However, the Build ADT with the Intercounty Connector is projected at 53,700, or an 83% increase over the No-Build and TSM Alternates. (This dramatic increase is primarily due to the assumption of an Intercounty Connector.) Without the Intercounty Connector, the 2010 ADT for the Build Alternate is projected to be 36,000, or a 24% increase over the No-Build and TSM Alternates.

Alternate 1, the No-Build, envisions no improvements to the existing two-lane roadway. As a result, the increasing traffic volumes will continue to worsen the already unsatisfactory levels of service being experienced along this route. Traffic service during the peak hours along the entire length of Maryland Route 97 will "breakdown" (i.e., Level of Service 'F' conditions) in the mid to late 1990's. Traffic delays at the intersections along this route will be severe during most of the day. Traffic backups at the intersection with Emory Lane are predicted to consist of 15 to 17 vehicles along Maryland Route 97 during the peak-hour in the design year.

Alternate 2, the TSM, envisions intersection improvements to improve traffic flow. Although traffic service along the mainline will not be greatly improved, these intersection improvements will significantly reduce the length of traffic backups, permitting smoother traffic flow. In addition, the extension of the four-lane roadway with median from North High Street to King Williams Drive will improve traffic service in the growing Olney Town Center.

Alternate 3-4, the Build, envisions the extension of the six-lane roadway with median north from Maryland Route 28 to Emory Lane, and the continuation of a four-lane roadway with median to the Olney Town Center. While these improvements will result in a four-fold increase in roadway capacity, the near doubling in expected traffic volume (with the ICC) will produce a Level of Service D. Left-turn at all crossovers and intersections will also improve traffic service and capacity.

Safety statistics along this portion of Maryland Route 97 for the years 1976 through 1979 are summarized in Section II-D. Based on an analysis of this historical data, safety statistics for comparable highways, and the following safety features, the number of accidents which could occur in the design year of 2010 have been estimated. Safety features included in the alternates under consideration include:

2010 TRAFFIC DATA

SIDE STREET DATA

LOCATION	ALT.	ADT
1	1	28900
	2	28900
	3-4	51850
2	1	32000
	2	32000
	3-4	57550
3	1	11200
	2	11200
	3-4	20100
4	1	5850
	2	5850
	3-4	14700
5	1	900
	2	900
	3-4	1600
6	1	3000
	2	3000
	3-4	5100
7	1	3000
	2	3000
	3-4	5550
8	1	2250
	2	2250
	3-4	3750
9	1	24050
	2	24050
	3-4	21700
10	1	13350
	2	13350
	3-4	21900
11	1	20800
	2	20800
	3-4	18650

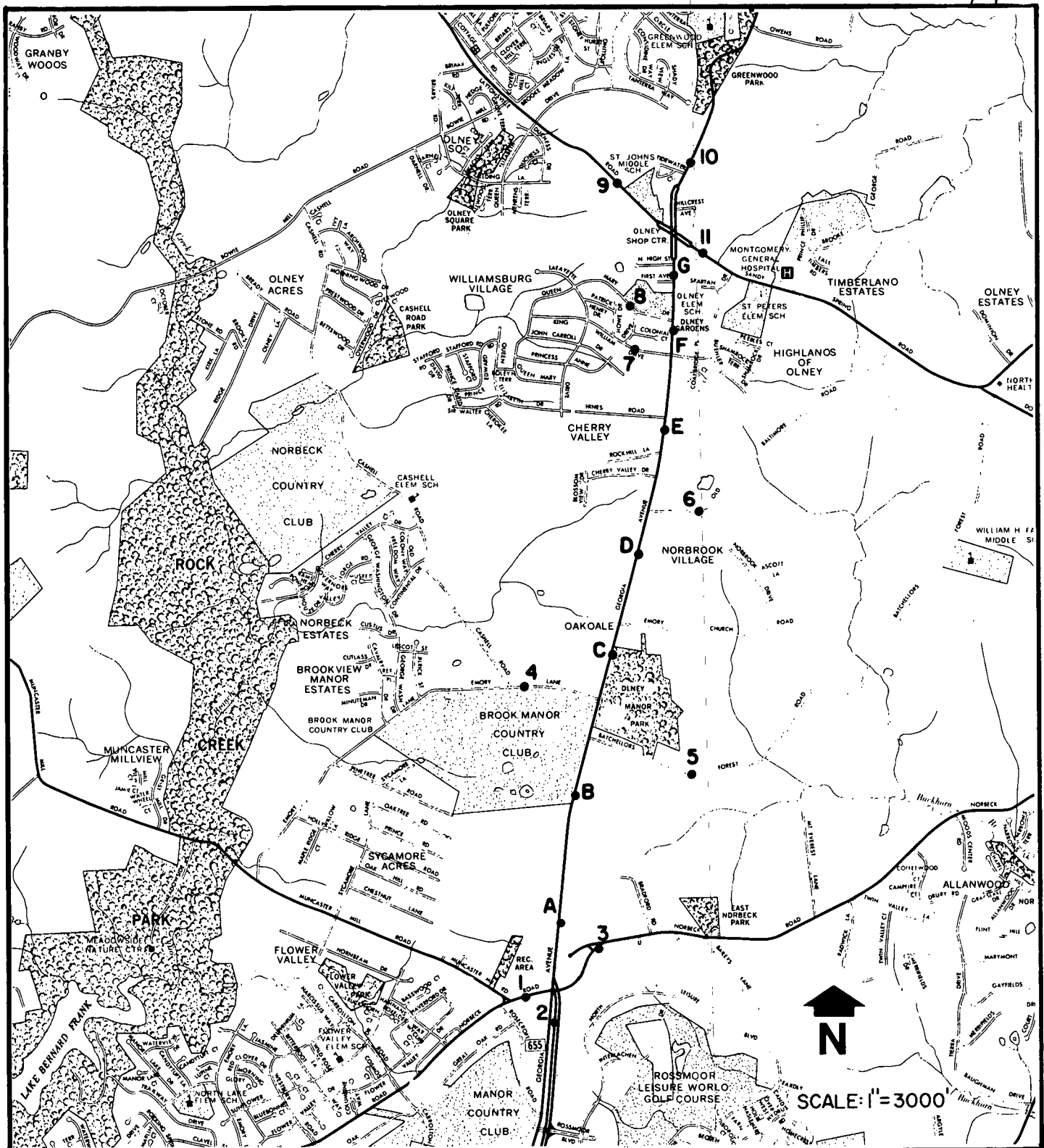
MAINLINE DATA ¹

LOCATION	ALT.	ADT.	NO. OF LANES	L/S
A	1	29200	2	F
	2	29200	2	F
	3-4	52500	6	D
B	1	29200	2	F
	2	29200	2	F
	3-4	53300	6	D
C	1	27550	2	F
	2	27550	2	F
	3-4	46400	6	D
D	1	27350	2	F
	2	27350	2	F
	3-4	46100	4	D
E	1	24850	2	F
	2	24850	2	F
	3-4	41900	4	D
F	1	25050	2	F
	2	25050	4	C
	3-4	41950	4	D
G	1	25500	4	C
	2	25500	4	C
	3-4	42700	4	D

1-ADT VOLUMES ASSUME NO BUILD INTERCOUNTY CONNECTOR (ICC) FOR ALTS. 1 & 2 AND BUILD ICC FOR ALT. 3-4. IF NO BUILD ICC IS ASSUMED FOR ALT. 3-4, MAINLINE ADT'S WOULD BE REDUCED APPROXIMATELY 24% TO 33%.

Legend

<u>ALT.</u>	Alternate	1 No-Build 2 TSM 3-4 Build	<u>NO. OF LANES</u>	Total Number Of Thru Traffic Lanes
<u>ADT.</u>	Average Daily Traffic, Two Way		<u>L/S</u>	Level Of Service "A"-Best "E"-Capacity "F"-Breakdown



Legend

- LOCATION SITES WHERE TRAFFIC DATA HAVE BEEN PROJECTED.

PROJECTED 2010 TRAFFIC DATA

FIGURE IV-1

- TSM Safety Improvements

- o bypass shoulders/turn lanes provided at intersections
- o clearing of adjacent roadside obstructions (primarily shrubs, etc.)

- Build Alternate Safety Improvements

- o improved vertical sight distances
- o left-turn and right-turn bays provided at intersections as required
- o separation of opposing traffic by a grassed median
- o increased roadway capacity, reduced congestion
- o left side shoulders

MARYLAND ROUTE 97 ACCIDENT NUMBERS & RATES

<u>Year & Alternate</u>	<u>Vehicle Miles of Travel (Millions)</u>	<u>Accident Rate (Acc/100 MVM)</u>	<u>Total Number of Accidents</u>
1976 thru 1979 - Existing Roadway	87.38 (4 yrs.)	395.97	346 (4 yrs.)
2010 - No-Build	30.77 (Est.)	415 (Est.)	120 to 130
2010 - TSM	30.77 (Est.)	375 (Est.)	110 to 120
2010 - Build (w/ICC)	53.24 (Est.)	155 (Est.)	80 to 90
2010 - Build (no ICC)	32.10 (Est.)	155 (Est.)	45 to 55

E. ENERGY USAGE

An analysis of the fuel consumed by an average vehicle traveling along Maryland Route 97 between Norbeck and Olney has been completed for the No-Build, TSM and Build Alternates. This analysis, conducted for a peak-hour in the design year of 2010, consists of fuel consumed during "free flow" plus fuel consumed during "stop-and-go" operations.

- o free-flow analysis: Using materials published by the Institute of Transportation Engineers¹, a fuel consumption rate for a 3,300 pound vehicle was calculated for each unique running speed along Maryland Route 97. The total gallons of fuel consumed during free-flow operation is the sum of each unique fuel consumption rate (in gallons per mile) times the segment length (in miles).
- o stop-and-go analysis: Using materials published by the American Association of State Highway and Transportation Officials,² the additional increment of fuel required to decrease from a free-flow travel speed to a stop condition, and return to that free-flow travel speed, is calculated. The total gallons of fuel consumed along this route is the additional fuel consumed for a speed change (gallons per speed change) times the number of speed changes.

The following table summarizes the result of this fuel analysis:

<u>Alternate</u>	<u>Fuel Consumed During the Peak-Hour in the Design Year of 2010</u>			<u>Fuel Usage Rate, Miles per Gallon</u>
	G_F	+	G_{SG}	
	<u>Free-Flow</u>		<u>Stop & Go</u>	
		=	G_T	
			<u>Total</u>	
No-Build	0.157g		0.21g	14.7 mpg
TSM	0.157g		0.18g	17.1 mpg
Build	0.093g		0.11g	28.0 mpg

F. AIR QUALITY IMPACTS

An air quality analysis has been completed for this project and the results are summarized in this section. The Technical Air Quality Report, dated April 8, 1981, is available for review at the Maryland Department of Transportation, State Highway Administration, 707 North Calvert Street, Baltimore, Maryland. The objective of this air quality analysis was to estimate the carbon

1 Energy Impacts of Urban Transportation Improvements, ITE Publication, 1980, page 16, Figure 10.

2 "A Manual on User Benefit Analysis of Highway & Bus Transit Improvements, 1977", AASHTO, Figure B-3.

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monoxide (CO) concentrations that will occur under the No-Build, TSM, and Build Alternates, and to compare these estimates with the State and National Ambient Air Quality Standards (S/NAAQS) for CO. The National (NAAQS) and State (S/NAAQS) Standards are identical for CO: 35 ppm for the maximum one-hour period, and nine ppm for the maximum consecutive eight-hour average. The results of the Air Quality Analysis indicate that project-related air quality impacts will not be significant.

A microscale CO pollutant diffusion simulation analysis, based on free-flow traffic conditions and an estimate of worst-case CO emissions at selected signalized intersections, was conducted. This analysis consisted of calculating one and eight-hour CO concentrations resulting from automobile emissions at six (6) receptor sites. All calculations were performed for 1990 (year of completion) and 2010 (year of design). CO emissions generated by vehicles idling at intersection traffic signals were also factored into the results where required. Detailed technical data, regarding assumptions and methodology, are presented in the Technical Air Quality Report.

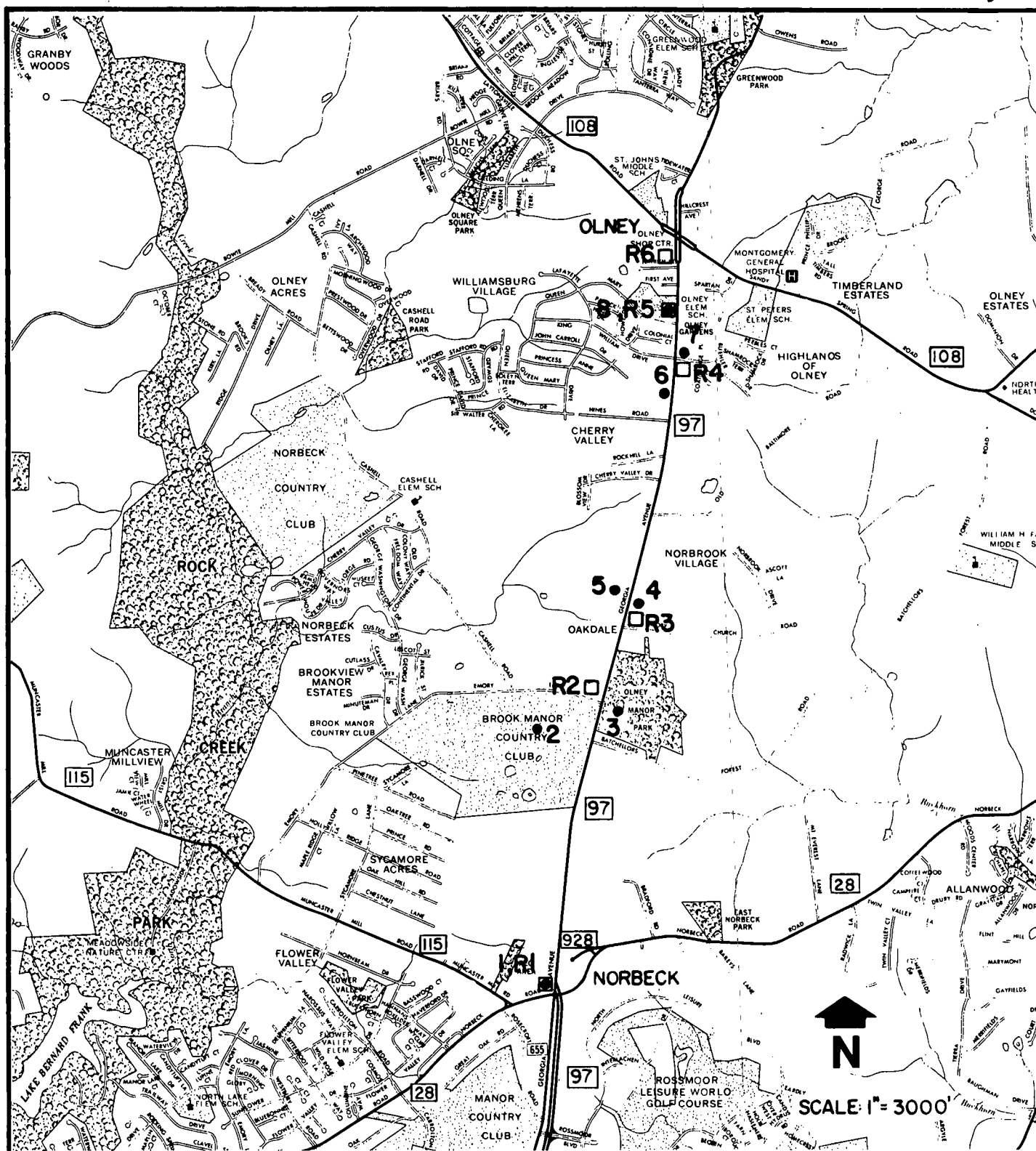
As a result of this analysis, no violations of the S/NAAQS are predicted to occur with any of the alternates in 1990 or 2010.

- CO Analysis -

Estimates of CO concentrations were made using the EPA-approved California Transportation Systems' Program CALINE 3, a Gaussian dispersion-statistics model. The emission rates used as input to this program were derived from the most recent EPA compilation of low altitude vehicular CO emission estimates, as stored in the program "MOBILE 1", May, 1978 version. Traffic volumes used were the same as those presented in Section IV-D of this document. (A "worst case" analysis for the Build Alternate was assumed; i.e., with the Intercounty Connector.) Inspection/Maintenance was assumed with 30 percent stringency level and mechanic training required.

Receptor sites were selected on the basis of usage and proximity to the roadway. Accordingly, six receptor sites were selected and verified during a study area field inspection. Distances given are from the edge of road pavement (including shoulder, if present), unless otherwise specified, and are approximate in all cases. All receptors are at-grade with Maryland Route 97 (see Fig. IV-2 for location of these sites).

Site 1 is White's Hardware, a single-story frame building 380 feet from Maryland Route 97 at the northwest corner of the intersection of Maryland Routes 97 and 28.



LEGEND

- Noise Sensitive Monitoring Site
- Air Quality Receptor Site

LOCATION OF AIR QUALITY RECEPTOR SITES AND NOISE SENSITIVE MONITORING SITES

FIGURE IV-2

Site 2 is a single-story brick residence at 16602 Georgia Avenue in the Oakdale Terrace subdivision. It is 110 feet west of Maryland Route 97 in the northwest corner of the intersection of Emory Lane and Maryland Route 97.

Site 3 is a two-story frame house at 16901 Georgia Avenue. It is 150 feet east of Maryland Route 97.

Site 4 is a two-story frame residence at 17613 Georgia Avenue in the Highlands of Olney subdivision. It is 160 feet east of Maryland Route 97 at the southeast corner of the intersection of Maryland Route 97 and King William Drive.

Site 5 is the Olney Elementary School, a one-story brick building 130 feet west of Maryland Route 97.

Site 6 is the DiSalvatore Realty Company at 18052 Georgia Avenue. It is 35 feet west of Maryland Route 97 on the southwest corner of the intersection of Maryland Route 97 and 108.

- Results of the Dispersion Simulations -

All six receptors were modeled at least in part using free-flow traffic data. The results of this analysis were added to the modeling results from the interrupted-flow traffic analysis where applicable (i.e., for the two receptors located near signalized intersections), with the interrupted-flow results first being factored by a delay factor. Interrupted-flow (queuing) analyses were conducted at two signalized intersections (Md. Route 97 and Emory Lane, and King Williams Drive) for both the No-Build and Build Alternates. Queuing was determined to be insignificant in the TSM alternate, with an average of one or two and, at most, three cars in a queue. Queuing analysis was conducted for the peak hour and the entire eight-hour analysis since significant queues existing throughout the off-peak hours. Wind angles were selected to maximize contributions from queues of idling vehicles.

The combined results were then added to the appropriate project background CO levels and are displayed in Table IV-1. Examination of this table reveals that no violations of either the one-hour or the eight-hour standard will occur in 1990 or 2010.

TABLE IV - 1MARYLAND ROUTE 97
Norbeck to OlneyCOMBINED FREEFLOW & INTERRUPTED-FLOW CO CONCENTRATIONS*

<u>Receptors</u>	- Total One-Hour CO, ppm ¹ -					
	<u>No-Build</u>		<u>TSM</u>		<u>Build</u>	
	<u>1990</u>	<u>2010</u>	<u>1990</u>	<u>2010</u>	<u>1990</u>	<u>2010</u>
R1 Whites Hardware	8.7	9.2	8.7	9.2	7.1	7.2
R2 Oakdale Terrace	7.9	8.0	7.3	7.7	7.5	8.0
R3 16901 Georgia Ave.	7.2	7.5	7.2	7.5	7.5	7.7
R4 Highlands of Olney	6.9	6.8	6.8	6.9	7.6	7.9
R5 Olney Elem. School	7.0	7.1	7.0	7.1	7.1	7.6
R6 Realty Co.	7.8	7.4	7.8	7.4	6.5	6.6

¹ One-Hour S/NAAQ Standard for CO = 35 ppm

<u>Receptors</u>	- Total Eight-Hour CO, ppm ² -					
	<u>No-Build</u>		<u>TSM</u>		<u>Build</u>	
	<u>1990</u>	<u>2010</u>	<u>1990</u>	<u>2010</u>	<u>1990</u>	<u>2010</u>
R1 Whites Hardware	2.9	2.6	2.9	2.6	1.6	1.7
R2 Oakdale Terrace	3.0	2.5	2.2	2.0	1.5	2.0
R3 16901 Georgia Ave.	1.7	1.8	1.7	1.8	1.8	1.9
R4 Highlands of Olney	1.7	1.6	1.5	1.5	1.8	2.2
R5 Olney Elem. School	1.7	1.6	1.7	1.6	1.6	1.7
R6 Realty Co.	2.2	2.0	2.2	2.0	1.4	1.5

² Eight-Hour S/NAAQ Standard for CO = 9 ppm

* Including Background CO Concentrations

- Conformity with the State Implementation Plan -

This project is located within the National Capital Intrastate Air Quality Control Region. Conformity with the State Implementation Plan has been evaluated considering (1) relationship to regional air quality goals; (2) microscale carbon monoxide levels; and (3) construction impacts.

The air quality conformity of this project on a regional level is assured in the following ways:

A. The National Memorandum of Understanding between the U. S. Department of Transportation and the U. S. Environmental Protection Agency dated June 14, 1978 formally integrates the transportation and air quality planning processes for transportation projects receiving Federal-Aid Highway Funds. This Agreement recognizes that the "reduction of air pollution is an important national goal, and must be among the highest priorities of the transportation planning process in areas not meeting primary Air Quality Standards." This process provides for extensive input from the public, local and State transportation and air quality agencies. In addition, the procedures call for the joint administration of the air quality aspects of the urban transportation planning process between U. S. Department of Transportation and the U. S. Environmental Protection Agency. This includes joint review of the following documents and activities to ensure that air quality considerations are adequately addressed:

- 1) The Transportation Plan for the urban area;
- 2) The Transportation Improvement Program which identifies projects for implementation;
- 3) The State Implementation Plan and Transportation Control Plan for addressing attainment with Air Quality Standards;
- 4) The review process which "certifies" that adequate transportation and air quality planning is being conducted in the urbanized areas.

Copies of the technical air quality analysis have been sent to the Environmental Protection Agency (EPA) and the Maryland Department of Health & Mental Hygiene (Bureau of Air Quality) for review. (See Section V for copies of this correspondence.)

- B. Through the urban transportation planning requirement of Title 23, United States Code, Section 134, as implemented by the COG forum, the same state and local agencies responsible for planning transportation projects in the urbanized area are also responsible from a transportation control plan perspective for assuring attainment of Air Quality Standards.
- C. This project is included in the regional transportation plan and Transportation Improvement Program for the urbanized area and is programmed for Federal-Aid Highway Funding. Thus, it is subjected to this Federal review and project development process. Therefore, the regional conformity of this project is addressed prior to undertaking the final project planning studies presented in this environmental document.

Since regional pollutants, such as hydrocarbons and oxides of nitrogen, precursors of photochemical oxidants (smog), are addressed through this regional planning process, only carbon monoxide emissions, a more localized pollutant, are addressed quantitatively in this environmental document.

- Microscale Carbon Monoxide Levels -

The project Air Quality Analysis assessed the microscale carbon monoxide impact of the facility. This analysis determined that no violations of the one and eight-hour Ambient Air Quality Standards for carbon monoxide will occur with any of the alternatives.

- Construction Impacts -

The construction phase of the proposed project has the potential of impacting the ambient air quality through such means as fugitive dust from grading operations, materials handling, and through the possible burning of land clearing debris. The State Highway Administration has addressed these possibilities by establishing their Specifications for Materials, Highways, Bridges and Incidental Structures which specifies procedures to be followed by contractors involved in State work.

The Maryland Bureau of Air Quality Control was consulted to determine the adequacy of the Specifications in terms of satisfying the requirements of the Regulations Governing the Control of Air Pollution in the State of Maryland. The Maryland Bureau of Air Quality Control found that the specifications conform with the requirements of these regulations. Therefore, during the construction period, all appropriate measures will be taken to minimize the impact on the air quality of the area.

Each of the aforementioned elements of project conformity with the State Implementation Plan have been evaluated as noted and, through this evaluation, the determination has been made that the build alternates are in conformity with the State Implementation Plan for Air Quality.

G. NOISE IMPACTS

1. Introduction

The following section summarizes the results of the detailed noise analysis conducted for the No-Build, TSM, and Build Alternates in the Maryland Route 97 Study Area.¹ A computer model (FHWA LEVEL 2 Traffic Noise Prediction Model) was used to predict noise conditions for these three alternates. These predictions were based on free field noise propagation, and provide a general description of the expected noise environment and the potential for noise control. The results of the Noise Analysis indicate that project-related noise impacts will not be significant.

The standards which stipulate specific noise levels applicable for this roadway are contained in the Federal Highway Administration's Federal-Aid Highway Program Manual (FHPM 7-7-3). The Maryland Route 97 Study is classified as a Type IB Project (access is uncontrolled). Because of the existing character of areas adjacent to the planned roadway, the applicable FHPM 7-7-3 land use category for developed land in the Study Area is "B", for which the maximum (L_{10}) exterior noise level is 70 dBA², or "C", for which the maximum (L_{10}) exterior level is 75 dBA. Undeveloped land within the Maryland Route 97 area is Category "D" and has no prescribed maximum noise level. These categories are described in Table IV-2. Exceptions to design noise levels are generally not required for highways without access controls.

2. Ambient Noise Levels

The ambient noise in any area is the background noise consisting of all natural and man-made sounds. The objectives of ambient noise measurements are to establish the present noise environment in the study area and to provide a base for assessing the impact of predicted noise level increases resulting from the roadway improvement under consideration. Variations of the ambient

1 Copies of the complete Technical Noise Report (February, 1981) are available at SHA offices, 707 North Calvert Street, Baltimore, Maryland.

2 L_{10} - the sound level that is exceeded only 10% of the time.

TABLE IV - 2

DESIGN NOISE LEVELS & LAND USE RELATIONSHIPS
SPECIFIED IN FEDERAL HIGHWAY PROGRAM MANUAL 7-7-3

<u>Land Use Category</u>	<u>Design Noise Level - L₁₀</u>	<u>Description of Land Use Category</u>
A	60 dBA (Interior)	Tracts of land in which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. No such sites occur within the Study Area.
B	70 dBA (Exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas, and parks.
C	75 dBA (Exterior)	Developed lands, properties or activities not included in categories A and B above.
D	None Prescribed	Land which is undeveloped on the date of public knowledge of the project and for which no known future development is planned.
E	55 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums in "situations where no exterior noise sensitive land use or activity is identified". No such sites occur within the Study Area.

noise levels with time, total traffic volumes, truck traffic volumes, speeds, etc., may cause fluctuation of several decibels in the noise levels. Measurements of ambient noise levels (A-weighted) were made at 8 representative sensitive receptor locations throughout the study area (see Figure IV-2). L_{10} noise measurements were taken during the off-peak hours at all eight sensitive receptor locations. At sensitive receptors 1, 5 and 8, measurements were also taken during the AM peak time period and at sensitive receptors 4 and 7 during the PM peak time period. Along this section of Maryland Route 97, truck volumes peak during both the AM and PM peak periods; therefore, L_{10} noise levels are slightly higher during the peak hours. For this noise analysis, the lower off-peak existing noise levels were used in the assessment of impacts, producing a "worst case" situation.

3. Predicted Noise Levels

Predicted noise levels were developed using the FHWA LEVEL 2 Traffic Noise Prediction Model. The FHWA Model uses experimentally and statistically determined reference sound levels and applies a series of adjustments to each reference level to arrive at the predicted sound level. The adjustments include, (1) number of vehicles, average speed and time period of consideration; (2) distance adjustment comparing a reference distance and actual distances between receiver and roadway, including roadway width and number of traffic lanes; and (3) adjustments for various types of physical barriers that would reduce noise transmission from source (roadway) to receiver.

Predicted 1990 and 2010 off-peak L_{10} noise levels (exterior) presented in this statement were determined at each of the 8 sensitive receptor locations for the No-Build, TSM and Build Alternates.

Noise level contours of $L_{10} = 70\text{dBA}$ have been developed for the No-Build, TSM and Build Alternates without noise barriers for the design year (2010), and are presented in the Technical Noise Report. These contours indicate that the L_{10} noise contour for the No-Build and TSM Alternates are identical. The L_{10} noise contour for the Build Alternate is similar to that of the No-Build and TSM Alternates at the northern and southern ends of the study area, because in these areas the Build Alternate would use the existing alignment. Between these two sections, Maryland Route 97 would be shifted slightly to the east for the Build Alternate; therefore, shifting the L_{10} noise contour. The width of the Build contour is wider than the No-Build and TSM contour due primarily to the increase in traffic volumes associated with the construction of the Build Alternate.

Noise prediction results for each alternate, as shown on Table IV-3, are generally described with respect to each land use as follows:

MARYLAND ROUTE 97 STUDY
NOISE IMPACT ASSESSMENT

① NOISE MONITORING SITES			1980 L ₁₀ dBA Measured Ambient Off Peak Noise Level	② FEDERAL DESIGN CRITERIA L ₁₀ dBA	1990									③			2010					
SITE NO.	DESCRIPTION	DIST. TO CENTERLINE OF EXISTING MD. 97			1990 L ₁₀ dBA PREDICTED			NOISE IMPACTS						2010 L ₁₀ dBA PREDICTED			NOISE IMPACTS					
								EXCEEDS FEDERAL DESIGN CRITERIA			⑤ NOISE IMPACT						EXCEEDS FEDERAL DESIGN CRITERIA			⑤ NOISE IMPACT		
					④ ALTERNATE			④ ALTERNATE			④ ALTERNATE			④ ALTERNATE			④ ALTERNATE			④ ALTERNATE		
					NO BUILD	TSM	BUILD	NO BUILD	TSM	BUILD	NO BUILD	TSM	BUILD	NO BUILD	TSM	BUILD	NO BUILD	TSM	BUILD	NO BUILD	TSM	BUILD
1	White's Hardware	175	65	75	66	66	68	NO	NO	NO	NEG	NEG	NEG	66	66	70	NO	NO	NO	NEG	NEG	NEG
2	Brook Manor Country Club	1150	51	70	59	59	60	NO	NO	NO	MIN	MIN	MIN	60	60	62	NO	NO	NO	MIN	MIN	SIG
3	Olney Manor Park	360	53	70	63	63	65	NO	NO	NO	MIN	MIN	SIG	63	63	67	NO	NO	NO	MIN	MIN	SIG
4	Residence Along East Side Of Md. 97 (Sleman House)	200	67	70	66	66	68	NO	NO	NO	BEN	BEN	NEG	66	66	70	NO	NO	NO	BEN	BEN	NEG
5	Church Of Christ	210	65	70	65	65	67	NO	NO	NO	NONE	NONE	NEG	66	66	69	NO	NO	NO	NEG	NEG	NEG
6	Residence North Of Hines Rd. On West Side Of Md. 97	110	67	70	68	68	69	NO	NO	NO	NEG	NEG	NEG	68	68	71	NO	NO	YES	NEG	NEG	NEG
7	Highlands Of Olney	150	55	70	63	63	66	NO	NO	NO	MIN	MIN	SIG	64	64	68	NO	NO	NO	MIN	MIN	SIG
8	Olney Elementary School	150	63	70	65	65	65	NO	NO	NO	NEG	NEG	NEG	66	66	67	NO	NO	NO	NEG	NEG	NEG

① FOR LOCATIONS OF SENSITIVE AREAS, SEE FIGURE
② SEE TABLE I-1 FOR DESCRIPTION
③ PREDICTED L₁₀ NOISE LEVELS REFLECT A STANDARD UNIFORM ATMOSPHERE, 10 L S "C" OR BETTER OPERATING CONDITIONS AND A CONSTANT TIME PERIOD
④ FOR DESCRIPTION OF ALTERNATES SEE TEXT
⑤ BEN - BENEFICIAL (LESS THAN PRESENT LEVEL)
NEG - NEGLIGIBLE (INCREASE OF 0-5 dBA)
MIN - MINOR (INCREASE OF 6-10 dBA)
SIG - SIGNIFICANT (INCREASE OF 11-15 dBA)
SEV - SEVERE (INCREASE OF MORE THAN 16 dBA)

MD. ROUTE 97 STUDY
FROM MD. ROUTE 28
TO
SOUTH OF MD. ROUTE 108
STATE PROJECT NO. M-376-151-371

NOISE
IMPACT
ASSESSMENT

TABLE IV-3

- Residential Development -

Noise levels at residences within 80 feet of existing Maryland Route 97 presently exceed design noise level of $L_{10} = 70$ dBA. Noise levels at these same locations for the years 1990 and 2010 are also expected to exceed Federal Design Noise Levels. (If either the No-Build or TSM alternate is selected, approximately 12 residences would be affected; 18 residences would be affected if the Build alternate is chosen.)

- Commercial Development -

Noise levels at the commercial establishments in the project study area do not exceed design noise level of 75 dBA today or for either 1990 or 2010.

- Churches -

At the Church of Christ (Site 5) L_{10} noise levels will not exceed 70 dBA.

- Schools -

The Olney Elementary School (Site 8), located along Queen Mary Drive, is predicted to experience noise levels below $L_{10} = 70$ dBA under any of the three alternates in either 1990 or 2010.

- Historic Sites -

Noise levels at the Sleman House Historic Site and the White's Hardware Historic Site are not expected to exceed the relevant FHPM 7-7-3 design noise level of 70 dBA criteria under any of the three alternates in either 1990 or 2010.

- Future Development -

As shown on the Adopted Olney Master Plan, 1980, future residential development within the study area consists of continued planned growth in the form of low to medium density and rural residential housing. Those residences that are located beyond 80 feet with the No-Build and TSM Alternate and 150 feet with the Build Alternate from the centerline of Maryland Route 97 are not expected to experience noise levels in excess of the 70 dBA standards.

4. Noise Impact Assessment

As Table IV-3 indicates, none of the 8 sensitive receptor locations currently experience off-peak noise levels in excess of standards for Type "B" locations, or for Type "C" locations. Of the 8 sensitive receptor locations studied, none will exceed the design noise levels in 1990 under any of the three alternates and only sensitive receptor 6, under the Build Alternate, will experience noise levels above design noise level in 2010.

Table IV-3 also indicates that all sensitive receptor locations, except Site 5, are expected to experience an increase from existing ambient noise levels, regardless of the alternate. The largest increase occurs at Site 3 (Olney Manor Park), where the present ambient level of 53 dBA is increased by 10 to 12 dBA in 1990 and 10 to 14 dBA in 2010.

5. Noise Abatement Measures

Wall type noise barriers were investigated and found to be impractical for this project because of the limited number of impacted sensitive receptors and the ineffectiveness of non-continuous barriers. The three sensitive receptor locations projected to experience a significant noise impact (Sites 2, 3 and 7) under the Build Alternate encompass approximately 18 single-family homes on individual lots, a country club and a recreation facility. Their need for driveway access necessitates a segmented noise barrier.¹ Gaps in the noise barrier would significantly reduce its effectiveness, and would not achieve the desired reduction in noise levels, therefore limiting the cost-effectiveness of a barrier.

Except in the areas adjacent to the Brooke Manor Country Club and the Olney Manor Park, earth berms or landscape screening were found to be impractical because they too would have to be segmented to provide residents access to their homes and gaps would reduce the effectiveness of these types of barriers. Earth berms or landscape screening would also require significant amounts of right-of-way which is not available at these locations. In the vicinity of the Country Club and Park, earth berms and landscaped screening may be practical.

The following noise abatement measures, as outlined in FHPM 7-7-3, were considered for the Build Alternates and determined to be infeasible:

1 Barriers that are broken up at driveway entrances in order to provide access.

- a. Traffic Management Measures (e.g., prohibition of certain vehicle types (heavy trucks), time use restrictions for certain vehicle types, modified speed limits, and exclusive lane designations)

The prohibition or time use restriction of trucks (primarily heavy diesel trucks) on Maryland Route 97 in the project study area is not a feasible noise abatement measure, because Maryland Route 97 is the only north-south route serving Norbeck, Olney, and Brookville. Prohibition of trucks would significantly increase the cost and travel time of truck movement throughout the surrounding area.

Modified speed limits (typically reduced) and exclusive lane designations (trucks/buses only) are not feasible noise abatement measures due to the present and proposed geometric features and traffic characteristics of this portion of Maryland Route 97. Exclusive lane designations could be implemented with the Build Alternate, however, no significant benefits would be experienced.

- b. Alteration of Horizontal & Vertical Alignments:

The horizontal and vertical alignment of the TSM Alternate is identical to the existing facility. Any major construction to the horizontal and vertical alignment such as the addition of travel lanes or construction in new location would not be implemented under the TSM Alternate.

The Build Alternate, as discussed in Section I-A, consists primarily of construction of a new divided highway in new location, adjacent to existing Maryland Route 97. Consideration to traffic flow, air quality and noise has been included as a consideration in the design of this alternate.

- c. Acquisition of Property Rights For Installation or Construction of Noise Abatement Barriers or Devices:

The acquisition of property rights for the installation or construction of noise barriers or other attenuation devices is not a feasible solution for noise abatement in the project study area. As previously mentioned, wall-type noise barriers and earth berms are not applicable solutions for reducing noise impacts in the project study area. Therefore, this acquisition for noise abatement measures is not necessary.

d. Acquisition of Real Property or Interests
(predominantly unimproved property) to serve
as Buffer Zones:

The acquisition of unimproved property to serve as a buffer zone to pre-empt development which would be adversely impacted by traffic noise is a possible solution for noise abatement along Maryland Route 97 south of Queen Mary Drive. Sufficient land in undeveloped areas is available and its use as buffer zones should be preserved.

e. Exceptions to Design Noise Levels

Noise attenuation measures have been investigated for the TSM and the Build Alternate. It was concluded that the measures suggested (e.g., wall-type barriers, earth berms, etc.) would not be cost-effective at the locations which are predicted to experience levels exceeding the Federal design noise levels for residential and commercial areas in both 1990 and 2010. Since this project is classified as a Type IB project, it is not necessary to request exceptions at those areas which do not exceed the $L_{10} = 70$ dBA level, but do have significant or severe noise impacts.¹⁰

Of the eight sensitive receptors evaluated, none are expected to experience noise levels in excess of the $L_{10} = 70$ dBA level with the TSM Alternate in either 1990 or 2010 or the Build Alternate in 1990.¹ Only one sensitive receptor location (Site 6) is expected to exceed the 70 dBA level with the Build Alternate in 2010.

- Sensitive Receptor 6 & Vicinity -

Noise attenuation measures and barriers have been considered for this location, but were found to be infeasible because the barrier would have to be segmented. The reduction of noise due to the segmented noise barrier would be minimal. Noise attenuation measures were found to be impractical.

f. Construction Noise

During construction phases of this project, noise generated by construction equipment will impact the noise sensitive areas previously discussed. While there will be unavoidable periods of annoyance for the duration of construction of this project, these impacts will not be significant.

¹ No TYPE "C" locations experienced noise levels in excess of the Federal design noise level of $L_{10} = 75$ dBA in either 1990 or 2010.

H. IMPACTS TO WATER RESOURCES

As discussed in Section I-C4b, the project area does not contain water resources of any significance. Implementation of either build alternate would not reduce the quantity or quality of groundwater. Construction of improvements proposed by Alternate 3-4 would result in increased volume of vehicle generated roadway pollutants (coolants, rubber, heavy metals, etc.) and de-icing agents in stormwater runoff. These substances, however, would be so diluted and reduced by natural factors (i.e., absorption by plants, filtering by wetlands and other vegetation packed areas, etc.) before they reach areas where they could be a problem, that their impact would not be significant.

I. STREAM MODIFICATION IMPACTS

No stream modification would be required to implement either build alternate. As noted in Section I-C4b, the project area does not contain permanent streams. Local drainage in this area is carried by a series of shallow ditches, as shown on Figures III-4 and III-5.

J. IMPACTS TO WETLANDS

Wetlands would not be adversely impacted by either alternate considered for this project. Two wetland areas occur in the project area, but both are located beyond the limits of proposed construction (see Figs. III-4 and III-5). Special care will be taken during construction to ensure that adverse impacts do not result from sedimentation or other construction activities.

K. FLOODPLAIN IMPACTS

Implementation of either the TSM Alternate or Alternate 3-4 would have no significant affect on the 100-year floodplain. Construction associated with either alternate would not encounter a floodplain area (see Section V, letter dated November 14, 1980 for documentation). It is also not anticipated that increased runoff from the expanded area of impervious roadway surface would affect any adjacent floodplain.

L. IMPACTS TO TERRESTRIAL & AQUATIC ECOLOGY

As was noted previously in Section I-C4c, the original terrestrial ecology of the project area has been much altered as a result of agricultural and residential development. Existing natural areas generally consist of immature woodland or old-field habitat. The acreage of natural land required for implementation of the alternates under consideration is compared in the Cost Effectiveness Table S-1.

Because of its greater amount of proposed new roadway construction, the greatest impact would result from Alternate 3-4. However, it is not anticipated that the loss of this acreage would adversely affect the existing terrestrial ecology of this area.

Because of its location along the top of a ridge line, the project area contains no permanent water bodies. Consequently, construction activities proposed with any alternate under consideration, including the realignment of shallow drainage ditches, would not adversely affect aquatic ecology in this area. As was noted previously in part H of this section, because Alternate 3-4 would result in greater volumes of traffic and a significantly increased roadway area, it would generate greater loads of vehicle deposited pollutants and de-icing agents in stormwater runoff. However, since this runoff would travel some distance overland or through vegetated swales before reaching bodies of water supporting aquatic communities, it is not anticipated that significant reduction in the quality of receiving waters would occur. It is known that running pollutant laden runoff through vegetation and over unpaved surfaces does "filter" out pollutants and minimize water pollution.

M. IMPACTS TO ENDANGERED SPECIES

Neither build alternative would affect any known endangered species. Both the Maryland Department of Natural Resources and the U. S. Fish and Wildlife Service have determined that no known population of any endangered species occupies this project area. These determinations are documented in Section V (see letters dated March 27, 1980 and November 21, 1980).

N. IMPACTS TO PRIME OR UNIQUE FARMLAND

Implementation of either build alternative would require the use of land whose soils have been identified by the Soil Conservation Service as "prime farmland". The approximate acreage required by the alternates under consideration is compared in the following table:

<u>Alternate</u>	<u>Acres Taken</u>	
	<u>"Prime Farmland"</u>	<u>"Unique Farmland"</u>
1 (No-Build)	0	0
2 (TSM)	2	0
3-4 (Build)	23	0

As this tabulation shows, the greatest acreage requirement would result from implementation of Alternate 3-4, since it would involve a much greater amount of new roadway construction. However, none of this land is currently being used for agricultural production, and none is proposed for agricultural use under the Adopted Olney Master Plan (see Section I-C6). Consequently, it is not anticipated that selection of either build alternate would adversely impact the agricultural productivity of this area.

O. IMPACTS TO HISTORICAL & ARCHEOLOGICAL SITES

1. Historical Sites

The State Historic Preservation Officer has identified nine buildings in the project area as having historic significance (see Section V, letter dated March 14, 1980). These sites are listed below and identified on the roadway plans in Section I (Figs. I-2 & I-3). Those designated in the following list with an asterisk (*) have been determined by the SHPO to be "Possibly National Register Eligible" (Section V, letter dated May 19, 1981). Boundaries for these sites have been established by the SHPO and are also shown on Figures I-2 and I-3. All other sites listed are Maryland Inventory status.

<u>Site Designation</u>	<u>Site Name</u>
M 23-98	Olney Historic District
* M 23-102	Olney Manor Farm
* M 23-104	Robert Mackall House
* M 23-105	Higgins Tavern/Hotel
* M 23-106	Emory M. E. Church
M 23-107	George W. Hyatt House
M 23-113	Norbeck Historic District
M 23-114	Charles Anderson House
A	Bungalow, 16091 Georgia Avenue

The State Historic Preservation Officer has reviewed plans of Alternates 2 and 3-4 and given a preliminary determination

that historic impacts associated with Alternate 3-4 would be limited to the Robert Mackall House (Section V, letter dated May 19, 1981). No historic site would be impacted by implementation of Alternate 2. Potential impacts to the Robert Mackall House are discussed in Section IV-P of this document.

2. Archeological Sites

The Division of Archeology of the Maryland Geological Survey has completed an archeological reconnaissance of the project area. No prehistoric sites or artifacts were found, but two "historic archeological sites were located near the project corridor". The Maryland Historic Trust has reviewed this report and determined that one site is not eligible for the National Register (see their letter dated December 18, 1980 in Section V of this Assessment). A final determination of the National Register Eligibility of these sites cannot be made until Phase II investigations are conducted. To deter excavation by bottle collectors or other unauthorized persons, the location of these two sites is not shown. Qualified reviewers interested in their location or other information should consult the complete reconnaissance report. These sites are briefly described below:

Oak Grove (18 MO 171) This site appears on maps dating from 1879, but is not present on an 1865 map of this area. At present, no standing structures exist, but a series of foundations were found during the archeological reconnaissance. A set of concrete pylons with the inscription "Oak Grove" still mark the location of the original driveway entrance to Georgia Avenue.

Brook Manor Park Site (18 MO 172) This site does not appear on area maps until 1923. Aerial photographs taken in 1938 show a house and four associated out-buildings to have been present, but these have since been leveled and only foundations remain. The MHT has determined that this site is not eligible for the National Register.

Neither of these sites would be adversely impacted by either Alternate 2 or 3-4. If one of these alternates should be selected, these sites will be delineated and protected during construction. If Alternate 3-4 is selected for implementation, the existing concrete pylons (with the inscription "Oak Grove") would be moved back beyond the proposed right-of-way. Since no impact would result to the foundations, setting back the pylons is not considered by the Division of Archeology to adversely impact this site.

P. DISCUSSION OF SECTION 4(f) INVOLVEMENT

1. Introduction

If Alternate 3-4 is selected for implementation, the Robert Mackall House would be adversely impacted. Since this house is a historic site of local significance, and has been determined by the State Historic Preservation Officer to be potentially eligible for the National Register of Historic Places, Section 4(f) of the Department of Transportation Act would apply to impact to this site.

2. Description of Alternatives Under Consideration

The three alternates under consideration as part of this study are described in Section III-C of this document.

3. Description of Robert Mackall House

The Robert Mackall House is a 2½-story frame house located on the east side of Maryland Route 97, 700' south of Old Baltimore Road (see Figure III-5). The Mackall House is a mid-nineteenth century log and frame house in which Robert Mackall, a member of Mosby's Confederate Raiders during the Civil War, lived for thirty years until roughly 1900.

The four-bay-by-four-bay house was built on field-stone foundations in sections. The original log house faced northeast and was one-and-a-half stories high. The frame house faces northwest and is 2½ stories high in a L shape. The exterior is white clapboards.

The northwest (front) porch wraps around to both the northeast and southwest elevations. This house has a shed roof with red raised seam metal covering supported by seven wooden columns. There are two doors which face northwest, both wood paneled. The northwest section door is surmounted by a two-light transom. On the southeast elevation, there is an enclosed gable porch which is attached to a two-story lean-to shed.

There are 6/6 double-hung windows in this house, flanked by green wooden louvered shutters. The southeast lean-to has 2/2 double-hung windows. There are one-story bay windows on the northeast and southwest elevations.

The house has intersecting gable and shed roofs with red raised seam metal covering. The northwest section has a boxed and returned cornice line. There is an exterior chimney at the northeast end of the southwest section, and an interior chimney above the log section.

4. Description of Affected Property

As Figure IV-3 shows, the affected property includes the existing gravel entrance drive and grassed lawn, with scattered trees between the house and the edge of the existing roadway. Several of these trees are mature, including a maple that is 40 inches in diameter. The property required by Alternate 3-4 will not significantly affect the historic value of this site.

5. Alternatives to the Use of Historic Property

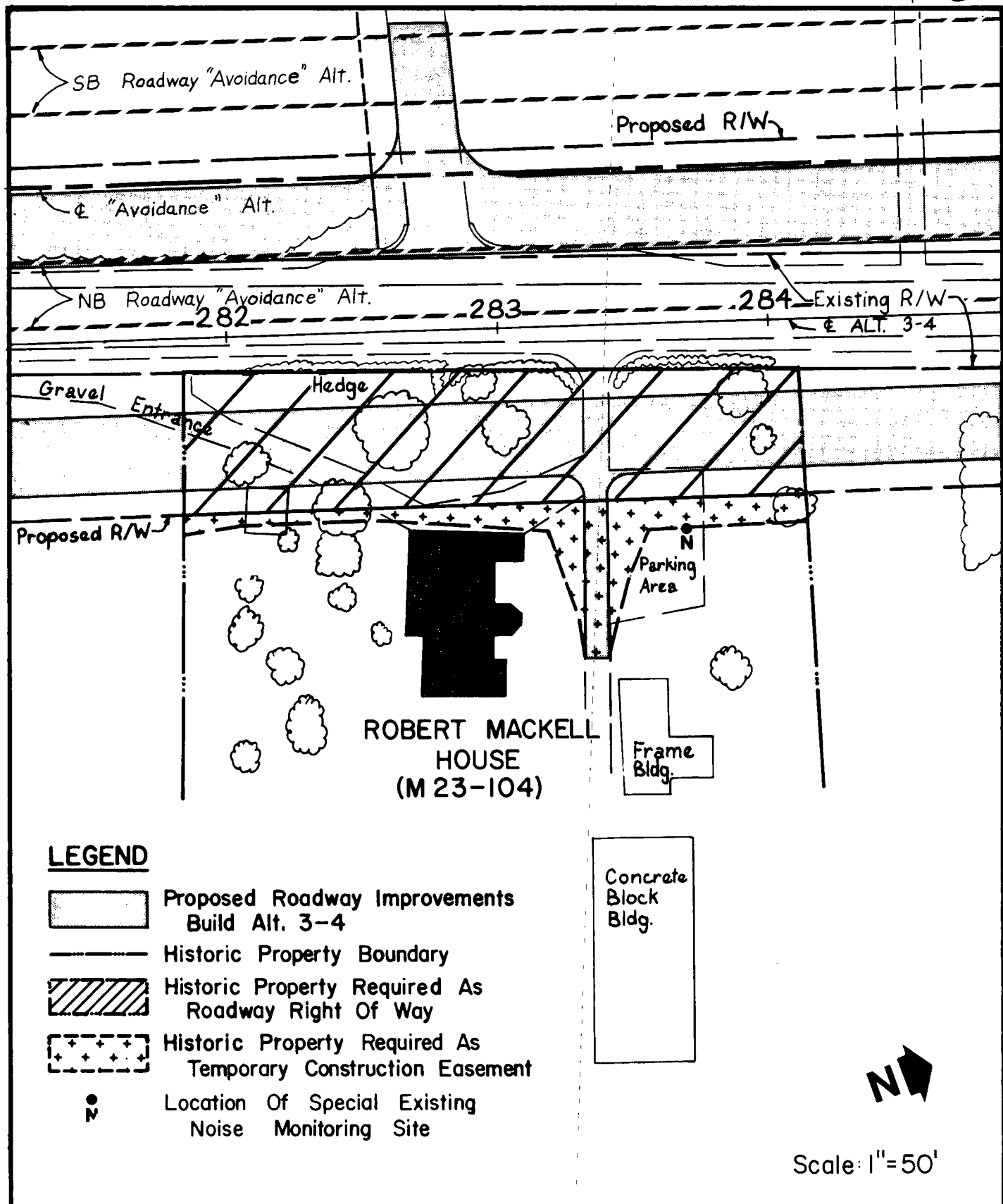
As discussed in Section III-C, two alternates that would not require land from this site are under consideration; Alternate 1, the No-Build, and Alternate 2, the TSM Alternative.

While not specifically presented in this Assessment, an "Avoidance" Alternate is possible which would avoid all property impacts to the Robert Mackall House and maintain the overall integrity of Alternate 3-4. With reference to Figure III-5, the centerline for the "Avoidance" Alternate would be identical to Alternate 3-4 south of Emory Church Road (Station 270) and north of Cherry Valley Road (Station 310). Between these two stations, the entire roadway alignment would be shifted west, approximately 60 feet at the maximum point.¹

While this "Avoidance" Alternate avoids all adverse property impacts to the Robert Mackall House, it has the following adverse impacts:

- o requires historic property from the Higgs Tavern/Hotel site (M23-105);
- o requires property and adversely affects the operation of a C&P Telephone Company substation;
- o requires additional property from the Church of Christ;

¹ Beginning at Station 270+35 (P.C. of the 0°15' curve to the east), the centerline for the "Avoidance" Alternate continues on the back tangent across existing Maryland Route 97 and turns north staying on the west side of Maryland Route 97. One 0°15' curve is required at this turn. In front of the Robert Mackall House, the centerline for the "Avoidance" Alternate is parallel to Alternate 3-4, shifted west 60'. North of the House, smooth reverse curves are required to return to the original alignment near Station 310.



MARYLAND ROUTE 97
NORBECK TO OLNEY

Montgomery County, Maryland

SHA NO. 376-151-371

LOCATION OF
SECTION 4(f) INVOLVEMENT
ROBERT MACKALL HOUSE

FIGURE IV-3

- o requires the displacement of three occupied residences in Cherrywood (directly across Md. Route 97 from the Mackall House);
- o requires additional residential property along Cherry Valley Road and commercial property at Hines Hatchery.

6. Description of Impacts

a. Property Required

Implementation of Alternate 3-4 would require the acquisition of 0.25 acre of historic property, as defined by the State Historic Preservation Officer (see Section V, letter dated May 19, 1981). In addition, 0.07 acre would be needed as temporary construction easement. This property comprises most of the front lawn between the Mackall House and existing Route 97, as shown on Figure IV-3.

b. Visual Impact

Implementation of Alternate 3-4 would substantially change the existing view from the house. At present, the front porch is separated from the edge of existing Maryland Route 97 by about 70 feet of grassed lawn with scattered trees, some of them large and providing substantial shade and visual interest. With Alternate 3-4 in place, all existing trees between the house and the road would be removed, and the remaining space between the porch and sidewalk would be only 7.5 to 10 feet wide.

c. Access to Site

As Figure IV-3 shows, construction of alternate 3-4 would require that the existing gravel drive to the house be removed. The existing drive and parking area along the north side of the house would continue to provide a satisfactory point of access.

d. Affect on Existing Facilities

Construction of Alternate 3-4 would require removal of the gravel entrance drive leading to the front of the house. As was noted previously, however, another drive along the north side of the house would continue to provide access.

e. Impact on Noise Environment

A detailed noise analysis has been conducted for this project (see Section IV-G of this document).

In addition to the 8 sensitive receptors monitored for existing noise levels along Maryland Route 97, a special investigation of the ambient noise level at the Robert Mackall House was conducted on July 15, 1981. The ambient off-peak (9:20 AM) L_{10} noise level at this site was 65 dBA. This compares with the L_{10} = 67 dBA noise level monitored at Site 4.

Because of projected increases in traffic volumes, future noise levels at the Robert Mackall House will exceed the Federal Design Criteria of L_{10} = 70 dBA for only Alternate 3-4 (L_{10} = 73 dBA). This is due to the fact that the travel lanes of improved Maryland Route 97 are within 20 feet of the front of the house. Except for landscaping, noise attenuation measures such as walls, etc. are not practical.

f. Impact on Air Quality

A Technical Air Quality Report has been completed for this project. This report is discussed in greater detail in Section IV-F, and interested reviewers are referred to that section for additional information. Analysis indicates that through the year 2010, no violation of State/National Ambient Air Quality Standards will occur at the Robert Mackall House with any alternative under consideration.

g. Affect on Zoning

Implementation of Alternate 3-4 should not alter the residential zoning of this property.

7. Mitigation Strategies

Although the previously described "Avoidance" Alternate avoids property impacts to the Robert Mackall House, the associated adverse impacts are so severe that they probably exclude its adoption. Therefore, the following mitigation strategies will be considered, should Alternate 3-4 be selected:

- o the 54' median width could be reduced to 44', thus permitting a shift in the northbound roadway 10' to the west;
- o the resulting buffer area could be landscaped to reduce the visual impact;

- o the grade of Alternate 3-4 could be "fine" tuned to minimize earthwork and therefore impacts.

Q. CONSTRUCTION IMPACTS

Construction of Alternate 2 would be undertaken intersection by intersection, as traffic and safety needs warrant. Because the extent of highway construction would be generally limited to one intersection at a time, construction impacts would not be significant. Disruptions to vehicular traffic and pedestrians would, therefore, not be considered significant.

Construction of Alternate 3-4 would be a major highway construction project lasting several years. Construction activities include clearing the construction site, utility relocations, earthwork excavation and fill, grading, roadway and shoulder paving, seeding and final site preparation. Because all construction between Maryland Route 28 and Emory Church Road would occur immediately east of the existing two-lane Maryland Route 97, these activities would be able to proceed with little inconvenience to vehicular traffic and pedestrians. North of Emory Church Road, the new divided highway is centered about, or located slightly east of, the existing two-lane road. Therefore, construction in this area would require temporary widening or shifting of the existing roadway to the west, and construction of the northbound roadway only. Upon completion of the northbound roadway, traffic would be shifted from the old road to two-way operation on the new future northbound roadway. The old road would be removed, and the new southbound roadway constructed. As a result, minor vehicular traffic and pedestrian inconveniences will be experienced. Traffic flow through the study area would be continually maintained during the entire construction period.

Construction necessitated by this project would comply with all federal, state and local noise control regulations, as well as the provision of the Occupational Safety and Health Act of 1970. Some localities within the study area, however, could experience temporary increased noise levels.

R. LAND USE & SECONDARY IMPACTS

As discussed in Section I-C6, the Olney Master Plan (adopted June 3, 1980) affirms the land use pattern proposed for Olney: a small urbanized area surrounded by open space. As Figure I-6 illustrates, the proposed land use concentrates commercial and residential development around the existing town center at Maryland Route 108.

The Transportation Plan of the Olney Master Plan identifies Maryland Route 97 as a regional access route. This plan recommends that Maryland Route 97 be constructed initially with four lanes, with provisions for additional lanes. The Olney Master Plan contains a detailed discussion of the proposed improvements, including right-of-way requirements, and establishes reservations and dedications.

Because major highway improvements to Maryland Route 97 constitute an integral element of the public facilities and land use plan for Olney, Alternate 3-4 would have no adverse land use or secondary impacts. The TSM Alternate 2, while marginally increasing safety and capacity along this route, will probably adversely affect both the distribution and intensity of land use in Olney. The No-Build Alternate, however, would seriously and adversely affect the ability of Olney to accommodate planned development. The No-Build Alternate for Maryland Route 97 will result in more development sprawl and increased demand for public utilities in unplanned areas. Should the No-Build Alternate be selected, Montgomery County's land-use plans would have to be "downgraded" in the Olney area.

V COMMENTS AND COORDINATION

V. COMMENTS & COORDINATION:

Introduction

The following lists reference pertinent coordination by the State Highway Administration with Federal, State and Local agencies during the development of the Maryland Route 97 Study.

As an aid to the reviewer, this project coordination has been listed by the following categories:

- A. Public Meetings
- B. Environmental
- C. Archeological & Historic
- D. General

Pertinent letters resulting from this coordination are reproduced in the following section in chronological order. These letters are identified by an asterisk (*) in the list below. All remaining letters and memoranda are available for inspection at the State Highway Administration, Bureau of Project Planning, 707 North Calvert Street, Baltimore, Maryland.

A. PUBLIC MEETINGS (Refer to Section III)

October 9, 1978	Project Planning Public Meeting Olney Elementary School
September 25, 1980	Alternates Public Meeting Olney Elementary School

B. ENVIRONMENTAL COORDINATION

January 29, 1980	Letter from Montgomery County concerning the location of ambient monitoring sites for the evaluation of noise impacts.
March 27, 1980 *	Letter from Maryland Department of Natural Resources, Wildlife Administration stating "There are no known populations of threatened or endangered species within the project area".

B. ENVIRONMENTAL COORDINATION (Cont'd.)

April 7, 1980	Contact with USDA, Soil Conservation Service, requesting information about prime farmland in Montgomery County.
April 8, 1980	Telephone call from Maryland Forest Service providing information on large old oak tree in this area.
April 15, 1980	Letter from MDNR Wildlife Administration concerning possible stream impacts.
November 14, 1980 *	Letter from M-NCP&PC stating "we are satisfied that no floodplain areas will be encountered by your (SHA) alignment proposals".
November 21, 1980 *	Letter from US DOI, Fish & Wildlife Service stating "no federally listed or proposed species under our jurisdiction are known to exist in the project impact area".

C. ARCHEOLOGICAL & HISTORIC COORDINATION

March 14, 1980 *	Letter from Maryland Historical Trust identifying historic sites in the study area and providing preliminary determination of significance.
September 2, 1980	Archeological reconnaissance report completed for dualization of Maryland Route 97 (two sites identified).
December 18, 1980 *	Letter from Maryland Historical Trust providing comments in the archeological reconnaissance report and noting that adverse impacts are not anticipated.
May 19, 1981 *	Letter from Maryland Historical Trust re-evaluating the levels of significance for the five identified NRE sites and identifying the historic property boundaries.

D. GENERAL

January 14, 1980 Memorandum from SHA Bureau of Soils and Foundations providing geomorphological data for project area.

January 23, 1980 Project Scoping Meeting with representatives from Maryland Department of Transportation, State Highway Administration and Maryland-National Capital Park & Planning Commission.

March 20, 1980 Md. SHA, Bureau of Records Statistics Section, approves route change for Maryland Route 609. The Maryland Route 28 designation will replace the 609 designation from Maryland Route 97 east to Maryland Route 182.

April 15, 1980 Coordination meeting with representatives of M-NCP&PC to review preliminary project alternates.

May 22, 1980 Federal Highway Administration approval for preparation of an Environmental Assessment.

June 3, 1980 Montgomery County Council's "Approval of Final Draft Olney Master Plan".

October 28, 1980 Memorandum from Md DOT documenting coordination with representatives of M-NCP&PC regarding joint commuter/park usage of Olney Manor Recreational Park.

December 16, 1980 Telephone call to Montgomery County Public Schools concerning busing of students in project areas.

January 9, 1981 Project Status Report distributed to Maryland Route 97 Project Mailing List.

January 16, 1981 Memorandum from Md. SHA Traffic Engineer supporting conclusion of traffic signals warranted at Emory Lane and King William Drive intersections with Maryland Route 97 for all alternates.

May 5, 1981 Telephone call to Montgomery County Department of Transportation to discuss bus options for TSM Alternate.

D. GENERAL (Cont'd)

June 11, 1981

Letter from Maryland Department of Health and Mental Hygiene, providing comments on Draft Air Quality Analysis. "It is not inconsistent with the Administration's plans and objectives".

Maryland Historical Trust

March 14, 1980

Mr. Eugene T. Camponeschi
 Bureau of Project Planning
 State Highway Administration
 Maryland Department of Transportation
 300 West Preston Street
 P.O. Box 717
 Baltimore, Maryland 21203

RE: Md. Route 97 (Georgia Ave.)
 From Md. 28/609 to Md. 108
 Contract No. M 376-101-371 (N)

Dear Mr. Camponeschi:

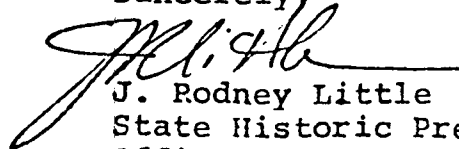
The following list enumerates historic sites in the vicinity of the subject project, and includes my preliminary determinations of the levels of their significance.

M 23-98	Olney Historic District	Local Significance
M 23-102	Olney Manor Farm	Probable Natl. Register Eligible
M 23-104	Robert Mackall House	Probable Natl. Register Eligible
M 23-105	Higgins Tavern/Hotel	Probable Natl. Register Eligible
M 23-106	Emory M.E. Church	Probable Natl. Register Eligible
M 23-107	George W. Hyatt Houses	Local Significance
M 23-113	Norbeck Historic District	Local Significance
M 23-114	Charles Anderson House	Local Significance
A	Bungalow, 16901 Georgia Ave.	Probable Natl. Register Eligible

The locations of these sites, and the limits of the area surveyed, are indicated on the enclosed map. Historic boundaries will be delineated when large-scale project mapping is prepared by SHA.

Please contact this office if additional information is required.

Sincerely,

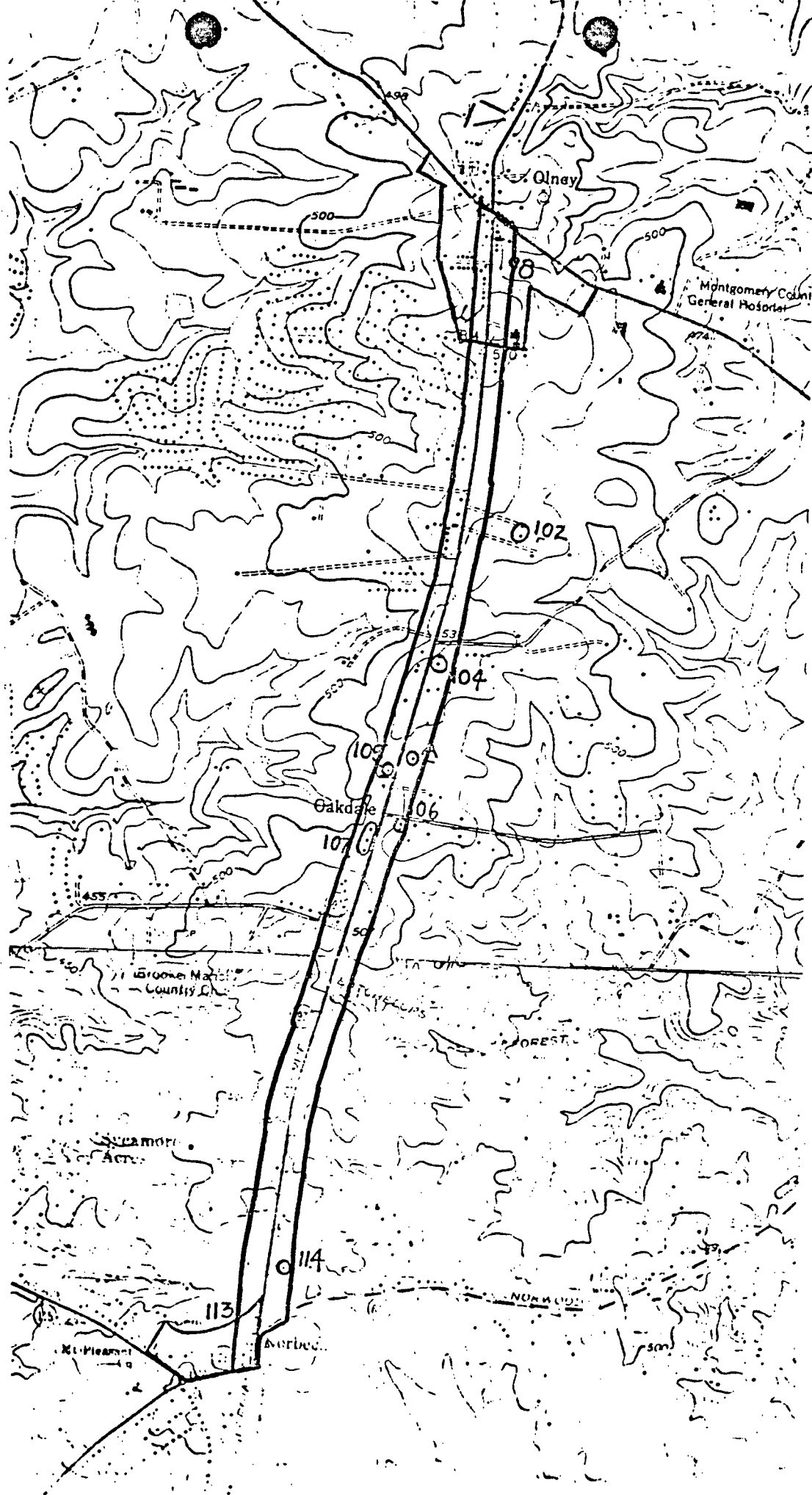


J. Rodney Little
 State Historic Preservation
 Officer

JRL:ca

cc: George Andreve
 Eileen McGuckian
 David Rinn

Rita Suffness
 RKK 3/21/80 / attch
 RES





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MARYLAND DEPARTMENT OF NATURAL RESOURCES
WILDLIFE ADMINISTRATION

BERNARD F. HALLA
DIRECTOR
EARL H. HODIL
DEPUTY DIRECTOR

TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
(301) 269-3195


March 27, 1980

Mr. Dennis J. Lew
Rummel, Klepper, and Kahl
1035 N. Calvert Street
Baltimore, Maryland 21202

Dear Mr. Lew:

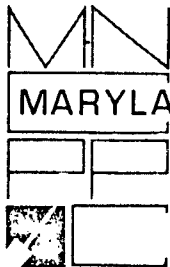
There are no known populations of threatened or endangered species within the project area for improvement to MD Rte. 97 from MD Rte. 28 to MD Rte. 108, as described in your letter of March 25, 1980.

Sincerely,


Gary J. Taylor
Nongame & Endangered
Species Program Manager

GJT:bw
cc: Carlo Brunori

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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

8787 Georgia Avenue • Silver Spring, Maryland 20907

(301) 588-1480
565-7425

November 14, 1980

Mr. Dennis J. Lew
Project Engineer
Rummel, Klepper & Kahl
1035 N. Calvert Street
Baltimore, Maryland 21202

Dear Mr. Lew:

As requested, we have investigated the occurrence of 100 year floodplains along the project alignment (Rt. 97 from Rt. 28 to Rt. 108). All our information, combined with consultation with Montgomery County Department of Environmental Protection staff, indicate that the proposed improvements will essentially follow the ridge line which divides the Rock Creek and Anacostia and Hawlings basins. As a result of the ridge-line topography encountered and the relative proximity to mapped stream systems, we are satisfied that no floodplain areas will be encountered by your alignment proposals.

We request that you provide us with detailed drainage plans, as developed, for our information and review.

Sincerely,

David L. Shepp
Environmental Planning Division

DLS:dws

cc: Bill Davis, DEP
Naz Baig
Walter L. Hanrahan



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UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
DELMARVA AREA OFFICE
1825 VIRGINIA STREET
ANNAPOLIS, MD 21401

November 21, 1980

Mr. Dennis J. Lew
Rummel, Klepper and Kahl
1035 N. Calvert Street
Baltimore, MD 21202

Re: Improvements to MD Route 97
(Georgia Ave.) from MD
Route 28 to MD Route 108
Montgomery County, MD
SHA Contract No. M 376-101-N

Dear Mr. Lew:

This responds to your November 11, 1980, request for information on the presence of Federally listed or proposed endangered or threatened species within the impact area of the subject project in Montgomery County, Maryland.

Except for occasional transient individuals, no Federally listed or proposed species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 Consultation is required with the Fish and Wildlife Service (FWS). Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to endangered species under our jurisdiction. It does not address other FWS concerns under the Fish and Wildlife Coordination Act or other legislation.

Please contact Andy Moser (301-269-6324), our Endangered Species Specialist, if you need further assistance.

Sincerely yours,

John D. Green
Area Manager





Maryland Historical Trust

December 18, 1980

Mr. Richard S. Krolak, Chief
Environmental Management
State Highway Administration
P.O. Box 717
300 West Preston Street
Baltimore, Maryland 21203

RE: Maryland Route 97
M 376-101-371

Dear Dick:

The following review of the Md. Route 97 report was prepared taking into consideration previous correspondence on the project and the result of the December 10 meeting. The absence of soapstone within the area reported as 18 MO 133 should be discussed in greater detail. Does this area occur within the area of steatite geological deposits and what was the nature and extent of development which impacted the reported site area?

Concerning the two historic sites located, since both sites are apparently outside the impact area, additional considerations are not deemed necessary except for concurrence that the pylons at Site 18 MO 171 be moved back out of the construction area if they will be impacted. Description of the architectural merits of the pylons would have been useful but are not necessary at this time. The data presented for Site 18 MO 172 does not indicate that the site is potentially eligible for the National Register due to the apparent late date of the construction of the building and the lack of discussion on what possible research questions further examination of the site could answer. Site 18 MO 171 dates apparently to the last quarter of the 19th century and will need at least chain of title, tax and probate assessment studies to determine the need for further work if the site will be affected.

A letter addressing the above concerns about the steatite deposits would be acceptable. Please notify the Trust if the final designs will affect Site 18 MO 172. Should you have any questions concerning this review, please call Wayne Clark. Thank you for the opportunity to comment during the early planning stages of this project.

Sincerely,

J. Rodney Little

J. Rodney Little
State Historic Preservation Officer

Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301) 269-2212, 269-2438
Department of Economic and Community Development
cc: T. Bastian, Terry Epperson, Rita Suffness, Amy Schlagel, R. Braunberg, E. McGuckian



Maryland Historical Trust

May 19, 1981

Mr. William F. Schneider, Jr.
Chief, Bureau of Project Planning
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21202

RE: MD 97, from MD 28/609 to MD 108
Contract No.: M376-101-371

Dear Mr. Schneider:

The levels of significance of five historic sites in the project area were re-evaluated with the following results:

M 23-102	Olney Manor Farm	Possibly National Register Eligible
M 23-104	Berry-Mackall House (Robert Mackall House)	Possibly National Register Eligible
M 23-105	Higgins Tavern/Hotel	Possibly National Register Eligible
M 23-106	Emory M.E. Church	Possibly National Register Eligible
A	Bungalow, 16901 Georgia Ave.	Maryland Historical Trust Inventory

All other sites previously identified in the project area are Maryland Historical Trust Inventory significance. Boundaries for the five sites listed above are shown on SHA's large scale maps.

The proposed Alternates 2 and 3 will have no effect on the historic sites listed above with one exception. It is my preliminary determination that the Berry-Mackall House (M 23-104) will be adversely affected by Alternate 3 because of its proximity to the proposed right-of-way.

Yours very truly,

J. Rodney Little
State Historic
Preservation Officer

APPENDICES

A P P E N D I X AGLOSSARY OF TERMS

- GLOSSARY OF TERMS -

(These terms may appear in this Assessment or noted on the figures)

- Arterial Highway : A highway primarily for thru-traffic, usually on a continuous route.
- Auxiliary Lane : The portion of roadway adjoining the traveled way for parking, speed change, or for other purposes supplementary to the thru-traffic movement.
- Average Daily Traffic (ADT) : The total volume of auto and truck traffic passing a given point in both directions during a given time period (greater than one day and less than one year) in whole days, divided by the number of days in that time period.
- Control of Access : Full - Complete restriction of access on a thru facility except at interchanges. Grade separations for all crossings.
- Uncontrolled - Access control limited only to safe geometrics. All crossroads, driveways, etc. may have points of ingress or egress.
- Design Hour Volume (DHV) : The percent of average daily traffic (ADT) generally accepted as the criterion used in the geometric design of rural and urban highways. Ideally the 30th highest hourly volume during a year, the DHV is commonly found to vary from 8% to 12% of the ADT.
- Design Speed : A speed selected for purposes of design and correlation of those geometric features of a highway, such as curvature and sight distance, upon which safe vehicle operation is dependent.

- Freeway : An expressway with full control of access, grade separations at all roadway crossings. Access is permitted only at interchanges.
- Frontage Road : A road contiguous to and generally paralleling an expressway, freeway, parkway or thru-street. Designed to intercept, collect, and distribute traffic desiring to cross, enter or leave such highways and may furnish access to property that otherwise would be isolated as a result of the controlled access. (Also referred to as Service Road.)
- Grade Separation : Bridge structure such as an underpass or overpass that vertically separates two or more intersecting roadways, thus permitting traffic to cross without interference.
- Housing of Last Resort: A Maryland SHA Program to rehouse people who are displaced by right-of-way acquisition for highway projects when the cost to do so exceeds the limits of the Uniform Relocation Act.
- Levels of Service : Levels of Service are a measure of the conditions under which a roadway operates as it accommodates various traffic volumes. Influencing factors include speed, travel time, traffic interruptions, maneuvering freedom, safety, driving comfort, economy and, of course, the volume of traffic.
- For interrupted flow conditions, such as major highways and arterials with traffic signals, the following Levels of Service apply:
- Level A - free flow, no delay at traffic signals.
- Level B - occasional delays at traffic signals.

Level C - increasing volumes; moderate delays at traffic signals.

Level D - lower speeds; increasing volumes, frequent delays at traffic signals.

Level E - low speeds; high traffic volumes; signal backups almost to the previous light.

Level F - forced traffic flow; successive backups between signals.

Major Highway : An arterial highway with intersections at-grade and direct access to abutting property, and on which geometric design and traffic control measures are used to expedite the safe movement of thru-traffic.

Median : That portion of a divided highway separating the travelled ways for traffic in opposite directions.

Initial - To be constructed initially

Ultimate - The configuration subsequent to future construction.

Outer Separation : A separator between a frontage road or ramp and the roadway (or ramp) of a controlled-access highway.

R/W, R.O.W. : Right-of-Way (Line)
The outer limits inside which the State owns and maintains for a highway facility.

Section 4(f) : Section 4(f) of the Department of Transportation Act requires that publicly-owned land from a park, recreation area, wildlife and/or waterfowl refuge, or historic site of national, state or local significance can be used for Federal-Aid Highway projects only if there is no feasible and prudent alternative to its use, and if the project includes all possible planning to minimize harm to "4(f) lands".

- Section 6(f) : The Land and Water Conservation Fund Act provides grant-in-aid assistance to states for the acquisition of outdoor recreation or open space land. Section 6(f) of this Act requires that no property purchased or developed with these funds can be converted to other than public outdoor recreation uses without approval from the Secretary, Department of the Interior.
- Service Road : See Frontage Road.
- Shoulder : That portion of a highway adjacent and parallel to the travelled roadway for the accommodations of stopped vehicles for emergency use and for lateral support. May or may not be fully paved.
- Side Slopes : The slope of earth permissible in given locations, as a ratio of horizontal to vertical measurement. (2:1, 4:1, 6:1).
- Vehicle Recovery Area : That portion of ground adjacent to the traveled way that is clear of any fixed obstructions. For safety operation, generally no less than 30 feet measured from the edge of the traveled lane.
- Wetlands : The term "wetlands" refers to those areas that are inundated by surface or groundwater with a frequency sufficient to support, and under normal circumstances, does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

A P P E N D I X B

"SUMMARY OF THE RELOCATION ASSISTANCE PROGRAM
OF THE
STATE HIGHWAY ADMINISTRATION OF MARYLAND"

**"SUMMARY OF THE RELOCATION ASSISTANCE PROGRAM OF THE
STATE HIGHWAY ADMINISTRATION OF MARYLAND"**

All State Highway Administration projects must comply with the provisions of the "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" (P.L. 91-646) and/or the Annotated Code of Maryland, Article 21, Section 12-201 through 12-209. The Maryland Department of Transportation, State Highway Administration, Bureau of Relocation Assistance, administers the Relocation Assistance Program in the State of Maryland.

The provisions of the Federal and State Law require the State Highway Administration to provide payments and services to persons displaced by a public project. The payments that are provided for include replacement housing payments and/or moving costs. The maximum limits of the replacement housing payments are \$15,000 for owner-occupants and \$4,000 for tenant-occupants. In addition, but within the above limits, certain payments may be made for increased mortgage interest costs and/or incidental expenses. In order to receive these payments, the displaced person must occupy decent, safe, and sanitary replacement housing. In addition to the replacement housing payments described above, there are also moving cost payments to persons, businesses, farms, and non-profit organizations. Actual moving costs for displaced residences include actual moving costs up to 50 miles or a schedule moving cost payment up to \$500.

The moving cost payments to businesses are broken down into several categories, which include actual moving expenses and payments "in lieu of" actual moving expenses. The owner of a displaced business is entitled to receive a payment for actual reasonable moving and related expenses in moving his business, or personal property; actual direct losses of tangible personal property; and actual reasonable expenses for searching for a replacement site.

The actual reasonable moving expenses may be paid for a move by a commercial mover or for a self-move. Generally, payments for the actual reasonable moving expenses are limited to a 50 mile radius. In both cases, the expenses must be supported by receipted bills. An inventory of the items to be moved must be prepared, and two estimates of the cost must be obtained. The owner may be paid the amount equal to the low bid or estimate. In some circumstances, the State may negotiate an amount not to exceed the lower of the two bids. The allowable expenses of a self-move may include amounts paid for equipment hired, the cost of using the business's vehicles or equipment, wages paid to persons who physically participate in the move, and the cost of the actual supervision of the move.

When personal property of a displaced business is of low value and high bulk, and the estimated cost of moving would be disproportionate in relation to the value, the State may negotiate for an amount not to exceed the difference between the cost of the replacement and the amount that could be realized from the sale of the personal property.

In addition to the actual moving expenses mentioned above, the displaced business is entitled to receive a payment for the actual direct losses of tangible personal property that the business is entitled to relocate but elects not to move. These payments may only be made after an effort by the owner to sell the personal property involved. The costs of the sale are also reimbursable moving expenses. If the business is to be re-established, and personal property is not moved, but is replaced at the new location, the payment would be the lesser of the replacement costs minus the net proceeds of the sale or the estimated cost of moving the item. If the business is being discontinued or the item is not to be replaced in the re-established business, the payment will be the lesser of the difference between the depreciated value of the item in place and the net proceeds of the sale or the estimated cost of moving the item.

If no offer is received for the personal property, the owner is entitled to receive the reasonable expenses of the sale and the estimated cost of moving the item. In this case, the business should arrange to have the personal property removed from the premises.

The owner of a displaced business may be reimbursed for the actual reasonable expenses in searching for a replacement business up to \$500. All expenses must be supported by receipted bills. Time spent in the actual search may be reimbursed on an hourly basis, but such rate may not exceed \$10 per hour.

In lieu of the payments described above, the owner of a displaced business is eligible to receive a payment equal to the average annual net earnings of the business. Such payment shall not be less than \$2,500 nor more than \$10,000. In order to be entitled to this payment, the State must determine that the business cannot be relocated without a substantial loss of its existing patronage, the business is not part of a commercial enterprise having at least one other establishment in the same or similar business that is not being acquired, and the business contributes materially to the income of a displaced owner.

Considerations in the State's determination of loss of existing patronage are the type of business conducted by the displaced business and the nature of the clientele. The relative importance of the present and proposed locations to the displaced business, and the availability of suitable replacement sites are also factors.

In order to determine the amount of the "in lieu of" moving expenses payment, the average annual net earnings of the business is considered to be one-half of the net earnings before taxes, during the two taxable years immediately preceding the taxable year in which the business is relocated. If the two taxable years are not representative, the State, with approval of the Federal Highway Administration, may use another two-year period that would be more representative. Average annual net earnings include any compensation paid by the business to the owner, his spouse, or his dependents during the period. Should a business be in operation less than two years, but for twelve consecutive months during the two taxable years prior to the taxable year in which it is required to relocate, the owner of the business is eligible to receive the "in lieu of" payment. In all cases, the owner of the business must provide information to support its net earnings, such as income tax returns, for the tax years in question.

The relocation assistance officer located in each district office maintains a listing of local, State and Federal programs which may benefit displaced businesses.

For displaced farms and non-profit organizations, actual reasonable moving costs generally up to 50 miles, actual direct losses of tangible personal property, and searching costs are paid. The "in lieu of" actual moving cost payments provide that a displaced farm may be paid a minimum of \$2,500 to a maximum of \$10,000 based upon the net income of the farm, provided that the farm cannot be established in the area or cannot operate as an economic unit. A non-profit organization is eligible to receive "in lieu of" actual moving cost payments, in the amount of \$2,500.

A more detailed explanation of the benefits and payments available to displaced persons, businesses, farms, and non-profit organizations is available in Relocation Brochures that will be distributed at the public hearings for this project and will also be given to displaced persons individually in the future.

In the event comparable replacement housing is not available to rehouse persons displaced by public projects or that available replacement housing is beyond their financial means, replacement "housing as a last resort" will be utilized to accomplish the rehousing. Detailed studies will be completed by the State Highway Administration and approved by the Federal Highway Administration before "housing as a last resort" could be utilized. "Housing as a last resort" could be provided to displaced persons in several different ways although not limited to the following:

1. An improved property can be purchased or leased.
2. Dwelling units can be rehabilitated and purchased or leased.

3. New dwelling units can be constructed.
4. State acquired dwellings can be relocated, rehabilitated, and purchased or leased.

Any of these methods could be utilized by the State Highway Administration and such housing would be made available to displaced persons. In addition to the above procedure, individual replacement housing payments can be increased beyond the statutory limits in order to allow a displaced person to purchase or rent a dwelling unit that is within his financial means.

The "Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970" requires that the State Highway Administration shall not proceed with any phase of any project which will cause the relocation of any person, or proceed with any construction project until it has furnished satisfactory assurances that the above payments will be provided and that all displaced persons will be satisfactorily relocated to comparable decent, safe and sanitary housing within their financial means or that such housing is in place and has been made available to the displaced person.

FOR PUBLIC
DISPLAY
DO NOT REMOVE