

# Environmental Assessment for

CONTRACT No. M 278-251-371  
F.A.P. No. I 270-7 (77) 80  
INTERSTATE 270 AND  
MARYLAND ROUTE 189 INTERCHANGE  
IN MONTGOMERY COUNTY, MARYLAND

prepared by  
U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
and  
MARYLAND DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION

REPORT NUMBER: FHWA-MD-EA-80-03-(D)

FEDERAL HIGHWAY ADMINISTRATION  
REGION III

INTERSTATE 270 AND MARYLAND 189 INTERCHANGE  
MONTGOMERY COUNTY, MARYLAND

ADMINISTRATIVE ACTION

ENVIRONMENTAL ASSESSMENT

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) and 23 U.S.C. 128(a),  
CEQ REGULATIONS (40 CFR 1500 et seq)

M. S. Caltrider  
State Highway Administrator

7/1/80  
Date

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

7/3/80  
DATE

by: Emil Elinich  
Federal Highway Administration  
Division Federal Highway  
Administrator



No known historic or archaeological sites will be impacted by the project. No public recreational land will be impacted. There are no floodplains or wetlands within the project area. There is no unique habitat or rare or endangered species within the project area.

Access to and from the Montgomery County Police Station on Seven Locks Road would be altered under all of the build alternates. Construction of an interchange would place a cul-de-sac on Seven Locks Road and access to the police station would then be made via the extension of Ritchie Parkway to Seven Locks Road.

5. Summary of the President's Urban Policy Relative to the I-270/MD 189

Interchange

A. Urban Impacts

The construction of this interchange will improve the urban environment of the city of Rockville by the reduction of traffic congestion occurring as a result of poor access to the CBD. See pages 5 through 10.

B. Energy Conservation

A savings in fuel consumption can be realized by the implementation of this project since it will relieve the congested conditions existing on I-270 which contribute to gas wasting stoppages and will shorten the northbound trip distance to Rockville's CBD presently available by way of the MD Route 28 interchange. See page 9.

C. Minority and Neighborhood Effects

Two residences would be required for each of the interchange build alternates. An additional residence would be required to accommodate either traffic movement plan proposed. Adequate replacement housing is available in the vicinity. No minority group or handicapped individuals would be affected. See page 20.

Air quality levels will generally be better due to the proposed action and will remain well within the State and Federal Air Quality Standards. Five noise sensitive areas will experience design noise levels in excess of Federal Design Noise Levels. Noise barriers appear to be feasible at four sites. Exception will be requested at the remaining site. See pages 23 through 32.

D. Improvements to Existing Systems

The construction of the I-270/Md 189 interchange is intended to provide a more efficient use of an existing facility. Traffic circulation and access to Rockville's CBD will be greatly enhanced precluding the need for major highway facilities for the near future. See page 5.

E. TSM Alternative

The I-270/MD 189 interchange is an effective transportation system management alternative because it makes the maximum use of the existing facilities while improving access to transit services in the area, particularly the rapid rail station in Rockville. See page 5.

6. Summary of Alternates Considered:

The major alternates developed consisted of the No-Build Alternate, five build alternates for the interchange and two traffic movement plans 'A' and 'B' for Maryland Avenue and Falls Road (Md. Rte. 189).

Of these alternates, two of the interchange build alternates and one of the traffic movement plans have been dropped from further consideration.

As a result of the Alternates Public Meeting, traffic movement plan 'A' was further modified and an additional plan was added. The alternates dropped from project planning activities are described in the section entitled "History of Project" on page 2.

Carried into further planning studies are the No-Build Alternate, three build alternates for the interchange and two traffic movement plans. The three interchange alternates are a standard diamond type interchange, a modified diamond interchange and a modified half cloverleaf, half diamond interchange. These are described further in Part A of Section III under "Description of Alternates" on page 11.

7. 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 duplications 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 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.

ENVIRONMENTAL ASSESSMENT FORM

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
<b>A. Land Use Considerations</b>			
1. Will the action be within the 100-year floodplain?	_____	<u>X</u>	_____
2. Will the action require a permit for construction or alteration within the 50-year floodplain?	<u>X</u>	_____	<u>See pg. 33</u>
3. Will the action require a permit for dredging, filling draining or alteration of a wetland?	_____	<u>X</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>	_____
6. Will the action require a grading plan or a sediment control permit?	<u>X</u>	_____	<u>Control plan must be approved by Montgomery County Soil Cons. prior to any construction.</u>

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
7. Will the action require a mining permit for deep or surface mining?	_____	<u>X</u>	_____
8. Will the action require a permit for drilling a gas or oil well?	_____	<u>X</u>	_____
9. Will the action require a permit for airport construction?	_____	<u>X</u>	_____
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?	_____	<u>X</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>	_____
12. Will the action affect the use of any natural or man-made features that are unique to the county, state or nation?	_____	<u>X</u>	_____
13. Will the action affect the use of an archaeological or historical site or structure?	_____	<u>X</u>	<u>See Page 22</u>
<b>B. Water Use Considerations</b>			
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>X</u>	_____	<u>See Page 33</u>
15. Will the action require the construction, alteration or removal of a dam, reservoir or waterway obstruction?	_____	<u>X</u>	_____



	<u>Yes</u>	<u>No</u>	<u>Comments</u>
16. Will the action change the overland flow of storm water or reduce the absorption capacity of the ground?	<u>X</u>	_____	<u>See Page 33</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 subsurface water?	<u>X</u>	_____	<u>See Page 33</u>
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	<u>X</u>	_____	<u>See Page 33</u>
<b>C. Air Use Considerations</b>			
23. Will the action result in any discharge into the air?	<u>X</u>	_____	<u>See Page 23</u>
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	_____	<u>X</u>	<u>See Page 23</u>
25. Will the action generate additional noise which differs in character or level from present conditions?	<u>X</u>	_____	<u>See Page 29</u>
26. Will the action preclude future use of related air space?	_____	<u>X</u>	_____

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
27. Will the action generate any radiological, electrical, magnetic, or light influences?	<u>X</u>	_____	If street lighting is added to interchange adjacent homes may be <u>adversely affected.</u>
<b>D. Plants and Animals</b>			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?	_____	<u>X</u>	_____
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?	_____	<u>X</u>	_____
30. Will the action require a permit for the use of pesticides, herbicides or other biological, chemical or radiological control agents?	_____	<u>X</u>	_____
<b>E. Socio-Economic</b>			
31. Will the action result in a preemption or division of properties or impair their economic use?	<u>X</u>	_____	<u>See Pages 20 and 21</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>See Page 20</u>
33. Will the action alter land values?	<u>X</u>	_____	<u>See Page 20</u>
34. Will the action affect traffic flow and volume?	<u>X</u>	_____	<u>See Pages 5 thru 10</u>
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?	_____	<u>X</u>	_____
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?	_____	<u>X</u>	_____

	<u>Yes</u>	<u>No</u>	<u>Comments</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>See Page 3</u>
38. Will the action affect the employment opportunities for persons in the area?	<u>      </u>	<u>X</u>	<u>      </u>
39. Will the action affect the ability of the area to attract new sources of tax revenue?	<u>      </u>	<u>X</u>	<u>      </u>
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?	<u>      </u>	<u>X</u>	<u>      </u>
41. Will the action affect the ability of the area to attract tourism?	<u>      </u>	<u>X</u>	<u>      </u>
<b>F. Other Considerations</b>			
42. Could the action endanger the public health, safety or welfare?	<u>      </u>	<u>X</u>	<u>      </u>
43. Could the action be eliminated without deleterious effects to the public health, safety, welfare or the natural environment?	<u>      </u>	<u>X</u>	<u>See Page 5</u>
44. Will the action be of statewide significance?	<u>      </u>	<u>X</u>	<u>      </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>	<u>      </u>	<u>See Page 5</u>
46. Will the action <u>require</u> additional power generation or transmission capacity?	<u>X</u>	<u>      </u>	<u>For additional street lighting only</u>

Yes      No      Comments

G. Conclusion

47. This agency will develop a complete environmental effects report on the proposed action.

\_\_\_\_\_ X \_\_\_\_\_

8. Cost Effective Analysis

See Table S-1 following.

COST EFFECTIVE ANALYSIS OF ALTERNATIVES	NO BUILD	T S M IMPROVE- MENTS	ALTERNATE 2	ALTERNATE 2a	ALTERNATE 3
<u>PROJECT COSTS</u>					
1. Construction (\$1000)	875	N/A	12766	15494	13036
1. Right-of-way Acquisition (\$1000)	0	N/A	377	377	419
<u>HISTORIC &amp; ARCHAEOLOGICAL</u>					
1. Two properties are eligible for Maryland Historical Site Inventory. They are not locally significant.	0	0	yes	yes	yes
2. Archaeological Sites	0	0	0	0	0
No known sites would be affected.	0	0	0	0	0

COST - EFFECTIVENESS  
 ANALYSIS  
 TABLE S-1

**COST EFFECTIVE ANALYSIS OF ALTERNATIVES**

**NO BUILD**      **T S M IMPROVE- MENTS**      **ALTERNATE 2**      **ALTERNATE 2a**      **ALTERNATE 3**

SOCIAL and ECONOMIC

- 1. Relocation
- 2. Minority Residences Relocated
- 3. Affect on Minority Neighborhoods
- 4. Affect on Neighborhood Integrity

Interchange will provide better access to neighborhood facilities.

0	0	3 Res.	3 Res.	3 Res.
0	0	0	0	0
None	None	None	None	None
None	None	Positive	Positive	Positive

**COST - EFFECTIVENESS ANALYSIS**

TABLE S-1

COST EFFECTIVE ANALYSIS OF ALTERNATIVES	NO BUILD	T S M IMPROVE- MENTS	ALTERNATE 2	ALTERNATE 2a	ALTERNATE 3
<u>NATURAL ENVIRONMENT</u>					
1. Air Quality (year 2005)					
Peak Hour CO levels (ppm) with the Rockville Facility	16.7		14.3	14.3	14.3
8 Hour CO levels (ppm) with the Rockville Facility	6.7		5.7	5.7	5.7
2. Noise Impacts					
Number of Noise Sensitive Areas	13	13	13	13	13
Number of areas where Federal Noise Levels are exceeded.	3	N/A	5	5	5
Range of Noise Level Increases	(-5dBA) to (+10dBA)	N/A	(-3dBA) to (+10dBA)	(-3dBA) to (+10dBA)	(-2dBA) to (+10dBA)

COST - EFFECTIVENESS  
ANALYSIS

TABLE S-1

COST EFFECTIVE ANALYSIS OF ALTERNATIVES	NO BUILD	T S M IMPROVE- MENTS	ALTERNATE 2	ALTERNATE 2a	ALTERNATE 3
<p style="text-align: center;"><u>NATURAL ENVIRONMENT</u> (Con't.)</p> <p>3. Water Quality</p> <p>Additional Storm water runoff area would be created in the immediate vicinity of the proposed interchange because of the increase in paved surface area.</p> <p>Floodplain or wetland</p> <p>4. Wildlife</p> <p>Due to development, little undisturbed wildlife or natural vegetation occurs in the Study area. No rare or endangered species of flora or fauna exist.</p> <p style="text-align: center;"><b>COST - EFFECTIVENESS ANALYSIS</b></p>	<p>N/A</p> <p>None</p> <p>N/A</p>	<p>N/A</p> <p>None</p> <p>N/A</p>	<p>minimal</p> <p>None</p> <p>None</p>	<p>minimal</p> <p>None</p> <p>None</p>	<p>minimal</p> <p>None</p> <p>None</p>

xiv

TABLE S-1



COST EFFECTIVE ANALYSIS OF ALTERNATIVES	NO BUILD	T S M IMPROVE- MENTS	ALTERNATE 2	ALTERNATE 2a	ALTERNATE 3
<p style="text-align: center;"><u>ENERGY</u></p> <p>1. Fuel Savings</p> <p>By virtue of the shorter distance to Rockville's CBD made available by the implementation of an interchange, a savings in fuel consumption can be realized. Assuming a rate of 27 mpg is realized by 2005, approximately 909 gallons of fuel can be saved daily.</p> <p>2. Impact on Rapid Transit accessibility</p>	<p>N/A</p> <p>N/A</p>	<p>N/A</p> <p>N/A</p>	<p>809</p> <p>positive</p>	<p>809</p> <p>positive</p>	<p>809</p> <p>positive</p>

**COST - EFFECTIVENESS  
ANALYSIS**

TABLE S-1

XV

MARYLAND ROUTE 189/I-270 INTERCHANGE  
ENVIRONMENTAL ASSESSMENT

TABLE OF CONTENTS

SUMMARY		<u>Page</u>
I.	Description of the Proposed Action	1
A.	Proposed Project	1
B.	Traffic Data	1
C.	Project History	2
II.	Need	
A.	Need for the Proposed Action	5
III.	Alternatives Considered	
A.	Description of Alternates	11
1.	Build Alternates	11
2.	No-Build Alternate	16
B.	Engineering Factors and Costs	17
IV.	Impacts	
A.	Social and Economic	20
1.	Socio-Economic	20
2.	Relocation Summary	20
3.	Community Facilities and Services	21
4.	Civil Rights Compliance	22
5.	Historic and Archaeological Sites	22

	<u>Page</u>
B. Impact on Air Quality	23
C. Noise Impact	29
D. Impact on Water Quality	33
E. Impact on Wildlife and Vegetation	33
V. Comments and Coordination	
A. Summary of Alternates Public Meeting	36
B. Coordination	36
Appendix A	37
Maryland State Highway Relocation Assistance Program	38
Letters from Federal and State Agencies	42

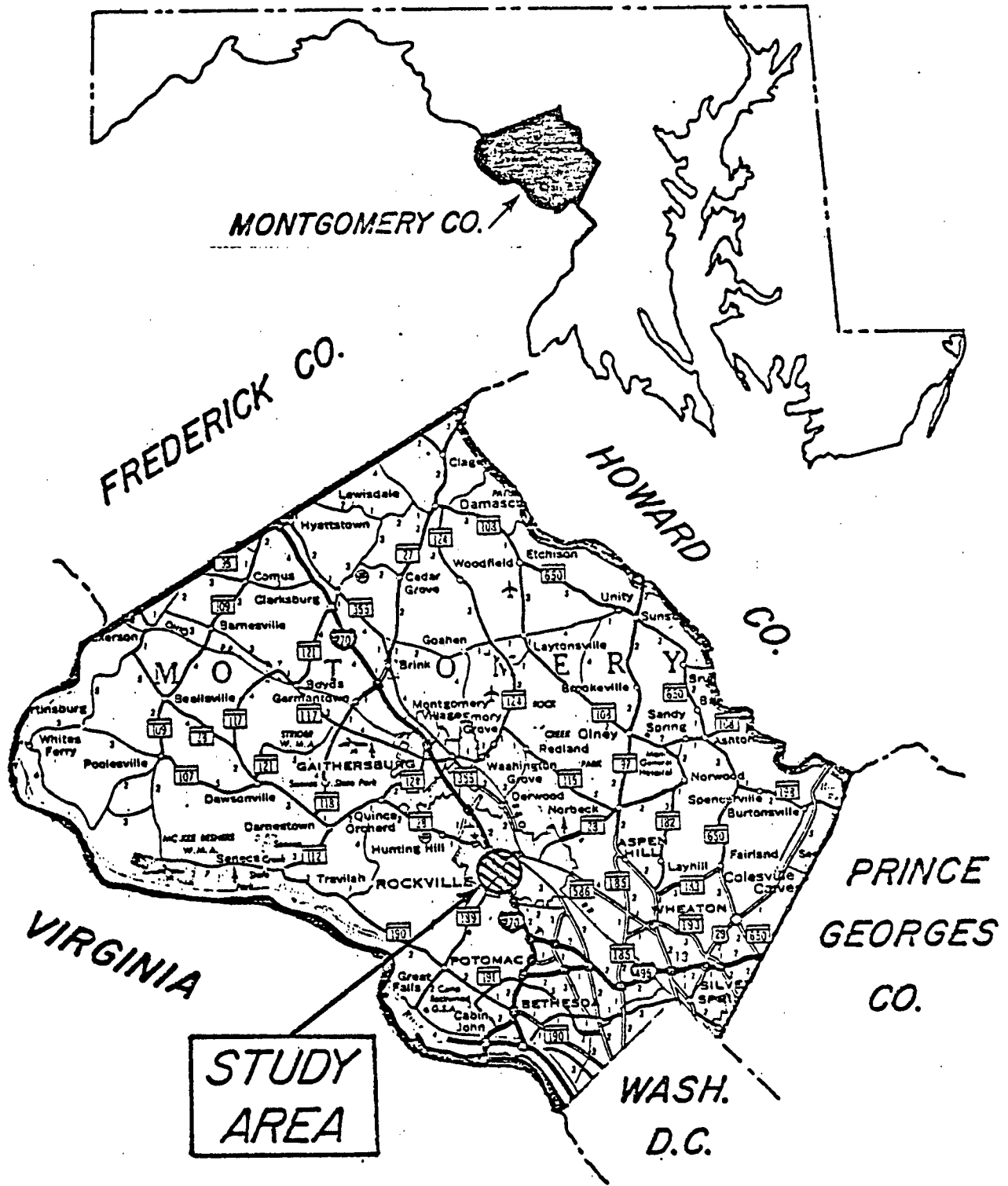
LIST OF FIGURES

TABLES

<u>Table</u>	<u>Title</u>	<u>Page</u>
1.	Comparison of Alternates	18
2.	Sensitive Receptors - Peak Hour Carbon Monoxide	25
3.	Sensitive Receptors - Highest 8-Hour Carbon Monoxide	26
4.	Noise Sensitive Areas	30
5.	Project Noise Levels	31

<u>Plate</u>		<u>Follows Page</u>
1.	Montgomery County Location Map	xviii
2.	Study Area Map	1
2a.	Seven Locks Rd and Ritchie Pkwy. Intersection	1
3.	Traffic - No-Build - With Rockville Facility	1
4.	Traffic - No-Build - Without Rockville Facility	1
5.	Traffic - Build - With Rockville Facility	1
6.	Traffic - Build - Without Rockville Facility	1
6a.	Md 189/I270 Turning Traffic	1
7.	Alternate 2	4
8.	Alternate 2A	4
9.	Alternate 3	4
10.	Typical Section - Md. Rte. 189	11
11.	Typical Sections - Ramps	11
12.	Plan 'A' Modified	16
13.	Plan 'C'	16
14.	Sensitive Receptors	23

# MARYLAND



**STUDY  
AREA**

Scale: 1" = 6 Miles

## MONTGOMERY CO.

## LOCATION MAP

I. Description of Proposed Action

A. Proposed Project

The purpose of this study is to develop and evaluate alternates for the construction of an interchange in the vicinity of the Maryland Route 189/I-270 overpass in order to better serve existing and projected traffic in a more safe and efficient manner.

The project study area is generally confined to the vicinity of the Falls Road overpass of I-270. Along Falls Road, the project extends from Ritchie Parkway on the south to Maryland Avenue on the north. Along I-270 the limits are confined approximately to the 2.3 miles separating the Maryland Route 28 and Montrose Road Interchanges. See Plates 2 and 2a.

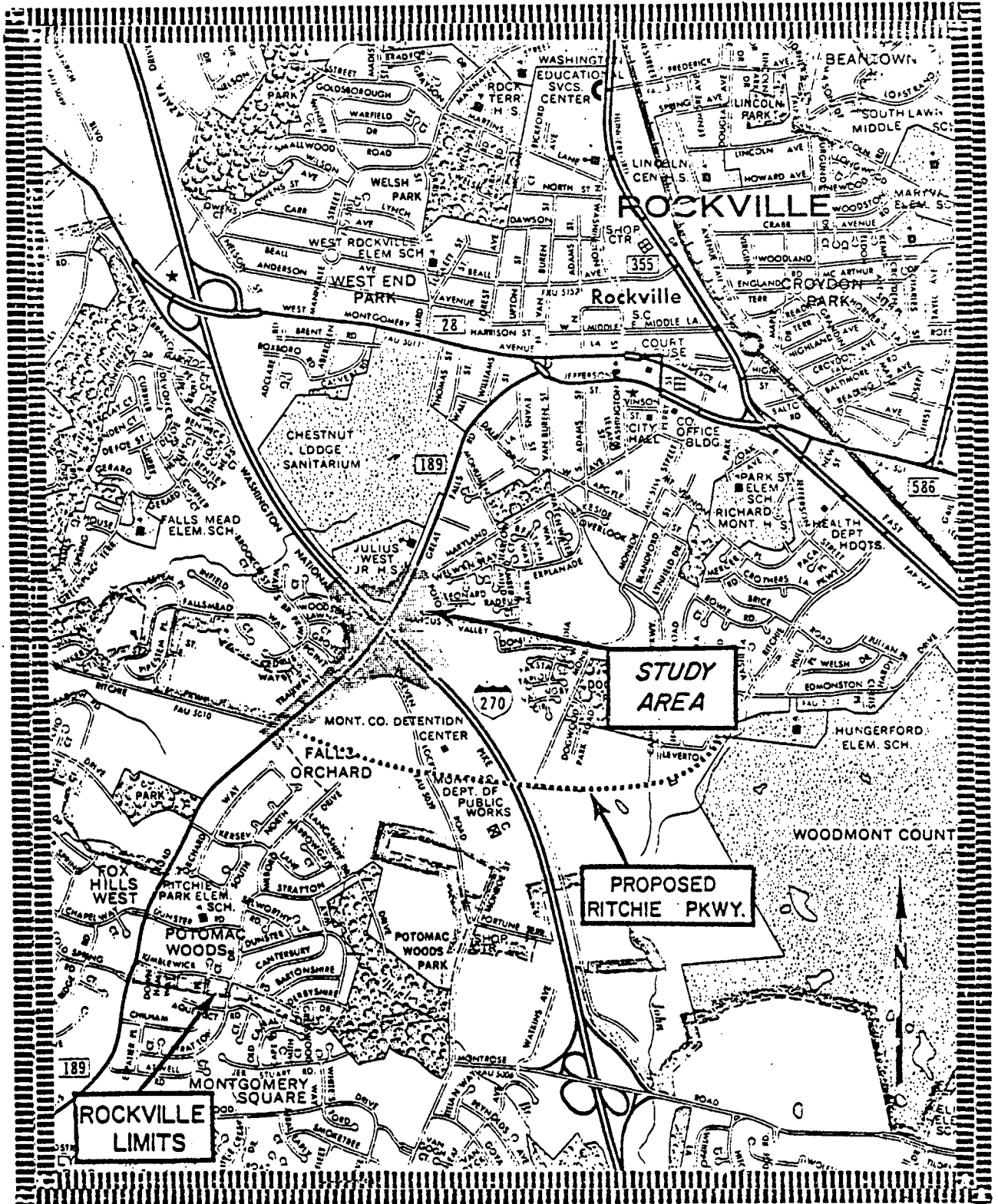
Located in Southern Montgomery County, the study area has experienced rapid development. Former wooded and open land have been transformed into lands for residential and institutional use. This change is still taking place with total development within the foreseeable future.

A more complete description of each alternate is contained in Section III of this report.

B. Traffic Data

The State Highway Administration has provided all existing and proposed traffic data for the roadway network affected by the proposed project. This roadway network consists of I-270, Maryland Routes 189 and 28, Montrose Road as well as secondary roads found in the study corridor. See Plates 3 through 6a.

# I-270 / Md. Rte. 189 INTERCHANGE

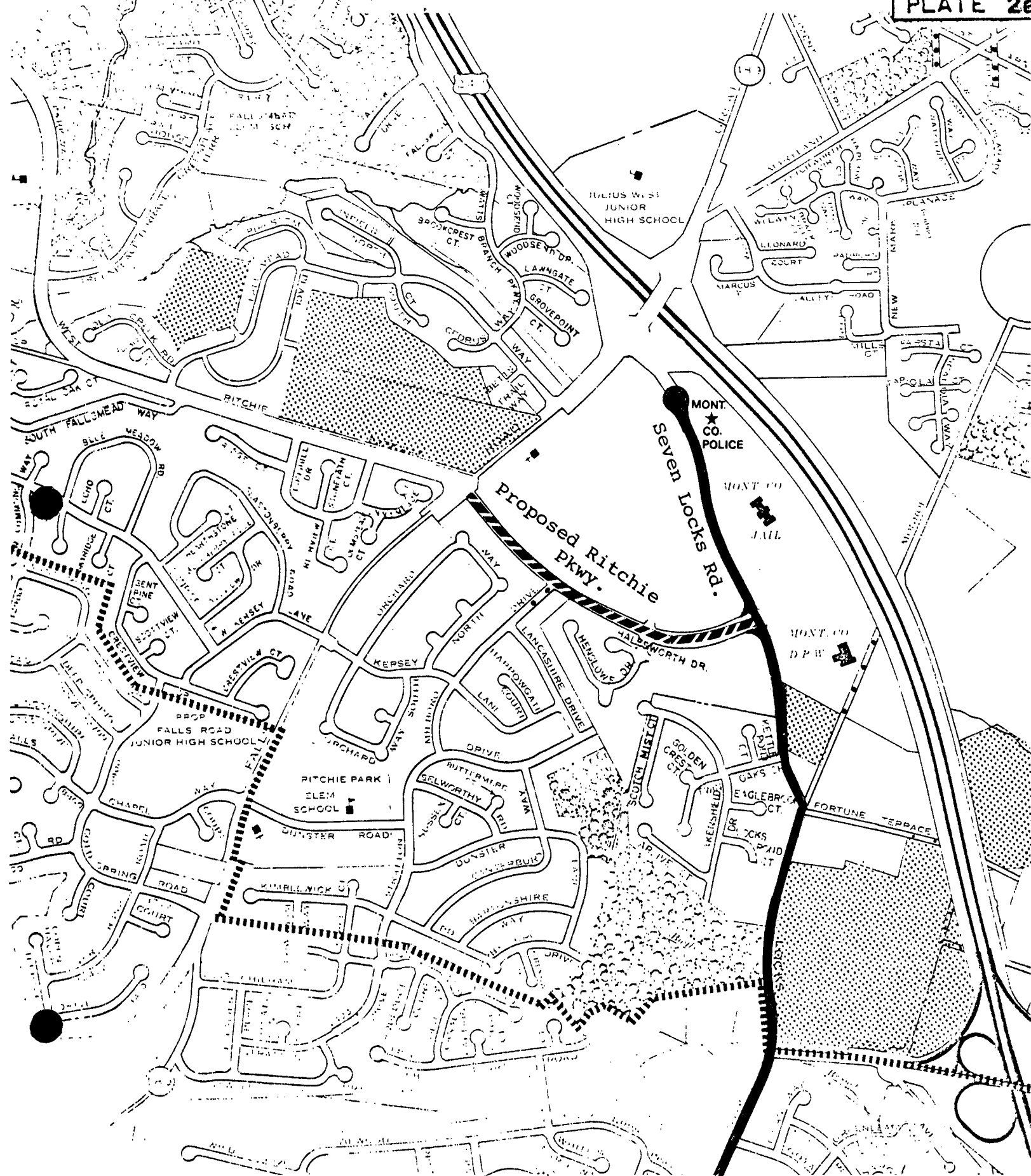


SCALE 1" = 2000'

## STUDY AREA MAP

# RITCHIE PKWY. INTERSECTION

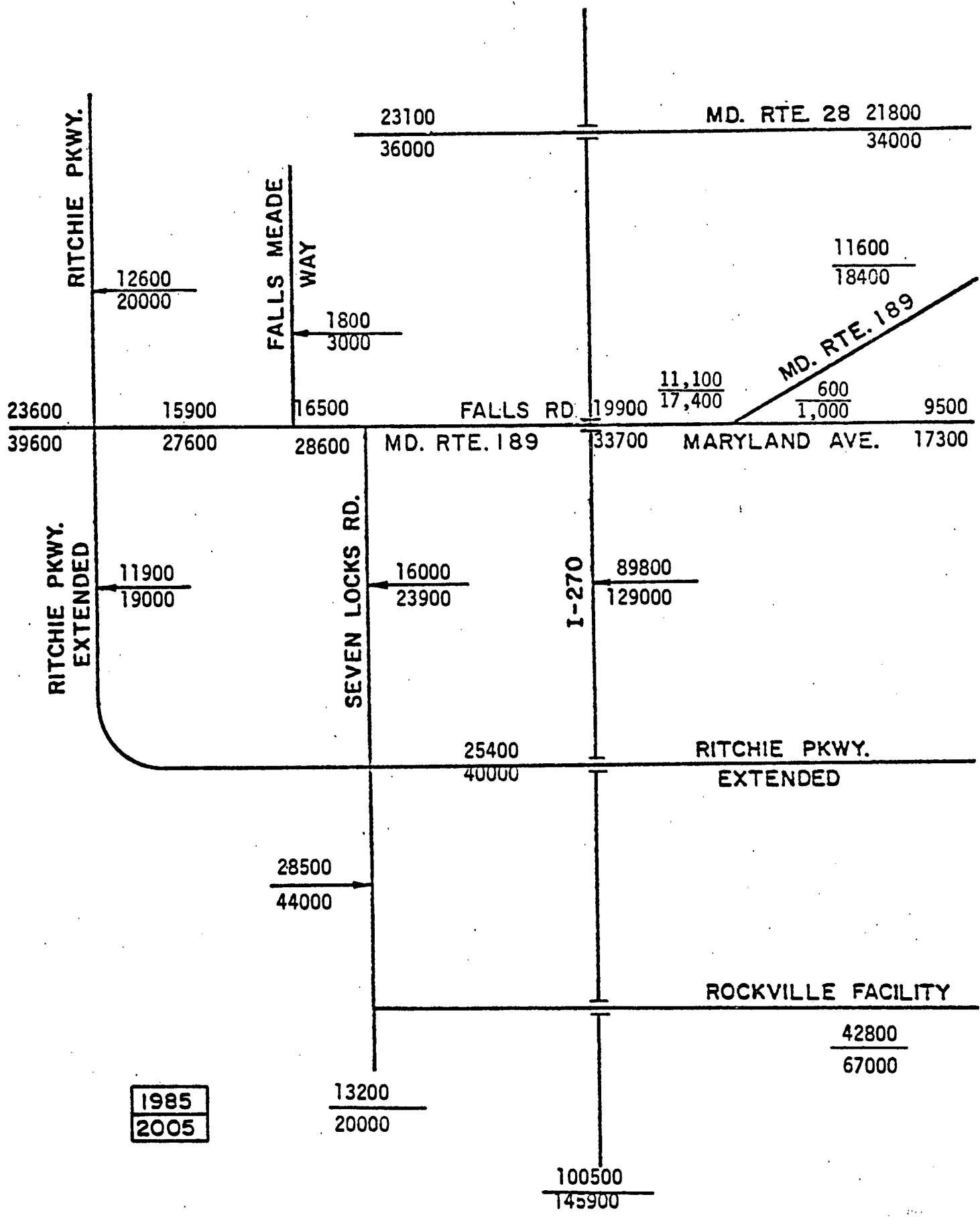
PLATE 2e





# AVERAGE DAILY TRAFFIC NO BUILD

WITH ROCKVILLE FACILITY

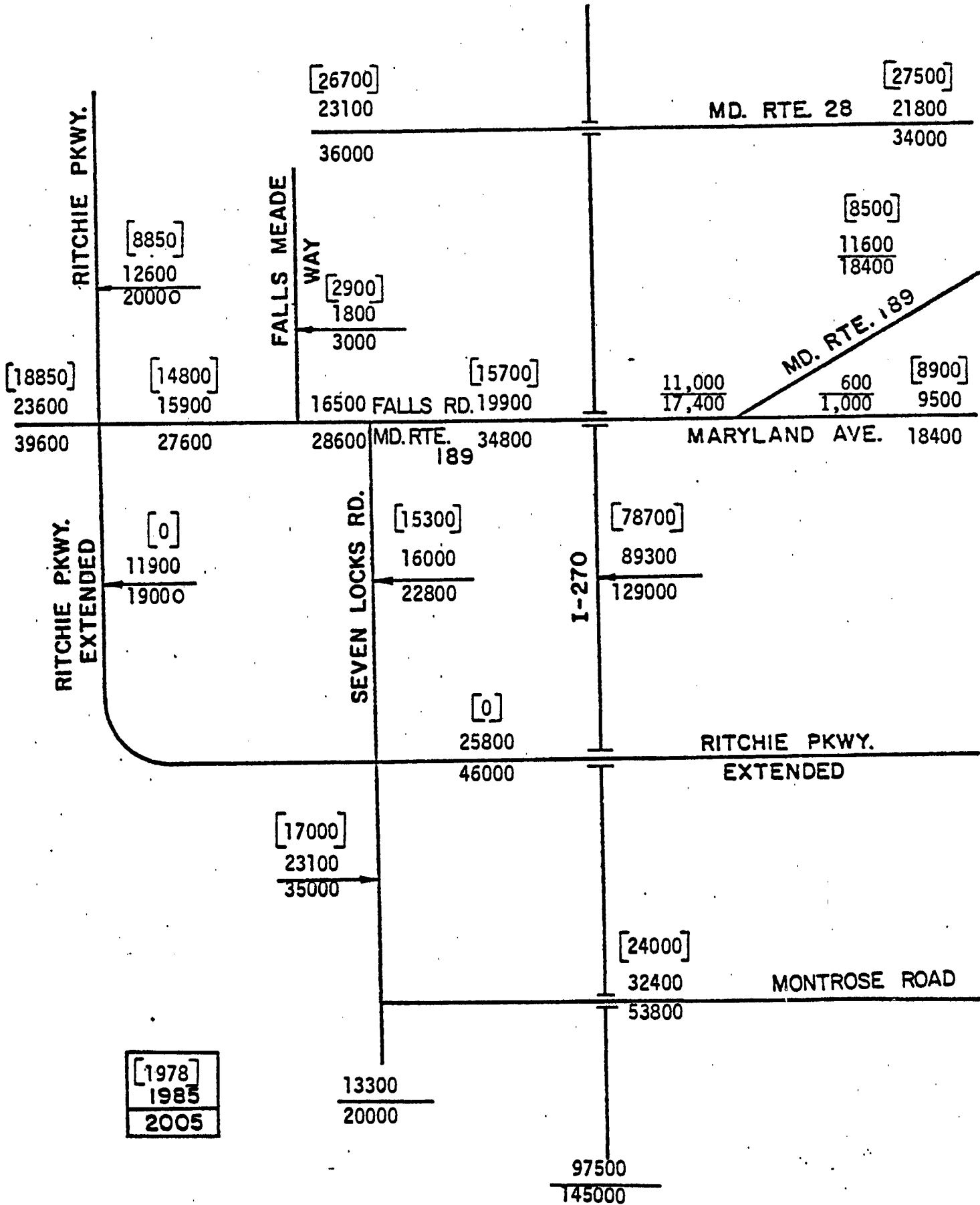


1985  
2005

# AVERAGE DAILY TRAFFIC NO BUILD

26  
**PLATE 4**

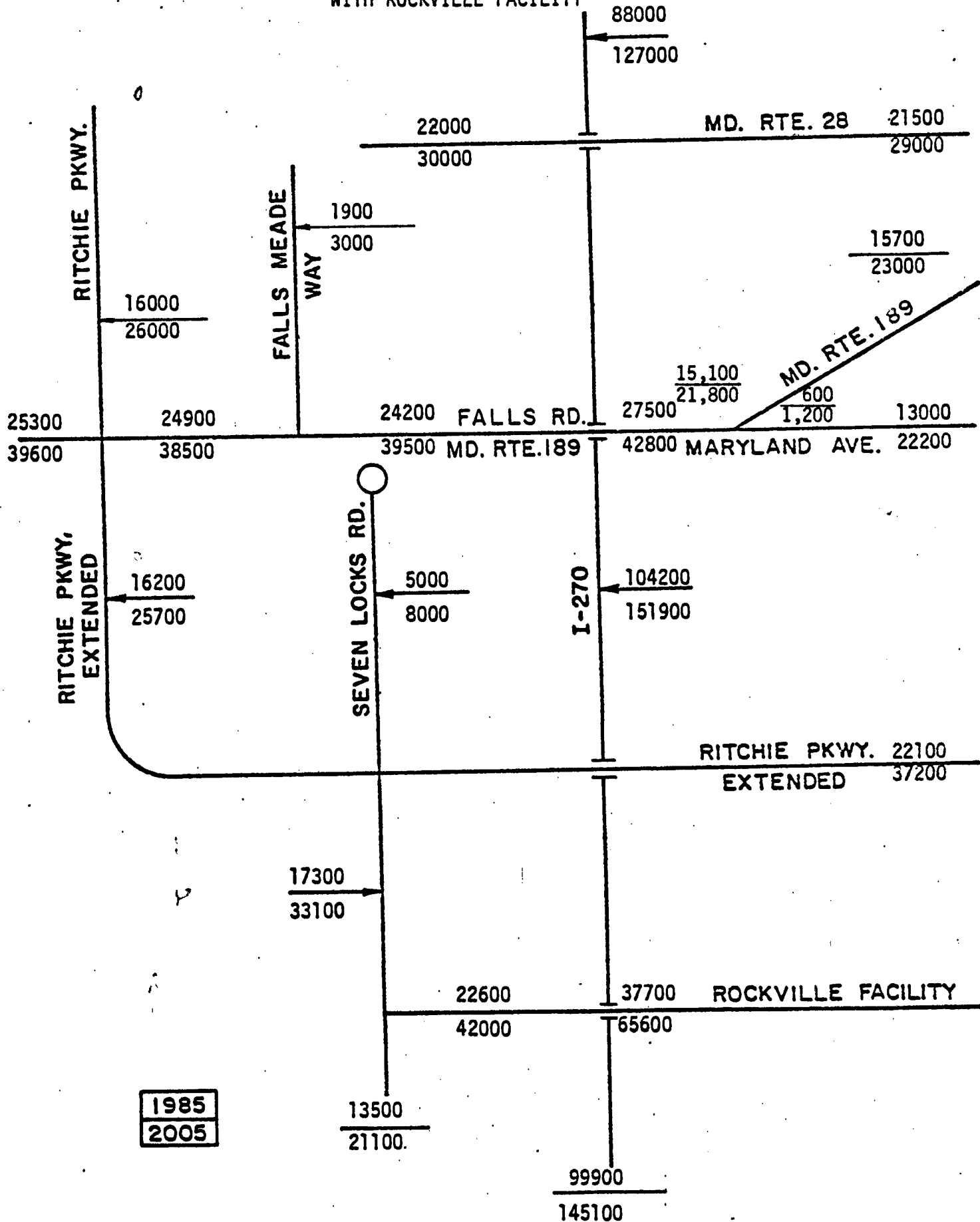
WITHOUT ROCKVILLE FACILITY



[1978]
1985
2005

# AVERAGE DAILY TRAFFIC BUILD

WITH ROCKVILLE FACILITY



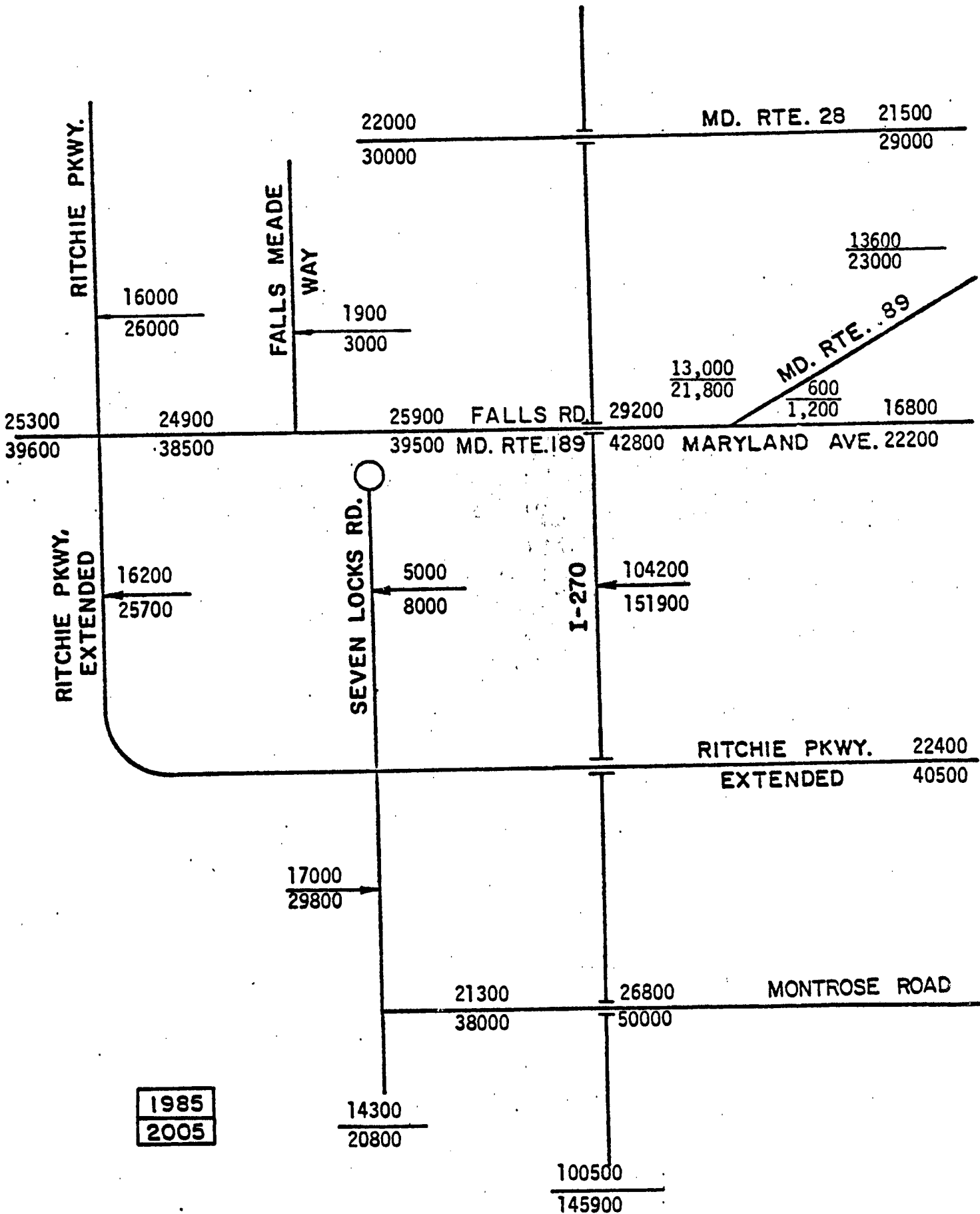
1985
2005

# AVERAGE DAILY- TRAFFIC BUILD

PLATE 6

28

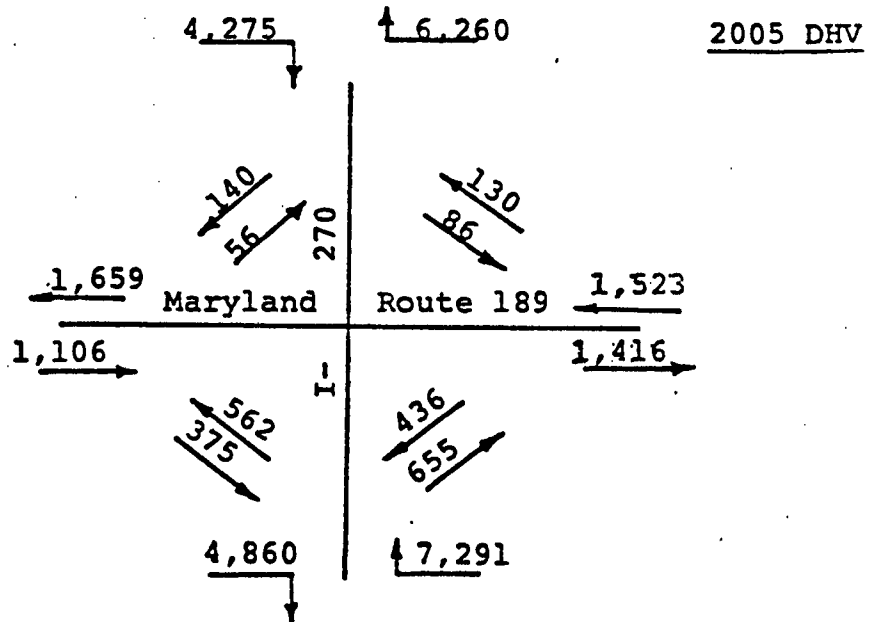
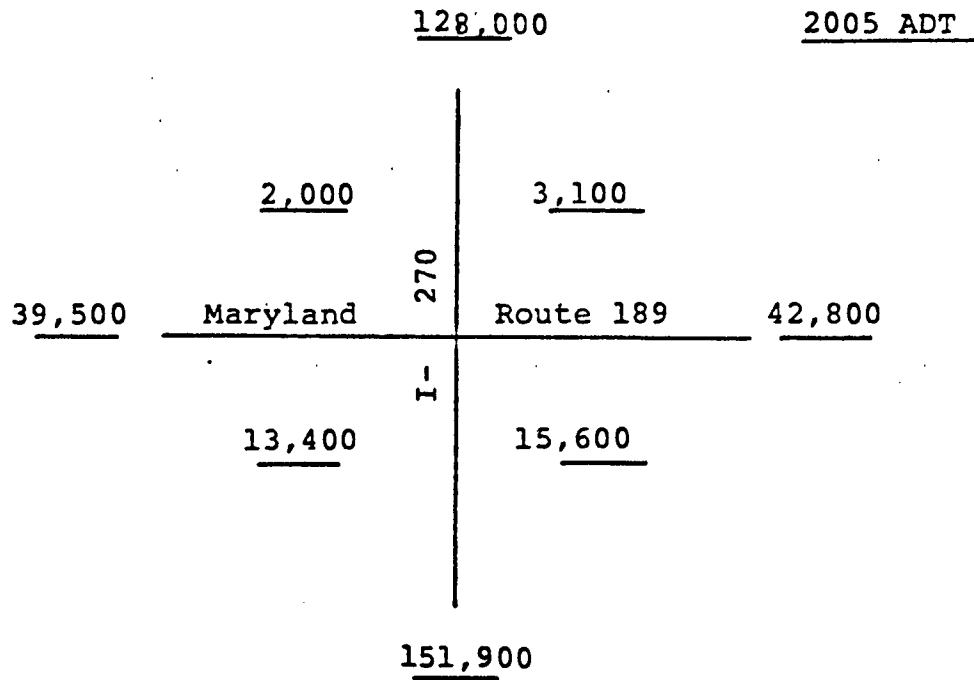
WITHOUT ROCKVILLE FACILITY



1985
2005

MARYLAND STATE HIGHWAY ADMINISTRATION — BUREAU OF HIGHWAY STATISTICS

TRAFFIC PLANNING SECTION



Md. Rte. 189/I-270 TURNING TRAFFIC

DATE April, 1980

All traffic data for this project are compatible with data used for other studies within this transportation network.

The design hour volumes as a percent of the Average Daily Traffic is as follows:

<u>Year</u>	<u>Md. Rte. 189</u>	<u>I-270</u>
1978	8%	10%
2005	7%	8%

The directional distribution of the design hour volume is 60% for all cases.

Peak hour traffic on both roads occur between 8:00 and 9:00 AM and 4:30 and 5:30 PM.

C. Project History

The construction of an interchange at I-270 and Maryland Route 189 has been included in area planning studies for a number of years. This project appears in the critical section of the 1979-1998 Maryland Twenty Year Highway Needs Study for Montgomery County. It is included in the Interstate Program 1980-1985. On February 2, 1977, the Federal Highway Administration approved additional access points to I-270 at Maryland Route 189 with the conditions that: 1) crossroads would be improved concurrently with the interchange as required to provide for adequate collection and distribution of interstate traffic, and 2) environmental processing requirements would be fulfilled. This document responds to both conditions. See Appendix A for FHWA letter of access point approval.

The Washington Metropolitan Council of Governments has included the I-270/Maryland 189 Interchange in the network used for the report, A Long Range Transportation Plan for the Maryland National Capital Region.

Montgomery County has proposed this project as part of the Potomac-Travilah and Vicinity Master Plan, December, 1967, and the Montgomery County Master Plan of Highways, February, 1974, both of which were prepared by the Maryland Capital Park and Planning Commission. The recently updated Master Plan for the Potomac Subregion, April, 1980 recognized the proposed project.

The Master Plan for Rockville, Maryland, dated July 29, 1970 includes a strong endorsement of the proposed interchange at I-270 and Maryland Route 189. In March 1973 the Mayor and Council of Rockville formally adopted the published plan for the physical development of Rockville (Ordinance No. 14-73) which represented continued endorsement of the governing body for the speedy development of the proposed interchange. On December 17, 1979 the Mayor and Council of Rockville adopted the Town Center Urban Design Plan as an amendment to the 1970 Master Plan for the City. This Sector Plan for the City's central business district strongly urge the construction of the interchange at I-270 and Maryland Route 189 in order to improve access to the City's Central Business District and help to assure its successful economic revitalization.

In accordance with the Maryland "Action Plan" project planning activities were begun in July of 1978. No project initiation public meeting was held for this project. However, notices that the project had begun were placed in the Montgomery Sentinel, Star News and the Gaithersburg Gazette on July 20, 1978.

During the study of alternates, three preliminary build alternates for the interchange were developed by the State Highway Administration and one preliminary build alternate was submitted by the Mid-County Citizens Association. These build alternates along with the No-Build alternate and

two traffic movement plans for Falls Road and Maryland Avenue were presented at the Alternates Public Meeting held in April of 1979. A summary of this meeting and the public's response is presented in Section V. on page 36.

As a result of this meeting and coordination with Montgomery County, three build alternates, one traffic movement plan, and the No-Build Alternate were selected for detailed study and development and are analyzed in this report. These alternates are described in Section III of this document and are shown on Plates 7, 8, and 9.

The alternates dropped from further study included a partial movement interchange developed by the State Highway Administration and the build alternate submitted by the Mid-County Citizens Association. Traffic movement Plan 'B' was also dropped.

The State Highway Administration's alternate, Alternate 1, accommodated the primary traffic movement to and from the City of Rockville. Since a partial movement interchange does not address the overall transportation problem on the Interstate facility and could result in a safety hazard due to wrong way movements on the ramps, it has been dropped from further study.

The alternate submitted by the Mid-County Citizens Association was dropped from further study due to operational deficiencies, prohibiting costs and impacts to the Montgomery County Police Station, the County Vehicle Maintenance Building and the GEICO Building. The alternate concept proposed frontage roads paralleling both sides of I-270 from the existing Montrose Road interchange to Falls Road. Connections from the frontage roads to I-270 and to Falls Road were also included.

As a result of further studies, the State Highway Administration and the City of Rockville deemed that the one-way system proposed for Maryland Avenue and Md. 189 under traffic movement Plan 'B' would create

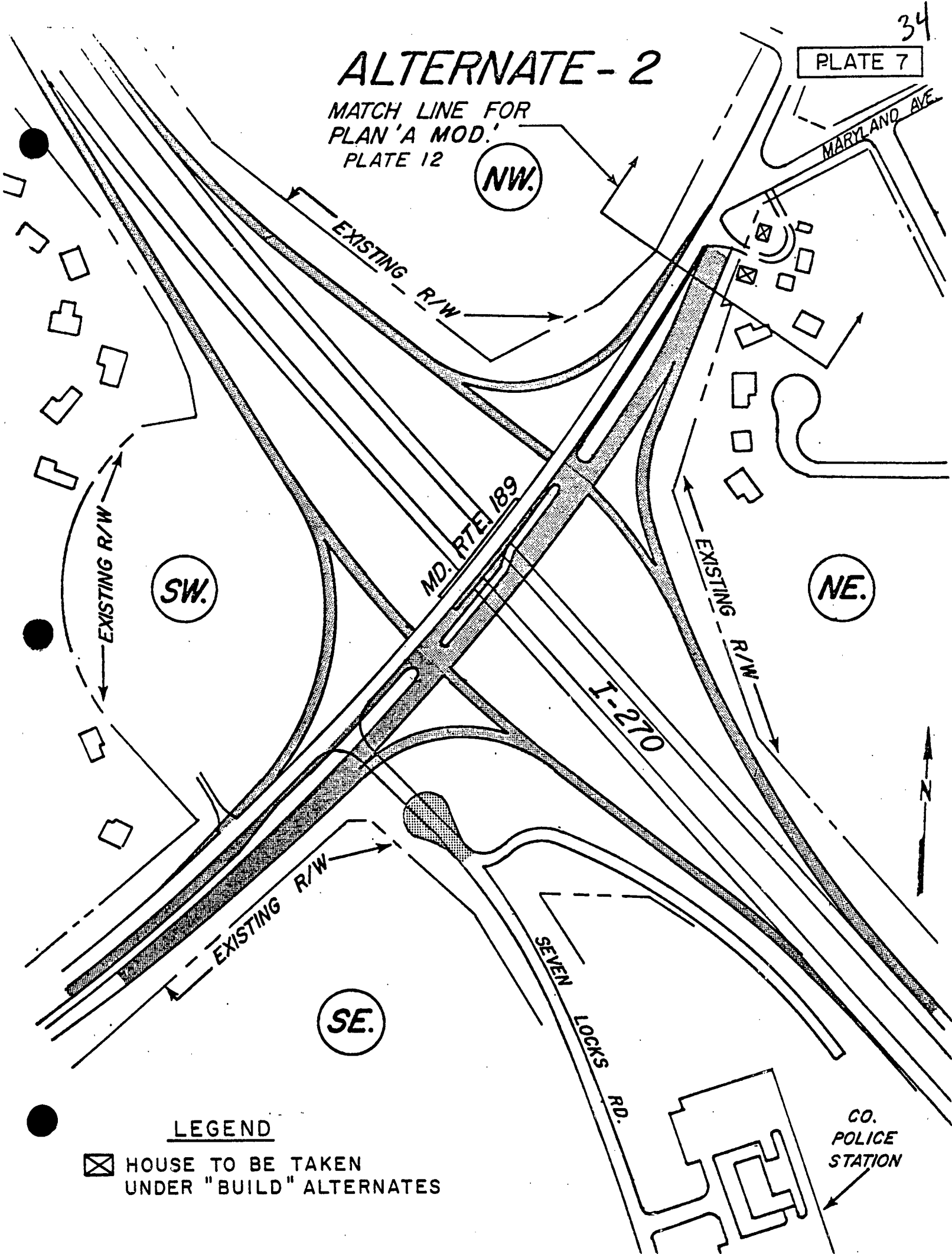


unnecessary inconvenience for the residents of Rockville and commuters using the subject roadways. This plan was dropped.

A traffic movement plan alternate submitted by the City of Rockville after the Alternate Meeting was added for consideration.

# ALTERNATE - 2

MATCH LINE FOR  
PLAN 'A MOD.'  
PLATE 12



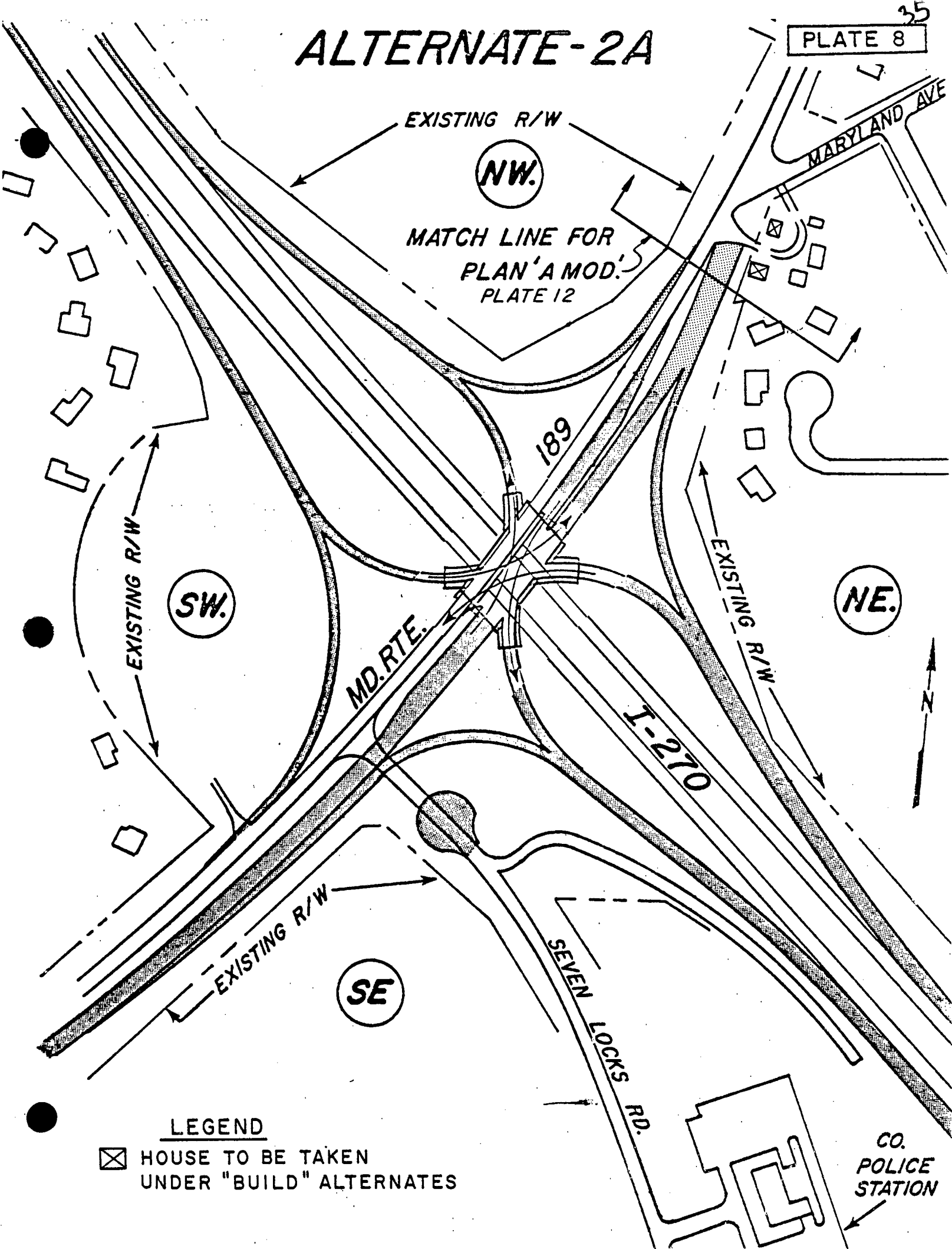
### LEGEND

 HOUSE TO BE TAKEN  
 UNDER "BUILD" ALTERNATES

CO.  
 POLICE  
 STATION

# ALTERNATE-2A

35  
PLATE 8

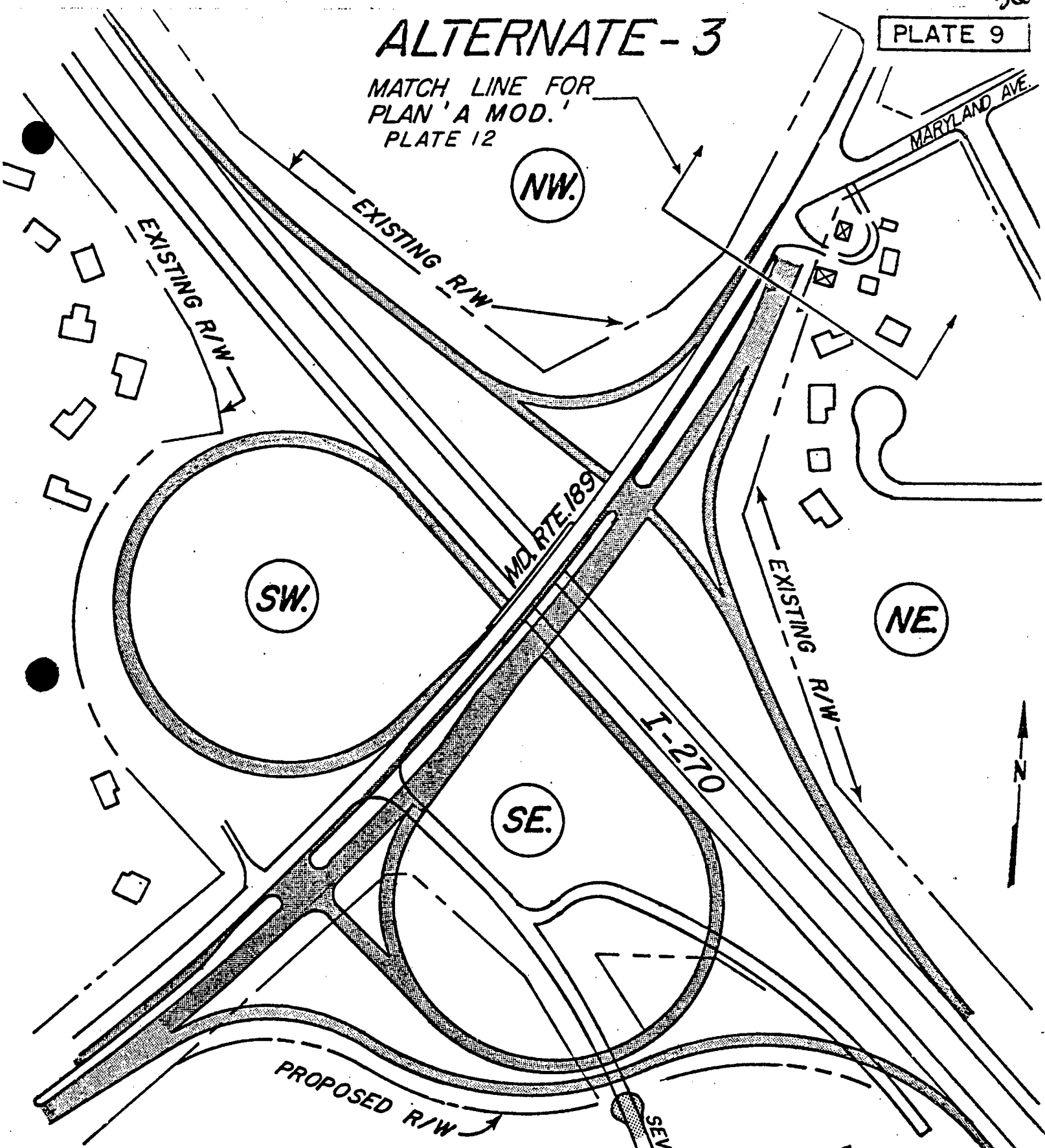


## LEGEND

⊠ HOUSE TO BE TAKEN UNDER "BUILD" ALTERNATES

# ALTERNATE-3

MATCH LINE FOR  
PLAN 'A MOD.'  
PLATE 12



## LEGEND

- ☒ HOUSE TO BE TAKEN UNDER "BUILD" ALTERNATES

CO. POLICE STATION

II. Need

A. Need for the Proposed Action

The Rockville area, along with most of Montgomery County has experienced dramatic development in the last ten to fifteen years and this trend is expected to continue into the near future.

Currently, the proposal for the interchange at I-270 and Md. 189 is related to a larger planning study addressing the I-270 corridor from Md. 118 to I-270Y. Underlying the justification for its construction is the need to relieve the present congested conditions experienced during peak hours along the I-270 corridor especially at the existing interchanges with Md. 28 and Montrose Road, the only major access to the City of Rockville Central Business District and Government Complex from the regional expressway system.

TSM\* Alternatives to be considered in this larger study include the implementation of exclusive high occupancy vehicle lanes, and contraflow-lanes on the existing facility. Also to be investigated is the feasibility of installing carpool/park 'n' ride parking facilities at various locations along the entire corridor. The use of other TSM strategies that would be capable of substituting effectively for an interchange at Maryland Rte. 189 is virtually impossible. While pedestrian and bicycle facilities are being proposed within the scope of this project they will have little effect in reducing the total amount of traffic required to ease the current congested conditions.

The interchange is, in essence, a traffic engineering project designed to facilitate flow and relieve congestion, in a specific, contained problem area. Alternatives to this interchange which would be necessary to address the same problem involve system wide improvements such as major reconstruction and widenings of existing facilities throughout the area. These would severely

\* Transportation Systems Management

impact historical areas and commercial properties at extremely high cost and adverse environmental impact, and not solve the problem in the compact and isolated manner as does this single proposed interchange.

The design of the Md. Rte. 28 interchange provides for all traffic movements with the heaviest demand placed on the westbound I-270 ramps to both north and southbound Md. Rte. 28. Recent widening of this ramp has helped to reduce the massive peak hour vehicle backups extending onto the I-270 mainline. This and on-going signalization work at the ramp intersection with Md. Rte. 28 should provide an acceptable level of service. These measures are an interim solution only and the intersection will be inadequate to handle the projected traffic needs for the design year. Expanding the existing Md. Rte. 28 interchange to provide for projected increasing traffic volumes would be detrimental to this portion of Md. Rte. 28 which traverses through a historic area on the National Register. The close proximity of these homes to the Road provide no space for improvements to Md. Rte. 28.

The I-270/Montrose Road interchange is just east of the proposed Md. Rte. 189 interchange. This interchange is operating at full capacity with peak hour traffic level on Montrose Road at 3300. The interchange is subject to intensive back-ups.

Both Md. Rte. 28 and Montrose Road connect to Md. Rte. 355, a parallel route to I-270 leading into the Central Business District. These intersections are presently operating at D and E levels\* at peak hours.

Because of this intense congestion, motorists have found alternate routes using residential streets which are unsuitable for this purpose creating noise problems, conflicts with pedestrians and conflicts with the cellular transportation concept expressed in the Master Plan for Rockville, Maryland.

With an interchange at I-270, Md. Rte. 189 would help alleviate this situation by offering an alternate route to the Central Business District and will in addition connect to the rapid rail station in Rockville.

The existing road network is adequate to handle the projected traffic for Design Year 2005 under the 'build' condition. Based on the projected traffic volume demand, a level of service D or E is maximum; however the future road capacities will be in excess of demand if current speed restrictions remain in effect.

See November 27, 1979 memorandum from Mr. T.W. Beaulieu, Chief Bureau of Highway Statistics, S.H.A., in Appendix A.

The accident experience at the interchanges of I-270 and Md. Rte. 28 and I-270 and Montrose Road indicate abnormal frequencies of collisions, generally resulting from the high local traffic demand for the northbound to eastbound and westbound movements.

\* Level of service D approaches unstable flow. Tolerable average operating speeds are maintained but are subject to considerable and sudden variation. Freedom to maneuver and driving comfort are low and the probability of accidents has increased. Most drivers would probably consider this service level unsatisfactory.

The upper limit of level of service E is the capacity of the facility. Operation in this zone is unstable, speeds and flow rates fluctuate, and there is little independence of speed selection or maneuver. Since headways are short and operating speeds subject to rapid fluctuation, driving comfort is low and accident potential high.

SUMMARY OF ACCIDENT STATISTICS

MD 28 FROM BEGINNING DIVIDED HIGHWAY EASTERLY TO MD 189  
IN MONTGOMERY COUNTY

<u>Severity</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Total</u>	<u>Accident Rate/100,MVM**</u>	<u>Peak Period Rate/100 MVM**</u>
Fatal	0	0	0	0	--	--
Injury	15	19	12	46	140.86	147.87
Property Damage	39	59	63	161	493.01	640.78
TOTAL	54	78	75	207	633.87	788.65

\*\* 100 million Vehicle Miles Driven

While the major road sections are generally consistent with statewide accident expectations, studies indicate increase in peak period accident occurrences on Md. Rte. 28 and Montrose Road, a considerable increase in congestion and delay duration time, neighborhood shortcutting and the occurrence of future problems resulting from anticipated increase in traffic.

Land uses for the area served by the proposed Md. Rte. 189 interchange vary from suburban residential development with supporting commercial services in the Village of Potomac to the densely populated Central Business District in the City of Rockville.

The Potomac planning area south of the interchange had an approximate population in 1975 of 39,200 while greater Rockville population exceeded 50,000. The 1980 forecast population for the Potomac-Travilah area is expected to be 43,500 with 46,000 forecast for the Greater Rockville area.

Montgomery County has recognized the need and desirability of the Falls Road interchange and improved roadway by proposing it as part of the



Master Plan for the Potomac Subregion, and Montgomery County Master Plan of Highways, both of which were prepared by the Maryland National Capital Park and Planning Commission.

The Master Plan for Rockville, Maryland dated July 29, 1970, and subsequent amendment was prepared by the City of Rockville Planning Commission. It emphasizes in this plan "foremost among highway needs in Rockville is the construction of an additional I-270 interchange at Maryland Route 189."

This position of the Planning Commission was reaffirmed by the Mayor and Council of Rockville by the subsequent adoption of the 1970 Master Plan; and in 1979, by the adoption of the Town Center Urban Design Plan. In regard to the latter item, the Mayor and Council have repeatedly emphasized that the successful economic revitalization of the City's Central Business District is highly dependent upon the construction of this interchange project.

A savings in fuel consumption can be realized by the implementation of this project since it will relieve the congested conditions existing on I-270 which contribute to gas wasting stoppages.

Additional fuel savings are likely as a result of the shorter northbound trip distance to Rockville's CBD from the proposed interchange than that available at the Md. 28 interchange. The distance from the proposed interchange to the CBD via Maryland Avenue is approximately one mile. The same trip via the existing interchange at Md. 28 via Md. 28 to Jefferson Street is approximately 2.4 miles. Year 2005 traffic forecasts show that 15,600 vehicles will make the eastbound movement onto Md. 189. Assuming this same number of

vehicles would be removed from the existing interchange at Md. 28, an estimated 21,480 VMT\* savings could be realized.

The project will tend to support the concentration of urban development rather than contributing to its dispersal. Access to existing center city employment and community facilities will be improved thereby sustaining their competitive advantage in terms of time/distance over suburban branch sites. With concentrated activities in the downtown area it will become more attractive for its construction, operation, or maintenance. The better access to the area afforded by the interchange may increase the value of residential and commercial sites and improve employment opportunities there. It is unlikely, however, that the project would lead to the attraction of new sources of tax revenue, since the area is already extensively developed.

\* Vehicle Miles Traveled

III. Alternates Considered

The construction of a full movement interchange is in accordance with the latest State Highway Administrative design criteria. Engineering and safety practices recommended by the American Association of State Highway and Transportation Officials were incorporated into the design of this facility. The build alternates are shown on Plates 7, 8, and 9 with typical sections shown on Plates 10 and 11.

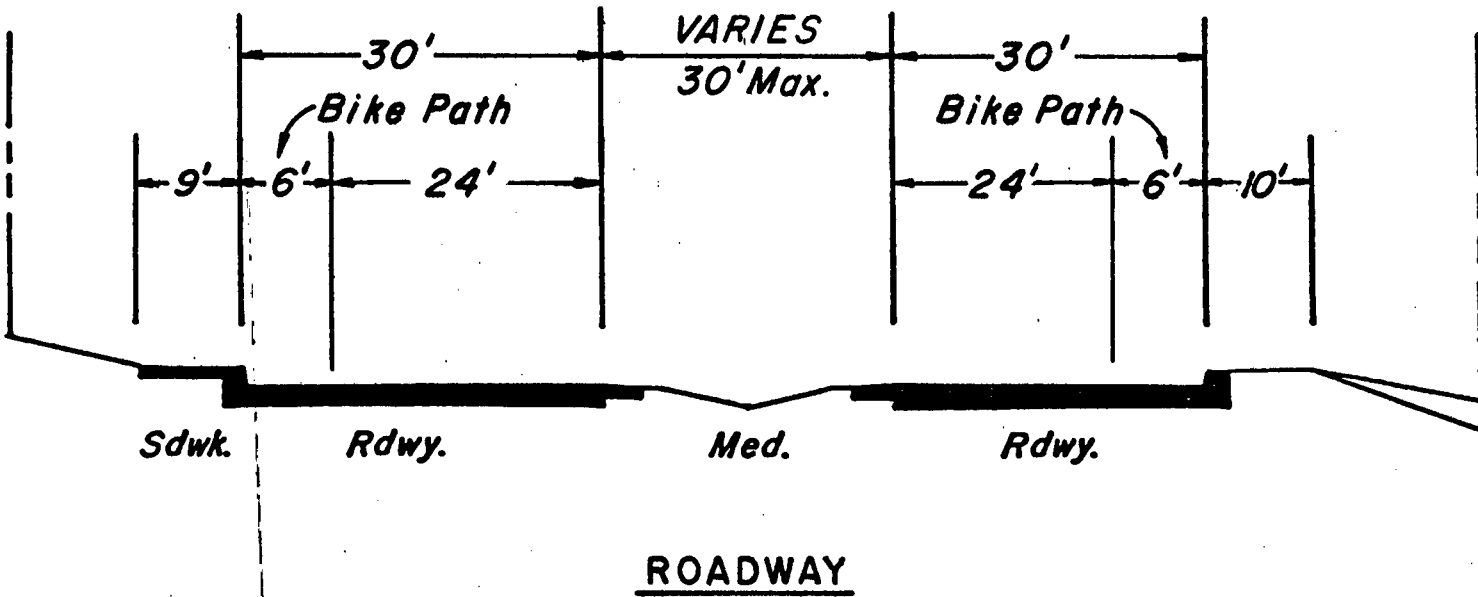
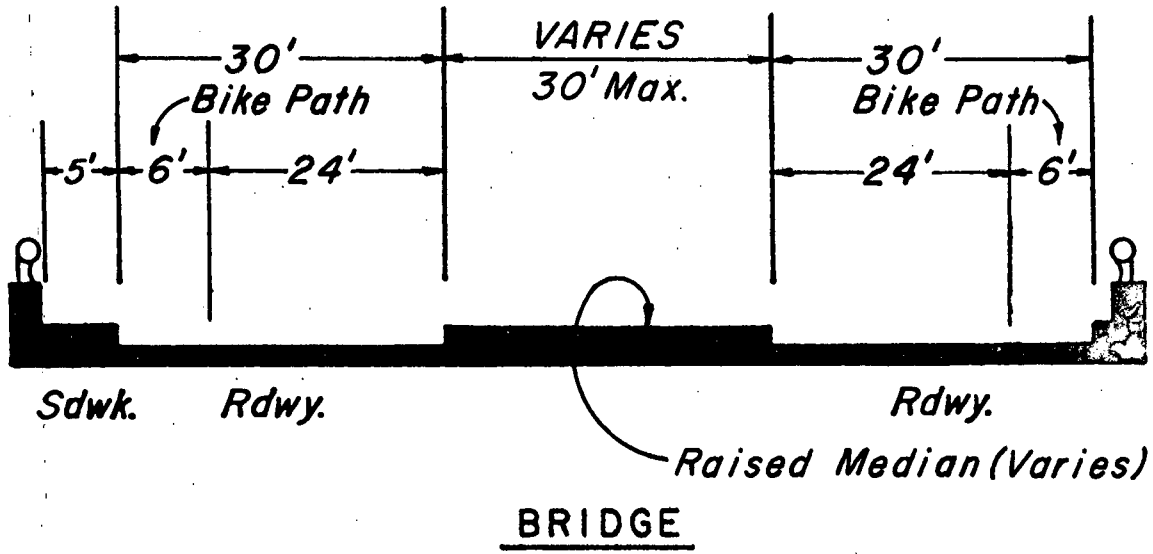
A. Description of Alternates

1. Build Alternates

Alternate 2 - This alternate is a diamond type interchange with all turning movements provided. The diamond interchange ramps provide for left turn movements at their junction with Maryland Route 189. The primary movement from westbound I-270 to northbound Maryland Route 189 would require a three lane ramp (36' roadway) to provide storage for the projected traffic volume exiting from I-270. The reciprocal movement in the southeast quadrant would require a two lane ramp. The northwest and southwest ramps would consist of a single lane (16' roadway).

The interchange itself is contained within the existing right-of-way. The only additional right-of-way required is in the transitioning from the dualization of Md. Rte. 189 overpass into the existing Md. Rte. 189 and Maryland Avenue intersection as outlined in the description for the traffic movement plan.

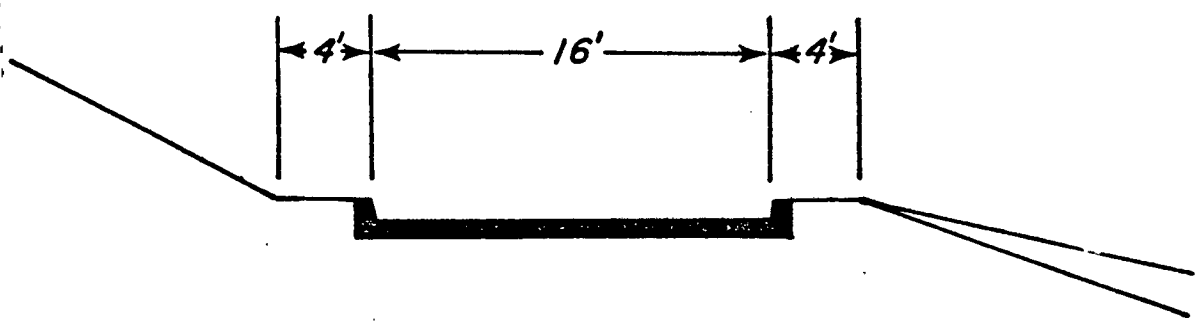
# PROPOSED TYPICAL SECTION 44



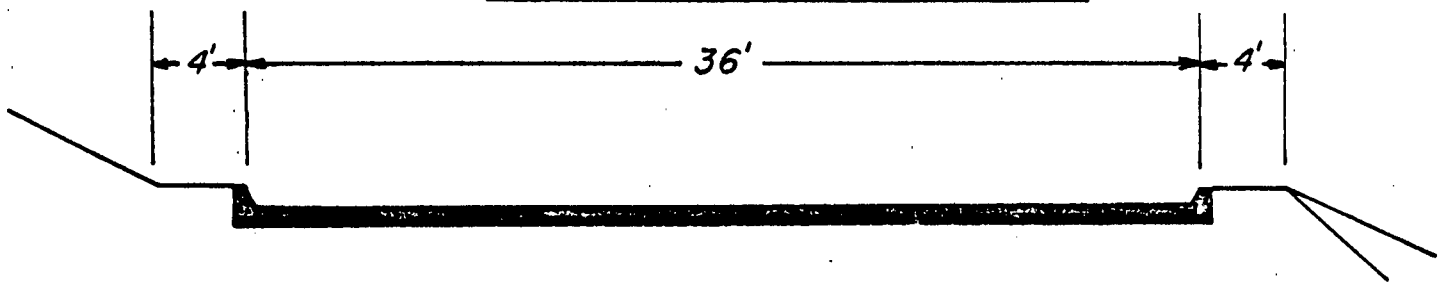
## PROPOSED MD. RTE. 189

NOTE: THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

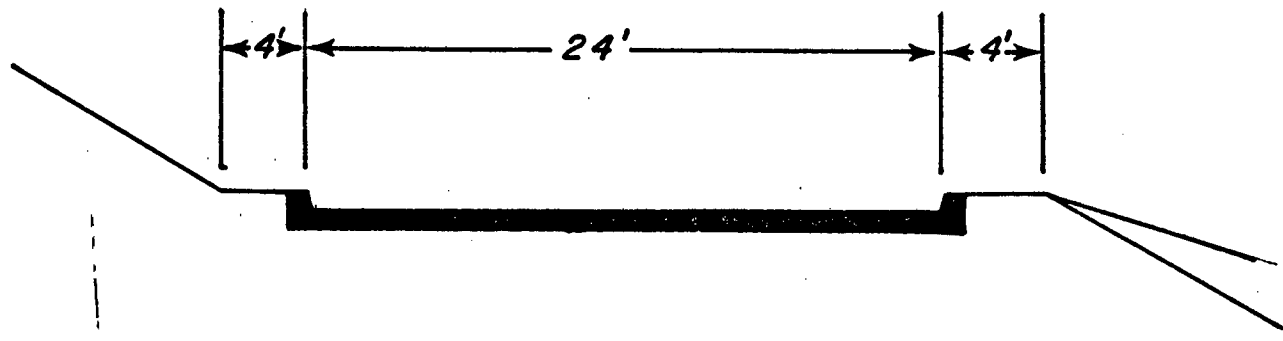
# PROPOSED TYPICAL SECTIONS 45



SINGLE LANE RAMP



TRIPLE LANE RAMP



DUAL LANE RAMP

NOTE: THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS, AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

The vertical alignment for Alternate 2 has maximum grades of 6% and minimum grades of .8%. The shortest vertical curve is 295', located in the southeast quadrant.

A disadvantage of this alternate is the need for two closely spaced ramp intersections along Maryland Route 189.

Alternate 2A - Alternate 2A is a full diamond interchange similar to Alternate 2 providing for all traffic movements differing only with the left turning movements at the junction of Maryland Route 189.

Alternate 2A proposes all left turning movements plus the through traffic on Maryland Route 189 to be functional through the use of a three phase traffic signal. This design requires that the left turn lanes from I-270 be partially on structure for the tie-in to the Maryland Route 189 pavement. Also a small portion of retaining wall is needed in order to obtain the proper elevation. The design will accommodate safe sight distances for traffic approaching from the ramps.

A double left turn lane is supplied for southbound Maryland Route 189 to eastbound I-270. A three lane ramp is proposed for the northeast quadrant to accommodate the double left turn from westbound I-270 to southbound Maryland Route 189. Since there is a relatively large movement from westbound I-270 to northbound Maryland Route 189 a three lane ramp permits right turning vehicles ample space to negotiate past the left turning storage lanes. Single lane ramps are proposed for all other movements.

This interchange will provide simple signal phasing consisting of three normal phases. The traffic signal is planned to operate as a fully actuated one, totally responsive to demand and the fluctuation in the traffic flow. Because of the lesser number of phases, this interchange will have a significantly higher capacity than would Alternate 2.

See Appendix for memorandum of April 16, 1980 from Mr. Tom Hicks, Asst. Chief Engineer - Traffic, S.H.A. for further discussion of the operational characteristics.

Alternate 2A requires the same vertical geometry and right-of-way as for Alternate 2. While this alternate will operate at a significantly higher level or service than 2 or 3, it also has the highest construction costs.

Alternate 3 - Alternate 3 is proposed as a modified half cloverleaf - half diamond interchange providing all turning movements. The diamond ramps would be situated in the northeast and northwest quadrants while the southwest quadrant would propose a 250 foot radius loop to provide southbound Maryland Route 189 access to eastbound I-270. The southeast quadrant would consist of a 250 foot radius loop to provide eastbound I-270 traffic access to Maryland Route 189 with left-turn storage. Also in this quadrant an outside wrap-around ramp is proposed for northbound Maryland Route 189 to obtain access to eastbound I-270.

The wrap-around ramp in the southeast quadrant would require an additional 0.95 acre of right-of-way. The other three quadrants would all be contained within existing right-of-way.

The vertical alignment in the northeast and northwest quadrants is the same as in Alternate 2. The loop in the southwest quadrant has a maximum grade of 5% and a minimum grade of 1%.

All build alternates propose that Maryland Route 189 be dualized from Ritchie Parkway to the juncture of Maryland Avenue and Falls Road.

The proposed roadway typical section (shown on Plate 10) for Maryland Route 189 south of the I-270 overpass consists of two 30 foot roadways containing two lanes each with a Class II bike way.

A Class II Bikeway consists of a 6 foot paved lane placed on the curbed side of the roadway separated from the roadway by either a painted stripe or a rolled macadam curb. These bike lanes are one way and operate at a level of service "A". The 6 foot bike lane meets or exceeds all present design standards.

The two roadways are separated by a 30 foot open median. The outside of the two roadway sections have curb and gutters with 10 foot backing on the northbound lanes, and a 9 foot sidewalk on the southbound lanes.

The bridge section of Maryland Route 189 spanning over I-270 maintains the two 30 foot roadway sections including bike lanes. These sections are separated by a 30 foot curbed median which is utilized for two left turn storage lanes. A raised median is proposed for this bridge to provide safe and efficient storage for left turning vehicles. The southbound lanes maintain the pedestrian sidewalk, but reduce it to 5 foot. The existing span is utilized as the southbound lane in all of the proposed alternates.



From the bridge to the end of the proposed study area, approximately 800 feet north of the bridge, the proposed roadway typical transitions into an alignment with Maryland Avenue and Maryland Route 189 compatible with the proposed traffic movement plans as discussed on Pages 15 and 16.

The dimensions described above are for the purpose of determining cost estimates and environmental impacts only and are subject to change during the final design phase.

All interchange build alternates require the acquisition of two residences. Construction associated with implementation of an acceptable traffic movement plan require acquisition of an additional third residence.

Implementation of any of the build alternates would result in the termination of Seven Locks Road near the Montgomery County Police Station. Access to Seven Locks Road and the County Police Station will be provided via the extension of Ritchie Parkway to Seven Locks Road. The extension of Ritchie Parkway by the City of Rockville would occur before construction of the interchange if a build alternate is selected, thus eliminating the need to relocate Seven Locks Road.

Traffic Movement Plans - In order for all build alternates to operate at an acceptable level of traffic service, two traffic movement plans are being considered.

'A' modified plan proposes a two way system for both Maryland Route 189 and Maryland Avenue as now exists. However, for peak hours Maryland Avenue would have a reversible center lane.

Potomac Valley Road would be extended to Maryland Route 189. Traffic southbound on Maryland Avenue would turn right onto this extension to proceed north or south on Maryland Route 189. Traffic southbound on Maryland Route 189 would use the Potomac Valley Road extension to reach Maryland Avenue or Potomac Valley Road. This plan is shown on Plate 12.

Should this traffic plan be adopted, three structures would be acquired.

Plan 'C' proposes that Maryland Avenue merge with Md.Rte. 189 just north of the bridge and that the portion of Md. Rte. 189 coming from the city terminates at Maryland Avenue in line with Potomac Valley Road as shown on Plate 13.

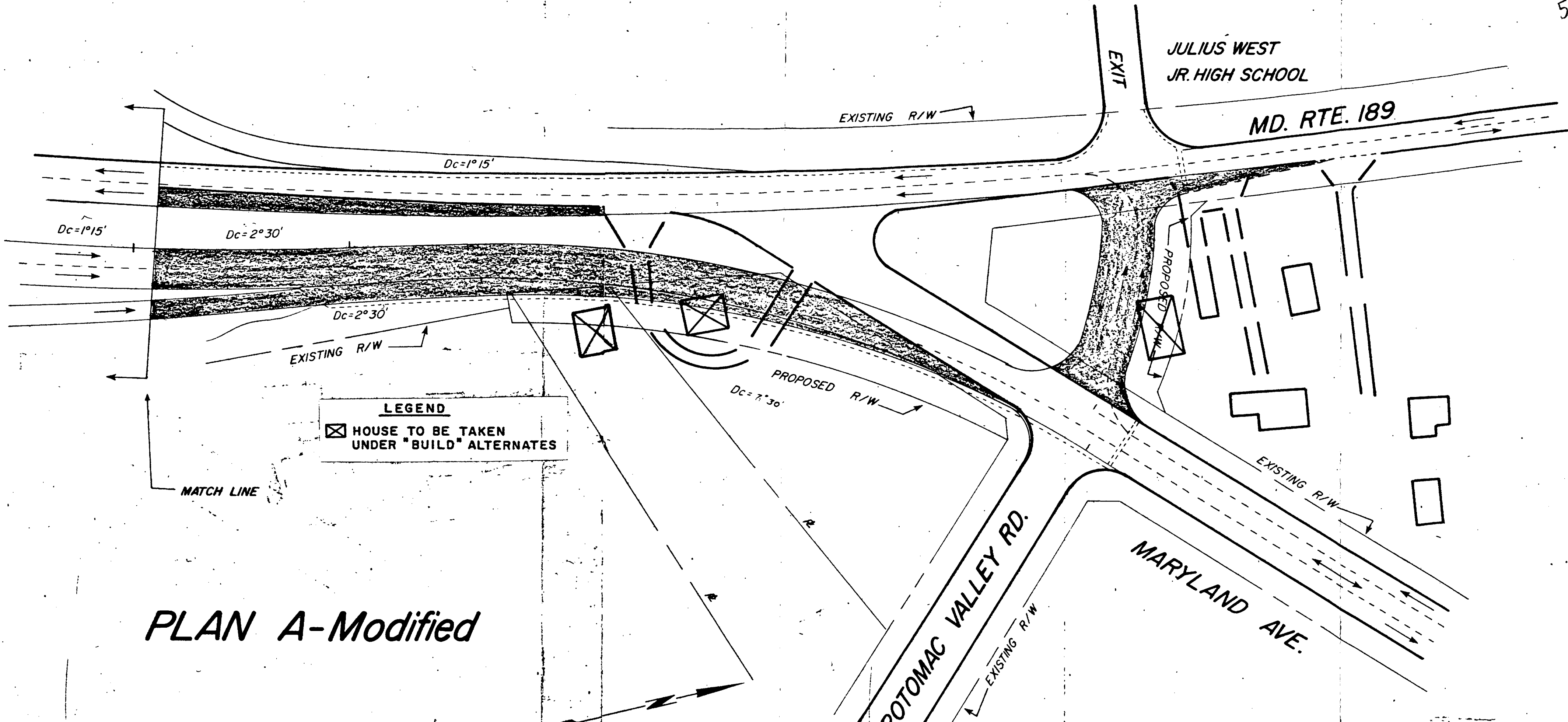
Maryland Avenue remains a two way system, however, for peak hours it would have a reversible center lane.

Maryland Route 189 remains a two way system at all times.

Traffic southbound on Md. Rte. 189 will turn right directly onto Maryland Avenue. Traffic northbound on Md. Rte. 189 from the south can either remain on Maryland Avenue or turn left onto the Md. Rte. 189 dogleg to the city.

Should this traffic plan be adopted, three structures would be acquired.

No-Build Alternate - The No-Build Alternate would not involve any construction in the study area beyond normal highway maintenance and bridge repair. This alternate would be the least costly, however, Montrose Avenue and West Montgomery Avenue (Maryland Route 28) under the no build



**LEGEND**  
☒ HOUSE TO BE TAKEN UNDER "BUILD" ALTERNATES

**PLAN A-Modified**

JULIUS WEST JR. HIGH SCHOOL

MD. RTE. 189

POTOMAC VALLEY RD.

MARYLAND AVE.

EXIT

EXISTING R/W

Dc=1°15'

Dc=2°30'

Dc=2°30'

Dc=7°30'

MATCH LINE

Dc=1°15'

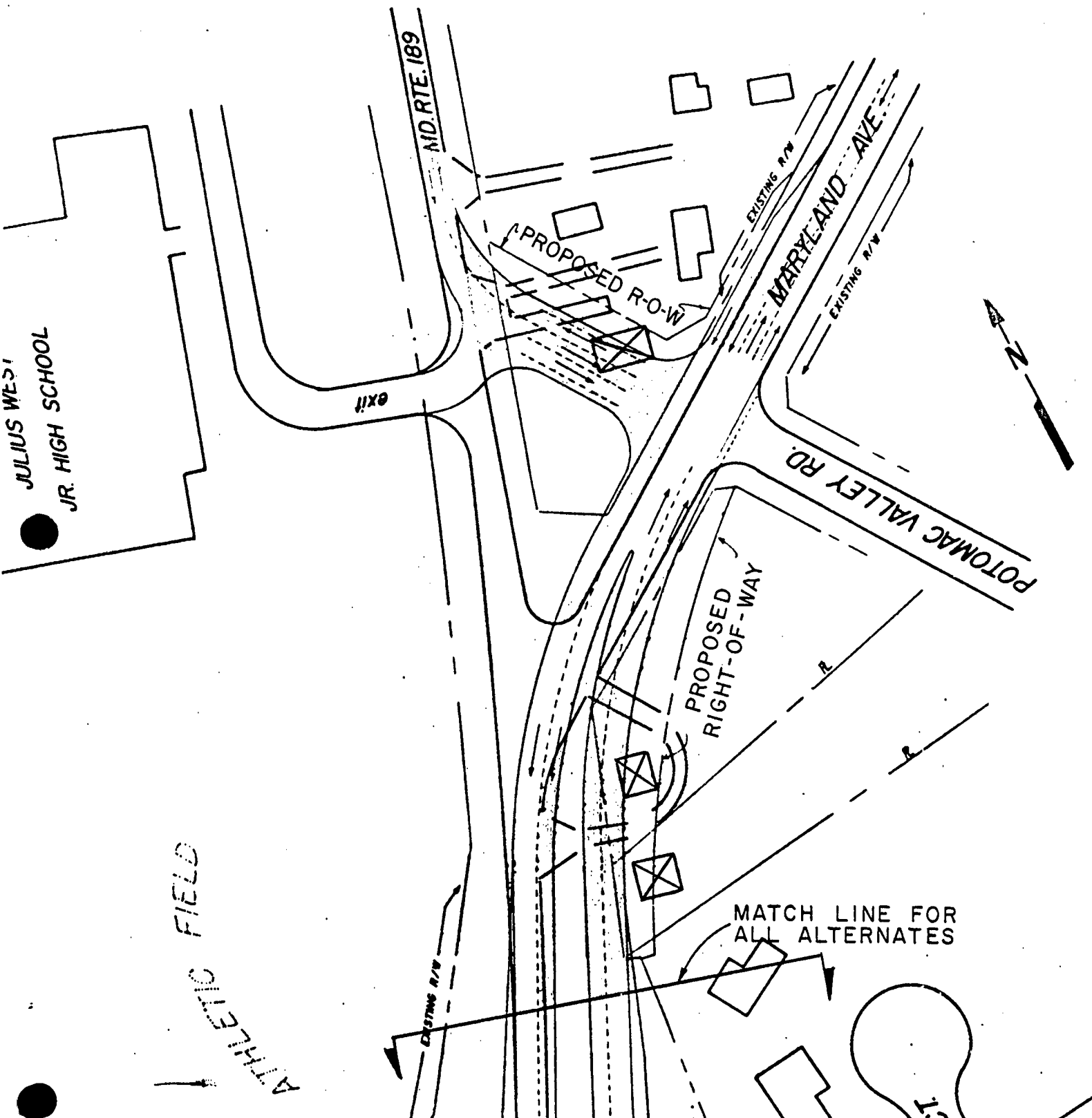
EXISTING R/W

PROPOSED R/W

EXISTING R/W

EXISTING R/W

# PLAN 'C'



**LEGEND**  
☒ HOUSE TO BE TAKEN UNDER "BUILD" ALTERNATES

alternative will continue to experience unacceptable daily traffic volumes. West Montgomery Avenue is an historic district under the aegis of the City's Historic District Commission and is on the National Register of Historic Places. Traffic volumes projected on this street without the Falls Road interchange will continue to contribute to increased incidence of air pollution, noise, and other environmental problems which severely impact this roadway. Shortcutting through residential neighborhoods will increase in occurrence and threaten the tranquility and safety of residents living within these residential neighborhoods.

Because of the poor condition of the existing bridge deck, it is proposed that the deck replacement be included in the no-build alternate (see Table 1).

B. Engineering Factors and Costs

The build alternates developed have been designed to safely accommodate a posted speed of 55 mph on I-270 through the interchange and 40 mph along Maryland Route 189 in the vicinity of the interchange. For all design and construction, the standards referred to and recommended in the AASHTO (American Association of State Highway and Transportation Officials) publications, Federal Highway Administration memoranda relative to highway safety and State Highway Administration criteria will be used.

Total construction and right-of-way costs associated with the build alternates are outlined in Table 1.

The right-of-way costs include cost of land, cost of improvements, relocation assistance costs, contingencies and administrative and general overhead expenses.

TABLE I  
COMPARISON OF ALTERNATES

ALT.'S	MAJOR STRUCT.'S	IMPROVEMENTS AFFECTED		REQUIRED R/ W			COST ESTIMATES / \$1000		
		RES.	COMM.	RES.	COMM.	AGR.	R.O.W.	CONST.	TOTAL
2	1	3	0	3.07 AC.	0	0	377	12,766 *	13,143 *
2-A	1	3	0	3.07 AC.	0	0	377	15,494	15,871
3	1	3	0	4.02 AC.	0	0	419	13,036 *	13,455 *
NO BUILD	0	0	0	0	0	0	0	875 *	875 *

\* FIGURES REFLECT COST FOR REPLACEMENT OF EXISTING BRIDGE DECK  
NOTE: ALL FIGURES INCLUDE PLAN "A" MODIFIED.

54

Construction costs include clearing the right-of-way, earthwork and grading, drainage and related structures, roadway base and surface, roadside development, and major and miscellaneous structures.

Costs associated with noise barriers are not included because the determination of barrier feasibility is a final design function.

IV. Impacts

A. Social and Economic

1. Socio-Economic

The project is consistent with area and local land use plans concerned with the future development of the area and providing better and more efficient access to the City of Rockville by utilizing existing facilities. Pedestrian sidewalks and bikeways are being studied to utilize the proposed project for more than one mode of transportation and to maintain the current circulation patterns in the area. The proposed project will enable the area to continue to develop and grow economically as anticipated in the land use and economic growth plans. The project should aid the economy of the area and the City of Rockville by the potential increase in income taxes, sales and an increase in property values as better access is provided to the area.

The project will provide some temporary, skilled and unskilled jobs during the actual construction of the proposed interchange.

2. Relocation Summary

Implementation of any of the interchange build alternates will require the acquisition of two residences. Implementation of either "Build" traffic movement plan would require an additional house. There will be no minorities or handicapped individuals affected. The first residence, located at 6300 Great Falls Road, is a one and one-half story stucco or cinder block structure that appears to be between 35-45 years old. It is likely that tenants occupy this residence.

The other two dwellings are located at 634 and 636 Falls Road. The residence at 634 Falls Road is a one and one-half story frame dwelling that



appears to be approximately 40 years old. Tenants occupy this dwelling and two out-buildings are also situated on this lot. The house at 636 Falls Road is a two-story frame structure that is 50 years old or more. It houses an owner-occupant, and the lot contains an out-building in addition to the residence. There is space available on these properties to relocate these homes, if the owners desire. All of the homes are valued in excess of \$40,000.

Approximately 10 people will be displaced. No members of minority groups nor handicapped were observed upon inspection.

The housing market in the study area is fairly active with numerous new and used homes for sale. It is estimated it would require approximately 15 months to relocate residents affected. The rental housing market is more congested, and available rentals are in the \$375-\$500 range. A limited supply of housing rentals exists and this trend is expected to continue. There will be no relocations of businesses or non-profit organizations.

A summary of the relocation assistance program of the Maryland State Highway Administration is found in Appendix A.

3. Community Facilities and Services

Due to its proximity to the City of Rockville, the study area has access to a wide variety of community facilities and services. These include municipal government, police and fire services, social services programs and recreational areas, as well as a county library.

Contained in the study area itself are neighborhood parks, the Julius West Middle School, the Montgomery County Police Station, the Montgomery County Detention Home and the Montgomery County Department of Public Works. The proposed project will provide better access to most of these facilities.

Improved traffic flows in the majority of the study area due to the project may aid response time for emergency services such as fire and ambulance. The placement of a cul-de-sac on Seven Locks Road will not significantly hinder access to the County Police Station located on Seven Locks Road. The extension of Ritchie Parkway will provide access to Falls Road from Seven Locks Road, and police emergency response time would not be significantly increased by construction of an interchange.

From a safety standpoint, maintaining the existing Falls Road access under any build alternate is undesirable.

4. Civil Rights Compliance

It is the policy of the Maryland State Highway Administration to insure 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, religion, national origin, 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 be given to the social, economic, and environmental effects of all highway projects. Alleged discrimination actions should be addressed to the State Highway Administration for investigation.

5. Historic and Archaeological Sites

The study area was surveyed by a field archaeologist from the Maryland Geological Survey on September 25, 1978. His report indicated that no known archaeological sites would be impacted by any of the alternates

59  
under consideration. The State Archeologist reviewed and concurred in the report. The archeological reconnaissance is available for review at the State Highway Administration.

A letter from the State Historic Preservation Officer stating that there is no effect on historic properties from the proposed action is contained in Section V. Two properties, both of which will be acquired under any build alternate, are eligible for the Maryland Historical Site inventory but are not locally significant as determined in consultation with the State Historic Preservation Officer (see letter February 1, 1980 for description).

#### B. Impact on Air Quality

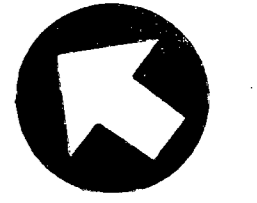
To determine the potential air quality impact of the proposed construction, an analysis of worst-case microscale carbon monoxide concentrations was made for each of the four alternates. This analysis allows comparison of the predicted concentrations adjacent to the roadway to the State and Federal Ambient Air Quality Standards.

Thirteen sensitive receptors, located within the study area, (Plate 14) were selected for computer modeling of pollutant levels. Sensitive receptors are those public places where large numbers of people frequently gather, such as schools, churches, playgrounds, and residential areas.

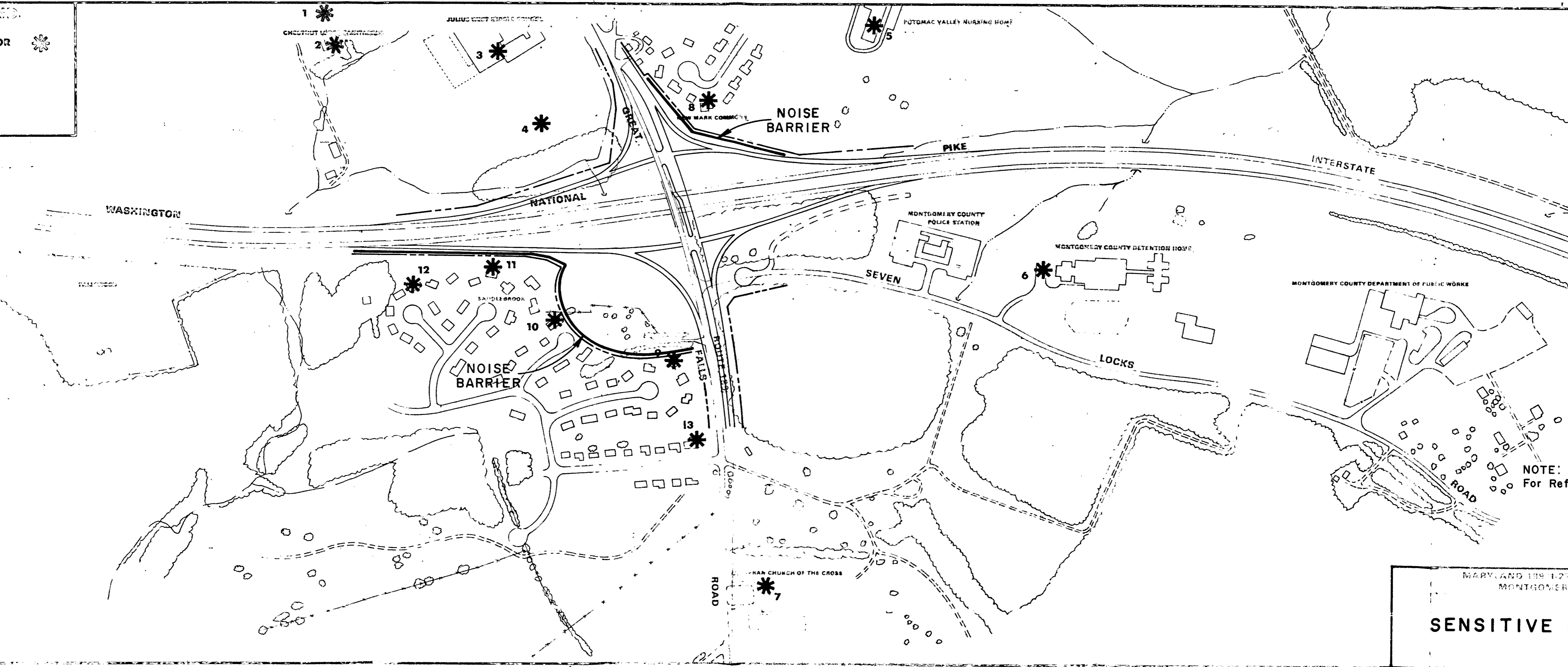
The results for the worst-case analysis are shown in Tables 2 and 3. These concentrations include the background air quality levels.

The background air quality data required for this project are the one-hour and the eight-hour carbon monoxide concentrations. The background concentrations refer to the base level of carbon monoxide that exists in the ambient air throughout the study area. By adding the results from the computer modeling of the proposed roadway to the background concentrations, the total carbon monoxide concentrations for specific sections of the study area can be calculated. These total carbon monoxide concentrations then reflect the pollutant contributions from all sources.

SCALE 1" = 300'



LEGEND  
SENSITIVE RECEPTOR \*  
NOISE BARRIER



NOTE: Alternate 2 Shown For Reference Only.

MARYLAND 1994-276 INTERCHANGE  
MONTGOMERY COUNTY  
**SENSITIVE RECEPTORS**

61

The background carbon monoxide data for this project was derived through the use of a Hanna-Gifford based area source model developed by the Metropolitan Washington Council of Governments for use in predicting future carbon monoxide levels in the Washington area. These projections are based on AP-42 Supplement V and the Transportation Planning Board traffic demand projections. The resulting concentrations for the project area expressed in parts per million are as follows:

	<u>1985</u>	<u>2005</u>
One-Hour Maximum	3.9 ppm	3.7 ppm
Eight-Hour Maximum	1.4 ppm	1.2 ppm

Although the eight hour average concentrations at receptors 11 and 12 approach the Ambient Air Quality Standard (AAQS) of 9 ppm, none of the carbon monoxide levels exceed the AAQS.

The microscale analysis of the proposed action has determined that there will be no violation of the State or Federal Ambient Air Quality Standards for carbon monoxide associated with the "build" alternate during the study years for either the one-hour maximum or the eight-hour maximum.

Regional Consistency Statement - The air quality consistency of this project on regional level is assumed in the following ways:

1. The National Memorandum of Understanding between U.S. Department of Transportation and Environmental Protection Agency dated June 14, 1978 formally integrated 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."

62

TABLE 2

SENSITIVE RECEPTORS - PEAK HOUR CARBON MONOXIDE (ppm)

Receptor Number*	Sensitive Receptor	1985		2005	
		No-Build	Build**	No-Build	Build**
1	Chestnut Lodge Sanitarium	14.7 (14.4)	14.5 (14.8)	10.0(10.0)	10.0(10.0)
2	Chestnut Lodge Sanitarium - pool	8.6 ( 8.5)	8.6 ( 8.6)	6.4( 8.3)	6.4( 6.4)
3	Julius West Middle School	9.2 ( 9.0)	11.1 (11.2)	6.7( 8.8)	8.2( 8.2)
4	Playfields - Julius West Middle School	16.0 (15.7)	14.1 14.4 14.4 (14.7)	11.2(15.5)	10.6(10.6) 10.9(10.9)
5	Potomac Valley Nursing Home	9.8 ( 9.6)	12.0 (12.0) 12.1 (12.1)	7.1( 7.1)	8.9( 8.9) 9.0( 9.0)
6	Montgomery County Detention Home	13.4 (13.1)	13.6 (13.8) 14.1 (14.2)	9.3( 9.3)	9.7( 9.7) 10.1(10.1)
7	Lutheran Church of the Cross	7.4 ( 7.4)	9.6 ( 9.8) 12.1 (12.4)	6.0( 6.0)	8.0( 8.0) 10.3(10.3)
8	New Mark Commons	17.1 (16.7)	18.3 (18.6) 16.1 (16.2)	11.3(11.3)	14.3(14.3) 14.3(14.3)
9	Fallsmead Residential Area #1	5.7 ( 5.7)	14.9 (15.2) 15.1 (15.5)	5.5( 5.5)	10.7(10.7) 10.9(10.9)
10	Fallsmead Residential Area #2	13.5 (13.2)	14.2 (14.4) 13.4 (13.6)	9.2( 9.2)	10.5(10.5) 10.0(10.0)
11	Saddlebrook Residential Area #1	26.5 (25.9)	8.8 ( 8.9) 8.6 ( 8.7)	16.7(16.7)	7.9( 7.9) 7.7( 7.7)
12	Saddlebrook Residential Area #2	25.1 (24.5)	9.2 ( 9.3) 9.0 ( 9.1)	16.0(16.0)	7.9( 7.9) 7.7( 7.7)
13	Fallsmead Residential Area #3	9.4 ( 9.3)	9.7 ( 9.8) 9.0 ( 9.1)	7.4( 7.4)	7.7( 7.7) 7.1( 7.1)

The one-hour Federal Standard for Carbon Monoxide is 35 ppm.

\*Numbers refer to sensitive receptor locations shown on Plate 14.

xxx (xxx) - concentrations with Rockville Facility (concentrations without Rockville Facility)

\*\* The first number represents Alternate 2 and 2-A, while the one below represents Alternate 3.

TABLE 3

SENSITIVE RECEPTORS - HIGHEST 8-HOUR CARBON MONOXIDE (ppm)

Receptor Number *	Sensitive Receptor	1985		2005	
		No-Build	Build	No-Build	Build
1	Chestnut Lodge Sanitarium	5.9 (5.8)	4.2 (4.2) 4.2 (4.2)	4.0 (4.0)	4.0 (4.0) 4.0 (4.0)
2	Chestnut Lodge Sanitarium - Pool	3.4 (3.4)	2.7 (2.7) 2.7 (2.7)	2.6 (3.3)	2.6 (2.6) 2.6 (2.6)
3	Julius West Middle School	3.7 (3.6)	3.5 (3.5) 3.6 (3.7)	2.7 (3.5)	3.3 (3.3) 3.4 (3.4)
4	Playfields - Julius West Middle School	6.4 (6.3)	4.5 (4.6) 4.6 (4.8)	4.5 (6.2)	4.2 (4.2) 4.4 (4.4)
5	Potomac Valley Nursing Home	3.9 (3.8)	3.6 (3.6) 3.6 (3.6)	2.8 (2.8)	3.6 (3.6) 3.6 (3.6)
6	Montgomery County Detention Home	5.4 (5.2)	4.1 (4.2) 4.3 (4.3)	3.7 (3.7)	3.9 (3.9) 4.0 (4.0)
7	Luthern Church of the Cross	3.0 (3.0)	3.4 (3.5) 4.4 (4.5)	3.0 (3.0)	3.2 (3.2) 4.1 (4.1)
8	New Mark Commons	6.8 (6.7)	6.1 (6.2) 5.2 (5.3)	4.5 (4.5)	5.7 (5.7) 5.7 (5.7)
9	Fallsmead Residential Area #1	2.3 (2.3)	4.6 (4.7) 4.7 (4.8)	2.2 (2.2)	4.3 (4.3) 4.4 (4.4)
10	Fallsmead Residential Area #2	5.4 (5.3)	4.5 (4.6) 4.2 (4.3)	3.7 (3.7)	4.2 (4.2) 4.0 (4.0)
11	Saddlebrook Residential Area #1	8.6 (8.4)	3.2 (3.2) 3.1 (3.1)	6.7 (6.7)	3.2 (3.2) 3.1 (3.1)
12	Saddlebrook Residential Area #2	8.0 (7.8)	3.2 (3.2) 3.1 (3.1)	6.4 (6.4)	3.2 (3.2) 3.1 (3.1)
13	Fallsmead Residential Area #3	3.8 (3.7)	3.3 (3.3) 3.0 (3.0)	3.0 (3.0)	3.1 (3.1) 2.8 (2.8)

The eight-hour Federal Standard for Carbon Monoxide is 9 ppm.

\* Numbers refer to sensitive receptor locations shown on Plate 14.

xxx(xxx) Concentrations with Rockville Facility (concentrations without Rockville Facility)

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 Environmental Protection Agency. This includes joint review of the following documents and activities to ensure that air quality considerations are adequately addressed:

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

2. Through the urban transportation planning requirement of Title 23, United States Code, Section 124, 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.

3. Therefore, the I-270/MD Route 189 Interchange 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



consistency of this project is addressed prior to undertaking the final project planning studies presented in the 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 being addressed quantitatively in this analysis (environmental document).

The microscale analysis of the proposed action has determined that there will be no violation of the State or Federal Ambient Air Quality Standards for carbon monoxide associated with the "build" alternate during the study years.

The technical analysis prepared was reviewed by the Environmental Protection Agency and Maryland Bureau of Air Quality. They concurred in the results of the analysis. See the letters in the Correspondence Section dated March 28, 1980 and March 13, 1980. A copy of the technical report is available at the SHA for review.

The analysis performed did not assume an inspection/maintenance program for all in-use vehicles. It is reasonable to forecast that if the air analysis was redone utilizing the inspection/maintenance program the air quality levels would be less than shown in the preceding tables. The inspection/maintenance program will become state law in July 1982. It will be voluntary in July 1981.

66

Based on the analysis of microscale, regional and construction air quality and coordination with the U.S. Environmental Protection Agency and the Maryland Bureau of Air Quality, we find the project consistent with the State Implementation Plan.

C. Noise Impacts

Impacts from traffic noise at sensitive receptors in the project area will be varied in both degree and scope depending on the alternate considered. A summary of the impacts is given below.

<u>Alternate</u>	<u>No. of Noise Sensitive Areas</u>	<u>No. of Exceeded Design Noise Levels</u>	<u>Range of Noise Level Increases (or Decreases)</u>
No-Build	13	3	(-5dBA) to +10dBA
2	13	5	(-3dBA) to +10dBA
2A	13	5	(-3dBA) to +10dBA
3	13	5	(-3dBA) to +10dBA

Two factors, in general, account for the minor noise impact;

- 1) Location of ramp traffic for the build alternates close to the sensitive receptors, and
- 2) High projected traffic volumes on I-270 and Maryland Route 189.

Federal design noise level standards will be exceeded with any of the build alternates under study at five locations and the No-Build at three locations. Table 4 describes noise sensitive areas and Table 5 indicates design year noise levels. See Plate 14 for location of noise sensitive areas.

A detailed description of the analysis and results are available in the technical Noise Analysis report prepared for use in this document.

Areas Design Noise Levels are Exceeded

Impact on noise sensitive areas 9, 11 and 12 result from their proximity to proposed ramps in the southwest quadrant of the interchange as well

67

TABLE 4  
NOISE SENSITIVE AREAS

Noise Sensitive Area	Description
1	Chestnut Lodge Sanitarium, north of Md. 189 overpass. Two buildings are air-conditioned.
2	Chestnut Lodge Sanitarium pool facility, southwest of NSA 1.
3	Julius West Middle School, located approximately 1000 feet north of Md. 189 overpass. The facility is not air conditioned.
4	Playfields of Julius West Middle School, between NSA 3 and I-270. These playfields are in use throughout the day.
5	Potomac Valley Nursing Home, 600 feet east of I-270 and 1200 feet south of Md. 189. The facility is air-conditioned.
6	Montgomery County Detention Home, between I-270 and Seven Locks Road, 1800 feet south of Md. 189 overpass. This facility is not air conditioned. There is a recreation yard.
7	Lutheran Church of the Cross, south of Md. 189, 1800 feet west of I-270. The church is air-conditioned. Some weekday activities occur during Md. Rte. 189 traffic peak hours.
8	New Mark Commons, two-story single family residential development located east of the Md. 189 overpass.
9	Fallsmead #1, fourteen two-story single family residences located off Watts Branch Parkway.
10	Fallsmead #2, eight two-story single family homes located off Watts Branch Parkway.
11	Saddlebrook #1, eleven two-story single family homes located off Watts Branch Parkway.
12	Saddlebrook #2, nine two-story single family homes located off Watts Branch Parkway.
13	Fallsmead, two-story single family residences located along Fallsmead Way.

TABLE 5  
PROJECT NOISE LEVELS

Design Year: 2005

NSA	DESCRIPTION	AMBIENT L10		DESIGN L10			
		TIME	L10	No-Build	Build-Alt.2	Build-Alt.2A	Build-Alt.3
1	Institution	4:40	56	56	57	57	57
		P.M.					
2	Institution	4:35	58	61	60	60	60
		P.M.					
3	Middle School	4:50	66	62	66	66	66
		P.M.					
4	Middle School	4:55	66	64	66	66	66
		P.M.					
5	Institution	4:25	62	64	61	61	61
		P.M.					
6	Detention Home	8:10	65	61	63	63	63
		A.M.					
7	Church	5:00	54	62	64	64	64
		P.M.					
8	Residential	7:30	64	65	73*	73*	73*
		A.M.					
9	Residential	8:20	67	71*	72*	72*	73*
		A.M.					
10	Residential	8:25	69	64	66	66	69
		A.M.					
11	Residential	8:30	67	72*	73*	73*	72*
		A.M.					
12	Residential	8:35	62	72*	72*	72*	72*
		A.M.					
13	Residential	8:15	63	69	73*	73*	73*
		A.M.					

\*Federal Noise Levels Exceeded

108

31

69

as from the increase in traffic volumes along I-270. Although Alternate #3 L<sub>10</sub> levels vary slightly from those predicted for Alternate 2 and 2-A because of variations in the ramp configuration essentially all 'Build' Alternates will have equivalent noise levels.

In this quadrant there is adequate space within the existing S.H.A. right-of-way to construct earth berms and for barrier walls with sufficient height (10-12 feet) to obtain 0-5 dBA attenuation meeting the requirements of FHPM 7.3.3 1800 feet of barrier would be required for this quadrant.

Noise sensitive area 13 is located adjacent to Md. Rte. 189 south of the interchange and will be subject equally to noise from the increased traffic along Md. Rte. 189 and I-270. This location is adjacent to a residential community entrance. The effectiveness of any mitigating measures for the homes adjacent to Md. Rte. 189, would be degraded by discontinuity of the barrier from the intrusion of the entrance road.

Noise sensitive area 8 is in the northeastern quadrant of the proposed interchange and will be impacted due to its proximity to the proposed ramp in that quadrant, and from the heavier traffic volume on both I-270 and Md. Rte. 189. The build alternates are identical in geometric configuration and noise generation. Several homes in this neighborhood will require noise protection. With minimum right-of-way available no berms can be constructed, however, a barrier wall (12-14 feet high) located close to the ramp, extending about 800 feet along the ramp would give an attenuation of about 5dBA.

Barrier walls and berms if made a part of the construction contract this interchange, would be built for about \$250,000 including additional landscaping. Barriers are located on Plate 14 following page 23.

D. Impact on Water Quality

The increase in paved surface area associated with the proposed project would result in additional storm water runoff in the immediate vicinity of the proposed interchange. This runoff would be controlled by the use of storm water management. The reduction in permeable ground surface area may cause a corresponding decrease in groundwater recharge.

A small stream in the southeast quadrant of the interchange and located within the Cabin John watershed will be impacted by these changes in runoff but will otherwise be unaffected by the project. The floodplain will not be affected.

Some contaminants, mainly deicing compounds, would be carried from the roadway by storm water runoff. The impact upon local surface waters would most likely be negligible.

E. Impact on Wildlife and Vegetation

The rapid development within the study area has had a profound impact upon the native wildlife and vegetation. Very little undisturbed wildlife or natural vegetation occurs in the study area due to existing and proposed residential development. The area does not contain unique habitat supporting any rare or endangered species.

There are four typical floral habitats in the study area. These are bottomland or floodplain vegetation, old field, young woodlot and landscaped communities

The bottomland association occurs along the streams and in poorly drained areas of the study area. This association is found most notably in the northern quadrant of the existing overpass, but can be found in other areas receiving drainage from I-270. Typical plants include Red Maple, Red Cedar, Black Willow, wild roses, cattails and rushes.

Old field habitats are found throughout the study area in abandoned agricultural areas. The vegetation of each area depends on the amount of time the field has been abandoned. First to appear are grasses such as Crabgrass, which are followed successively by Horse Weed, White Aster, Broomsedge, young pines and eventually upland pine or hardwood forest. Old field habitats in all of these stages are found in the study area.

Young woodlots are fairly common in the study area. These woodlots include young trees from 6 inches to 2 feet in diameter which gradually replace the scrub pine and other old field vegetation. A field reconnaissance of such a woodlot in the southern quadrant of the overpass identified Red and Sugar Maple, Tulip Poplar, Sassafras, American Elm, Osage Orange, Red Cedar, Red Oak, Flowering Dogwood, Staghorn and Dwarf Sumac, as well as a variety of shrubs and vines including Honey Suckle, American Holly, wild rose, Poison Ivy and wild raspberries.

Landscaped community vegetation occurs in the developed residential areas. These normally lie within areas previously occupied by upland forests, where the existing vegetation has been partially or wholly cleared and replanted within various species of grasses and trees.

Because of existing and proposed residential development, wildlife populations have decreased overall, due to the loss of habitat coupled with increased human activity. In addition to the general reduction in population densities, there has also been a decrease in diversity. Most adversely affected have been those species requiring large home ranges, specialized habitat or freedom from disturbance. Where marginal habitat still exists, many of the more

tolerant and adaptable species have thrived. Among the mammals that have fared best are mice, moles, rabbits and squirrels. The two areas near the proposed interchange most likely to serve as habitats for these animals are the poor drainage area in the northern quadrant and the wooded area west of Seven Locks Road in the southern quadrant.

Although most of the study area can no longer be expected to support species of birds requiring a great degree of seclusion, some varieties have held their own despite development pressures. Cardinals, Mocking Birds, Robins and Catbirds have adapted reasonably well to the man-made environment.

On June 18, 1980 Mr. Andy Mosher, Area Officer, U.S. Fish and Wildlife stated that there are no Federal listed threatened or endangered species within the project area. The contact with Mr. Mosher was made by telephone.

On June 26, 1980, Mr. Gary Taylor, Senior Biologist, Maryland Wildlife Administration, Department Natural Resources, stated that there are no State of Maryland listed threatened or endangered species within the project area. The contract with Mr. Taylor was made by telephone.

In conclusion, there will be no effect on rare or endangered species unique habitat, prime or unique agricultural lands, wetlands or 100 year floodplain. The primary natural impacts would consist of clearing several trees and some grassy area for the interchange.



V. Comments and Coordination

A. Summary of Alternates Public Meeting

An Alternates Public Meeting for this project was held on Wednesday, April 25, 1979, at the Julius West Middle School. There was heavy public participation at the meeting with approximately 35 citizens and officials speaking. Individual citizens and representatives from several community organizations participated.

Approximately two-thirds of the speakers endorsed the build alternates and of these, the majority including elected and appointed officials, favored a full interchange.

Although it was generally acknowledged that traffic flows in and out of Rockville, particularly along Maryland Route 28 and Montrose Road, are a problem, some of the speakers thought that an interchange at Maryland Route 189 was the solution. Other public opposition focused on inadequate provisions for pedestrians and bicyclists.

B. Coordination

Letters indicating coordination with Federal and State agencies are located in Appendix A.

APPENDIX A

"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" (Public Law 91-646) and/or the Annotated Code of Maryland, Article 21, Sections 12-201 thru 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 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 residences include actual moving costs up to 50 miles or a schedule moving cost payment, including a dislocation allowance, 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 estimates of the cost may be obtained. The Owner may be paid an 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 dif-

ference between the cost of 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 value of the item for continued use 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 and the property is abandoned, the owner is entitled to receive the lesser of the value for continued use of the item in place or the estimated cost of moving the item and the reasonable expenses of the sale. When personal property is abandoned without an effort by the owner to dispose of the property by sale, the owner will not be entitled to moving expenses, or losses for the item involved.

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 State may determine that 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 re-located 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 questions.

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 the State may determine 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 has been discontinued or relocated. In some cases, payments "in lieu of" actual moving costs may be made to farm operations that are affected by a partial acquisition. 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.

**Letters from Federal  
and State Agencies**

80



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
6TH AND WALNUT STREETS  
PHILADELPHIA, PENNSYLVANIA 19106

MAR 28 1980

Mr. Charles R. Anderson, Chief  
Bureau of Landscape Architecture  
Maryland State Highway Administration  
2323 West Joppa Road  
Brooklandville, Maryland 21022

Re: I-270/Maryland Route 189 Interchange

Dear Mr. Anderson:

We have reviewed the Air Quality Analysis for the project referenced above,  
and we have no objections to the proposed project from an air quality  
standpoint.

Sincerely yours,

John R. Pomponio  
Chief  
EIS & Wetlands Review Section





ENVIRONMENTAL HEALTH ADMINISTRATION  
**DEPARTMENT OF HEALTH AND MENTAL HYGIENE**

201 WEST PRESTON STREET • BALTIMORE, MARYLAND 21201 • Area Code 301 • 383-3245

Harry Hughes, Governor

Charles R. Buck, Jr., Sc.D. Secretary

March 17, 1980

Mr. Charles R. Anderson, Chief  
Bureau of Landscape Architecture  
Joppa & Falls Roads  
Brooklandville, Maryland 21022

Dear Mr. Anderson:

RE: Contract No. M 278-251-371  
F.A.P. No. I-270-7(77)80  
I-270/Maryland Rte. 189 Interchange

We have reviewed the Air Quality Analysis for the above subject project and have found that it is not inconsistent with the Programs' plans and objectives.

Thank you for the opportunity to review this analysis.

Sincerely yours,

William K. Bonta, Chief  
Division of Program Planning & Analysis  
Air Quality Programs

WKB:bab



**Maryland Department of Transportation**

State Highway Administration

James J. O'Donnell  
Secretary

M. S. Caltrider  
Administrator

g2

November 27, 1979

M E M O R A N D U M

TO: Mr. Eugene T. Camponeschi, Chief  
Bureau of Project Planning

FROM: T. W. Beaulieu, Chief  
Bureau of Highway Statistics

SUBJECT: I-270/Maryland Route 189 Interchange

This memorandum is in regard to the memorandum from this office dated November 15, 1979 concerning the above captioned project.

To further clarify the aforementioned memorandum, Maryland Avenue will operate at LOS "C" in 2005; Maryland Route 189 will operate at LOS "E" in 2005; and Maryland Route 28 will operate at LOS "F" in 2005; if it is maintained as a 2 lane highway. It should be noted that Maryland Route 28 will operate at LOS "D" if it is marked for a 3 lane highway to handle the peak hour direction.

The LOS indicated should not hamper the operating conditions of the aforementioned roads, if Maryland Route 28 is marked as suggested. We should note that the reasoning behind this assumption is that the aforementioned roads have a posted speed of 30 mph which in itself indicates LOS "E". Therefore, the operating conditions of these roads will be adequate if in the year 2005 the posted speeds remain the same.

If we may be any further assistance to you, please do not hesitate to contact this office.

By

Bernard L. Stewart, Chief  
Traffic Forecasting Section

BLS:DS:d

383-7050

My telephone number is \_\_\_\_\_

15  
Maryland Department of Transportation

State Highway Administration

83  
James J. O'Donnell  
Secretary

M. S. Caltrider  
Administrator

MEMORANDUM

April 10, 1980

TO: THE FILE

FROM: Thomas Hicks  
Asst. Chief Engineer-Traffic

SUBJECT: Contract M-278-251-251  
F.A.P. I-270-7(77)80  
I-270/Md. 189 Interchange Study  
Alternate 2A

This is a summary of comments developed in a review of the noted alternate interchange design. It is the feeling of this office that the recommended Alternate 2A is indeed the favored one and should be seriously considered for implementation. Our comments are these:

1. Of paramount importance in the operation of an interchange such as this is the total traffic flow and ease of traffic flow through the interchange area. The proposed interchange design provides for the simplest interchange operation consistent with surrounding roadways and development.
2. A cloverleaf design, of course, provides for merging and diverging which is very safe and avoids traffic signals. However, they consume a lot of land area and are not necessarily the type of interchange to use in this area at this intersecting roadway with the development that exists in the immediate area. In other words, the interchange design should be compatible with the type of traffic using it and the type of roadway it is intersecting with.
3. A diamond interchange will handle the traffic at this intersection. It must, however, be modified to reduce the complexity of the necessary traffic signal control while handling some exceptionally large peak-hour traffic movements, including several large turning movements.
4. The proposed modified diamond interchange will provide simple signal phasing consisting of three normal phases. The traffic signal is planned to operate as a fully actuated one, totally responsive to demand and the fluctuation in the traffic flow.

My telephone number is \_\_\_\_\_

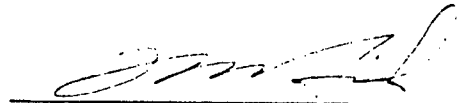
- 84
5. Because of the less number of phases, the modified diamond interchange will have a significantly higher capacity than would a normal diamond interchange.
  6. The modified diamond will consist of a narrower bridge since the heavy left turn movements onto I-270 can be in lanes opposing one another and not alongside of one another. A normal diamond interchange would require eight lanes of bridge width while the modified design requires only six.
  7. A cloverleaf design would also require an 8-lane bridge and might also require additional width on I-270 to allow the two-lane ramp to merge safely. With a direct straight ramp it is anticipated that a double left turn in the modified design can merge successfully into a single lane before reaching the I-270 acceleration lane.
  8. A normal diamond interchange would require a diamond interchange traffic signal controller requiring six phases or would require a complex operation of interconnection between two 3-phase signals at the ramp termini. Both involve time-consuming clearances or difficult interconnection.
  9. The normal diamond interchange traffic signal controller does not permit a two-way progression along the arterial roadway.
  10. A normal diamond interchange configuration with two separate signal controllers also is difficult for maintaining a good two-way progression along the arterial.
  11. The proposed modified interchange will undoubtedly be safer since many points of conflict have been eliminated and the total number of conflict points significantly reduced.
  12. The operation of the modified interchange will result in less overall delay to traffic, therefore saving time to travelers in the area and reducing gasoline consumption.

We feel that there is a clear-cut case for the modified diamond interchange design. We do not know the cost differential between the several possible alternatives but cannot help but believe the modified design will be the most cost effective, particularly when considering the

95  
Memo to the File  
April 10, 1980  
Page 3

cost to the motorist. Other comments regarding particular design features were noted in our memo of December 4, 1979 to the Bureau of Project Planning.

If we can be of further help, please advise.



Thomas Hicks

TH:h

cc: Mr. W. L. Shook  
Mr. S. M. Piemens  
Mr. R. J. Bush

1100  
711 North 40th Street  
Baltimore, Maryland 21211

February 2, 1977

Mr. Bernard H. Evans  
State Highway Administrator  
State Highway Administration  
200 West Preston Street  
Baltimore, Maryland 21203

96  
Maryland Interstate  
Route 270 - Additional  
Interchange Request at  
I-270/Maryland 189  
(Falls Road)  
Montgomery County

Dear Mr. Evans:

We are pleased to inform you that Mr. Tiemann has approved additional access points to I-270 at Maryland 189 (Great Falls Road). This approval will permit you to provide the subject interchange which was included in early planning stages of this interstate route.

Since past actions indicated a continuing intent to provide an interchange between Maryland Route 189 and I-270, FSI funds are approved for the construction of this interchange. However, this approval is given with the condition that improvements be made concurrently to the crossroads as required for adequate collection and distribution of interstate traffic.

Also, this approval is given with the understanding that the environmental assessment requirements of FSI 7-7-2 will be fulfilled prior to final approval of the project by this office.

If you have any questions, do not hesitate to ask.

Sincerely yours,

Earl Lipsky  
Division Administrator

ORIGINAL SIGNED  
Roy D. Gingrich

By: Roy D. Gingrich  
District Engineer

Mr. A. W. Tate - For your information.  
Mr. I. C. Hughes - For your information  
Mr. W. F. Lins - For your information.

HGD 2/7/77



Maryland Historical Trust

June 6, 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: I-270/Md. 189 Interchange  
Contract No. M278-251-372

Dear Mr. Camponeschi:

This will clarify my letter of November 9, 1979. The two sites mentioned in that letter are eligible for the Maryland Historic Sites Inventory.

Please contact me if you require further information.

Sincerely,

*Peter E. Kurtze*  
Peter E. Kurtze  
Historic Sites Surveyor

cc: G. Andreve  
R. Krolak



Maryland Historical Trust

January 29, 1980

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

RE: Md. 189/I 270 Interchange  
M 278-251-372  
F.A.P. I-270-7 (77)

Dear Mr. Krolak:

Having reviewed the evidence presented in your letter of November 13, 1979, concerning the no affect of the proposed Md. 189 Interchange on the Poor Farm site, I concur that the project will not affect the spring house or any other features associated with the site. Thank you for your consideration of this matter. Additional 4(f) or 106 compliance is not necessary for this project.

Sincerely,

J. Rodney Little  
State Historic  
Preservation Officer

JRL:WEC:mms

cc: Rita Suffness  
Dennis Curry  
Amy Schlagel





Maryland Historical Trust

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

November 9, 1979

Re: I270/Md. 189 Interchange  
Contract No. M278-251-372

Dear Mr. Camponeschi:

A preliminary reconnaissance has identified the following two historic sites in the vicinity of the above-referenced project:

- A. 1½ story frame house and outbuildings, southeast corner of Great Falls Road and Maryland Avenue.
- B. E.C. Smith house and outbuildings, 636 Great Falls Road

These sites, indicated on the attached map, do not appear to be eligible for the National Register.

Further information will be provided at your request.

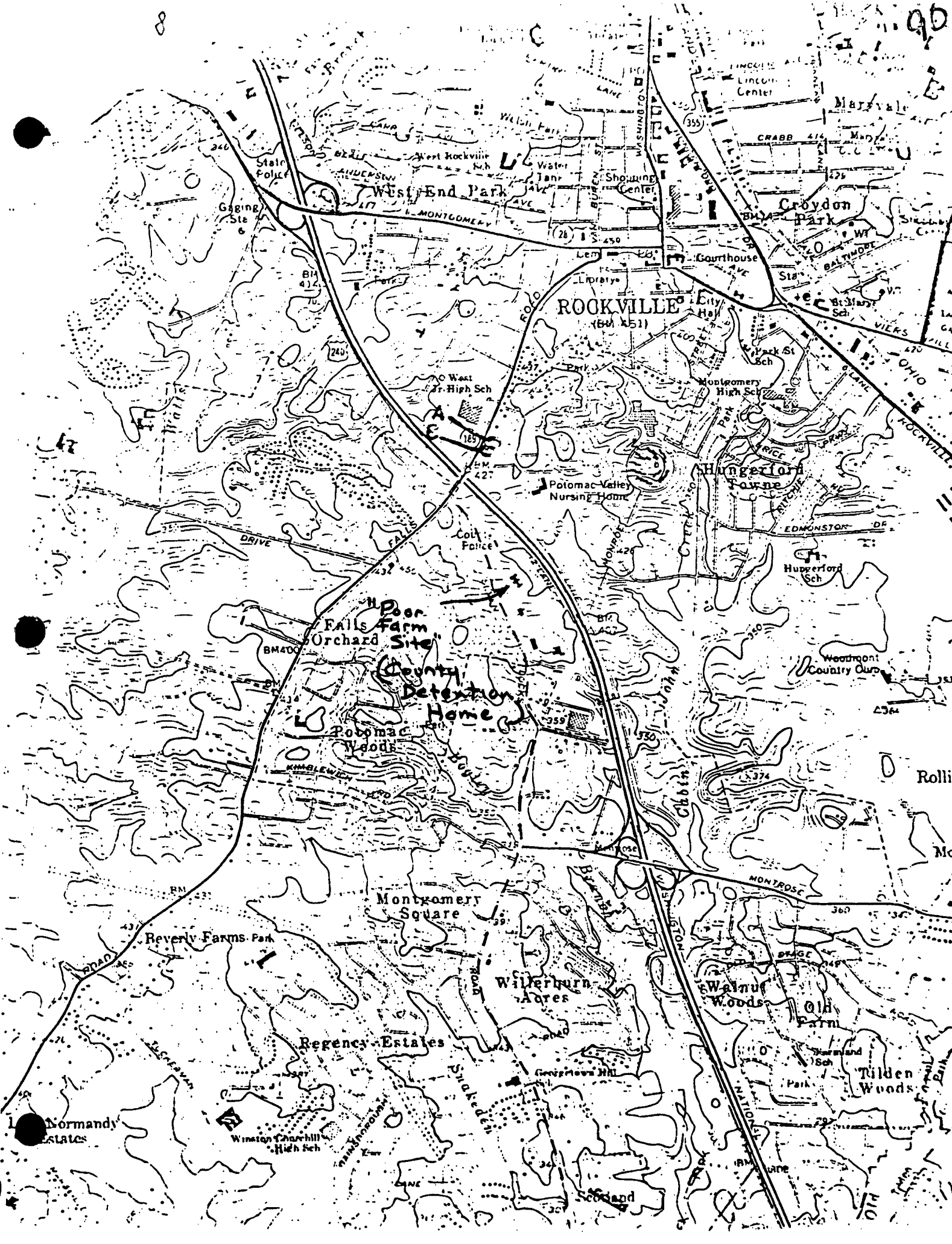
Sincerely,

Peter Kurtze  
Historic Sites Surveyor

Enclosure

cc: Mark Edwards  
Rita Suffness  
Richard Krolak

PK/rst



ai



Maryland Historical Trust

February 15, 1979

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

Re: Maryland 189/I-270 Interchange  
M 278-101-372  
F.A.P. No. I-270-7 (77)  
Archeological Report

Dear Mr. Camponeschi:

Since your letter of November 6, which included the above-referenced report, Wayne Clark has joined our staff as archeologist. Mr. Clark is responsible for the review of the archeological reports submitted by your department. I evaluate his assessments when determination of effect, significance, or compliance is required.

I concur that the above-referenced project will not affect significant archeological remains. Additional archeological investigations are not recommended.

Should you have additional questions concerning this project, Mr. Clark (telephone 269-2439) will serve as your contact person.

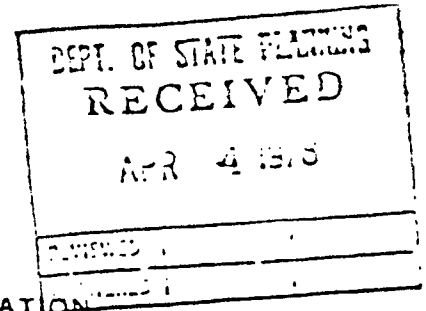
Sincerely,

J. Rodney Little  
State Historic Preservation  
Officer

JRL/Car.

cc: M. Ballard  
T. Bastian

DAVID W. HORNBECK  
STATE SUPERINTENDENT



MARYLAND STATE DEPARTMENT OF EDUCATION  
P.O. BOX 8717, BWI AIRPORT  
BALTIMORE, MARYLAND 21240

April 4, 1978

Mr. James W. McConnaughay, Chief  
State Clearinghouse  
Department of State Planning  
301 West Preston Street  
Baltimore, Maryland 21201

Dear Mr. McConnaughay:

Following are the comments of the State Department of Education regarding your request for information relative to the State Highway Administration Project I 270/Md. Route 189 Interchange.

Briefly, the MSDE would like to call to your attention the fact that the intersection of Interstate 270 and Route 189 is adjacent to the Julius West Junior High School. The interchange there could involve loss of some of the site property for that school as well as create a serious safety hazard for children attending the school. We, therefore, respectfully suggest that the Montgomery County school system be consulted before plans are finalized.

-- ; If you have any questions, please let me know.

Sincerely,

David G. Ricker  
Assistant State Superintendent

DGR:a

None of the alternates currently under consideration require any property from the Julius West Junior High School. A copy of this document will be sent to the Department of Education for review and comment. Additional coordination will occur, if determined to be necessary.