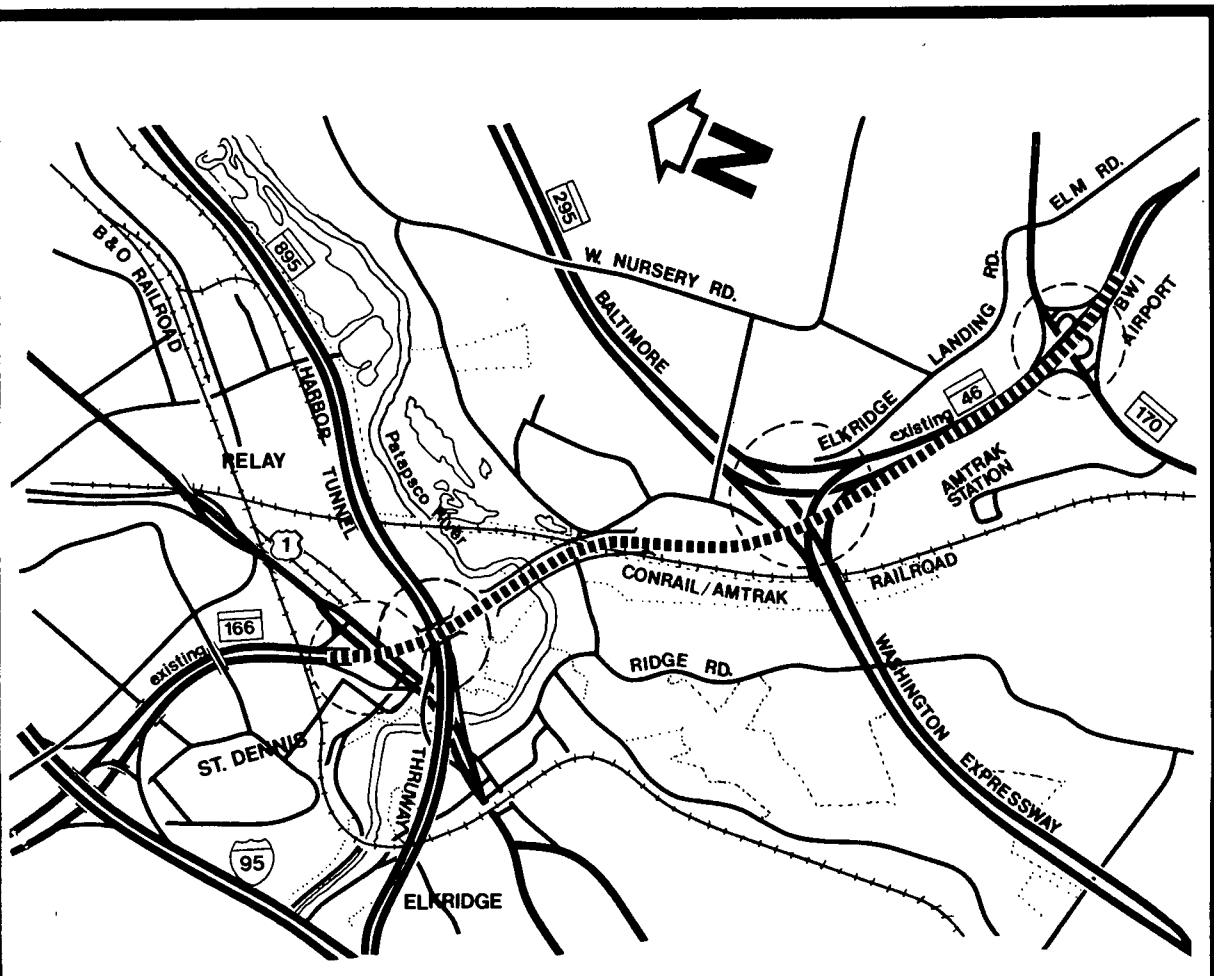
Final Environmental Statement

Section 4(f) Statement

CONTRACT No. AA 220-151-572, B 547-151-472
F.A.P. No. I-195-1(1)
INTERSTATE ROUTE 195
FROM BALTIMORE/WASHINGTON
INTERNATIONAL AIRPORT TO I-95
IN ANNE ARUNDEL AND BALTIMORE



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

and
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

2

REPORT NUMBER: FHWA-MD-EIS-79-07-F

Region III

Interstate I-195
From Baltimore/Washington International Airport
To I-95
in Anne Arundel and Baltimore Counties

FINAL ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 U.S.C. 4332 (2) (C)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
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9/29/81
DATE

For Md. State Highway Administration

7/13/82
DATE

For Federal Highway Administration

The purpose of the project is to provide improved access to the Baltimore/Washington International Airport and surrounding industrial areas. The project will improve interregional accessibility and provide added traffic capacity to a rapidly developing area.

Environmental impacts associated with the selected alternate include right of way acquisition, parkland impacts, minor floodplain involvement, and in some areas, Federal Design Noise Levels are exceeded. All of the impacts will be adequately mitigated. Proposed mitigation measures are described in the document.

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SUMMARY

(1) Federal Highway Administration Administrative Action:

Environmental Statement

( ) Draft (X) Final
(X) Section 4(f) Statement Included

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(3) Description of Action:

The proposed project is located in central Maryland in Baltimore, Anne Arundel and Howard Counties.

The project is an extension of MD Route 166 from its present terminus at U. S. Route 1 to the eastern most ramp of the proposed I-195/MD Route 170 interchange at the Baltimore-Washington International Airport. The environmental analysis will also include the existing section of MD Route 166 which extends from I-95 to U. S. Route 1.

Two construction alternatives and the "No-Build" alternative were analyzed in the Draft Environmental Impact Statement. The selected alternative consists of a 3.1 mile segment of four-lane divided highway with full access control. The proposed route utilizes portions of existing right of way as well as requiring some new right of way. This proposal also included improvements to the interchange with U.S. Route 1, a partial interchange at I-895 (Harbor Tunnel Thruway) to improve access to I-95 from the south, reconstruction of the interchanges with the Baltimore/Washington Expressway and MD Route 170, construction of an access roadway to the Amtrak station, and associated improvements to intersecting roadways.

After receiving comments on the Draft Environmental Impact Statement from Federal, State and Local agencies, and having received testimony during the public hearing held on January 29, 1980, the State Highway Administration has recommended that a modified form of Alternate A (Alternate 2/A2A) be adopted for final design and construction.

(4) Summary of Environmental Impacts:

The beneficial impacts resulting from the proposed project are primarily related to improved traffic operation; e.g., improved traffic safety and reduction in traffic delays and congestion.

Direct right-of-way impacts are the most obvious adverse effects. The displacement of dwellings, acquisition of park lands and proximity impacts on established development are of primary concern.

The required right-of-way for the Selected Alternate 2/A2A will result in the acquisition of approximately four acres of existing parkland from Patapsco Valley State Park and approximately twenty acres of land proposed for future acquistion. The attached Section 4(f) Statement provides a discussion of the basis for the determination that there are no feasible and prudent alternatives to the use of this parkland.

The Air Quality Analysis performed for I-195 has determined that a violation of the State and National eight-hour carbon monoxide air quality standard will occur at one site in 1985 with Alternate C. (No-Build Alternate).

The proposed project is consistent with the objectives and policies of the Coastal Zone Management Program.

(5) Summary of Major Alternatives:

Alternate A - This alternate would have provided a six-lane new facility from U. S. Route 1 to the interchange with the Baltimore-Washington Expressway. After crossing the Expressway, the alignment followed existing MD Route 46 to the southern terminus of the project. MD Route 46 would have been widened to six-lanes, tapering to four-lanes south of MD Route 170. Interchange improvements would have been provided at U. S. Route 1, the Baltimore-Washington Expressway and MD Route 170.

Alternate B - This alternate would have provided essentially the same features as Alternate A. The primary difference is in the location of the facility from U. S. Route 1 to the Baltimore-Washington Expressway where Alternate B followed an alignment generally west of the Amtrak rail line.

Alternate C - is the "No-Build" Alternative. This alternate indicated how the existing highway system, without additional improvements, would have attempted to accommodate present and projected transportation needs and objectives.

Alternate 2/A2A (Selected Alternate) - This alternate is a modification of Alternate A. The modifications include: a revised interchange configuration at U.S. Route 1; a partial interchange at I-895 (Harbor Tunnel Thruway) to provide access to I-95 from the south; reduction of I-195 to four lanes; a revised alignment for the access roadway from Elkridge Landing Road to the Amtrak Rail Station: reduction in the number of lanes on MD 170; and a revised design for the I-195/MD 170 interchange. The revisions to MD 170 and the I-195/MD 170 interchange eliminate the need to acquire any property from the Westinghouse Corporation.

(6) Permits: The following permits are required:

1. U. S. Army Corps of Engineers:

   (a) Federal Water Pollution Control Act, Section 404

2. Maryland Department of Natural Resources:

   (a) Waterway Construction Permit
   (b) Sedimentation and Stormwater Control Permit

(7) Sources From Which Comments Are Being Requested/Recorded:

(See pages vii & viii) * Indicates Sources Which Commented on DEIS.

(8) The draft environmental statement was mailed to the Environmental Protection Agency on December 28, 1979 and a period of 60 days from that date was established for review and comment.

(9) Summary Of Mitigation Items And Environmental Commitments:

1. During the construction of the highway, existing trees and other vegetation will be maintained within the areas undisturbed by grading operations.

2. The design of the Patapsco River Bridge will incorporate of design features that would make the structure more compatible with the setting.

3. Erosion control measures will be provided in accordance with State regulations.

4. Borrow pits, waste areas and the treatment of these areas during and after completion of the project will be controlled by State regulations.

5. No in-stream construction and no construction including substantial earthmoving operations in the vicinity of the stream crossings will be permitted from March 15 to June 15.

6. Wetland units located adjacent to the project will be protected from sediment resulting from construction operations upstream.

7. Embankment slopes will not be permitted to encroach on the stream channel.

8. The relocation of the family displaced by the Selected Alternate 2/A2A will be accomplished in accordance with the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970 (Public Law 91-646).

9. The project will be designed to meet the HUD flood plain regulations, and accommodate a storm of the proportion of the flood of record (Agnes, 1972) without affecting the structural integrity of the facility.

10. Federal, state and local regulations and limitations on working hours near residential development will be enforced to reduce construction impacts.

11. Further studies will be performed during final design to determine the effectiveness of providing landscape screening to reduce noise levels at residential receptors.

12. The Patapsco State Park replacement lands will be provided as designated by the Department of Natural Resources, outside of the existing park boundaries and will be of equal fair market value, equal acreage, and/or of reasonably equivalent usefulness, quality, and location.

13. The Selby Grist Mill, with its potential archaeological remains, will be avoided. The area will be fenced to avoid indirect impacts.

14. No property acquisition will be required from Westinghouse Corporation. The project will not affect plant manufacturing procedures or overall accessibility.

Cost Effective Analysis of the Selected Alternative

		Selected Alternate 2/A2A	Alternate C No-Build
Project Costs			
1. Construction		84,330,000	0
2. Rights-of-way		4,443,000	0
	Total	88,752,000	0
Right-of-Way required		171 acres	0
Recreational			
1. Parkland required	existing	4	0
	proposed for future acquisition	20	0
Natural Environment			
1. Wildlife			
No rare or endangered species of plant or animal life have been observed in the study area.		None	None
2. Air Quality			
Locations exceeding 8 hr. CO standards see page 69 - this document		None	1
3. Noise Impacts			
Number of noise sensitive areas impacted		13	15
Number of exceedances of design noise levels see page 70 - this document		1	1
4. Water Quality			
Flood plain encroachment resulting in risks or impacts to human activities		None	None
Minimal siltation and erosion		4 streams	0

see pages 51-55 - this document

Cost Effective Analysis of the Selected Alternative

	Selected Alternate 2/A2A	Alternate C No-Build
Social and Economic		
1. Relocations	1 Res.	0
A. Minority Residences	0	0
B. Effect on Established Communities (see pages 57-58 - this document	None	0
2. Affect on Labor Force and employment due to increased accessibility	Positive	Negative
3. Safety benefits due to decreased travel times	Yes	No
4. Reduced operating costs	Yes	No
Urban Impacts		
1. Additional costs to be incurred by the central city	No	No
2. Effect on employment	Positive	Negative
3. Improvement to central city access	Yes	No
4. Consistency with State, Regional and Local	Yes*	No**

* Not Consistent With The Baltimore County Plan

** Consistent with Baltimore County Plan.

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* Indicates Sources Which Commented on DEIS.

NEED FOR PROJECT

Purpose of Project:

The purpose of Interstate Route 195 is to provide improved highway access to the Baltimore/Washington International (BWI) Airport and surrounding industrial areas from Interstate Route 95, U.S. Route 1, and the Baltimore/Washington Expressway (Maryland Route 295), and I-895 (Harbor Tunnel Thruway).

Interstate 195 will provide an attractive alternative access route to BWI Airport and surrounding land uses for a substantial portion of traffic destined to these locations. Traffic using Interstate 195 will be drawn from other highway facilities in the area which are forecast to be severely congested if I-195 is not built. Thus, I-195 will not only improve travel conditions for persons accessing the Airport and surrounding land uses, but will improve accessibility for other traffic in the area as well. No other highway improvement can serve the function as well as I-195 in providing direct access to BWI Airport to and from points in the Baltimore/Washington corridor.

The interchange with I-195 and the Harbor Tunnel Thruway will alleviate the circuitous travel patterns required of traffic from the western portions of the Washington Metropolitan Areas and also the western and southern portions of Howard County. The interchange will allow for improved connections to I-95 for traffic between the western portions of the Washington Metropolitan Areas and Howard County and the Baltimore/Washington International Airport. It would also allow traffic exiting Baltimore/Washington International Airport via I-195 to make a more direct connection to I-95 to the south. This would make Baltimore/Washington International Airport more attractive to these areas. This attractiveness is consistent with the pending Federal Aviation Administration's policy statement that encourages a more balanced utilization of the three bi-regional airports - Baltimore/Washington International, Dulles, and National. This policy and the expected growth in the use of Baltimore/Washington International Airport is discussed further on page 2 .

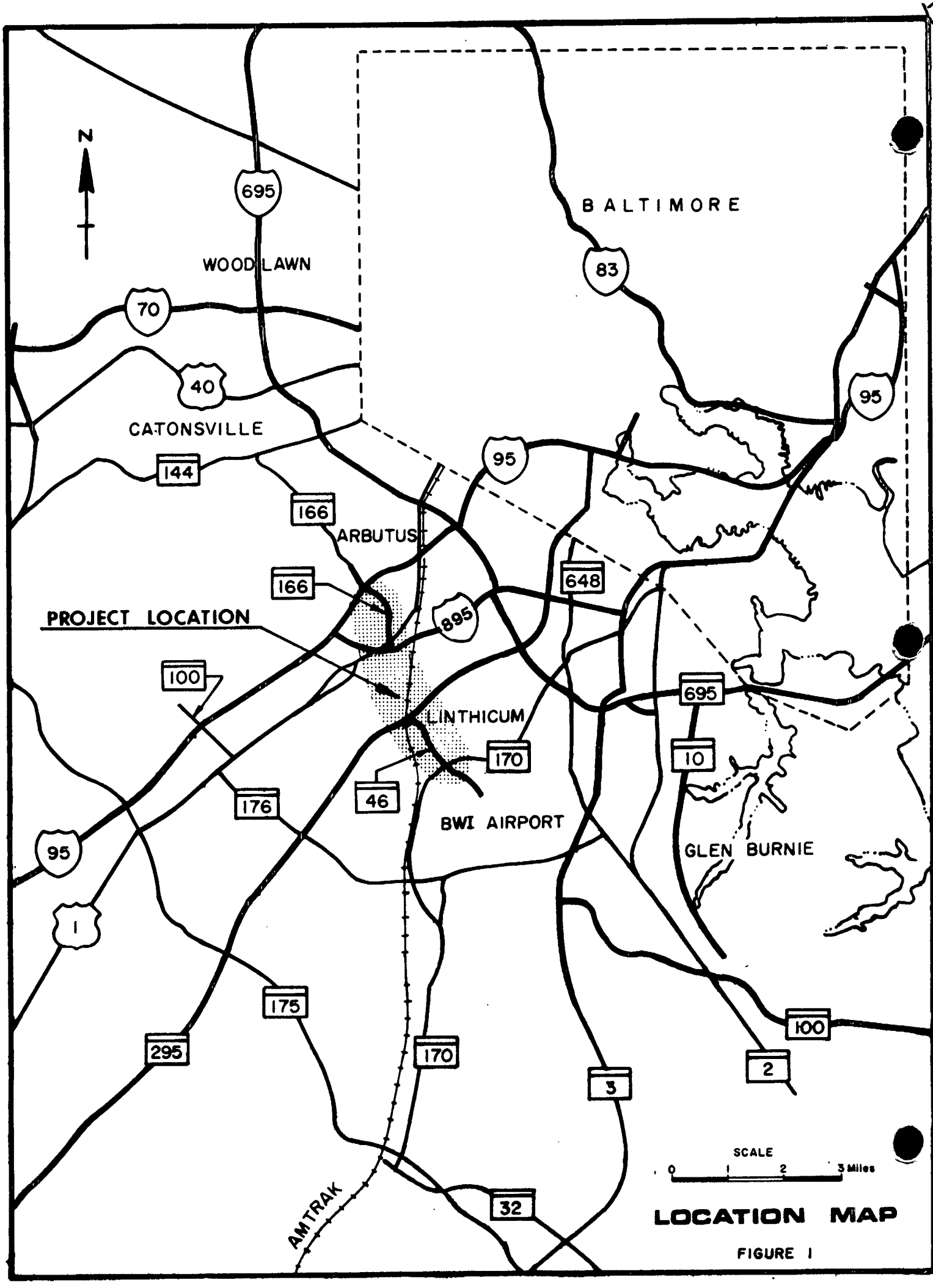
Because Interstate 195 will improve both local and interregional accessibility, it will promote economic development potential and generate incremental employment gains beyond what would occur under a no-build condition.

Another important purpose is to complete the interface between the Interstate System, the Amtrak Railroad Station and the BWI Airport.

Existing Access to Baltimore/Washington International Airport:

At the present time access to BWI Airport is provided primarily via Maryland Route 46. The vast majority of traffic accesses Maryland Route 46 from the Baltimore/Washington Expressway with a lesser amount approaching via Maryland Route 170. Based upon data collected during a 1981 survey of enplanning passengers at BWI Airport the following is an approximate breakdown of direction of approach of passenger trips accessing the Airport:

DIRECTION	%
North	50
South	25
East	15
West	10


N
695
WOOD LAWN
BALTIMORE
83
70
40
CATONSVILLE
95
144
166
ARBUTUS
95
166
648
PROJECT LOCATION
895
100
695
LINTHICUM
10
170
46
176
BWI AIRPORT
GLEN BURNIE
95
1
175
100
295
170
3
2
SCALE
0 1 2 3 Miles
AMTRAK
32
LOCATION MAP
FIGURE 1

Most of the traffic approaching the Airport from the north uses the Baltimore/Washington Expressway (Maryland Route 295) either directly from downtown Baltimore via Russell Street or from the Baltimore Beltway (I-695) (See Figure 1). Both the Baltimore/Washington Expressway between Maryland Route 46 and the Baltimore City Line and the Baltimore Beltway on either side of Maryland Route 295 are forecast to experience severe traffic congestion problems by the design year of 2005.

Traffic from the south accesses the Airport via two alternative access routes. Autos from the eastern portion of the Washington Metropolitan area use the Baltimore/Washington Parkway all the way from the Washington Area. Autos from the western portion of the Washington Metropolitan area, most trucks from the entire Washington Metropolitan area, and most traffic from the west, use Interstate 95 and then have to follow a somewhat circuitous route to access the Airport. Most vehicles exit Interstate 95 at Maryland Route 100, travel east on Maryland Route 100, 0.16 miles to U.S. Route 1, travel south on U.S. Route 1, 0.2 miles to Maryland Route 176, travel east on two-lane Maryland Route 176, 1.9 miles to the Baltimore/Washington Expressway, and travel north on Maryland Route 295, 2.8 miles to Maryland Route 46. Both congestion and safety problems are presently experienced at a number of at-grade intersections along this route and these problems are expected to worsen in the future with increased Airport usage and land use growth in the general area.

At the present time, BWI Airport handles approximately 50% of the total volume of air freight of the three Baltimore/Washington bi-regional air carrier airports. An integral part of the provision of air freight service is the movement of air freight to and from the Airport by truck. This movement is particularly difficult for trucks from the Washington portion of the Baltimore/Washington bi-region, because trucks are prohibited from using Maryland Route 295 south of Maryland Route 175, and thus must use the circuitous route described above. Some motorists elect to take an alternate to the above path, preferring to remain on freeway type facilities. They continue northbound on I-95 for 6.1 miles to I-695, travel eastbound on I-695, for 2.5 miles, and southbound on Maryland Route 295 for 2.1 miles to Maryland Route 46. The segments of I-695 and Maryland Route 295 used for this route are forecast to experience severe congestion problems by the 2005 design year.

Future Usage of Baltimore/Washington International Airport:

The increasing role of BWI Airport as a major air carrier airport serving the Baltimore/Washington bi-region is recognized by the Federal Aviation Administration (FAA). The pending FAA Policy Statement for Washington National Airport anticipated limits being placed on passenger usage of National Airport and encourages more balanced utilization of the three bi-regional airports -- BWI, National, and Dulles Airport. The number of passengers using BWI Airport is projected to increase from 3.9 million in 1979 to 10 million in 1995. This 156 percent increase in Airport usage will result in substantial increases in the number of vehicles desiring to access to the airport. Although the percentage of traffic oriented to the Airport from the south is projected to increase, there is still projected to be a higher orientation of Airport usage to the north than the south through the design year for I-195.

BWI air freight activity is also projected to expand significantly in the future, from 190 million pounds in 1979 to 750 million pounds in 1995. A direct link with the Interstate system will accommodate this growth while helping to decrease truck traffic on local service streets in the vicinity of the airport.

Future Network Capacity Deficiencies:

19

By the design year of 2005 under a no-build scenario severe congestion problems are forecast for a number of the routes which would serve as access roads to BWI Airport and surrounding land uses. Interstate 195 will provide relief to many of these routes while at the same time providing significantly improved access to BWI Airport for a large percentage of Airport users. The primary access routes from the north, i.e., Maryland Route 295 and the Baltimore Beltway are both projected to experience severe (Level of Service F) traffic congestion. Construction of Interstate 195 will allow for traffic from most parts of Baltimore City as well as from Baltimore County and other points to the north to access the Airport via Interstate 95 and Interstate 195 which will have adequate capacity available. Thus, enabling these vehicles to avoid the severely congested Maryland Route 295 and portions of the severely congested Baltimore Beltway.

Traffic accessing the BWI Airport to adjacent land uses will also experience severe congestion under a no-build scenario. The four lane Maryland Route 295 is projected to experience severe traffic congestion problems at a number of locations between Washington and BWI Airport by the design year of 2005. The eight-lane Interstate 95 would provide an attractive alternative parallel route with significantly more capacity if adequate capacity were to be provided through a connection between Interstate 95 and the Airport. However, under a no-build scenario the primary route between Interstate 95 and the Airport, via Maryland Route 100, U.S. Route 1, Maryland Route 176, and Maryland Route 295, will be severely congested during peak periods. Interstate 195 on the other hand will provide a direct connection between Interstate 95 and the Airport, thus permitting a more logical balance in traffic between the eight lane Interstate 95 and the four lane Baltimore/Washington Parkway than would exist under a no-build alternative. Furthermore, Interstate 195 will allow for a direct Interstate connection between the Washington Metropolitan area and BWI Airport and the surrouding industrial land uses for truck traffic which is prohibited from using Maryland Route 295.

Improved Access for Amtrak Rail Station:

After nearly a decade of planning studies, engineering and design efforts, construction of the Amtrak railroad station at BWI Airport is completed. This station is the first intermodal rail/air facility in the country.

The new rail station is intended to serve three specific markets: (1) the commuter rail market to Washington, D. C., (2) intercity rail passengers and (3) air travelers who will be attracted to the rail service at the beginning or end of an air trip.

A key factor to the success of the station in realizing the potential of the first two of these three markets is highway access to the facility. The provision of additional access via Elkridge Landing Road must be viewed as an essential element of the circulation pattern to and from the rail station, particularly during peak traffic periods. This access road will relieve the traffic burden on the Maryland Route 170 intersection, while providing an alternate route to the rail station for the airport/rail station shuttle bus system. More direct access to the rail station will also be provided for the large business office community located on Elkridge Landing Road.

Additional comments made by the State Aviation and State Railroad Administrations in support of the I-195 improvements are provided in the Comments and Coordination section of this document.

2p

SAFETY DEFICIENCIES:

Existing access to the BWI Airport and its surrounding development was previously described above. Safety deficiencies with the associated transportation system are widespread and generally related to the capacity constraints of the individual routes.

I-695 is presently experiencing sufficient congestion problems that motorists are attempting to avoid, by using secondary roads and residential streets. Forecasted volume increases in the design year (2005) will result in severe traffic congestion on I-695, aggravating the overloading and misuse of the local street system. Accident rates and corresponding accident costs will escalate.

The continued use of Maryland Route 295 as the principal access to BWI will likewise result in severe traffic congestion problems on this route between Maryland Route 176 and the Baltimore City Line. The deteriorating efficiency of this divided highway will be exhibited by further reductions in operating speeds, longer stoppages, and extended peak period operations. Motorists, seeking an alternative route, will attempt to use Maryland Route 170 either via Maryland Route 176 from Maryland Route 295 or from I-695 and/or Maryland Route 648. Two at-grade intersections on Maryland Route 170 (at Maryland Route 176 and at Elkridge Landing Road) are already experiencing safety problems and have been identified as high accident locations. The State of Maryland 1979 Intersection Accident Experience document identified the Maryland Route 170/Elkridge Landing Road intersection as a High Accident Intersection (HAI) in 1979 and in the three previous years. That annual report also listed the Maryland Route 170/Maryland Route 176 intersection as an HAI in 1979 and twice in the previous three year period. The Maryland Route 176/ Ridge Road intersection was also identified by the above document as being an HAI throughout the 1976-1978 period. This overloading of two lane secondary roads as well as the remaining congestion problems on Maryland Route 295 will be reflected by rising accident rates with corresponding increases in accident costs.

Traffic attracted to the airport vicinity from I-95 must exit the interstate system at Maryland Route 100, travel east to U.S. Route 1, south to Maryland Route 176, east to Maryland Route 295 north to Maryland Route 46 and east to the BWI Airport or Maryland Route 170. This circuitous route passes through two at-grade intersections (Maryland Route 100/U.S. Route 1, and U.S. Route 1/Maryland Route 176) which have already been pinpointed as high accident locations. The State of Maryland 1979 Intersection Accident Experience document listed the Maryland Route 100/U.S. Route 1 intersection as a High Accident Intersection (HAI) in 1979 and twice in the previous three year period. That annual report also identified the U.S. Route 1/Maryland Route 176 intersection as an HAI in 1979 and once in the previous three year period.

The present imbalance in the overuse of the four lane Maryland Route 295 as opposed to eight lane I-195 is forecasted to be aggravated in the design year. While traffic volumes on Maryland Route 100/U.S. Route 1/Maryland Route 176 will increase worsening congestion and related safety problems, some volume increases on I-95 would be drawn to Maryland Route 295 to avoid that problem. Similarly, increased traffic destined for the airport vicinity along Maryland Route 295 would not be attracted to use I-95 as an alternate. The overuse of secondary highway access between I-95 and Maryland Route 295 as well as the overuse of Maryland Route 295 would result in the deterioration of the capacity, safety and efficiency of the existing systems. Severe congestion problems would be experienced on Maryland Route 295 at a number of locations between Washington and Maryland Route 46. Accident rates and costs would be expected to markedly increase.

Consideration of Improvements to Alternative Routes:

Systems level analyses have been performed to determine whether improvements to roadways along alternative routes could adequately serve the same purpose as Interstate 195. The first alternative considered was construction of proposed Maryland Route 100 between U.S. Route 1 and the Baltimore/Washingon Parkway. Construction of this link would provide a direct connection between Interstate 95 and the Baltimore/Washington Parkway, thus improving access for traffic assessing the Airport area from the south. However, this connection would not serve the largest portion of users of Interstate 195, i.e. travellers oriented from the north to the Airport area. These travellers would continue to use Maryland Route 295 and the Baltimore Beltway, both of which are forecast to be extremely congested. Furthermore traffic accessing the Airport area from Maryland Route 100 would also have to use Maryland Route 295 from the south. Substitution of the proposed Maryland Route 100 improvement between Interstate 95 and Maryland Route 295 would necessitate additional major construction of Maryland Route 295 to a six-lane facility between the Baltimore Beltway and the proposed Maryland Route 100 interchange. It would also do little to relieve congestion of the Baltimore Beltway between Interstate 95 and the Baltimore/Washington Expressway.

The State Highway Administration also investigated the feasibility of building a direct connection between the Interstate 95/Maryland Route 100 interchange and the Baltimore/Washington Expressway/Maryland Route 46 interchange. All alternates considered would have required significantly more taking of parkland, realignment of streams, floodplain encroachment, and community impacts including residential displacement. Furthermore, these alternatives would not serve the majority of potential users of Interstate 195, i.e. traffic oriented from the north to the Airport area.

The feasibility of reconstructing Maryland Route 295 between the Baltimore Beltway and Maryland Route 46 to six lanes as a substitute project for the portion of Interstate 195 west of Maryland Route 295 was also investigated. This alternative was found to be an unacceptable substitute project because it did not serve traffic from the south and did not relieve traffic congestion on the Baltimore Beltway.

Maryland Route 100 and the widening of Maryland Route 295 to six lanes were not found to be acceptable alternatives to Interstate 195 which is designed to serve BWI Airport and surrounding land uses. However, a systems planning study performed by the Office of Transportation Planning of the Maryland Department of Transportation did find that both projects will be needed in addition to the construction of Interstate 195 to serve a broader regional need. The construction of Maryland Route 100 between U.S. Route 1 and Maryland Route 295 is needed as part of a larger section of Maryland Route 100 which would run between Interstate 95 and Maryland Route 3.

Anticipated Safety Benefits[1]

Divided full control access facilities (as proposed for the I-195 improvements) experience the lowest accident rate of any urban design highway. Safety features designed into this type of facility minimize the probability of fatal and serious injury accidents to a greater extent than any other type of facility under state maintenance.

The following statewide rates and costs represent accident experience from 1974 through 1976 for this type of highway.

	Rates/100 MVM *	Costs/100 MVM
Fatal Accidents	0.74	$ 102,500
Injury Accidents	36.54	159,800
Property Damage Accidents	78.81	100,400
Total Accidents	116.09	362,800

* Accidents per 100 million vehicle miles (100 MVM)

The Selected Alternate 2/A2A would be expected to experience accident rates and costs consistent with the above tabulation.

The existing access routes in the area are of varying design types and would be expected to experience a wide range of accident rates and costs. The statewide accident experience for these type of facilities are equal to, or far in excess of those figures which represent the proposed highway. (See Table 1A). Therefore, any build alternative would be expected to have less accidents with less costs to the motorist than under a No-Build alternate on a vehicle mile travel basis. Such user benefits can be substantial, particularly in light of the high and growing cost of health care and automobile repair.

TABLE 1A

STATEWIDE ACCIDENT RATES & COSTS

Interstate, Divided, full control of access four or more lanes:

Severity	Rate/100MVM	Costs/100MVM
Fatal	.74	$ 102,500.00
Injury	36.54	159,800.00
Property Damage	78.81	100,400.00
Total	116.09	362,800.00

Divided, No Control of access, four or more lanes:

Fatal	2.28	316,000.00
Injury	177.39	776,000.00
Property Damage	364.25	465,000.00
Total	543.91	1,557,000.00

Non-Divided, No Control of access, four or more lanes:

Fatal	4.77	$ 661,000.00
Injury	320.37	1,401,000.00
Property Damage	635.41	811,000.00
Total	960.55	2,873,000.00

Non-Divided, No Control of access, two lanes:

Fatal	2.92	$ 404,000.00
Injury	218.94	958.000.00
Property Damage	433.66	553,000.00
Total	655.52	1,915,000.00

Energy Consumption

The construction of I-195 will require a one-time energy expenditure related to construction materials, operations and equipment. It will also require the normal maintenance of the new facilities with its resulting energy consumption.

This initial energy expenditure for construction must be balanced against the fact that fuel consumption per vehicle mile of travel is less for a "Build" Alternate than it is for the No-Build. This is because Build Alternates are designed to provide free flowing traffic conditions which reduce fuel consumption per mile when compared to the stop and go movement on a highway that has reached capacity. It is expected that the energy expenditure for initial construction and normal maintenance will be more than offset by this reduced fuel consumption for each vehicle using the facility over the life of the highway.

In addition, I-195 will provide more direct access to the BWI industrial areas, thereby, avoiding the circuitous routes presently required. This will be beneficial to fuel conservation through the reduction in travel distance and travel time.

Supporting or Relevant Studies

The need for I-195 is supported by the analyses and recommendations resulting from the Baltimore-Washington International Airport Master Plan Study and the Baltimore/Washington Expressway-Maryland Route 46 Study.

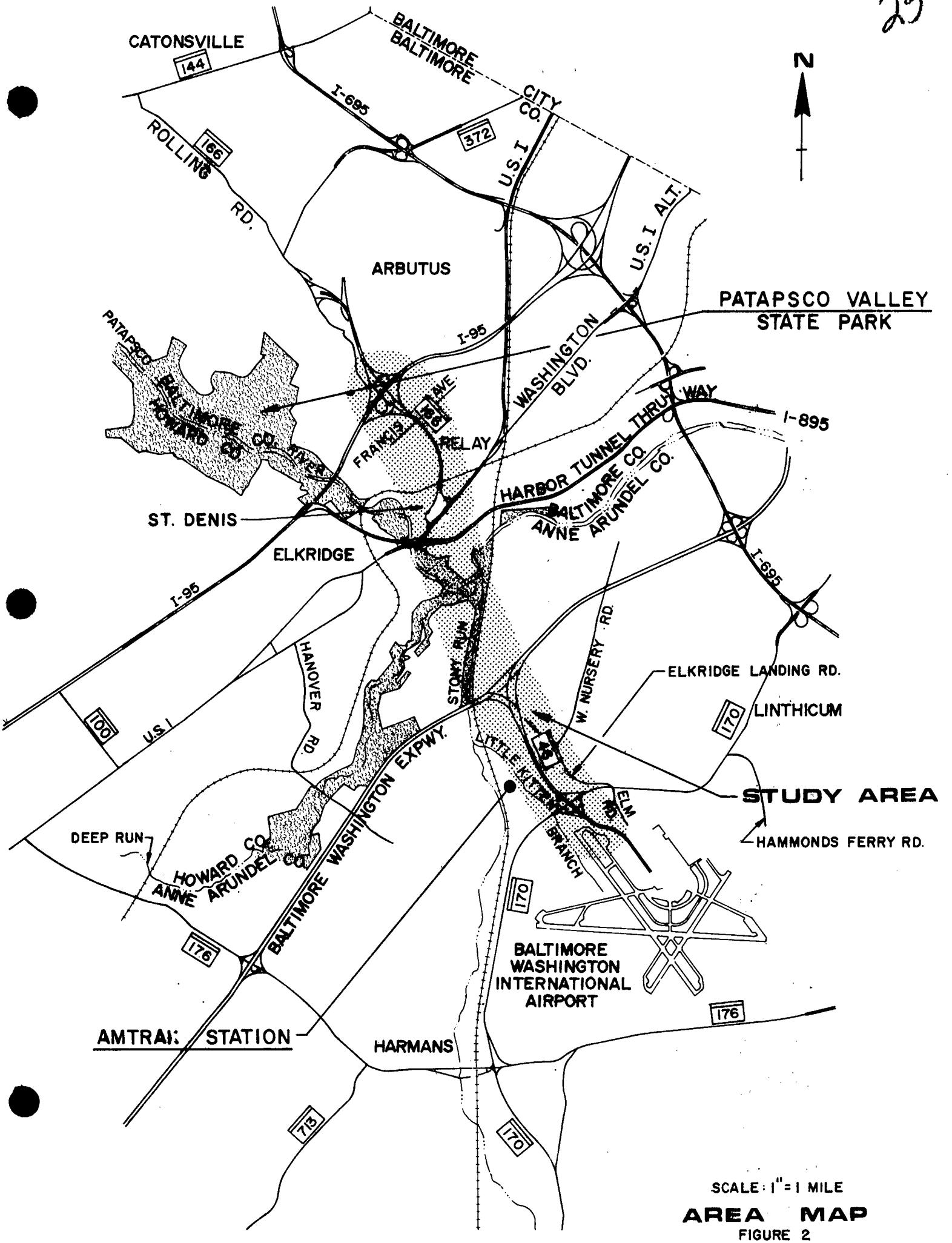
A summary of these studies and their recommendations relative to the I-195 improvements are provided as an appendix to this FEIS.

In addition, a Value Engineering Study of the selected alternate is now in progress to determine the most cost effective design of the facility. Final recommendations from that study are not expected to affect the project's proposed location, but will be evaluated in detail as part of the design phase.

Historical Resume'

The proposed project has been a planning consideration for the last decade. The availability of Interstate funds in 1974 and the subsequent designation of this route as an Interstate facility provided the opportunity to achieve earlier planning goals.

A summary of the preliminary administrative actions, previous project planning studies, current status and estimated construction schedule are provided as an appendix to this FEIS.



SCALE: 1" = 1 MILE

AREA MAP

FIGURE 2

PROPOSED ACTION, ALTERNATIVES CONSIDERED AND THE SOCIAL, ECONOMIC AND ENVIRONMENTAL CONTEXT

Description of Proposed Action

The proposed action consists of the construction of 3.1 miles of four-lane divided highway extending from the Baltimore-Washington International Airport to the present terminus of I-195 at U. S. Route 1.

The proposed facility will provide full control of access, utilizing portions of existing right-of-way as well as requiring some new right-of-way.

Also included in this proposal are the upgrading of the interchanges with U. S. Route 1 and the Baltimore-Washington Expressway, and the reconstruction of the interchange with MD 170. Maryland Route 170 will be upgraded from a two-lane roadway, with no control of access, to a four-lane facility with partial access control. These improvements would begin at a point just east of the Elkridge Landing/Elm Road intersection and extend through the interchange with I-195 for a distance of approximately 1.3 miles.

A new Amtrak rail station has recently been completed just northwest of the proposed I-195/Md. 170 interchange. In conjunction with the I-195 study, access to the station from Elkridge Landing Road is proposed.

Two (2) construction alternatives were considered in the Draft EIS.

Alternate A (Preliminary Alternate, Not Selected - See Figure 14)

The alignment of Alternate A began at the existing terminus of I-195 at U.S. Route 1, then crossed over U.S. Route 1 and the Harbor Tunnel Thruway and extended generally southward. It then crossed over the Patapsco River, a small portion of the Patapsco State Park, the High Speed Amtrak rail line and Furnace Avenue with a single structure.

The alignment generally paralleled the rail line to its junction with the Baltimore-Washington Expressway. It then crossed over the expressway and connected to existing MD 46 which would have been widened to six lanes with a 54 foot wide median. After crossing over MD 170, the roadway tapered to four lanes to match the existing route approximately 4,000 feet from the airport terminal.

Interchanges would have been provided at U. S. Route 1, the Baltimore-Washington Expressway and MD 170. A portion of the existing U. S. Route 1 Interchange would have been utilized. However, another portion would have been rebuilt to bring it up to present standards. Almost all of the existing ramps between MD 46 and the Baltimore-Washington Expressway and MD 170 would have been reconstructed to bring them up to current safety standards.

Alternate B (Preliminary Alternate, Not Selected, See Figure 14)

Beginning at the existing terminus of I-195 at U. S. Route 1, Alternate B extended generally southward, crossing over U. S. Route 1 and the Harbor Tunnel Thruway. The alignment then crossed the Patapsco River and passed through a section of Patapsco State Park. Alternate B then followed an alignment generally west of the Amtrak High Speed Rail Line skirting the edge of another section of Patapsco State Park. From the Baltimore-Washington Expressway to the Baltimore-Washington International Airport, it would have followed the same alignment as Alternate A.

Interchanges would have been provided at U.S. Route 1, the Baltimore-Washington Expressway and MD 170. The extent of the interchange construction would have been similar to Alternate A.

Alternate C - The "No-Build" Alternative (Preliminary Alternate, Not Selected)

The No-Build Alternative would have maintained all conditions as they are at the present time; nothing would have been done to improve the existing highway system other than routine maintenance.

This alternative reflects how the existing highway system, without additional improvements, attempts to meet present and projected transportation needs and objectives.

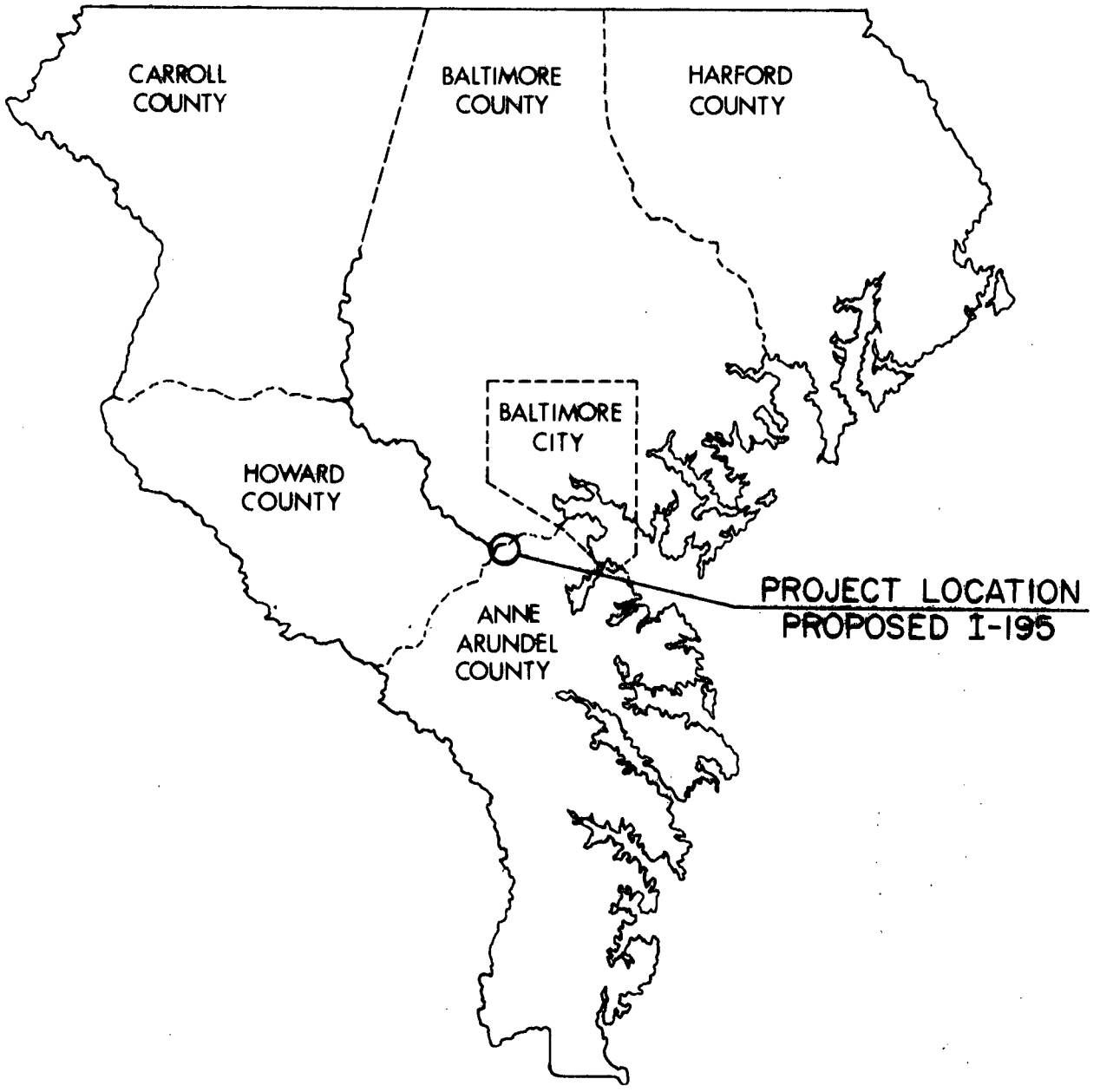
Following the Location Public Hearing, additional studies were performed in an effort to reduce adverse impacts identified during the review of the Draft EIS.

As a result of these studies Alternate A was modified; the revised design is presented in this document as Alternate 2/A2A, the Selected Alternate.

Selected Alternate 2/A2A provides the following features:

- The alignment is the same as Alternate A.
- This alternate utilizes the U.S. 1 interchange configuration shown with Alternate B which avoids the widening of the B & O Railroad bridge.
- A partial interchange at I-895 (Harbor Tunnel Thruway) to provide access to I-95 from the south.
- Initial construction of the I-195 roadway is reduced to four lanes.
- The access highway from Elkridge Landing Road to the Amtrak Station is revised to avoid potential archeological impacts.
- MD 170 has been reduced to, basically, a four-lane divided highway with a 30 foot median. Auxiliary lanes are provided to accommodate turning movements to the Westinghouse facility and the I-195/MD 170 interchange.
- The I-195/MD 170 interchange configuration is revised.
- The revisions to MD 170 and the I-195/MD 170 interchange eliminate the need to acquire any property from the Westinghouse Corporation.

THE BALTIMORE REGION



NOT TO SCALE

MAP SOURCE : Regional Planning Council
Baltimore Region General Development Plan,
December 1977.

FIGURE 3

Description of the Regional Setting[3]

The proposed project is located within the Baltimore Standard Metropolitan Statistical Area (SMSA). The Baltimore SMSA and the regional planning area comprising the Baltimore Region are coterminous and include Anne Arundel, Baltimore, Howard, Carroll and Harford Counties, and Baltimore City.

The Baltimore Region's economic strength is characterized by a highly diversified industrial structure, which is supported by interregional transportation linkages and its interaction with the Washington region. Half of the state's income and one percent of the nation's income originates in the Baltimore Metropolitan area.

The population growth rate has declined in recent years. This can be attributed, in part, to the decreased birth rate which has been experienced since 1955 and a decline in the net immigration. However, the growth in the Washington metropolitan area has tended to offset the migration loss, especially in Howard and Anne Arundel Counties.

The labor force in the Baltimore Region is growing and changing in composition.

In 1955 the Baltimore Region was primarily a center of manufacturing with over 50 percent of the resident employment in manufacturing and other industrial activities. Employment in the government and service sectors were relatively small. Today nearly half of all employment is in government and service activities. The trade sector remained generally constant, at about 20 percent, throughout the period.

In an attempt to address the challenges brought about by changing demographic and economic trends and issues, the 1977 General Development Plan, prepared by the Regional Planning Council, has considered two sets of alternatives in evaluating the most effective growth and development plan.

One set of alternatives addressed the economic growth to be experienced in the region over the next twenty years; the second set of alternatives addressed the distribution and pattern of development resulting from that growth.

Two economic growth scenarios were developed: (1) strong regional economic growth and (2) stabilized regional growth.

Three land development alternatives were considered by the Regional Planning Council: (1) the trend development pattern, (2) the decentralized development pattern and (3) the centralized development pattern. These three scenarios represent a range of how the region could develop in the next twenty years.

Consideration of these economic growth and land development alternatives is an important issue in evaluating the environmental, social and economic impacts of the I-195 improvements.

The travel simulation forecast and projected traffic volumes for this project were based on the "Round 9" scenario developed by RPC. This scenario assumes a high growth, trend distribution.

The demographic and economic data provided in the following sections of this FEIS are, unless otherwise noted, based on the "Round 9" scenario. The data is therefore consistent with the travel simulation forecast. The projections should be regarded as estimates of the region's population resulting from the high growth, trend development alternatives.

The travel forecasts for the I-195 study are based upon the most recent growth forecasts available at the time the travel demand forecasts were performed. It is important to note that the Baltimore Region General Development Plan recommends a more centralized regional development pattern and strong economic growth. Nevertheless, the differences between these growth scenarios have been reviewed at a gross level and are not presumed to significantly affect the traffic forecasts on this project.

Investigation has indicated that in the regional planning districts affected by the I-195 study, the overall population projections under the latest scenario (CoOP 1) are not significantly different than those provided under the "Round 9" scenario.

During the sixties, the annual growth rate in the Baltimore Region was 1.4 percent. Over the next twenty years the annual population growth rate would be 1.5 percent, reaching approximately 2.8 million by 1995 (See Table I). Over 50 percent of this population growth will be attributed to in-migration resulting from new job opportunities and increased interaction with the Washington region. It is anticipated that major capital investments will be made in railways, highways, transit and in the Port of Baltimore especially in order to maintain the region's competitive advantage.

As indicated in Table II, employment within the region is projected to increase by approximately 312,000 between 1980 and 1995. The government, service and trade sectors are expected to provide most of the regional employment opportunities. The service sector is expected to grow most rapidly at a rate of 2.4 percent per year. The expansion of existing industries and new industries locating within the region are projected to result in an increase of approximately 53,000 additional persons employed in manufacturing/industrial activities.

Employment forecasts by sector are provided in Table III.

The trend development pattern, which has been utilized for the demographic and economic projections, is based on development in the region over the past twenty years. The scenario assumes that current market forces affecting the development of urban land will continue within the framework of today's development policies as established by local governments in the region.

TABLE I
POPULATION PROJECTIONS
BALTIMORE METROPOLITAN REGION

	1970 Population/%		1980 Population/%		1985 Population/%		1995 Population/%	
Anne Arundel	298,000	14%	387,100	17%	443,200	18%	574,600	20%
Baltimore	620,400	30%	692,600	30%	740,600	31%	864,400	31%
Carroll	69,000	3%	95,000	4%	107,800	4%	135,000	5%
Harford	115,400	6%	147,200	7%	161,700	7%	195,500	7%
Howard	62,400	3%	124,000	6%	153,200	6%	218,600	8%
Baltimore City	905,800	44%	828,900	36%	821,000	34%	830,100	29%
Region Total	2,071,000		2,274,800		2,427,500		2,818,200	

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February 1977).

TABLE II
EMPLOYMENT PROJECTIONS
BALTIMORE METROPOLITAN REGION

	1970 Employment/%		1980 Employment/%		1985 Employment/%		1995 Employment/%	
Anne Arundel	119,000	14%	142,700	14%	163,700	15%	219,100	17%
Baltimore	234,050	26%	300,400	30%	328,500	30%	380,600	29%
Carroll	21,100	2%	30,150	3%	35,150	3%	44,750	3%
Harford	41,200	5%	45,500	5%	48,400	5%	67,500	5%
Howard	26,600	3%	55,400	5%	66,700	6%	90,700	7%
Baltimore City	447,250	50%	436,800	43%	452,900	41%	519,800	39%
Region Total	889,200		1,010,950		1,095,350		1,322,450	

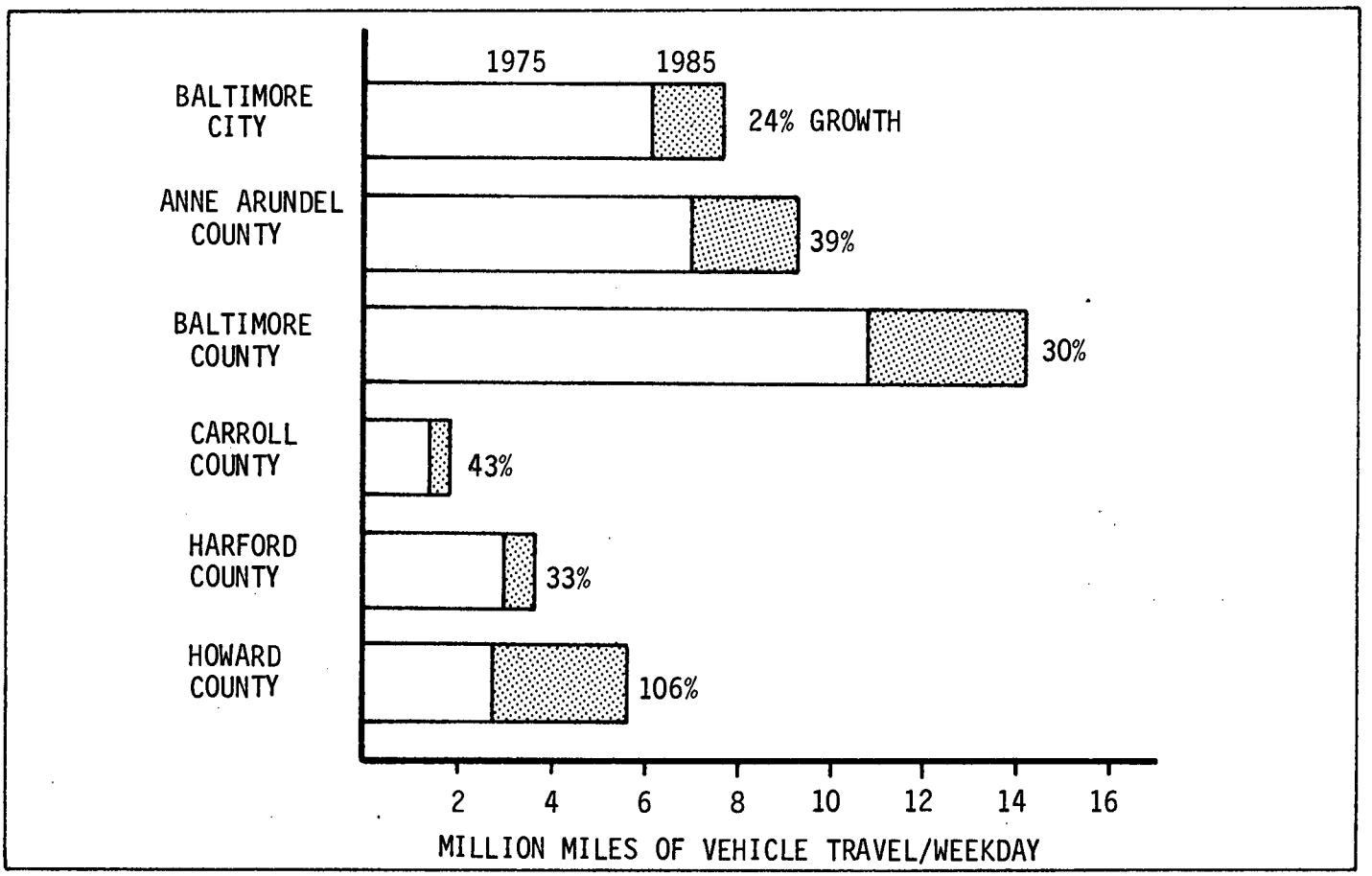
Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February 1977).

TABLE III
EMPLOYMENT PROJECTIONS
BY INDUSTRIAL CLASSIFICATION
(REGIONAL TOTALS)

	1970 EMPLOYMENT	1980 EMPLOYMENT	1985 EMPLOYMENT	1995 EMPLOYMENT
Retail	141,100	163,300	172,500	193,200
Service	87,100	105,400	117,300	149,900
Office	45,000	55,800	61,600	77,800
Government and Institutions	261,300	329,300	356,500	434,100
Manufacturing	197,600	177,450	192,150	230,050
Extensive Industry	157,100	179,700	195,300	237,400
Total Employment	889,200	1,010,950	1,095,350	1,322,450

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February 1977).

The General Development Plan indicates the following projected traffic growth by jurisdiction between 1975 and 1985:



The General Development Plan further states:

> "Despite the recent energy crisis and escalating fuel costs, vehicular travel (as measured by vehicle-miles-of-travel or VMT) in the Baltimore Region is increasing. Between 1970 and 1974, VMT increased at a rate of three percent per year. The annual rate of VMT increase since the energy crisis is about six percent.
>
> "These trends could result in an overall VMT growth of approximately 37 percent over the next ten years. There may be even more dramatic increases within jurisdictions."

Adoption of the trend development pattern would effect the consumption of vehicular fuel. Although fuel consumption would vary less than two percent among the three alternatives evaluated by RPC, the trend pattern represents an additional 22 million gallons consumed annually when compared with the centralized alternative.

Description of Natural Environmental Setting

Topography - The terrain within the study area varies from nearly level to steep. The greatest difference in elevation is within the area from the Baltimore-Washington Expressway to U.S. Route 1 where elevations range from near sea level to approximately 200 feet. The maximum elevations occur at the summit of the rather steep slopes extending from Stony Run.

The terrain within the area south of the Baltimore-Washington Expressway is primarily gently sloping.

The Patapsco River, which flows across the corridor in a west to east direction, is the most prominent natural feature. The Patapsco River and Deep Run have a broad flood plain, nearly a half-mile in width, in the vicinity of the proposed I-195 crossing. Within the study area, the Patapsco is approximately 80-100 feet wide.

The corridor is segmented by numerous natural and man-made features, including the Patapsco River, Deep Run and Stony Run, Maryland Route 170, Baltimore-Washington Expressway, Harbor Tunnel Thruway, U.S. Route 1, I-95, the Amtrak rail line, the B & O Railroad and several local roadways.

Visual - The physical environment of the study area (highways, buildings, bridge and other objects) is characterized by a broad range of land use activities. The visual environment of the area is influenced by the inter-relationships, both aesthetic and functional, between this development and the natural environmental resources.

The natural amenities provided by the Patapsco River and other open space resources which extend from the Harbor Tunnel Thruway to the Baltimore-Washington Expressway enhance the visual quality of the area. Throughout the corridor, open space areas are interspersed with development and contribute to the visual setting.

The condition and maintenance level of properties within the area provide a significant influence on visual quality. With few exceptions, developments (residential, commercial and industrial properties) are sound, attractive and exhibit a high maintenance level.

Climatology[4] - Because of its latitude and proximity to the moderating influences of the Atlantic Ocean and the Chesapeake Bay, the area experiences a relatively moderate climate. The project area is also located near the average path of low pressure systems which move across the country. Thus, a large number of low pressure systems cross the area during the course of a year. This frequency of low pressure system passage accounts for frequent shifts in wind direction and the somewhat changeable nature of the weather.

Rainfall is relatively well distributed throughout the year, although amounts received during the growing season may fluctuate due to the random nature of thundershowers which supply most of the precipitation during that period. Peak rainfall intensities are associated with thundershowers or tropical storms.

Significant freezing rain occurs on an average of two or three times per year, usually in January or February. Sleet usually occurs five times per year, most often in January. The heaviest amount of snow usually falls in February. Snow flurries usually occur 25 days per year with snowfalls exceeding one inch occurring on an average of nine days per year.

During the summer months, the area is often under the influence of a large stagnant high pressure system over the Atlantic Ocean at about 30^0 North Latitude, called the Bermuda High. The Bermuda High brings warm humid air masses into the area from the deep south, accounting for periods of high humidity weather during the summer months.

July is typically the hottest month of the year, with the lowest wind speed and a relatively large number of thunderstorms. January is generally the coldest month of the year with higher wind speeds and few, if any, thundershowers.

Winds from the west, west southwest, and west northwest account for approximately 40 percent of the period during which winds are blowing.

Geology - The alternate alignments lie at the extreme inner edge of the Atlantic Coastal Plain physiographic province.

The geologic formations exposed along the alternate routes are unconsolidated formations of the Cretaceous and Quarternary geological periods. The crystalline basement is exposed in the valley of the Patapsco River, just east of the intersection with U.S. 1.

Overlying this crystalline basement rock are sands and clays of the Potomac Group. For the purpose of this study, the group is divided into two facies: sand and gravel, and silt clay, which are, in part, time equivalent. The combined thickness of the Potomac Group sediments in the area is 50 to 400 feet.

Two types of Quaternary deposits overlie the Potomac Group sediments, terrace deposits and alluvium.

The terrace deposits occur along the south side of the Patapsco River valley and on adjacent uplands to an elevation of 200 feet and are up to 45 feet thick. Alluvium is present under the flood plain of the Patapsco River and in the valley of Stony Run varying in thickness from 3 to 15 feet. In some places, the alluvium is high in organic content and thin peat may be present.

The areas underlain by the sand facies of the Potomac Group generally have excellent foundation conditions. Most areas are well drained and present few excavation problems. Cut bank stability is generally good. Gullying can be rapid and severe. Clay lenses can cause local perching of water with local poor drainage resulting.

The areas underlain by the silty clay facies are more apt to produce construction problems. The clays are relatively impermeable and can present drainage problems. Cut banks tend to be unstable due to slippage along joint planes in wet weather.

Terrace gravels generally have the same characteristics as the sand facies of the Potomac Group, except where they are thin and overlie the clay facies. Excavations in these areas will often actually reach the clay facies and perched water table conditions and wet weather springs can also be expected.

The areas underlain by alluvium generally have a shallow water table and marshy areas are common. The alluvium is generally thin and foundation conditions depend on the underlying material.

There are no known unique or limited mineral resources in the area. The terrace deposits have been widely quarried for sand and gravel and common borrow material.

The silty clay facies of the Potomac Group has been a source of clay for brick manufacture in the past.

Iron ore was once mined from the limonite concretion zones in the Potomac Group. They have no present value.

A more detailed description of the geology of the area is provided in the Geology and Hydrogeology Technical Basis Report for I-195 which is available for inspection at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland.

Ground Water - The sands and gravels of the Potomac Group are aquifers of major importance in the Maryland Coastal Plain. The lower sands, resting on the crystalline basement are referred to as the Patuxent Formation in most ground water reports. This formation is considered the most important water bearing formation in the Baltimore area. These sands outcrop on the north side of the Patapsco River in the vicinity of the interchange of I-195 and U.S. Route 1. There were formerly several wells for industrial use in this area. Only one, the Ranny Collector at the Calvert Distilling Co. is known to be still in use. This well apparently receives its recharge from infiltration from the Patapsco River. South of the outcrop area, the Patuxent aquifer is confined and is an important source of artesian water for domestic as well as public and industrial supplies.

Howard County is presently conducting studies to locate potable ground water in the area along the Patapsco River from Elkridge to the Conrail Railroad. The type of well being considered is a 50 foot deep radial well.

The upper sands of the Potomac Group are generally referred to as the Patapsco Formation. These sands outcrop in northern Anne Arundel County and are extensively developed for ground water. Wells in the outcrop area tap unconfined water and, south of the outcrop, the water is confined, i.e., artesian.

The Selected Alternate 2/A2A and the preliminary Alternates A & B lie almost entirely on the Potomac Group clays. These clays have very low permeability and act as the confining beds where the sands are artesian aquifers. Although the clays contain local sandy zones that might yield water to shallow wells, no record of such wells have been found. Although problems such as slumping may be experienced in building a road through the clays, these would not involve water supplies from the aquifers.

The Quarternary terrace deposits are generally too thin to be important aquifers. Where the terrace gravels lie on the Potomac Group clay, local perched water tables may occur at the contact. This could create stability problems in road cuts intersecting this contact.

The Quaternary alluvium is generally too thin to be an important aquifer. The sediments in the flood plain of the Patapsco River have been used as an aquifer at the Calvert Distillery.

Soils - The soil associations located within the area of the corridor affected by construction operations are the Sassafras-Croom-Chillum association and the Eversboro-Rumford-Sassafras association.

The soils encountered by the proposed construction provide the following characteristics:

The upland soils are generally dry, loose sandy or silty with little or no clay binder. These soils are subject to erosion by water on moderate to steep slopes and in some cases subject to wind erosion. Stability of the sands and silts may prove difficult where loose or unconfined. The lowland soils are clayey or silty and are wet due to a high water table and poor natural drainage. In addition to erosion in some of these wet areas, deposition may also be a problem. Stability of the clays and clayey silts present problems due to high moisture content and high water table.

The proposed improvements will not affect active farmland or land classified as prime or unique farmland soils by the U.S. Department of Agriculture, Soil Conservation Service.

Vegetation - The area of proposed highway construction lies within the Atlantic Coastal Plain physiographic province. Maryland Coastal Plain forests consist mostly of mixed oaks and pines. Pines are principally found on sandy uplands or on tracts more recently harvested. Mixed oak and other edaphic climaxes of hardwoods may be found on clayey slopes and along moist stream and river bottom lands.

Three community types of floristic associations were observed in the study area: the river birch-sycamore association found in moist flood plain areas along the Patapsco, Stony Run and Deep Run; the chestnut oak, post oak, clack-jack oak association found in areas of higher elevation to the south of Stony Run; and the tulip poplar association located north of Stony Run and comprising most of the area to be impacted by the highway construction.

In this section of the Coastal Plain, soils are mostly gray-brown podzols. Agriculturally, these soils are considered among the poorest in the United States. Because of this, all areas in the corridor are forested. These forest ecosystems are not unique to the physiographic province nor are they considered to be of the highest quality.

All three floristic associations occurring in the area are in early secondary succession. Average diameter of canopy species is about 7 inches.

The vegetated areas within the corridor are very important from a water quality standpoint. Vegetation is essential to the hydrologic processes which affect water resources. This is a significient consideration in the project area where the effects of urbanization are increasing the amount of impervious surfaces (roads, parking lots, buildings, etc.).

No plant species listed as "threatened" or "endangered" by the U.S. Fish and Wildlife Service have been observed or have been reported to occur in the study area. See letter of coordination from the U.S. Fish and Wildlife Service on page 147b.

A tabulation of the floristic associations occurring in the proposed corridor and their relative abundance, is provided in the Terrestrial and Aquatic Ecology Technical Basis Report for I-195. This report is available for inspection at the State Highway Administration, 707 North Calvert Street, Baltimore, Md.

Wetlands, or aquatic ecosystems that are covered with water for all or part of the year, are not directly impacted by the proposed project.

One area of the Patapsco flood plain in early succession to moist deciduous forest, was identified north of the confluence of Deep Run. The site is located north of the proposed alignment of the Selected Alternate 2/A2A and will not be directly impacted. Field observations and communications with

Water Resources Administration officials of Maryland Department of Natural Resources indicate that this site does not fit any of the seven basic wetland types and thus should not be considered as a wetland area.

Several wetland units have been identified along Stony Run, northwest of the proposed I-195/MD 170 interchange. These wetlands do not provide sufficient amounts of standing water to permit waterfowl or fish to utilize them for nesting or spawning habitat. However, these wooded swamps contribute substantially to the overall ecological diversity of the region by providing habitat for a complex food web. Although not directly impacted by the project, they will require protection from sediment resulting from construction operations upstream. These wetlands are shown on figure No. 11.

Fish and Wildlife - Wildlife populations within the corridor have been strongly influenced by the actions of man. Developments such as railroads, highways, airports and residences have interferred with animal populations in such a way that only those extremely adaptable to these man-made disturbances remain. Small mammals in upland wooded areas are limited to quail, rabbits, fox, oppossum, ground hog, skunk, raccoon and other rodents.

Fish populations are also limited by pollution factors although the Patapsco River does provide important anadromous, semi-anadromous and resident fin fish spawning and nursery habitat, notable the white perch, a very important and common fin fish species in this area.

According to the Maryland Wildlife Administration, no vertebrate species listed by the U.S. Fish and Wildlife Service as "endangered" or "threatened" or by the Department of Natural Resources as "threatened with state-wide extinction" are known to occur in the study area. See letter of coordination from the U.S. Fish & Wildlife Service on page 147b.

An inventory of fish species known to occur within the area is provided in the Terrestrial and Aquatic Ecology Technical Basis Report for I-195. This report is available for inspection at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland.

Hydrology and Water Quality - The project study area is located entirely within the Patapsco River drainage basin.

The Patapsco River drains approximately 664 square miles of land area in north-central Maryland. The lower 6½ miles of river, from Elkridge to the mouth, which includes the project area, is tidal. Within the area the channel is approximately 80-100 feet wide, slow flowing and can be characterized as meander and marsh (See Figure 11).

Two major tributaries of the Patapsco, Deep Run and Stony Run, will be affected by the proposed project. These streams drain the areas to the south and enter the Potapsco within approximately 600 feet of each other. The majority of the land area affected by the project is drained by Stony Run and its tributaries, including Little Kitten Branch.

Previous construction and urbanization have severely stressed the Patapsco and its tributaries. The Maryland Water Resources Administration has listed the major causes of degradation as agricultural runoff, failing septic systems, sewage treatment plant and raw sewage discharges, construction, urban storm water runoff, and industrial discharges. Bacteria and dissolved oxygen (DO) standards have been violated within sections of the Patapsco.

The major tributaries of the Patapsco River, including Stony Run, were investigated for existing water quality in 1968. Stony Run was found to have good water quality and all Maryland Standards were in compliance.

The Water Quality Administration has classified Deep Run, Stony Run, and the Patapsco River within the vicinity of the project, as Class I-water contact recreation and aquatic life. This classification includes all non-tidal warm-water fisheries of the state.

The Selected Alternate 2/A2A and the preliminary Alternates A & B would result in flood plain encroachment, most notably in the vicinity of the Patapsco River crossing. An assessment of the potential impacts resulting from this encroachment is provided under the discussion of "River Modifications (Flood Hazard Impacts)". page 63.

The construction of the I-195 improvements will require the following Federal and State permits: Federal Water Pollution Control Act, Section 404 Permit; Waterway Construction Permit; and Sedimentation and Stormwater Control Permit.

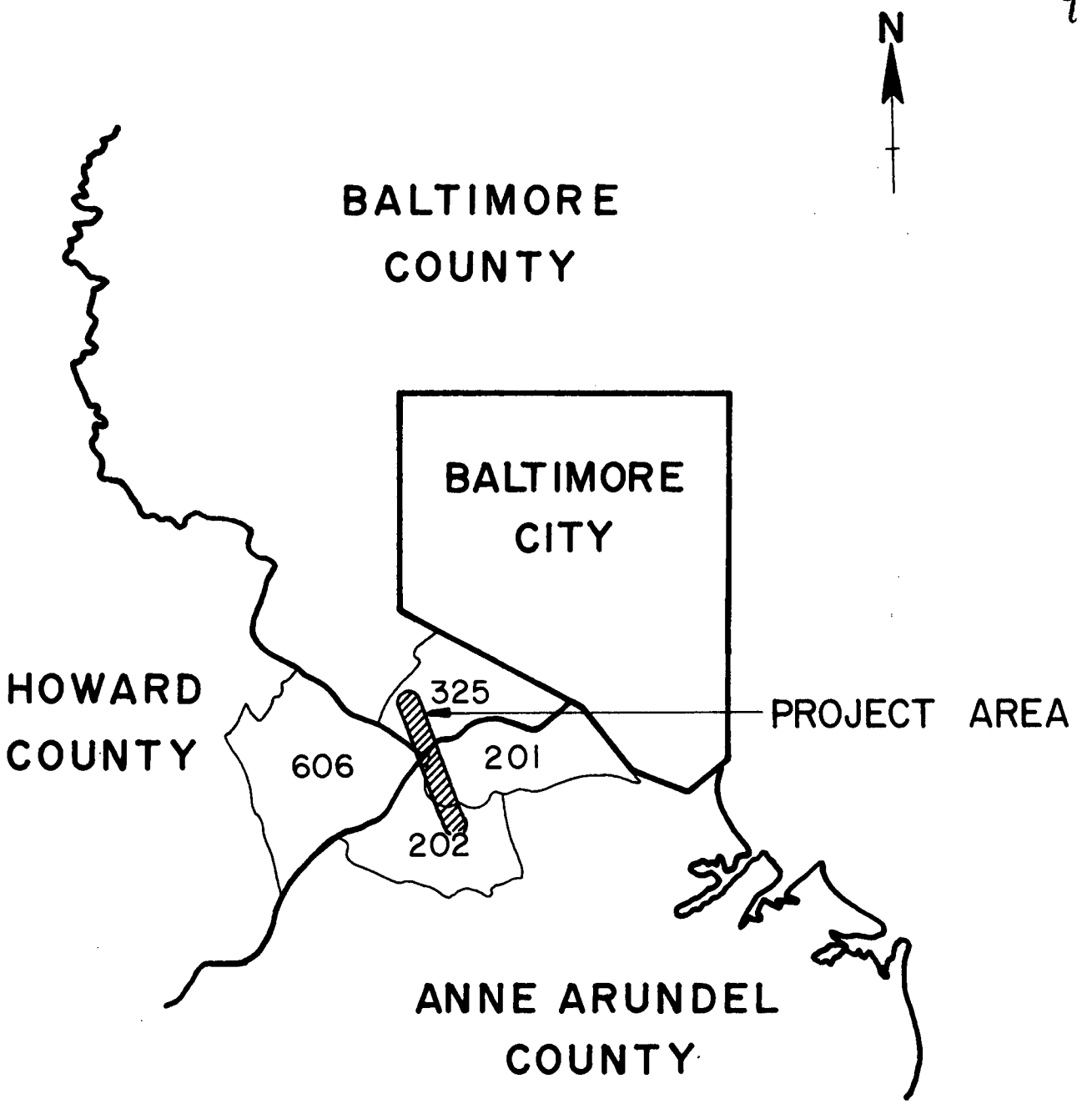
Description of Social Setting

The demographic and economic data included in this section and under the "Description of the Economic Setting" are provided for portions of Anne Arundel County and adjacent sections of Howard and Baltimore Counties. This area consists of Regional Planning Districts (RPD) 201 and 202 in Anne Arundel County, RPD 325 in Baltimore County, and RPD 606 in Howard County (See Figure 3A).

The planning districts under consideration lie adjacent to the proposed I-195 corridor and are considered the areas most directly influenced by the proposed improvements.

Land Use - The development patterns within the area of the project reflect the influence of several factors which include employment areas, availability of urban services and access to existing transportation facilities.

The land use immediately adjacent to the completed section of I-195, which extends from I-95 to U.S. 1, primarily residential, consisting of single family detached units. The development extends out from this area, especially to the north where single and multi-family units are located.



LEGEND

Regional Planning Districts 201

NO SCALE

REGIONAL PLANNING DISTRICTS

FIGURE 3A

South of this area, industrial development borders portions of the B & O Rail Lines and U.S. Route 1. Industrial development within the corridor is diversified and represents several major categories of industrial activity such as manufacturing, warehousing and distribution, material processing and research and development.

In contrast to the land use north of U.S. Route 1 and the Harbor Tunnel Thruway, the areas to the south still feature large parcels of vacant, undeveloped land. Much of the land north of the I-195/Baltimore-Washington Expressway interchange and predominantly west of the Conrail tracks is either presently included in the Patapsco State Park or slated for future acquisition and park development. Lightly scattered residential development is located along sections of the local roadways within this area.

The dominant land uses within the area south of the Baltimore-Washington Expressway are the Baltimore-Washington International Airport, the Westinghouse facilities and other industrial/commercial establishments along Elkridge Landing Road.

Most of the undeveloped land bounded by the B-W Expressway, I-195, MD 170 and the Amtrak lines is owned by the State Aviation Administration, the BWI Airport occupying a total of 2,979 acres.

The airport's proximity to the regional highway and rail arteries has been a significant factor in the location of industrial sites within the area. As stated in the airport's Master Plan: "Seven major industrial parks are located in the vicinity, many of relatively recent origin. All have been influenced by the ease of automobile access to this area from the Baltimore and Washington metropolitan areas. The proximity of the Airport has been another consideration in many of the industrial sitings between I-95 and the Baltimore-Washington Parkway, and an important factor in the location of industrial parks between the Parkway and BWI. These are shown on Figure 6.

Population - Regional Planning District 201 in Anne Arundel County includes the area east of I-195 and extends to the Baltimore City Line. The 1980 population of 26,550 will remain relatively stable through 1995, increasing at a rate of 0.9 percent annually. This rate is well below the 3.2 percent annual growth rate projected for the county during the same period.

Regional Planning District 202 in Anne Arundel County is comprised of the area to the south and west of I-195, including the BWI Airport, and extends to MD 176. This area is lightly populated, comprising 0.7 percent of the county total (estimated 1990 population of 4,000). The 36 percent total increase projected to occur from 1970-1995 is consistent with the estimated growth within the region, but below the 93 percent total growth projected to occur in the county.

Regional Planning District 325 in Baltimore County is the only area directly influenced by the I-195 improvements projected to decline in population from 1970-1995. During this period, the planning district is expected to decline by 7 percent. Although Table V indicates an increase in the number of households in RPD 325, the decline in population is due to a projected reduction in the number of persons per household by 1995. RPD 325 presently comprises about 5 percent of the county's population.

Regional Planning District 606 in Howard County is projected to increase from a population of 9,600 in 1970 to 22,450 in 1995, a total increase of approximately 134 percent. Howard county is expected to experience the largest growth rate in the area with a projected increase of 250 percent within the same period.

TABLE IV
POPULATION PROJECTIONS FOR SELECTED
REGIONAL PLANNING DISTRICTS IN THE AREA OF I-195

	1970	1980	1985	1995	% Increase 1970-1995
Anne Arundel County					
* RPD 201	28,250	26,500	27,550	30,050	6.4%
* RPD 202	2,950	3,150	3,350	4,000	35.6%
County Total	298,000	387,100	443,200	574,600	92.8%
% County Total	10.5%	7.7%	7.0%	5.9%	
Baltimore County					
* RPD 325	40,500	36,750	37,050	37,850	-7.0%
County Total	620,400	692,600	740,600	864,400	39.3%
% County Total	6.5%	5.3%	5.0%	4.4%	
Howard County					
* RPD 606	9,600	11,700	14,250	22,450	133.9%
County Total	62,400	124,000	153,200	218,600	250.3%
% County Total	15.4%	9.4%	9.3%	10.3%	
Baltimore Region Total	2,071,000	2,274,800	2,427,500	2,818,200	36.1%
* % Region	3.9%	3.4%	3.4%	3.3%	

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February, 1977).

Housing - Housing within the Planning Districts adjacent to I-195 is generally dominated by older suburban-type developments. However, areas of intensive multi-family development are located within the districts, especially in Baltimore County.

The number of households projected to occur by 1995 in the selected RPD's is shown in Table V. As indicated, future growth in these areas is expected to occur at a slower rate than their respective counties.

RPD 606 in Howard County is expected to experience the highest rate of residential growth during the period 1980-1995, with 4,450 additional households. This growth is similar to the total number of new households projected for the remainder of the RPD's (201, 202 and 325).

As shown previously, approximately 50 percent of the employment growth projected in the I-195 area by 1995 will be airport on-site employment. Airport employees will have an impact on housing demand within the area.

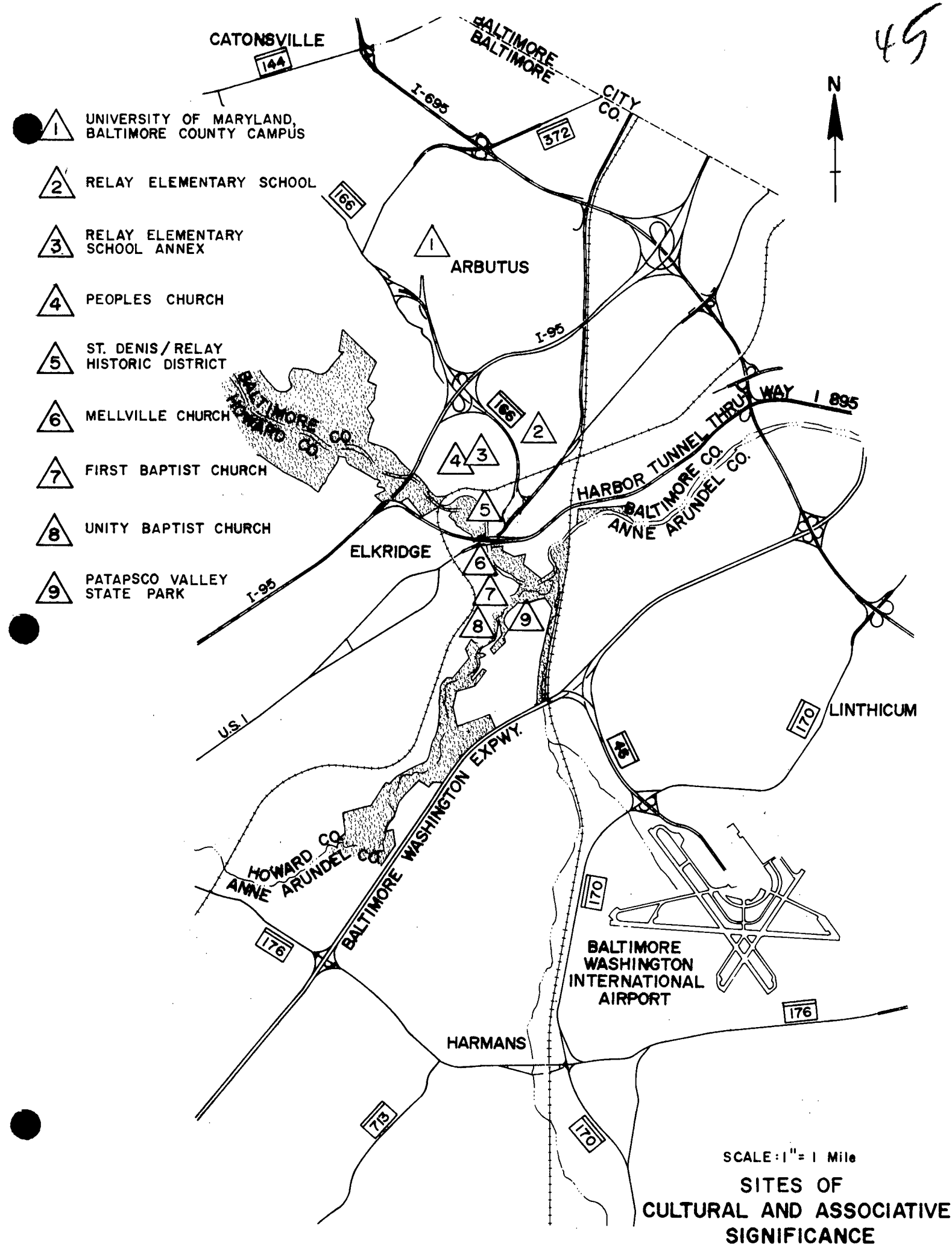
At an average employee density per household of 1.23, which is consistent with the national average, the airport employment growth would generate the need for approximately 309 housing units annually through 1985, and 447 annually during the following decade.

The BWI Airport Master Plan indicates the following residential distribution of employees at BWI Airport:

Anne Arundel County	45.4%
Baltimore City	17.5%
Baltimore County	18.5%
Carroll County	1.8%
Harford County	1.5%
Howard County	5.1%
Montgomery County	1.7%
Prince George's County	3.2%
All Other Maryland Counties	2.6%

Based on this employee distribution, the following number of housing units would be required annually as a result of airport growth:

	1975-1985	1985-1995
Anne Arundel County	139	201
Baltimore County	59	85
Howard County	15	22



SCALE: 1" = 1 Mile

SITES OF CULTURAL AND ASSOCIATIVE SIGNIFICANCE

FIGURE 4

TABLE V
PROJECTED NUMBER OF HOUSEHOLDS FOR SELECTED
REGIONAL PLANNING DISTRICTS IN THE AREA OF I-195

	1970	1980	1985	1995
Anne Arundel County				
* RPD 201	8,400	9,200	10,000	11,600
* RPD 202	800	1,000	1,100	1,400
County Total	81,100	124,900	150,300	209,200
% County	11.3%	8.2%	7.4%	6.2%
Baltimore County				
* RPD 325	12,650	13,450	14,200	15,500
County Total	184,900	241,800	270,800	337,900
% County	6.8%	5.6%	5.2%	4.6%
Howard County				
* RPD 606	2,600	3,750	4,800	8,200
County Total	16,900	40,100	51,900	79,100
% County	15.4%	9.4%	9.2%	10.4%
Baltimore Region Total	623,800	785,800	876,100	1,084,900
* % Region	3.9%	3.5%	3.4%	3.4%

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February, 1977).

Cultural - Certain structures and sites of cultural and associative significance are located in the study area.

Included among these resources is the St. Denis/Relay Historic District. This area provides two buildings of historical or architectural significance supported by other structures having somewhat lesser importance. These sites, or groups of these structures, represent a period in the historic development of the St. Denis/Relay area. The location of this Historic District is indicated on Figures 30 and 31 and included under the discussion of "Historical Resources", Page 96.

The most prominent institutional development located within the study area is the University of Maryland, Baltimore County Campus located just north of the I-95/I-195 interchange.

The remainder of the structures and sites indicated on Figure 4 are linked to significant social activity patterns of the study area. The effect of the proposed action on these resources will be key indicators of the change in the level of community cohesion.

Recreation - The largest recreational facility within the study area is Patapsco Valley State Park. This park presently encompasses 9,655 acres in Anne Arundel, Baltimore, Carroll, and Howard Counties. Extending along the Patapsco River from Sykesville in the Piedmont to Baltimore Highlands in the Coastal Plain segmented by small communities and towns, the park is 27 miles long and has an average width of half a mile. Located within the densely populated Baltimore Region, the park is within an hour's drive of half the population of Maryland.

The activities provided at Patapsco Valley State Park are designed to emphasize the protection of natural, scenic and historic features. Activities available in various areas of the park include picnicking, camping, bicycle riding, horseback riding, hiking and nature study.

The area of the park affected by the proposed project has been designated as Section I-C by the Department of Natural Resources (see Figure 5). This section has not been developed for recreation. Although much of the land is in the flood plain and is not suitable for high-density recreation, the areas on both sides of the AMTRAK's Northeast Corridor Line in Anne Arundel County is considered suitable for recreational development. Only 25 percent of the land in the existing park is suitable for recreational facilities other than trails.

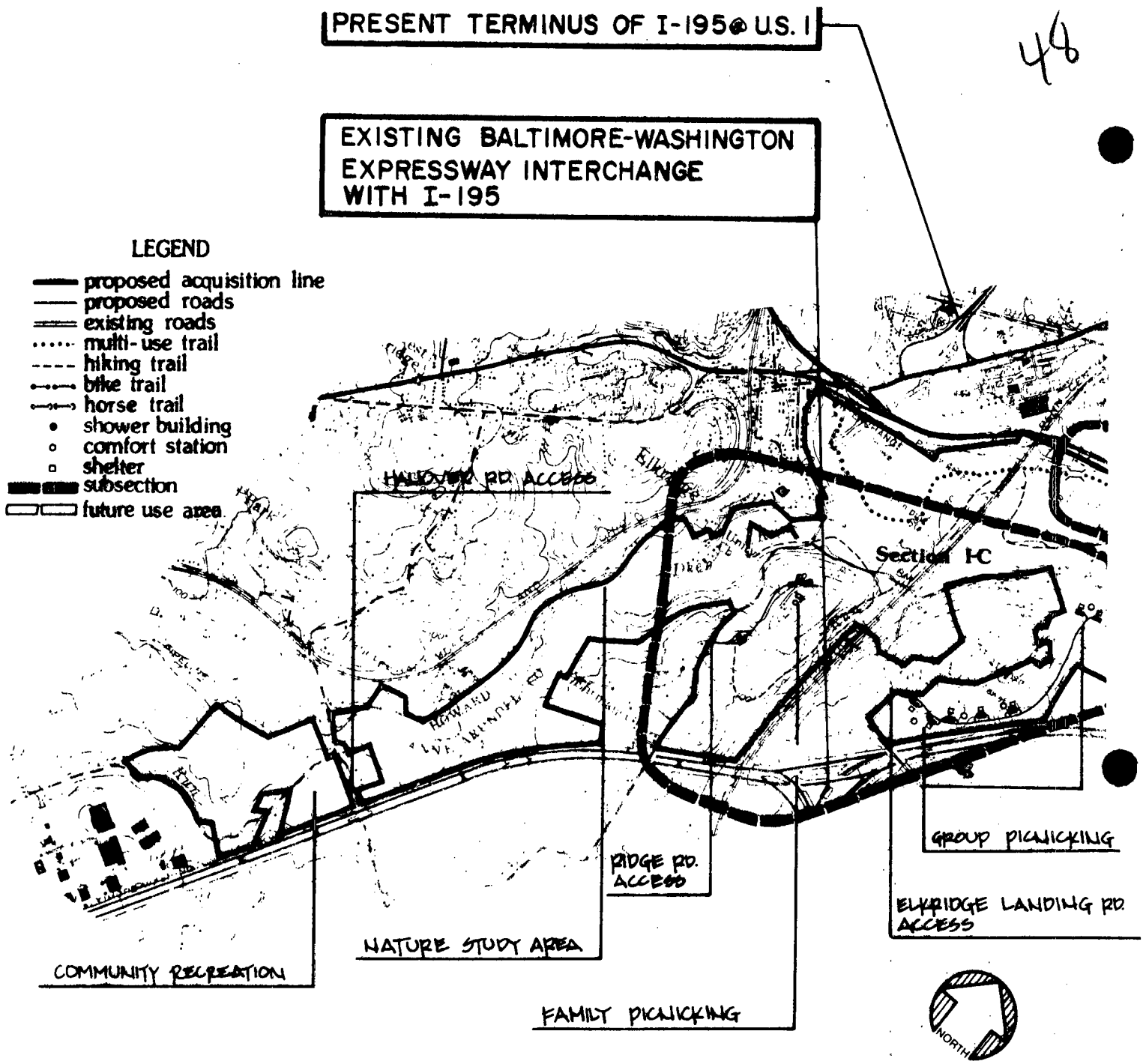
The need for additional recreational facilities in the Baltimore Region and the limitation of the existing site have led the Maryland Department of Natural Resources to propose an extensive land acquisition program.

The proposed project will require the acquisition of land from the existing park and areas slated for future acquisition and park development.

Proposed development within Section I-C includes multi-use trails, group and family picnicking, and a scenic overlook.

Recreational development is provided in conjunction with the public schools within the area. These sites are developed to various degrees with playground equipment, ballfields and outdoor basketball and hard-surfaced areas. The location of these facilities are indicated on Figure 4. These recreational facilities will not be affected by the proposed project.

Community Facilities and Services - These resources are comprised of governmental and privately owned facilities and services operated for the benefit of the community. They include the schools, churches and recreational areas previously identified. The following pages discuss these resources in the area of I-195.



Section I
Baltimore Highlands to Elkridge

feet 0 600 1200 1800 3600

MAP SOURCE: Patapsco Valley State Park
Draft Master Plan,
December 1977.

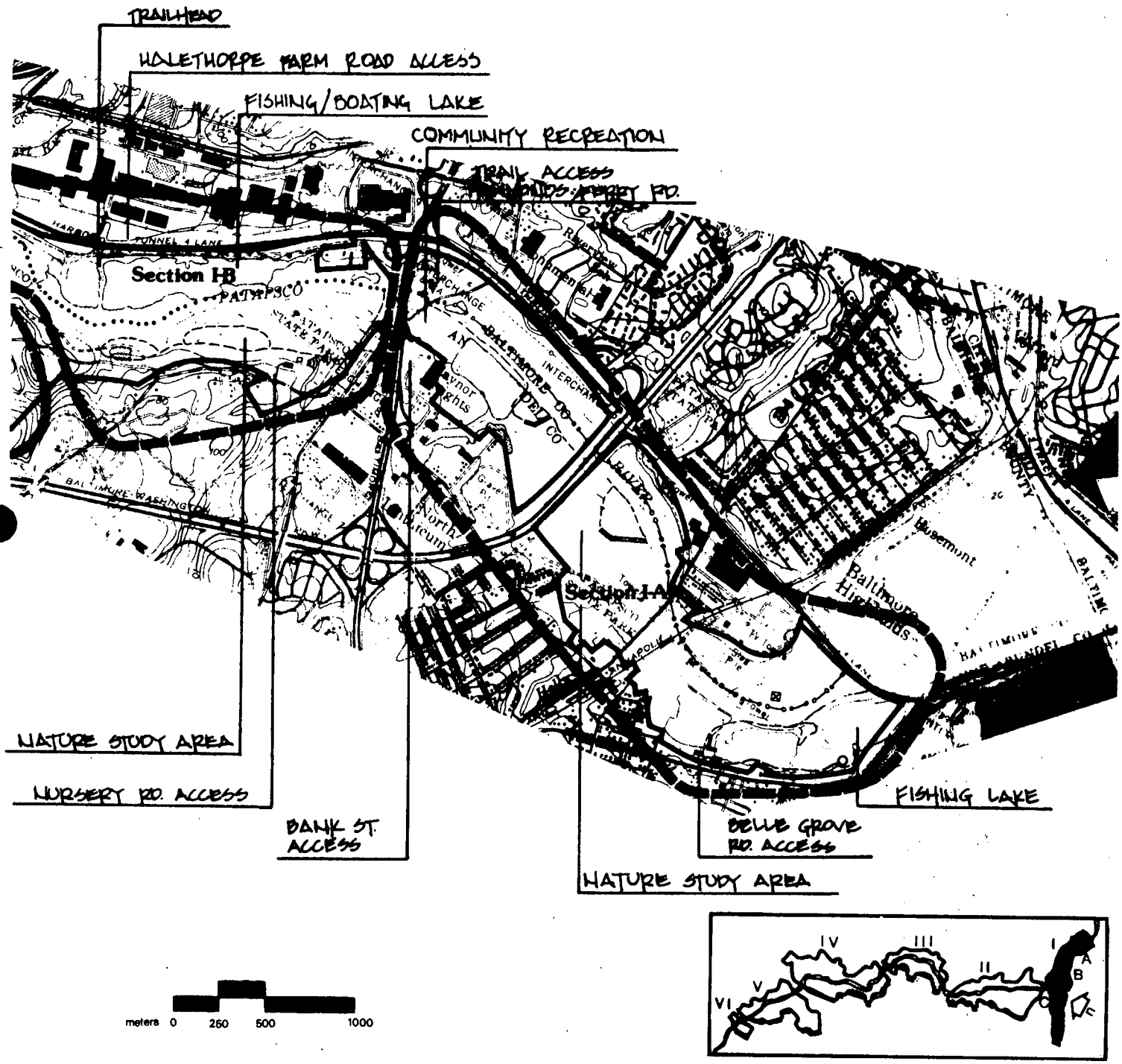

TRAILHEAD
HALETHORPE FARM ROAD ACCESS
FISHING/BOATING LAKE
COMMUNITY RECREATION
TRAIL ACCESS
Section 1B
PATAPSCO
NATURE STUDY AREA
NURSERY RD. ACCESS
BANK ST. ACCESS
DELUE GROVE RD. ACCESS
NATURE STUDY AREA
FISHING LAKE
meters 0 250 500 1000
I
II
III
IV
V
VI
A
B
C
D
E

FIGURE 5

Anne Arundel County

The portion of the study area within Anne Arundel County is within the Northern Police District and served by the County Police Department. The new Northern District sub-station serves approximately 119,000 residents.

The Anne Arundel County Fire Department is centrally administrated from the department's main headquarters and operates 29 fire stations throughout the county. With the exception of the portion of the corridor north of the Baltimore-Washington Expressway, development within the project area is within a five minute response time from the county's fire stations.

Anne Arundel County, through its system of community Health Centers, had attempted to provide health services directly in the communities where the patients reside. The project area is served by the Friendship Health Center which is an outpatient facility located along MD 170 just north of the I-195 crossing. In addition to this Health Center, there are several other facilities for specialized care located in the northern portion of the county.

The project area is in the Patapsco River Sanitary Wastewater Service Area which serves northern Anne Arundel County. The wastes are treated in the Patapsco Wastewater Treatment Plant with final effluent disposal in the Chesapeake Bay via the Patapsco River. The Patapsco Treatment Plant is currently being expanded to provide an ultimate capacity of 70 million gallons daily. The Stony Run Interceptor and the interceptor line which conveys the wastewater flows from the BWI Airport is located within the proposed I-195 corridor. These lines connect to a major interceptor (the Patapsco Interceptor) located along the Patapsco River. Most areas within the proposed I-195 corridor are presently served by public sewers.

Anne Arundel County is divided into nine water supply service areas. The project area is within a service area which obtains water from Baltimore City and local wells in the Patuxent and Patapsco formation aquifers. The water purchased from Baltimore City originates from these sources: the Gunpowder River, the North Branch of the Patapsco River and the Susquehanna River Basin.

Existing water service within the corridor is limited to the developed areas along MD 170 and Elkridge Landing Road.

The schools serving the portion of the study area in Anne Arundel County are Linthicum Elementary, St. Philip Neri, Linthicum Jr. High and Andover High School.

Baltimore County

The project area is served by the Baltimore County Police Department which operates from ten district stations located throughout the county.

Of the existing 50 fire companies in Baltimore County, 19 are county-paid and 31 are volunteer companies. All fire-trained companies are coordinated and directed through a control headquarters.

Public health services in Baltimore County are administered through regional, community and neighborhood centers. Sixteen auxiliary health centers provide outpatient and clinic services on a local level throughout the county. The county also maintains five comprehensive community mental health centers.

The Patapsco sewage treatment plant currently provides service to portions of Anne Arundel, Baltimore and Howard counties, as well as to the southwestern areas of the city. The areas served are all tributary to the Patapsco River Valley, covering 38.5 square miles, with a 1974 connected population of nearly 132,000. The population within the I-195 corridor is served by this plant.

Baltimore County is served by three water supply sources; (1) the Lock Raven and Prettyboy Reservoirs, (2) the Liberty Reservoir and (3) the Susquehanna River.

Transportation - The transportation system within the study area consists of an extensive highway network, public transit in the form of buses, interregional passenger and freight rail traffic, and commercial air carrier service.

The major links within the regional highway system are I-95, I-695, I-895 and the Baltimore-Washington Expressway. These highways and the remainder of the facilities within the area influenced by the proposed improvements are described below:

Baltimore-Washington Expressway -- This four-lane divided facility connects Washington and Baltimore. Its interchanges with I-695, I-195 and Dorsey Road provide highway access to the BWI Airport vicinity from the north and south. South of the MD 175 intersection, the Expressway is maintained by the U. S. Department of Interior. North of that point it is maintained by the State of Maryland. Truck traffic is presently restricted from using the Baltimore-Washington Expressway south of MD 175.

Interstate 95 (I-95) -- I-95 also connects Washington and Baltimore and extends the length of the entire East Coast. I-95 is a eight-lane divided facility.

Interstate 895 (I-895, Harbor Tunnel Thruway) -- This limited access highway connects I-95 north of the Patapsco River to the major highways south of the river via the Harbor Tunnel. The facility is operated and maintained by the Maryland Toll Facilities Administration. It is a major commuter route for the Baltimore area.

It does not, however, provide direct access to the BWI Airport vicinity. At present, access to the area from I-95 requires a routing via the Baltimore Beltway to the B-W Expressway or via the following path: I-95 to MD 100; east on MD 100 to U. S. Route 1; south on U. S. Route 1 to MD 176; east on MD 176 to B-W Expressway.

Interstate 695 (I-695, Baltimore Beltway) -- This limited access highway skirts the City of Baltimore, serving the multiple functions of linking the suburbs with each other, connecting the main arteries leading into the city, and expediting intercity traffic. I-695 provides access to the BWI Airport area from the north via its interchanges with the B-W Expressway and MD 170.

MD 170 (Fort Meade Road) -- A two-lane artery (with additional lanes for turning movements at some intersections), MD 170 provides access to the BWI Airport vicinity via interchanges with I-195 and I-695, and directly from points south. It provides direct access to several industrial parks along its length, as well as to the airport, via the interchange with I-195.

MD 176 (Dorsey Road) -- A two-lane facility, MD 176 generally runs in an east-west direction. It collects traffic approaching the area from the south by virtue of being the area's southern connecting link between US-1, the B-W Expressway, MD 170, MD 3, MD 648 and MD 2. A second function is Dorsey Road's provision of direct access to several industrial parks and scattered subdivisions.

U. S. Route 1 -- U. S. 1 also connects the Baltimore and Washington areas. This is primarily a four-lane free access facility which provides local access to communities and other development within the Baltimore-Washington corridor. Short segments of multi-lane divided highway are provided within some areas.

Rail service also provides an important role in the ground transportation within the area.

The principal rail line is Amtrak's Northeast Corridor Line (formerly Penn Central) which connects Baltimore and Washington with urban centers further north and south. Service presently is offered by Amtrak on their Amfleet and highspeed (Metroliner) trains. Commuter service is offered by Conrail under contract with the Maryland Department of Transportation. A new Amtrak station has been completed near the BWI Airport to serve transfers to aircraft. This station also provides parking for commuters to travel into Baltimore or Washington.

Access to the Amtrak station will be provided by way of a roadway connection from MD Route 170 (see Figure 16). In conjunction with the I-195 study, additional access to the station from Elkridge Landing Road is proposed. The Elkridge Landing Road connection would supplement the access provided from MD 170 which would continue to be utilized.

The new rail station is intended to serve three very specific markets; (1) the commuter rail market to Washington D.C., (2) intercity rail passengers and (3) air travelers who will be attracted to the rail service at the beginning or end of an air trip. Initially eight (8) Amtrak and four (4) commuter trains are scheduled to stop at the station.

Freight service is primarily on the Baltimore & Ohio Railroad's Chessie Line. This line, which roughly parallels the Baltimore-Washington Parkway, provides important rail freight access to industrial users in the B-W corridor. The "Chessie" System also provides inter-regional commuter service between Baltimore and Washington.

Inter-county bus transit in the study area is provided by the Mass Transit Administration of the Maryland Department of Transportation, Greyhound, Continental Trailways, Evre's Bus Service and Carter's Bus Service. The service is largely restricted to urban development within the region and Baltimore and Washington bound commuters.

Bus service to the BWI Airport is provided by the Mass Transit Administration, Airport Limousine Service and Capital Trailways. Access to the Airport is via either MD 46 and the B-W Expressway, or MD 170, Hammonds Ferry Road and MD 3.

In addition, the State Aviation Administration will provide shuttle bus service between the Airport and the Amtrak Station. Airport buses would use MD 170 on trips to the terminal and return to the station via Elm Road/Elkridge Landing Road.

The Baltimore region's only air carrier airport is the Baltimore-Washington International Airport (BWI). More than 2.9 million air travelers used this facility in 1976. Analyses conducted by the Maryland Department of Transportation indicate that as many as twenty million air travelers may use BWI in 1995. As many as ten million of these travelers may be starting their journeys at BWI.[5]

BWI air freight activity is projected to expand significantly in the future, from 190 million pounds in 1979 to 750 million pounds in 1995.[6]

The Baltimore-Washington International Airport Master Plan provides projections of truck trips resulting from this anticipated growth. These projections translate to an increase in truck trips of approximately 190 percent between 1985 and 1995.

The origins of BWI's cargo traffic are widespread and include portions of Delaware, Maryland, Pennsylvania, Virginia and Washington D.C. However, the airports' major traffic generaters are in the Baltimore-Washington Bi-Region which is centered on the principal cities of Baltimore and Washington, D.C., and includes their suburbs and the corridor of development between these two cities.

The I-195 project is listed in the Development and Evaluation Program of the Maryland Department of Transportation's 1981-1986 Consolidated Transportation Program (CTP). Activities are continuing in anticipation of eventual addition to the Construction Program of the CTP. However, no commitment is made beyond the design phase. Implementation of this project will depend on future revenue increases and competition with other projects in the Development and Evaluation Program.

Baltimore Region Rail Transit

Rapid transit connections between the airport, Anne Arundel County and other parts of the Baltimore-Washington Metropolitan area are being considered in the Phase II Regional Rapid Transit Study. Rail service to the airport vicinity will be provided in the near term at the BWI Rail Station on AMTRAK's Northeast Corridor Line which is presently under construction.

The next stage in the Rapid Transit Study is to satisfy the Urban Mass Transit Administration requirements for alternatives analysis, including the feasibility of a bus alternative in the same corridor. These studies must be completed in order to qualify for engineering design funds.

The air passenger market will be limited and will not materially alter highway demand.[7]

Description of Economic Setting

Land and Improvements - Table VI indicates the projected land absorption for various land use classifications in the project area.

The land absorption data were obtained from estimates prepared for the BWI Airport Master Plan Study. This analysis utilized similar population and employment data and was based on assumed development densities. This data provides an indication of the estimated land development required to accommodate population and employment growth by the year 1995.

TABLE VI
PROJECTED LAND USE FOR RESIDENTIAL, INDUSTRIAL AND OTHER USES, 1975-1995, FOR RPD'S IN THE I-195 AREA (ACRES)

RPD	RESIDENTIAL*	INDUSTRIAL*	COMMERCIAL, GOVERNMENT AND INSTITUTIONAL*
201	606	89	232
202	45	230	324
325	231	191	208
606	547	400	438
TOTALS	1,429	910	1,202

* Increase in number of acres

In addition to the above land requirements, future areas of public open space (parks) will be required, generally in proportion to increased population. However, these open space requirements cannot be directly allocated to the individual RPD's.

Development within the I-195 area will be fairly well distributed among the three general land use classifications listed. Residential development is projected to comprise 40 percent of the land development by 1995, with commercial, government and institutional development following closely with 34 percent. Industrial development is expected to account for approximately 26 percent of the land required.

Income[8] - The following table provides a comparison of the growth rates in per capita personal income for the three jurisdictions in the project area, the state, and the nation. Per capita personal income includes all sources of spendable income and therefore is an effective measure by which to analyze changes in the economic well-being of an area.

TABLE VII

JURISDICTION	PER CAPITA PERSONAL INCOME	AVERAGE ANNUAL GROWTH RATES OF PER CAPITA INCOME (%)		
	1975	1962-70	1970-75	1962-75
Anne Arundel County	5,826	6.7	7.2	6.9
Baltimore County	6,828	6.6	7.5	7.0
Howard County	6,631	8.1	7.0	7.7
Maryland	6,197	6.7	7.5	7.0
United States	5,853	6.5	8.4	7.2

Between 1970 and 1975 the jurisdictions' rates of growth was slower than the nation and generally less than the state. These facts, in combination with the 6.5 percent average annual inflation rate during the same period, indicates that the level of economic welfare, as measured by per capita income, has not significantly improved in recent years.

Labor Force - Employment within Regional Planning Districts 201 and 202 in Anne Arundel County comprises approximately 20 percent of the county's total employment. The annual growth rate within these areas (4 - 5 percent) is slightly higher than the 3.4 percent growth projected for the county (see Table VIII).

By 1995, employment within the two planning districts is projected to be comprised of 32 percent manufacturing; 30 percent government; 20 percent retail, service and office; and 18 percent extensive industry*. Together, the manufacturing and extensive industry sectors most closely approximate "industrial" employment. Typically, industrial employers tend to locate in industrial parks or as free standing plants or facilities.

Between 1980 and 1995, total employment is projected to increase by approximately 19,000 with 15,000 of these jobs in government/industrial employment (see Table IX).

The BWI Airport Master Plan indicates that airport on-site employment is estimated to increase at the rate of 1,370 employees per one million additional enplanements. Based on projected air traffic growth, employment would be as follows:

1975	2,800
1985	6,610
1995	12,150

Thus, airport employment is expected to increase by an average of approximately 380 persons annually through 1985 and by approximately 550 persons annually during the following decade.

Westinghouse, the largest industrial employer in the area with a local work force of approximately 12 - 13,000, anticipates a stable employment level in the foreseeable future.[9]

* The extensive industry sector includes warehousing and transportation companies as well as wholesale trade, communications and public utilities.

TABLE VIII
EMPLOYMENT PROJECTIONS FOR SELECTED
REGIONAL PLANNING DISTRICTS IN THE AREA OF I-195

	1970	1980	1985	1995	% Increase 1970-1995
Anne Arundel County					
* RPD 201	12,550	16,600	19,000	25,250	101.2%
* RPD 202	9,600	12,300	14,900	20,650	115.1%
County Total	119,000	142,700	163,700	219,100	84.1%
% County Total	18.6%	20.3%	20.7%	20.9%	
Baltimore County					
* RPD 325	11,900	15,350	16,950	19,800	66.4%
County Total	234,050	300,400	328,500	380,600	62.6%
% County Total	5.1%	5.1%	5.2%	5.2%	
Howard County					
* RPD 606	2,700	5,000	6,150	8,350	209.3%
County Total	26,600	55,400	66,700	90,700	241.0%
% County Total	10.2%	9.0%	9.2%	9.2%	
Region Total	889,100	1,010,900	1,095,300	1,322,400	48.7%
* % Region	4.1%	4.9%	5.2%	5.6%	

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February 1977).

TABLE IX
EMPLOYMENT PROJECTIONS BY INDUSTRIAL CLASSIFICATION
FOR REGIONAL PLANNING DISTRICTS 201 & 202 IN ANNE ARUNDEL COUNTY

	1970	1980	1985	1995	1995 Employment % County Total
Retail	2,550	2,900	3,200	3,850	11.8%
Service	1,150	1,400	2,150	3,300	12.8%
Office	250	550	1,100	1,700	18.9%
Government & Institutions	7,100	9,450	10,500	13,800	15.8%
Manufacturing	7,650	7,150	10,600	14,850	52.3%
Extensive Industry	3,450	5,400	6,350	8,400	23.2%

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February 1977).

Employment within Regional Planning District 325 in Baltimore County comprises approximately 5 percent of the county's total employment. The district and the county are expected to experience a common rate of growth through 1995. As indicated in Table X, approximately 67 percent of the employment within the area is in the manufacturing/extensive industry sectors.

TABLE X
EMPLOYMENT PROJECTIONS BY INDUSTRIAL CLASSIFICATION
FOR REGIONAL PLANNING DISTRICT 325 IN BALTIMORE COUNTY

	1970	1980	1985	1995	1995 Employment % County Total
Retail	1,400	1,550	1,650	1,850	2.7%
Service	750	1,250	1,400	1,750	4.2%
Office	300	350	400	500	2.4%
Government & Institutions	1,100	1,900	2,100	2,400	2.1%
Manufacturing	4,250	4,700	5,300	6,150	9.4%
Extensive Industry	4,100	5,600	6,100	7,150	10.6%

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February 1977).

Regional Planning District 606 provides approximately 9 percent of the total employment in Howard County. The district, as well as the entire county, are projected to experience a relatively high rate of growth through 1995 (see Table VIII). Approximately 80 percent of the area's employment is in the manufacturing/extensive industry categories (see Table XI).

TABLE XI
EMPLOYMENT PROJECTIONS BY INDUSTRIAL CLASSIFICATION
FOR REGIONAL PLANNING DISTRICT 606 IN HOWARD COUNTY

	1970	1980	1985	1995	1995 Employment % County Total
Retail	300	350	350	400	4.3%
Service	300	400	450	600	3.8%
Office	50	100	100	100	2.2%
Government & Institutions	250	300	350	500	4.1%
Manufacturing	750	1,630	2,080	2,880	12.2%
Extensive Industry	1,050	2,220	2,820	3,870	15.2%

Source: Regional Planning Council, 1977 General Development Plan Scenarios, (February 1977).

Industrial Development - The Baltimore/Washington corridor has become firmly established as a location for industrial activity.

Studies conducted in recent years [10] [11] indicate the importance of highway access and trucking in particular, in the selection of new manufacturing plant locations. This is reflected in the industrial growth that has occurred in the Baltimore/Washington corridor where new development has located near the Baltimore Beltway and highway corridors linking the regions and served by high speed, limited access facilities.

The importance of highway access as a locational determinant was emphasized in the BWI Airport Master Plan which concluded "the major location factor in the industrial and commercial development of the vicinity of the airport has been the presence of excellent access by ground transportation on the western side of the airport and its location within an established growth corridor".

Most of the growth during the past decade has involved the type of firms that are likely to locate in industrial parks. These include light manufacturing and processing, research and development companies, and firms involved in the storage and distribution of goods and materials. A large percentage of the industrial land has been absorbed by firms engaged in distribution.[12]

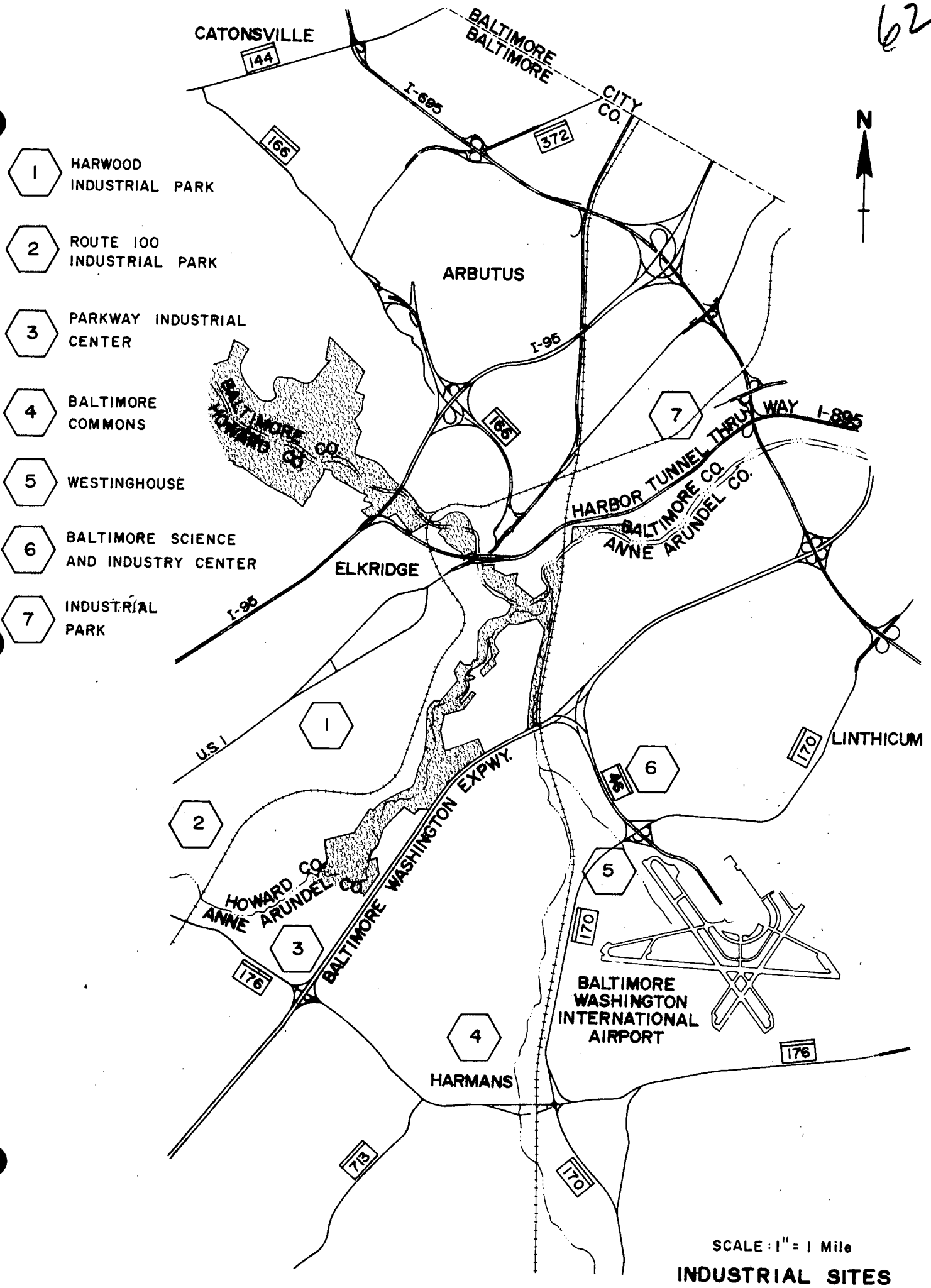
Several major industrial parks are located in the I-195 area. They include the following:

Baltimore Science and Industry Center
Parkway Industrial Center
Route 100 Business Park
Baltimore Commons
Harwood Industrial Center

The location of these sites is shown on Figure 6.

In addition to the development indicated above, the BWI Airport Master Plan proposes the development of on-site commercial/industrial acreage for aviation oriented activities. This development, as planned, weighs heavily on future highway access improvements.

The Westinghouse Defense and Electronic Systems Center located adjacent to I-195 and MD 170 is one of the largest employers in the Baltimore Region. Westinghouse has identified the locational advantages of the highway system as an important factor in their site selection.



SCALE: 1" = 1 Mile

INDUSTRIAL SITES

FIGURE 6

LAND USE PLANNING

Relationship Between the Proposed Action and Land Use Plans, Policies and Contro

Land use planning in the project area is undertaken by four agencies: the Regional Planning Council and the counties of Anne Arundel, Baltimore and Howard.

The Regional Planning Council and each of the jurisdictions within the region have adopted official policies for growth and development. Their policies are reflected in the following documents prepared by the respective planning agencies:

Baltimore Region General Development Plan
Anne Arundel County General Development Plan
Baltimore County Comprehensive Plan
Howard County Comprehensive Plan

Baltimore Region General Development Plan (1977) - In accepting the 1977 General Development Plan, the Regional Planning Council endorsed recommendations encouraging a more centralized regional development pattern and strong regional economic growth.

The General Development Plan presents recommendations relative to these development and economic growth objectives, and policies and strategies designed to secure their implementation.

The following discussion provides a summary of the pertinent policies together with an assessment of the compatibility and consistency of the I-195 improvements with the regional objectives.

Assessment of Consistency with Economic Development Policy: The proposed action is consistent with this policy. The GDP states: "To sustain a high level of economic growth in the region, substantial investments must be made in transportation facilities, including principal highways, rapid transit, and especially, the Port of Baltimore." It further indicates that from an economic standpoint, improvements in the goods movement sector related to the BWI Airport expansion, including related air, rail and highway access improvements, will increase the speed and efficiency with which goods can be transported throughout the region and will also be beneficial to the Port of Baltimore.

Assessment of Consistency with Land Development Policy: The proposed action is generally consistent with this policy. While the I-195 improvements will not encourage or stimulate the growth of Baltimore City, the overall pattern of existing development will remain virtually unchanged. The primary effect on land use will be to increase the viability of existing local industrial and commercial land uses. Adequate land exists to accommodate the anticipated demand from this development.

Assessment of Consistency with Housing and Residential Development Policy: The proposed action is consistent with this policy. Because of the limited scope of the project, the Selected Alternate 2/A2A would have no significant impact on housing supply or demand in the Baltimore Region. The Selected Alternate 2/A2A would require the displacement of one home.

Assessment of Consistency with Transportation Policy: The proposed action is generally consistent with this policy. The GDP identifies the I-195 improvements among the recommended long-range highway projects. The project is included in the Class II category which is comprised of facilities which may be necessary to achieve the region's objectives.

In addition, the GDP specifically states: "Maryland 46 (I-195) should be extended and widened to improve access to BWI's cargo and passenger terminals. This action will make BWI more accessible to the Washington metropolitan area and to the western portion of the Baltimore Region."

Highway accessibility to BWI and linkage to major activity centers is vital since operators and users of air freight service rely heavily on ground-based transportation for the movement of goods. The benefits resulting from improved highway accessibility are equally valid for other industrial/commercial development in the I-195 area.

Assessment of Consistency with Environmental Protection Policy: The proposed action is generally consistent with this policy. While the I-195 improvements will impact the natural environment (e.g., air quality, energy, land and water resources), appropriate action will be taken during the planning, design and construction phases in order to achieve and maintain the adopted local, state and federal standards and regulations and to mitigate the identified impacts.

The land use plans and policies for Anne Arundel, Baltimore and Howard Counties are generally consistent with the regional plan, although there are some areas of disagreement.

Since the plans for the three counties are too voluminous to deal with separately in this FEIS, the following section will address the project's consistency with the major issues and those which differ from the regional policies.

Anne Arundel County General Development Plan (1978) - The county has adopted the concept of contained growth as its land use policy and favors the encouragement of growth in the western part of the county. Development will be encouraged in areas throughout the county where adequate public facilities exist or can be efficiently provided.

The proposed I-195 improvements are consistent with the county's land use and economic development goals and policies. The project will support and stimulate industry which is essential to the economic health of the county. Commercial/industrial development occurring in the I-195 area would be compatible with existing and proposed land uses and would not result in severe adverse impacts on residential areas.

The proposed action is in conflict with the Natural Environment and Open Space Plan in several respects. The acquisition of land from Patapsco Valley State Park; encroachment on the Patapsco River, Deep Run and Stony Run flood plains; and associated aesthetic impacts within these areas are inconsistent with the established goals and policies. However, the planned improvements are in harmony with the policy which states: "Environmental factors will be balanced with economic objectives in formulating land use patterns and policies preserving the environment and promoting economic growth."

The I-195 improvements are consistent with the goals and policies of the Transportation Plan. Although I-195 is not listed among the county's "Interstate and Primary State Highway Improvement Program Priorities", it is considered an important regional highway improvement, essential for accommodating the growth forecasted at BWI Airport.*

Baltimore County Comprehensive Plan (1975) - The proposed I-195 improvements are located in the county's Southwestern Planning Area. The portion of the project in Baltimore County consists of extending the existing facility from its present terminus at U. S. 1 to the Patapsco River. A full complement of ramp connections are proposed with U. S. 1.

The Comprehensive Plan recommends a balanced, multi-modal transportation system with a shift in emphasis toward transit, complemented by an improved highway network and expanded rail system. The long-range transportation network recommendations do not include the I-195 improvements.

Howard County General Development Plan - The I-195 improvements will have a nominal impact on land resources in Howard County. Alternate B, the only alternative affecting county land, would have required the acquisition of approximately two (2) acres. This land is publicly owned and is part of Patapsco Valley State Park.

The Howard County Public Transportation Board concurs that "this highway project passes no major impact on Howard County . . . and offers some potential benefits in relieving vehicular traffic flow in the Elkridge area, and further supports the highway project concept for Howard County" (see correspondence from the Howard County Public Transportation Board, Page 171).

The Regional Planning Council has concurred in the selected alternate and has found it consistent with the General Development Plan for the area. See the letter dated December 30, 1981 from the Regional Planning Council on page 147c.

CONSISTENCY WITH URBAN POLICY

In addition to the policies which have been adopted by the regional and local planning agencies, the Proposed Action is also consistent with the broader goals of the National Urban Policy and energy conservation goals.

The Department of Transportation has adopted five urban transportation policy objectives within the areas of urban impact, energy conservation, minority and neighborhood effects, improvements to existing systems and consideration of alternatives.

The following provides an assessment of the consistency of the proposed action with regard to the five policy objectives.

A. Urban Impact

The proposed I-195 fills a gap in the highway system by connecting several major routes in the Baltimore-Washington Corridor with the terminal area of the BWI Airport. This intermodal linkage will enhance ground access to this vital transportation facility which serves both metropolitan areas. It is considered essential to the economic vitality of an urban center that it have rapid and convenient access to its airport. Poor ground access time caused by congested or circuitous routes connecting an airport with its downtown negates the advantages of high speed air travel.

Currently, the BWI Airport terminal is served directly by MD 46, an existing freeway link which connects only to MD 170 (an airport perimeter road) and the B-W Expressway. It is proposed to extend this highway to I-95 with an interchange also at US 1. Freeway standards and the Interstate designation accentuate its function as the primary entrance to the terminal from the several major routes penetrating the urban centers served by the airport. Certain airport oriented uses in the vicinity of I-195 will also have this route available for rapid access both to planeside and to the metropolitan areas.

BWI's position between the two cities it serves is a distinct economic advantage. It provides long term economies to the airlines through its ability to serve both urban markets at one location. It provides advantages to the travelling public in a larger selection of flights, more convenient connections and reduced ground access time. These economies and conveniences will be compromised severely, as Washington National Airport reaches capacity and expansion occurs at BWI, if ground access time is not improved by the construction of I-195. BWI is convenient to more of the Washington Region than is Dulles Airport. As energy becomes more costly, trip time and distances for both automobiles and airplanes will have to be reduced as part of across-the-board conservation measures.

The construction of I-195 will not incur costs to the central city for its construction, operation or maintenance. Additionally, its implementation will lessen the need for industries dependent on air travel to relocate out of Baltimore since it would provide more direct access from urban industrial areas to the airport.

The implementation of this project has been encouraged by state and local planning agencies over recent years. Various studies and plans which address this proposal include: The Baltimore Washington International Airport Master Plan Study, the Baltimore/Washington Expressway - Maryland Route 46 Study, The Baltimore Region General Development Plan, The Anne Arundel County General Development Plan, and The Howard County General Development Plan.

In conjunction with the I-395 spur, now under construction in Baltimore City, I-195 will provide an interstate highway connection from Harbor City Boulevard just south of the Central Business District to BWI Airport. This improved central city access should have a positive impact on the inner harbor redevelopment area, which serves as the core of Baltimore's center city revitalization efforts. Likewise, easy access to the Convention Center and downtown hotels from the airport should increase Baltimore's competitive status in the National convention market.

As congestion in the Russell Street/Baltimore Washington Expressway corridor between the city and I-695 increases, this route to and from the airport will take on added importance. With completion of the Fort McHenry Tunnel, the benefits of a direct interstate connection to the airport will be extended to East Baltimore industrial areas. In this context, the I-195 connection will contribute to a better balance of use between the existing Harbor Tunnel and the Fort McHenry Tunnel.

Although increased accessibility to the airport and highway network continuity are the principal benefits to be realized by the construction of I-195, the added capacity this facility provides will serve the future growth of the airport and surrounding industrial areas. The success of the BWI-Amtrak station will also hinge, to a large degree, on the rapid access this facility will provide to rail commuters. Further discussion on this issue can be found in the discussion of "Purpose of Project", page 1.

B. Energy Conservation

A savings in fuel consumption can be realized by the implementation of this project since, in addition to the more efficient airport access described above, it will also help alleviate the congested conditions now being experienced on several other study area highway links. Design year traffic shows that portions of MD 46, I-95, the B-W Expressway and MD 170 will suffer breakdown conditions thereby causing frequent gas-wasting stoppages. I-195 will offer the motorist an access controlled, free flowing alternative route.

In addition, I-195 will provide more direct access to the BWI industrial areas avoiding the circuitous connections currently required. This will be beneficial to fuel conservation in that it will offer a shorter trip distance. Currently, northbound traffic on I-95 desiring to reach BWI must use either a network of circuitous routes or continues north to the Baltimore Beltway and then travels south on the B/W Expressway to reach their destination. Total distance via this route is approximately 8

miles. With I-195 available this travel distance will be shortened to about 3 miles, a sixty percent reduction in mileage. This same sixty percent reduction can be directly applied to travel time as well as operating costs.

C. Minority and Neighborhood Effects

The implementation of this project would affect the taking of from one to three residences all located in Anne Arundel County. The Selected Alternate 2/A2A and Alternate A would require the relocation of one owner occupied dwelling whose residents are not of a minority group. Alternate B would have displaced three owner-occupied dwellings whose residents are all of a minority group. This project would not divide any existing neighborhoods.

Further discussions can be found on pages 55 and 56 of this document.

D. Improvements to Existing Systems

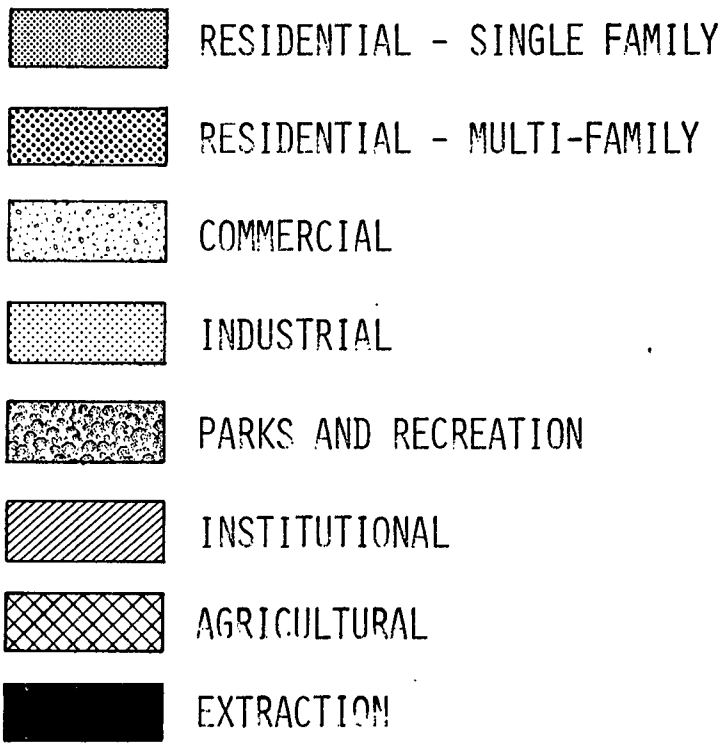
I-195 will be constructed as a new roadway on a new location. While improving existing highway facilities is a desirable alternative which warranted investigation, this project presents a situation where existing facilities could not be improved to such an extent as to provide service even approaching the type which I-195 is intended without severe environmental impacts to the adjoining properties. Existing roadways are now inadequate in terms of traffic carrying capacity and in providing access and circulation. Growth forecasts indicate these problems will get worse. It would not be cost-effective nor would a long term traffic solution be realized in any attempt to widen or reconstruct these facilities. Temporarily increasing levels of service would not satisfy the fundamental need; congestion is only one deficiency of the roadways in the study areas. The principal need will remain that of access. The freight and passenger terminals of BWI Airport, the Amtrak railroad station, and growing industrial areas around the airport must have a better connection to the Baltimore Washington Corridors routes - especially I-95 - if the investment in these facilities and the viability of the surrounding neighborhoods are to be protected.

E. Transportation Systems Management (TSM) Alternate

Applying TSM strategies such as traffic engineering improvements and increased ridesharing participation might help alleviate some of the existing and expected capacity problems on several study area highway links. These, however, can only be considered stop gap measures. In effect, the airport itself already serves as a modal interface. With the addition of the Amtrak station the mode transfer will be even further enhanced. In addition, a 1000-3000 space park 'n' ride lot located at the MD 3/MD 176 interchange southeast of the airport is now being planned. The Airport area is to become the focal point of major transfers between modes of travel and to higher occupany vehicles. The implementation of I-195 is essential to support these TSM measures and make them more efficient.

EXISTING LAND USE MAP

LEGEND



SOURCE: COMPILATION OF EXISTING LAND USE DATA PREPARED BY THE RESPECTIVE COUNTY PLANNING UNITS.


N
BALTIMORE CITY
BALTIMORE CO.
PATAPSCO
AVE.
ROAD
B&A RR
RIVER
PATAPSCO
HAMMONDS
EXPRESS
170
FERRY RD.
WASHINGTON
BALTIMORE WASHINGTON
INTERNATIONAL AIRPORT
178
DORSEY
BALTIMORE
RIDGE RD.
7
SCALE: 1" = 1 Mile
EXISTING LAND USE MAP

FIGURE 7

FUTURE LAND USE MAP

LEGEND

RESIDENTIAL	UNITS PER ACRE
RURAL	1/2 OR LESS
LOW	2
LOW-MED	2 - 5
MEDIUM	5 - 10
HIGH	10 OR MORE

COMMERCIAL

COMMUNITY CENTER

GENERAL COMMERCIAL CENTER

INDUSTRIAL

PARK (INDUSTRIAL)

OPEN SPACE AND RECREATION

NATURAL FEATURES

OTHER

GOVERNMENT & INSTITUTIONAL

SOURCE: COMPILATION OF FUTURE LAND USE DATA PREPARED BY THE RESPECTIVE COUNTY PLANNING UNITS.

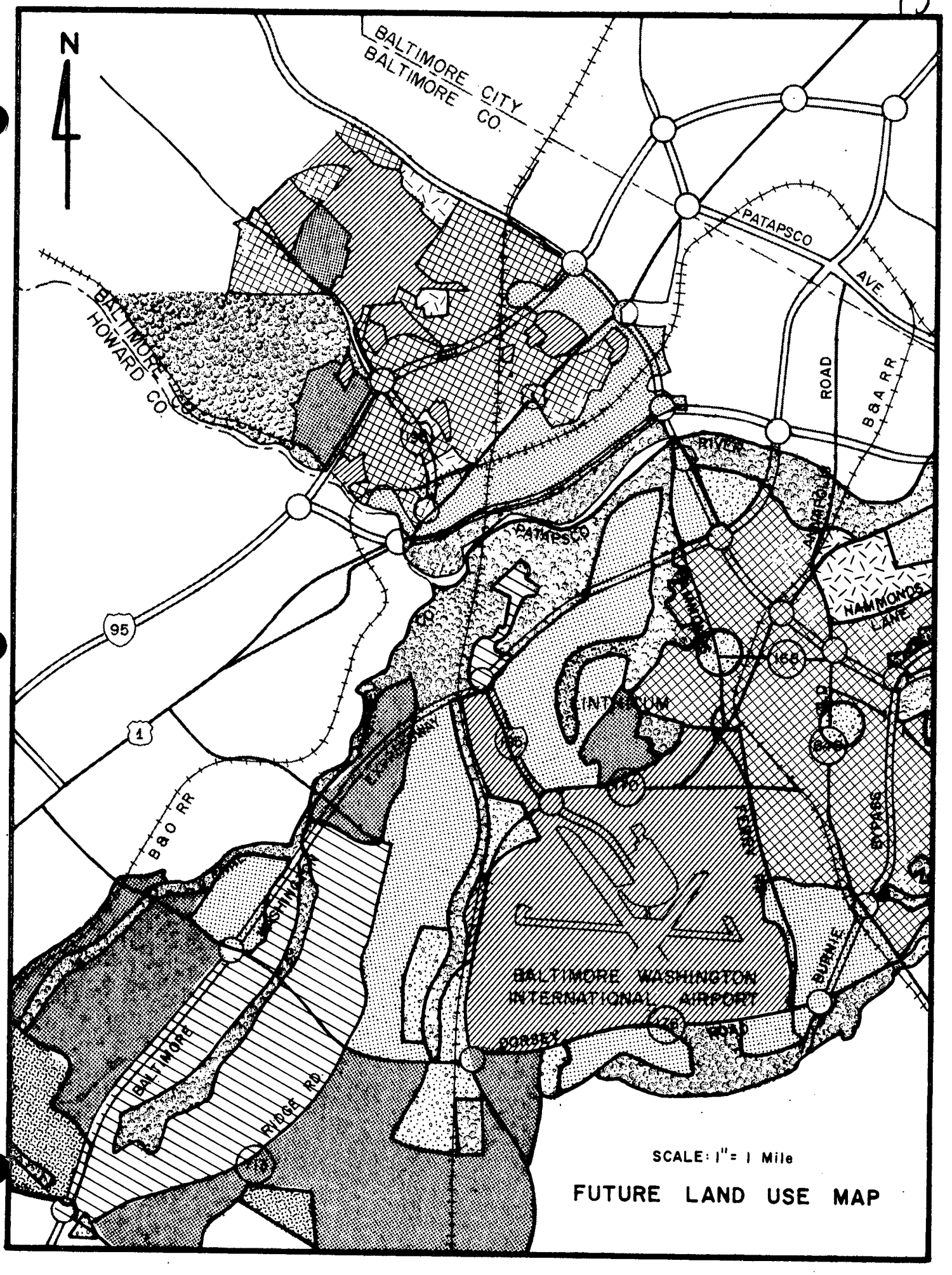

N
BALTIMORE CITY
BALTIMORE CO.
BALTIMORE
HOWARD CO.
PATAPSCO
AVE.
ROAD
B&A RR
RIVER
PATAPSCO
95
1
B&O RR
NAMMONDS
LANE
INTERNATIONAL
BYPASS
BURNIE
BALTIMORE WASHINGTON
INTERNATIONAL AIRPORT
DORSEY
ROAD
RIDGE RD.
BALTIMORE
SCALE: 1" = 1 Mile
FUTURE LAND USE MAP

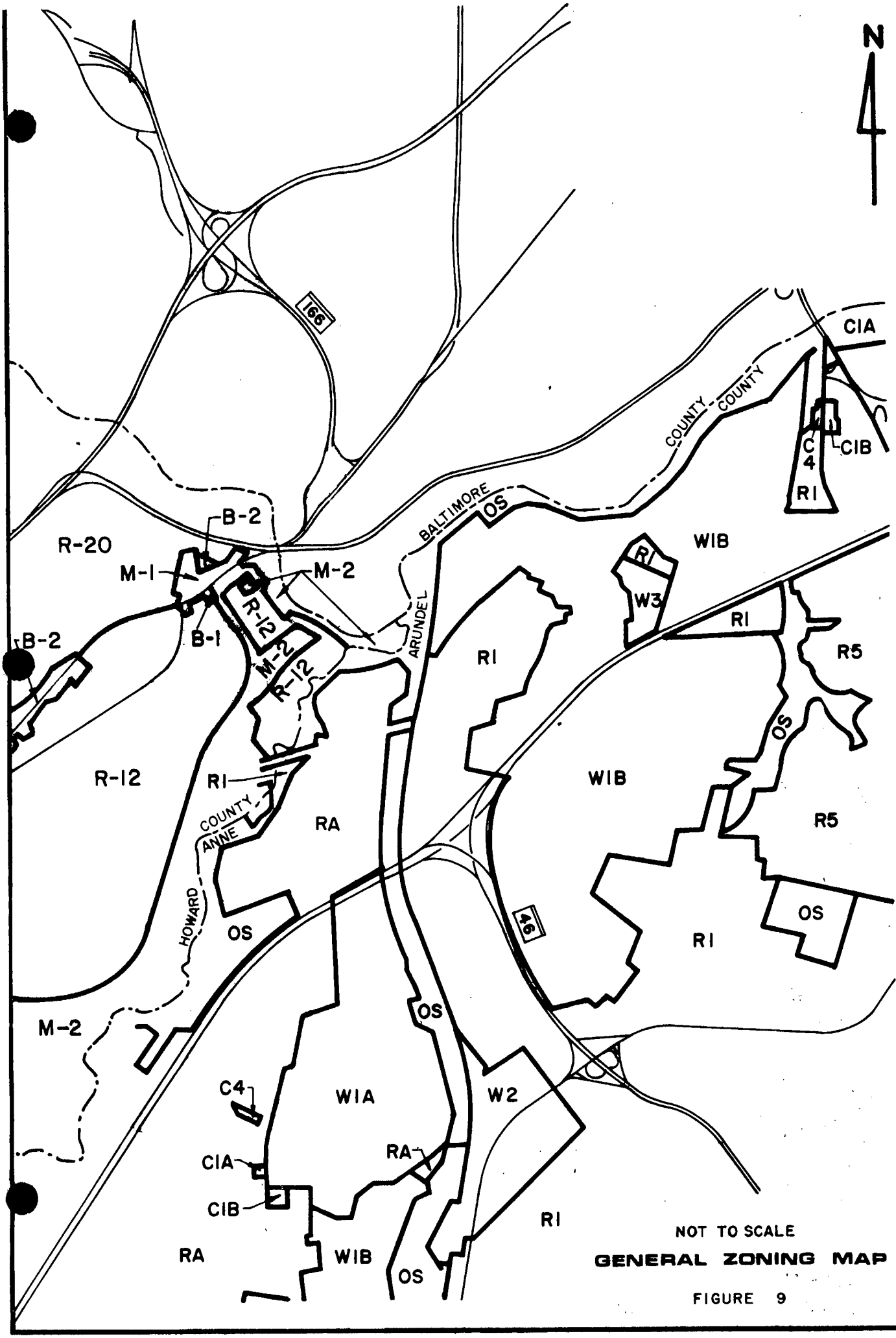
FIGURE 8

GENERAL ZONING MAP

LEGEND

RA	-	AGRICULTURAL RESIDENTIAL DISTRICTS
R1	-	RESIDENTIAL DISTRICTS
R5	-	RESIDENTIAL DISTRICTS
R12	-	RESIDENTIAL - SINGLE (12,000 SQUARE FEET)
R20	-	RESIDENTIAL - SINGLE (20,000 SQUARE FEET)
C1A	-	NEIGHBORHOOD COMMERCIAL DISTRICTS
C1B	-	COMMUNITY RETAIL DISTRICTS
C4	-	HIGHWAY COMMERCIAL DISTRICTS
W1A	-	RESEARCH AND DEVELOPMENT DISTRICTS
W1B	-	INDUSTRIAL DEVELOPMENT DISTRICTS
W2	-	LIGHT INDUSTRIAL DISTRICTS
W3	-	HEAVY INDUSTRIAL DISTRICTS
B1	-	BUSINESS - LOCAL
B2	-	BUSINESS - GENERAL
M1	-	MANUFACTURING - LIGHT
M2	-	MANUFACTURING - HEAVY
OS	-	OPEN SPACE

SOURCE: COMPILATION OF ZONING MAPS PREPARED BY THE RESPECTIVE COUNTY PLANNING UNITS.



NOT TO SCALE

GENERAL ZONING MAP

FIGURE 9

PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

This section addresses the general impacts which would occur if the proposed action is implemented.

PRIMARY IMPACTS

Aesthetic Impacts - Aesthetics is an issue which encompasses many aspects of the natural and man-made environment in addition to the interrelationship of these features to each other and to the facility design. This discussion will focus on the intrinsic visual characteristics of the facility and the visual aesthetic impact of the facility on adjacent areas.

The ambient environmental conditions within the I-195 area are presently heavily influenced by the visual, audible and atmospheric elements of existing highway, rail and airport facilities.

The spatial form of the natural landscape will be modified by the proposed action. Because of the nature of the terrain within the corridor and the vertical controls which must be met to cross the river, railroad and existing highways, the proposed alignment does not conform to the land form of the area.

The Selected Alternate 2/A2A and preliminary Alternates A & B include facility design features which would impact areas that have distinguishable and desirable visual qualities prior to construction. These impacts are most evident in the area from the Harbor Tunnel Thruway to the B-W Expressway.

The relatively high embankments and highway bridge structure across the Patapsco River flood plain will be in conflict with the existing environment. The clearing of forested areas and substantial regrading required south of the Patapsco River will also result in additional visual/aesthetic impacts.

The elevated structures, ramps and approach roadways, and the substantial regrading associated with the reconstruction of the B-W Expressway and MD 170 interchanges, although obtrusive design elements, will not be out of scale or character with the physical environment of those areas.

Although it is not possible to mold the highway alignment to the terrain, screening of the highway from sensitive receptors is provided in several areas by terrain, distance and vegetation.

During the construction of the highway, existing trees and other vegetation will be maintained within the undisturbed areas.

The location and design of the river bridge will be compatible with the natural setting. The pier spacing and superstructure design will provide a clean, uncomplicated look. The use of weathering steel for the bridge superstructure will be considered.

Recreation - The proposed project will require the acquisition of land from Patapsco Valley State Park and areas slated for future acquisition and park development.

While all three construction alternatives would impact park lands, the Selected Alternate 2/A2A and Alternate A were developed to minimize encroachment and avoid future park development.

A detailed evaluation of the impacts on this park and the planning measures incorporated into the project to minimize harm is provided in the attached Section 4 (f) Statement.

Terrestrial Ecology - One ecological impact of the proposed project is the segmentation or removal of forested areas with resultant reduction of resident wildlife population in these areas.

Disturbance of large unsegmented traits which provide food cover and relatively unrestricted movement can result in adverse effects to wildlife.

Although most resident forms of vertebrates will move to adjacent habitats during construction, these species will likely perish due to competition and the fact that these adjacent areas may not be suited to their biological requirements.

While the segmentation will adversely affect animal species that need large unbroken tracts, the proposed construction will create additional ecotonal or "edge" habitats which will enhance other wildlife populations.

Terrestrial communities in the corridor are judged to be less than "prime" natural ecosystems. However, there still remain some separated pockets of "high quality" wildlife habitat within the project's area of influence.

Animal population within the area are suppressed because of the growing human population and urbanization which have reduced available animal habitat. However, there is still a sufficient amount and variation in habitat to sustain the various plants and animals found in the project area. The proposed project should not have any major significant impact on wildlife and their distribution throughout the area. Limiting factors such as existing roads and urbanization will continue to restrict the numbers of wildlife in the corridor.

Paradoxically, the increase in human population also causes a greater need for fishing, hunting, outdoor recreation and nature study areas.

Soils and Geology - The Selected Alternate 2/A2A and preliminary Alternates A & B traverse essentially the same soil types. The alternates leave Baltimore County and approach the Patapsco River with embankments of 30' to 35'. The flood plain contains soils from the Codorus series and Hatboro series which has a high water table and may be plastic and sticky depending on the amount of clay present. Settlements and stability may be a problem in this area.

From the Patapsco River flood plain, south to the Baltimore-Washington Parkway, the roadway crosses the best soils on the project. These are the Sassafras and Croom soils which generally are favorable for roadway location and are a good source of embankment material. Embankments on these soils should pose no problems. The deepest cut in these soils for the Selected Alternate 2/A2A and Alternate A is 48' at Station 214+00. Perched water table or wet weather springs may be encountered in these cuts, presenting the problem of possible erosion.

From the Baltimore-Washington Parkway, south to the end of the project, there are three major soil areas encountered by the construction alternates. The first is a large area that has been disturbed or altered in the past. Grading has cut away the original soil profile or covered the original soil with fill. The resulting surface layer varies in texture, drainage characteristics and depth to water table. The second is a large area described as loamy and clayey land and is located in the vicinity of the Baltimore-Washington Parkway. This soil mantle consists of sands or silts having a varied thickness and underlain by deposits of clay. The clay is very plastic, sticky and is very unstable. The third is a large area of soil in the muirkirk series which has a sandy surface layer underlain by a clay subsoil. This clay subsoil may be plastic, sticky and unstable if a high moisture content exists or it is disturbed by grading operations.

The embankment in the Baltimore-Washington Parkway vicinity reaches heights of 65' for the Selected Alternate 2/A2A and Alternate A and 55' for Alternate B. The foundation soils are Sassafras, Rumford and Loamy and Clayey land. The Sassafras and Rumford soils are favorable for roadway location; however, the loamy and clayey land may present settlement and stability problems under these high fills. The lower fills of 15' to 20', south of the Baltimore-Washington Parkway, should present no problems. The 10' to 12' cut in the vicinity of Station 258+00 is in the Rumford soil and the loamy and clayey land. The Rumford soil is a satisfactory roadway foundation unless a high water table is encountered. The loamy and clayey land material may present a stability problem.

The Selected Alternate 2/A2A and preliminary Alternates A & B are comparable from the soils viewpoint because the alternate lines cross the same soils and the cuts and high fills are essentially in the same materials. The Selected Alternate 2/A2A and Alternate A have the higher embankments, while Alternate B has the deeper cuts. The earthwork results show that the Selected Alternate 2/A2A and Alternate A requires 1,800,000 C.Y. of embankment and 330,000 C.Y. are available from the excavation resulting in a borrow item of 1,500,000 C.Y. Alternate B would have required 1,100,000 C.Y. of embankment, and 850,000 C.Y. is available from the excavation resulting in a borrow item of 250,000 C.Y.

The Selected Alternate 2/A2A and Alternates A & B lie almost entirely on the Potomac Group silty clay facies (see description of stratigraphy, page 16). For this reason, there will be essentially no impact on either ground water quantity or quality by the proposed construction.

Although there were formerly several wells for industrial use in the vicinity of the I-195/U. S. 1 interchange, only one well is still in use. The Calvert Distillery Co. well is located east of the interchange, is in the flood plain of the Patapsco River and will not be affected by the proposed construction.

Houses on Elkridge Landing Road are on terrace deposits and some have shallow dug wells. All houses are up-slope from the interchange and no impact on these wells is expected.

With proper drainage and gentle cut slopes, the Potomac Group silty clay facies present no environmental problems in highway construction.

However, when highway cuts are required in areas where terrace deposits overlay Potomac clay, perched water and wet weather springs can be expected along the contact. These conditions will occur at several locations along the corridor.

The construction of Ramp A of the interchange with Baltimore-Washington Expressway (Alternate B) would have required the placement of embankment on a steep hillside which is underlain by Potomac Group clay. The stability of this fill would have required careful evaluation during design.

Aquatic Ecology - The continued urbanizing effects in the study area provide the potential for adverse impacts on the aquatic environment.

The process of building and operating a transportation facility, such as proposed under the I-195 improvements, interferes with hydrologic processes in various ways.

The impacts to be considered during the construction phase include: erosion of newly exposed soil; construction equipment operations in the water; chemical impacts from construction equipment (primarily oil and grease); and reduction in the amount of vegetated areas.

Water quality impacts during the operating period consist of potential erosion and chemical impacts resulting from maintenance operations and roadway pollutants.

Perhaps one of the most serious impacts of the proposed project would be the potential of additional sedimentation to the already heavily stressed streams in the corridor. This potential exists, in part, because of the nature of soils in the area and the significant amounts of cut and fill required for construction grading.

In addition, gathering surface runoff from the highway into culverts or other hydraulic structures and discharging that concentrated runoff along the highway or into a stream channel may significantly change velocity and discharge quantity with subsequent changes in stream regime and erosion.

Erosion control measures will be provided on the project in accordance with state regulations. Adequate technology exists to insure that construction activities which cause land disturbances will have a minimal, if not negligible, impact upon surface water quality from the standpoint of erosion and sediment.[13] With cooperation from the responsible state and federal agencies, the most appropriate and feasible mitigative measures to reduce any adverse impacts will be incorporated in the final design. Erosion control measures to be employed are very site specific. The control measures to be used depend on soil types, slope angle and length, seepage areas and exposure. Site investigations must be conducted prior to the selection and implementation of specific erosion control projects. Highway maintenance activities can have a significant effect on pollutant and sediment discharge from roadways so care must be exercised to minimize such discharges.

The construction of the I-195 improvements will require the following Federal and State permits: Federal Water Pollution Control Act, Section 404 Permit; Waterway Construction Permit; and Sedimentation and Stormwater Control Permit.

Because of the significant amount of fill required for the project, a large amount of borrow material will be required. Proper selection of borrow material should include potential impacts of borrowing on surface water quality. It may be possible to coordinate some borrow site selection with design of erosion control measures such as permanent sediment ponds. Borrow which has adequate stability and a low erosion potential will be selected wherever possible. Care must be exercised to avoid creating erosion problems in borrow areas which may be located outside the immediate study area.

State Highway Administration procedures require the contractor to obtain all required borrow materials and to dispose of all waste materials resulting from the construction project. In accordance with the provisions of Chapter 245 of the Acts of 1970 for the State of Maryland, it is also necessary for the contractor to obtain permits from the appropriate state and county agency for any off-site work, which includes borrow pits, waste areas and the treatment of these during and after completion of the project. The county agencies will refer the plan for such areas to the Soil Conservation District for review and approval of the erosion and sediment control provisions. The erosion control features installed by the contractor shall be acceptably maintained for the duration of the contract.

Control of potential pollutants other than sediment depends to a large degree on proper siting of material storage and equipment maintenance areas. Proper design will minimize runoff from such sites. Concern for pollution potential also will dictate materials and methods to be used for controlling dust in the construction area.

Chemical water pollution can also occur from road borne pollutants such as de-icing salts, pesticides, lead salt particulates from exhaust systems and the various petroleum products used in and about the automobile. Accidental chemical spills involving tank trucks are also of considerable concern. Quantitative predictions of the relative impacts of the alternates considered in this study with regard to roadway pollutant generation are not realistically possible at this time.

The proposed design for I-195 with wide relatively flat vehicle recovery areas between roadway pavements and open, typically grassed, roadside ditches will serve to filter out and trap many roadway pollutants before they reach area streams. Proper design of highway drainage structures and the provision of grassed buffer strips where feasible will also reduce pollutant loading of surface waters.

The impermeable surface created by paving the highway and shoulders causes a substantial increase in the volume and rate of surface runoff. Removal of vegetation for construction of the facility affects the process of transpiration and also influences the nature of overland flow.

The resulting effect of these conditions is that the ground will not be able to absorb as much rainfall as it has in the past. The excess water will flow quickly into the area streams, increasing the probability of higher flows downstream. The increased velocity of higher flows may alter the stream channels, decrease water quality and increase costs from flood damage.

While the initial construction of the I-195 improvements will not result in any significant impacts of these types, the more significant, long-term impact will be the incremental increase in the amount of impervious surface resulting from induced development. This issue is addressed under the discussion of "Secondary Impacts on the Aquatic Environment", provided on page 77.

The Selected Alternate 2/A2A probably will have a lesser impact on surface water quality than Alternate B due to the fewer number of streams encroached upon. Timing of construction operations would have a significant effect on the magnitude of the impacts on surface water quality in the area. Therefore, the recommendation of the Maryland Fisheries Administration that no in-stream construction and no construction including substantial earthmoving operations in the vicinity of the stream crossings will be permitted from March 15 to June 15 is supported in order to protect aquatic resources in the project area.

The proposed I-195 improvements will not require any stream relocations. The majority of the stream crossings within the corridor are spanned by bridge structures. An unidentified tributary to the Patapsco River in the area of the I-195/U.S. Route 1/I-895 interchange will be piped under a ramp, and Little Kitten Branch within the area of the MD 170 interchange will be enclosed in conduits at several locations. The comments resulting from early coordination with the Maryland Department of Natural Resources, Water Resources Administration concerning surface water impacts are reflected in the proposed I-195 design.

The Selected Alternate 2/A2A and preliminary Alternates A & B would result in some flood plain encroachment. These impacts are discussed on page 63 of this statement.

Comparison of the "build" alternatives with respect to loss of vegetated areas and subsequent impacts related to the hydrologic processes indicates that Alternate B would have required approximately 24 more acres of right-of-way than the Selected Alternate 2/A2A. However, this additional area is primarily

due to increased length of roadway slopes which will be seeded during construction. The overall paved or impervious areas for each of the "build" alternatives will be essentially the same.

Although no wetland areas are directly impacted by the proposed construction, two wetland units have been identified along Stony Run, west of Maryland Route 170. The wooded swamps of these wetland units will be protected from sediment resulting from construction operations upstream. The need for and the type of erosion and sediment control measures will be determined during the design stage. These measures may include such treatments as temporary and permanent detention or sedimentation basins; channels, ditches, berms, or shoulder dikes for diverting water to satisfactory outfalls; and structures to control high velocity flows at the outlet of drainage structures.

In summary, impacts of construction on surface waters and the life-forms which they support may be either permanent or temporary in nature. The temporary adverse effects of siltation on surface waters and aquatic ecology will be the primary cause for concern. The erosion and sedimentation controls that will be provided should minimize any significant adverse impacts of the proposed construction.

The following named streams were identified as having high probability of being affected to some degree by the proposed construction:

1. Little Kitten Branch

   Little Kitten Branch is a small stream with a sandy gravelly bottom. The banks are well vegetated along the stream, a condition which helps to reduce erosion and pollutant discharge to the stream. Some increased turbidities resulting from construction activity should be the only measureable impact on water quality in this stream directly attributable to the proposed highway corridors.

II. Stony Run

   This stream perhaps is the most sensitive in the study area. The banks along the stream are low and very brushy while the stream generally has a sandy gravelly bottom. Wetlands exist along the stream which are important wildlife habitats and will be carefully protected. Some siltation may occur but it should be minimal with proper erosion controls because no stream relocations are planned. The existing Conrail tracks parallel the stream through the study area. Some pollutants from track drainage now reach the stream and the impact of this drainage likely will be greater than that to be expected from the new highway construction. The Selected Alternate 2/A2A will have significantly less impact on Stony Run than Alternate B would have had because it is further from the stream. Construction of the connecting ramps with the Baltimore-Washington Expressway for the Selected Alternate 2/A2A and Alternate A represents the greatest potential for erosion problems.

III. Deep Run

The stream banks of Deep Run are well vegetated but quite steep so sloughing of the banks undoubtedly occurs naturally with resulting siltation of the streams. The Selected Alternate 2/A2A and Alternate A avoid any intrusion into the drainage area of this stream except at a point near the junction of Deep Run and the Patapsco River. Alternate B crosses Deep Run so that some erosion and sedimentation would have been expected until the cover became established. Proper erosion control will minimize impacts to stream.

IV. Patapsco River

Banks along the Patapsco are well vegetated and quite steep. Crossing of the stream will be required under all construction alternates. While some erosion will occur from embankment construction adjacent to the stream crossing, the major potential for adverse impact lies in the construction of the bridges across the stream. Extreme care will be exercised to prevent contaminants from the bridge construction activities from reaching the stream.

Some construction operations and stream conditions may necessitate the construction of diversion dikes or other protection measures to avoid sediment problems. Embankment slopes will not be permitted to encroach on the stream channel. Where practicable, a protective area of vegetative cover will be left or established between the highway embankment and the stream channel.

Coastal Zone Management Program - The proposed project is located within the regional Coastal Zone management area. During the Project Planning Studies, potential impacts affecting land and water uses and coastal area resources were reviewed with the appropriate State and Federal agencies. The planning measures incorporated into the proposed project, together with measures that will be implemented during final design and construction (e.g.; permit requirements, erosion and sedimentation control measures and further coordination with affected agencies) will be provided, consistent with the objectives and policies of the Coastal Zone Management Program.

Relocation Impacts - The State Highway Administration, Bureau of Relocation Assistance, has prepared a detailed relocation assistance study* for the proposed project. Pertinent information from this study is discussed below. The complete study is available for inspection at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland.

The relocation resulting from the Selected Alternate 2/A2A is located in Anne Arundel County. No improved properties are affected in either Baltimore or Howard Counties.

The residential property affected is located in the rural-residential area bounded by the Baltimore-Washington Expressway to the south and the Potapsco River to the north.

The relocation study conducted for the proposed project indicates that no established communities will be divided or disrupted by the Selected Alternate 2/A2A.

The Selected Alternate 2/A2A and Alternate A would require the displacement of one (1) owner occupied family, which consists of approximately four persons. There are no minority families or persons displaced by these alternates.

*A Detailed Relocation Assistance Study was performed by the State Highway Administration's Bureau of Relocation Assistance. This study, which included a determination of the availability of replacement housing, was completed in April, 1979.

Alternate B would have required the displacement of three (3) owner occupant families, which consisted of approximately twelve (12) persons. All three of these families are of a minority group.

Ample replacement housing is usually available in northern Anne Arundel County (5th Tax District). However, since the homes affected are located within a rural area, locating replacement housing with similar physical surroundings may be difficult in the immediate locale.

The following is a breakdown of the houses available within the 4th and 5th Tax Districts of Anne Arundel County.

Dollar Range	Houses Available
0-$20,000	14
$20,000-$40,000	63
$40,000-and up	67

Because of the few properties affected by relocation, other federal or state projects presently contemplated would not adversely affect the housing supply within the area. Lead time to implement the relocation plan (with the possibility of housing of last resort) is expected to be between six and twelve months.

The relocation of the family displaced by the Selected Alternate can be accomplished without any undue hardship to the displacee. The relocation can be accomplished in accordance with the requirements of the "Uniform Relocation Assistance and Land Acquisition Policies Act of 1970 (Public Law 91-646)" and can be effectuated in a timely and humane fashion.

The Equal Employment Opportunity Program of the State Highway Administration states, in part:

> "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, national origin, sex, age, religion, or physical or mental handicap in all State Highway program projects funded in whole or in part by the Federal Highway Administration. The State Highway Administration will not discriminate in highway planning, highway design, highway construction, the acquisition of right-of-way, or the provision of relocation advisory assistance. This policy has been incorporated into all levels of the highway planning process in order that proper consideration be given to the social, economic, and environmental effects of all highway projects. Alleged discriminatory actions should be addressed to the Equal Opportunity Section of the Maryland State Highway Administration for investigation."

Social Impacts - Assessment of social impacts involves consideration of the project's effect in three general areas: (1) displacement of people, (2) community cohesion and (3) accessibility of facilities and services.

(1) Displacement of People:

The previous section, "Relocation Impacts", described the magnitude of the displacement associated by the proposed improvements, the availability of adequate replacement housing and the ability of the displacees to successfully complete relocation to replacement housing.

As indicated, Alternate B would have necessitated the displacement of three (3) owner occupant families which consist of approximately twelve (12) persons. All three of these families are of a minority group (black). The relocations associated with any of the build alternatives would not affect the elderly, handicapped or other disadvantaged groups.

(2) Community Cohesion:

The proposed project will not intersect, bypass or isolate identifiable communities within the study area.

The project will not result in increased traffic volumes on local streets or roadways. Pedestrians and bicycle mobility along local roadways will be unaffected, although temporary disruption may occur during the construction operations.

All local traffic movements will be maintained. Therefore, the I-195 improvements will not inhibit previously free movement by residents.

The residential properties adjacent to the existing section of I-195, which extends from I-95 to U. S. 1 will be subject to proximity impacts resulting from increased traffic volumes on I-195. These impacts will have a minor affect the community quality within this area.

The impacts on community quality resulting from construction equipment and operations, detours or other disruptive features are discussed in the section, "Construction Impacts", Page 76.

(3) Accessibility of Facilities and Services:

Facilities and services considered in this evaluation include educational and health facilities, employment, commercial and institutional centers, recreational and cultural facilities and energency services.

Interstate 195 will have potential significant effects on mobility in the region or bi-regional area. The proposed project was a key element in the recommended airport access improvements. Improvements to I-195 are considered essential in order to assure that adequate facilities are available to serve both projected airport growth and nearby commercial and industrial development.

Although the project will have its greatest impacts at a regional scale, it will also provide benefits to local area accessibility.

Police and fire protection services will benefit from the increased traffic capacity in terms of emergency vehicle response time, especially during peak hour traffic. The I-195 improvements will provide an additional, as well as alternative, direct high-speed connection between jurisdictions, when those demands occur.

Accessibility to public facilities and services will not be reduced in any part of the study area. Traffic movements along the local roadway network will be maintained. Accessibility along the major intersecting routes will be enhanced by reduced traffic congestion.

Economic Impacts - Highway effects are often viewed in terms of their likely impacts on users and non-users. Highway user benefits are largely in the form of travel time savings, reductions in operating costs and reduced losses from accidents, injuries and death. Highway non-user benefits accrue to individuals and firms whose gains are a result of the highway, but not from a direct use of the highway. These benefits are indirect in nature and generally come about because of a transfer of user benefits to others in the community.

Problems arise when attempts are made to aggregate user and non-user benefits because, in general, they are not additive. For example, the value of land near highways, especially near interchanges, often increases dramatically as a result of people wanting to take advantage of the better accessibility the highway provides. Thus, travel cost and time savings, a user benefit, gets capitalized into higher land values and is transferred, in a real sense, to non-users. Firms that realize lower production costs because of transportation advantages might, in time, pass these on to consumers in the form of lower prices.

In a somewhat parallel vein, costs also get transferred to non-users. Such costs as noise, air and water pollution effects from highways are borne by landowners and others in the vicinity of the highway, even to the extent that some property values will be lowered. Congestion costs are one of the typical costs under a No-Build alternative, and these are borne by users as well as highway neighborhood non-users.

(1) Accessibility: An efficient transportation system provides accessibility, the essential linkage between the producing and consuming sectors of the economy. Industry must have good accessibility to both the suppliers of its inputs and to the consumers of its outputs. For many industries, accessibility is measured within a national framework. Commercial establishments must have good accessibility to households. Households (consumers) desire good accessibility to employment, shopping, schools, recreation and to other activities, usually within a neighborhood or community context.

Clearly, the dominant beneficial impact of the proposed project is improved accessibility, principally to the BWI Airport, but also to the existing business firms along U.S. 1, MD 170 and Elkridge Landing Road. The anticipated increase in passenger and air cargo use of the BWI Airport will enhance the accessibility benefits over time. In view of the growing concern for future energy use, the proposed Amtrak station located adjacent to I-195 could experience increasing demand, thus further enhancing the desireability for improved access.

The direct benefits which result from improved accessibility are reflected in reduced travel costs, both in terms of the value attributable to travel time and the out-of-pocket cost of vehicle operation. The latter costs are the marginal cost of the vehicle - what it costs to drive it an additional mile. Thus, all fixed costs such as insurance, registration fees, depreciation and interest charges are not included.

Increased accessibility will provide positive benefits resulting from the reduction in travel time for emergency vehicles. Time is crucial for fire, police and medical services - the more direct access as well as reduced congestion will enable such vehicles to reach their destination more quickly.

The reduction in traffic congestion, especially during rush hours, will result in increased safety to highway users and reduction of accident rates. Not only are accidents costly to users in terms of repair costs and medical expenses, but also in terms of lost earnings during convalescense or permanent disability. To those costs must be added the inconvenience of being without a vehicle during the repair and replacement period. Moreover, insurance premiums rise as the frequency and severity of accidents increase.

During the public meetings held for I-195, some persons expressed concern that the planned improvements would result in additional traffic impacts through the Linthicum area. However, both the traffic projections developed by the State Highway Administration for the I-195 project, and those utilized in the Baltimore/Washington International Airport Master Plan study, indicate that the improvements included in the "assumed highway network" would result in lower traffic volumes through Linthicum than would occur during the same period with the "No-Build", or existing highway network.

In addition to the highway network assumption indicated on Page 81, the I-195 traffic projections assume that Hammonds Ferry Road will be upgraded to four lanes between MD 176 and West Nursery Road. The planned improvements to the existing highway network will provide some relief of traffic through Linthicum by diverting traffic to the new or improved facilities.

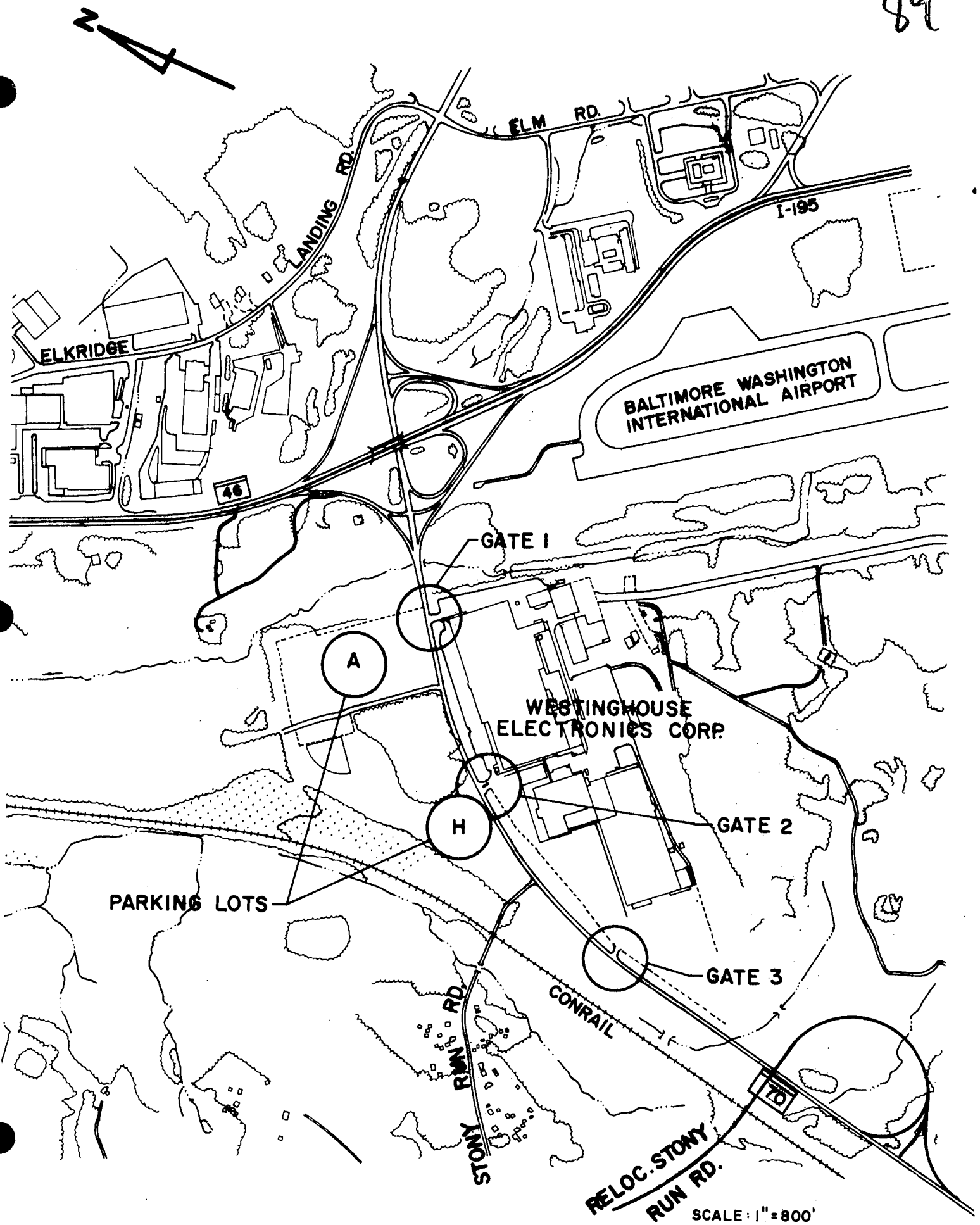
Baltimore County officials have expressed concern that the proposed project will aggravate the existing congested traffic conditions in the Catonsville area. It is contended that traffic traveling between western and northwestern Baltimore, Howard and Carroll counties, and the BWI Airport will utilize Rolling Road and other local roadways to enter the northern terminus at I-95. This issue is a major planning consideration associated with the proposed action in Baltimore County.

In response to these concerns, the SHA Bureau of Highway Statistics has reviewed the traffic forecasts. Their review has indicated that it would be extremely unlikely that traffic originating in Howard, Carroll and western and northwestern Baltimore counties would use feeder streets such as Rolling Road in order to utilize the I-195 connection to the BWI Airport. Trips of that length are more likely to continue on a freeway route than to seek "shortcuts" on small side roads that have slow moving traffic, stop signs and traffic signals to impede them.

However, some trips from the Catonsville area that now utilize MD 372 and MD 144 to get to the Beltway and to the airport vicinity will be diverted to MD 166. The overall increase in traffic on MD 166 due to these trips appears to be minimal.

(2) Access to Westinghouse Facilities: The Westinghouse Defense Complex, a major employer in Anne Arundel County and the Baltimore Region, is located along MD 170 south of the interchange between MD 170 and MD 46. This plant presently employees 12,000 to 13,000 people. Presently there is parking for approximately 6,000 cars with 2,865 spaces located to the west of MD 170 and 3,135 on the east side or building side of MD 170.

There are three main entrances which are signalized and one unsignalized entrance into the parking areas on the east side (see Figure 10). The signals are hand operated during the peak hours (6:30 A.M. to 8:30 A.M. and 3:00 P.M. to 5:00 P.M.) and are in flashing operation the remainder of the time. Gate 1 is a security controlled access point and the majority of the truck traffic which proceeds to the service area in the rear of the building uses this entrance. Westinghouse officials have estimated that approximately 80 to 100 trucks per day use this entrance. Gate 2 provides access to a small security area in front of the Aerospace Building and to the parking area in front of the Central Services Building. Much of the traffic at this gate is made up of visitors and salesmen and is spread out through the day.



SCALE: 1" = 800'

WESTINGHOUSE FACILITIES

FIGURE 10

Gate 3 provides access to a large parking area south of the buildings and has heavy traffic during the peak hours. An unsignalized gate located near the southern end of the complex also serves the same parking area. This gate is scheduled to be closed in conjunction with the proposed Stony Run Road Relocation and access directly from proposed Stony Run Road is to be provided. Gate 3 provides access to a small number of trucks to the rear of the plant and also as another access gate to the security parking behind the plant.

The North Parking Lot (Lot A) located across from Gate 1 contains parking for approximately 2,250 cars. There are three entrances into this lot: an unsignalized entrance which handles much of the traffic from the MD 46 exit ramp, an entrance at Gate 1 and another signalized entrance located a short distance south.

The Northwest Parking Lot (Lot H) is located across from the Central Services Building and contains parking for 615 cars. There are three entrances to this lot: an entrance opposite Gate 2, which is signalized, an unsignalized entrance from MD 170 and an unsignalized entrance from existing Stony Run Road.

Most pedestrians from Lot A and Lot H presently cross MD 170 at-grade during red cycles of the signal phase at the signalized intersections. Westinghouse has a pedestrian tunnel under MD 170 from Lot A to the plant near Gate 1, but this is used infrequently. The pedestrian tunnel will not be affected by the construction of the Selected Alternate 2/A2A.

Md. 170 in the vicinity of the Westinghouse Defense Complex consists of two lanes in each direction with no separate turning lanes. The State Highway Administration presently owns a 200 foot right-of-way in the vicinity of Westinghouse and portions of the unused right-of-way are utilized by Westinghouse for parking on the west side of the road. With the selected alternate Westinghouse will no longer be able to use this area for parking. The entrances near Gate 1 are within 300 to 400 feet of the existing entrance ramps to the Md. 46 interchange. The Selected Alternate 2/A2A would affect the access to the Westinghouse facilities at one location. Under the proposed design access to Gate 1 would be via a parallel service road located south of MD 170.

(3) Employment, Income and Business Activity: Improved accessibility in the study area by an I-195 improvement will significantly improve the desirability of this location for future industrial and commercial activities. The area's proximity to 5 major highway routes, a major air terminal, a major seaport and a main railroad line is almost unsurpassed in terms of transportation advantages. With virtually no conflicting land uses, and with vacant land present, it is ideally suited for industrial and commercial expansion. While such expansion would improve

employment and income within the broader region, these must be considered as regional benefits, not net national benefits, since in all likelihood such expanded activity would have occurred or located elsewhere in the absence of the I-195 improvement. The employment and income associated with the actual construction, however, will represent a net benefit to the extent that the resources, including labor, employed in the project would have been unemployed or would have earned lower returns in the absence of the project. Some local businesses that cater to construction needs will surely benefit, as will retailers catering to construction workers that might move in. But, such impacts are short-term and the benefits will not linger once construction is completed.

This potential increase in employment, income and business activity is consistent with the Baltimore Region's General Development Plan Economic Development Policy.

(4) Residential Activity: The project will not have a major economic impact on housing supply or demand or on residential activity in general. One family will be adversely affected and to them the impact is major.

(5) Land Values and Taxation: There can be little doubt but that the improved accessibility in the corridor will ultimately lead to higher property values as the locational advantages become capitalized into land values.

Increases in land values lead to higher property tax revenues for the local municipalities, school boards and other taxing units. On a broader regional or national scale, however, such tax revenue increases may only represent inter-regional transfers. To what extent tax revenue increases represent net benefits to the local region is very difficult to ascertain. Tax yield increases must be balanced off against the increase in costs of providing public services, such as fire, police, water, sewage and solid waste disposal. Industrial expansion generates residential development, which translates into expanded school budgets.

There will be a loss of property tax revenues on land acquired for right-of-way. However, the people displaced must relocate and, if they relocate within the same jurisdiction, in time there should be no appreciable overall decrease of tax yields. Moreover, any new demand for housing, commercial or industrial sites, in light of the fixed land supply, will increase the overall value of real property (land and improvements) to the point where future tax yields should rise (allowing time for assessments to reflect the new values).

(6) Operational Effects: Two benefits in this category, closely related, appear appropriate for the I-195 improvement. The first is reduced congestion on existing routes from which traffic would be diverted once the I-195 improvement is completed. Some drivers would still use these existing routes and, to the extent that shifts to I-195 occur, congestion would be reduced for these drivers. This is the "other side of the coin" for lower travel time and operating costs, occurring to non-users of I-195. The travel time and operating cost savings discussed in the earlier section referred to I-195 users only. Care must be taken to keep these two "user sets" distinct so as to avoid double counting such benefits.

The second benefit is energy savings, arising from both shorter travel distances and travel time (reduced congestion) occurring on both I-195 proposed and existing routes. This benefit, in value terms, would be reflected in lower operating costs so it is not additive to the benefits mentioned previously. However, because of the conscious need to consider energy conservation today, it is prudent to point out these potential savings.

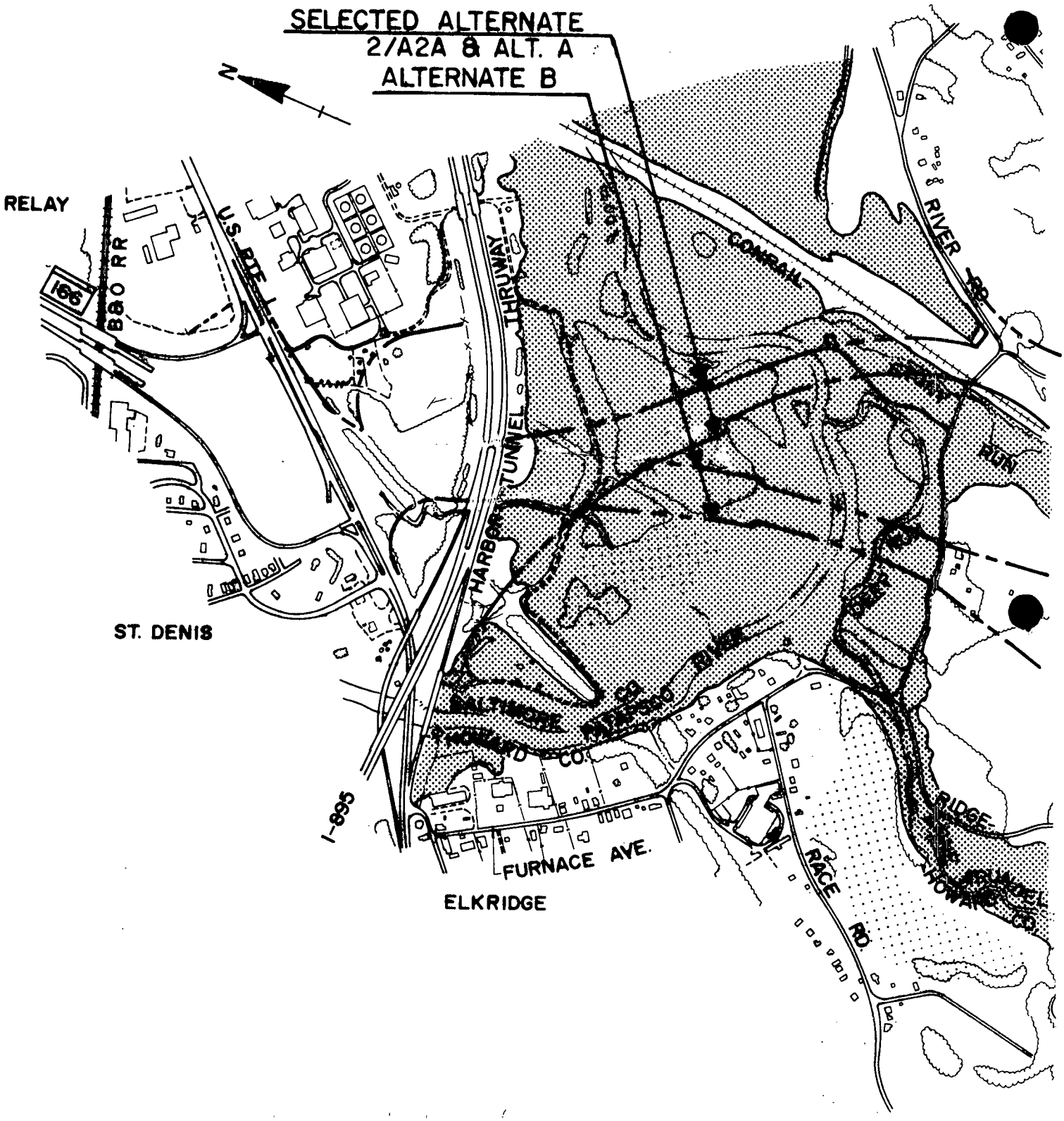
(7) Resources: The proposed action will not result in any demand-supply imbalances, because of the relatively modest scope of the project when reviewed in light of the productive capacity of the region. Labor is highly mobile in the construction industry; therefore, the broad labor shed of the region is the one relevant to the project. No shortage (labor or materials) should occur which would result in project modification.

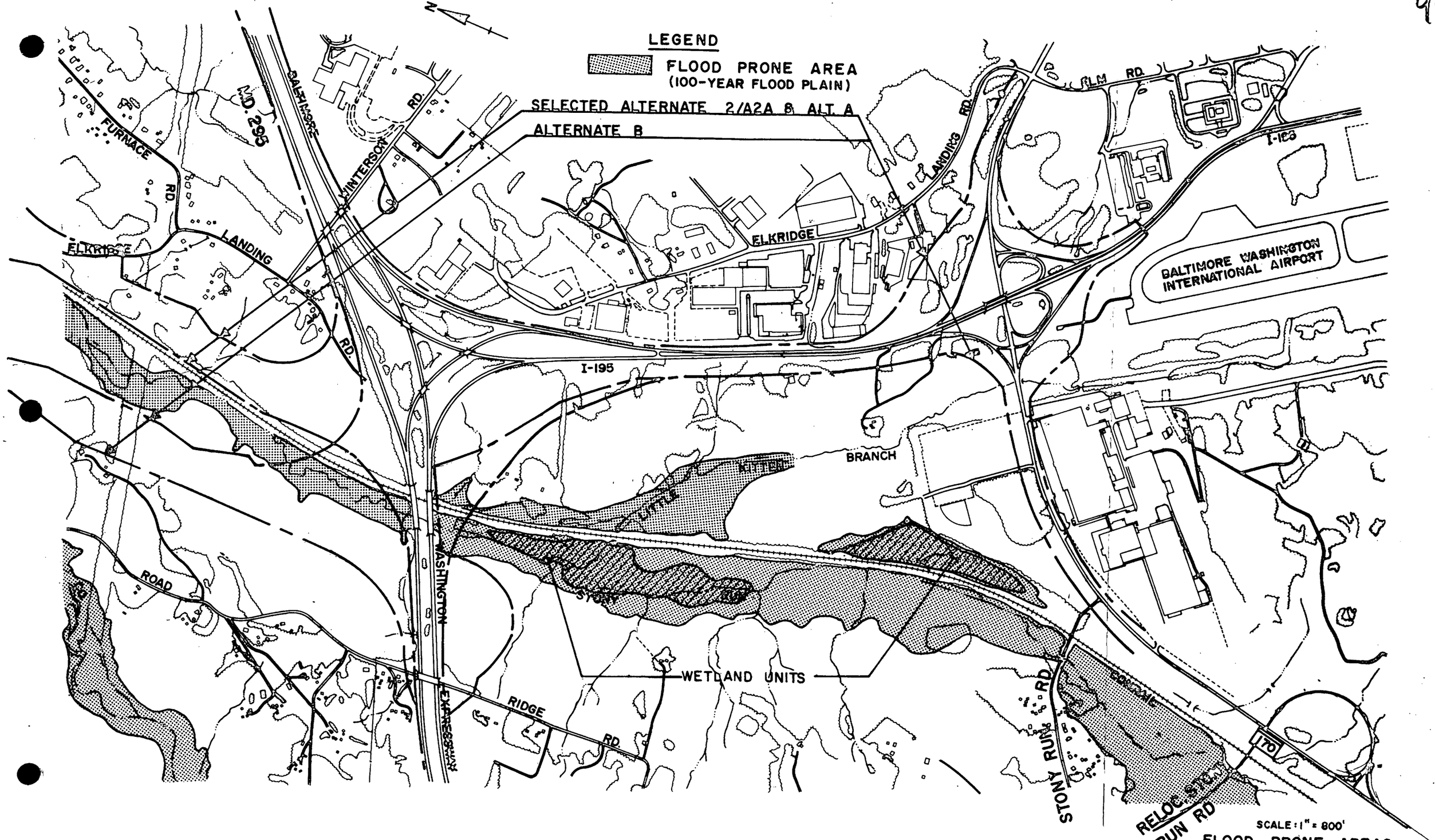
The Selected Alternate 2/A2A will reduce congestion in the area. To this extent, there should be a favorable impact on energy consumption.

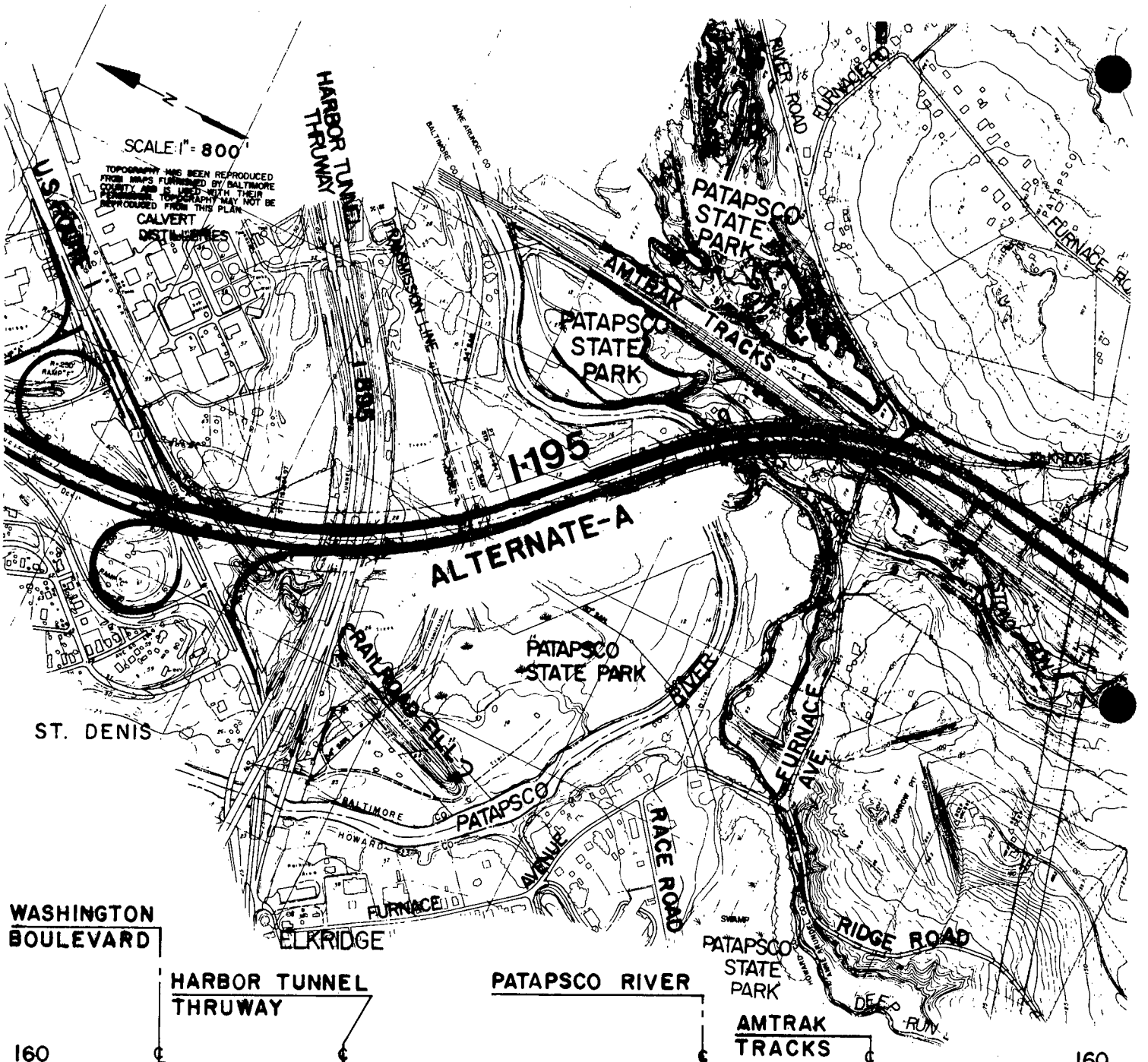
River Modifications (Flood Hazard Impacts) - Floods are a major problem on the Patapsco River. The floods of Hurricane Agnes in 1972 and Hurricane Eloise in 1975 caused widespread damage throughout the watershed.

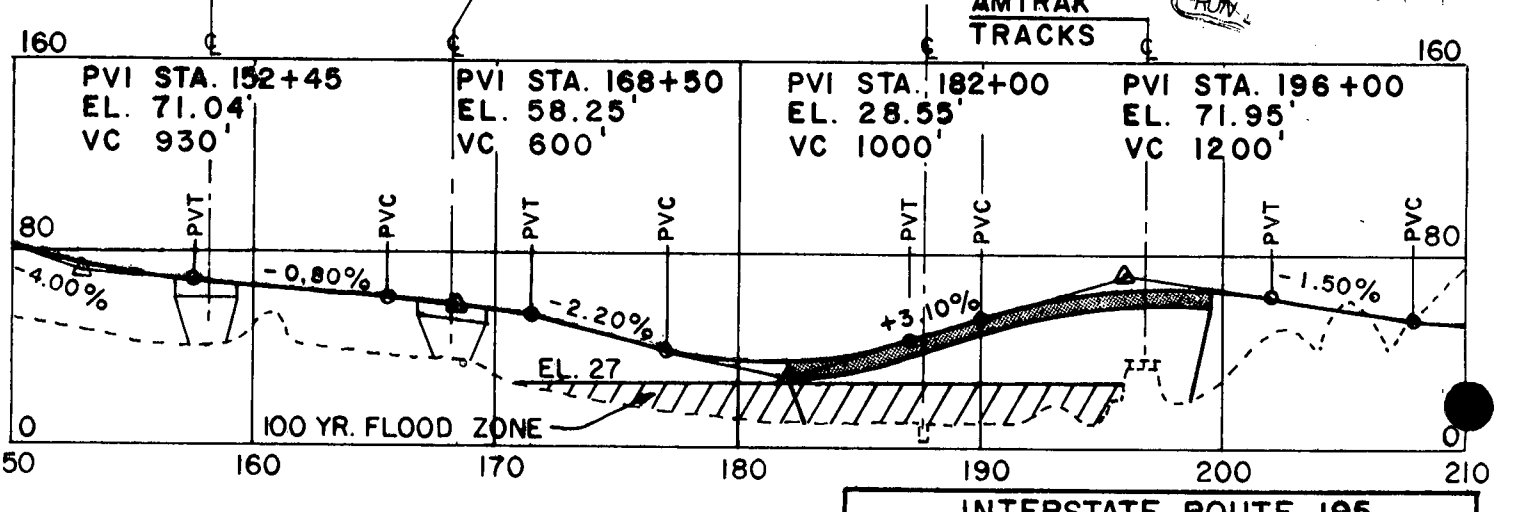
The flood prone areas within the corridor are indicated on Figure 11 and are adapted from investigations and maps produced by the Federal Insurance Administration. The areas were delineated on the basis of readily available information and are not the result of flood routing or other engineering analysis. The areas delineated on this map are in no way related to the impacts resulting from the I-195 improvements and are based on a 100-year flood event. This event, commonly termed the 100-year flood, is equalled or exceeded once on the average during any 100 year period and has a 1 percent chance of being equalled or exceeded during any year.

Records from the Agnes flood in 1972 (the flood of record) on the Patapsco show that the water crested at approximate elevation 34.5 in the vicinity of the I-195 crossing. The flood water caused damage to residential and commercial structures in the vicinity of Elkridge along U. S. Route 1, Furnace Road and Deep Run. Portions of the Harbor Tunnel Thruway were also inundated.


SELECTED ALTERNATE
2/A2A & ALT. A
ALTERNATE B
N
RELAY
B&O RR
U.S. RTE 1
166
CONRAIL
PATAPSCO RIVER
HARBOR TUNNEL THRUWAY
RUN
ST. DENIS
BALTIMORE
HOWARD CO.
I-895
FURNACE AVE.
ELKRIDGE
RIDGE
RACE RD.
ANNE ARUNDEL
HOWARD CO.


LEGEND
FLOOD PRONE AREA
(100-YEAR FLOOD PLAIN)
SELECTED ALTERNATE 2/A2A & ALT. A
ALTERNATE B
WETLAND UNITS
N
MD. 295
BALTIMORE
WASHINGTON
EXPRESSWAY
FURNACE RD.
ELKRIDGE LANDING RD.
WINTERSON RD.
I-195
ELKRIDGE
LANDING RD.
ELM RD.
I-95
BALTIMORE WASHINGTON INTERNATIONAL AIRPORT
LITTLE PATUXENT
BRANCH
STONY RUN
RIDGE RD.
STONY RUN RD.
RELOC. STE.
170
SCALE: 1" = 800'
FLOOD PRONE AREAS
FIGURE II

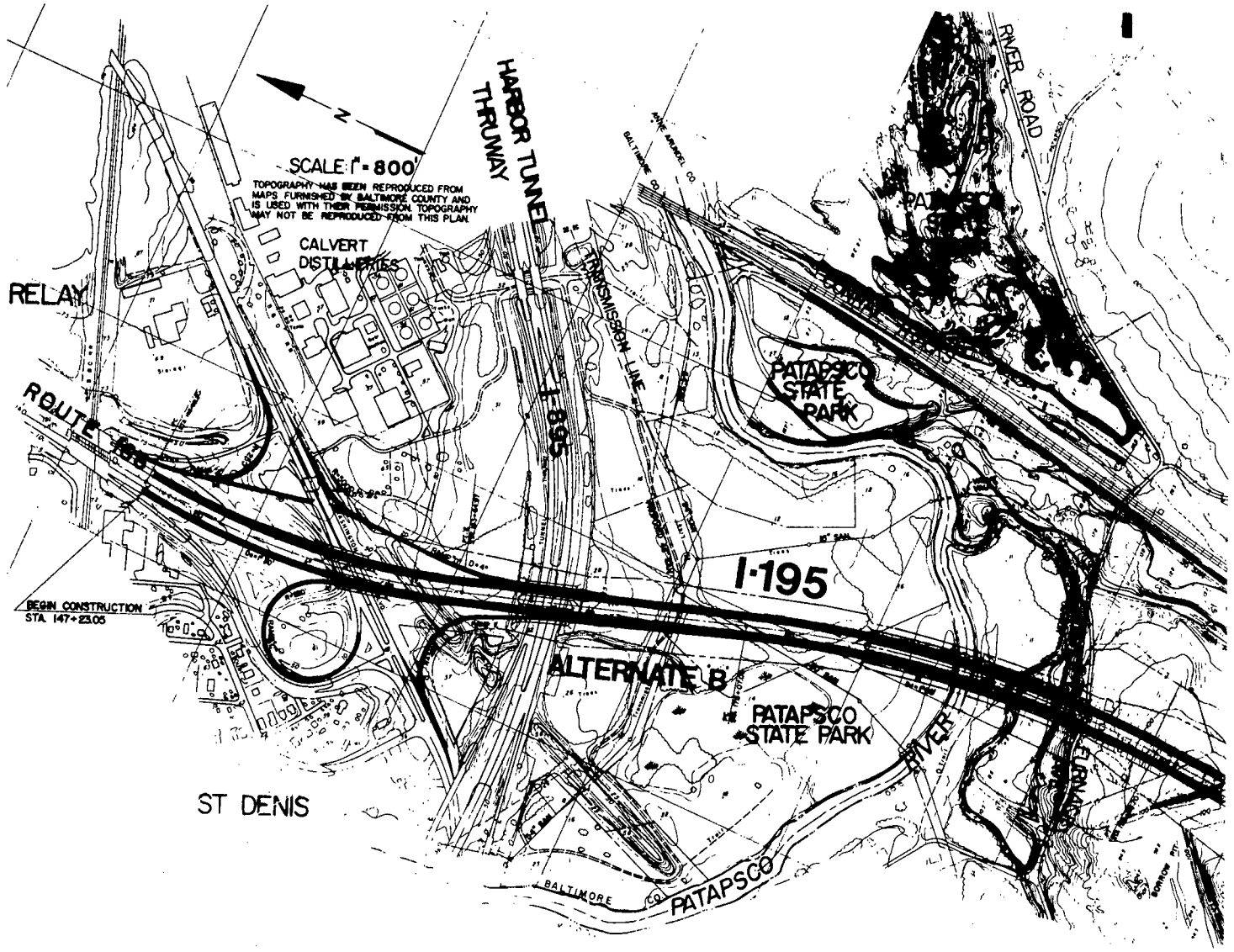


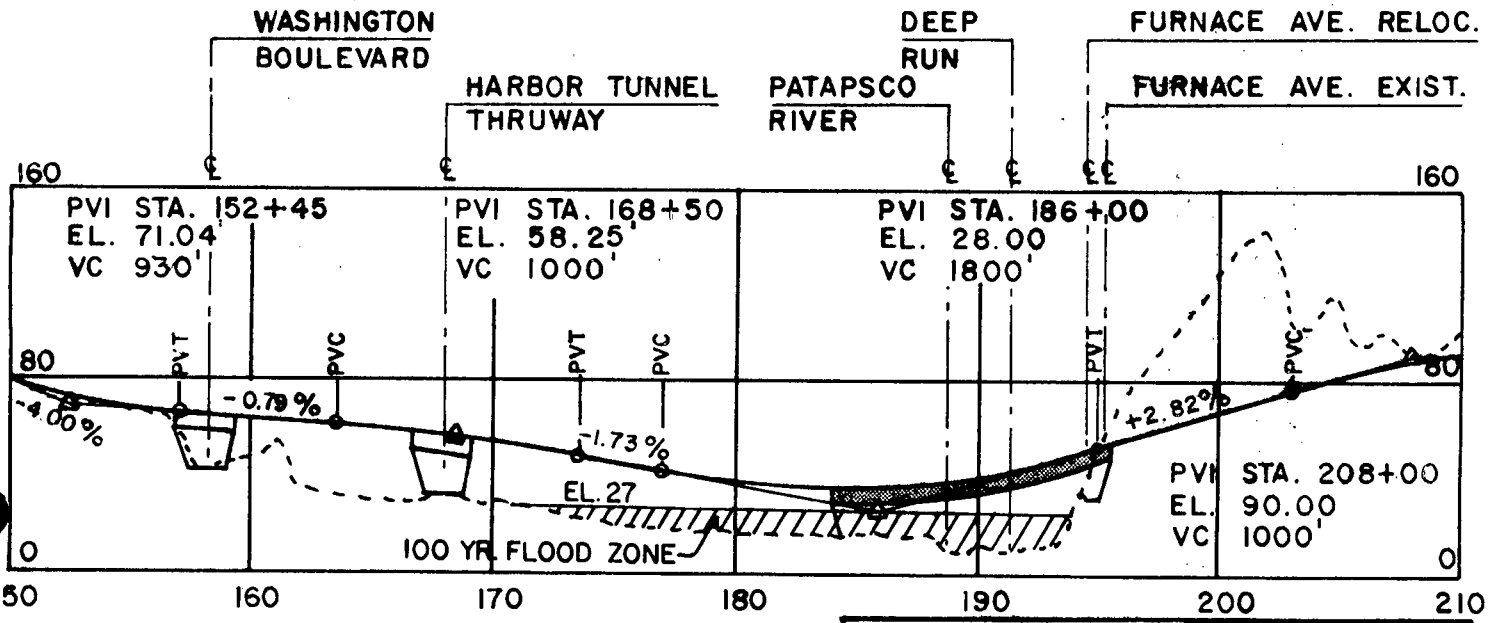


*ABOVE PROFILE & GRADE SAME AS SELECTED ALT. 2/A2A

INTERSTATE ROUTE 195
PATAPSCO RIVER CROSSING
ALTERNATE-A

FIGURE 12





INTERSTATE ROUTE 195

PATAPSCO RIVER CROSSING

ALTERNATE B FIGURE 13

The Patapsco River Flood Study, was completed jointly by the Maryland Water Resources Administration and the Baltimore Regional Planning Council in March, 1980. This study identified the flow and flood plain limits for the 100 year flood and includes consideration of flood control measures for the river.

The flood plain limits identified in this study are a refinement of the Federal Insurance Administration limits already established along the Patapsco. Maryland Water Resources Administration's analysis of the existing stream channel conditions shows that should a storm of intensity equal to Agnes reoccur now, the water level in the vicinity of the I-195 crossing will be approximately 1.5 feet higher than the 1972 level due to fill which has been placed in the river valley downstream since 1972. The water level near the harbor will be as much as 4 feet higher during an Agnes type storm than in 1972.

The Interstate 195 alternates must cross the Patapsco River Flood Plain since the project connects to the existing I-95 interchange to the north and to the existing main entrance into BWI Airport on MD 46 to the south. The river must be crossed to join these two termini.

During the preliminary design phase of this project, hydraulic/hydrologic studies will be performed to establish the design requirements that would accommodate a storm of the proportions of the flood of record (Agnes, 1972). These design features would provide measures to insure the structural integrity of the facility in the event the area was flooded. The design measures would include adequate embankment and slope protection.

A flood control measure that is being considered in the Patapsco River Basin Study is the removal of the abandoned railroad embankment upstream from the I-195 crossing which constricts the channel to 200 to 300 feet; this measure would lower the flood level for portions of Elkridge. If the Water Resources Administration decides to remove the embankment, the work could be accomplished as part of the I-195 construction by making the embankment available for borrow material. Additional studies would be performed by the Water Resources Administration in order to assess the potential effects of this flood control measure.

The project will be designed to meet the HUD regulations, which require that the 100 year flood level cannot be raised more than one foot upstream from the crossing. The federal criteria for purposes of regulating development in the flood plain is set forth in the Code of Federal Regulations at 24 CFR, 1910.1(d). The Maryland Department of Natural Resources regulations governing construction in flood plains will also be adhered to in the design for I-195. The project will also be coordinated with the Army Corps of Engineers and the required approvals will be obtained.

Construction of the Selected Alternate 2/A2A will not result in a significant encroachment on the flood plain. The encroachment will not result in any risk or impacts to human activity, the beneficial flood plain values or provide direct or indirect support to further development within the flood plain. The removal of the old railroad embankment would lessen potential flood impacts to the town of Elkridge, U.S. Route 1 and the Harbor Tunnel Thruway.

Construction Impacts - Negative impacts related to the construction phase of this project will be of a short-term nature.

Construction operations involving heavy equipment, especially near residential development, will cause unavoidable periods of annoyance due to increased noise, vibration and air quality emissions. Enforcement of federal, state and local regulations and limitations on working hours near residential development will help to minimize these impacts.

Some disruption of the normal traffic circulation pattern will occur during the various phases of construction. Temporary traffic control measures will be incorporated in the Construction Specifications to insure a high level of traffic maintenance and protection of the traveling public approaching the construction area and within the limits of construction.

The sequence of construction will be performed in a manner which will maintain vehicular and pedestrian access to all properties and existing roads.

The construction of the Selected Alternate 2/A2A and Alternates A & B would impact the Federal Aviation Administration's approach light and power distribution systems for Runway #15 at BWI Airport.

The impacts are primarily resulting from the proposed improvements to the I-195/MD 170 interchange. The foundations of five (5) light towers must be replaced due to the proximity of the roadway construction. Five (5) towers must be replaced with structures which span roadways.

The current operation of the light systems varies with visibility conditions. With Category I conditions, every other light is used and with Category II conditions, all lights are used. The light system must remain in operation at all times. The FAA may allow one or two towers to be taken out of service while modifications are made. This is not definite at this time and it is possible that all lights may have to remain in operation at all times.

The entire light system for Runway #15 is scheduled for modification by 1982 or 1983. The modifications include removal of the last six (6) towers and replacement of the upper portion of the remaining towers with a collapsible type structure which will not damage air craft should they be too low. The foundations and the rigid lower portion of the towers would remain in the same location and, therefore, relocation of towers to avoid conflict with I-195 will still be required as described above.

Construction impacts also include those described under the "Aquatic Ecology" impact discussion, page 51; Traffic Noise Impacts, page 67; and Air Quality Impacts, page 69.

Utility Impacts - The Selected Alternate 2/A2A and Alternates A & B would involve relocation of public and quasi-public utility systems. The following utilities would be affected:

1. Baltimore Gas and Electric Company
2. Chesapeake and Potomac Telephone Company
3. Baltimore County Sewer
4. Anne Arundel County Sewer
5. Baltimore/Washington International Airport Sewer
6. Federal Aviation Administration Facilities

The Anne Arundel county sewer system would have only been affected by Alternate B. All other utilities would be impacted by the Selected Alternate 2/A2A and Alternates A & B.

The required relocations and/or adjustments, and the preliminary estimated costs for accomplishing this work are as follows:

The Selected Alternate 2/A2A and Alternate A

Baltimore Gas and Electric Company: Adjustment of distribution lines along U. S. Route 1; move tower and raise transmission lines south of Harbor Tunnel Thruway; adjust distribution lines along Furnace Avenue and move transmission line tower at Station 211+; adjust distribution lines along MD 170.

Chesapeake and Potomac Telephone Company: Adjust aerial lines along Furnace Avenue; approximately 2,000 linear feet (L.F.) of aerial cable along MD 170 to be placed underground, 1,000 L.F. of underground cable must be relocated.

Baltimore County Sewer: Encase approximately 300 L.F. of 54" sewer along the Patapsco River.

Baltimore/Washington International Airport Sewer: Relocate approximately 2,400 L.F. of 12" sewer from the Patapsco River to the Baltimore County sewer and through the MD 170 interchange.

Federal Aviation Administration Facilities: Reconstruct five (5) light tower foundations; replace five (5) light towers with structures which span the roadways.

The estimated cost for completing the utility adjustments required for the Selected Alternate 2/A2A and Alternate A is $790,000.

Alternate B (Preliminary Alternate, Not Selected)

Baltimore Gas and Electric Company: Relocation of distribution lines along U. S. Route 1 and adjustment of two transmission towers to raise transmission lines south of Harbor Tunnel Thruway; adjustment of distribution lines along Furnace Avenue; adjustment of distribution lines along MD 170.

Chesapeake and Potomac Telephone Company: Adjust aerial lines along furnace Avenue; approximately 2,000 L.F. of aerial cable along Md. 170 to be placed underground, 1,000 L.F. of underground cable must be relocated.

Baltimore County Sewer: Encase approximately 300 L.F. of 54" sewer along the Patapsco River.

Anne Arundel County Sewer: Relocate approximately 600 L.F. of 30" sewer along Deep Run.

Baltimore/Washington International Airport Sewer: Relocate approximately 1,000 L.F. of 12" sewer through the MD 170 interchange.

Federal Aviation Administration Facilities: Reconstruct five (5) light tower foundations; replace five (5) light towers with structures which span the roadways.

The estimated cost for completing the utility adjustments that would have been required for Alternate B is $700,000.

Traffic Noise - Determination of environmental noise impact is based on the relationship between the predicted noise levels, established design noise criteria and ambient noise levels in the study area. The applicable design noise criteria is the Federal Highway Administration's design noise level/ activity relationship published in Federal-Aid Highway Program Manual (FHPM) 7-7-3.

Fifteen noise sensitive areas have been identified in the study area; the location of these areas are identified on Figures 15 & 16. A brief description of each area follows:

Noise Sensitive Area (NSA)	Description
1	13 residences on Viaduct Avenue
2	10 single family residences along Francis Avenue
3	8 single family residences on Francis Avenue
4	Townhouse development
5	2 single family residences south of I-195 on Cedar Avenue
6	15 single family residences on Tulip, Hazel and Maple Avenues
7	A single family residence on South Street
8*	16 single family residences along South Street
9*	2 single family residences on South Street
10	Patpasco Valley State Park
11	A single family residence off of Ridge Road
12	6 single family residences on Elkridge Landing and Winterson Roads
13	Holiday Inn on Elkridge Landing Road
14	A single family residence on Ridge Road
15	International Hotel

* NSA 8 and 9 are located in the St. Denis/Relay Historic District (see Figures 24 and 25).

The environmental noise impacts resulting from the proposed action are as follows:

The Selected Alternate 2/A2A and Alternate A - These alternates would impact thirteen of the fifteen noise sensitive areas. Design noise levels would be exceeded in the design year at NSA 15. However, no adverse impact would result since there is no exterior use at this site (see "Summary of Noise Impacts", page 70).

With the Selected Alternate 2/A2A and Alternate A, ambient noise levels would increase from 4-22 dBA.

Change in Ambient Selected Alternate 2/A2A and Alternate A	Number of NSA's
Decrease	None
Negligible (+0 - 5 dBA)	4 (Nos. 1, 5, 8, 9)
Minor (+6 - 10 dBA)	4 (Nos. 2, 4, 6, 13)
Significant (+11 - 15 dBA)	4 (Nos. 3, 7, 12, 15)
Severe (over 15 dBA)	1 (No. 10)

Alternate B - Fourteen noise sensitive areas would have been impacted if this alternate were constructed. The design noise levels exceeded with the Selected Alternate 2/A2A and Alternate A also occur with this alternate. Ambient noise levels would have increased from 3 - 25 dBA.

Change in Ambient Alternate B (Not Selected)	Number of NSA's
Decrease	None
Negligible (+0 - 5 dBA)	5 (Nos. 1, 5, 8, 9, 14)
Minor (+6 - 10 dBA)	4 (Nos. 2, 4, 6, 13)
Significant (+11 - 15 dBA)	3 (Nos. 3, 7, 15)
Severe (Over 15 dBA)	2 (Nos. 10, 11)

Alternate C - If a decision not to construct I-195 would have been made, the degree of traffic noise impact upon sensitive receptors in the study area would not have increased significantly. Present noise levels are relatively low and no design noise levels are exceeded. The design noise levels would have been exceeded in the design year at NSA 15, the International Hotel. At the majority of the sensitive areas, ambient level would have increased by approximately 3 dBA, a negligible increase.

Five noise sensitive areas (3, 7, 10, 12 and 15) would experience significant or severe increases in ambient noise levels with the Selected Alternate 2/A2A. These areas would not experience design noise level exceedences. The feasibility of noise control to reduce potential impact has been investigated. Area 10, Patapsco State Park, is discussed in the Section 4(f) Statement and Area 15 has no exterior use that would be impacted. Noise Sensitive Area 3 consists of seven single family residences adjacent to the existing section of I-195.

Significant reduction of design noise levels would require construction of a noise barrier thorugh this section. I-195 is on a fill and barrier construction would have to be adjacent to the shoulder at the top of the fill. The residences impacted run perpendicular to the highway and a barrier ±900 feet in length with a height of ±12 - 15 feet would be required to reduce noise levels. The cost of the barrier would be approximately $216,000 (based on an estimated $16/s.f.). This cost reflects the probability that some type of protection in front of the barrier other than the existing guardrail could be required to prevent or minimize vehicle/barrier collisions. Full noise abatement is not considered justified on the basis of cost to protect seven dwellings ($31,000 per structure).

NSA's 7 and 12 both consist of six dwellings or less, for which expenditures to reduce noise through the construction of noise barriers would be the same as or greater per structure, than at NSA 3. No barrier construction will be considered at these areas as a mitigation measure because the cost far exceeds the benefits gained.

The following methods of noise abatement were also considered:

a. Traffic Management Measures (i.e., restrictions on vehicle types (trucks), time use, speed limits, etc.). As a proposed part of the Interstate system, it is not feasible to consider this as a noise control measure. The functions of an interstate highway would seriously be compromised if such restrictions were implemented.

b. Partial Abatement Measures. One method which can be employed to provide some relief from the projected impact is the use of plant material (trees, shrubs, etc.) to establish a visual buffer between the highway and adjacent receptors. Use of screen fencing instead of or in combination with landscaping is not considered feasible. Screen fencing would have to be long lasting and as maintenance free as possible. To accomplish this would require a material or system similar to that utilized for a noise barrier. In the case of NSA 3, the fence would have to be placed in the same location as the previously discussed noise barrier placing it 150' - 200' from the residences being screened.

   Distances at Noise Sensitive Area 7 would be greater than 200' and the effectiveness of screen fencing could be better accomplished with plant material. Noise Sensitive Area 12 would be 150' - 600' from the Selected Alternate 2/A2A depending on the particular residence considered. Screening (landscaping) will only benefit the structures closest to the Selected Alternate 2/A2A and fencing would be inappropriate.

   Further study to determine the effectiveness and feasibility would be performed during the final design phase.

No design noise level exceptions would be required for the project. Noise Sensitive Area 15, International Hotel would have exterior noise levels above 70 dBA. However, no exterior use/activity is associated with the hotel. Interior design noise levels will not be exceeded.

There are areas of undeveloped land adjacent to the Selected Alternate 2/A2A. Design year (2005) noise levels adjacent to the completed Selected Alternate 2/A2A would correspond to the values below. These L10 levels calculated assume no corrections for natural or man-made barriers, vegetation, etc. and are intended to indicate generally the noise climate anticipated with completion of the Selected Alternate 2/A2A. The levels reflect only highway generated noise and do not account for aircraft noise.

L10 Design Year Noise Levels	Distance From Centerline of Near Lane
75 dBA	±100'
70 dBA	±200'
64 dBA	±500'
55 dBA	±1,000'

Noise emitted from construction equipment will be sporadic and of varying intensity and duration during the construction period. Construction under normal circumstances is confined to the hours between 7 A.M. - 6 P.M. No adverse impact during evening or nighttime hours is expected to occur.

No specific measures are proposed to minimize construction impact through barriers, etc. Preparation of design plans and specifications will give consideration to use of special equipment restrictions on construction hours, etc. Overall, no significant long-term adverse impacts are anticipated.

No design year noise levels would be exceeded at Patapsco State Park. No noise abatement measures are planned (see Section 4(f) Statement, page 121 and pages 126 - 128).

Air Quality - The objective of this analysis is to estimate the carbon monoxide (CO) concentrations that will occur under the build alternates and No-Build Alternate and to compare those estimates with the State and National Ambient Air Quality Standards (S/NAAQS) for CO.

SUMMARY OF NOISE IMPACTS

Interstate 195/I-95 to B.W.I. Airport

ALTERNATE		Alternate C, No-Build (Not Selected)	The Selected Alternate 2/A2A and Alternate A (Not Selected)	Alternate B (Not Selected)
NO. OF NOISE SENSITIVE AREAS		15	13	14
	Residences	75+		
	Schools	None	None	None
	Churches	None	None	None
	Other	2 motels	2 motels	2 motels
	Historic *	1	1	1
	Parks	Patapsco State Park	Patapsco State Pk.	Patapsco State Pk.
NO. OF NSA'S EXCEEDING DESIGN NOISE LEVELS		1	1	1
NO. OF SIGNIFICANT NOISE LEVEL INCREASES (11-15dBA)		3	4	3
NO. OF SEVERE NOISE LEVEL INCREASES (>15dBA)		None	1	2
TYPE OF ALTERNATE ACCESS CONTROL		N/A	Full Controls	Full Controls

*Potential St. Denis/Relay Historic District

To meet this objective, a near field microscale CO emission and transport analysis was conducted for four sensitive receptors and three typical sites for the completion year (1985) and design year (2005) on a peak one-hour and maximum consecutive eight-hour traffic flow basis, simulating worst-case (i.e., pollutant dispersion, weather) conditions.

Estimates of CO concentrations were made using the EPA-developed line source dispersion-simulation model "HIWAY" as adapted for intersectional analysis by the Maryland Department of Transportation (MDOT). The emission rates used as input to this program were derived from the most recent EPA compilation of low altitude vehicular CO emission estimates as stored in the program "MOBILE 1", May 1978 version.

Receptor sites were selected on the basis of usage and proximity to the roadway. Accordingly four specific and three typical receptors were selected, two hotels and two residences.

The three typical sites were located at regular intervals along a mainline section of the build alternates, measured from the edge-of-right-of-way (EROW). Since the proposed project involves construction of a new facility, one of the four specific sites and the typical sites would not be impacted by the No-Build Alternate.

The four sensitive receptor sites and three typical sites are shown on Figure 16. Each receptor is described as follows:

Site 1 - A single family residence on South Avenue, approximately 500 feet from the intersection of I-195 and U. S. Route 1.

Site 2 - A single family residence located approximately 800 feet from the intersection of I-195 and the Baltimore-Washington Parkway.

Site 3 - The Holiday Inn on Elkridge Landing Road southeast of the Baltimore-Washington Parkway.

Site 4 - The Friendship International Hotel adjacent to the existing access highway (Maryland Route 46) to Baltimore-Washington International Airport.

Sites 5a, 5b, 5c - edge-of-right-of-way, uninhabited sites. Sites 5a-5c are located 8, 16, and 24 m (26.2, 52.4, and 78.7 feet) respectively from EROW of the Selected Alternate 2/A2A and Alternates A & B.

The following data was utilized in the Air Quality Analysis:

Traffic Volumes - The projected average daily traffic (ADT) was provided by the State Highway Administration and is indicated on Figures 17, 18 and 19.

The diurnal traffic variations occurring in the project area indicates that peak traffic flow occurred between 3 and 4 P.M. with 9.69 percent of the ADT flowing through at that time. However, in order to estimate "worst-case" CO concentrations, the 5-6 P.M. period with 8.09 percent of the ADT was selected to estimate the one-hour concentration since worst-case meteorological conditions occurring during the 5 P.M. period would result in higher CO concentrations than under pre 5 P.M. meteorological conditions. The maximum consecutive eight-hour flow occurred between the hours of 1 and 9 P.M., with an average pre 5 P.M. hourly flow of 7.07 percent of ADT and an average post 5 P.M. hourly flow rate of 4.79 percent of ADT. The directional distribution is 62 percent for 1985, and 60 percent for 2005 and the vehicle mix during peak (design) hour is as follows:

Light Duty Vehicles (LDV)	97 percent (DHV)
Heavy Duty Vehicles (HDV)	3 percent (DHV)

During the eight-hour period (off-peak period), a vehicle split of 95 percent LDV and 5 percent HDV was used. The HDV category was broken out as 70 percent Heavy Duty Gasoline (HDG) vehicles and 30 percent Heavy Duty Diesel (HDD) vehicles.

Running Speed - The estimated vehicle running speeds are as follows:

Alternate	Running Speeds, MPH Peak Hour	Off-Peak Hours
Build, 1985	55	55
Build, 2005	50	55
No-Build, 1985 (east of BW Parkway/ west of US Route 1)	45/55	55/55
No-Build, 2005 (east of BW Parkway/ west of US Route 1)	30/55	55/55

Emission Factors - The emission factors were derived using the above running speeds and the following values as inputs to MOBILE 1:

35 degrees F ambient temperature.

FTP driving cycle, partitioning engine condition modes into 20.6 percent non-catalytic cold starts, 27.3 percent catalytic hot starts, 20.6 percent catalytic cold starts, and 31.5 percent hot stabilized.

National Vehicle Age distribution for all classes of 110V; no change in pattern to occur over the period of time covered in this analysis for any distribution.

Inspection/Maintenance (I.M) in effect starting in 1981, 30 percent stringency level, mechanic training required.

Meteorological Assumptions - The meteorological conditions assumed for this analysis were:

Mixing height of 350 meters (1,148 Feet)

Wind speed of 2 m/s from 12:00 P.M. to 5:00 P.M. with Stability Class D, shifting to 1 m/s and Stability Class F after 5:00 P.M.

Wind direction selected to maximize CO levels at each receptor

No correction for complex terrain effects due to trees, bridge, or sloped road banks.

Background Levels - The background carbon monoxide concentration levels used in this analysis were obtained from the State's Riviera Beach AIRMON station. The 1977 data from this station were projected to 1985 and 2005 using a roll-back procedure.

Projected Background/CO, milligrams/cubic meter

	One-Hour	Eight-Hour
1985	11	5.5
2005	7.9	4.0

The results of the Air Quality Analysis, which is presented in the following table, consists of projected CO concentrations at each site plus projected background levels of CO. It should be noted that the analysis was conducted on a strictly free-flow basis.

CO Concentrations At Each Site
Key: 1985/2005 Concentrations

Site	The Selected Alternate 2/A2A and Alternate A (Not Selected)	Alternate B (Not Selected)	Alternate C, No-Build (Not Selected)
I. One-Hour:			
1	12.9/9.1	12.9/9.1	-
2	13.7/10.0	13.6/11.8	13.1/9.5
3	13.2/9.5	13.3/9.5	16.3/12.1
4	12.2/8.9	12.2/8.9	12.6/9.9
5a	13.8/10.9	14.0/11.1	-
5b	13.1/10.1	13.1/10.1	-
5c	12.6/9.5	12.4/9.4	-
II. Eight-Hour:			
1	7.7/7.0	7.7/7.0	-
2	9.2/6.6	8.8/6.9	8.5/5.8
3	8.7/6.3	8.7/6.3	12.3/9.2
4	7.2/5.3	7.2/5.3	8.1/5.8
5a	9.8/8.4	9.9/8.7	-
5b	8.6/7.4	8.6/7.5	-
5c	7.7/6.6	7.7/6.6	-

The S/NAAQS are: maximum one-hour - 40 milligrams/cubic meter
maximum eight-hour - 10 milligrams/cubic meter

The results of this analysis indicates that a violation of the State and National eight-hour standards will occur at Site 3 in 1985 with Alternate C. The air quality standards will be exceeded by 2.3 milligrams/cubic meter with Alternate C. Site 3 is projected to experience the maximum one-hour concentration of carbon monoxide, with the worst-case estimate of 16.3 milligrams/cubic meter in 1985 under Alternate C.

The Selected Alternate 2/A2A will not result in a violation of either the one-hour or eight-hour State and National ambient air quality standards.

Air Quality Conformity Statement

This project is in an air quality non-attainment area which has transportation control measures in the State Implementation Plan (SIP). This project conforms with the SIP since it comes from a conforming transportation improvement program.

Microscale Carbon Monoxide Levels

The project Air Quality Analysis assessed the micro-scale carbon monoxide impact of the facility. This analysis determined that a violation of the eight-hour standard for carbon monoxide would have occured with Alternates A and C at Site 3. No violations of the one or eight-hour carbon monoxide standard would occur with the Selected Alternate 2/A2A or Alternate A & B.

Construction Impacts

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

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

Each of the aforementioned elements of project consistency with State Implementation Plan have been evaluated as noted and through this evaluation the determination has been made that the Selected Alternate 2/A2A is consistent with the State Implementation Plan for Air Quality.

SECONDARY IMPACTS

Some impacts associated with the proposed action will be created by the primary effects rather than directly from the proposed project itself. These impacts are termed secondary or indirect impacts. Growth in population and economic base of an area are common secondary impacts caused by an improved transportation system.

Better accessibility will make the undeveloped land in the corridor more attractive for commercial and industrial locations, increasing land values. However, because of the limited scope of the improvements, the project will not generate significant new employment or expand income when considering the entire Baltimore region. Development in the corridor will more likely reflect locational shifts rather than new additions to economic growth. Similarly, there will be little net effect on housing and population throughout the region.

Any potential benefits, in terms of increased economic base, resulting from the proposed action will be achieved in combination with other programs. For example, the implementation of the proposed airport expansion and industrial development programs will be facilitated by improved traffic circulation.

Much of the development induced by the airport expansion will be traveler oriented services; e.g., hotels. The pattern for this development is presently established and well segregated from established communities. Adequate space exists to accommodate this type of future development.

Secondary Impacts on the Aquatic Environment - While the previous discussion indicates that development in the corridor will likely reflect locational shifts within the Baltimore Region rather than new additions to economic growth, this development is a significant consideration in evaluating impacts on the aquatic environment.

The major, long-term impact on the aquatic environment will be the incremental increase in the amount of impervious surface (e.g., roads, parking lots, buildings in the study area, with consequent effects on run-off, base flows, erosion, sedimentation and non-point pollution that will carry down into the Patapaco River and the tidal area.

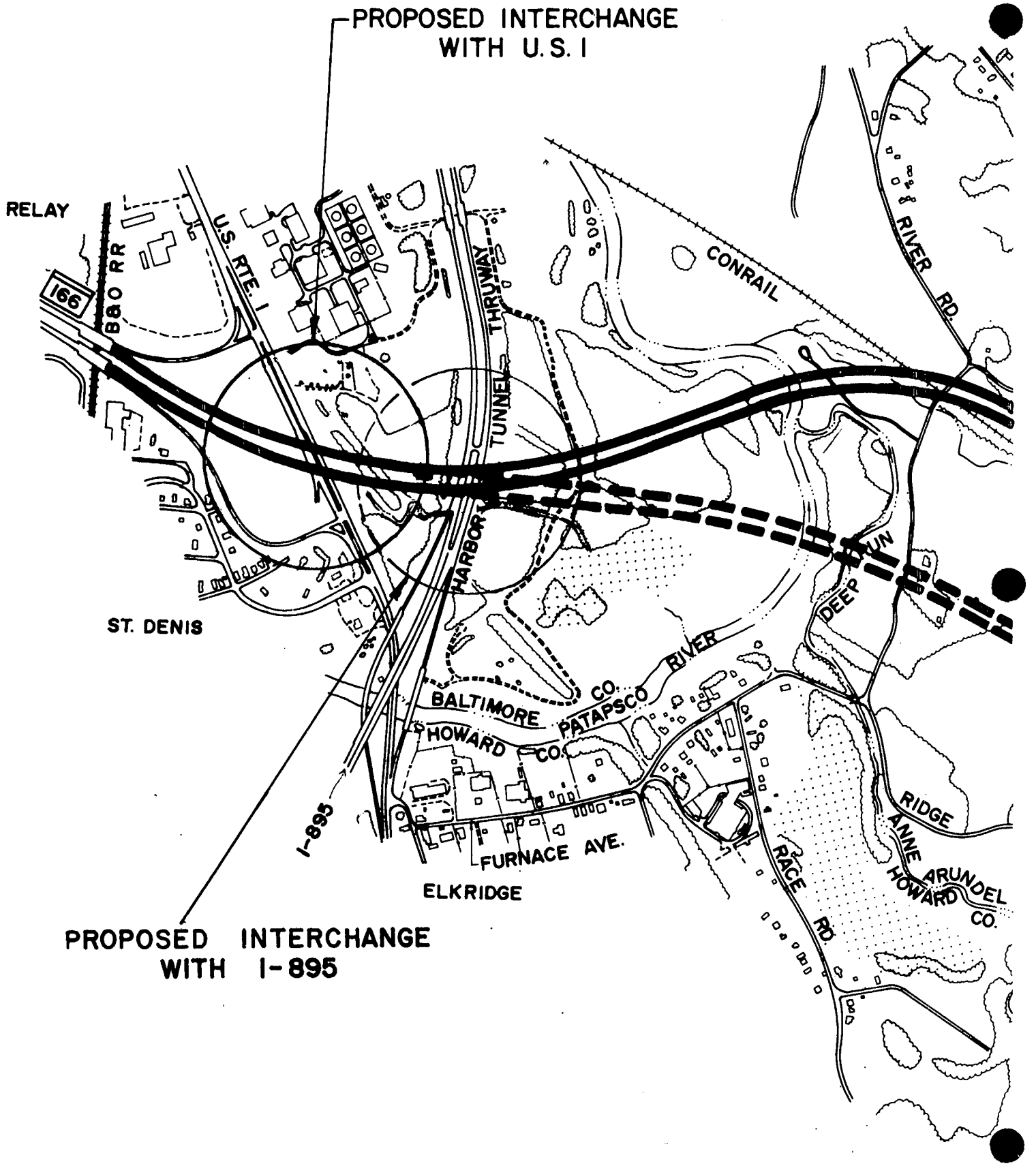
Therefore, the primary assessment issue is: to what extent will the "build" alternatives stimulate development beyond the "no-build" condition? Because the impact requires an evaluation of long range cause and effect relationships in addition to the fact that development is likely to occur within the study area, with or without the construction of I-195, any attempt to quantify the increased impervious surface attributable to the I-195 improvements would be extremely speculative.

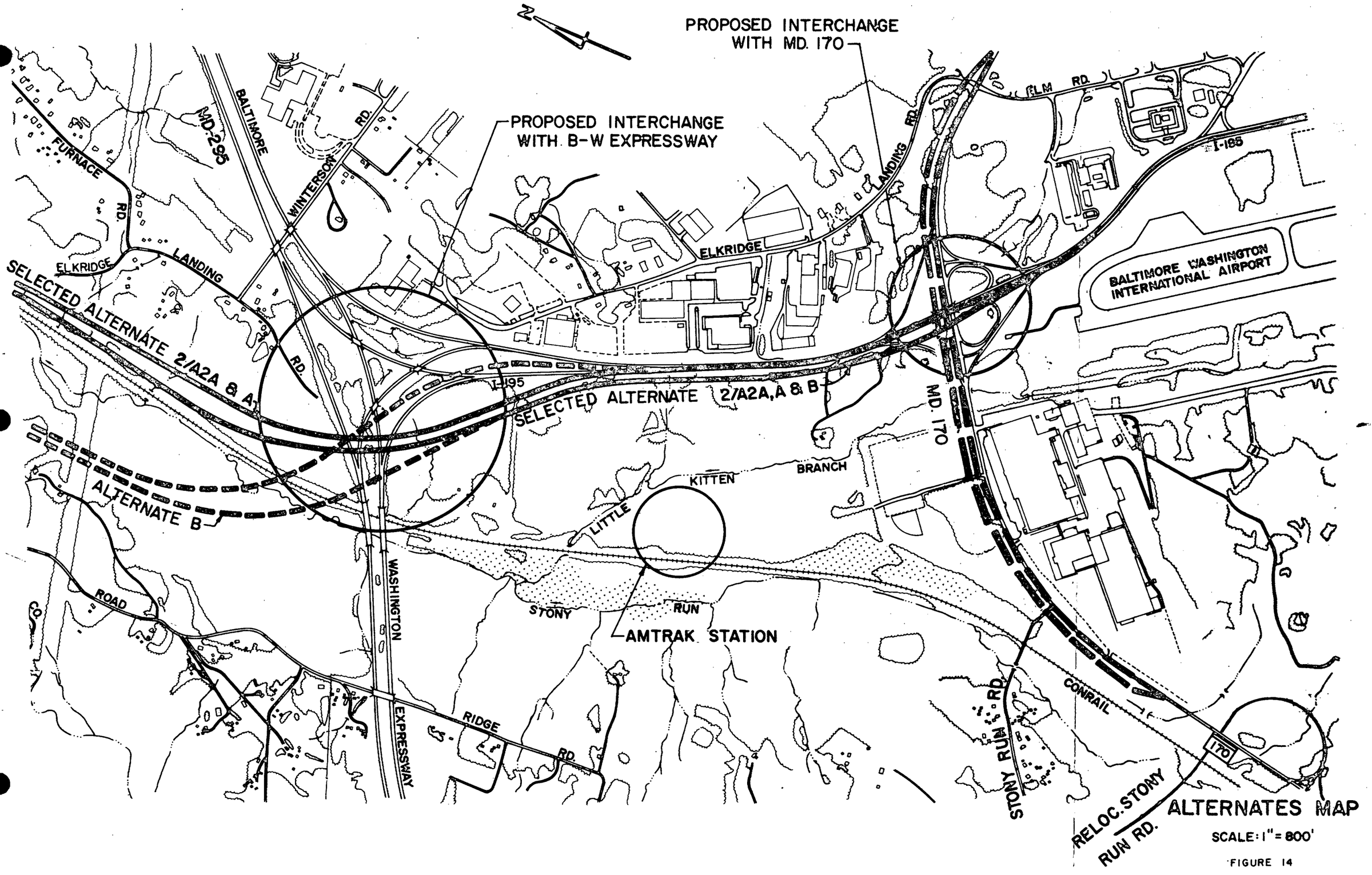
The I-195 improvements will improve interregional accessibility which in turn may create new economic development potentials and generate incremental employment gains beyond the "no-build" conditions. Increased employment opportunities subsequently attract additional workers from other areas; these workers' households may require accommodations and contribute to housing demands.

The planned improvements will provide added traffic capacity to a rapidly developing area and will reduce commuting times to employment centers, thereby supporting either more extensive or higher density development. These changes are not necessarily limited to occur within the local corridor most directly served by the proposed facility.

The local corridor directly served by the proposed improvements has experienced extensive growth in commercial/industrial and residential development within the past several decades. Until recent years erosion and sedimentation were not controlled or monitored to the extent that they are today. The result has been the degradation of local waterways and the subsequent impact on aquatic life.

Since the consequences of additional growth can be adverse, measures to minimize the effects of increased development must be implemented. In light of the technical progress that has been made in the field of erosion and sedimentation control and the regulatory measures promulgated by federal, state, and local governments, adequate measures are presently in existence to offset the negative impacts that have occured in the past.

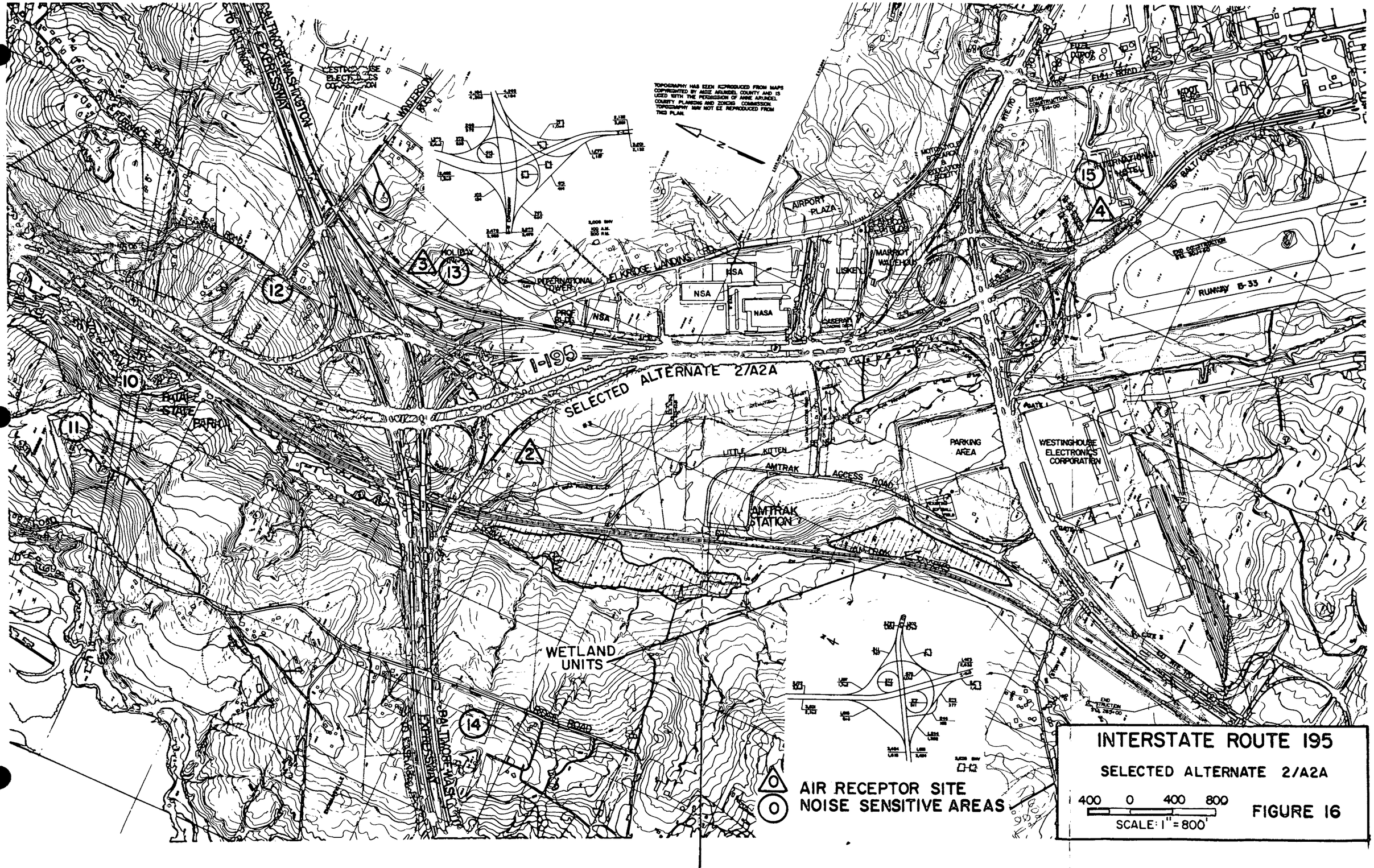

PROPOSED INTERCHANGE
WITH U.S. I
RELAY
166
B&O RR
U.S. RTE. I
HARBOR TUNNEL THRUWAY
CONRAIL
RIVER RD.
ST. DENIS
DEEP RUN
BALTIMORE CO.
PATAPSCO RIVER
HOWARD CO.
I-895
FURNACE AVE.
ELKRIDGE
RIDGE
RACE RD.
ANNE ARUNDEL
HOWARD CO.
PROPOSED INTERCHANGE
WITH I-895



ALTERNATES MAP

SCALE: 1" = 800'

FIGURE 14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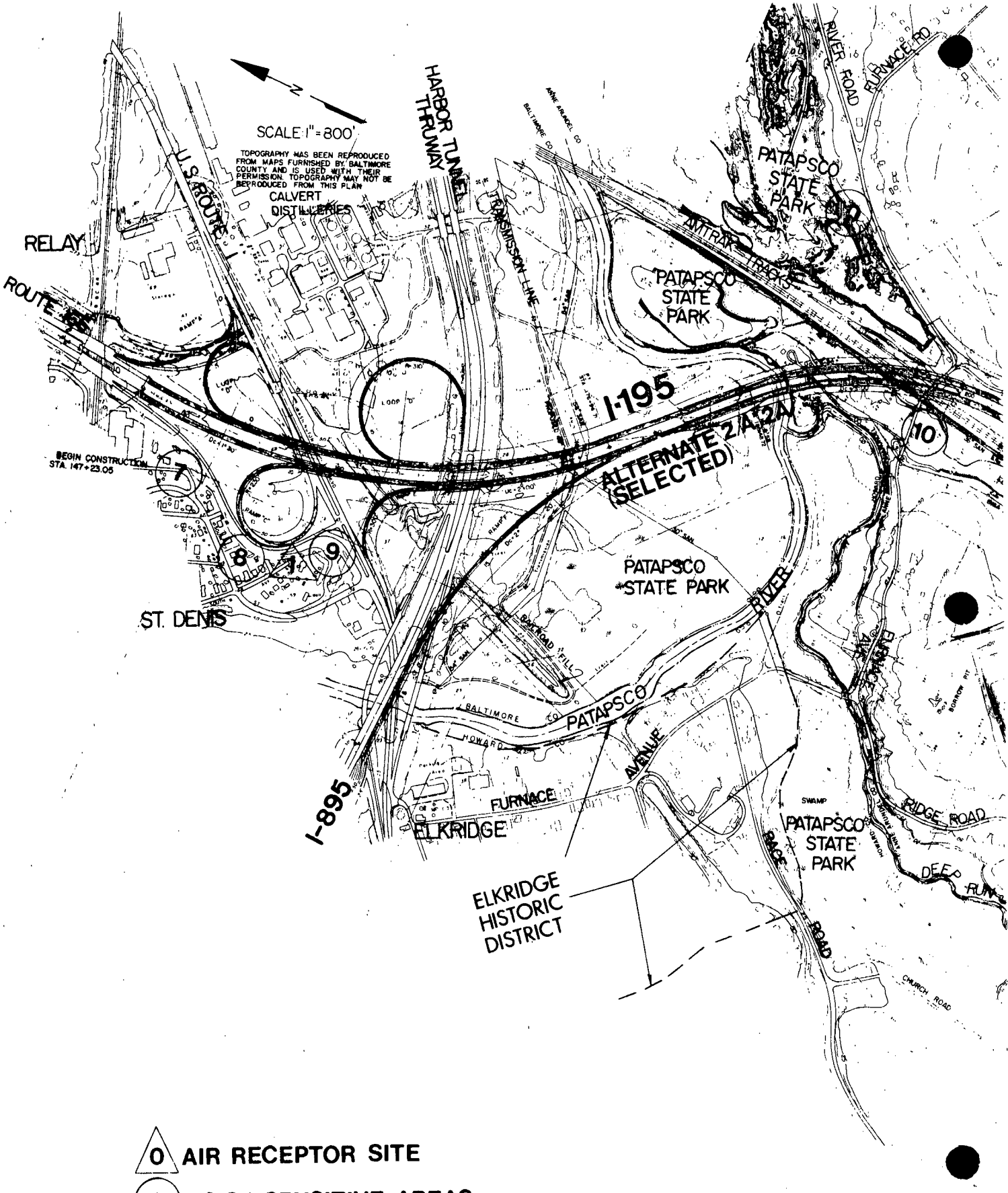
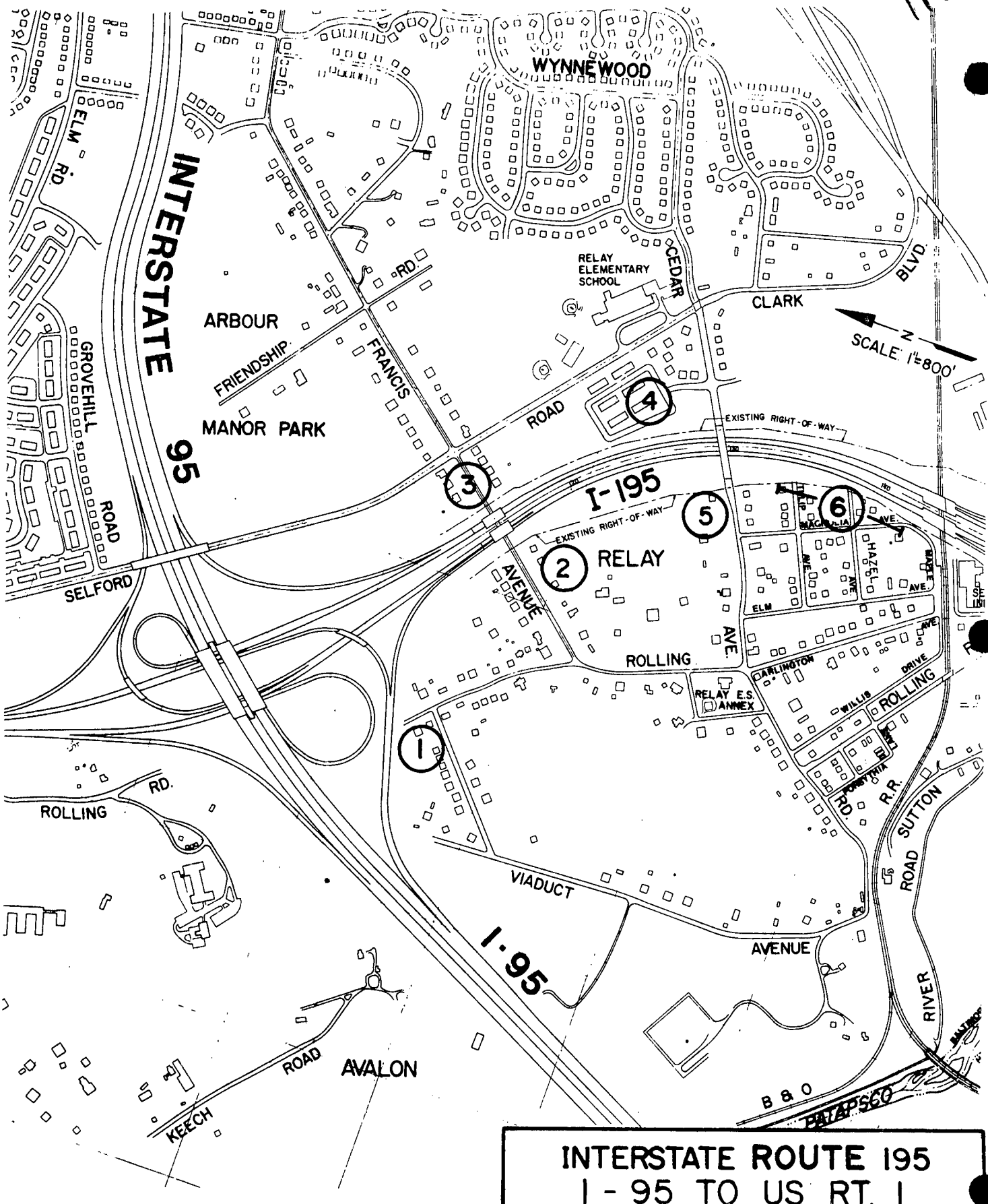
BALTIMORE-WASHINGTON EXPRESSWAY
TO BALTIMORE
WINTERSON ROAD
WESTINGHOUSE ELECTRONICS CORPORATION
GUILFORD ROAD
HOLIDAY INN
INTERNATIONAL TOWER
HELICRUISE LANDING
AIRPORT PLAZA
MARRIOTT WILLIAMSBURG
HSA
NSA
NASA
FDC BLDG.
I-195
SELECTED ALTERNATE 2/A2A
RUNWAY 15-33
FUEL FARM
INTERNATIONAL HOTEL
BWI METRO
PARKING AREA
WESTINGHOUSE ELECTRONICS CORPORATION
LITTLE KITTEN
AMTRAK ACCESS ROAD
AMTRAK STATION
AMTRAK
PATUXENT RIVER PARK
WETLAND UNITS
GUILFORD ROAD
BALTIMORE-WASHINGTON EXPRESSWAY
AIR RECEPTOR SITE
NOISE SENSITIVE AREAS
INTERSTATE ROUTE 195
SELECTED ALTERNATE 2/A2A
400 0 400 800
SCALE: 1" = 800'
FIGURE 16



△0 AIR RECEPTOR SITE

(0) NOISE SENSITIVE AREAS



INTERSTATE ROUTE 195
I - 95 TO US RT. 1

400 0 400 800

SCALE: 1" = 800'

FIGURE 15

(0) - NOISE SENSITIVE AREAS

The Proposed Action - Highway Alternative

As discussed under the section "Land Use Planning", the proposed project has been a planning consideration for the last decade. The availability of Interstate funds in 1974 and the subsequent designation of this route as an Interstate facility provided the opportunity to achieve earlier planning goals.

Selection of the Recommended Alternate 2/A2A

The Draft Environmental Impact Statement was circulated for comments to public and private organizations and individuals in December, 1979.

In accordance with federal and state requirements, a Location Public Hearing was held on January 29, 1980 at the Andover High School auditorium, Linthicum, Maryland. The purpose of this meeting was to enable the State Highway Administration to present the social, economic, environmental and engineering aspects of the I-195 studies. The public hearing provided an opportunity for interested persons, citizens groups or representatives of governmental agencies to ask questions, offer comments or submit written material for the record.

Following the Location Public Hearing, additional studies were prepared in an effort to reduce adverse impacts identified during the review of the Draft EIS.

As a result, Alternate A was modified to eliminate acquisition of property from the Westinghouse Corporation, avoid potential archeological impacts, provide improved interchange design and reduce the scope of the improvements on I-195 and MD 170. These changes have been incorporated in the Selected Alternate 2/A2A.

The following is a summary of the factors contributing to the selection of Alternate 2/A2A:

(1) The selected alternate provides the most effective long-term solution of the project objectives. Of primary importance is the maintenance of an efficient transportation network which will permit orderly growth and development in the vicinity of the Baltimore/Washington International Airport.

(2) The selected alternate will complete the interface between the Interstate System, the Amtrak railroad station and the BWI Airport.

(3) The selected alternate is least detrimental to present and proposed Patapsco State Park lands and development. This alternate is compatible with the park master plan.

(4) Acquisition of land from the Westinghouse Corporation is eliminated. The selected alternate will not affect plant manufacturing procedures or overall accessibility. However, the Selected Alternate 2/A2A would affect the access to the Westinghouse facilities at one location. Under the proposed design access to Gate 1 would be via a parallel service road located south of MD 170.

(5) Potential adverse archeological impacts are eliminated.

(6) The four lanes on I-195 and the reduced scope of improvements on MD 170 are proposed even though the level of service in 2005 will be lower than desirable. The traffic volume on I-195 is borderline between requiring four or six lanes. The reduction to four lanes will reduce the project cost.

(7) Land use plans developed in compliance with the President's National Urban Policy and energy conservation goals are intended to limit proposed growth to existing activity centers. By its location, I-195 is more conducive to this policy than improvements within the MD 100/MD 176 study area.

Design Criteria

The Federal Highway Administration normally requires that projects of this magnitude be designed to accommodate the "design year" traffic volumes.

The following design criteria utilized for this project is based on the current policies of the "American Association of State Highway and Transportation Officials" and the "Highway Capacity Manual" published by the Transportation Research Board.

Design Criteria

	I-195	MD 170
Type of Facility	Interstate	Primary
Lanes	4 at 12' Width	4 at 12' Width
Median	Variable	30'
Outside Shoulders	10'	curbed
Inside Shoulders	4' (10' in bifurcated section)	curbed
Design Speed	70 MPH	60 MPH
Maximum Horizontal Curvature	3	4
Maximum Grade	4.0% Max. (Rolling Terrain)	N/A
Cut Side Slopes *		
Up to 10 feet	4:1	4:1
Over 10 feet	2:1	2:1
Fill Side Slopes *		
Up to 15 feet	4:1	4:1
Over 15 feet	2:1	2:1
Level of Service (Desirable)	C	C
Level of Service (Minimum)	D	D

* Outside of the 30 foot safety grading area.

Highway Network Assumptions

Traffic data for the I-195 project was developed by the State Highway Administration in coordination with the Maryland Department of Transportation, the Regional Planning Council and the State Aviation Administration. Traffic projections were developed for the design year 2005 and were based on the socio-economic growth projections developed jointly by the City of Baltimore, the adjoining counties and the Regional Planning Council for the Baltimore region. The State Aviation Administration growth projections for the BWI Airport were also reflected in the SHA traffic study.

The transportation improvements included in the highway network that was used to obtain the 2005 volumes for I-195 include all of the improvements recommended in the Regional Planning Council's 1977 General Development Plan. Network improvements which affect the I-195 traffic assignments are:

1. Widening of the Baltimore-Washington Parkway to six lanes.
2. Widening of MD 170 to four lanes.
3. MD 100 from MD 3 to I-95.

Due to the number of on-going studies for other highway projects in the vicinity of the study area, several alternate traffic projections were made depending on which projects were assumed to be built by the year 2005. The I-195 traffic analysis is based on the following specific assumptions:

1. MD 100 would be constructed from MD 3 to I-95.
2. An interchange would be provided between West Nursery Road and the Baltimore-Washington Expressway.
3. An interchange would not be provided between Hanover Road and the Baltimore-Washington Expressway.

The 2005 Average Daily Traffic volumes for I-195 are shown on Figures 17, 18 and 19. The following factors were used in the traffic analysis:

	1985	2005
1. Design Hour Volume	10%	9%
2. Directional Distribution	62%	60%
3. Trucks (Design Hour Volume)	3%	3%

Alternatives to the Proposed Action

The project involved the development of a transportation improvement within a relatively narrow corridor extending from the present terminus of I-195 at U. S. 1 to the BWI Airport.

A series of alternatives were identified and evaluated in terms of their ability to respond to the area's transportation needs. Each step in the development and evaluation of the alternatives attempted to respond to identified and potential social, economic and environmental issues and impacts. Some of the alternatives were discarded on the basis of design features, construction costs, property damages and impact on recreational lands and archeological resources.

Two of these alternatives, designated as Alternates A-1 and B-1, were developed in response to comments by the Westinghouse Electronic Corporation. Westinghouse indicated that Alternates A & B (Not Selected) severly disrupted their Gate 1 access, significantly lengthened the walking distances for their employees and would force pedestrians to use a pedestrian overpass to cross MD 170. They believe these factors will create labor problems.

Although these alternatives were discarded, the Selected Alternate 2/A2A has eliminated the disadvantages of Alternates A and B cited by the Westinghouse Corporation.

In response to a request for the Department of the Interior's comments on the draft environment statement for I-195, DOI suggested that the scope of the alternatives considered should be expanded to include the possible use of the existing old railroad embankment across the Patapsco River.

The alternative suggested by DOI was studied. The main reason for the alternative proposed by DOI is their desire to preserve the area of vegetated land north of the Patapsco River. DOI staff feels that some wildlife species need unbroken tracts of land as compared to "edge" habitats desired by other species.

The alternate suggested by DOI would connect with existing MD 166 at U.S. Route 1. With the alignment centered on the old railroad fill south of the Harbor Tunnel Thruway, approximately 1,000 feet of existing 4 lane roadway on MD 166 along with the structures over the B & O Railroad would have to be rebuilt to avoid relocating the ramps in the northwest quadrant of the U.S. Route 1 interchange and impacting the adjacent residential area of the St. Dennis Historic District. The old railroad fill would have to be widened from the existing 30 feet to 126 feet to accommodate the 4 lane road with a 54 foot median. After crossing the Patapsco, the alternate would pass through a portion of the town of Elkridge and take three or four homes and an industry which employs approximately 160 persons. Also, the portion of Elkridge that is affected is an Historic District. The alternate would then cross Race Road and Deep Run and pass through the Patapsco State Park property which borders the stream. South of Ridge Road, it would go through a parcel of land designated for future acquisition for the State Park and passes through a portion of existing park property along Stony Run. Thirteen acres of existing park land and approximately 17 acres of future park land would be required for the alternate proposed by DOI. Also, a future nature observation area along Deep Run and a future picnic area east of Ridge Road could be impacted by this alternate. In comparison, the Selected Alternate 2/A2A takes 23 acres of existing and proposed park land.

Although the length of the bridge proposed by DOI across the Patapsco would be shorter than the Selected Alternate 2/A2A and Alternates A & B (approximately 500 feet), the structures over U.S. Route 1 and the Harbor Tunnel Thruway would be longer and other structures are required over Furnace Avenue, Race Road, Deep Run, Ridge Road, Stony Run and the Amtrak Railroad. The total length of structures required for the alternate proposed by DOI is more than the length of structures required for either the Selected Alternate 2/A2A or Alternates A & B.

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The alternate proposed by DOI would not allow the reduction in flood impacts to Elkridge as described under the discussion of "River Modifications", page 63. The old railroad fill could be available for use in the construction of I-195. The removal of the fill is a flood mitigation measure that is suggested in the Patapsco River Basin Study which was prepared jointly with the Baltimore Regional Planning Council and the Maryland Water Resources Administration in 1979.

In summary, the alternate proposed by DOI is longer, has more structures, takes more homes and therefore, costs substantially more than the Selected Alternate 2/A2A or Alternates A & B. While impact on the portion of park land north of the Patapsco is less than the Selected Alternate 2/A2A or Alternates A &B, it impacts other areas of existing and future park land that are not affected by the other alternates. It affects a portion of the town of Elkridge which is an Historic District.

The Maryland State Highway Administration feels that the negative aspects of the alternate proposed by DOI outweigh any advantages and therefore, the alternate will not be given further consideration. Also included on page 143 is a letter from the Maryland Department of Natural Resources stating that they do not agree with the alternate proposed by DOI and favor the alignment of the Selected Alternate 2/A2A.

Alternate Corridor/Facility - An analysis was performed to determine the importance of the proposed construction of I-195 to the transportation system in the area. This analysis was performed in response to questions raised at the Location Public Hearing and comments made during the review of the Draft EIS.

The transportation need analysis focused on the impacts on the future highway system in the area, with and without the construction of I-195 and also with and without the proposed construction of MD 100.

The findings of these analyses are summarized as follows:

-Analysis of the No-Build alternative indicates severe congestion for a number of routes which serve as access routes to BWI Airport and surrounding land uses. The primary routes providing access from the north, i.e., Maryland Route 295 and the Baltimore Beltway are both projected to experience severe traffic congestion in the design year of 2005 (Level of Service F). Also, under a No-Build scenario the primary routes between Interstate 95 and the Airport, via Maryland Route 100, U.S. Route 1, Maryland Route 176, and Maryland Route 295 would be severely congested during peak hours. Interstate I-195 would provide relief to many of these routes while at the same time providing significantly improved access to BWI Airport for a large percentage of Airport users.

-The construction of Maryland Route 100 between U.S. Route 1 and the Baltimore/Washington Parkway would provide a direct access between I-95 and the Baltimore/Washington Parkway, thus improving access to the Airport from the south. However, it would not serve the largest portion of users of Interstate 95 from the north. These travellers would continue to use the Baltimore Belway and the Baltimore/Washington Parkway which are both forecasted to be heavily congested. Furthermore,

traffic accessing the Airport area from Maryland Route 100 would also have to use the Baltimore/Washington Expressway from the south. Substitution of the proposed Maryland Route 100 improvement between Interstate 95 and the Baltimore/Washington Expressway would necessitate additional major construction of the Baltimore/Washington Expressway to a six-lane facility between the Baltimore Beltway and the proposed Maryland Route 100 interchange. It would also do little to relieve congestion of the Baltimore Beltway between Interstate 95 and the Baltimore/Washington Expressway.

-The reconstruction of the Baltimore/Washington Parkway to six (6) lanes between the Baltimore Beltway and Maryland Route 46 was found to be unacceptable because it would not serve traffic from the south and would not relieve traffic congestion on the Baltimore Beltway.

-Both the construction of Maryland Route 100 and the widening of the Baltimore/Washington Parkway to six (6) lanes while unacceptable as an alternative to I-195 are both needed in addition to the construction of I-195.

Additional comments pertaining to this analysis are provided under the discussion of "Transportation Need", page 3.

Alternatives Studied in Detail

Three alternatives were studied in detail and included in the Draft EIS: Alternates A and B - both were primarily dual six-lane facilities located along new and existing alignment, and Alternate C - the "No-Build" alternate.

The following is a summary of the alternatives studied in detail, but not selected.

Alternate A - This alternate would have utilized existing MD 166 from I-95 to U.S. Route 1. New construction would have overpassed U.S. 1, the Harbor Tunnel Thruway, the Papapsco River, and the Amtrak rail line. The alternate would then have paralleled the rail line, overpassed MD 295 and connected to existing MD 46, reconstructed to a dual six-lane highway with a depressed median. The alignment would then have overpassed MD 170, tapering to a four-lane highway to match the existing airport entrance highway approximately 4,000 feet from the airport terminal.

Interchanges were provided at U.S. 1, MD 295 and MD 170. Most of the existing ramps of the MD 46 interchanges with MD 295 and MD 170 would have been reconstructed to bring them up to current design criteria.

The major benefit of this alternate is that it would have the least involvement with Patapsco State Park and would be compatible with the park master plan. The right-of-way requirements within the area of the park are the same as the Selected Alternate 2/A2A.

The following factors influenced the decision to not select this alternate:

(1) The design provided with Alternate A created potential conflicts with the Westinghouse Corporation facilities. These problem areas were acquisition of Westinghouse property currently used for employee parking, requiring Westinghouse employees to utilize two pedestrian overpasses between the parking lot and the plant, and relocation of truck access at Gate 1.

(2) The Amtrak access road provided with Alternate A involved a potential adverse impact on archeological site 18-AN-23. This involvement would have required additional archeological testing of the site.

Alternate B - This alternate would have utilized existing MD 166 from I-95 to U.S. 1. New construction would have overpassed U.S. 1, the Harbor Tunnel Thruway, the Patapsco River and Deep Run and would have paralleled Stony Run west of the Amtrak rail line. Just north of MD 295, it would have crossed Stony Run and the rail line and proceeded south along the existing MD 46 alignment. From MD 295 to the airport, Alternate B is similar to Alternate A.

Interchanges were provided at U.S. 1, MD 295, and MD 170. Most of the existing ramps of the MD 46/MD 170 interchange would have been reconstructed to bring them up to current standards. Alternate B utilized a portion of the existing MD 295/MD 46 interchange.

The major advantages of Alternate B are (1) it required the lowest construction cost, (2) the location was more removed from residential development along Elkridge Landing Road and (3) it utilized portions of the existing MD 295/MD 46 interchange.

The factors influencing the decision to not select Alternate A are also applicable to Alternate B. These additional factors can also be cited:

(1) Alternate B would have required the acquisition of approximately 26 acres of Patapsco State Park land.

(2) This alternate would have required the acquisition of property along Stony Run that is proposed to be acquired for future expansion of Patapsco State Park.

Alternate C (No-Build Alternate)- Under this alternate, there would have been no new highway construction in the I-195 corridor. MD 295/Baltimore/Washington Expressway) and MD 46 would have remained as the main access to the airport and the surrounding industrial areas. MD 46 would have remained as a four-lane road between MD 295 and the airport. While both maintenance and safety improvement programs would have been undertaken by the State Highway Administration, any improvements made would have been restricted to the existing right-of-way.

The major advantages of the No-Build Alternate are: no homes or families would have been relocated, no impacts would have occured to natural environment in the corridor, there was no effect to existing or proposed Patapsco State Park property and no funds would have been expended for right-of-way and construction.

The following factors influenced the decision to not select this alternate:

(1) Improvements to the highway system within the I-195 corridor are considered essential to permit potential and existing industrial development within the vicinity of the BWI Airport. In view of the deficiencies of the existing highway system and the recommendations for improved access to the BWI Airport in the General Development Plan, the No-Build Alternative is inconsistent with the regional planning goals.

(2) With no improvements made to the existing highway system, accident rates would have continued to rise with a corresponding increase in accident cost. The capacity, safety and efficiency of the existing system would have continued to deteriorate with operating speeds being further reduced and stoppages occuring for longer periods of time.

(3) Since truck traffic is prohibited on the Baltimore/Washington Parkway south of MD 175, truck cargo from the Washington area would have continued to use indirect routes to the BWI Airport involving use of congested, uncontrolled two-lane highways or additional travel distance. These conditions would have had an adverse influence on air cargo operations at the BWI Airport.

(4) Reduced highway access to the Amtrak rail station would have an adverse effect on the ability of this facility to efficiently serve the commuter, intercity and air traveler markets.

Major Design Features of the Selected Alternate 2/A2A

Selected Alternate 2/A2A was developed by modifying features of Alternate A after consideration of public hearing and DEIS comments. The following modifications do not constitute a significant change in the proposal or its probable impacts:

(1) This alternate incorporates the U.S. 1 interchange shown with Alternate B. This interchange provides a diamond-type configuration in the northeast quadrant which avoids the widening of the B & O Railroad bridge.

(2) Initial construction of I-195 is reduced to four lanes.

(3) A partial interchange was added at I-895 to provide access to I-95.

(4) The access roadway from Elkridge Landing Road to the Amtrak rail station was relocated further to the south in order to avoid potential archeological impacts.

(5) MD 170 was reduced to four (4) through lanes with auxiliary lanes provided to accommodate traffic movements to the Westinghouse facility and the I-195/MD 170 interchange. The through traffic lanes are separated by a 30 foot median. The improvements are located within the existing 200' right-of-way.

(6) The loop ramp in the northwest quadrant of the MD 170/I-195 interchange was eliminated and replaced by a left turn movement on MD 170. This change, in addition to the reduced scope of improvements on MD 170, will eliminate the need to acquire any property from the Westinghouse Corporation. However, some of Westinghouse's existing parking areas, leased from the State Highway Administration, are within existing state right-of-way and therefore will have to be relocated by Westinghouse.

The major design features of the Selected Alternate 2/A2A are as follows:

1. The facility begins at the existing I-95/I-195 interchange.

2. Between I-95 and the interchange with U.S. 1, no improvements will be made to the existing four-lane facility.

3. New construction will begin at the existing terminus of I-195, approximately 1,000 feet north of U.S. 1. Four-lanes with a 70 foot median (matching the existing) are provided for I-195.

   Typically, four-lanes are provided along the entire length of the facility. Additional lanes for acceleration, deceleration and weaving movements within interchange areas are also provided.

4. The proposed interchange with U.S. 1 will provide a full complement of ramps. The existing ramp in the northeast quadrant will be reconstructed to bring it up to current standards. Two traffic signals will be required at the ramp terminals along U.S. 1.

5. No additional right-of-way will be required north of U.S. 1.

6. Alternate 2/A2A crosses over U.S. 1 and the Harbor Tunnel Thruway on dual roadway structures and extends generally southward on new alignment. The required right of way is approximately 300 to 400 feet wide. Two ramps will be constructed at the Harbor Tunnel Thruway (I-895) to provide eastbound I-895 to southbound I-195 and northbound I-195 to westbound I-895 movements.

7. After crossing over a portion of the Patapsco River flood plain, dual roadway structures are provided to overpass the Patapsco River, the Conrail tracks and Furnace Avenue.

8. Approximately 1,000 feet of relocation is required for Elkridge Landing Road in the vicinity of its intersection with Furnace Avenue.

9. After overpassing Furnace Avenue, the I-195 alignment generally parallels the Conrail tracks to the interchange with the B-W Expressway.

10. The proposed design for the I-195/B-W Expressway Interchange will require extensive improvements to the existing interchange. The B-W Expressway will be widened to six-lanes within the limits of the interchange.

11. South of the I-195/B-W Expressway interchange the alignment joins existing MD 46 which would be widened to four-lanes with a variable width median. The construction of auxiliary lanes along I-195, south of the B-W Expressway interchange, are proposed in order to provide sufficient speed change lanes between the successive ramps (change between the operating speed on the through roadway and lower speed ramp connections), and to provide continuous through movements between high volume ramp connections at the B-W Expressway and MD 170 interchange.

12. In conjunction with the I-195 study, a second access roadway to the Amtrak rail station via Elkridge Landing Road is provided. This roadway would overpass I-195 just east of the Amtrak station.

13. After crossing over MD 170 on dual roadway structures, I-195 transitions to match the existing roadway approximately 4,000 feet from the airport terminal.

14. The interchange with MD 170 would be completely reconstructed to bring it up to current standards.

15. Maryland Route 170 will be upgraded from a point just east of proposed Stony Run Road Relocated to a point east of the Elm Road/Elkridge Landing Road intersection. The length of new construction is approximately 1.3 miles. Basically, the section of roadway consists of a four-lane divided highway with a 30 foot median. Auxiliary lanes are provided to accommodate turning movements to the Westinghouse facility and the I-195/MD 170 interchange.

16. Traffic signalization will be provided to all at-grade entrances to the Westinghouse facilities.

17. Alternate 2/A2A displaces one (1) family and requires 171 acres for right-of-way.

Impacts of the Selected Alternate 2/A2A

Land Use Planning

The Regional Planning Council and each of the affected jurisdictions within the region have responded with comments on the Draft Environmental Impact Statement.

These comments, in general, are applicable to any of the build alternatives.

The Regional Planning Council responded in their review that I-195 is included in the General Development Plan and recommends endorsement of the Draft EIS with certain qualifications: that the full impacts of the project on Patapsco State Park be quantified and that an analysis be made of the existing and projected BWI Airport generated truck traffic. These issues have been addressed in this Final EIS.

The Howard County, Office of Planning and Zoning, favors the Selected Alternate 2/A2A because it has a lesser impact on Patapsco State Park. They feel that I-195 will relieve the portion of I-95 between MD 166 and I-695 (a distance of approximately 5 miles).

Baltimore County Planning and Zoning stated that I-195 is not consistent with the county's current transportation plan. I-195 is not included on the county's plan.

Anne Arundel County, Office of Planning and Zoning, agrees that the proposed I-195 improvements will relieve sections of MD 176, U.S. Route 1, the Baltimore/Washington Expressway, and I-695. However, the highway improvements under consideration in the MD 100 corridor study are regarded as being more beneficial from the county's viewpoint.

Recreation

The Selected Alternative 2/A2A will require acquisition of land from Patapsco Valley State Park and areas slated for future acquisition and park development.

The proposed I-195 improvements were closely coordinated with the Maryland Department of Natural Resources, Capital Programs Administration, The Selected Alternate was developed to minimize impacts on existing park lands and avoid future park development. A preliminary I-195 alignment, now represented as Selected Alternate 2/A2A is depicted on the development maps in the Patapsco Valley State Park Master Plan.

Selected Alternate 2/A2A will require acquisition of approximately 4 acres of existing park land and approximately 20 acres of land proposed for future acquisition.

A detailed assessment of the impacts and the planning measures to minimize harm is provided in the attached Section 4(f) Statement.

Traffic and Transportation

Levels of service were determined for each section of existing and proposed I-195, the ramp movements and the major intersecting roads utilizing methods outlined in the Highway Capacity Manual SR 87. A level of service C is considered as the desirable level of service, with level of service D considered as minimum.

TABLE XII

DESIGN YEAR (2005) LEVEL OF SERVICE

(See Figures 17, 18 and 19 for traffic projections)

Route	No-Build	Alternate 2/A2A
I-195 (from I-95 to U.S. 1)	A	D
I-195 (from U.S. 1 to B-W Exp.)	N/A	D
I-195 (from B-W Exp. to MD 170)	E-F	C

I-195 from I-95 to U.S. Route 1 would operate at level of service (LOS) D in the design year with no improvements to the four-lane roadway. The four-lane section of I-195 from U.S. 1 to the B-W Expressway would also provide LOS D. Space is provided in the median to widen this portion of I-195 to six-lanes in the future if travel demand should increase above the projected levels. The substructure of the Patapsco River bridge will be designed and built to accommodate a future six-lane roadway.

From the B-W Expressway to MD 170, I-195 will consist of four through lanes with auxiliary lanes. This portion of I-195 will operate at LOS C in the year 2005. The auxiliary lanes are needed on both northbound and southbound I-195 to handle the heavy volumes of traffic entering and leaving I-195 at the B-W Expressway and MD 170 interchanges.

A four-lane roadway is recommended for I-195 because LOS D is acceptable for the design year and there is provision for future expansion of the roadway if necessary.

MD 170 will be widened to a four-lane roadway with left turn lanes and auxiliary lanes from south of the Westinghouse complex to the Elm Road/Elkridge Landing Road intersection. The signalized intersections in the vicinity of Westinghouse, and Elm Road/Elkridge Landing Road will operate at LOS D in the design year.

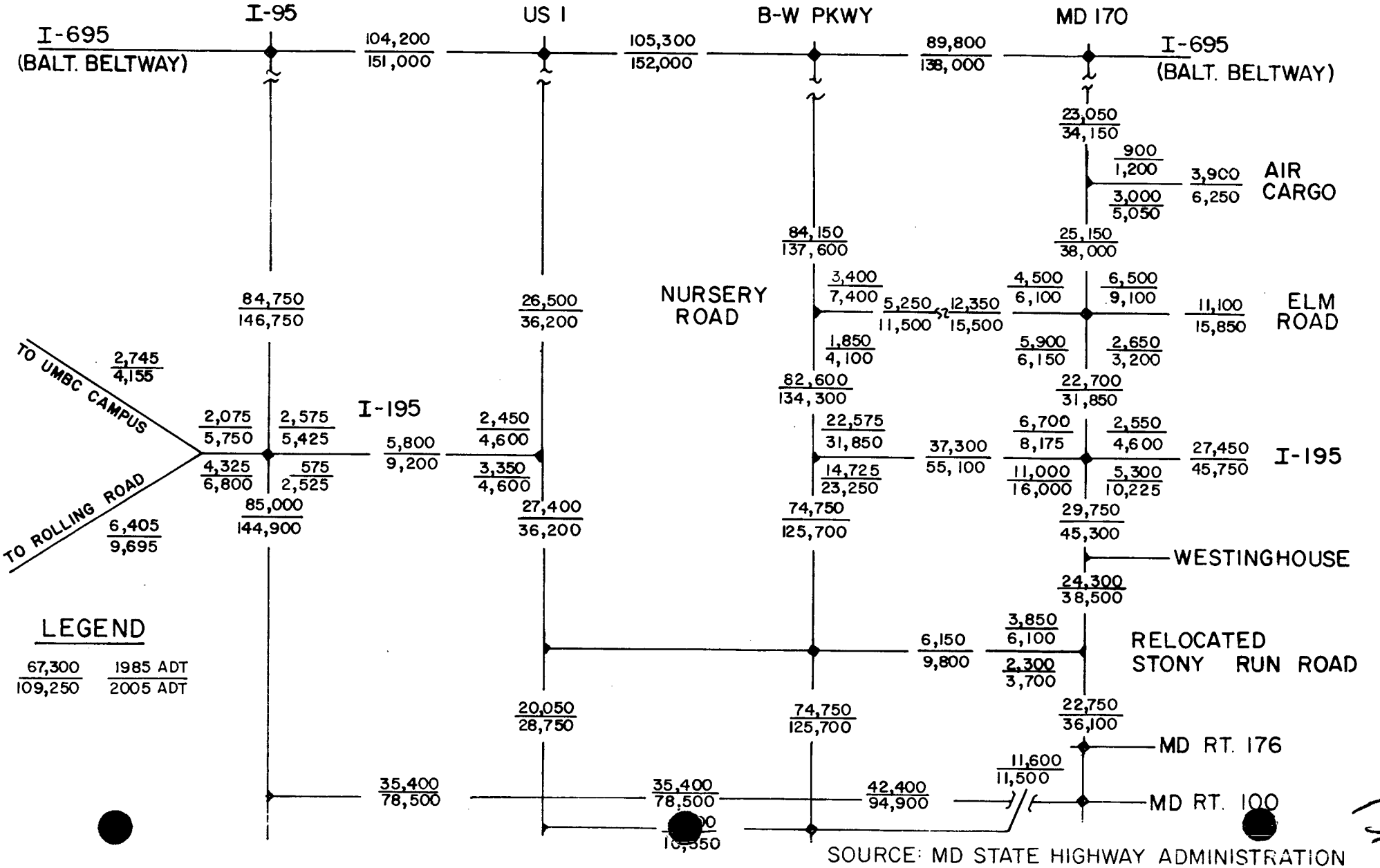
Traffic volumes for the No-Build alternate were developed by the State Highway Administration (See Figure 17). The level of service shown in Table XII indicate that all north-south routes and MD 46 will have reached capacity by year 2005.

Comparison with the Selected Alternate 2/A2A indicates that there was an additional 8,000 ADT on I-95 and an additional 16,000 ADT added to the B-W Expressway with the No-Build Alternate.

Examination of the section of MD 166 between I-95 and U.S. Route 1 indicates that under the No-Build alternate this section of roadway would have carried approximately 32,000 ADT less than the Selected Alternate 2/A2A. These vehicles (under the No-Build alternate) would have been using alternate routes over the existing highway system to reach their destination.

The B-W Expressway and MD 46 would have continued to be the main access routes to the BWI Airport with the No-Build alternate.

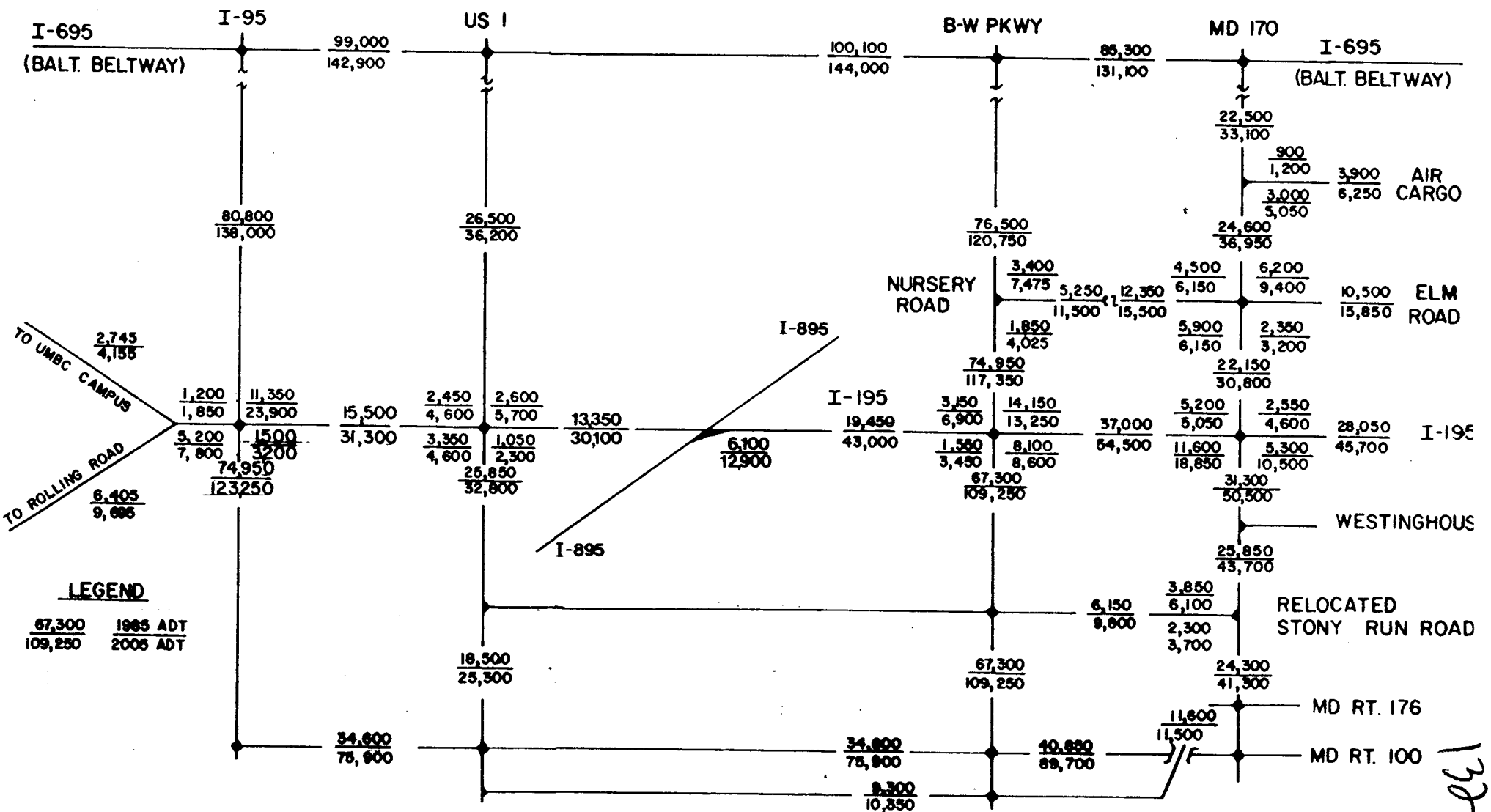
I-195
NO-BUILD TRAFFIC PROJECTIONS



SOURCE: MD STATE HIGHWAY ADMINISTRATION

FIGURE 17

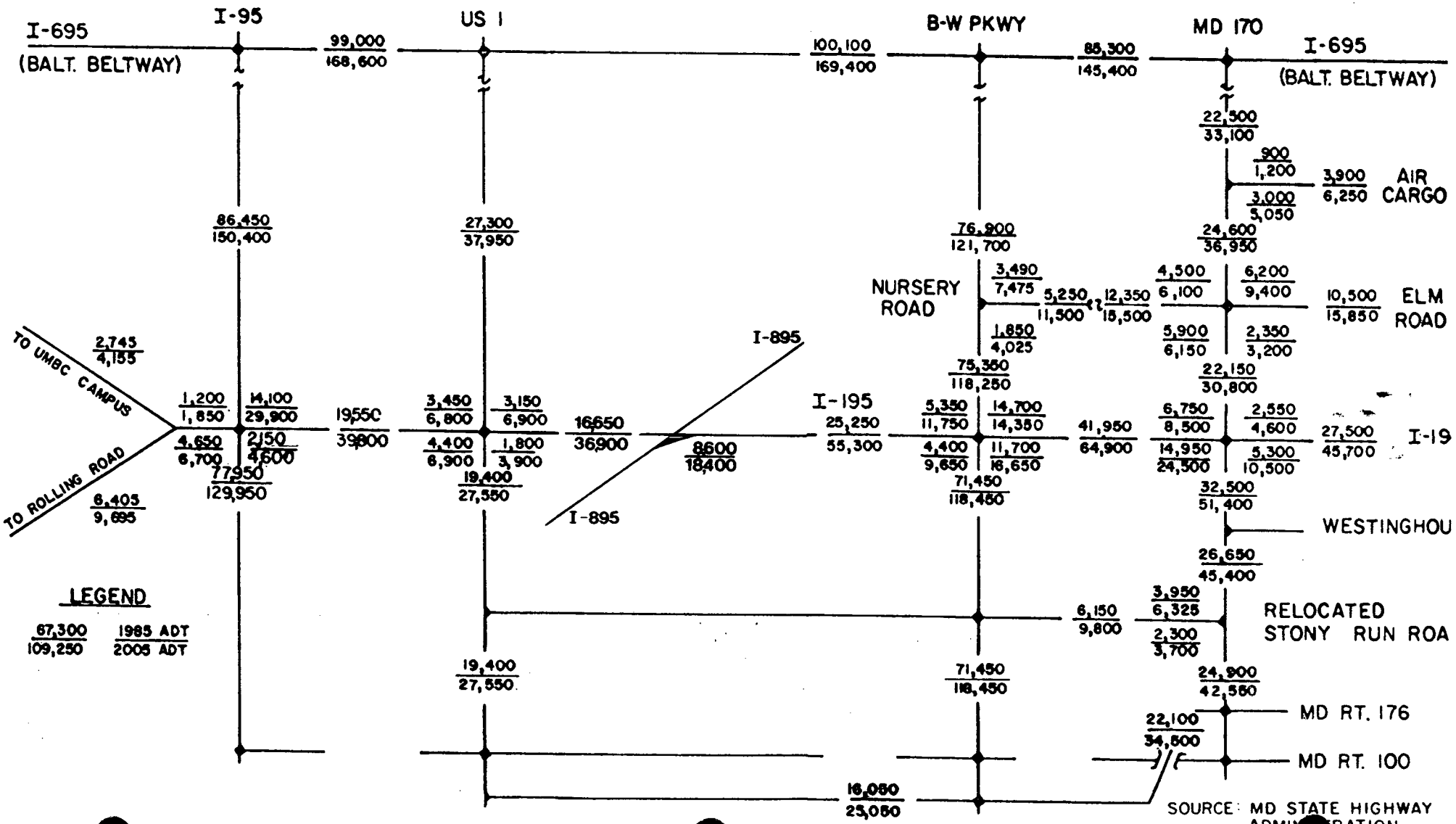
I-195
BUILD TRAFFIC PROJECTIONS WITH MD RT 100 BUILT



SOURCE: MD STATE HIGHWAY ADMINISTRATION

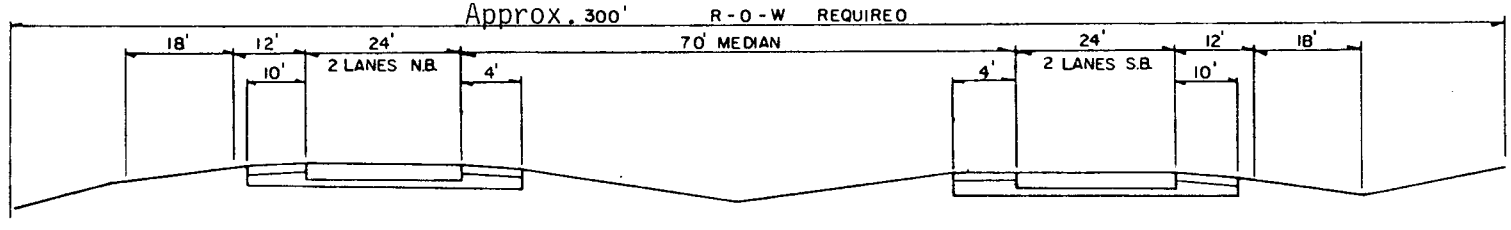
FIGURE 18

I-195
BUILD TRAFFIC PROJECTIONS WITHOUT MD RT 100

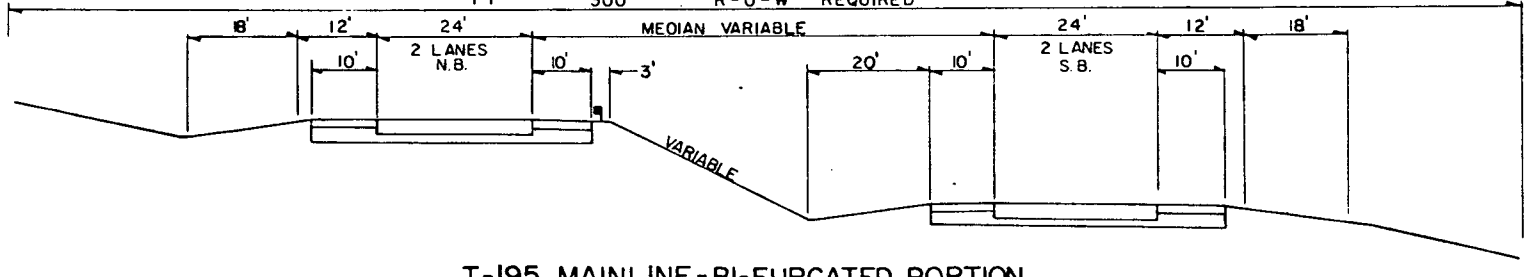


SOURCE: MD STATE HIGHWAY ADMINISTRATION

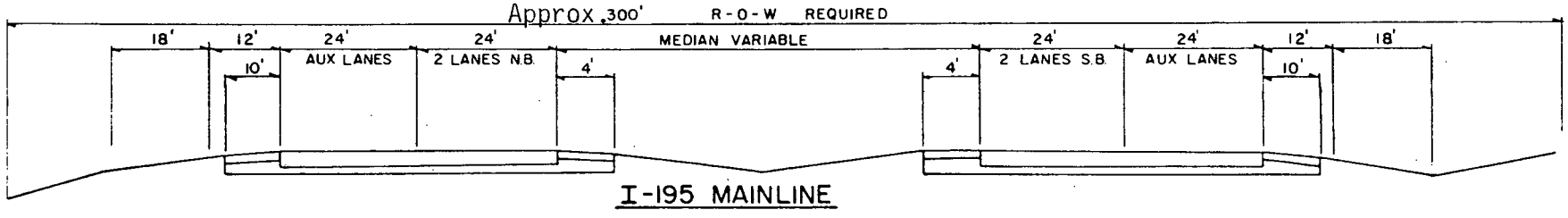
FIGURE 19



I-195 MAINLINE - DUAL PORTION
NORTH OF B-W EXPRESSWAY



I-195 MAINLINE - BI-FURCATED PORTION
NORTH OF B-W EXPRESSWAY



I-195 MAINLINE
SOUTH OF B-W EXPRESSWAY

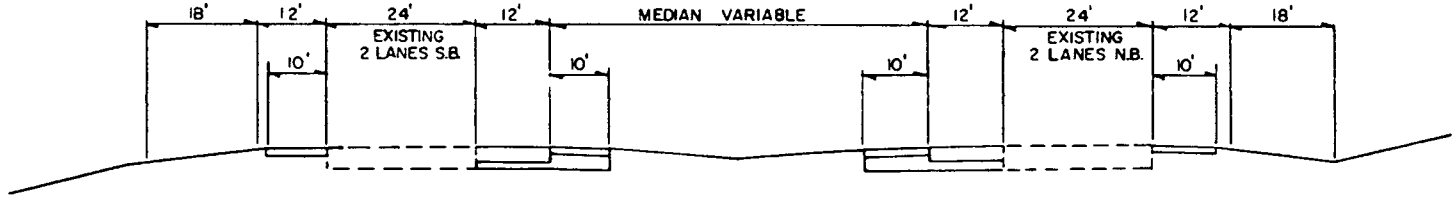
NOTE:
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

NOT TO SCALE

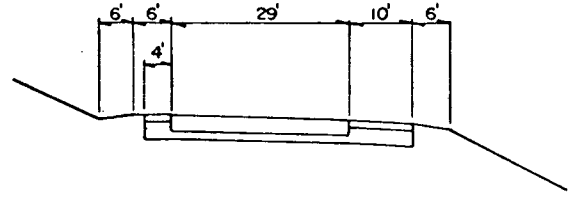
INTERSTATE 195
FROM US ROUTE 1 TO
BALTIMORE-WASHINGTON INTERNATIONAL AIRPORT

TYPICAL SECTIONS

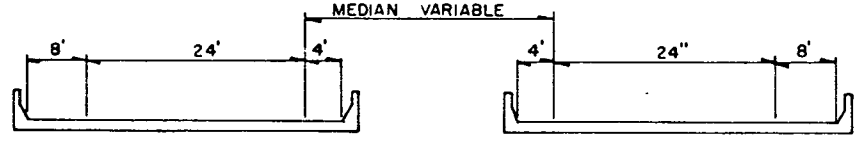
FIGURE 20



BALTIMORE-WASHINGTON PARKWAY
THROUGH INTERCHANGE AREA



2-LANE DIRECTIONAL RAMPS



I-195 MAINLINE BRIDGES

NOTE:

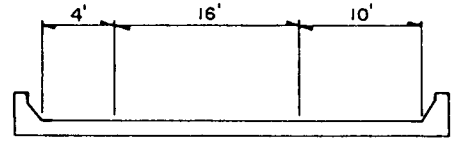
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

NOT TO SCALE

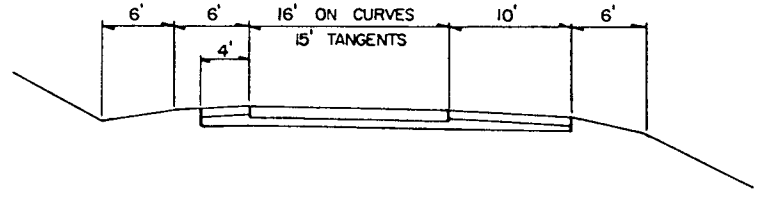
INTERSTATE 195
FROM US ROUTE 1 TO
BALTIMORE-WASHINGTON INTERNATIONAL AIRPORT

TYPICAL SECTIONS

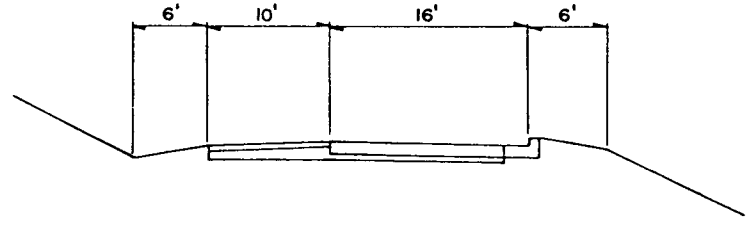
FIGURE 21



1-LANE RAMP BRIDGE SECTION



1-LANE DIRECTIONAL & OUTER RAMPS



1-LANE LOOP RAMPS

NOTE:

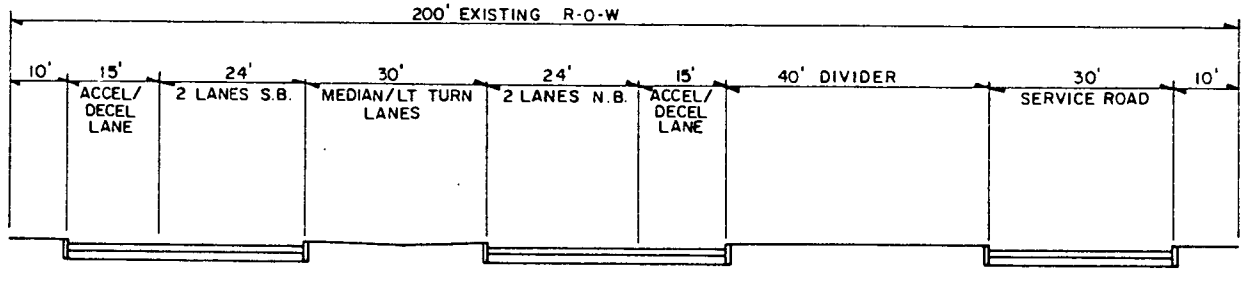
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS AND ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PHASE.

NOT TO SCALE

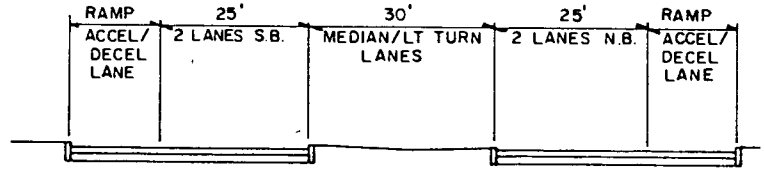
INTERSTATE 195
FROM US ROUTE 1 TO
BALTIMORE-WASHINGTON INTERNATIONAL AIRPORT

TYPICAL SECTIONS

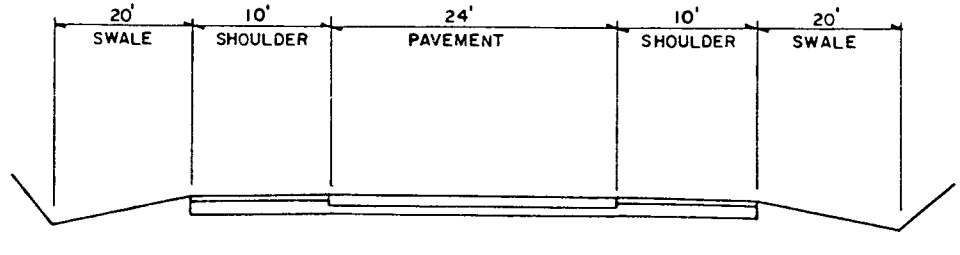
FIGURE 22



MD RT. 170 IN VICINITY OF WESTINGHOUSE CORP.



MD RT. 170 THROUGH I-195 INTERCHANGE AREA



AMTRAK STATION ACCESS RD. TO ELKRIDGE LANDING RD.

FIGURE 23

NOTE:
THE DIMENSIONS SHOWN ARE FOR THE PURPOSE OF DETERMINING COST ESTIMATES AND ENVIRONMENTAL IMPACTS AND ARE SUBJECT TO CHANGE DU[illegible] THE FINAL DESIGN PHASE.

NOT TO SCALE

INTERSTATE 195
FROM US ROUTE 1 TO
BALTIMORE-WASHINGTON INTERNATI[illegible] AIRPORT
TYPICAL SECTI[illegible]S

ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

The adverse environmental effects can be divided into two categories, those which will take place during construction and those which will be present after construction and continue indefinitely.

The adverse effects during construction include erosion, sedimentation, dust, noise, temporary traffic delays, detours and distractions from the aesthetic qualities of the area. These adverse effects will be controlled, to the maximum extent practicable, by the implementation of policies and procedures set forth in the construction specifications.

The long-term adverse environmental effects include increased noise levels within some areas, the relocation of a home and proximity effects such as increased dust and reduced property values for residential properties located close to the facility.

THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The most noticeable uses of the environment occur during construction. The conversion of land from open-space and other uses to right-of-way for the highway is the most obvious. It is one which must be considered a long-term use of man's environment.

Increased noise levels, dust and smoke from construction equipment, erosion and sedimentation, and disruption of normal traffic patterns are adverse impacts which are of short-term duration during construction of the highway. The short-term uses of the environment also include the inconvenience to people who must relocate.

The short-term use of the environment should be offset by the increased long-term benefits which will result from this project. These benefits include improved traffic safety, a more efficient travel network and improved accessibility to the BWI Airport and surrounding industrial/commercial development. The improved accessibility will facilitate future industrial/commercial growth in the area.

A trade-off is involved with the three construction alternatives between residential housing and the public use of state park land. The park at present is not developed, but future plans call for a more intensive use of this area. The Selected Alternate 2/A2A and Alternate A require the acquisition of 3.9 acres of park land while Alternate B requires 25.8 acres. The Selected Alternate 2/A2A and Alternate A, which would require the acquisition of one dwelling, would result in lower, long-term total and cummulative impacts upon society as a whole. The adverse effects on the existing housing are immediate and the landowner can be compensated for his losses. On the other hand, the adverse effects on park land use will increase over time due to a growing demand for outdoor recreational activities, particularly for areas highly accessible to major urban centers. Many more people would have been adversely affected, over time, through the acquisition of the additional park land required with Alternate B.

The major, long-term impact on the aquatic environment will be the incremental increase in the amount of impervious surfaces (e.g., roads, parking lots, buildings) resulting from additional development within the study area. This development reduces the amount of vegetated areas, thereby increasing run-off, base flows, erosion, sedimentation and non-point pollution that would carry down into the Patapsco River and the tidal area. Adequate control and regulatory measures are presently in existence and must be implemented to offset these negative secondary impacts.

ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF MAN'S RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

The construction of the proposed project is an investment of long-term nature. Because it is, it must be considered permanent. Although transportation must be responsive to technological change, advancements in motor vehicle transportation will probably be consistent with the present form of highway transportation or with modifications that can be made logically and economically.

The cost of the right-of-way, construction materials, labor and other economically measurable costs which cannot be retrieved once the project is constructed are irreversible commitments of man's resources.

Other commitments that are irretrievable include the construction materials utilized for construction (stone, cement, steel) and the fossil fuels (oil, coal) consumed as energy sources during construction and materials production.

Major highway construction will commit the state to provide operating, maintenance and repair costs throughout the life of the facilities added to the system.

THE IMPACT ON PROPERTIES AND SITES OF HISTORICAL AND CULTURAL SIGNIFICANCE

Historical and cultural resources are protected by a number of statutes and regulations at all levels of government, including Section 4(f) of the Department of Transportation Act (Section 1653 (f) of Title 49, U.S.C.). Section 4(f) applies to all Federally-assisted transportation projects and is identical to Section 138 of Title 23, U.S.C., which applies specifically to highway projects. The proposed action will not require acquisition of land from cultural resources.

The National Historic Preservation Act of 1966, which established the Advisory Council on Historic Preservation (ACHP), expanded the National Register of Historic Places and, under Section 106 of the Act, required the ACHP to establish procedures to be followed in the event a Federal agency proposal affects a property that is included in or eligible for inclusion in the National Register.

The initial step in implementing these procedures was to identify properties located within the study area that are included in or considered eligible for inclusion in the National Register.

Through coordination with the Maryland Historical Trust and the Division of Archeology, Maryland Geological Survey, the following resources have been identified and preliminary determinations made:

Archeological Resources - An archeological investigation and survey was conducted on the proposed I-195 corridor. The consulting archeologist's report which documents the methods, findings and recommendations of this study is available for inspection at the Division of Archeology, Maryland Geological Survey.[20]

While the Division of Archeology is aware of the necessity of making site locations available during the planning process, they are nonetheless hesitant to make detailed information about those locations generally available because of the problem of increased vandalism.

There are eleven recorded or registered sites within the general vicinity of the I-195 corridor, ten of which are located beyond the right-of-way. The archeological survey was not limited to known site locations; all areas of the proposed corridor were thoroughly investigated.

The one site located within the required right-of-way (18-AN-245) is considered to have low archeological potential. The tract consists mostly of sloping ground and low wetlands, and has been altered by the construction of roads and pipelines. Based upon the work performed during the I-195 survey, and prior archeological investigations, site 245 is not considered eligible for the National Register, nor otherwise significant.

Investigations by the Division of Archeology indicates that Site 18-AN-494 (site of the Selby Grist Mill) is located within the project corridor. The mill site, which apparently extends back to the 18th century, is considered potentially eligible for nomination to the National Register of Historic Places. Neither the Selected Alternate 2/A2A or Alternates A & & B would impact the site under present design plans (see correspondent from the State Historic Preservation Officer, page 145). The area will be fenced to avoid indirect impacts.

One additional site, 18-AN-23 (Site 23), although not impacted by the Selected Alternate 2/A2A, is especially noteworthy It is possible that Site 23 may be eligible for nomination to the National Register of Historic Places. In its favor is the fact that it is a large (estimated to be 200,000 square feet or greater) and, for the most part, undisturbed site in an area where urbanization and industrialization have destroyed many prehistoric American Indian sites. Although the type of site is not known, it is likely a campsite. More intensive investigation would be necessary to determine eligibility. No other sites in the proposed I-195 corridor are considered eligible for nomination to the National Register.

Following the Location Public Hearing, the Maryland Geological Survey reviewed the I-195 project with respect to potential impact of the Amtrak station access road from Elkridge Landing Road on archeological site 18-AN-23. As a result of the review it was determined that the access road alignment provided with Alternates A and B would have adversely impacted the site.

In response to this concern, the access road alignment was relocated further south. The Maryland Geological Survey's review of this alignment indicates that it is not likely to adversely impact any significant archeological remains at site 18-AN-23 and that no further archeological work will be required if this access road alignment is implemented. (See correspondence from Mr. Tyler Bastian, State Archeologist, page 141). The revised Amtrak access road alignment is provided with the Selected Alternate 2/A2A.

The alignments for Alternatives A-1 and B-1 (preliminary alternates, see discussion under "Alternatives") would have destroyed most of Site 23. This potential impact was one of the determinants in the elimination of these alternatives.

If an archeological site is discovered during construction activities, work will be temporarily stopped in the immediate area of the site. The State Archeologist will investigate the site to determine its significance. If the site is determined to be significant, the appropriate procedures and regulations will be followed and satisfied.

Historical Resources - The Maryland Historical Trust has identified one (1) site of historical significance within the project area.

The site, located in the St. Denis/Relay Historic District,is a stone, two story house. The State Historic Preservation Officer (SHPO) has indicated that the house is eligible for the National Register of Historic Places and that the Historic District is of local significance and not eligible for the National Register (see Figures 30 and 31 and correspondence from the State Historic Preservation Officer, page 146).

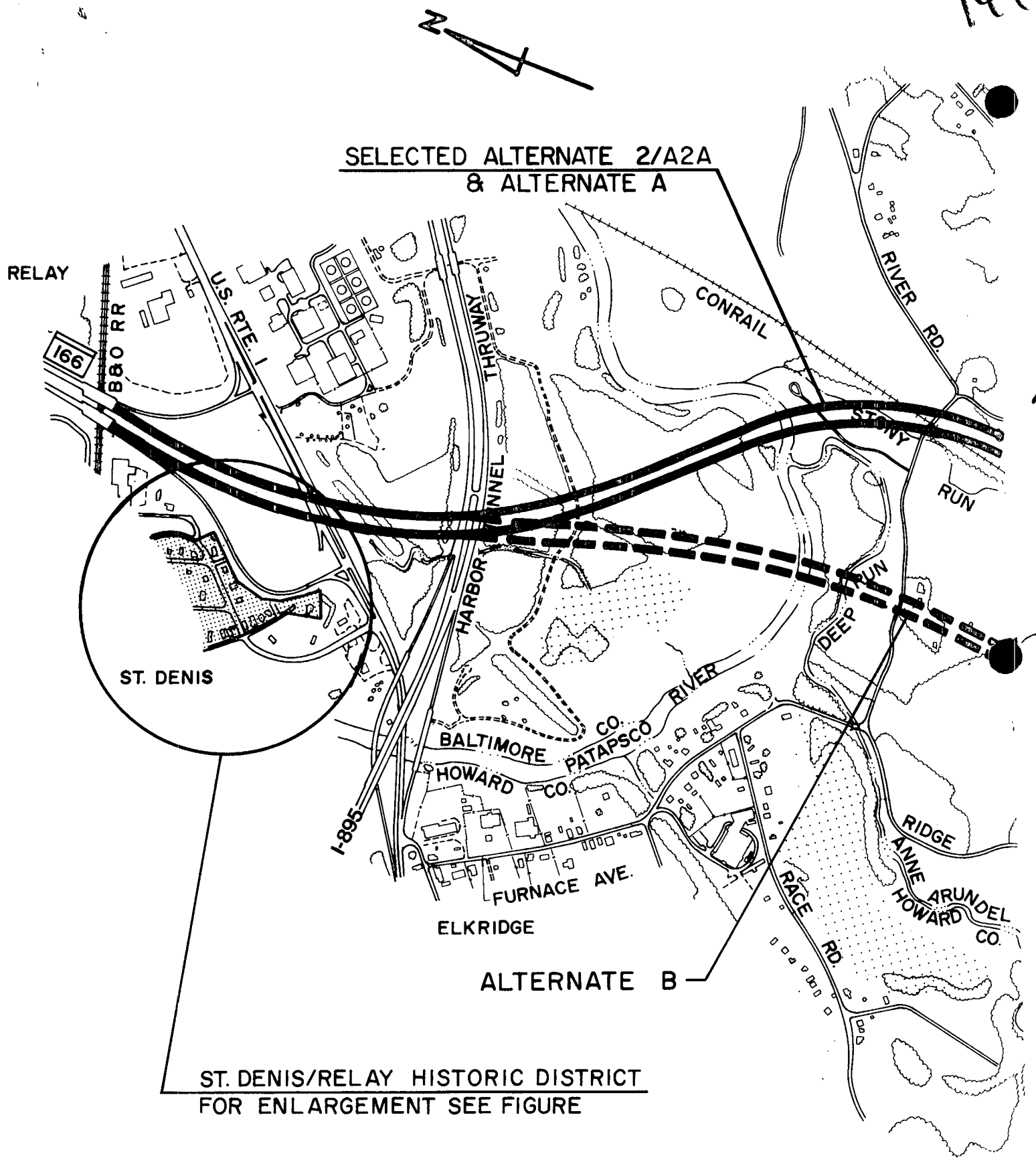
The area delineated as the Historic District resulted from a preliminary reconnaissance of the area by the Maryland Historic Trust. The District's boundary indicates the extent of the historical value of the surrounding area. No formal action has been taken by a local group or legislative body to create a Historic District within this area.

No right-of-way will be required from the proposed Historic District.

Since the ambient (or existing background) environment is heavily influenced by the present highway transportation facilities including U.S. 1, the Harbor Tunnel Thruway and the ramp connection from I-195 to U.S. 1, the increased traffic resulting from the extension of I-195 should not affect the historic integrity of the site.

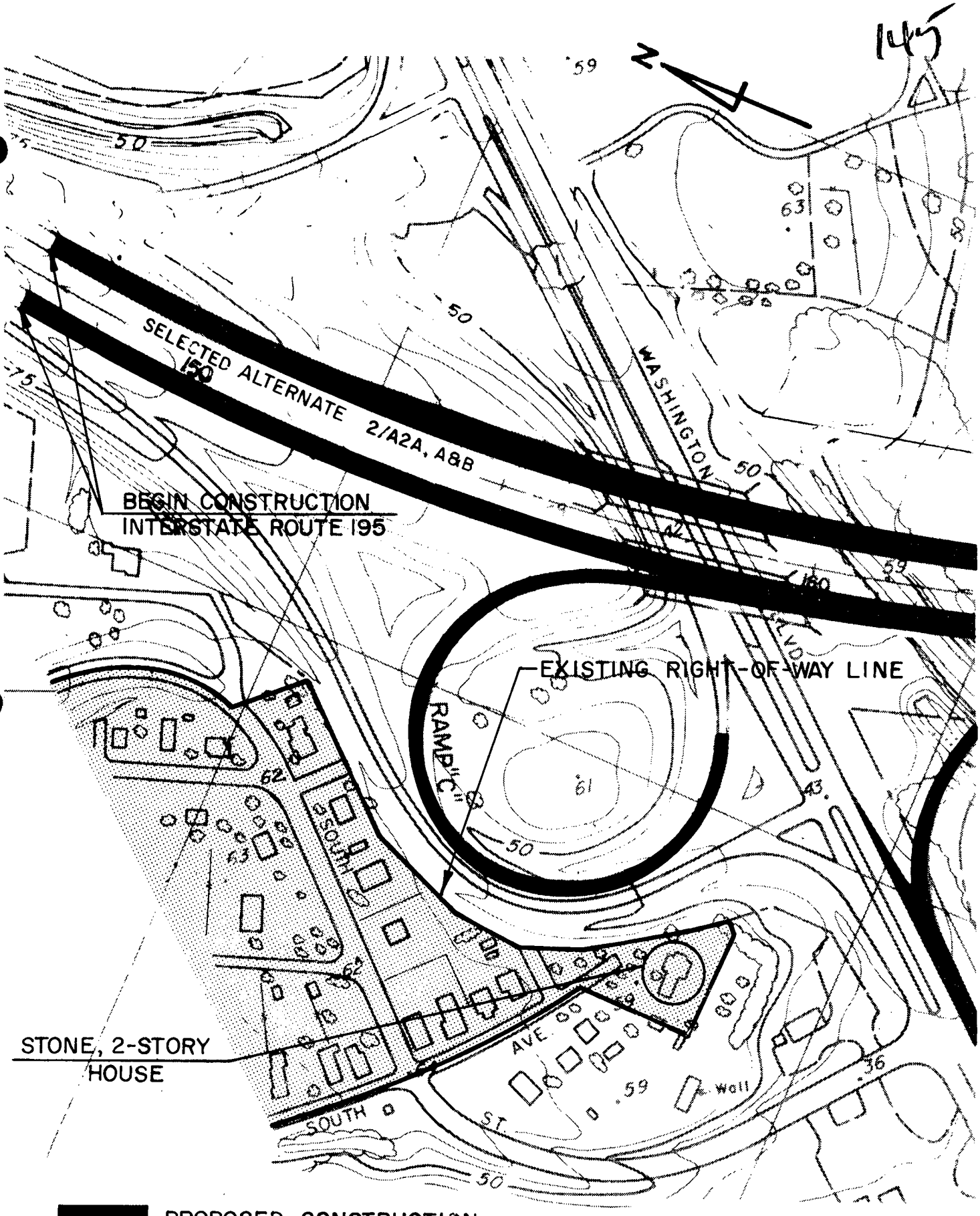
The State Historic Preservation Officer has indicated that the proposed improvements within the U.S. 1 interchange will have no adverse effect on the historic site, the Smith House (see correspondence from the State Historic Preservation Officer of May 4, 1982, page 146A).

During final design the State Highway Administration will submit landscaping plans to the Maryland Historical Trust for review as requested in the May 4, 1982 letter. The Advisory Council on Historic Preservation concurred in landscapping to mitigate the impact in a phone conversation on April 26, 1982. Also, see the letter dated June 1, 1982 from the Advisory Council on page 146B.



SCALE: 1" = 800'

FIGURE 24



SCALE: 1" = 200'

ST. DENIS/RELAY HISTORIC DISTRICT

FIGURE 25

Report Number: FHWA-MD-EIS-79-07-F
Interstate Route 195 - Baltimore/
Washington International Airport To
Interstate Route 95 - Anne Arundel,
Baltimore and Howard Counties

ADMINISTRATIVE ACTION

SECTION 4(f) STATEMENT

for

Land Involvement with Patapsco
Valley State Park

U. S. DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

and

State of Maryland
Department of Transportation
State Highway Administration

Submitted pursuant to Section 1653 (f),
Title 49 U.S.C. 1/ , Section 138, Title
23 U.S.C.

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DESCRIPTION OF PROJECT

The proposed action consists of the construction of 3.1 miles of multi-lane divided highway extending from the Baltimore-Washington International Airport to the present terminus of I-195 at U. S. Route 1.

The proposed facility will provide full control of access, utilizing portions of existing right-of-way as well as requiring some new right-of-way.

Also included in this proposal is the upgrading of the interchanges with U. S. Route 1 and the Baltimore-Washington Expressway, and the reconstruction of the interchange with MD 170. Maryland Route 170 will be upgraded from a two-lane roadway with no control of access, to a four-lane facility with partial access control. These improvements would begin at a point just east of the Elkridge Landing/Elm Road intersection and extend through the interchange with I-195 for a distance of approximately 1.3 miles.

A new Amtrak rail station has recently been completed just northwest of the I-195/MD 170 interchange. In conjunction with the I-195 study, access to the station from Elkridge Landing Road is being evaluated.

The following alternatives were considered in the Draft EIS:

Alternate A - This alternate would have provided a six-lane new facility from U. S. Route 1 to the interchange with the Baltimore-Washington Expressway. After crossing the Expressway, the alignment followed existing MD Route 46 to the southern terminus of the project. MD Route 46 would have been widened to six-lanes, tapering to four-lanes south of MD Route 170. Interchange improvements would have been provided at U. S. Route 1, the Baltimore-Washington Expressway and MD Route 170.

Alternate B - This alternate would have provided essentially the same features as Alternate A. The primary difference is in the location of the facility from U.S. Route 1 to the Baltimore-Washington Expressway where Alternate B followed an alignment generally west of the Amtrak rail line.

Alternate C - is the "No-Build" Alternative. This alternate indicated how the existing highway system, without additional improvements, would have met present and projected transportation needs and objectives and preserved and enhanced social, economic and environmental values.

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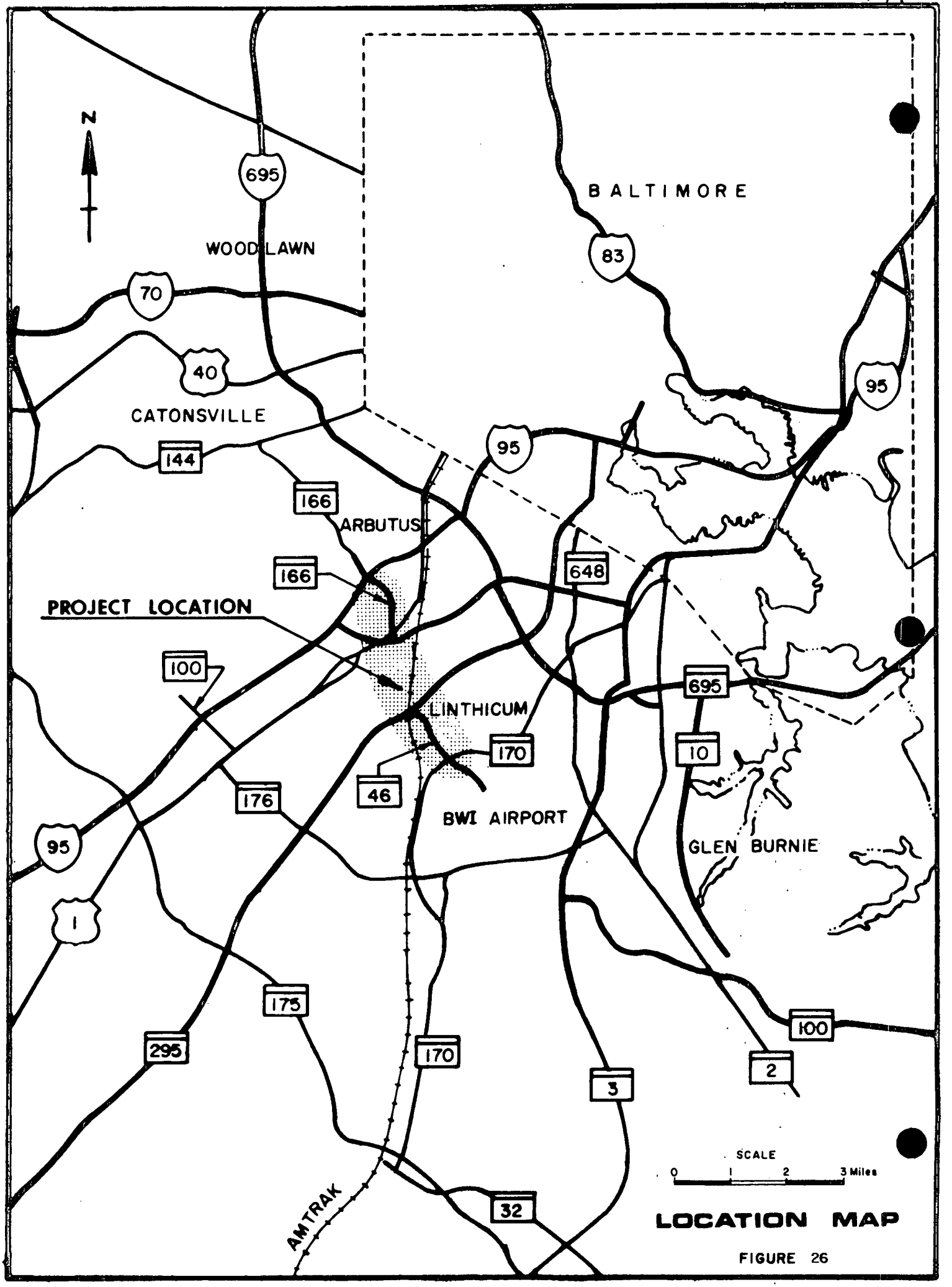
Following the Location Public Hearing, additional studies were performed in an effort to reduce adverse impacts identified during the review of the Draft EIS.

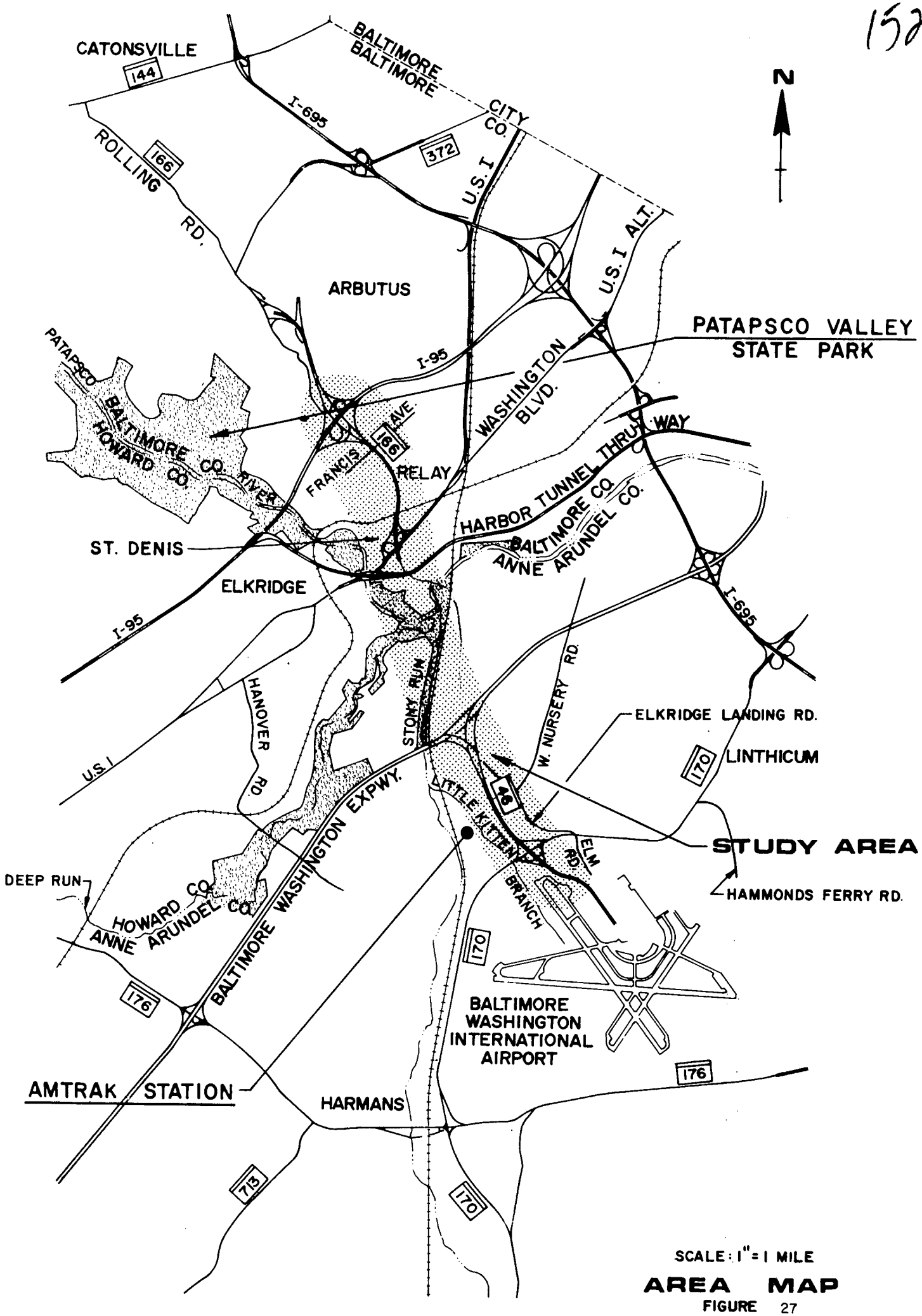
As a result of these studies Alternate A was modified; the revised design is presented in this document as Alternate 2/A2A, the Selected Alternate.

Alternate 2/A2A (Selected Alternate) - This alternate is a modification of Alternate A. The modifications include: a revised interchange configuration at U.S. Route 1; the addition of two (2) ramps at the Harbor Tunnel Thruway (I-895); reduction of I-195 to four lanes; a revised alignment for the access roadway from Elkridge Landing Road to the Amtrak Rail Station, reduction in the number of lanes on MD 170; and a revised design for the I-195/MD170 interchange. The revisions to MD 170 and the I-195/MD 170 interchange eliminate the need to acquire any property from the Westinghouse Corporation.



LOCATION MAP

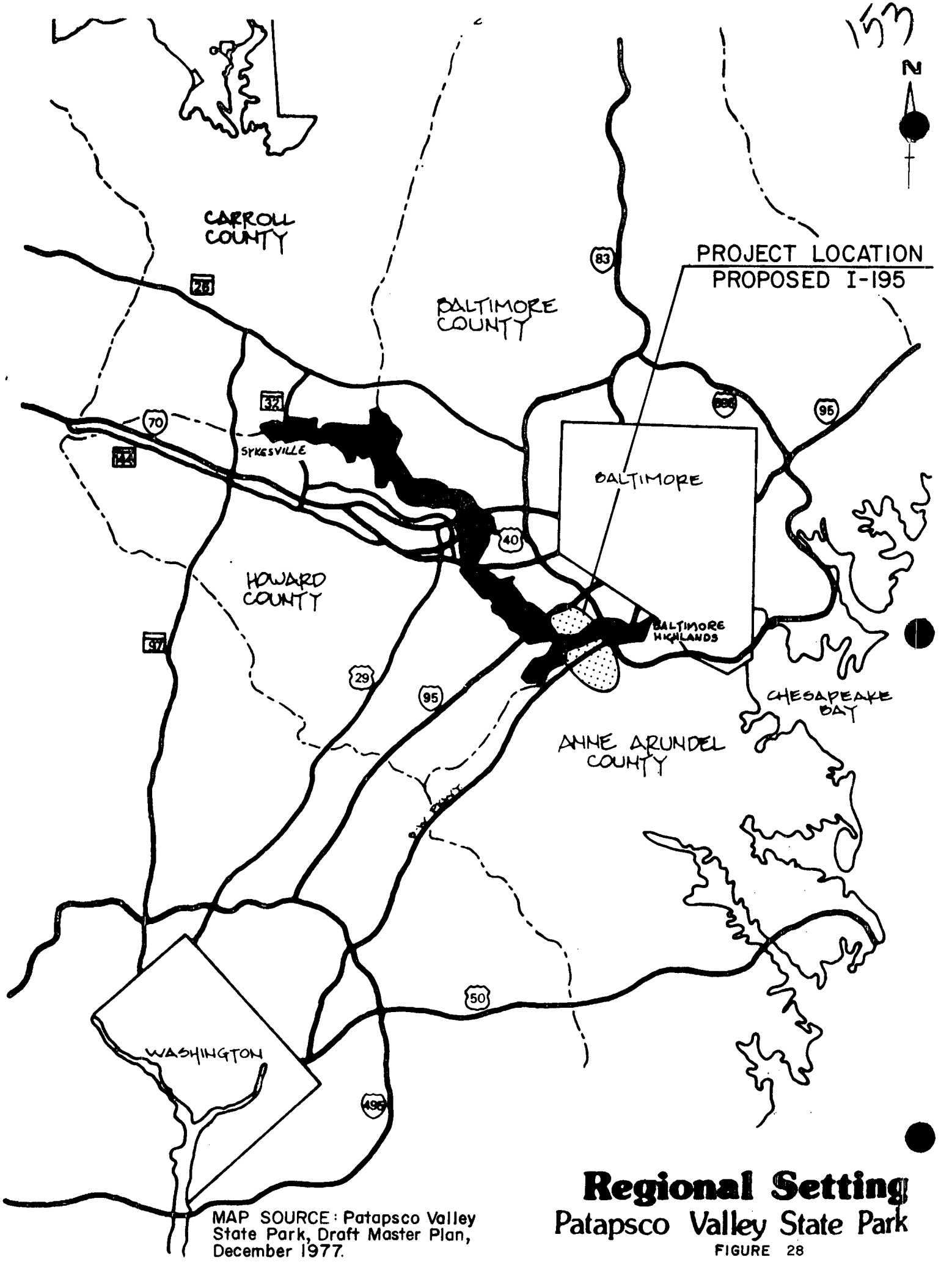
FIGURE 26



SCALE: 1" = 1 MILE

AREA MAP

FIGURE 27



MAP SOURCE: Patapsco Valley State Park, Draft Master Plan, December 1977.

Regional Setting
Patapsco Valley State Park
FIGURE 28

DESCRIPTION OF PROJECT INVOLVEMENT WITH PATAPSCO VALLEY STATE PARK

Regional Setting - Patpasco Valley State Park is located in Anne Arundel, Baltimore, Carroll and Howard Counties. These counties comprise, in part, the highly urbanized Baltimore Metropolitan Region which includes nearly 52% of the State's population.

Extending 27 miles along the Patapsco River from Sykesville to Baltimore Highlands, the park is segmented by small communities and towns. Along its length the park ranges from one-quarter to one mile in width.

Existing Uses and Facilities - Under Title 08, Department of Natural Resources[14], Patapsco Valley State Park is designated as a "multi-use State Park". This definition states that the park is "suitable for intensive recreational development and use". It further states that, "Development may include roads, parking, picnic areas, camping areas, cabins, beaches or pools, bath houses, visitor centers, nature study, historic and scenic areas, facilities for handicapped and other related developments".

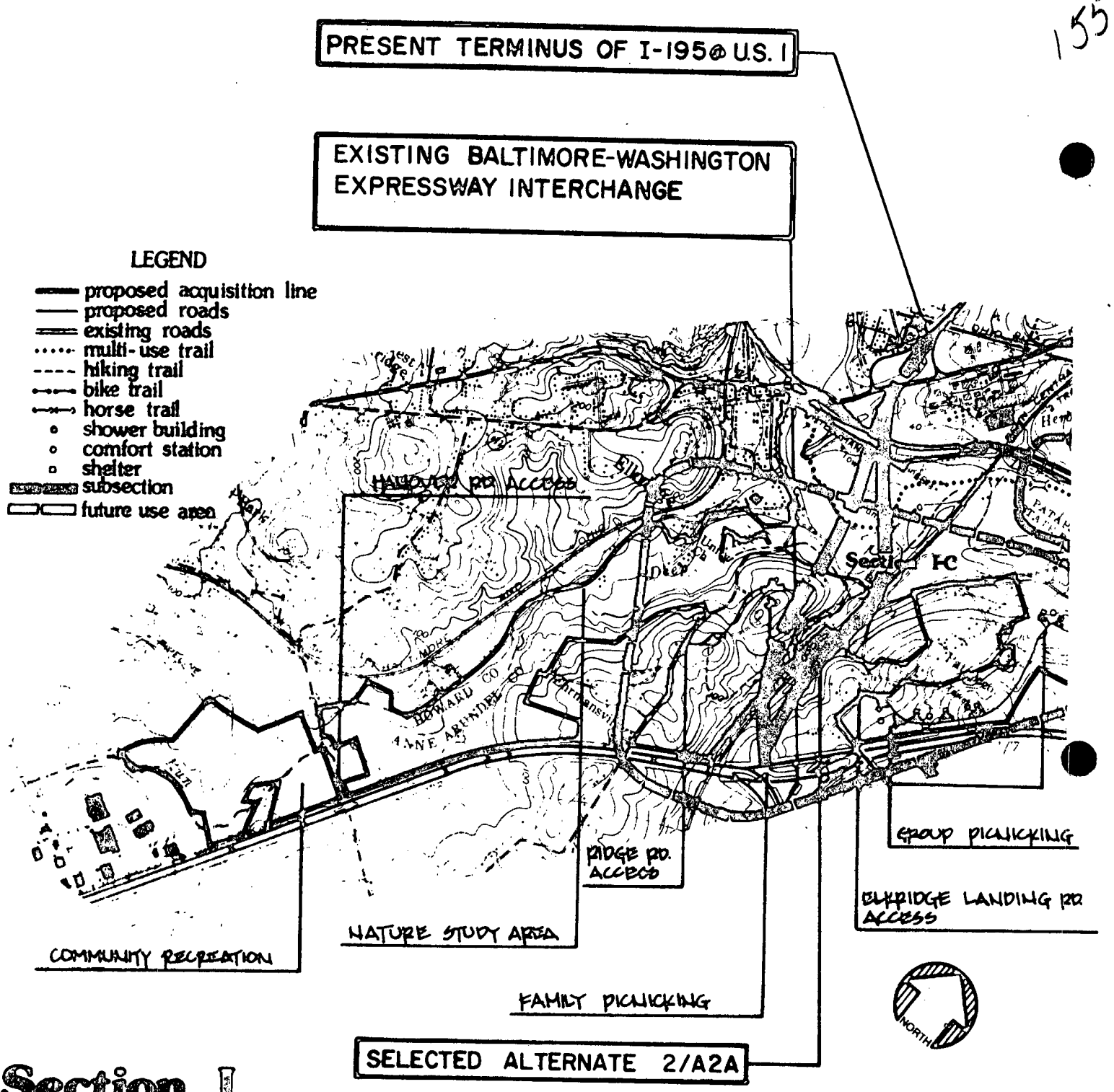
Activities within the park are designed to emphasize the protection of natural, scenic and historic features.

Existing recreational facilities and activities include picnicking, camping, bicycle riding, horseback riding, hiking and nature study. The park offers fifteen miles of hiking trails. Play fields and picnic shelters are available for individual and group use. Regularly scheduled nature walks are held during the summer, spring and fall seasons.

Area Affected by the Proposed Action - The area of the park affected by the proposed project has been designated as Section 1-C by the Department of Natural Resources (see Figures 29 and 30). This section has not been developed for recreation. Although much of the land is in the flood plain and is not suitable for high-density recreation, the areas on both sides of Amtrak's Northeast Corridor Line in Anne Arundel County is considered suitable for recreational development. Only 25 percent of the land in the existing park is suitable for recreational facilities other than trails. The primary factors limiting the use of these lands are related to unsuitable soils or topography; e.g., steep slopes and wet areas.

The area consists principally of large parcels of vacant, undeveloped land. Lightly scattered residential development is located along sections of the local roadways.

Three community types of floristic associations are found in the study area. The river birch-sycamore association found in moist flood plain areas along the Patapsco, Stony Run and Deep Run; the chestnut oak, post oak, clackjack oak association found in areas of higher elevation to the south of Stony Run; and the tulip poplar association located south of Stony Run and comprising most of the area to be impacted by the highway construction.



Section I
Baltimore Highlands to Elkridge

MAP SOURCE: Patapsco Valley State Park
Draft Master Plan,
December 1977.

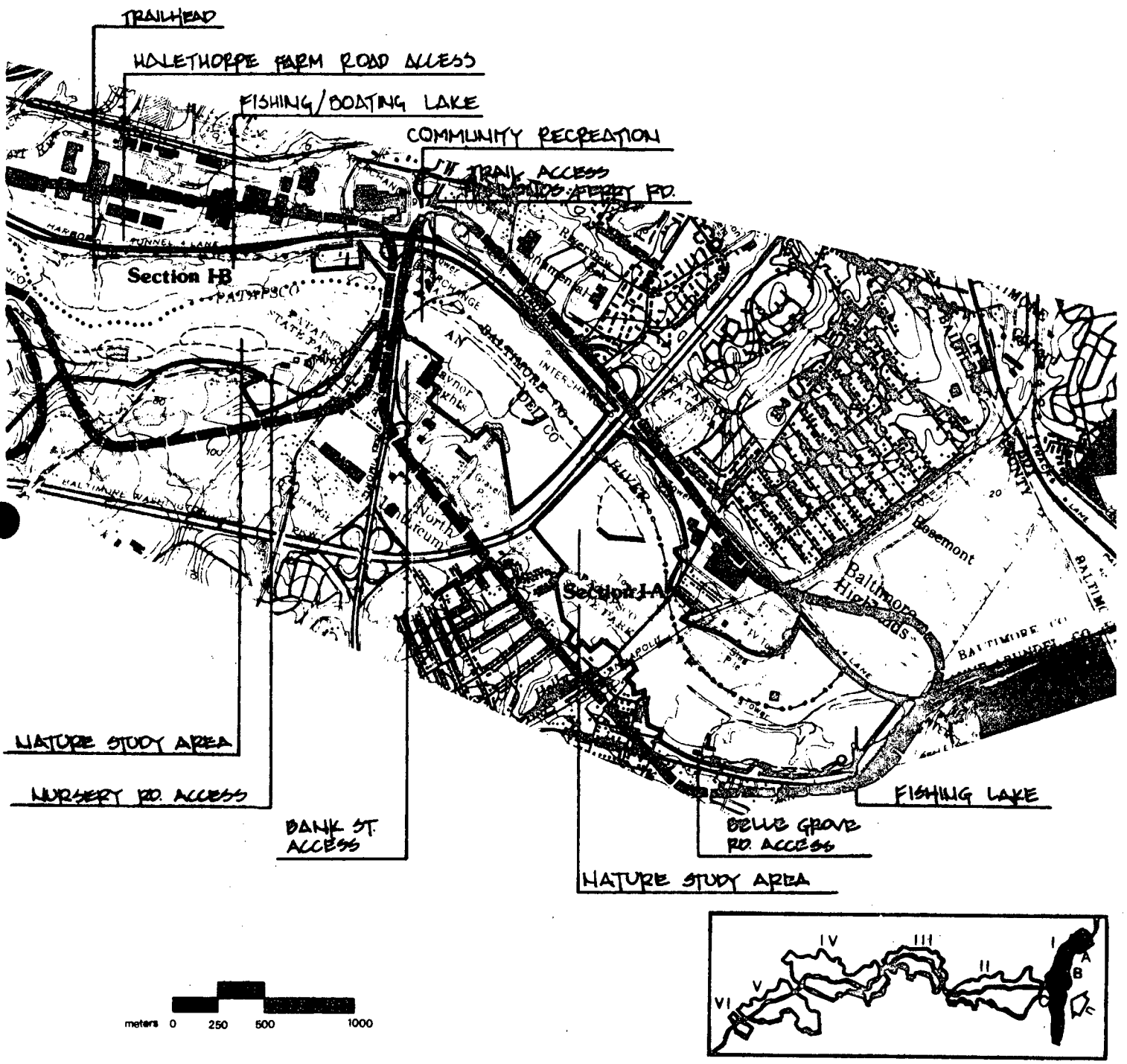
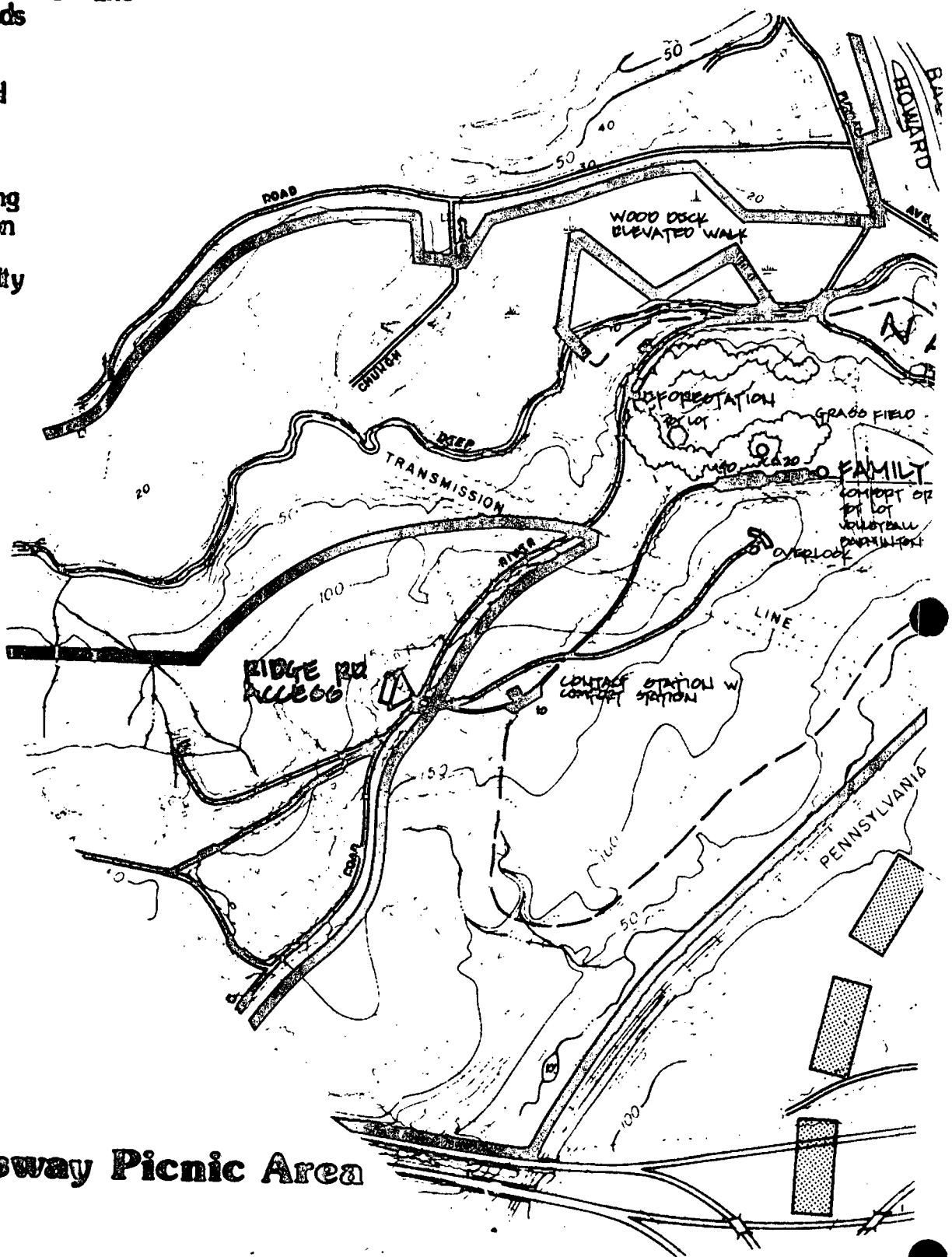

TRAILHEAD
HOLETHORPE FARM ROAD ACCESS
FISHING/BOATING LAKE
COMMUNITY RECREATION
TRAIL ACCESS
Section I-B
Section I-A
NATURE STUDY AREA
NURSERY RD. ACCESS
BANK ST. ACCESS
BELLE GROVE RD. ACCESS
NATURE STUDY AREA
FISHING LAKE
meters 0 250 500 1000
I
II
III
IV
V
VI
A
B
C

FIGURE 29

LEGEND

- proposed acquisition line
- proposed roads
- existing roads
- access points
- multi-use trail
- hiking trail
- bike trail
- horse trail
- shower building
- comfort station
- picnic shelter
- ( ) activity capacity
- reforestation



Section I-C
B-W Expressway Picnic Area

MAP SOURCE: Patapsco Valley State Park
Draft Master Plan,
December 1977.

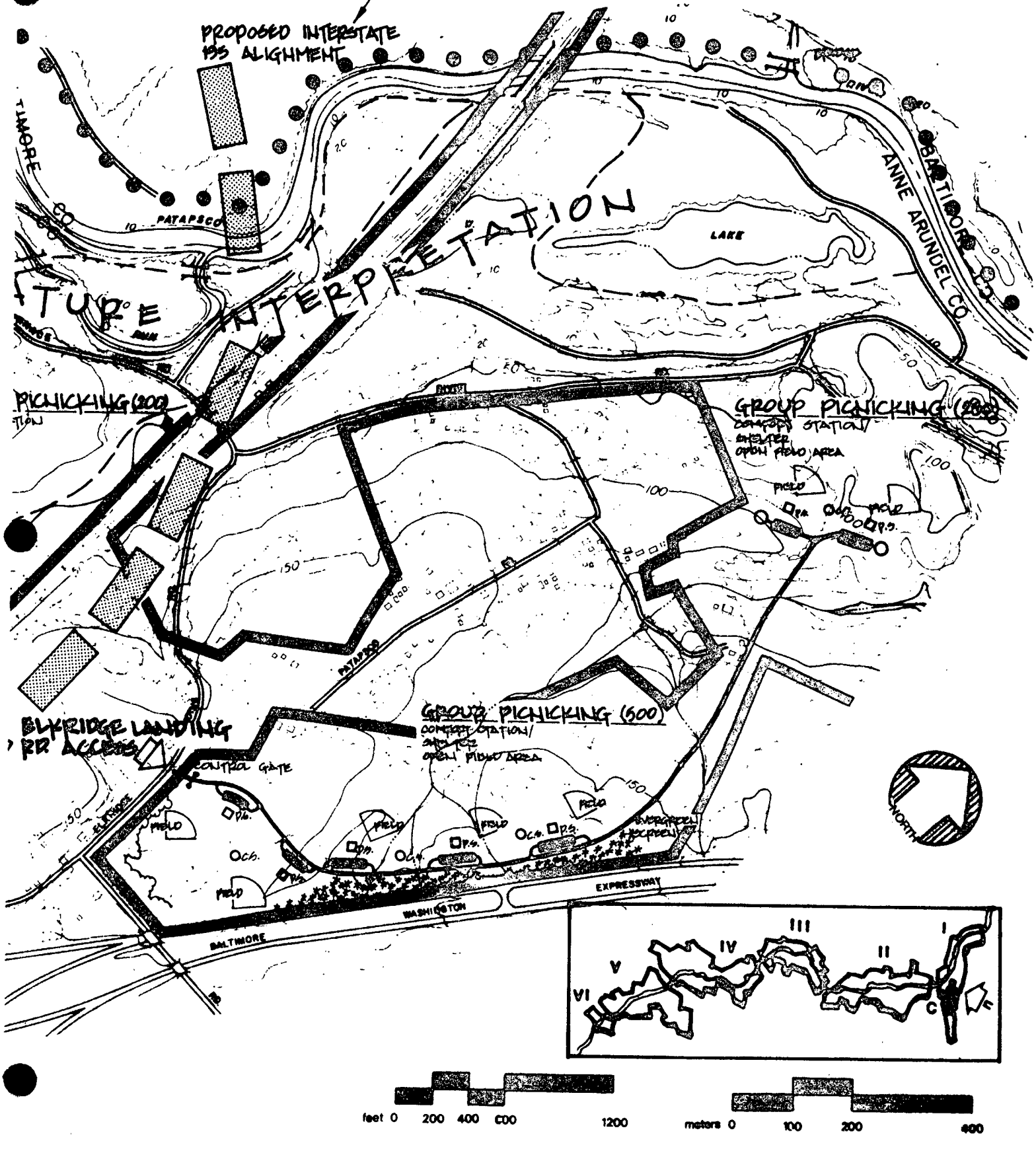

NOTE: THE PROPOSED I-195 ALIGNMENT SHOWN ON THIS MAP IS VERY SIMILAR TO SELECTED ALTERNATE 2/A2A.
PROPOSED INTERSTATE 195 ALIGNMENT
TUBE INTERPRETATION
PICNICKING (200)
GROUP PICNICKING (200)
GROUP PICNICKING (500)
BALTIMORE
ANNE ARUNDEL CO.
PATAPSCO
LAKE
ELKRIDGE LANDING
RR ACCESS
CONTROL GATE
WASHINGTON
EXPRESSWAY
BALTIMORE
NORTH
feet 0 200 400 600 1200
meters 0 100 200 400

FIGURE 30

All three floristic associations occurring in the area are in early secondary succession. Average diameter of canopy species is about 7 inches. These forest ecosystems are not unique to the physiographic province nor are they considered to be of the highest quality. One tract, however, near where Alternate B would have crossed the Patapsco has some rather stately tulip poplar and is perhaps the most attractive woodland.

Wetlands, or aquatic ecosystems that are covered with water for all or part of the year, are not directly impacted by the proposed project, with the exception of one moist area located on the Patapsco flood plain just north of the confluence of Deep Run. Field observations and communication with Water Resources Administration officials of Maryland Department of Natural Resources indicate that this site does not fit any of the seven basic wetland types and thus should not be considered as a wetland area. The area is likely river flood plain in early succession to moist deciduous forest.

Wildlife populations within the corridor have been strongly influenced by the actions of man. Developments such as railroads, highways and residences have interfered with animal populations in such a way that only those extremely adaptable to these man-made disturbances remain. Small mammals in upland wooded areas are limited to quail, rabbits, fox, opossum, skunk, raccoon, ground hog and other rodents.

Fish populations are also limited by pollution factors although the Patapsco River does provide important anadromous, semi-anadromous and resident fin fish spawning and nursery habitat, notably the white perch, a very important and common fin fish species in this area.

According to the Maryland Wildlife Administration, no vertebrate species listed by the U. S. Fish and Wildlife Service as "endangered" or "threatened" or by the Department of Natural Resources as "threatened with state-wide extinction" are known to occur in the study area.[15]

The lower 6½ miles of the Patapsco River, from Elkridge to the mouth, which includes the project area, is tidal. Within this area the channel is approximately 80-100 feet wide, slow flowing and can be characterized as meander and marsh.

Previous construction and urbanization have severely stressed the Patapsco and its tributaries. The Maryland Water Resources Administration has listed the major causes of degradation as agricultural runoff, failing septic systems, sewage treatment plant and raw sewage discharges, construction, urban storm water runoff, and industrial discharges.

The Water Quality Administration has classified Deep Run, Stony Run, and the Patapsco River within the vicinity of the project, as Class I-water contact recreation and aquatic life. This classification includes all non-tidal warm-water fisheries of the state.

Patapsco Valley State Park Master Plan - According to Maryland's 1978 Statewide Comprehensive Outdoor Recreation Plan (SCORP), the Baltimore Metropolitan Region has a deficit of 71.3% of its current requirements for Regional/State recreational acreage, as well as a need for additional facilities in 30 out of 34 outdoor recreational activities.[16]

The need for additional recreational facilities in the Baltimore Region and the limitation of the existing site have led the Maryland Department of Natural Resources (DNR) to propose an extensive land acquisition and development program.

Damage to the park caused by tropical storm Agnes in 1972 precipitated the beginning of a new master planning effort. The Draft Master Plan, completed by DNR in January 1978, utilized the input and resources of the citizen's Patapsco Valley State Park Advisory Committee, the Baltimore Regional Planning Council's Supply and Demand Study, the Patapsco Valley State Park User Survey conducted by Land Planning Services and statements of policy by DNR and Maryland's Park Service.

The Maryland General Assembly has presently authorized the acquisition of approximately 1,600 acres. The Draft Master Plan proposes the acquisition of approximately 3,200 acres in addition to that previously authorized. The 1980 Session of the General Assembly approved the authorization of the additional acquisition which would result in a total park area of 15,200 acres.

In 1977, DNR applied to the Bureau of Outdoor Recreation (now Heritage Conservation and Recreation Service) for Land and Water Conservation Fund assistance in the acquisition and development of the 1,600 acres. Pending authorization by the Maryland General Assembly, DNR will apply for matching funding for the additional 3,200 acres.

The Maryland Department of Natural Resources' application for Land and Water Conservation Fund assistance has led to the Heritage Conservation and Recreation Service determination that funding for the acquisition and development program constituted a "significant" Federal action, necessitating the preparation of an Environmental Impact Statement (EIS).

The Draft EIS* was completed for DNR by H.C.R.S. in September 1978 and covers actions on the existing grant application for $5,532,500 to acquire 1,600 acres, on anticipated amendments for additional acquisition and on future development projects within the park. The Final E.I.S. was completed in October, 1979.

The Patapsco Valley State Park EIS considers a range of possible federal actions, from no funding to full funding for acquisition and development according to the Draft Master Plan.

* This document is available for inspection at the Bureau of Land Planning Services, Maryland Department of Natural Resources, C-3 Tawes State Office Building, Annapolis, Maryland, 21401.

The remainder of the discussions and evaluations in this report will consider the effects of the proposed I-195 improvements on Park Alternative III. This alternative represents a decision by Heritage Conservation and Recreation Service to approve Land and Water Conservation Fund funds for the full acquisition and development according to the Draft Master Plan. Alternative III is identified in the Park EIS as the "environmentally preferable alternative"[17] and the alternative preferred by the Heritage Conservation and Recreation Service.[18]

Under Alternate III, all 4,800 acres would be acquired over a 15-20 year period. The plan proposes that the park be developed in 18 phases, each to be completed in one year. Total Land and Water Conservation Fund funding for this program is estimated at $11.1 million (1977 $) for acquisition and $9.5 million (1977 $) for development over the long term.

Proposed Park Development Affected by I-195 Improvements - The Patapsco Valley State Park Draft Master Plan identifies the following proposed development in Section 1-C:

> "A Group Picnicking Area with access via Elkridge Landing Road, and a Family Picnicking Area off Ridge Road are proposed. The Group area will be in an open field adjacent to the Baltimore-Washington Parkway. The seven picnic sites will accommodate 100 to 130 persons each. Meeting an increasing demand for accommodation for small groups, this will be the most heavily developed area in the Anne Arundel section of the park."
>
> "Accommodation for 240 are proposed in the Family Picnicking Area. An open field can be used for volley vall, badminton, and field sports. The Maryland Park Service is in the process of setting minimum capacities for recreation areas in order to cut operating and management costs. The proposed Picnicking Area may be considered too small, and its status in the plan is uncertain."
>
> "An overlook is proposed for the 35-foot bluff above the picnic area. The existing dirt road will provide access."

The area designated for development as Family Picnicking has been used as a borrow area and will require reforestation.

Section 1-C will also include hiking and multi-use trails as part of the 77 miles of trail proposed throughout the Park to link historic and natural features. The wood deck and elevated walk proposed along Deep Run will be utilized as part of the Nature Interpretation Program.

The proposed park development for Section 1-C is identified on Figures 29 and 30.

As previously stated, the Master Plan proposes that the development be completed in 18 phases, each to be completed in one year. The phases are listed according to priority.

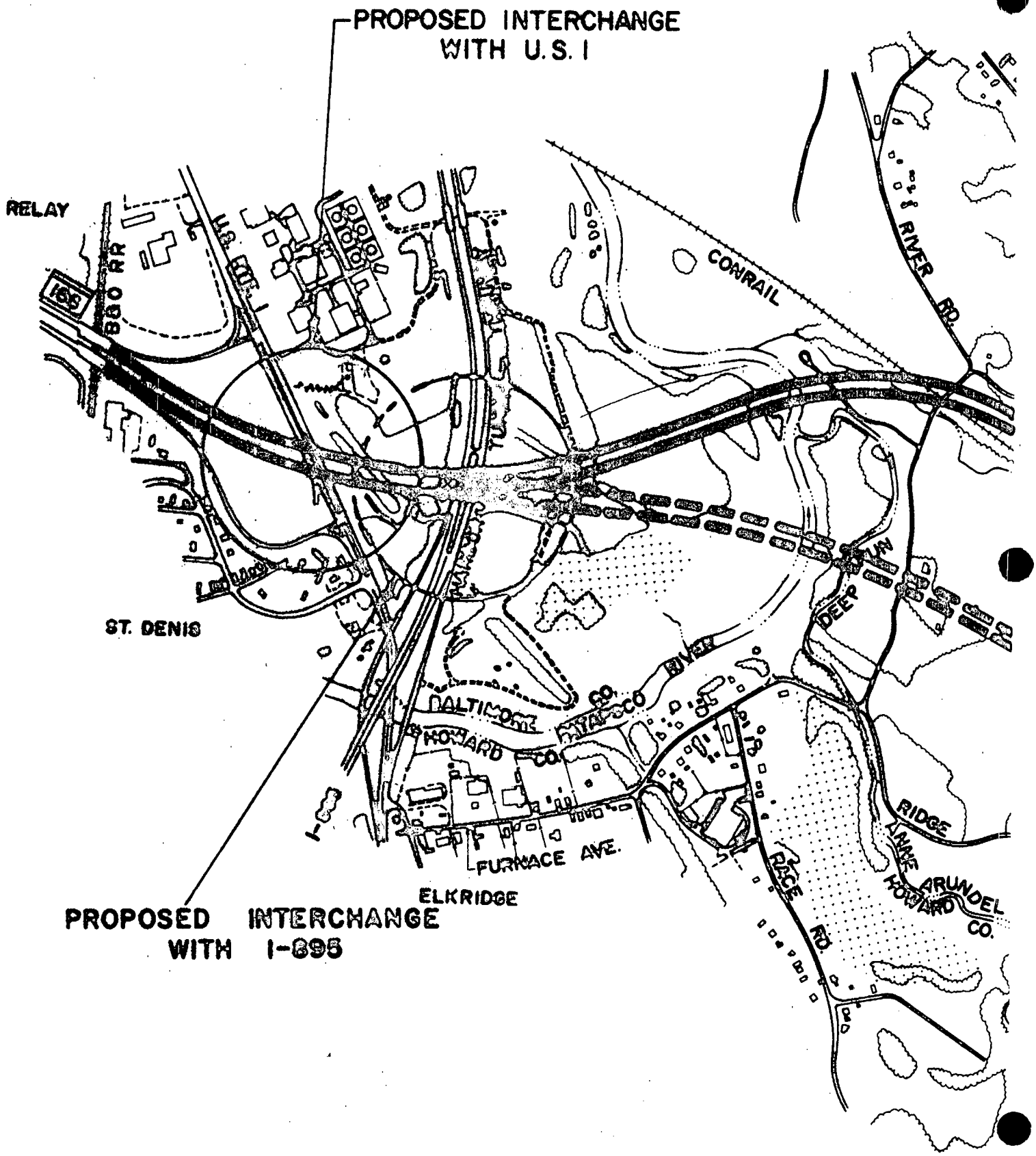
The development phasing for Section 1-C would begin in Phase 8 with the reforestation of the picnicking areas along the Baltimore/Washington Expressway and be completed during Phase 10 with the development of the family and group picnicking facilities.

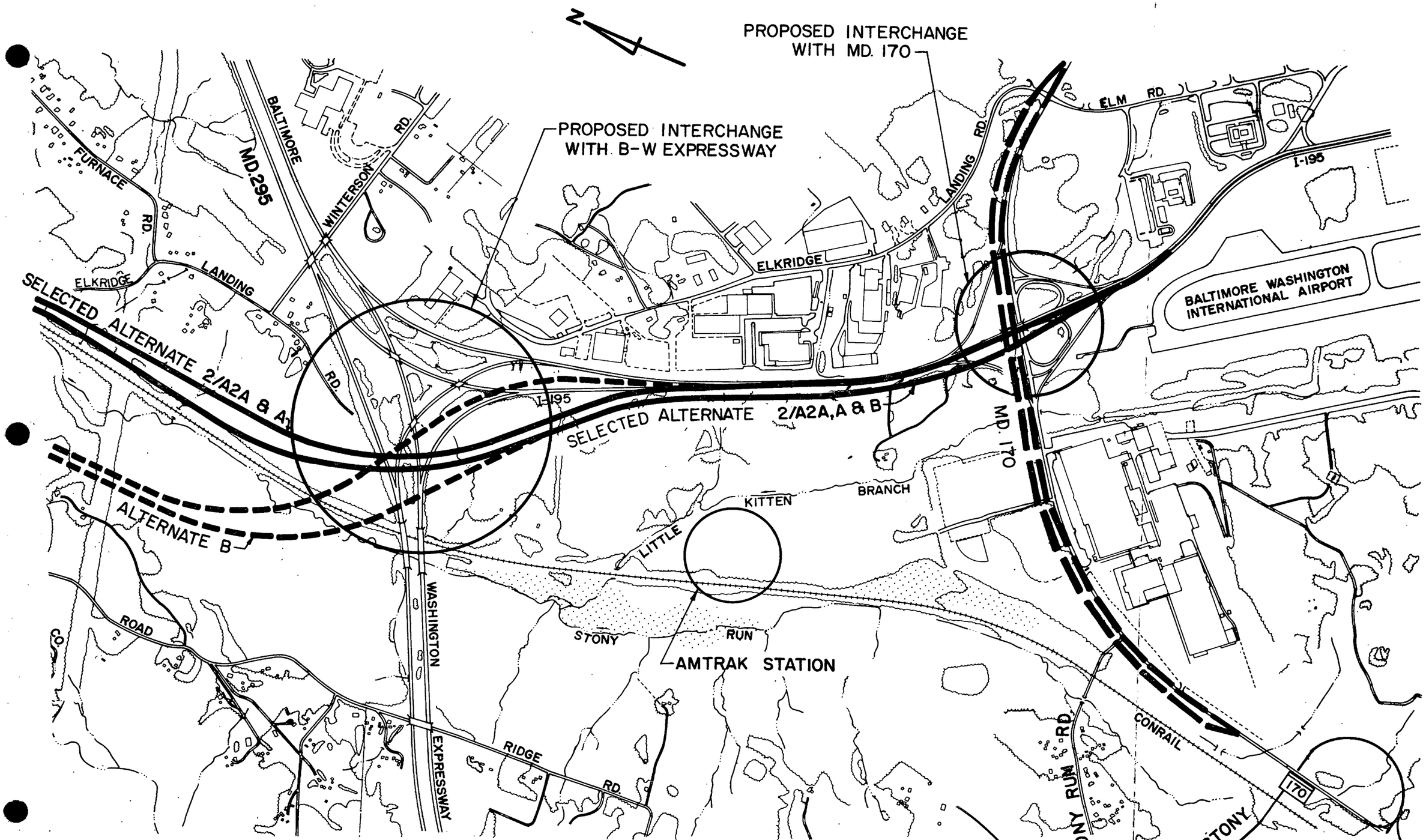
Access to these proposed facilities will be via Ridge Road and Elkridge Landing Road.

Figures 31 and 32 indicate the existing park lands within the project corridor and lands proposed for future acquisition. Portions of the land slated for future acquisition are presently under negotiation for acquisition; these areas are also identified.

It is important to note, as stated in the Park EIS, "it is impossible to pin-point exactly which properties will or will not be acquired under each alternative (park development alternative), because DNR is in competition with other land uses for most of the nearly 400 individual parcels of land identified by the Draft Master Plan. With its limited budget (even when matched by Land & Water Conservation Fund monies), DNR may not be able to buy some parcels that individual owners may decide to develop".

The acquisition program will be implemented over a 15 year period. In any event, the location of the Selected Alternate 2/A2A is generally the same as shown in the E.I.S. proposed for the park development and Master Plan documents.


PROPOSED INTERCHANGE
WITH U.S. 1
RELAY
B&O RR
U.S. RTE. 1
CONRAIL
PATAPSCO RIVER
ST. DENIS
BALTIMORE CO.
HOWARD CO.
PATAPSCO
DEEP RUN
I-95
FURNACE AVE.
ELKRIDGE
RIDGE
RACE RD.
ANNE ARUNDEL CO.
HOWARD CO.
PROPOSED INTERCHANGE
WITH I-895



ALTERNATES MAP

SCALE: 1" = 800'

FIGURE 31

Selection of the Recommended Alternate 2/A2A

The Draft Environmental Impact Statement was circulated for comments to public and private organizations and individuals in December, 1979.

In accordance with federal and state requirements, a Location Public Hearing was held on January 29, 1980 at the Andover High School auditorium, Linthicum, Maryland. The purpose of this meeting was to enable the State Highway Administration to present the social, economic, environmental and engineering aspects of the I-195 studies. The public hearing provided an opportunity for interested persons, citizens groups or representatives of governmental agencies to ask questions, offer comments or submit written material for the record.

Following the Location Public Hearing, additional studies were prepared in an effort to reduce adverse impacts identified during the review of the Draft EIS.

As a result, Alternate A was modified to eliminate acquisition of property from the Westinghouse Corporation, avoid potential archeological impacts, provide improved interchange design and reduce the scope of the improvements on I-195 and MD 170. These changes have been incorporated in the Selected Alternate 2/A2A.

The following is a summary of the factors contributing to the selection of Alternate 2/A2A:

(1) The selected alternate provides the most effective long-term solution of the project objectives. Of primary importance is the maintenance of an efficient transportation network which will permit orderly growth and development in the vicinity of the Baltimore-Washington International Airport.

(2) The selected alternate will complete the interface between the Interstate System, the Amtrak railroad station and the BWI Airport.

(3) The selected alternate is least detrimental to present and proposed Patapsco State Park lands and development. This alternate is compatible with the park master plan.

(4) Acquisition of land from the Westinghouse Corporation is eliminated. The selected alternate will not affect plant manufacturing procedures or accessibility.

(5) Potential adverse archeological impacts are eliminated.

(6) The four lanes on I-195 and the reduced scope of improvements on MD 170 are proposed even though the level of service in 2005 will be lower than desirable. The traffic volume on I-195 is borderline between requiring four or six lanes. The reduction to four lanes will reduce the project cost.

(7) Land use plans developed in compliance with the President's National Urban Policy and energy conservation goals are intended to limit proposed growth to existing activity centers. By its location, I-195 is more conducive to this policy than improvements within the MD 100/MD 176 study area.

Alternatives to the Proposed Action

The project involved the development of a transportation improvement within a relatively narrow corridor extending from the present terminus of I-195 at U. S. 1 to the BWI Airport.

A series of alternatives were identified and evaluated in terms of their ability to respond to the area's transportation needs. Each step in the development and evaluation of the alternatives attempted to respond to identified and potential social, economic and environmental issues and impacts. Some of the alternatives were discarded on the basis of design features, construction costs, property damages and impact on recreational lands and archeological resources.

Inspection of the Area Map (Figure 27) indicates that any "build" alternative joining the project termini cannot avoid crossing Patapsco Valley State Park lands. This fact is recognized in the Patapsco Valley State Park EIS which states: "During the Master Planning Process for the Park, the Maryland State Highway Administration provided descriptions of proposed new highway and highway reconstruction projects." -- "While the long configuration of Patapsco Valley State Park may mean that there are no reasonable alternative routes other than through the Park, DNR will require coordinated design and landscaping to reduce the impact of these projects on the Park, and to provide acceptable replacement lands."

In response to a request for the Department of the Interior's comments on the draft environmental statement for I-195, DOI suggested that the scope of the alternatives considered should be expanded to include the possible use of the existing old railroad embankment across the Patapsco River.

The DOI suggestion was studied. The main reason for the alternative proposed by DOI is their desire to preserve the area of vegetated land north of the Patapsco River. DOI staff feels that some wildlife species need unbroken tracts of land as compared to "edge" habitats desired by other species.

The alternate suggested by DOI would connect with existing MD 166 at U.S. Route 1. With the alignment centered on the old railroad fill south of the Harbor Tunnel Thruway, approximately 1,000 feet of existing 4 lane roadway on MD 166 along with the structures over the B & O Railroad would have to be rebuilt to avoid relocating the ramps in the northwest quadrant of the U.S. Route 1 interchange and impacting the adjacent residential area of the

St. Dennis Historic District. The old railroad fill would have to be widened from the existing 30 feet to 126 feet to accommodate the 4 lane road with a 54 foot median. After crossing the Patapsco, the alternate would pass through a portion of the town of Elkridge and take three or four homes and an industry which employs approximately 160 persons. Also, the portion of Elkridge that is affected is an Historic District. The alternate would then cross Race Road and Deep Run and pass through the Patapsco State Park property, which borders the stream. South of Ridge Road, it would go through a parcel of land designated for future acquisition for the State Park and passes through a portion of existing park property along Stony Run. Thirteen acres of existing park land and approximately 17 acres of future park land would be required for the alternate proposed by DOI. Also, a future nature observation area along Deep Run and a future picnic area east of Ridge Road could be impacted by this alternate. In comparison, the Selected Alternate 2/A2A takes 23 acres of existing and proposed park land.

Although the length of the bridge proposed by DOI across the Patapsco would be shorter than the Selected Alternate 2/A2A or Alternates A & B (approximately 500 feet), the structures over U.S. Route 1 and the Harbor Tunnel Thruway would be longer and other structures are required over Furnace Avenue, Race Road, Deep Run, Ridge Road, Stony Run and the Amtrak Railroad. The total length of structures required for the alternate proposed by DOI is more than the length of structures required for either the Selected Alternate 2/A2A or Alternates A & B.

The alternate proposed by DOI would not allow the reduction in flood impacts to Elkridge as described under the discussion of "River Modifications", page 123. The old railroad fill could be used for I-195. The removal of the fill is a flood mitigation measure that is suggested in the Patapsco River Basin Study which was prepared jointly with the Baltimore Regional Planning Council and the Maryland Water Resources Administration in 1979.

In summary, the alternate proposed by DOI is longer, has more structures, takes more homes and therefore, costs substantially more than the Selected Alternate 2/A2A or Alternates A & B. While impact on the portion of park land north of the Patapsco is less than the Selected Alternate 2/A2A or Alternates A & B, it impacts other areas of existing and future park land that are not affected by the other alternates. It affects a portion of the town of Elkridge which is an Historic District. It is not consistent with the park master plan.

The Maryland State Highway Administration feels that the negative aspects of the alternate proposed by DOI outweigh any advantages and therefore, the alternate will not be given further consideration. Also included on page 131 is a letter from the Maryland Department of Natural Resources stating that they do not agree with the alternate proposed by DOI and favor the Selected Alternate 2/A2A alignment.

Alternate Corridor/Facility - An analysis was performed to determine the importance of the proposed construction of I-195 to the transportation system in the area. This analysis was performed in response to questions raised at the Location Public Hearing and comments made during the review of the Draft EIS.

The transportation need analysis focused on the impacts on the future highway system in the area, with and without the construction of I-195 and also with and without the proposed construction of MD 100, or upgrading of MD 176, parallel east-west highway proposals.

The use of MD 100/MD 176 as an alternate corridor or facility would eliminate the acquisition of land from Patapsco Valley State Park.

The findings of these analyses are summarized as follows:

-Analysis of the No-Build alternative indicates severe congestion for a number of routes which serve as access routes to BWI Airport and surrounding land uses. The primary routes providing access from the north, i.e., Maryland Route 295 and the Baltimore Beltway are both projected to experience severe traffic congestion in the design year of 2005 (Level of Service F). Also, under a No-Build scenario the primary routes between Interstate 95 and the Airport, via Maryland Route 100, U.S. Route 1, Maryland Route 176, and Maryland Route 295 would be severely congested during peak hours. Interstate I-195 would provide relief to many of these routes while at the same time providing significantly improved access to BWI Airport for a large percentage of Airport users.

-The construction of Maryland Route 100 between U.S. Route 1 and the Baltimore/Washington Parkway would provide a direct access between I-95 and the Baltimore/Washington Parkway, thus improving access to the Airport from the south. However, it would not serve the largest portion of users of Interstate 95 from the north. These travellers would continue to use the Baltimore Belway and the Baltimore/Washington Parkway which are both forecasted to be heavily congested. Furthermore, traffic accessing the Airport area from Maryland Route 100 would also have to use the Baltimore/Washington Expressway from the south. Substitution of the proposed Maryland Route 100 improvement between Interstate 95 and the Baltimore/Washington Expressway would necessitate additional major construction of the Baltimore/Washington Expressway to a six-lane facility between the Baltimore Beltway and the proposed Maryland Route 100 interchange. It would also do little to relieve congestion of the Baltimore Beltway between Interstate 95 and the Baltimore/Washington Expressway.

-The reconstruction of the Baltimore/Washington Parkway to six (6) lanes between the Baltimore Beltway and Maryland Route 46 was found to be unacceptable because it would not serve traffic from the south and would not relieve traffic congestion on the Baltimore Beltway.

-Both the construction of Maryland Route 100 and the widening of the Baltimore/Washington Parkway to six (6) lanes while unacceptable as an alternative to I-195 are both needed in addition to the construction of I-195.

Alternatives Studied in Detail

Three alternatives were studied in detail and included in the Draft EIS: Alternates A and B - both were primarily dual six-lane facilities located along new and existing alignment, and Alternate C - the "No-Build" alternate.

The following is a summary of the alternatives studied in detail, but not selected.

Alternate A - This alternate would have utilized existing MD 166 from I-95 to U.S. Route 1. New construction would have overpassed U.S. 1, the Harbor Tunnel Thruway, the Papapsco River, and the Amtrak rail line. The alternate would then have paralleled the rail line, overpassed MD 295 and connected to existing MD 46, reconstructed to a dual six-lane highway with a depressed median. The alignment would then have overpassed MD 170, tapering to a four-lane highway to match the existing airport entrance highway approximately 4,000 feet from the airport terminal.

Interchanges were provided at U.S. 1, MD 295 and MD 170. Most of the existing ramps of the MD 46 interchanges with MD 295 and MD 170 would have been reconstructed to bring them up to current design criteria.

The major benefit of this alternate is that it would have the least involvement with Patapsco State Park and would be compatible with the park master plan. The right-of-way requirements within the area of the park are the same as the Selected Alternate 2/A2A.

The following factors influenced the decision to not select this alternate:

(1) The design provided with Alternate A created potential conflicts with the Westinghouse Corporation facilities. These problem areas were acquisition of Westinghouse property currently used for employee parking, requiring Westinghouse employees to utilize two pedestrian overpasses between the parking lot and the plant, and relocation of truck access at Gate 1.

(2) The Amtrak access road provided with Alternate A involved a potential adverse impact on archeological site 18-AN-23. This involvement would have required additional archeological testing of the site.

Alternate B - This alternate would have utilized existing MD 166 from I-95 to U.S. 1. New construction would have overpassed U.S. 1, the Harbor Tunnel Thruway, the Patapsco River and Deep Run and would have paralleled Stony Run west of the Amtrak rail line. Just north of MD 295, it would have crossed Stony Run and the rail line and proceeded south along the existing MD 46 alignment. From MD 295 to the airport, Alternate B is similar to Alternate A.

Interchanges were provided at U.S. 1, MD 295, and MD 170. Most of the existing ramps of the MD 46/MD 170 interchange would have been reconstructed to bring them up to current standards. Alternate B utilized a portion of the existing MD 295/MD 46 interchange.

The major advantages of Alternate B are (1) it required the lowest construction cost, (2) the location was more removed from residential development along Elkridge Landing Road and (3) it utilized portions of the existing MD 295/MD 46 interchange.

The factors influending the decision to not select Alternate A are also applicable to Alternate B. These additional factors can also be cited:

(1) Alternate B would have required the acquisition of approximately 26 acres of Patapsco State Park Land.

(2) This alternate would have required the acquisition of property along Stony Run that is proposed to be acquired for future expansion of Patapsco State Park.

Alternate C (No-Build Alternate)- Under this alternate, there would have been no new highway construction in the I-195 corridor. MD 295/Baltimore/Washington Expressway) and MD 46 would have remained as the main access to the airport and the surrounding industrial areas. MD 46 would have remained as a four-lane road between MD 295 and the airport. While both maintenance and safety improvement programs would have been undertaken by the State Highway Administration, any improvements made would have been restricted to the existing right-of-way.

The major advantages of the No-Build Alternate are: no homes or families would have been relocated, no impacts would have occured to natural environment in the corridor, there was no effect to existing or proposed Patapsco State Park property and no funds would have been expended for right-of-way and construction.

The following factors influenced the decision to not select this alternate:

(1) Improvements to the highway system within the I-195 corridor are considered essential to permit potential and existing industrial development within the vicinity of the BWI Airport. In view of the deficiencies of the existing highway system and the recommendations for improved access to the BWI Airport in the General Development Plan, the No-Build Alternative is inconsistent with the regional planning goals.

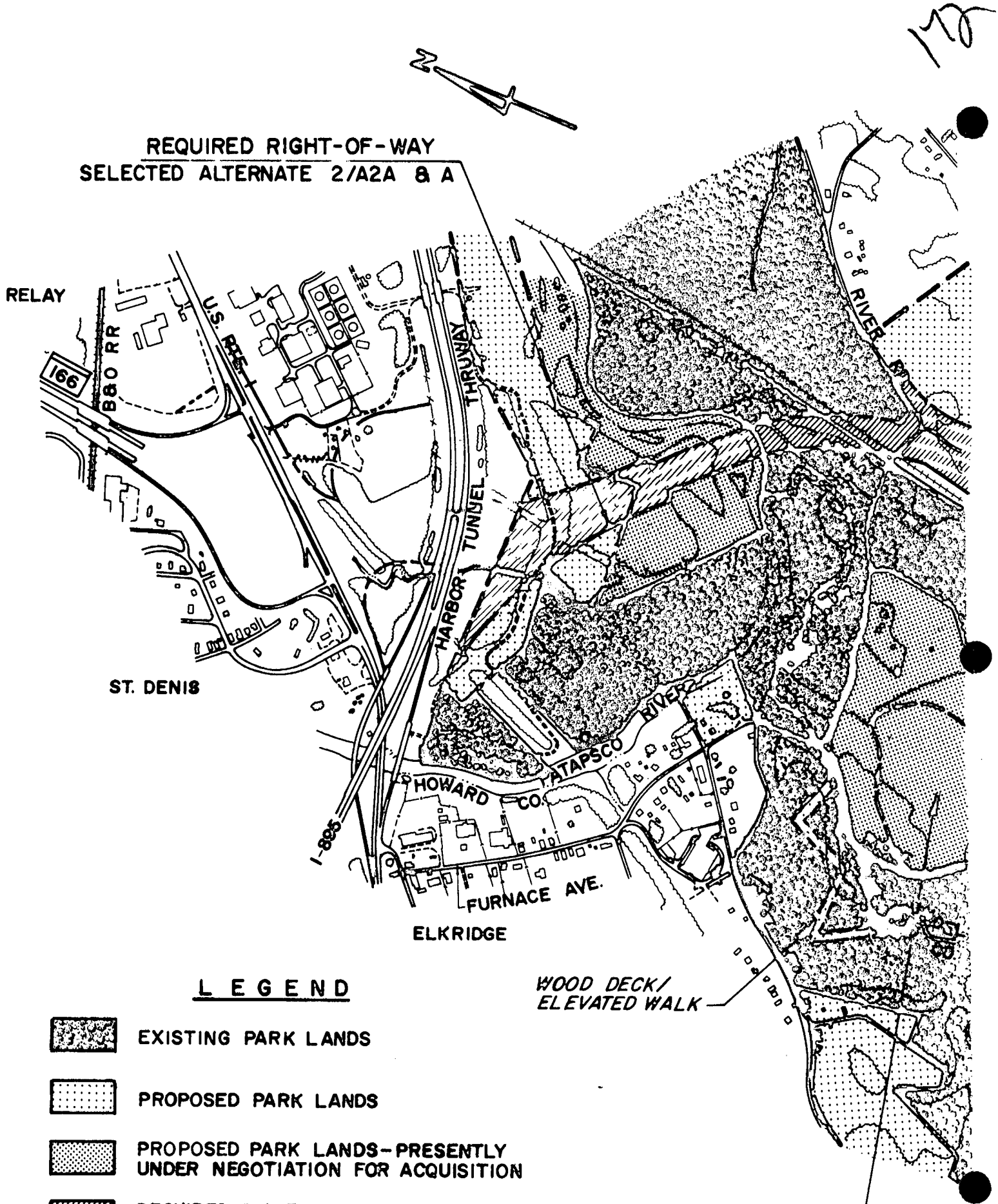
(2) With no improvements made to the existing highway system, accident rates would have continued to rise with a corresponding increase in accident cost. The capacity, safety and efficiency of the existing system would have continued to deteriorate with operating speeds being further reduced and stoppages occuring for longer periods of time.

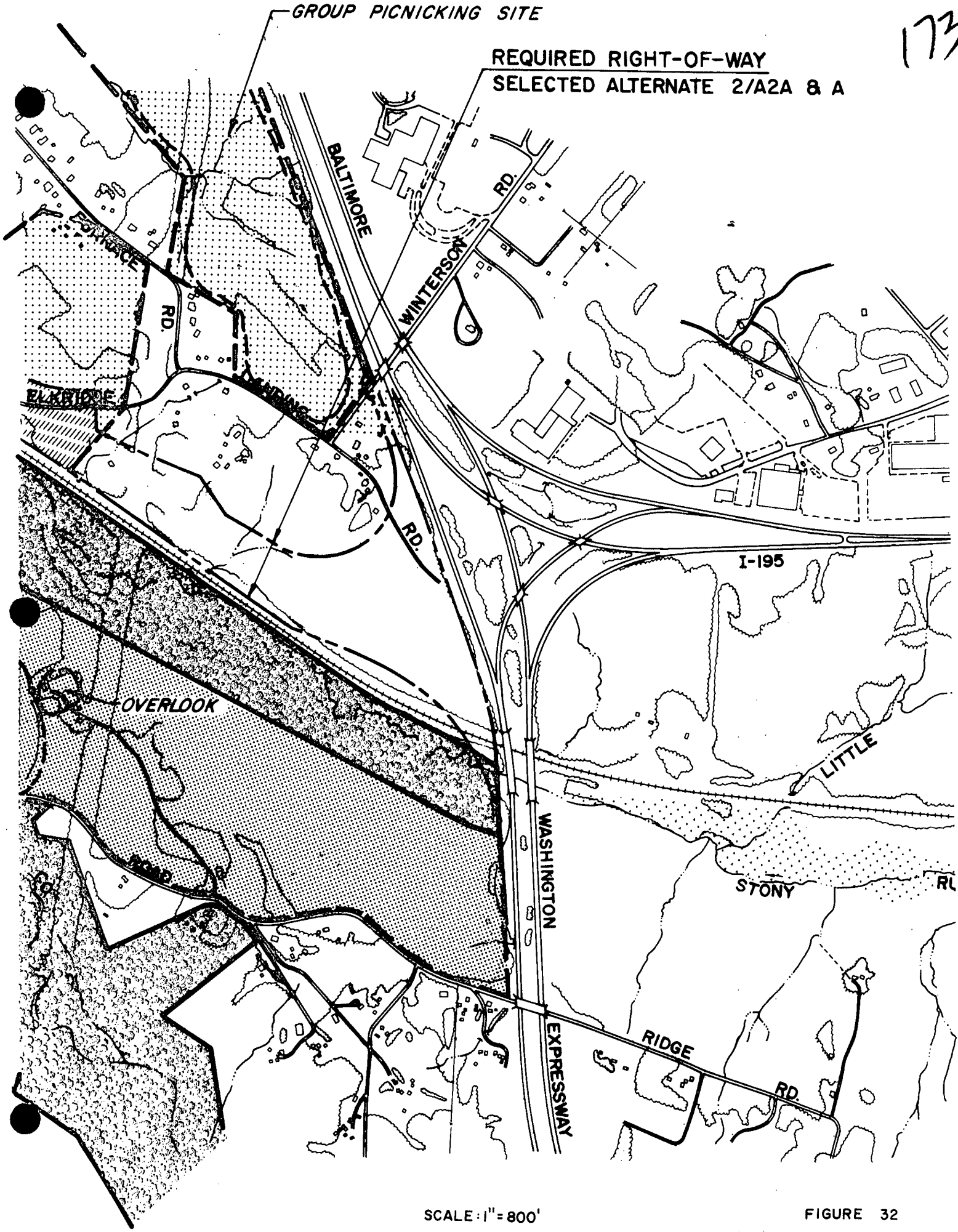
(3) Since truck traffic is prohibited on the Baltimore-Washington Parkway south of MD 175, truck cargo from the Washington area would have continued to use indirect routes to the BWI Airport involving use of congested, uncontrolled two-lane highways or additional travel distance. These conditions would have had an adverse influence on air cargo operations at the BWI Airport.

SUMMARY COMPARISON OF ALTERNATES A, B, C AND THE SELECTED ALTERNATE 2/A2A

	Alternate A	Alternate B	Alternate C	Alternate 2/A2A
Engineering				
1. Project Length (Miles)	3.1	3.1	-	3.1
2. Construction Cost	$81,800,000	$78,400,000	0	$ 84,330,000
3. Right-of-Way Cost	$ 3,640,000	$ 3,900,000	0	$ 4,443,000
4. Total Project Cost	$85,440,000	$82,300,000	0	$ 88,752,000
5. Required Right-of-Way (Acres)	158	154	0	171
Social				
1. Total Dwellings Displaced	1	3	0	1
2. Minority Dwellings Displaced	0	3	0	0
3. Individuals Displaced	4	12	0	4
4. Minority Individuals Displaced	0	12	0	0
Economic				
1. Park Land Acquisition (Acres)				
Existing Park Land	4	26	0	4
*Land Proposed for Future Acquisition	19	47	0	20
2. Business Affected	1	1	0	0
3. Consistent with land use and transportation plans	yes	yes	no	yes
Physical				
1. Construction Within 100-Year Floodplain (Acres)	9.2**	11.6**	0	12.4
2. Additional Stream Crossings	3	4	0	4
3. Number of Sites Impacted By Increased Highway Noise	13	14	15	13
4. Air Quality Violations	no	no	yes	no

** Does not include area crossed by bridges.


REQUIRED RIGHT-OF-WAY
SELECTED ALTERNATE 2/A2A & A
RELAY
B&O RR
166
U.S. RTE 1
HARBOR TUNNEL THRUWAY
PATAPSCO RIVER
ST. DENIS
HOWARD CO.
I-895
FURNACE AVE.
ELKRIDGE
WOOD DECK/
ELEVATED WALK
FAMILY PICNICKING SITE
LEGEND
EXISTING PARK LANDS
PROPOSED PARK LANDS
PROPOSED PARK LANDS - PRESENTLY UNDER NEGOTIATION FOR ACQUISITION
REQUIRED RIGHT-OF-WAY FROM EXISTING PARK LANDS
REQUIRED RIGHT-OF-WAY FROM PROPOSED PARK LANDS



SCALE: 1" = 800'

FIGURE 32

IMPACTS ON PATAPSCO VALLEY STATE PARK RESULTING FROM THE SELECTED ALTERNATI

Determination of the primary impacts on Patapsco Valley State Park required an evaluation of the relationship of the roadway to adjacent park areas and the effects of the highway development on natural resources, human use, aesthetics and cultural value. The evaluation of these impacts have been viewed in terms of the known or probable plans for future change within the proposed park area as identified in the Master Plan.

Right-of-Way Acquisition - The Selected Alternate 2/A2A will require the acquisition of approximately 4 acres of existing parkland and 20 acres of land proposed for future acquisition.

The Selected Alternate 2/A2A will not require right-of-way from areas designated for future park development; it will, however, require acquisition of land adjacent to these facilities.

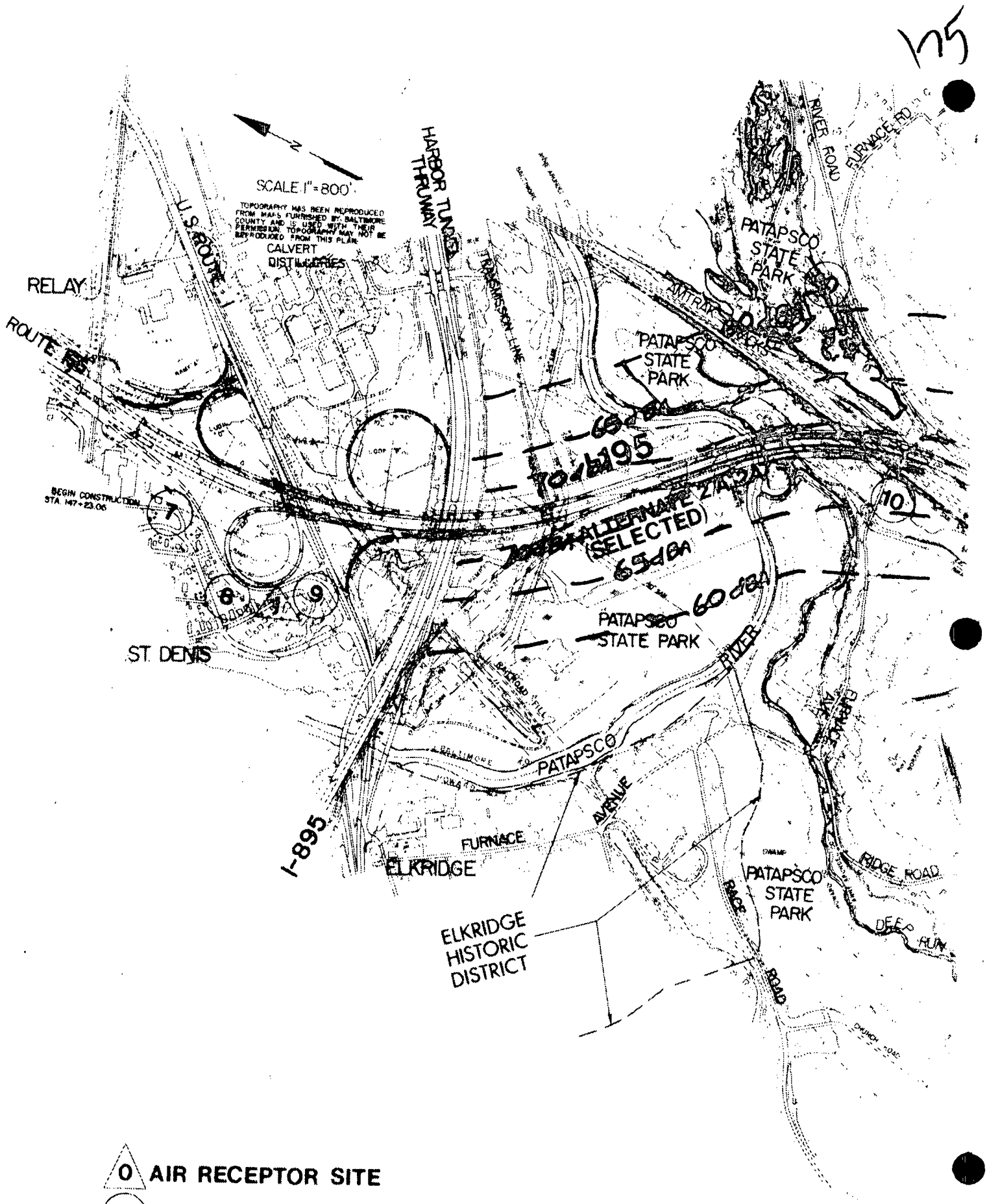
The areas of existing park land required for the Selected Alternate 2/A2A are within the flood plain, or flood prone areas of the Patapsco River, Deep Run and Stony Run. They consist primarily of fields in early succession to moist deciduous forest. In light of the widespread damages which have resulted from recent floods on the Patapsco River, the Maryland Department of Natural Resources has established a policy which restricts structural development in the flood plain. Trails, access roads and parking areas are the only improvements planned within flood prone areas.

Portions of the proposed park land required for the Selected Alternate 2/A2A are also within the flood plain. The remaining areas of required right-of-way are primarily forested, in early secondary succession.

Vehicular/Pedestrian Access and Circulation - Although there is no direct access to the park from proposed I-195, the overall accessibility will undoubtedly be improved by virtue of the more efficient highway system.

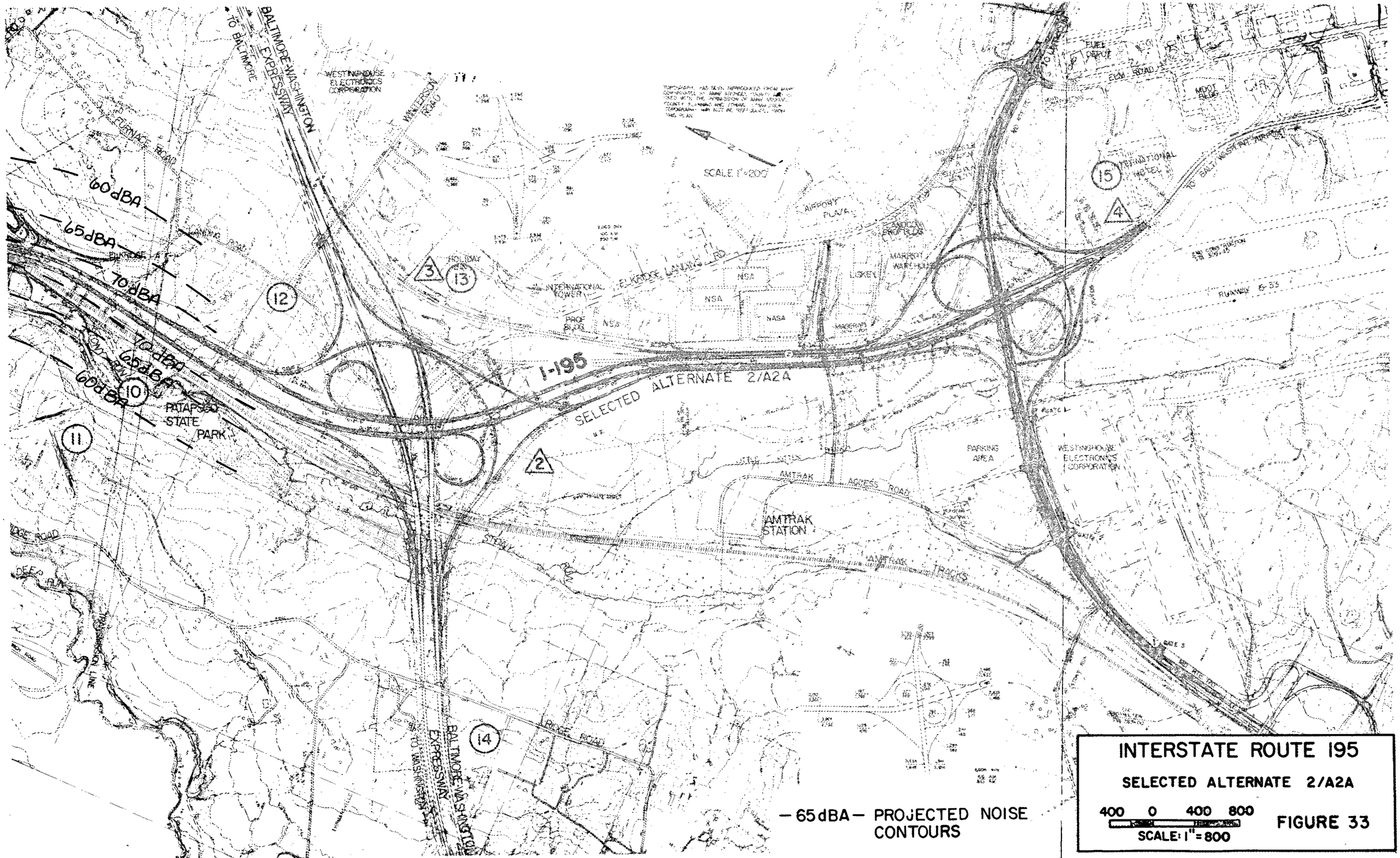
The proposed action will not create any significant isolation or division of a valued area of recreational development. Vehicular access to the park will continue to be provided along the local road system and will be unaffected by the I-195 improvements.

The trail system proposed along the Patapsco River will be accommodated in the location and design of the bridge structure.



△ AIR RECEPTOR SITE

(0) NOISE SENSITIVE AREAS



— 65dBA — PROJECTED NOISE CONTOURS

INTERSTATE ROUTE 195

SELECTED ALTERNATE 2/A2A

400 0 400 800

SCALE: 1" = 800

FIGURE 33

Air Quality Impacts - The increased traffic volumes generated within the vicinity of the park are of particular concern with respect to the effect on air quality and highway noise (see Highway Noise Impacts, page 121).

No air quality problems are anticipated within the park area. According to the Technical Air Quality Report prepared for I-195,[19] the predicted emissions will be well below the National Ambient Air Quality Standards. The Technical Air Quality Report provides a detailed assessment of impacts resulting from the proposed project. This report is available for inspection at the State Highway Administration, 300 West Preston Street, Baltimore, Maryland.

Visual/Aesthetic Impacts - General Considerations - The determination of the visual and aesthetic impacts of the proposed action requires an essentially subjective evaluation. The positive aspects of this evaluation pertains to the opportunities provided to the highway user to view the environmental resources which exist adjacent to the highway. The primary concerns related to the visual impacts pertain to the local residents' and park patrons' view of the road.

The ambient environmental conditions within the affected area of the park are presently influenced by the visual, audible and atmospheric elements of existing airport, highway and rail facilities. Therefore, the introduction of the proposed project into this area will not result in impacts uncommon to the existing environment.

The Selected Alternate 2/A2A will, however, result in increased transportation related impacts and alterations to the natural features of the area. The location of the highway within the park will result in some loss of amenities for park patrons.

The spatial form of the natural landscape will be modified by the proposed action. Because of the nature of the terrain within the corridor and the vertical controls which must be met to cross the river and railroad, the proposed alignment does not conform to the land form of the area. The relatively high embankments and highway bridge structure across the Patapsco River flood plain will be in conflict with the existing environment.

The clearing of forested areas and substantial regrading required south of the Patapsco River will also result in additional visual/aesthetic impacts.

Visual/Aesthetic Impacts - Selected Alternate 2/A2A - After crossing over the Harbor Tunnel Thruway, the Selected Alternate 2/A2A traverses the broad flood plain area of the Patapsco River on an embankment of 25-30 feet. At a point just west of the river the alignment ascends on a 3.1 percent grade to cross the Patapsco, the Conrail tracks and Furnace Avenue. Embankments within this area reach a maximum of 45-55 feet.

After crossing the Conrail tracks, the Selected Alternate 2/A2A follows along an alignment generally parallel to and east of the railroad. Within this area the alignment traverses the steep, irregular hillside which extends from Stony Run. On its approach to the crossing of the Baltimore/Washington Expressway, the roadway ascends on grades of 2.8 -3.7 percent.

The group picnicking area proposed along Elkridge Landing and Furnace Roads will be shielded from the view of I-195. Since the proposed highway alignment is located near the base of the hillside, the picnic sites will be located approximately 1,000 feet from the roadway and 50-100 feet upslope. The primary highway related impacts on these sites will result from traffic on the Baltimore/ Washington Expressway and other local roadways adjacent to the site.

The proposed family picnicking area located off Furnace Avenue and Ridge Road will not be adversely affected by the Selected Alternate 2/A2A. The picnic sites are located approximately 80 feet above the flood plain of the Patapsco and 1,500 - 2,000 feet from the I-195 alignment. The planned reforestation of the picnic site and the shielding provided by the 40-70 foot "high wall", which has resulted from the borrow operations in the area, will mitigate any visual impacts of the highway improvements.

Although the Selected Alternate 2/A2A will be located a minimum of 1,300 - 1,400 feet from proposed scenic overlook, I-195 will be an intrusion on the natural setting that may be viewed from this site.

The Selected Alternate 2/A2A will be located a minimum of 2,000 feet from the wood deck/elevated walk proposed as part of the Nature Interpretive Program.

Terrestrial Ecology - One ecological impact of the proposed project is the segmentation or removal of forested areas with resultant reduction of resident wildlife population in these areas.

Terrestrial communities in the corridor are judged to be less than "prime" natural ecosystems. However, there still remain some separated pockets of "high quality" wildlife habitat within the project's area of influence.

Disturbance of large unsegmented tracts which provide food cover and relatively unrestricted movement can result in adverse effects to wildlife.

Although most resident forms of vertebrates will move to adjacent habitats during construction, these species will likely perish due to competition and the fact that these adjacent areas may not be suited to their biological requirements.

While the segmentation will adversely affect animal species that need large unbroken tracts, the proposed construction will create additional ecotonal or "edge" habitats which will enhance other wildlife populations.

Animal population within the area are suppressed because of the growing human population and urbanization which have reduced available animal habitat. However, there is still a sufficient amount and variation in habitat to sustain the various plants and animals found in the project area. The proposed project should not have any major significant impact on wildlife and their distribution throughout the area. Limiting factors such as existing roads and urbanization will continue to restrict the numbers of wildlife in the corridor.

Paradoxically, the increase in human population also causes a greater need for fishing, hunting, outdoor recreation and nature study areas.

Aquatic Ecology - The continued urbanizing effects in the study area provide the potential for adverse impacts on the aquatic environment.

The process of building and operating a transportation facility, such as proposed under the I-195 improvements, interferes with hydrologic processes in various ways.

The impacts to be considered during the construction phase include: erosion of newly exposed soil; construction equipment operations in the water; chemical impacts from construction equipment (primarily oil and grease); and reduction in the amount of vegetated areas.

Water quality impacts during the operating period will consist of continuing erosion and chemical impacts resulting from maintenance operations and roadway pollutants.

Perhaps one of the most serious impacts of the proposed project would be the potential of additional sedimentation to the already heavily stressed streams in the corridor. This potential exists, in part, because of the nature of soils in the area and the significant amounts of cut and fill required for construction grading.

In addition, gathering surface runoff from the highway into culverts or other hydraulic structures and discharging that concentrated runoff along the highway or into a stream channel may significantly change velocity and discharge quantity with subsequent changes in stream regime and erosion.

Chemical water pollution can also occur from road borne pollutants such as de-icing salts, pesticides, lead salt particulates from exhaust systems and the various pteroleum products used in and about the automobile. Accidental chemical spills involving tank trucks are also of considerable concern. Quantitative predictions of the relative impacts of the alternates considered in this study with regard to roadway pollutant generation are not realistically possible at this time.

The impermeable surface created by paving the highway and shoulders causes a substantial increase in the volume and rate of surface runoff. Removal of vegetation for construction of the facility affects the process of transpiration and also influences the nature of overland flow.

The resulting effect of these conditions is that the ground will not be able to absorb as much rainfall as it has in the past. The excess water will flow quickly into the area streams, increasing the probability of higher flows downstream. The increased velocity of higher flows may alter the stream channels, decrease water quality and increase costs from flood damage.

While the initial construction of the I-195 improvements will not result in any significant impacts of these types, the more significant, long-term impact will be the incremental increase in the amount of impervious surface resulting from induced development. However, the proposed park development will not contribute to this type of impact.

In summary, impacts of construction on surface waters and the life-forms which they support may be either permanent or temporary in nature. The temporary adverse effects of siltation on surface waters and aquatic ecology will be the primary cause for concern. No significant adverse impacts should result from the proposed construction if proper care is exercised in final design, construction and maintenance of the proposed highway.

The following named streams were identified as having high probability of being affected to some degree by the proposed construction:

I. Stony Run

This stream perhaps is the most sensitive in the study area. The banks along the stream are low and very brushy while the stream generally has a sandy gravelly bottom. Some siltation may occur but it should be minimal with proper erosion controls because no stream relocations are planned. The existing Conrail tracks parallel the stream through the study area. Some pollutants from track drainage now reach the stream and the impact of this drainage likely will be greater than that to be expected from the new highway construction. Construction of the connecting ramps with the Baltimore-Washington Expressway for the Selected Alternate 2/A2A represents the greatest potential for erosion problems.

II. Deep Run

The stream banks of Deep Run are well vegetated but quite steep so sloughing of the banks undoubtedly occurs naturally with resulting siltation of the streams. The Selected Alternate 2/A2A avoids any intrusion into the drainage area of this stream except at a point near the junction of Deep Run and the Patapsco River. No serious impact on this stream is envisioned if proper erosion controls are maintained.

III. Patapsco River

Banks along the Patapsco are well vegetated and quite steep. While some erosion will occur from embankment construction adjacent to the stream crossing, the major potential for adverse impact lies in the construction of the bridges across the stream. Extreme care will be exercised to prevent contaminants from the bridge construction activities from reaching the stream.

Some construction operations and stream conditions may necessitate the construction of diversion dikes or other protection measures to avoid sediment problems. Embankment slopes or pier construction will not be permitted to encroach on the stream channel. Where practicable, a protective area of vegetative cover will be left or established between the highway embankment and the stream channel.

River Modifications (Flood Hazard Impacts) - Floods are a major problem on the Patapsco River. The floods of Hurricane Agnes in 1972 and Hurricane Eloise in 1975 caused widespread damage throughout the watershed.

Records from the Agnes flood in 1972 (the flood of record) on the Patapsco show that the water crested at approximate elevation 34.5 in the vicinity of the I-195 crossing. The flood water caused damage to residential and commercial structures in the vicinity of Elkridge along U. S. Route 1, Furnace Road and Deep Run. Portions of the Harbor Tunnel Thruway were also inundated.

The Patapsco River Flood Study, was completed jointly by the Maryland Water Resources Administration and the Baltimore Regional Planning Council in March, 1980. This study identified the flow and flood plain limits for the 100 year flood and includes consideration of flood control measures for the river.

The flood plain limits identified in this study are a refinement of the Federal Insurance Administration limits already established along the Patapsco. Maryland Water Resources Administration's analysis of the existing stream channel conditions shows that should a storm of intensity equal to Agnes reoccur now, the water level in the vicinity of the I-195 crossing will be approximately 1.5 feet higher than the 1972 level due to fill which has been placed in the river valley downstream since 1972. The water level near the harbor will be as much as 4 feet higher during an Agnes type storm than in 1972.

The Interstate 195 alternates must cross the Patapsco River Flood Plain since the project connects to MD 166 and the existing I-95 interchange to the north and to the existing main entrance into BWI Airport on MD 46 to the south. The river must be crossed to join these two termini.

Highway Noise Impacts - Determination of environmental noise impact is based on the relationship between the predicted noise levels, established design noise criteria and ambient noise levels in the study area. The applicable design noise criteria is the Federal Highway Administration's design noise level/activity relationship published in Federal-Aid Highway Program Manual (FHPM) 7-7-3.

The following levels are considered representative of the conditions encountered within the park area.

	DESIGN YEAR (2005) L10		
AMBIENT L10	NO-BUILD	ALTERNATE A	ALTERNATE B
43 dBA	45 dBA	65 dBA	65 dBA

The description of proposed development for Section 1-C of Patapsco Valley State Park identified four use areas.

The Group Picnicking Areas would not be adversely impacted by the Selected Alternate 2/A2A; they would be located over 1,000' from the roadway.

The Family Picnicking Area off of Ridge Road would be 1,600' - 1,800' from the Selected Alternate 2/A2A and no adverse impact would result. The design noise levels would not exceed Federal criteria. No adverse impact would occur.

The Scenic Overlook would be affected similarly to the discussion of the Family Picnic Area impacts.

The deck/walk area associated with the Nature Intrepretation Area would not be adversely impacted by the Selected Alternate 2/A2A. A hiking trail is proposed connecting the deck/walk area with other park use areas.

An analysis of design year noise levels was made for the Selected Alternate 2/A2A in the area adjacent to the proposed bridge over the Patapsco River. Several proposed multi-use trails would pass under this structure. Future noise levels were predicted as various distances from the highway. Table I shown on page 127 indicates the results of this analysis. Design noise levels would not be exceeded through this area with the Selected Alternate 2/A2A.

Generalized noise contours through the park are shown on Figure 33.

Additional comments are provided on pages 126 - 128, "Planning Measures To Minimize Harm, Noise Abatement".

A more detailed assessment of the noise impacts is provided in the Technical Highway Noise Report for I-195 which is available at the State Highway Administration, 707 North Calvert Street, Baltimore, Maryland.

PLANNING MEASURES TO MINIMIZE HARM

When considering the planning measures to be incorporated into the project, it is important to recognize the mitigation effects that are inherent in the park design. The areas designated for recreational development and use were designed to maximize the physical resources of the site with consideration given to the eventual I-195 improvements.

As previously stated, the Park Master Plan indicates the Selected Alternate 2/A2A alignment with the Section 1-C development. Adequate buffer areas have been maintained between the proposed highway and adjacent recreational areas in order to preserve the integrity of the recreational development and mitigate physical or aesthetic encroachment of the highway.

Visual/Aesthetic

Although I-195 does not enhance the aesthetic quality of the recreational development or remaining "natural areas", a balance of man-made development with the physical resources can be achieved without serious impacts.

During the construction of the highway, measures will be taken to minimize the impacts on the park area. Existing trees and other vegetation will be maintained within the undisturbed areas. Fencing will be provided along the highway right-of-way in order to restrict public access and protect wildlife.

The location and design of the river bridge will be compatible with the natural setting. The pier spacing and superstructure design will provide a clean, uncomplicated look. The use of weathering steel for the bridge superstructure will be considered.

The multi-use trails proposed along the river banks can pass under the proposed bridge. No embankment material or bridge piers will be placed in the river channel.

Although it is not possible to mold the highway alignment to the terrain through the park area, screening is provided in several areas:

The terrain, distance and vegetation between the Selected Alternate 2/A2A and areas of proposed development will provide adequate shielding for park users.

The group picnicking area may require additional measures to reduce visual impacts of the Baltimore/Washington Expressway. Plantings, placed along the ramp connection from the southbound lanes, would provide the required shielding. Plantings will be selected to harmonize with existing vegetation.

The location of the Selected Alternate 2/A2A along the Conrail tracks can provide benefits in two respects: (1) to integrate highway and rail facilities along a single corridor and (2) to be used as a buffer to reduce proximity impacts to environmental resources.

In the area adjacent to the railroad, the proposed grade for the Selected Alternate 2/A2A is higher than the tracks. Therefore, no visual shielding would be provided. The most significant benefit resulting from the joint corridor will be in reducing water quality impacts to Stony Run. The intersecting embankments of the railroad and the Selected Alternate 2/A2A will provide more effective control of storm water runoff. Storm water runoff could be channeled along the intersecting embankments and selectively discharged into Stony Run. Sedimentation basins could be constructed at these locations to prevent the discharge of sediment and to reduce erosive outlet velocities.

River Modifications (Flood Hazard Impacts)

A flood control measure that is being considered in the Patapsco River Basin Study is the removal of the abandoned railroad embankment upstream from the I-195 crossing which constricts the channel to 200 to 300 feet; this measure would lower the flood level for portions of Elkridge. If the Water Resources Administration decides to remove the embankment, the work could be accomplished as part of the I-195 construction by using the excavated material as fill for I-195. Additional studies would be performed by the Water Resources Administration in order to assess the potential effects of this flood control measure.

During the preliminary design phase of this project, hydraulic/hydrologic studies will be performed to establish the design requirements that would accommodate a storm of the proportions of the flood of record (Agnes, 1972). These design features would provide measures to insure the structural integrity of the facility in the event the area was flooded. The design measures would include adequate embankment and slope protection.

The project will be designed to meet the HUD requirements. The federal criteria for purposes of regulating development in the flood plain is set forth in the Code of Federal Regulations at 24 CFR, 1910.1(d). The Maryland Department of Natural Resources regulations governing construction in flood plains will also be adhered to in the design for I-195. The project will also be coordinated with the Army Corps of Engineers and the required approvals will be obtained.

The Selected Alternate 2/A2A will not have a significant encroachment on the flood plain. The encroachment will not result in any risk or impacts to human activity, the beneficial flood plain values or provide direct or indirect support to further development within the flood plain. The removal of the old railroad embankment would lessen potential flood impacts to the town of Elkridge, U. S. Route 1 and the Harbor Tunnel Thruway.

Aquatic Ecology

Erosion control measures will be provided on the project in accordance with state and county regulations. Adequate technology exists to insure that construction activities which cause land disturbances will have a minimal, if not negligible, impact upon surface water quality from the standpoint of erosion and sediment. With cooperation from the responsible state and federal

agencies, the most appropriate and feasible mitigative measures to reduce any adverse impacts will be incorporated in the final design plans. Erosion control measures to be employed are very site specific. The control measures to be used depend on soil types, slope angle and length, seepage areas and exposure. Site investigations must be conducted prior to the selection and implementation of specific erosion control projects.

The construction of the I-195 improvements will require the following Federal and State permits: Federal Water Pollution Control Act, Section 404 Permit; Waterway Construction Permit; and Sedimentation and Stormwater Control Permit.

Because of the significant amount of fill required for the project, a large amount of borrow material will be required. Proper selection of borrow material should include potential impacts of borrowing on surface water quality. It may be possible to coordinate some borrow site selection with design of erosion control measures such as permanent sediment ponds. Borrow which has adequate stability and a low erosion potential will be selected wherever possible. Care must be exercised to avoid creating erosion problems in borrow areas which may be located outside the immediate study area.

No borrow pits will be approved within the proposed boundary of Patapsco State Park without the approval of the Department of Natural Resources.

State Highway Administration procedures require the contractor to obtain all required borrow materials and to dispose of all waste materials resulting from the construction project. In accordance with the provisions of Chapter 245 of the Acts of 1970 for the State of Maryland, it is also necessary for the contractor to obtain permits from the appropriate state and county agency for any off-site work, which includes borrow pits, waste areas and the treatment of these during and after completion of the project. The county agencies will refer the plan for such areas to the Soil Conservation District for review and approval of the erosion and sediment control provisions. The erosion control features installed by the contractor shall be acceptably maintained for the duration of the contract.

Control of potential pollutants other than sediment depends to a large degree on proper siting of material storage and equipment maintenance areas. Proper design will minimize runoff from such sites. Concern for pollution potential also will dictate materials and methods to be used for controlling dust in the construction area. Highway maintenance activities can have a significant effect on pollutant and sediment discharge from roadways so care must be exercised to minimize such discharges.

The proposed design for I-195 with wide relatively flat vehicle recovery areas between roadway pavements and open, typically grassed, roadside ditches will serve to filter out and trap many roadway pollutants before they reach area streams. Proper design of highway drainage structures and the provision of grassed buffer strips where feasible will also reduce pollutant loading of surface waters.

Timing of construction operations would have a significant effect on the magnitude of the impacts on surface water quality in the area. Therefore, the recommendation of the Maryland Fisheries Administration that no in-stream construction and no construction including substantial earthmoving operations in the vicinity of the stream crossings will be permitted from March 15 to June 15 is supported in order to protect aquatic resources in the project area.

The proposed I-195 improvements will not require any stream relocations.

The comments resulting from early coordination with the Maryland Department of Natural Resources, Water Resources Administration concerning surface water impacts are reflected in the proposed I-195 design.

Section 4(f) Land Replacement

Section 6(f) of the Land and Water Conservation Fund Act applies to conversion of Land and Water Conservation Fund project lands to other than recreational use and requires the Department of Interior's approval and "the substitution of other recreational properties of at least equal fair market value and of reasonable equivalent usefulness and location".

The Capital Programs Administration has indicated that none of the parkland within the I-195 project area was purchased with Federal Funds. This was confirmed in a telephone conversation with the Capital Programs Administration on April 14, 1982. Therefore, the provisions of Section 6(f) are not applicable to this project.

The Capital Programs Administration has recently qualified to receive federal funding for future park land acquisition.

The State Highway Administration and the Department of Natural Resources have held preliminary discussions concerning the land replacement measures to be implemented. It has been tentatively agreed that the following requirements will be incorporated in the future land replacement agreement:

> "Any replacement lands will be designated by the Department of Natural Resources, outside of the existing park boundaries and will be of equal fair market value, equal acreage, and/or of reasonably equivalent usefulness, quality, and location. Mitigation for noise impacts will require further study or negotiation."
>
> (See copy of correspondence from the Capital Program Administration, page 147a.)

Noise Abatement

In response to concerns expressed by Maryland Department of Natural Resources regarding noise impacts from proposed Interstate Route 195, a detailed study of noise abatement measures through Patapsco Valley State Park, south of U. S. Route 1 has been conducted.

The specific area investigated was where several proposed trails in the Patapsco Valley State Park would pass beneath the Interstate Route 195 alignment. Impact analysis addressed two (2) conditions; 1) noise levels without any barrier effects, taking into account shielding from the elevated structure, cut/fill slopes, etc. and 2) noise levels with noise barriers incorporated into the project. Analysis of these two (2) conditions allows for comparison of the effectiveness of the structure, fill sections, etc. as noise barriers and potential additional noise attenuation from a system of noise barriers.

Potential noise impacts on a nature trail system located along the Patapsco River were studied out to a distance of approximately 700-800 feet from the proposed Interstate Route 195 Selected Alternate 2/A2A alignment. The proposed bridge (approximately 1,700 feet in length) over the Patapsco River would serve as a partial barrier to traffic noise. The area closest to the bridge (and fill section) would receive the greatest amount of shielding from traffic noise (6 dBA). Resultant noise levels from the section of Interstate Route 195 in the vicinity of the Patapsco River and trail system are not expected to exceed Federal L10 design criteria of 70 dBA due to the natural shielding of the bridge and fill sections. See Table I, page 127. The proposed formal Nature Intrepretation Area would not be significantly impacted by noise with the construction of the Selected Alternate 2/A2A.

The potential effectiveness of placing noise barriers on the bridge parapet to further reduce noise levels in the trail area was also studied. Two (2) barrier schemes were analyzed. Table II, page 128, presents comparative data associated with each barrier scheme.

Generally, the noise barrier schemes studied could achieve some additional reduction in noise levels within the park, however, only the areas closest to the bridge (±100') would benefit from a barrier system. At areas farther away from the bridge, the barrier schemes would not effect any significant reduction in projected noise levels.

The maximum reduction from a twelve foot (12') noise barrier would be 6 dBA at 100' from the structure. A ten foot (10') barrier construction on both sides of the structure would yield a 5 dBA reduction in noise levels at the same 100' reference point. A reduction of 5-6 dBA is considered marginal. In view of the fact that design noise level criteria will not be exceeded, no noise barriers are recommended.

Coordination with the Maryland Department of Natural Resources, Capital Programs Administration, has been conducted regarding potential impacts to Patapsco Valley State Park. A meeting was held with the Department of Natural Resources on November 18, 1980. As a result of that meeting, it was agreed to perform a noise analysis to determine noise impacts and possible mitigation measures through the park. The results of the anlaysis showed that design noise levels, for that type of land use, would not be exceeded. The report also concluded that if noise barriers were constructed only a marginal decrease in noise levels would be achieved. Due to only a marginal decrease in noise levels and the fact that design standards would not be exceeded it was determined further consideration of noise barriers was not warranted.

The results of the analysis was sent to the Department of Natural Resources on January 30, 1981 for review and comment. The Department of Natural Resources did not disagree with the results of the analysis.

Other areas where the Selected Alternate 2/A2A would cross parkland have not been designated for specific development. These would serve as support and buffer lands for picnic activity areas.

Table I

Interstate Route 195, Route 1 - B/W Parkway
Patapsco Valley State Park
Noise Study
Selected Alternate 2/A2A

NSA	Distance From Highway Edge	Without Barriers	Scheme I 10' Barrier (on Bridge)		Scheme II 12' Barrier (on Bridge)	
		L10	L10	Atten.	L10	Atten.
1	650' E	65 dBA	64 dBA	-1	64 dBA	-1
2	550' E	65	63	-2	63	-2
3	350' E	67	64	-3	64	-3
4	210' E	65	59	-6	59	-6
5	75' E	65	59	-6	59	-6
6	70' W	64	61	-3	61	-3
7	230' W	65	62	-3	61	-4
8	400' W	65	62	-3	62	-3
9	580' W	64	62	-2	61	-3
10	710' W	64	62	-2	62	-2

Table II

Selected Alternate 2/A2A

Barrier Scheme	Location	Height	Total Barrier Length	Expected Reduction[1]	Estimated Cost[2]
I	Atop bridge parapet (NB & SB)	10'	3400'	1 - 6 dBA	$510,000
II	Atop bridge parapet (NB & SB)	12'	3400'	1 - 6 dBA	$612,000

[1] Greatest reduction occurs within 100'± of bridge

[2] Based on assumed in-place cost of $15.00/sq. feet

BASIS FOR THE DETERMINATION THAT THERE ARE NO FEASIBLE AND PRUDENT ALTERNATIVES TO THE USE OF LAND FROM PATAPSCO VALLEY STATE PARK

The determination that there are no feasible and prudent alternatives to the use of land from Patapsco Valley State Park is supported by the following:

1. The need for the project has been firmly established. The proposed project is an essential element in the growth and development in the vicinity of the Baltimore/Washington International Airport. Therefore, the adoption of the "no-build" alternate is not a prudent option.

2. Because of the configuration of the park, any build alternative joining the project termini must cross park lands.

3. An analysis performed on the area's highway system indicated that an alternate corridor or facility could not effectively serve the function of proposed I-195.

4. Alternate alignments were developed within the project corridor. The Selected Alternate 2/A2A minimizes the impact on park lands and is in accordance with the adopted Master Plan.

BASIS FOR THE DETERMINATION THAT THE PROPOSED ACTION INCLUDES ALL POSSIBLE PLANNING TO MINIMIZE HARM

The studies for I-195 have been closely coordinated with the Maryland Department of Natural Resources (DNR), Capital Programs Administration. The park areas designated for recreational development and use in the Park Master Plan have been avoided by I-195. The siting of the recreational resources proposed in the Park Master Plan has been done with consideration to an eventual crossing of I-195 while also making maximum use of the areas physical resources.

Selected build Alternate 2/A2A requires the least amount of parkland.

The initial impact of parkland acquisition will be mitigated by an acre for acre replacementof land of at least equal fair market value and of reasonable equivalent usefulness, quality and location.

In consideration of the overall proposal impacts and needs, the proposal has been reduced to a four lane facility.

Landscape and permanent erosion and sedimentation measures will be included in the proposal. The embankment slopes will be seeded and landscaped to reduce the intrusion into the existing natural setting. Landscaping plans will be coordinated with the park officials.

The proposed construction will not result in increased floodplain impacts and increased impacts to designated parklands.

During construction stringent controls will be enforced in order to minimize impacts to park resources.

The location and type of R/W fencing will be coordinated with the park officials.

Visual features and pier spacing of the structure will be coordinated with the park officials. The structure design will not prohibit the development of multi-use trails along the river banks.

The structure design will not require any piers to be located in the Patapsco River nor any relocation of the River.

No borrow pits will be approved within the proposed Patapsco State Park unless in cooperation with and subject to DNR's approval that borrow pits will not adversely impact any park resources or plans.

Efforts to minimize the disruption of natural areas and vegetation will be considered during design plan development and carried out during construction.

Noise abatement has been evaluated and coordinated with park officials. FHWA design noise levels will not be exceeded in the areas of the proposed designated multi-use trails. The minimal abatement possible with 10' or 12' noise barriers is not considered cost effective at this time. Other visual measures or structural features will be negotiated with the park officials during the R/W negotiations and design coordination meetings.

COORDINATION

During the course of the project development, the planning and preliminary engineering studies were coordinated with the public and government agencies. The early coordination was performed in conjunction with the Baltimore/ Washington Expressway - Maryland Route 46 study.

Copies of letters from the Maryland Department of Natural Resources, Capital Programs Administration, which contain substantive comments regarding the I-195 project, are provided on Pages 131 and 134.

A field review was held on October 31, 1979 for the purpose of reviewing the area of Section 4 (f) involvement and establishing early coordination between the agencies involved. Representatives of the United States Department of the Interior, Heritage Conservation and Recreation Service; Maryland Department of Natural Resources; and the State Highway Administration were in attendance.

A copy of the Heritage Conservation and Recreation Service's comments with responses is provided on page 133.

JAMES H. COULTER
SECRETARY
LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CAPITAL PROGRAMS ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
(301) 269-3656

FRED L. ESHLEMAN
ASSISTANT SECRETARY
FOR CAPITAL PROGRAMS

June 9, 1980

Mr. John Musser
Greenman-Pedersen Associates
221 Duke of Gloucester Street
Annapolis, MD 21401

RE: Interstate Route I 195 to Route 95
Anne Arundel County
Patapsco Valley State Park
79-LPS-22

Dear Mr. Musser:

Please excuse the delay in providing the review comments on the Department of Interior's submittal.

We have, however, completed our review and offer the following:

1. It appears as if the Department of Interior's proposal would require more park land than either alternative A or B.

2. The Department of Interior's proposal would significantly interfer with planned developments as outlined in the Patapsco Valley State Park Master Plan.

3. The Department of Interior's proposal would definitely be more visible from the proposed activities areas within the Park.

4. The Department of Interior's alignment would cross and disturb a large marsh area along Deep Run which is probably a Class I type wetlands. This marsh area is also proposed for a nature study area with an elevated wood deck and nature trail which could not coexist with the highway.

5. The Department of Interior's alignment also proposes the use of the abandoned railroad embankment. This embankment was recommended for removal by the Maryland Water Resources Administration as an obstruction to flood waters, etc.

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6. The Department of Interior's alignment would require more bridge structures, crossing a number of public roads and streams, require a span of nearly 1500'.

7. The Department of Interior's alignment appears to require the acquisition and removal of several houses and businesses and severely impact upon the town of Elkridge.

8. Lastly, since Elkridge is on the National Register of Historic Places as an Historic District, the compatability of the alignment is questionable and/or further indepth archeological reconnaisance would be needed.

I again apologize for the delay and if I may be of any further assistance please do not hesitate to call me at 269-3656.

Very truly yours,

Patrick J. Bright
Administrative Officer

PJB:dlm

United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE
NORTHEAST REGION
600 Arch Street - Room 9310
Philadelphia, Pennsylvania 19106

195

NOV 13 1979

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

Dear Mr. Camponeschi:

This is in response to your request for comments on the preliminary Section 4(f) evaluation of the I-195 crossing of the Patapsco State Park, Baltimore, Howard and Anne Arundel Counties, Maryland.

Recreation Resources

We are pleased to note the degree of early coordination and consultation which has been undertaken in the planning for I-195 improvements. The field review of this project, held on October 31, 1979, was an excellent example of "scoping" as defined under the Council on Environmental Quality's 1979 regulations for implementing the provisions of the National Environmental Policy Act. As a result of this field review, the concerns of the Maryland Department of Natural Resources and this Service were clarified, facilitating future coordination on this project.

On the basis of available information, Alternate A will have the least impact on those resources of interest to this Service while still providing the needed transportation improvements. We urge the Maryland Department of Transportation to continue coordinating closely with the Maryland Department of Natural Resources relative to Section 4(f) and Section 6(f) considerations regarding acceptable mitigation measures and replacement lands to minimize harm to the Patapsco State Park. *

Historic and Archeological Resources

Pursuant to Section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593, any project using Federal funds must adequately survey the proposed project area for National Register or potential

* See pages 122 thru 128 of this statement.

National Register properties. The draft environmental/Section 4(f) statement prepared for this project should include the results of such survey work and evidence of coordination with the State Historic Preservation Officer in this regard. *

These comments are provided on a technical assistance basis only and should not be construed as reflecting a position by the Secretary of the Interior. If further assistance is required, please do not hesitate to contact me at (215) 597-7996.

Sincerely,

Michael H. Gordon
Assistant Regional Director

* Coordination with the State Historic Preservation Officer was maintained throughout the project studies. See pages 136 thru 147 of this statement.

COMMENTS AND COORDINATION

COMMENTS AND COORDINATION

The following letters, which were received subsequent to the Location Public Hearing, contain substantive comments regarding the I-195 project. Copies of these letters are provided on the following pages:

Letter From:

1. L. W. Gregory, Westinghouse Electric Corporation, 5/14/80, page 136.
2. T. James Truby, Acting Administrator, State Aviation Administration, 7/21/80, page 137.
3. Charles H. Smith, Administrator, State Railroad Administration, 6/18/80, page 139.
4. Tyler Bastian, State Archeologist, Maryland Geological Survey, 7/17/80, page 141.
5. Patrick J. Bright, Administrative Officer, Capital Programs Administration, 6/9/80, page 143.
6. J. Rodney Little, State Historic Preservation Officer, 10/10/79, page 145.
7. J. Rodney Little, State Historic Preservation Officer, 10/19/79, page 146.
8. L. E. Hughes, Maryland Department of Natural Resources, Water Resources Administration, 10/23/79, page 147.
9. Patrick J. Bright, Administrative Officer, Capital Programs Administration, 3/13/81, page 147a.
10. John D. Green, Area Manager, U.S. Department of the Interior, Fish & Wildlife Service, 8/20/81, Page 147-b.
11. J. Rodney Little, State Historic Preservation Officer, 5/4/82, page 180-a.
12. J. Rodney Little, State Historic Preservation Officer, 5/4/82, page 146 A.
13. Advisory Council on Historic Preservation, 6/1/82, page 146 B.

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Westinghouse Electric Corporation **Defense Group**

Defense and Electronic
Systems Center
Aerospace & Electronic
Systems Division

Baltimore-Washington
International Airport
Box 1693
Baltimore Maryland 21203
(301)765-4487

May 14, 1980

Mr. Hal Kassoff, Director
Office of Planning & Preliminary Engineering
Maryland Department of Transportation
State Highway Administration
300 W. Preston Street
P. O. Box 717
Baltimore, Maryland 21203

Dear Mr. Kassoff:

Reference: AA-220-151-572

This is confirm that, as a result of our meeting on May 6th in your office, Westinghouse does not impose objections to the Alternate 2/A2A proposed construction of the I-95/Md. 170 Interchange and the improvements to Md. 170 in front of Westinghouse as set out and discussed in your office.

Very truly yours,

L. W. Gregory
Asst. to the President
Westinghouse D&ESC

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Maryland Department of Transportation

STATE AVIATION ADMINISTRATION

James J. O'Donnell
Secretary
T. James Truby
Acting Administrator

MEMORANDUM

TO: M. Slade Caltrider, Administrator
State Highway Administration

FROM: T. James Truby
Acting Administrator

SUBJECT: Interstate Route 195 and the BWI Amtrak Station Access

DATE: JULY 21 1980

This memorandum is to express the strong support of the State Aviation Administration for the upgrading and extension of Interstate Route 195 and the provision of additional access to the BWI Amtrak Rail Station. The Aviation Administration believes that these projects are necessary and desirable to the continued success of Maryland's only air carrier airport, Baltimore/Washington International Airport.

The soon to be completed Rail Station at BWI will be the first intermodal rail/air facility in the country. As part of the Aviation Administration's continuing commitment to the intermodal concept, we will provide a shuttle bus system linking the Rail Station with the Airport Terminal. Ease of access to the Rail Station will be a critical determinant in the success of the Station. The provision of additional access via Elkridge Landing Road must be viewed as an essential element of the circulation pattern to and from the Rail Station, particularly during peak traffic periods. Daily air and rail travel peaks are coincident with daily work trip peaks. Limiting access to the present single point will undoubtedly increase travel time for Station users, while contributing to higher traffic densities and congestion. The initial Rail Station access intersection with Md. 170 must, during the peak hours, accommodate Rail Station users, north and southbound Md. 170 traffic, and traffic associated with Westinghouse's employee parking lot.

Accordingly, the SAA supports a second access route via Elkridge Landing Road to relieve the traffic burden on the Md. 170 intersection, while providing an alternate path to the Station for the Airport/Train Station shuttle bus system and more direct access for the large business office community located on Elkridge Landing Road. We have always viewed the single Md. 170 access to the Rail Station as an interim measure to be used until such time as it could be complimented by additional access. The proposed improvements to I-195 provide the opportunity to implement this necessary additional roadway.

SHA
7/22/80

With regard to the proposed upgrading and extension of I-195, Baltimore/Washington International Airport is situated between and services two major metropolitan areas. Therefore, highway access from both areas is required. Currently, the major ground access to the Airport is I-195, which links the Airport Terminal directly with Md. Rt. 170 and the Baltimore/Washington Parkway.

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Every air trip begins with a ground trip to the Airport. The upgrading of I-195 and its extension to existing I-95 is considered essential to BWI's role as a major air carrier airport serving the Baltimore-Washington Bi-region. The role of BWI as a Bi-regional Airport is recognized by the pending Federal Aviation Administration Policy Statement for Washington National Airport, which is anticipated to limit passenger growth at Washington Airport as part of encouraging balanced utilization of the three Bi-region Airports -- BWI, National and Dulles.

The direct connection between I-95 and the BWI Passenger Terminal will decrease the travel times from both Baltimore and Washington, while negating the existing movement from I-95 to U.S. Rt. 1 to Md. Rt. 100 to Md. 176 to the B/W Parkway to I-195. As BWI's growth in passengers continues, 3.9 million in 1979 and projected to 10 million in 1995, the demand for direct interstate access will increase.

Air freight activity at BWI accounts for approximately 50% of the total volume of air freight handled by the three bi-region airports. An integral part of all air freight is the movement of freight to and from the Airport by truck. BWI air freight activity is also projected to expand significantly in the future, from 190 million pounds in 1979 to 750 million pounds in 1995. A direct link with the Interstate system will accommodate this growth while helping to decrease truck traffic on local service streets in the vicinity of the Airport.

In conclusion, let me reemphasize the State Aviation Administration's support for these projects. As BWI Airport will benefit from the improvements, so will the citizens of the bi-region and the State of Maryland, through an improved, unified transportation system.

TJT/fb

Maryland Department of Transportation
State Railroad Administration

James J. O'Donnell
Secretary

Charles H. Smith
Administrator

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MEMORANDUM

TO: M. Slade Caltrider, Administrator
State Highway Administration

FROM: Charles H. Smith
Administrator

DATE: June 18, 1980

SUBJECT: Interstate Route 195 and the Amtrak Station at BWI

After nearly a decade of planning studies, engineering and design efforts, construction of the Amtrak railroad station at BWI Airport is nearing completion. This station will be the first intermodal rail/air facility in the country. The Congress has funded the construction of the station as a demonstration project, while interim road access and the parking lot have been funded in part by FHWA.

The new rail station is intended to serve three very specific markets. The largest of these, at least initially, is the commuter rail market to Washington, D.C. At present, there is no commuter rail service available in the airport vicinity. The nearest stations are at Halethorpe, 4 track miles to the northeast and Odenton, 7 track miles to the south. The new station will thus provide much more convenient commuter rail service to residents of the airport vicinity, in particular, Linthicum, Glen Burnie, Brooklyn, Lansdowne, etc. Projections made in the mid 1970's by MDOT indicate a potential ridership of approximately 300 in each peak period. In addition, SRA is initiating a staging analysis which will develop a detailed plan for commuter service from the BWI area into Baltimore City.

The second market identified is the intercity rail passenger. At present, the two stations serving Maryland residents are the Capital Beltway Station (I-495 at U.S. 50) and Penn Station in Baltimore City at 1500 North Charles Street. The former station basically services Prince George's and Montgomery Counties. Penn Station is meant to serve the entire Baltimore region. However, due to its location on the north side of the central business district, its primary draw is from Baltimore City and northern Baltimore County. The new station

My telephone number is (301) – 787-7210

Post Office Box 8755, Baltimore-Washington International Airport, Maryland 21240

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at BWI is expected to tap the Howard and Anne Arundel County markets. This bi-county area is one of the fastest growing in the state, and its access to Penn Station from the south is constrained by driving through many blocks of city traffic. Often, it takes 45 minutes or more to go from Columbia to Penn Station. Thus, the new station at BWI will provide more convenient service to the existing intercity rail traveler, and because of the great improvement in accessibility to the bi-county area, MDOT has projected that over 100 new intercity rail passengers will initially utilize the new station on a daily basis. Based on this potential, Amtrak has tentatively identified 8-12 daily trains (to Philadelphia, New York, Boston, Richmond, etc.) which will stop at the station when it opens in October.

The third market is the air traveler who will be attracted to the rail service at the beginning or end of an air trip. I understand that the State Aviation Administration will be addressing this topic directly.

A key factor to the success of this station in realizing the potential of these three markets is highway access to the facility. Because of its proximity to a major international airport and a three track electrified railroad, the existing road network is not conducive to full and adequate access to the station site. The interim access road now being constructed from Maryland 170 will provide access to potential rail passengers from the eastern part of the area (Glen Burnie, Linthicum, Brooklyn). However, residents of nearby communities west of the station (Columbia, Ellicott City, Arbutus, Catonsville, etc.) will not be afforded convenient access to the site. SHA's proposed construction of I-195 with a full interchange at Elkridge Landing Road will remedy this situation by permitting future construction of a second access road to the new rail station. This will not only provide better station access to the rail passenger but will also greatly enhance circulation for other traffic attracted to the airport vicinity from the west.

Direct access from I-95 will certainly be more attractive to the intercity rail passenger coming from the western Anne Arundel and eastern Howard County areas. Because of the additional frequencies afforded by the supplemental Amtrak trains, rail commuters may bypass limited B&O service to use the new station at BWI. Under the interim scheme, station users would probably have to use Dorsey, Stony Run, or Ridge Roads, or the Baltimore-Washington Parkway to Maryland 46 and then Maryland 170 to reach the site.

The second access made possible by the construction of I-195, combined with the well-planned parking facility at the station, would ensure the maximum success of this intermodal demonstration project.

CHS:dlm

cc: Mr. Hal Kassoff
Mr. Victor Janata
Mr. Jim Truby
Mr. Bill Connors

STATE OF MARYLAND

DIRECTOR
KENNETH N WEAVER

DEPUTY DIRECTOR
EMERY T. CLEAVES

TELEPHONE
301 338-7771

MARYLAND GEOLOGICAL SURVEY

THE JOHNS HOPKINS UNIVERSITY
MERRYMAN HALL
BALTIMORE, MARYLAND 21218

Division of Archeology
NEW PHONE NUMBER: 338-7236

17 July 1980

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

Re: Interstate 195
AMTRAK Access Road

Dear Mr. Camponeschi:

As requested by Rita Suffness of your office, we have reviewed the subject project with respect to archeological site 18 AN 23. While Dr. Kinsey's 1978 investigations of the site appeared to indicate that the proposed access road is located outside of the site area, additional testing of the southern edge of the site was deemed necessary. As a result, on 11 July 1980, Dennis C. Curry of my office excavated and screened seven test pits (30 cm -- the same as Kinsey's) along this southern edge of the site.

Based on the findings of Kinsey and on the testing carried out by Curry, the newly proposed alignment of the AMTRAK access road, shown on the attached map, is not likely to adversely impact any significant archeological remains at 18 AN 23.) Neither Curry nor Kinsey recovered any aboriginal artifacts in the proposed right-of-way. (Kinsey's tests suggest that the main part of the site is located 400 feet north of the proposed access road, but he found a few artifacts near the proposed road as shown on the attached map.)

No further archeological work will be required if the subject access road alignment is implemented. However, it is requested that the northern side of the right-of-way be demarcated in some fashion so as to eliminate the possibility of inadvertent site disturbance during construction.

If I may be of further assistance on this matter, please contact me. Thank you for your effort to avoid this potentially significant archeological resource.

Sincerely,

Tyler Bastian
State Archeologist

Attachment

cc: John Musser
Richard S. Krolak
J. Rodney Little

TB:DCC:pdt

JAMES B. COULTER
SECRETARY
LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CAPITAL PROGRAMS ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
(301) 269-3656

FRED L. ESKEW
ASSISTANT SECRETARY
FOR CAPITAL PROGRAMS

June 9, 1980

Mr. John Musser
Greenman-Pedersen Associates
221 Duke of Gloucester Street
Annapolis, MD 21401

RE: Interstate Route I 195 to Route 95
Anne Arundel County
Patapsco Valley State Park
79-LPS-22

Dear Mr. Musser:

Please excuse the delay in providing the review comments on the Department of Interior's submittal.

We have, however, completed our review and offer the following:

1. It appears as if the Department of Interior's proposal would require more park land than either alternative A or B.

2. The Department of Interior's proposal would significantly interfer with planned developments as outlined in the Patapsco Valley State Park Master Plan.

3. The Department of Interior's proposal would definitely be more visible from the proposed activities areas within the Park.

4. The Department of Interior's alignment would cross and disturb a large marsh area along Deep Run which is probably a Class I type wetlands. This marsh area is also proposed for a nature study area with an elevated wood deck and nature trail which could not coexist with the highway.

5. The Department of Interior's alignment also proposes the use of the abandoned railroad embankment. This embankment was recommended for removal by the Maryland Water Resources Administration as an obstruction to flood waters, etc.

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6. The Department of Interior's alignment would require more bridge structures, crossing a number of public roads and streams, require a span of nearly 1500'.

7. The Department of Interior's alignment appears to require the acquisition and removal of several houses and businesses and severely impact upon the town of Elkridge.

8. Lastly, since Elkridge is on the National Register of Historic Places as an Historic District, the compatability of the alignment is questionable and/or further indepth archeological reconnaisance would be needed.

I again apologize for the delay and if I may be of any further assistance please do not hesitate to call me at 269-3656.

Very truly yours,

Patrick J. Bright
Administrative Officer

PJB:dlm

Maryland Historical Trust

October 10, 1979

Mr. Eugene T. Camponeschi, Chief
Bureau of Project Planning
State Highway Administration
300 W. Preston Street
Baltimore, Maryland 21203

RE: Proposed Interstate 195, AA 220-151-572, HO 551-151-772,
Selby Grist Mill site (18 An 494)

Dear Mr. Camponeschi:

Wayne Clark has discussed with me Dennis Curry's letter of 1 October 1979 concerning the presence of site 18 An 494 within the area of the I-195 corridor. This 18th century site is currently protected by silts deposited by various storms but observations of the site during the late 1960s by Wayne Clark indicate that significant archeological remains exist at the site. The site is eligible for nomination to the National Register of Historic Places.

The current alternates A and B will not directly impact the site, but if alternate A is selected, the area of the site should be fenced and indirect impacts avoided. Changes in the present plans should be reviewed by Wayne to determine potential impacts.

I thank Dennis Curry for his prompt response to our request for clarification of this issue.

Sincerely,

J. Rodney Little
State Historic Preservation
Officer

JRL/njm

cc: Mr. Dennis Curry
Mrs. Rita Suffness
Ms. Amy Schlagel

Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301)269-2212, 269-2438
Department of Economic and Community Development

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Maryland Historical Trust

October 19, 1979

Mr. Eugene T. Camponeschi
Bureau of Project Planning
State Highway Administration
300 West Preston Street
Baltimore, Md. 21203

RE: I-195 from BWI to I-95
AA 711-000-526

Dear Mr. Camponeschi:

This office believes the St. Denis/Relay Historic District is of local significance and probably not eligible for the National Register and that houses A and B are eligible for the Register. Ramp C (Alt. A & B) will have no adverse effect on houses A & B. Ramp F (Alt. A), Ramp A (Alt, B) and Ramp A (Alt. A) will have no effect on historic properties.

Sincerely,

J. Rodney Little
State Historic
Preservation Officer

JRL:GJA:mms

cc: George Andreve
cc. GPA 11/13/79 ✓

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Maryland Historical Trust

May 4, 1982

Mr. Hal Kassoff, Director
Office of Planning & Preliminary Engineering
Maryland Department of Transportation
State Highway Administration
P.O. Box 717
707 North Calvert Street
Baltimore, Maryland 21203

Re: Contract No. AA-220-151-572 F.A.P. No. I-195-1 (1)
Interstate Route 195 from Baltimore/Washington
International Airport to Interstate 95

Dear Hal:

Thank you for your letter of April 2nd regarding the above referenced project. Our preliminary determination is that this proposed road will have no adverse effect on the Smith House, provided the landscape plans for the State Highway Administration rights-of-way are reviewed and commented on by our office. This is a preliminary determination of effect because the National Register has not yet made a decision regarding the eligibility of the Smith House.

Since this is a conditional determination of no adverse effect, you will need to request the comments of the Advisory Council. We look forward to working with SHA to complete the federal historic preservation review of this project.

Sincerely,

J. Rodney Little
Director/State Historic
Preservation Officer

JRL/GJA/mf

cc: Ms. Amy Schlagel
Mr. Louis Ege
Mr. Charles L. Wagandt
Mr. W. Boulton Kelly
Mr. Mark R. Edwards
Mr. George J. Andreve

RECEIVED
MAY 5 1982
DIRECTOR, OFFICE OF
PLANNING & PRELIMINARY ENGINEERING

Advisory Council On Historic Preservation

1522 K Street, NW
Washington, DC 20005

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June 1, 1982

Mr. Emil Elinsky
Division Administrator
Federal Highway Administration
The Rotunda - Suite 200
711 W. 40th Street
Baltimore, MD 21211

Dear Mr. Elinsky:

On May 20, 1982, the Council received your determination that the proposed I-195 highway link, Baltimore and Anne Arundel Counties, Maryland, would not adversely affect the Smith House, a property eligible for the National Register of Historic Places. In accordance with Section 800.6(a) of the Council's regulations (36 CFR Part 800), the Executive Director does not object to your determination given your assurance that the conditions of the Maryland SHPO regarding the Smith House (SHPO letter of May 4, 1982) and archeological site 18An494 (SHPO letter of October 10, 1979) will be followed.

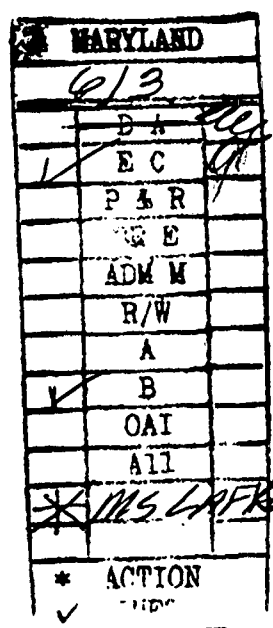
As provided in Section 800.9 of the Council's regulations, a copy of your determination of no adverse effect, along with supporting documentation and this concurrence, should be included in any assessment or statement prepared for this undertaking in compliance with the National Environmental Policy Act and should be kept in your records as evidence of your compliance with Section 106 of the National Historic Preservation Act and the Council's regulations.

Thank you for your cooperation.

Sincerely,

Jordan E. Tannenbaum

Jordan E. Tannenbaum
Chief, Eastern Division
of Project Review



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Thomas C. Andrews
DIRECTOR

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
WATER RESOURCES ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
269-3825

October 23, 1979

Mr. John Musser, P.E.
Greenman-Pedersen Associates
221 Duke of Gloucester Street
Annapolis, Maryland 21401

Dear Mr. Musser:

In response to your request for comments on the impact of the I-195 bridge over the Patapsco River on flooding, the following information is provided.

The proposed bridge (Alternate B) has no measurable effect on the 100-yr flood and only raises the Agnes elevation 0.1 ft. This occurs only if the low chord is kept above the Agnes flood elevation of 35.9 feet. These results were determined using the data submitted by your office and our HEC-2 computer model.

I would recommend that the bridge be constructed above the Agnes flood level, since the effect on the flood flows is negated and the road will provide access across the Patapsco River during an extreme flood.

Please don't hesitate to contact me with any further questions.

Sincerely,

L.E. Hughes

LEH/vb

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JAMES B. COULTER
SECRETARY
LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
CAPITAL PROGRAMS ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS, MARYLAND 21401
(301) 269-3656

FRED L. ESKEW
ASSISTANT SECRETARY
FOR CAPITAL PROGRAMS

March 13, 1981

Mr. Richard Krolak
Maryland Department of Transportation
77 N. Calvert Street
Room 314
Baltimore, MD 21201

RE: I-195
Patapsco Valley State Park
79-LPS-22

Dear Mr. Krolak:

This is to confirm receipt of the minutes of our November 18, 1980 meeting as well as the supplemental noise study.

The comments on the above are as follows:

1. Page 2, line 2 - there are two trails along the Patapsco River at this point the one mentioned in the report and the multi-purpose trail on the north side. Due to their proximity mitigation for one would cover the other.

2. Page 3 - the discussion of replacement land should indicate that any replacement lands will be designated by the Department of Natural Resources, outside of the existing park boundaries and will be of equal fair market value, equal acreage, and/or of reasonably equivalent usefulness, quality, and location. Mitigation for noise impacts will require further study or negotiation.

Hoping the above is acceptable,

Very truly yours,

Patrick J. Bright
Administrative Officer

PJB:dlm

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

214

AUG 2 0 1981

Mr. Wm. F. Schneider, Jr., Chief
Bureau of Project Planning (Room 310)
State Highway Administration
P.O. Box 717
Baltimore, MD 21203

Dear Mr. Schneider:

This responds to your August 6, 1981, request for information on the presence of Federally listed or proposed endangered or threatened species within the areas affected by: (1) the Interstate Route 195 construction project between I-95 and the BWI Airport, and (2) the proposed Alternate 2/A2A between the BWI Airport and U.S. Route 1.

Except for occasional transient individuals, no Federally listed or proposed species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 Consultation pursuant to the Endangered Species Act of 1973 is required with the Fish and Wildlife Service (FWS). Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

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

Thank you for your interest in endangered species. If you have any questions, or if we can be of further assistance, please contact Martha Carlisle of our Endangered Species staff at (301) 269-6324.

Sincerely yours,

John D Green

John D. Green
Area Manager

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Regional Planning Council
2225 North Charles Street Baltimore, Maryland 21218 (301) 383-5838
J. Hugh Nichols, *Chairman* Walter J. Kowalczyk, Jr., *Executive Director*

December 30, 1981

Mr. Hal Kassoff, Director
Planning and Preliminary Engineering
State Highway Administration
707 North Calvert Street
Baltimore, Maryland 21203

Re: Final Environmental Statement
I-195 from BWI Airport to I-95

Dear Hal:

We have reviewed the Final Environmental Statement for I-195 and have found that the concerns raised in our review of the draft in early 1980 have been adequately addressed. We commend your selection of the scaled-down facility from six lanes to four lanes and find your recommended alternative both acceptable and consistent with the General Development Plan.

Very truly yours,

David J. Dunlap, Director
Transportation Planning Division

AGENCIES NOTIFIED AND A COPY OF THEIR REPLY

FOLLOWED BY MARYLAND STATE HIGHWAY ADMINISTRATION

EVAULATION AND RESPONSE WHEN APPLICABLE

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DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION
434 WALNUT STREET
PHILADELPHIA, PENNSYLVANIA 19106

REGION III

January 10, 1980

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

Re: Draft Environmental Impact Statement/4(f) Involvement for Interstate 195

Dear Mr. Camponeschi:

This is in response to your letter of December 26, 1979 requesting our review and comments on the subject environmental document. We have completed our review and offer the following comments which should be considered in the preparation of the final EIS/4(f) Involvement:

1. The document should specifically describe whether any existing bus service will be affected by the proposed action. This information is especially important for the bus service that operates to the Baltimore-Washington International Airport (BWI). Every effort should be made to maximize the transit usage of the facility. 1

2. The document should discuss whether any construction impacts would occur on the existing bus and rail service in the study area.

3. Both construction alternatives should include the access roads to the AMTRAK station as a component of the total project. This component would consist of the roadway connection from MD Route 170 and the access roadway from Elkridge Landing Road. Both roadways should allow for full and direct access from I-195, MD 170 and Elkridge Landing Road to the railroad station. 2

We hope these comments prove useful in the preparation of the final EIS for I-195. Please feel free to contact John R. Caruolo at 215-597-4179 for any questions you have concerning our comments.

Sincerely,

FRANZ K. GIMMLER
Regional Director

GPA - 1/17/80 ✓

cc: Mr. Emil Elinsky
FHWA, MD Division
Mr. W. H. White
FHWA Region III

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Response to comments made by Department of Transportation, Urban Mass Transit Administration:

Bus service to the BWI Airport is provided by the Mass Transit Administration, Airport Limousine Service and Capital Trailways. Access to the Airport is via either MD 46 and the B-W Expressway or MD 170, Hammonds Ferry Road and MD 3. The selected alternate will have no affect to existing bus service in the project area.
In addition, the State Aviation Administration will provide shuttle bus service between the Airport and the Amtrak station. Airport buses would use MD 170 on trips to the terminal and return to the station via Elm Road/ Elkridge Landing Road. 1

The Selected Alternative, Alternate 2/A2A, includes the provision for two (2) access roadways to the Amtrak station; a roadway connection from MD 170 and an access roadway from Elkridge Landing Road. The access roadway from MD 170 is part of the Amtrak station facilities. The Elkridge Landing Road connection will be advanced with the proposed I-195 improvements for Design Approval. 2

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

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ER-80/6

FEB 2 8 1980

Dear Mr. Elinsky:

This is in response to a request for the Department of the Interior's comments on the draft environmental/Section 4(f) statement for I-195 (from Baltimore/Washington International Airport to I-95), Anne Arundel, Baltimore and Howard Counties, Maryland.

GENERAL COMMENTS

The statement is generally well prepared in that it includes both clear maps and narrative which, with minor exceptions, adequately explain the location and impacts anticipated as a result of the proposed project. However, in our view, the scope of the alternatives considered should be expanded to include the possible use of the existing old railroad embankment across the Patapsco. 1

SECTION 4(f) COMMENTS

We cannot concur at this time that there is no feasible and prudent alternative to the taking of parkland from Patapsco State Park. As part of the analysis of alternatives, we recommend that the use of the old railroad embankment mentioned on page 56 be considered. That analysis should include the amount of existing and proposed parkland which would be taken by this new alternative, as well as impacts on existing or proposed recreation development. From a recreation standpoint, the primary advantage of this alternative is that it obviates the dissecting of the park which now occurs under both Alternates A and B. Further advantages of this alternate are discussed under "Fish and Wildlife Resources." 2

Because of the potential avoidance of parkland by this alternative, we would like to review supplemental information concerning it before the final statement is circulated. If it were shown that this is not a feasible and prudent alternative and we concur with that finding, we would recommend the use of Alternate A for the highway. However, even though Alternate A reflects a positive response to the second provision of Section 4(f), we are not satisfied at this time that all possible planning has been accomplished because suitable replacement land has not been identified. Therefore, prior to the issuance of the final statement, we would also like to review the replacement land package for Alternate A pursuant to our responsibilities under Section 6(f) of the Land and Water Conservation Fund Act, after it has been approved by the Maryland Department of Natural Resources. 3

Mr. Emil Elinsky, Baltimore, Maryland

ENVIRONMENTAL STATEMENT COMMENTS

Water Resources

The discussion of geology given on pages 14-15 appears adequate for the purpose intended. However, if geologic maps were included in the Geology and Hydrology Technical Basis Report mentioned on page 15, the use of such maps in the report would be helpful. 4

On pages 15-16 dealing with ground water, Alternates A and B are indicated to be almost entirely on clays of the Potomac Group. These clays are not aquifers and function chiefly as confining layers for both overlying and underlying sandy beds. Although problems of slumping, etc. may be experienced in building a road through the clays, these would not involve water supplies from the aquifers, our field of expertise. Use of this section of the report would be expedited if the proposed road construction site was shown on a blown-up geologic map, which could be adapted from Glaser (Maryland Geological Survey County Atlas No. 1, 1976, Atlas Map No. I). 5

The statement is made on page 41 that houses on Elkridge Landing Road have shallow dug wells that are up-slope from the proposed interchange and no impact is expected. It would be helpful if additional details were presented with regard to distance of houses from the proposed highway cut, depth to the water table, etc. The lowering of the water level in nearby wells has been a common problem in highway construction where extensive or deep cuts have been made. 6

Fish and Wildlife Resources

Although the discussion of fish and wildlife resources is adequate, we do not believe that sufficient alternatives have been explored which avoid the long and short-term adverse impacts associated with the modification of the Patapsco River floodplain as required under Executive Order 11988. In that vein, we wonder why the abandoned railway embankment mentioned on page 56 could not be expanded for the proposed roadway. We believe that such a location would offer a number of advantages. First, the embankment is located in an area already impacted by the Rt. 1 and the Harbor Tunnel Thruway bridges. Secondly, the floodplain soils have been compacted and may present fewer foundation problems than the new alignments presently proposed. Thirdly, the bridge length required may be shorter than the lengths proposed for the other two alternatives. 7

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Mr. Emil Elinsky, Baltimore, Maryland

Alignments A and B require extensive embankments within the floodplain which dissect a relatively undisturbed tract. The impacts discussed in the statement would appear to be ample justification for selecting a less damaging alternative. 7

The analysis of flood hazards was enlightening albeit truncated. As with many environmental issues, one more fill or adverse impact will not destroy the system; it is the cumulative impact of the total number of fills from highways, railroads, landfills and sewage treatment plants, etc., viewed over time, that degrades the system. The proposed I-195 fill, even though designed with the flood hazard as a major criterion, still remains another fill whose impacts are associated with all other fills on the Patapsco. 8

The statement recognizes other interrelated Federal actions associated with this project such as the issuance by the Corps of Engineers of a permit for the conduct of dredge and fill activities. Based on the available information, the Fish and Wildlife Service has serious reservations about the project as proposed because of its adverse impacts on fish and wildlife resources. The principal concern at this time centers around the lack of adequate measures to minimize harm and the evaluation of alternatives to the crossing of the Patapsco River. 9

SUMMARY COMMENTS

Because both provisions of Section 4(f) must be addressed in more detail, we cannot concur in Section 4(f) approval at this time. The Department of the Interior will advise you of our position when we are asked to comment on the final Section 4(f) statement prepared for this project. 10

As this Department has a continuing interest in this matter, we would be willing to cooperate, on a technical assistance basis, in further project assessment. The field office assigned responsibility for technical assistance about parks and recreation matters is the Regional Director, Heritage Conservation and Recreation Service, U.S. Department of the Interior, Federal Building, 600 Arch Street, Philadelphia, PA 19106 (phone: FTS 597-7995). For matters relating to fish and wildlife resources,

wetlands, dredge and fill and channelization, please consult and coordinate with the U.S. Fish and Wildlife Service, Area Manager, Delmarva Area Office, 1825B Virginia Street, Annapolis, MD 24401 (phone: FTS 922-2007). In this case, both offices would be happy to meet with you together.

Sincerely yours,

James H. Rathlesberger

Special Assistant to
Assistant Secretary of the Interior

Mr. Emil Elinsky
Division Administrator
Federal Highway Administration
The Rotunda, Suite 220
Baltimore, Maryland 21211

cc: Mr. Eugene T. Camponeschi
Chief, Bureau of Project Planning
Maryland Department of Transportation
State Highway Administration
P.O. Box 717
300 West Preston Street
Baltimore, Maryland 21211

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Response to comments made by United States Department of the Interior:

The use of the existing old railroad embankment across the Patapsco River as an alternate location for I-195 has been considered - See Page 82. 1

The use of the existing old railroad embankment across the Patapsco River as an alternative to the taking of parkland from Patapsco State Park has been evaluated - See page 109, Section 4(f) Statement. 2

The Department of Natural Resources had indicated that there is not any existing parkland in the I-195 project area that was purchased with Federal funds. Therefore, the provisions of Section 6(f) of the Land and Water Conservation Act is not applicable to this project.

The Department of Natural Resources has recently qualified to receive Federal funding for future parkland acquisition.

The State Highway Administration does not initiate replacment land procedures until after the project has been designed and the specific amount of right of way required is known. It is not possible at this stage of development of the project to provide accurate information to the Department of Natural Resources.

The Department of Natural Resources has also not begun the study to find replacement land and will not until more accurate information is available.

After all studies have been completed and agreement has been reached with the Department of Natural Resources, all of the relevant information will be forwarded to the Department of the Interior for review.

This project and specifically the timing of the land transfer negotiations with the Department of Natural Resources was discussed at a Quarterly Review meeting the Maryland State Highway Administration holds with various Federal and State agencies. The project was discussed with a representative from the Department of the Interior at the Quarterly meeting held March 4, 1982. The State Highway Administration explained that negotiations with the Maryland Department of Natural Resources concerning land replacment measures had been initiated and will continue during final design when the exact amount of right of way required will be known. However, until this information on right of way required is known, an agreement could not be reached. Further, the results of these negotiations will be made available to the Department of the Interior. Final negotiations cannot be completed until after the Final Environmental Impact Statement is approved and design plans are final. The Department of Interior indicated this was acceptable. 3

The Maryland State Highway Administration agrees in principle to the replacement of parkland required for the construction of I-195. Additional comments are provided in the Section 4(f) Statement

The Geology and Hydrogeology Technical Basis Report includes geologic maps. 4

Response to these comments are provided on page 18, paragraph 3.

While the use of geologic maps would aid a reviewer in this field of expertise, the text of the Final EIS adequately summarizes th underlying studies. 5

One house is approximately 100 feet from the cut slope and two or three other houses are within 200 - 300 feet of the cut for Ramp C. The cut is approximately 25 feet deep at the point closest to the residences. The wells will be monitored during construction and if they are affected, new wells will be provided. 6

The use of the existing old railroad embankment across the Patapsco River as an alternate location for I-195 has been considered - See page 82. 7

None of the construction alternatives will have a significant encroachment on the floodplain. The encroachment will not result in any risk or impacts to human activity, the beneficial floodplain values, or provide direct or indirect support to further development within the floodplain. 8

The removal of the old railroad embankment would lessen potential flood impacts to the town of Elkridge, U.S. Route 1 and the Harbor Tunnel Thruway.

See the discussion of "Alternative to the Proposed Action", page 81 and "Planning Measures to Minimize Harm", page 122, Section 4(f) Statement. 9

See attached section 4(f) Statement.

10

DT F 1320.1 (6-78)

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY

UNITED STATES GOVERNMENT

225

memorandum

Subject: Draft Environmental Impact Statement, Maryland, Interstate Route 195, FHWA-MD-EIS-79-7-D

Date: 25 FEB 1980

From: Director, Office of Environment and Safety

Reply to Attn. of:

To: Chief, Environmental Programs Division, FHWA/HEV-10

We have reviewed the draft environmental impact statement and section 4(f) determination, and offer the following comments in light of the "no feasible and prudent alternative" requirement of section 4(f).

Traffic Demand

The traffic discussion states that consideration was given to the fact that several facilities would be widened or constructed by the year 2005, including widening the Baltimore/Washington Expressway north of the Route 190 and Maryland Route 100 extension from Route 3 to I-95. However, figures 18 and 19, Traffic Projections, do not reflect substantial traffic capacity to be added on Maryland Route 100, a major east-west facility, or on I-97/297 a major north-south facility. These two additional facilities would appear to relieve the existing facilities, the Baltimore-Washington Parkway and I-695, and could possibly preclude the need for I-195. 1

Alternatives

Consideration should be given to improving Maryland Route 176 and Maryland 170, in lieu of constructing I-195. This would avoid the need to acquire land from the Patapsco Valley State Park. Consideration should also be given to adding an additional lane to Maryland Route 100 and Maryland Route 46 from the Baltimore-Washington Expressway to the airport. Truck traffic, a major factor in planning for I-195, is permitted on the expressway north of Maryland Route 190 and it appears could easily use Maryland 46 or Maryland 176/170. 2

We appreciate the opportunity to review and comment on the draft EIS/4(f) determination and look forward to receiving the final statement.

Martin Convisser

Response to comments made by United States Department of Transportation, Office of Environment and Safety:

The reference to assumed facility improvements, identified in this document on page 81, are already included in the highway network on which forecasts were based for I-195. Figures 18 and 19 in the draft Environmental Impact Statement were renumbered as Figures 17 and 18 respectively in this document. Figure 19 was added to identify the alternate network if Maryland Route 100 corridor improvements are not implemented. All figures were expanded for clarification to include the identification of volume forecasts in the surrounding highway network. The I-97/I-297 corridor is independent of and has no effect on volumes forecasted for I-195.

A review of figures 17 and 18 reveals that even with the network assumptions there is still a need for I-195.

The implementation of the link of I-195 between U.S. Route 1 and Maryland Route 295 would attract a design year average daily traffic volume of 43,000 vehicles (figure 17). However, it would result in only a 2,600 vehicle reduction (comparison of figure 17 and 18) for the corresponding link of Maryland Route 100, indicating little relationship between the two highways. Figure 17 identifies an approximately 50% increase of traffic volumes along Maryland Route 295 and I-695 without I-195 - certainly not a relief to congestion problems on these facilities.

While implementing improvements to the Maryland Route100/Maryland Route 176 and Maryland Route 170 corridors would avoid the need to acquire land from the Patapsco Valley State Park, it does little to alleviate the serious highway network imbalances. The improvements to those two highway corridors were already assumed in the development of the projected traffic network. Constructing Maryland Route 100 as an alternate to I-195, while improving access to BWI from the south, would provide no relief for the major corridor movement, which is oriented from the north. Motorists would continue to use I-695 and Maryland Route 295, both forecasted to be heavily congested. Maryland Route 100 in lieu of I-195 would necessitate widening of Maryland Route 295 between Maryland Route 100 and I-695 and do little to alleviate the congestion on I-695 between Maryland Route 295 and I-95. While unreasonable as a substitute for I-195, both the construction of Maryland Route 100 and widening of Maryland Route 295 are desirable in addition to I-195.

For additional discussion of this topic see "Consideration of Improvements to Alternative Routes", page 5 and "Alternate Corridor/Facility", page 83.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md 20852

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FEB 14 1980

OA/C52x6:JLR

TO: PP/EC - Joyce M. Wood

FROM: OA/C5 - Robert B. Rollins

SUBJECT: DEIS #8001.17 - I-195 From Baltimore/Washington International Airport to I-95; Anne Arundel, Baltimore and Howard Counties, Maryland

The subject statement has been reviewed within the areas of the National Ocean Survey's (NOS) responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

Geodetic control survey monuments may be located in the proposed project area. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any relocation required for NOS monuments. Attached are data locating and describing monuments in the vicinity of the proposed project.

Attachments (DEIS #8001.17)

Response to comments made by United States Department of Commerce, National Oceanic and Atmospheric Administration:

The construction specifications for this project will include provisions for the necessary precautions and responsibilities of the contractor in the prosecution of the work in order to avoid interference or damage to all land monuments and markers. Geodetic control survey monuments and other control points which may be affected by the proposed construction shall be protected and undisturbed until the relocation, if required, is solved with the National Ocean Survey.

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTHEASTERN AREA STATE AND PRIVATE FORESTRY
370 REED ROAD — BROOMALL, PA. 19008
(215) 596-1672

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1950
February 14, 1980

Mr. Eugene T. Camponeschi, Chief
Bureau of Project Planning
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21211

Refer to: FHWA-MD=EIS-79-07-D,
Route I 195

Dear Mr. Camponeschi:

Routing of the proposed road on Alignment A appears to have less adverse impact on woodland and wildlife values than Alignment B. This route closely parallels the rail right of way and crosses less parkland.

We believe that where the road goes through areas where there are no existing trees, suitable shrubs and trees should be planted for the benefit of highway (and also railroad) travelers.

Thank you for the opportunity to review this Statement.

Sincerely,

DALE O. VANDENBURG
Staff Director
Environmental Quality Evaluation

EVALUATION OF COMMENTS

This recommendation will receive further consideration during the Final Design Phase of the project.

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

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FEB 2 7 1990

Mr. Eugene T. Camponeschi, Chief
Bureau of Project Planning
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

Re: Interstate Route 195, Baltimore/Washington International Airport to I-95; Anne Arundel, Baltimore and Howard Counties, Maryland

Dear Mr. Camponeschi:

We have reviewed the Draft Environmental Impact Statement for the proposed project referenced above, and have classified it in EPA's Reference Category LO-2. We have enclosed a copy of the Definition of Codes for the General Nature of EPA Comments to provide a more detailed description of this rating. In accordance with our responsibilities under Section 309 of the Clean Air Act to inform the public of EPA's views on the potential environmental effects of Federally assisted actions, this rating will be published in the Federal Register.

We believe that the proposed project has been adequately analyzed in the DEIS, but we are concerned over the loss of park land and the potential water quality impacts on the Patapsco River. Since the proposed project will have a significant impact on portions of Patapsco State Park, we encourage the State Highway Administration to continue their close coordination with Maryland's Department of Natural Resources and the Heritage Conservation and Recreation Service to minimize the impacts on this important park facility. 1 It is also our understanding that although the project will involve the placement of fill material in the 100 year flood plain, hydraulic studies have shown that this work will neither aggravate flood conditions nor otherwise interfere with the natural functions of the flood-plain. 2 We endorse the use of strict erosion and sedimentation control measures to protect Patapsco Creek during project construction, as referenced in the DEIS.

If you have any questions concerning our comments, please contact Mr. Eric Johnson of my staff at (215) 597-4388.

Sincerely yours,

John R. Pomponio
Chief
EIS & Wetlands Review Section

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Response to comments made by United States Environmental Protection Agency, Region III:

See attached Section 4(f) Statement. 1

No response is required to these comments. 2

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

JAN 9 1980

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

Re: Interstate 195, I-95 to Baltimore Washington International Airport

Dear Mr. Anderson:

We have reviewed the Draft Air Quality Analysis for the project referenced above, and we have no objections to the project from an air quality standpoint. We were pleased to see an expanded discussion of this project's consistency with Maryland's State Implementation Plan, and hope that such information will continue to be included in future air quality analyses and EIS's.

Sincerely yours,

John R. Pomponio
Chief
EIS & Wetlands Review Section

EVALUATION OF COMMENTS

No comments are required in response to this agency's review of Dreaft EIS.

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United States Department of Agriculture | Soil Conservation Service | 4321 Hartwick Road, College Park, Maryland 20740

January 7, 1980

Mr. Eugene T. Camponeschi, Chief
Bureau of Project Planning
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21211

Dear Sir:

Thank you for the opportunity to review your draft EIS for proposed I-195 from I-95 to BWI Airport. It appears you have adequately addressed those areas in which we would have been concerned.

If we can be of further assistance please feel free to contact us.

Sincerely,

Gerald R. Calhoun
State Conservationist

cc: Ray F. Chapman, Chairman, Anne Arundel SCD, 1660 Reidel Road, Box 374, Gambrills, Maryland 21054
Loring T. Sparks, Chairman, Baltimore County SCD, 340 Falls Road, Upperco, Maryland 21155
W. Lee McFarlane, Chairman, Howard SCD, 5645 Montgomery Road, Ellicott City, Maryland 21043
Norman A. Berg, Administrator, SCS, Washington, D.C.
Director of Environmental Services Division, SCS, Washington, D.C.

EVALUATION OF COMMENTS

No comments are required in response to this agency's review of the Draft EIS.

Regional Planning Council
2225 North Charles Street Baltimore, Maryland 21218 (301) 383-5838
Milton H. Miller, Chairman C. Bowie Rose, Sr., Vice Chairman Walter J. Kowalczyk, Jr., Executive Director

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Date: March 21, 1980

Mr. Eugene T. Camponeschi
Maryland State Highway Administration
300 West Preston Street
Baltimore, Maryland 21201

RE: Metropolitan Clearinghouse
Review and Referral Memorandum,
Project: 79-491 Draft EIS, I-195
Baltimore/Washington International
Airport to I-95 Anne Arundel,
Baltimore and Howard Counties

Dear: Mr. Camponeschi:

The attached review and referral memorandum is certification that the above referenced project has undergone review and comment by the Regional Planning Council and a recommended action has been determined based on the Council's findings.

Comments on this project were requested from: Anne Arundel, Baltimore, Carroll, Harford and Howard Counties, and Baltimore City.

Comments from the following jurisdictions are included with the Clearinghouse review: Anne Arundel, Baltimore City, Carroll, Harford and Howard Counties

We appreciate your attention to Metropolitan Clearinghouse procedures. If you have any questions, please contact us at 383-7110.

Sincerely,

Nadine S. Jones

Nadine S. Jones, Coordinator
Metropolitan Clearinghouse

Attachment

REGIONAL PLANNING COUNCIL
2225 N. Charles Street
Baltimore, Maryland 21218

R & R File No. 79-491
B & P Committee March 7, 1980

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REVIEW AND REFERRAL MEMORANDUM

PROJECT IDENTIFICATION

Jurisdiction: State of Maryland

Project Name: Draft EIS - I-195 Baltimore/Washington International Airport to I-95 Anne Arundel, Baltimore and Howard Counties

Applicant: Maryland Department of Transportation

Grant Program:

Cost:

DESCRIPTION

This is a draft EIS for the extension of I-195 from its present terminus at U.S. Route 1 to the proposed I-195/Maryland Route 170 interchange at the Baltimore-Washington International Airport. Proposed activities include construction of a 3.1 mile segment of a six-lane divided highway. This project also includes improvements to the interchange at the Baltimore-Washington Expressway and Maryland Route 170, construction of an access roadway to the Amtrak station and associated improvements to the intersecting roadways.

The alternatives that were examined in this study are:

A. six-lane new facility from U.S. Route 1 to the interchange at the Baltimore-Washington Expressway;

B. same as "A" accept that it follows an alignment that is west of the Amtrak rail line; and

C. "no build" option.

The Beneficial impacts that were identified include: (1) improved traffic safety and (2) reduction in traffic delays and congestion. The adverse impacts are: (1) displacement of dwellings; (2) acquisition of parklands and (3) proximity impacts on established development.

COMMENT

Transportation

The DEIS could be enhanced if there were more discussions and data on certain transportation and traffic problems relating to this project. For example, the DEIS should quantify the need for I-195 if Maryland 100 is not built. Likewise, what are the impacts on travel in this corridor if Md. 100 were built and I-195 was not constructed. 1

There needs to be a better explanation of the truck traffic. One of the stated primary purposes for constructing I-195 is to handle the truck traffic generated by the air cargo terminals at BWI. However, the DEIS fails to provide any type of analysis for existing or projected truck volumes generated by BWI. 2

Land Use

If the project is constructed, the permanent impact on the Patapsco State Park must be considered and serious mitigation and compensation measures taken. It appears that the current design of alternate A would have less impact than alternate B. However, the full impact of the projects (including the visual and noise impact area) must be quantified and suitable land added to the park nearby to compensate for the loss of usable area. 3

The bridge crossing of the Patapsco River will require a high embankment. This embankment and structure should not impede flood waters. At the same time, the height of the bridge through the river valley should be kept at a minimum to reduce visual impact of a large manmade structure on park and river users. The river crossing should be designed so it does not interrupt or degrade the extensive system of trails planned along the river. Noise from the highway should be reduced along the park by careful highway and bridge design. Erosion and sediment control in the park and erosion mitigation measures during construction have not been adequately addressed in the DEIS. Sediment control will be an extreme problem in the flood plain. 4

In conclusion the RPC staff recommends endorsement of the DEIS subject to the following qualifications: 5

- that the SHA quantify the full impacts of the project on the park (including the visual and noise impact area) and add suitable land to the park nearby to compensate for the loss of usable area
- that SHA analyze existing and projected BWI-generated truck traffic
- that the RPC be given the opportunity to review the FEIS before its public release

COMMENT

Baltimore County has indicated that this transportation improvement is not consistent with the County's current transportation plans. 6

THE MARCH TSC RECOMMENDED ENDORSEMENT WITH COMMENTS.
ENDORSEMENT IS RECOMMENDED SUBJECT TO THE ABOVE COMMENTS.

I HEREBY CERTIFY that at its 191st meeting, held March 21, 1980, the Regional Planning Council concurred in this Review and Referral Memorandum and incorporated it into the minutes of that meeting.

March 21, 1980
Date

WALTER J. KOWALCZYK, JR.
Walter Kowalczyk
Executive Director

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Response to comments made by the Regional Planning Council:

1

See discussion of "Transportation Need", page 3.

The truck factor utilized in the traffic analysis is 3 percent in the years 1985 and 2005. This factor expresses trucks (exclusive of light delivery trucks) as a percentage of the future hourly volume used in design.

BWI air freight activity is projected to expand significantly in the future, from 190 million pounds in 1979 to 750 million pounds in 1995.

The Baltimore-Washington International Airport Master Plan provides projections of truck trips resulting from this anticipated growth.

Because of the increased demand, it was assumed in the Airport Master Plan studies that higher vehicle loadings could be achieved and that more efficient vehicle allocation, including coordination of pick-up and delivery would be possible. To account for the increase in air cargo moved per visit, the average vehicle load was increased by a factor of 1.5 in the forecast years.

The forecasted cargo vehicle trips were computed as follows:

2

1985 cargo vehicle trips = 1975 cargo vehicle trips x 1.35
1995 cargo vehicle trips = 1975 cargo vehicle trips x 2.56

The 1975 daily cargo trips were estimated to be 840. The 1985 and 1995 estimated daily cargo trips as shown in the Master Plan are 2,000 and 4,000 respectively. Only 10-15% of these trips are expected to occur during the A.M. and P.M. peak traffic hours.

The B.W.I. Master Plan shows a 200% increase in truck trips between 1985 and 1995. Based on a linear projection of the 1985/2005 traffic estimates provided by the Maryland State Highway Administration for the I-195 studies, truck volumes would increase approximately 130% on I-195 between 1985 and 1995.

The difference in the percent of increase occurs because the State Highway Administration's data assumes less truck travel than the Master Plan Study and because some truck trips use MD 170 to reach the B.W.I. Cargo Complex.

Response to these comments have been provided in the attached Section 4(f) Statement.

3

Flood Hazard Impacts - Response to these comments are provided under the discussion of "River Modifications", page 63.

4

Visual/Park Impacts - The statements on page 122, para. 4 and 5 of the Section 4(f) Statement are consistent with the recommendations made by the Capital Programs Administration.

Noise Impacts of Patapsco State Park - Additional comments have been provided in the discussion of "Highway Noise Impacts", page 125, Section 4(f) Statement.

Erosion and Sediment Control - The FEIS identifies potential problem areas and indicates that the need for and the type of erosion and sediment control measures will be determined during a later design stage - See discussion of "Aquatic Ecology", page 51. 4

These comments have been addressed under Items 1 thru 4, above.

The circulation of the Final EIS will be in accordance with the established review procedures. 5

Response to this comment is provided on page 41 of this statement. 6

THOMAS G. HARRIS, JR.
DIRECTOR
992-2350

240

DIVISION OF LAND DEVELOPMENT
AND ZONING ADMINISTRATION
JOHN W. MUSSELMAN, CHIEF
992-2353

DIVISION OF TRANSPORTATION PLANNIN
J. HERBERT CLAWSON, JR. CHIEF
992-2360

COMPREHENSIVE PLANNING SECTION
AMAR S. BANDEL, ADMINISTRATOR
992-2357

OFFICE OF PLANNING & ZONING OF HOWARD COUNTY
GEORGE HOWARD BUILDING
3430 COURT HOUSE DRIVE, ELLICOTT CITY, MARYLAND 21043

ADMINISTRATION
PROJECT PLANNING

February 25, 1980

Mr. Hal Kassoff, Director
Office of Planning and Preliminary Engineering
Maryland Department of Transportation
State Highway Administration
300 West Preston Street
Baltimore, Maryland 21203

RE: I-195 Draft Environment
Impact Statement Involvement

Dear Mr. Kassoff:

In accordance with your request, this office in conjunction with the Bureau of Engineering of the Department of Public Works, have reviewed the subject study and developed the following comments/recommendations.

1. The traffic flow analysis included in the study is quite detailed and satisfactorily covers various aspects of traffic generation and distribution, traffic projections and levels of service.

2. Alternate C (no-build option) is not feasible from a traffic engineering standpoint due to the following reasons:

a. In a no-build case, the east-west traffic movements (much of them from commercial/industrial traffic) would most likely be distributed through Elkridge and Arbutus.

b. The existing roadnet that provides vehicular access routes to BWI Airport such as I-95, Md. Rt. 46, Md. Rt. 166, U.S. Rt. 1, B-W Express, and Md. Rt. 170 have little reserved space and capacity to accommodate safely the Design Year 2005 traffic volumes. In fact, the levels of service on various portions of these facilities will go well below the desirable levels of service. (Refer to Table XII, Pg. 73)..

c. A no-build alternate will seriously increase traffic delays, congestion, and potential accidents. In fact, the proposed I-195 is designed to experience the lowest possible accident rates, particularly, fatal and serious injury accidents.

RE: I-195 Draft Environment Impact Statement Involvement

3. Reference Page 73:

"Comparison of the build and no-build alternates indicates that I-195 provides no noticeable improvement to the level of service on I-195 or the B-W Expressway, although the design year volumes would decrease approximately 8,000 ADT and 16,000 ADT, respectively." This analysis is not correct. The proposed I-195 will improve the level of service on the portion of I-95 located between Md. Rt. 166 and I-695 (a distance of approximately 5 miles). Airport traffic (freight and passengers) originating in Washington D.C. and coming on I-95 will find I-195 more accessible to BWI than to continue north on I-95 and I-695. 1

4. Each Alternate "A" and "B" will provide a useful link in the future roadway network in the Baltimore Region. However, Alternate "A" is preferable to Alternate "B" because it has less effect on the surrounding area, particularly the Patapsco State Park. Its estimated cost is slightly higher than Alternate "B". However, the difference is less than 4% which is within the limits of estimating error. Alternate "C" shall be discounted.

5. The primary objective of this study was to determine the volumes of heavy-duty vehicles (vehicles per day) generated by BWI Airport and are expected to utilize I-195. Howev er, the study fails to include data related to truck traffic, truck origin and destination movements. Such data is required in order to evaluate the impact of BWI Airport on the existing and proposed roadways. 2

Should you have any questions concerning the above, please call me at your convenience.

Very truly yours,

Mark Shbeib, Acting Chief
Division of Transportation Planning

MS/sg

cc: Elizabeth A. Calia
Thomas G. Harris, Jr.
Frederick P. Rappe, Jr.
John L. Wilhelm
File: 120721

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Response to comments made by the Office of Planning & Zoning of Howard County:

1 These comments have been incorporated in the FEIS under the discussions of "Deficiencies of Existing Facilities", page 2, and "Traffic and Transportation Impacts of the Recommended Alternate", page 90.

2 Response to these comments are provided under the discussion "Transportation", page 30, paragraphs 6, 7, and 8, and page 173.

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ANNE ARUNDEL COUNTY
ANNAPOLIS, MARYLAND 21401

OFFICE OF PLANNING AND ZONING

December 7, 1979

Mr. Victor Janata, Project Manager, I-195
State Highway Administration
300 West Preston Street
Baltimore, MD 21203

Re: I-195, Pre-Draft E.I.S.

Dear Mr. Janata:

I was not able to respond within the tight schedule that you alloted. However, the following comments will apply to future drafts if changes do not occur beforehand.

In overview, we concur in the observation that this project will relieve sections of Md. Route 176, U. S. Route 1, the B-W Parkway, and I-695. However, the traffic impact is not illustrated for Md. 176 and I-695. This effect should be evaluated in the Route 100 corridor study as well. This project will also enhance the potential for industrial development in the vicinity of B.W.I. and Md. 170, consistent with the County's General Development Plan adopted in 1978.

Both proposed alignments traverse an area of rugged terrain where a highway would not normally be proposed if another alternative existed. Since the objective is to link I-95 to B.W.I. Airport, the feasible alternatives are few.

I would emphasize that, in the event of a no-build option for this project, priority should be immediately shifted to Route 100 and the B-W Parkway including the interchange at I-695. Due to a lack of funding, the proposed new alignment of Md. Route 100 is in jeopardy as new housing projects continue to close in on the open land. If such a shift is contemplated, it should be done as soon as possible to protect the Route 100 options. Actually, traffic northbound on I-95 would find Routes 100 and 295 a more direct route to B.W.I. than the proposed project, by more than a half-mile.

Figure 6 of the report shows the Baltimore Commons Industrial Park but Figure 7, does not.

The Future Land Use Map, Figure 8, does not show the Light Industrial category in the Legend, but shows these areas in the same symbol as general commercial centers. A copy of our Proposed Land Use Map is enclosed for your reference to correct this. It would also be more consistent if the same graphic symbols could be used for similar land uses on Figures 7 and 8. 2

The General Zoning Map, Figure 9, has no legend or explanation of zoning categories. This is particularly important since each county has different code symbols.

On page 75 and several other places in the report there is a reference to three homes and families being displaced by Alternate "B". However, it appears that these same three homes would also be displaced in the no-build alternate by park plan development. I could find no comment to this effect in the report, (i.e., pp 79-80). 3

On Page 77, the report states that Alternate "B" would "sever a section of hiking trail along Stony Run." My interpretation of the plans and profiles is that the trail would actually pass under the proposed bridge structure and not be severed. 4

It appears that both A and B would have a severe impact on adjacent streams through siltation. I fail to see how the railroad would provide an effective buffer for Alterate A, since storm water would flow through the numerous culverts and ditches. By the same logic, the cut-slopes along Alternate B would provide an even more effective buffer by diverting some of the run-off from Stony-Run. Neither choice can be considered as positive and it is little more than speculation that one alternate is less destructive than the other. 5

The report shows that Alternate B is less costly than A by almost two million dollars, or roughly 4%. Alternate B is a slightly better alignment from a highway design point of view. The serious objection to B is its impact on the Park and proposed park plans. It would be absurd to build an overlook adjacent to Alternate B if that line were selected. The Report suggests that there is no flexibility in Park plans. For example, there are several natural overlooks on the east side of the railroad with existing trees and vegetation that would not require the forestation of a borrow pit to create artificial vistas. It is noted that some of this natural scenic area has been excluded from proposed park taking plans. There should be some unified coordination between Park and Highway planners to produce the best products for the people regardless of the red tape required to make the necessary adjustments. It is also worth noting that the east side of the railroad is more accessible to the greatest population with less travel. This would suggest that active recreation should be concentrated on that side, as most of it seems to be, while passive and natural preservation should be enhanced on the west side of the railroad. 6

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Since it is very difficult to support either alternate, and the consequences of the no-build is anticipated traffic congestion, the State should seriously evaluate changes in travel trends that are very recently affected by international and national economic factors, before the planning and design stages are completed. 7

If you have any questions regarding our comments, you may call me at 224-1474.

Sincerely yours,

Roland Davis
Senior Transportation Planner

RD/jls

cc: Dave Dunlap

Response to comments made by the Office of Planning and Zoning, Anne Arundel County:

Response to these comments are provided under the discussion of "Transportation Need", page 3; "Historical Resume'", page 201, paragraphs 3, 4, 5 and 6. 1

Figures 7, 8 and 9 have been revised. 2

The three homes displaced by Alternate B are within the area slated for future park acquisition. It was not determined whether the present owners/occupants would have been relocated upon acquisition of these parcels, or if they would have been permitted to continue to reside at the property. 3

The section of hiking trail that would have been severed by Alternate B extends southeast from the comfort station adjacent to the Ridge Road park access point, then curves to the north generally parallel to the Amtrak tracks. The trail connects to the trail system along the river at a point just west of the existing railroad bridge over the Patapsco. 4

The intersecting embankments of the railroad and the Selected Alternate 2/A2A will provide more effective control of storm water runoff. Storm water runoff could be channeled along the intersecting embankments and selectively discharged into Stony Run. Sedimentation basins could be constructed at these locations to prevent the discharge of sediment and to reduce erosive outlet velocities. 5

These comments have been forwarded to the Department of Natural Resources, Capital Programs Administration. 6

Studies conducted by the Bureau of Highway Statistics indicates that there have been no significant changes in growth, travel patterns or driving habits brought about by the shortage or increased cost of fossil fuels. 7

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SENATE OF MARYLAND

ANNAPOLIS, MARYLAND 21401

TIMOTHY R. HICKMAN
THIRTEENTH DISTRICT
BALTIMORE COUNTY
COMMITTEE
CONSTITUTION AND PUBLIC LAW
ANNAPOLIS PHONE 269-3446
(TOLL FREE)

DISTRICT OFFICE:
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2201 HAMMONDS FERRY ROAD
LANSDOWNE, MARYLAND 21227
PHONE 247-2630
1330 SULPHUR SPRING ROAD
ARBUTUS, MARYLAND 21227
PHONE: 247-2630

April 4, 1980

Thomas M. Downs
Associate Administrator for Planning
400 7th Street, SW
Washington, D. C. 20590

Dear Mr. Downs:

I would like to express my strong objection to the construction of Interstate I 95 from Baltimore/Washington International Airport to I 95.

I oppose this highway additbn because of the serious effects this road would have on the community of Catonsville by the connection of old 166, Rolling Road to the Baltimore/Washington International access road, Maryland 46.

Traffic generated by the airport and its surrounding industrial complex would make use of this route innundating the community of Catonsville with an excess of vehicles.

The result would certainly be increased congestion on local streets with higher accident rates as a probable consequence, the impeding of normal traffic flow, the possible degradation of air quality and an overall diminishing of the quality of community life.

I believe the solution lies in the improvement of the Baltimore/Washington Expressway and if the access to I 95 is still necessary, it can be achieved by connecting I 95 with the Baltimore/Washington Expressway through the utilization of Rt. 100. Since this is already planned, it would be a far less costly and destructive alternative.

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I, therefore, support the "no build" alternative under consideration by the Maryland State Highway Administration and request that the Federal Government withdraw funding for this unnecessary and costly project.

Sincerely,

Timothy R. Hickman
Senator

TRH:pos

4660

Response to comments made by Timothy E. Hickman, Senator, Thirteenth District, Baltimore County:

The State Highway Administration traffic planning staff believe that very little traffic will be attracted to Rolling Road by the construction of I-195. Traffic that originates in northern Baltimore, Howard or Carroll counties and that is destined for the BWI Airport area will most likely stay on a freeway route rather than seek a shortcut on local roads through Catonsville.

Some of the traffic originating in the immediate Catonsville area that goes south on the Beltway will be directed to Rolling Road. However, this increase in the traffic on Rolling Road will be very minimal. Therefore, the construction of I-195 will have little, if any, impact on the Catonsville area.

Additional comments provided under the discussion of "Accessibility", page 60.

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Maryland Historical Trust

May 4, 1982

Mr. Hal Kassoff, Director
Office of Planning & Preliminary Engineering
Maryland Department of Transportation
State Highway Administration
P.O. Box 717
707 North Calvert Street
Baltimore, Maryland 21203

Re: Contract No. AA-220-151-572 F.A.P. No. I-195-1 (1)
Interstate Route 195 from Baltimore/Washington
International Airport to Interstate 95

Dear Hal:

Thank you for your letter of April 2nd regarding the above referenced project. Our preliminary determination is that this proposed road will have no adverse effect on the Smith House, provided the landscape plans for the State Highway Administration rights-of-way are reviewed and commented on by our office. This is a preliminary determination of effect because the National Register has not yet made a decision regarding the eligibility of the Smith House.

Since this is a conditional determination of no adverse effect, you will need to request the comments of the Advisory Council. We look forward to working with SHA to complete the federal historic preservation review of this project.

Sincerely,

J. Rodney Little
Director/State Historic
Preservation Officer

JRL/GJA/mf

cc: Ms. Amy Schlagel
Mr. Louis Ege
Mr. Charles L. Wagandt
Mr. W. Boulton Kelly
Mr. Mark R. Edwards
Mr. George J. Andreve

RECEIVED
MAY 1982
DIRECTOR, OFFICE OF
PLANNING & PRELIMINARY ENGINEERING

Shaw House, 21 State Circle, Annapolis, Maryland 21401 (301)269-2212, 269-2438
Department of Economic and Community Development

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JAMES B. COULTER
SECRETARY

LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TIDEWATER ADMINISTRATION
TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401
(301) 269-2784

August 31, 1981

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

Dear Mr. Schneider:

In regard to the proposed Interstate Route 195, from Baltimore-Washington International Airport to Interstate Route 95, this is to inform you that the proposed project is not inconsistent with the Maryland Coastal Zone Management Program assuming satisfactory incorporation into the FEIS of previous DNR comments submitted on the project. Based on discussions with your staff, it is our understanding that concerns raised by this Department have been resolved, and an acceptable alignment selected, during the interim period since distribution and review of the DEIS.

If you have any questions, please contact me or Elder Ghigiarelli of my staff at 269-2784.

Sincerely,

Elder A. Ghigiarelli Jr.

Dr. Sarah J. Taylor, Director
Coastal Resources Division

SJT:rrc

PUBLIC HEARING COMMENTS

AND EVALUATIONS

The Draft Environmental Impact Statement was circulated for comments to public and private organizations and individuals in December, 1979.

On January 29, 1980, the Maryland State Highway Administration held a Location Public Hearing at the Andover High School auditorium in Linthicum, Maryland for the purpose of receiving public comments and presenting the social, economic, environmental and engineering aspects of the I-195 studies.

During the public hearing, comments were received from individuals, including representatives of public and private organizations. As provided for in the public hearing process, additional individuals responded by mail.

A total of eleven people gave public testimony at the Hearing. After a brief engineering and environmental overview of the project the hearing was opened to comments and questions from the audience. The following is a summary of the substantive comments received:

1) State Senator Timothy Hickman - A prepared statement was read by one of his associates. He is opposed to the Build Alternate because he feels it will divert excessive traffic through Catonsville. Senator Hickman feels that MD Route 100 and the Baltimore-Washington Expressway can provide adequate service to the airport.

2) Baltimore County Councilman Ron Hickernell - Mr. Hickernell previously served as president of a commission set up to kill the Metropolitan Boulevard project. Mr. Hickernell feels that the project is to expensive and that the service that I-195 would provide is already handled by other roads. He also serves on the Patapsco Valley State Park Advisory Committee and as a member of this opposes the building of any road that would provide another barrier across the park limiting its usefulness.

3) Thomas Rostkowsky (representing the International Brotherhood of Electrical Workers Local 1805 at Westinghouse) - Mr. Rostkowsky stated that the union is opposed to the whole project. He feels that the plant can't afford to lose any land because their facilities are crowded now and the Defense Industry is on the upswing. With the land available now, Westinghouse cannot expand any further at the plant. Mr. Rostkowsky also said that most of the union members live close to the plant and do not have any serious problems getting to work.

4) Paul Ragonese of the York, Towson Corporation - York, Towson owns land zoned commercial/industrial located northwest of the Winterson Road/B-W Expressway crossing. He stated that I-195 will not relieve congestion on Elkridge Landing Road. He requested that direct access be provided from either I-195 or the Expressway to Winterson Road.

5) Charles Pruet, Director of State and Local Relations for Westinghouse - Mr. Pruet stated that Westinghouse is opposed to any change to MD 170 or MD 46 because it would kill the possibility of future expansion, require them to move programs and contracts from the site and would make their access more difficult. In addition, handicapped people wouldn't be able to use the pedestrian ramps. They see no need for either I-195 or MD 170 upgrading and view this as a way to maximize the use of federal funding.

6) Lynn Lins of the Motorcycle Research Board - She requested that the widening of MD 170 be shifted to eliminate the taking of their property. She said that if their operation is disrupted they might move from the state.

7) Mr. S. F. Payer, Linthicum Shipley Improvement Association - Mr. Payer is opposed to the road because it includes upgrading MD 170. He thinks connecting I-195 to MD 46 is a good idea but did not think Westinghouse employees would be willing to walk ½ mile farther to the plant.

8) Mr. C. R. Maynard - Opposes the project because of the upgrading of MD 170 to six lanes. He is an employee of Westinghouse living in Linthicum and he does not have a problem using MD 170.

9) David Beck - President of the Community Planning Association of Catonsville - Mr. Beck feels that I-195 will threaten their community because of increased traffic, and that MD 100 and other projects would replace the need for I-195. He supports Alt. C.

10) Howard Kuehn of Linthicum - He favors the road but would like improvements to MD 170 extended beyond the Elm Road/Elkridge Landing Road Intersection to avoid congestion until MD 170 is constructed.

11) Dorthea Thomas - She lives in one of the homes which would be taken and wants to know when her property will be bought. (She was told that SHA would begin buying R-O-W in 1982).

Response to:

Public Hearing Comments

Most of the comments made which required a response, were adequately addressed during the Public Hearing. A transcript of these proceedings were prepared and are available for inspection at the offices of the Maryland State Highway Administration, 707 North Calvert Street, Baltimore, Maryland.

In response to the comments made during the Hearing, additional studies were performed in an effort to reduce adverse impacts, or clarify issues which were addressed. The results of these studies have been incorporated in the Final EIS.

The response to the following comments are in addition to those provided during the Public Hearing:

The State Highway Administration traffic planning staff believe that very little traffic will be attracted to Rolling Road by the construction of I-195. Traffic that originates in northern Baltimore, Howard or Carroll counties and that is destined for the BWI Airport area will most likely stay on a freeway route rather than seek a shortcut on local roads through Catonsville.

Some of the traffic originating in the immediate Catonsville area that goes south on the Beltway will be diverted to Rolling Road. However, this increase in the traffic on Rolling Road will be very minimal. Therefore, the construction of I-195 will have little, if any, impact on the Catonsville area. 1

Response to the comments pertaining to alternatives to I-195 that could serve the airport area are provided under the discussion "Transportation Need", page 3.

Response to these comments, in part, are provided under the discussion of "Transportation Need", page 3. 2

The Selected Alternate 2/A2A eliminates the need to acquire land from Westinghouse. Additional comments have been incorporated in the Final EIS under the discussion of "Access to Westinghouse Facilities", page 60; "Selection of the Selected Alternate 2/A2A", page 79; "Major Design Features of the Selected Alternate 2/A2A", page 87. 3

The Selected Alternate 2/A2A does not require acquisition of land from Westinghouse. The existing method of pedestrian access to the plant will not be affected by the proposed design. Additional comments are provided in the Final EIS under the discussion of "Access to Westinghouse Facilities", page 60; "Selection of the Selected Alternate 2/A2A", page 79; "Major Design Features of the Selected Alternate 2/A2A", page 87. 4

The Selected Alternate 2/A2A eliminates the encroachment on the motorcycle training facility. 5

Maryland Route 170 was reduced to four (4) through lanes with auxiliary lanes provided to accommodate traffic movements to the Westinghouse facility and the I-195/MD 170 interchange. The through traffic lanes are separated by a 30 foot median. The improvements are located within the existing 200' right-of-way. 6

See response to comments made by State Senator Timothy Hickman, page 180. 7

Written comments following the Hearing were more opposed than in favor of the I-195 project, however, several letters of citizen support were received. Reasons for opposition were generally the same as those given at the Hearing.

Footnote References

1. Maryland State Highway Administration, Bureau of Accident Studies, Accident Analysis and Economic Assessment Interstate Route 195, From Baltimore - Washington International Airport to Interstate 95, October 1979.

2. Regional Planning Council, Technical Memorandum Number 31, November 1977.

3. Regional Planning Council, Baltimore Region General Development Plan, December 1977.

4. Maryland Department of Transportation, State Aviation Administration, Baltimore - Washington International Airport Master Plan - Environmental Report, p. II-1.

5. Regional Planning Council, Baltimore Region General Development Plan, December 1977.

6. Maryland Department of Transportation, State Aviation Administration, Baltimore-Washington International Airport Master Plan - Airport Development Report, p. V-28.

7. Maryland Department of Transportation, State Aviation Administration, Baltimore - Washington International Airport Master Plan - Airport Development Report, p. V-32.

8. Anne Arundel County Office of Planning and Zoning, Resources for Future Growth: A Background Summary for the General Development Plan, May 1978.

9. Maryland Department of Transportation, State Aviation Administration, Baltimore - Washington International Airport Master Plan - Off Airport Land Use Report, p. V-6.

10. U. S. Department of Commerce, Economic Development Administration, Survey of Industrial Location Determinants, 1973.

11. Business Week, Plan Site Survey, 1976.

12. Maryland Department of Transportation, State Aviation Administration, Baltimore - Washington International Airport Master Plan - Off Airport Land Use Report, p. IV-14.

13. David A. Long, PhD, P.E., Surface Water Quality Technical Basis Report for Interstate Route 195, ed. Yule, Jordan and Associates, May 1979, p. 11.

14. "Regulation Governing Use of State Park, Effective July 9, 1975", Title 08, Maryland Park Service, Department of Natural Resources.

15. Maryland Department of Natural Resources, Patapsco Valley State Park: Environmental Statement - Draft, September 1978, p. 61.

16. Ibid., p. 10.

17. Ibid., p. 24.

18. Ibid., p. 25.

19. Messer Associates, Draft Air Quality Analysis, Interstate 195, Interstate-95-BWI Airport, November 1979.

20. W. Fred Kinsey, Archeological Reconnaissance and Survey Along The Right-of-Way For Proposed I-195 In Anne Arundel and Baltimore Counties, Maryland From I-95 To South Of Maryland 170, August 1978.

APPENDIX A

Summary of Relocation Assistance Program

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

2 (60)

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, Real Property, Title 12, Subtitle 2, Sections 12-201 thru 12-212. 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 difference 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 reestablished 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 reestablished 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 relocated without a substantial loss of its existing patronage, the business is not part of a commercial enterprise having at least one other establishment in the same or similar business that is not being acquired, and the business contributes materially to the income of a displaced owner.

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

In order to determine the amount of the "in lieu of" moving expenses payment, the average annual net earning of the business is considered to be one-half of the net earnings before taxes, during the two taxable years immediately preceding the taxable year in which the business is relocated. If the two taxable years are not representative, the state, with approval of the Federal Highway Administration, may use another two-year period that would be more

representative. Average annual net earnings include any compensation paid by the business to the owner, his spouse, or his dependents during the period. Should a business be in operation less than two years, but for twelve consecutive months during the two taxable years prior to the taxable year in which it is required to relocate, the owner of the business is eligible to receive the "in lieu of" payment. In all cases, the owner of the business must provide information to support its net earnings, such as income tax returns, for the tax years in question.

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 utilitzed 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.

APPENDIX B

Environmental Assessment Form

The Environmental Assessment Form, which is included on the following pages, was developed in response to the requirements of the Maryland Environmental Policy Act of 1974. This report is to be prepared for all state actions and registered with the Maryland State Clearinghouse through the Maryland Department of Transportation.

The form provides a rather comprehensive summary of the areas of environmental concern. The items that are noted as having comments attached are discussed within the text of the Environmental Impact Statement. Footnote references are provided for the convenience of the reader.

ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL EFFECTS

The following questions should be answered by placing a check in the appropriate column(s). If desirable, the "comments attached" column can be checked by itself or in combination with an answer of "yes" or "no" to provide additonal information or to overcome an affirmative presumption.

In answering the questions, the significant beneficial and adverse, short and long term effects of the proposed action, on-site and off-site during construction and operation should be considered.

All questions should be answered as if the agency is subject to the same requirements as a private person requesting a license or permit from the State or Federal Government.

A. Land Use Considerations	Yes	No	Comments Attached
1. Will the action be within the 100 year flood plain?	X		p.63
2. Will the action require a permit for construction or alteration within the 50 year flood plain?	X		
3. Will the action require a permit for dredging, filling, draining or alteration of a wetland?		X	p.53
4. Will the action require a permit for the construction or operation of facilities for solid waste disposal including dredge and excavation spoil?		X	
5. Will the action occur on slopes exceeding 15%	X		p.15
6. Will the action require a grading plan or a sediment control permit?	X		p.52
7. Will the action require a mining permit for deep or surface mining?		X	
8. Will the action require a permit for drilling a gas or oil well?		X	
9. Will the action require a permit for airport construction?		X	
10. Will the action require a permit for the crossing of the Potomac River by conduits, cables or other like devices?		X	

	Yes	No	Comments Attached
11. Will the action affect the use of a public recreation area, park, forest, wildlife management area, scenic river or wildland?	X		p. 98
12. Will the action affect the use of any natural or man-made features that are unique to the county, state or nation?		X	
13. Will the action affect the use of an archaeological or historical site or structure?		X	p. 95
B. Water Use Considerations			
14. Will the action require a permit for the change of the course, current, or cross-section of a stream or other body of water?	X		p. 52
15. Will the action require the construction, alteration or removal of a dam, reservoir or waterway obstruction?		X	
16. Will the action change the overland flow of storm water or reduce the absorption capacity of the ground?	X		p. 51
17. Will the action require a permit for the drilling of a water well?		X	
18. Will the action require a permit for water appropriation?		X	
19. Will the action require a permit for the construction and operation of facilities for treatment or distribution of water?		X	
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?		X	
21. Will the action result in any discharge into surface or subsurface water?	X		p. 51

	Yes	No	Comments Attached
22. If so, will the discharge affect ambient water quality parameters and/or require a discharge permit?	X		
C. Air Use Considerations			
23. Will the action result in any discharge into the air?	X		p. 69
24. If so, will the discharge affect ambient air quality parameters or produce a disagreeable odor?	X		p. 74
25. Will the action generate additional noise which differs in character or level from present conditions?	X		p. 67
26. Will the action preclude future use of related air space?		X	p. 65
27. Will the action generate any radiological, electrical, magnetic, or light influences?		X	
D. Plants and Animals			
28. Will the action cause the disturbance, reduction or loss of any rare, unique or valuable plant or animal?		X	p. 19, 20
29. Will the action result in the significant reduction or loss of any fish or wildlife habitats?		X	p. 49, 51
30. Will the action require a permit for the use of pesticides, herbicides or other biological chemical or radiological control agents?		X	
E. Socio-Economic			
31. Will the action result in a pre-emption or division of properties or impair their economic use?		X	

	Yes	No	Comments Attached
32. Will the action cause relocation of activities, structures or result in a change in the population density or distribution?	X		p. 55
33. Will the action alter land values?	X		p. 58
34. Will the action affect traffic flow and volume?	X		p. 57
35. Will the action affect the production, extraction, harvest or potential use of a scarce or economically important resource?		X	
36. Will the action require a license to construct a sawmill or other plant for the manufacture of forest products?		X	
37. Is the action in accord with federal, state, regional and local comprehensive or functional plans--including zoning?	X		p. 39 thru 47
38. Will the action affect the employment opportunities for persons in the area?	X		p. 61
39. Will the action affect the ability of the area to attract new sources of tax revenue?	X		p. 62
40. Will the action discourage present sources of tax revenue from remaining in the area, or affirmatively encourage them to relocate elsewhere?		X	
41. Will the action affect the ability of the area to attract tourism?		X	
F. Other Considerations			
42. Could the action endanger the public health safety or welfare?		X	
43. Could the action be eliminated without deleterious effects to the public health, safety, welfare or the natural environment?	X		

	Yes	No	Comments Attached
44. Will the action be of statewide significance?	___	X	p. 39
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?	___	X	___
46. Will the action require additional power generation or transmission capacity?	___	X	___

G. Conclusion

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

The Federal law and the State law overlap in many respects relative to environmental requirements. The Maryland Department of Transportation feels it would be inefficient to duplicate the effort involved in preparing a separate State Environmental Effects Report on any project for which a Federal Environmental Impact Statement is required. Therefore, an Environmental Impact Statement has been prepared for the project which satisfies the requirements of both the National Environmental Policy Act and the Maryland Environmental Policy Act.

APPENDIX C

SUMMARY OF

SUPPORTING OR RELEVANT STUDIES

Summary of Supporting or Relevant Studies

The proposed project has been a common consideration in several planning studies during recent years. Since this project interfaces with airport, rail terminal and other proposed highway projects, the analyses and recommendations resulting from the following studies are significant in establishing the need for this project. These studies are frequently cited throughout the Final EIS.

The Baltimore-Washington International Airport Master Plan Study

The study was initiated in October 1975 and was adopted in the spring of 1977.

The purpose of the Master Plan was to (1) provide a course of action that enables Baltimore-Washington International Airport to meet the aviation needs of Maryland and (2) assure that the airport's development is in harmony with its area of influence.

To achieve this purpose, the study looked at both on and off airport issues, including aviation-related facilities, access, community development, environmental resources and economic matters.

The proposed project was a key element in the recommended airport access improvements. Improvements to I-195, the airport's major access road, are considered essential in order to assure that adequate facilities are available to serve both projected airport growth and nearby industrial and residential development.

The Master Plan Study indicates a projected increase of six million passengers per year and 12,000 additional parking spaces by 1995. Studies also show that BWI Airport handles approximately 50 percent of the air cargo shipped by the three regional airports (Dulles, Washington National and BWI). This cargo is shipped to the airport by trucks which must use I-95, since truck traffic is banned from the B-W Parkway south of MD Route 175. The I-195 connection to I-95 will improve the access for trucks destined to the airport, expecially from the Washington, D. C. area.

The growth in the use of the BWI Airport is substantiated by the Baltimore Regional Planning Council Socio-Economic Projections completed in 1977.[2] This report states that the Baltimore metropolitan area "shows an increasing tendency toward suburbanization of employment with a particular emphasis in the Baltimore/Washington corridor. Firms are giving increasing attention to the advantage of locating between the two population centers which represent a combined market of six million persons". Population and travel growth can be associated with this employment growth and I-195 will help accommodate the increased travel to the airport and adjoining industrial areas.

Baltimore/Washington Expressway - Maryland Route 46 Study

This report provided a preliminary analysis of alternatives for improving the Baltimore/Washington Parkway and constructing the segment of Maryland Route 46 (I-195) from the Parkway to U. S. Route 1.

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The Draft Interim Alternatives Location Report, completed in April 1976, recommended that detailed engineering, environmental, social and economic studies be completed for three (3) alternatives: the "no-build" alternative, a four-lane alternative and a six-lane alternative.

The report stated that the segment of I-195 under consideration "should permit balanced distribution of traffic among the major east-west highways, provide some relief for the congested portions of the Baltimore Beltway (I-695) in the vicinity of the Parkway interchange, and could permit I-95 to handle more traffic to and from the airport".

Since changes in major east-west highway volumes could alter use of the Parkway, the two improvements were studied simultaneously.

APPENDIX D

HISTORICAL RESUME'

Historical Resume'

The project was initially included in the State Roads Commission 1968-1988 twenty year needs study as a part of a north-south expressway in the Rolling Road corridor, which extended from the Baltimore/Washington International Airport to Security Boulevard, north of Interstate Route 70. The expressway was also known as the "Metropolitan Boulevard", because it was to be an arterial road serving predominantly commuter oriented traffic in the I-695 corridor.

Studies proceeded in the early 1970's for the portion between I-95 and Security Boulevard. However, in response to public opposition, studies stopped and the expressway north of I-95 was dropped from the Secondary Highway Improvement Program in 1974. The expressway south of I-95 has been included in all subsequent State Highway needs studies since 1968 and has been described as either a four-lane or six-lane freeway connecting with existing Route 166 at U. S. Route 1 and ending at the BWI Airport.

Funds for the project were first included in the State Highway System Supplementary Construction and Reconstruction 1970-74 Program and were included in the subsequent Primary Highway Improvement Programs developed through 1976. Interstate 195 is currently included in the Draft 1980-1985 Interstate Comprehensive Work Schedule and is described as a six-lane freeway from BWI Airport to Interstate 95.

In July of 1975 the U.S. Department of Transportation, by written correspondence to, then, Governor Mandel, agreed to withdraw the portions of I-270 and I-95 inside the Capital Beltway from the Interstate System. That same correspondence approved several substitution projects. The proposed extension of MD 46 (I-195) from I-95 to the Baltimore/Washington International Airport is one of the approved substitution projects.

Section 107(e) of the Surface Transportation Act states: "By September 30, 1986, all routes or portions thereof on the Interstate System... must be under contract for construction or construction must have commenced". Therefore, any extensive delays in the pre-construction phases of the I-195 project may contribute to disqualification for Interstate Federal-aid under Section 107(e).

Previous Studies in the Project Corridor - An Engineering Study was completed in 1965 for the portion of Rolling Road (Route 166) in the vicinity of Interstate 95 (Wilkens Avenue to Francis Avenue). Another study was completed in 1967 for Rolling Road from Interstate 95 south to the Baltimore/Washington Parkway Interchange with MD 46. In these studies, alignments were evaluated, cost estimates were prepared and a relocation of MD 166 was recommended from Wilkens Avenue to the Baltimore/Washington Parkway.

In 1974, a study of proposed improvements to the Baltimore/Washington Parkway from Washington to Baltimore included the study of MD 46 from the BWI Airport to U.S. Route 1. An interim Alternatives public meeting was held in 1976 and a draft Interim Alternatives Location Report was completed.

Completed Segments - The 0.9 mile section of MD 166 from Francis Avenue north to Rolling Road is a four-lane expressway which was built in the early 1970's as part of the Interstate Route 95 Interchange.

The portion of MD 166 from Francis Avenue to U.S. Route 1 is a four-lane expressway which was built in 1973-74. This construction included ramp connections to U.S. Route 1 and acquisition of right-of-way south of Route 1 to the Harbor Tunnel Thruway.

Current Status and Estimated Construction Schedule - The current studies on I-195, which began in May 1978, include completion of Phase II services and preparation of an Environmental Impact Statement.

The Baltimore Region's General Development Plan identifies the I-195 improvements among the recommended long-range highway projects. The project is included in the Class II category which is comprised of facilities which may be necessary to achieve the region's objectives.

The I-195 project is listed in the Development and Evaluation Program of the Marvland Department of Transportation 1981-1986 Consolidated Transportation Program (CTP). Activities are continuing in anticipation of eventual addition to the Construction Program of the CTP. However, no commitment is made beyond the design phase. Implementation of this project will depend on future revenue increases and competition with other projects in the Development and Evaluation Program.