REPORT OF THE
VIRGINIA DEPARTMENT OF TRANSPORTATION
IN RESPONSE TO HOUSE JOINT RESOLUTION 404
ON THE

Hampton Roads Bridge-Tunnel And U. S. Route 17

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 27

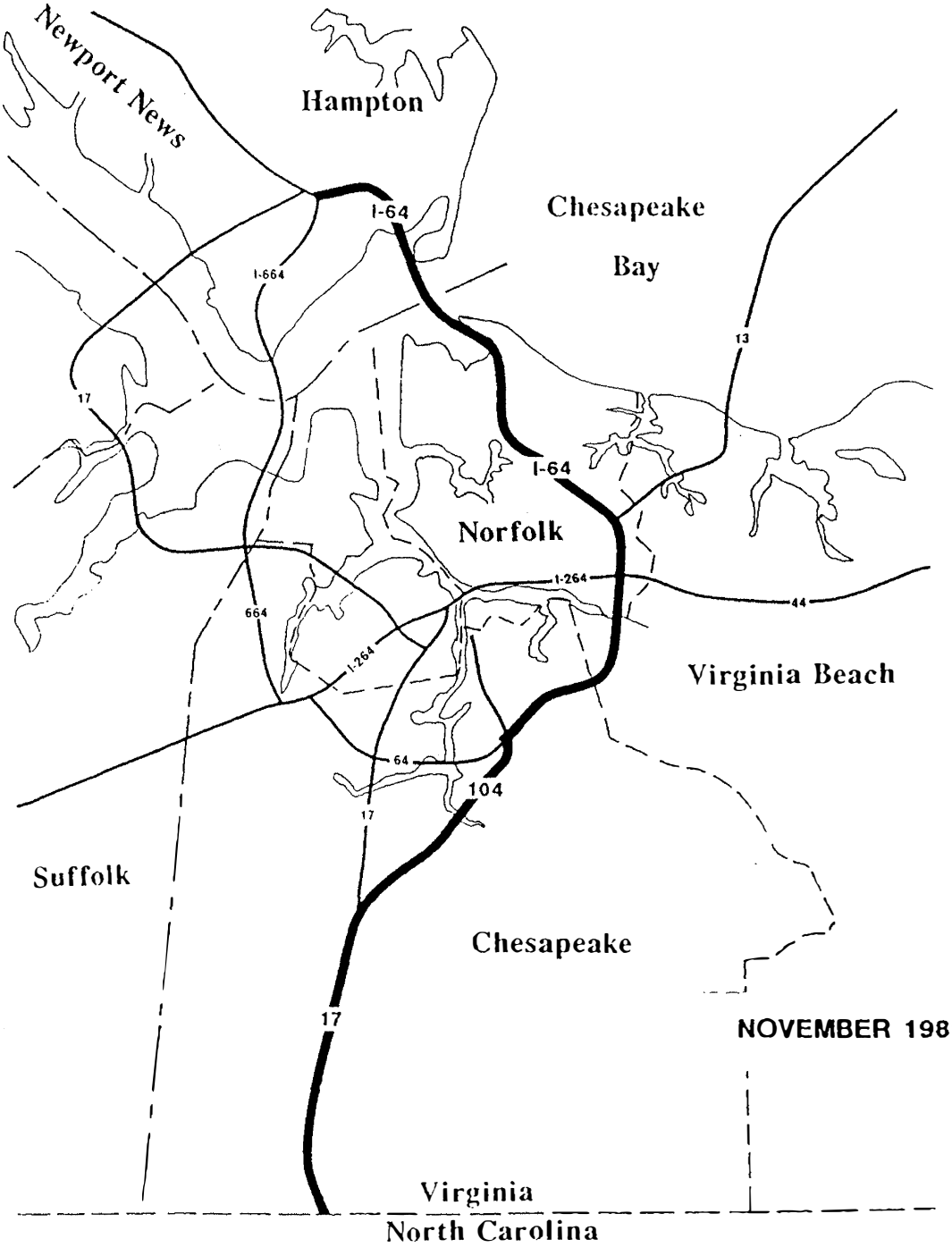
COMMONWEALTH OF VIRGINIA
RICHMOND
1990

TRANSPORTATION STUDY

HAMPTON ROADS BRIDGE - TUNNEL

I-64 and U.S. ROUTE 17

(Report on Study for HJR 404)



NOVEMBER 1989

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EXECUTIVE SUMMARY

As requested by House Joint Resolution No. 404, passed by the 1989 General Assembly, the Department of Transportation has conducted a study on the Hampton Roads Bridge-Tunnel, the I-64 corridor, and the U. S. Route 17 travel corridor. The study identifies the traffic safety and traffic congestion problems and outlines both the programmed improvements and the long-range transportation plans to solve these problems.

I-64 Corridor

The I-64 corridor, which includes the Hampton Roads Bridge-Tunnel, is a vital transportation link for the cities of Hampton Roads. The I-64 corridor serves large commercial, industrial, and employment centers. It also carries heavy volumes of truck traffic as well as tourist traffic destined to the Virginia and North Carolina resort areas. Because of the heavy travel demand, I-64 often operates at a level of service F (a stop and go condition for traffic).

To increase the vehicular capacity across Hampton Roads, the Commonwealth Transportation Board has programmed $125 million for projects to complete I-664. The Commonwealth Transportation Board has also placed a high priority on the I-64 corridor by programming $140,246,000 for projects over the next six years. The funding to complete I-664 is committed; however, on I-64 only $86,366,000 is currently available for allocation to the improvement projects. The remaining funds are pending federal legislation in 1991 and $15 million to be allocated after 1995. If Congress reduces future Interstate funds below the level currently available to the Commonwealth, there will be a negative impact on I-64 as well as other Interstate projects in the program. In brief, the federal and state funding is not currently available to finance all the needed projects on I-64 within the time frame of VDOT's Six Year Transportation Improvement Program.

After all of the projects in the Six Year Transportation Improvement Program have been constructed, additional improvements will be needed on I-64 to serve the Year 2010 travel demand. Therefore, VDOT's 2010 Statewide Transportation Plan recommends the following improvements, which are estimated to cost $1,379,726,000.

- 8 lanes on I-64 from I-664 in the City of Hampton to I-564 in the City of Norfolk (this includes 8 lanes on the Hampton Roads Bridge-Tunnel)
- 10 lanes including reversible HOV lanes on I-64 from I-564 to Indian River Road in the City of Virginia Beach
- 8 lanes on I-64 from Indian River Road to I-464 in the City of Chesapeake

U. S. Route 17 Corridor

U. S. Route 17 in the southern part of the City of Chesapeake serves approximately 7,300 vehicles per day. Currently the traffic follows Route 17 from North Carolina to the intersection of Route 104; then the major traffic flow follows Route 104 into the urbanized area of the City of Chesapeake. Route 17 is a narrow roadway with 10' travel lanes that cuts through the Great Dismal Swamp and there is very little developed land along the corridor. Only three roads connect to Route 17, and there are fewer than five dwellings and only two commercial establishments on this section.

Because Route 17 was built on marshlands, there are many areas where settlement has created depressions in the pavement. These depressions give the driver a "roller coaster feeling" and may have contributed to accidents over the years. Trees have overgrown the corridor and in summer months, when the foliage is out, visibility is a problem and drivers are cautioned to use headlights for greater visibility. Route 104 between Route 17 and I-464 is a two-lane roadway with 24' of pavement built on the ultimate 200' of right of way needed for a future 4-lane facility. The existing traffic volumes on Route 104 range from 4,850 vehicles per day just north of Route 17 to 12,900 vehicles per day at Bainbridge Boulevard. The most significant accident problem on Route 104 is at the intersection of Route 17. To correct this problem, the Commonwealth Transportation Board has programmed a project costing $3,000,000 to realign Route 17 to tie directly into Route 104 for the north-south traffic flow in this area.

The Statewide Transportation Plan recommends improving Route 17 to four lanes from North Carolina to Route 104 and providing similar improvements on Route 104 to the intersection of Cedar Road. North of Cedar Road to I-464, Route 104 is recommended to be improved to six lanes. The total cost of these improvements is estimated to be $67.6 million. To initiate the improvements on U.S. Route 17, the Commonwealth Transportation Board has programmed $300,000 to begin the preliminary engineering on the 5.4 mile section beginning at the North Carolina state line.

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HOUSE JOINT RESOLUTION NO. 494
AMENDMENT IN THE NATURE OF A SUBSTITUTE
(Proposed by the Senate Committee on Rules
on February 17, 1989)
(Patron Prior to Substitute--Delegate McClanan)

Requesting the Department of Transportation to study the Hampton Roads Bridge Tunnel and U.S. Route 17.

WHEREAS, the Hampton Roads Bridge Tunnel links the cities of Hampton and Norfolk across and beneath the waters of Hampton Roads; and

WHEREAS, it is difficult to overstate the indispensability of the Hampton Roads Bridge Tunnel to the economy not only of these two cities, but of all Southeastern Virginia and the entire Commonwealth as well; and

WHEREAS, the Hampton Roads Bridge Tunnel is one of the crucial links in the land-side transportation network conveying cargoes to, from, and between the ports of Hampton Roads; provides access for visitors from across Virginia and beyond to Virginia's Chesapeake Bay and Atlantic Ocean beaches; serves as a conduit for commuters who work in the shipyards, military installations, and other major centers of employment on one side of Hampton Roads, but reside on the other; affords enhanced access for many Virginians to major air transportation facilities on both sides of the lower James River; functions as a vital evacuation route from extreme Southeastern Virginia in the event of hurricanes or other emergencies; aids in our country's defense by providing a means of transportation and communication between military establishments located throughout the region; and makes possible region-wide access for the general public to a myriad of health care, cultural, sporting, and shopping opportunities; and

WHEREAS, together with Interstate 64 and U.S. Route 17 south of Hampton Roads, the Hampton Roads Bridge Tunnel not only links the Peninsula with Southside Hampton Roads, it also brings northeastern North Carolina communities within reasonable driving range of the same amenities enjoyed by Virginia's lower Tidewater; and

WHEREAS, the same factors which have made the Hampton Roads Bridge Tunnel and its associated highway network so valuable have also been the source of growing difficulties as ever increasing traffic congestion threatens to strangle Hampton Roads area transportation in its own success; and

WHEREAS, it is commonplace, even outside the peak tourist season, for traffic to experience one and one-half to two hour delays at the Hampton Roads Bridge Tunnel; and

WHEREAS, U.S. Route 17, which in North Carolina is a multilane divided highway, at the North Carolina/Virginia boundary becomes a narrow, darkly shaded road overburdened with sheer traffic volume and delay-producing turning and crossing traffic; and

WHEREAS, the basic value of the Hampton Roads Bridge Tunnel and its associated highway network is in danger of being undermined by a failure to upgrade and enhance the capacity of the facilities successfully; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Department of Transportation is requested to study the Hampton Roads Bridge Tunnel and U. S. Route 17. The study shall include, but not be limited to, the methods, procedures, programs, and resources necessary to upgrade the capacity of the Hampton Roads Bridge Tunnel and U.S. Route 17 and Interstate 64 south of Hampton Roads, reduce traffic congestion, and improve traveling safety. The Department shall present its legislative recommendations, if any, to the 1990 Session of the General Assembly as provided in the procedures of the Division of Legislative Automated Systems for processing legislative documents.

TRANSPORTATION STUDY
of the
HAMPTON ROADS BRIDGE-TUNNEL, I-64 and U. S. ROUTE 17
IN THE CITIES OF HAMPTON ROADS

PURPOSE

As requested by House Joint Resolution Number 404, passed by the 1989 General Assembly, the Department of Transportation has conducted a transportation study on the Hampton Roads Bridge-Tunnel, the I-64 corridor, and the U.S. Route 17 travel corridor in the cities of South Hampton Roads. The map in Figure 1 shows the Hampton Roads area and the transportation facilities that are included in the study.

The purpose of this study is to identify any acute or chronic traffic congestion or traffic safety problems on the Hampton Roads Bridge-Tunnel, I-64 and U.S. Route 17. The study is to identify any short-term or long-range transportation improvements to relieve travel or traffic congestion problems. Further, the study discusses the procedures, methods, programs, costs, and any possible resources available to improve the I-64 and U.S. Route 17 corridors. A recommended priority order for implementing any long-range improvements is also included.

INTRODUCTION

The I-64 corridor, which includes the Hampton Roads Bridge-Tunnel, is a vital transportation link for the cities of Hampton Roads. Through the Hampton Roads Bridge-Tunnel, I-64 connects the cities of South Hampton Roads to the cities on the Virginia Peninsula. I-64 carries long-distance interstate travel, but a major portion of the daily traffic flow is made up of local traffic. The corridor serves large commercial and industrial sites, as well as major employment centers such as Norfolk International Airport and the Norfolk Naval Operations Base.

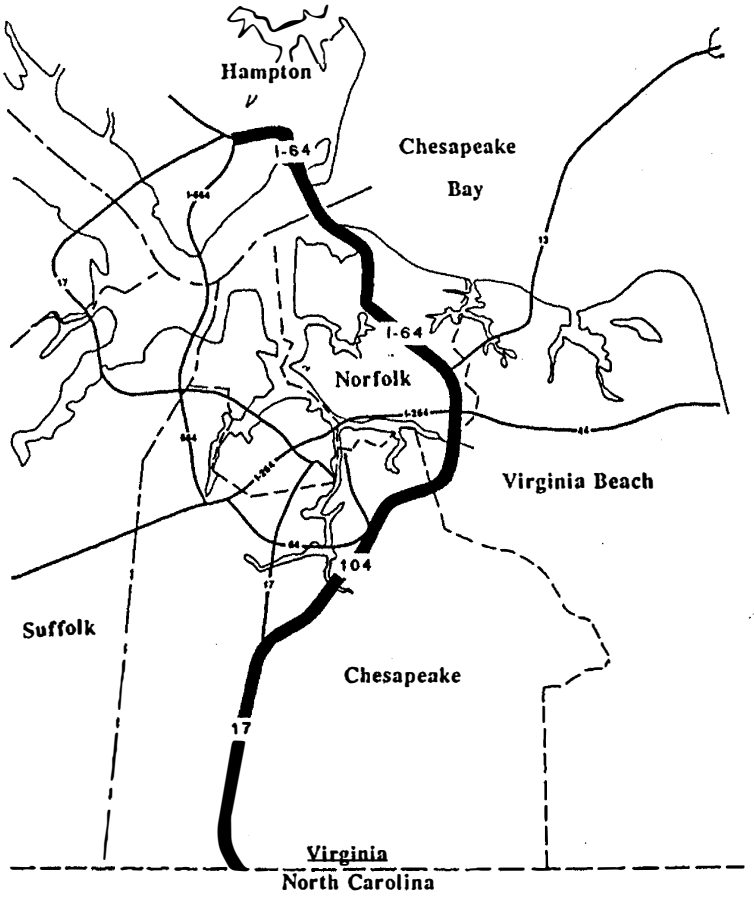
U.S. Route 17, in the southern part of the city of Chesapeake, extends from the North Carolina state line through the Dismal Swamp to I-64 in the Deep Creek area. In a study by the Department of Transportation (VDOT) in 1987, it was found that the major traffic flow in this corridor follows U.S. 17 from North Carolina to its intersection with Dominion Boulevard (Route 104). The majority of the traffic from U.S. Route 17 then follows Route 104 to the I-64/I-464 interchange. Since VDOT's study of the U.S. Route 17/Route 104 corridor was completed in May 1988, the findings of that study have been incorporated in this report for HJR 404.

During the past four years, several studies related to the I-64 and U.S. 17 corridors have been conducted by the Department of Transportation and the Southeastern Virginia Planning District Commission. Information from these studies, as well as information provided from the work of the Hampton Roads Tunnels Advisory Committee has been incorporated in this report for HJR 404.

FIGURE 1

HAMPTON ROADS AREA

STUDY CORRIDORS



I-64 CORRIDOR

The segment of I-64 to be examined in this study extends from I-664 in the City of Hampton to I-464 in the City of Chesapeake. The western terminus was chosen because any relief to I-64 and the Hampton Roads Bridge-Tunnel complex will come via I-664 when this new crossing of Hampton Roads is opened in late 1991. The eastern terminus of the 64 corridor at I-464 was chosen because a major portion of the traffic from the U.S. 17 corridor flows through the I-64 and I-464 interchange. The length of this segment of I-64, which is displayed in Figure 2, is 27.6 miles.

In order to describe the traffic flow conditions on I-64, an explanation of levels of service is necessary. The quality of service provided by a given highway facility is measured in terms of its level of service. In the evaluation of a roadway, there are six levels of service designations, from A to F, with level of service A representing the best operating conditions and level of service F the worst. A brief description of each level of service (LOS) is as follows:

LOS A - represents free-flow. Vehicles can maneuver within the traffic stream and easily maintain the posted speed limit.

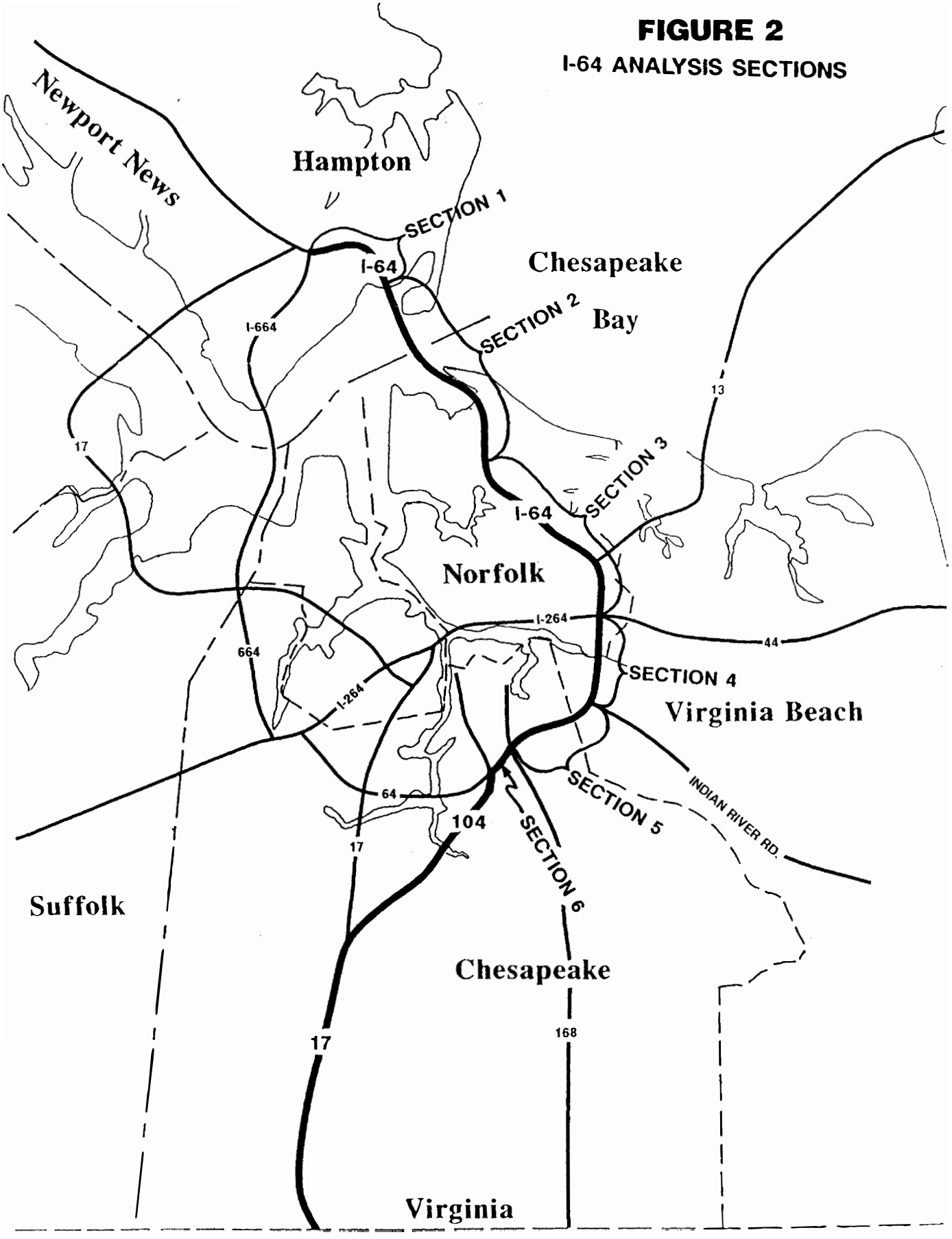


FIGURE 2
I-64 ANALYSIS SECTIONS
Newport News
Hampton
SECTION 1
I-64
Chesapeake
Bay
SECTION 2
I-664
17
13
SECTION 3
I-64
Norfolk
I-264
44
664
SECTION 4
Virginia Beach
I-264
64
104
SECTION 5
INDIAN RIVER RD.
SECTION 6
17
Suffolk
Chesapeake
168
17
Virginia

LOS B - represents a stable flow. The spatial separation of vehicles allows easy maneuverability, and drivers can maintain the posted speed.

LOS C - is still stable traffic flow, but the maneuverability and speeds are more restricted with higher traffic volumes. The drivers are more restricted in their freedom to select their speeds, to change lanes, or to pass.

LOS D - approaches unstable flow. Temporary restrictions to the traffic flow may cause substantial drops in the operating speed, the drivers have little freedom to maneuver to pass, and the comfort and convenience of the driver are lowered. Drivers usually tolerate this condition for short periods of time.

LOS E - represents the capacity of the facility. The traffic flow is unstable, vehicles are unable to pass, there may be momentary stoppages in the traffic flow, and the vehicle operating speeds are very low.

LOS F - describes a forced flow condition usually with low operating speeds and traffic volumes that are below capacity. This is often described as stop-and-go conditions.

A general description of the I-64 corridor, including the number of lanes, the existing traffic, future traffic, programmed improvements, and ultimate improvements is shown in Table I. Also shown in Table I are the existing levels of service (LOS) for specific sections on I-64. A brief synopsis of each section on I-64 is as follows:

Section 1 - Although I-64 was recently improved to a six-lane roadway between I-664 and Mallory Street in the City of Hampton, it is already experiencing congestion during peak hours. The existing traffic, which is over 72,000 vehicles per day, is expected to be reduced when I-664 is completed into Southeastern Virginia. However, traffic growth is expected to continue to a level of 132,000 vehicles per day by the year 2010. The Regional and Statewide Transportation Plans recommend improving this section to eight lanes.

Section 2 - From Mallory Street in the City of Hampton, to I-564 in the City of Norfolk, I-64 is a four-lane facility. This section, which includes the Hampton Roads Bridge-Tunnel complex, carries in excess of 70,000 vehicles per day and on peak days, during the tourist season, has carried more than 93,000 vehicles. During the off-peak travel season, congestion also occurs on the Hampton Roads Bridge-Tunnel. Simply stated, this facility is carrying more traffic than it was designed to accommodate.

The volume of heavy trucks (six-tired vehicles or larger) ranges from 10 to 12 percent of the traffic volume. This heavy volume of trucks is an indicator of the vital role played by the Hampton Roads Bridge-Tunnel in the economy of Hampton Roads. However, this heavy truck traffic effectively uses up the capacity of the right lane on each tunnel and severely limits the total capacity of the tunnels during the week days. This causes the tunnels to operate at a level of service F during weekday peak periods. Also, on weekends during the tourist season, the heavy traffic demand causes the tunnels to operate at a level of service F (stop and go conditions).

TABLE 1

I-64 Corridor

Section	From:	To:	Dist. (Miles)	No. Lanes	Existing Traffic	Existing LOS (1)	2010 Traffic	Programmed Improvement (2)	Statewide Plan (3)	
1	I-664	Mallory Street	3.68	6	72,020	D-E	132,000	-	8 lanes	
2	Mallory Street	I-564	8.87	4	81,610	F	147,400	-	8 lanes	
3	I-564	I-264/Rte 44	7.46	6	130,550	F	208,000	2 HOV lanes	10 lanes	(4)
4	I-264/Rte 44	Indian River Rd	2.50	4	93,390	F	150,000	2 Conv. and 2 HOV lanes	10 lanes	(4)
5	Indian River Rd	Battlefield Blvd	4.08	4	73,800	E-F	156,200	-	8 lanes	(5)
6	Battlefield Blvd	I-464	1.08	6	49,360	C-D	130,000	-	8 lanes	(5)

(1) Levels of Service during peak periods.
(2) VDOT's Six Year Improvement Program FY 1989-90 through 1994-95.
(3) Recommended improvements in VDOT's 2010 Statewide Transportation Plan.
(4) 8 conventional lanes plus 2 HOV lanes.
(5) 6 conventional lanes plus 2 HOV lanes.

In an effort to relieve some of the traffic congestion on this section, VDOT formed the Hampton Roads Tunnels Advisory Committee to explore ways of improving communications and advising motorists of alternate routings. The role of this committee is given in this text under the Hampton Roads Bridge-Tunnel.

Although this section of I-64 is expected to gain some relief with the opening of I-664, traffic is still expected to grow to the level of 147,000 vehicles per day by the year 2010. Both the regional plans for Peninsula and Southeastern Virginia, as well as VDOT's Statewide Transportation Plan, show the need for eight lanes at the Hampton Roads Bridge-Tunnel.

Section 3 - The section of I-64 in the City of Norfolk, from I-564 to I-264/ Route 44 is a six-lane facility currently carrying up to 130,000 vehicles per day. It is not unusual for this section of I-64 operates at a level of service F, for six to eight hours per day. Much of the travel in this corridor is associated with the employment at the Norfolk Naval Base, Norfolk International Terminal, Norfolk International Airport, as well as tourists traveling to Virginia Beach. Improvements that have been programmed for this section, including two HOV lanes from I-264 to I-564 and interchange improvements at Northampton Boulevard, will cost $87 million to construct. A complete list of the programmed improvements for the I-64 corridor is shown in Appendix A of this report. Even with the reversible HOV lanes, additional growth in traffic by the year 2010 will require further improvements to I-64. Therefore, VDOT's Statewide Transportation Plan recommends a total of ten lanes to this section of I-64, four lanes in each directions for conventional traffic plus two HOV lanes.

Section 4 - The section of I-64 from I-264 in the City of Norfolk to Indian River Road in the City of Virginia Beach, is only a four-lane facility, yet it carries 93,000 vehicles per day. This section operates at a level of service F during a.m. and p.m. peak periods. To improve this section, VDOT has programmed projects to add two HOV lanes and two new conventional lanes (making a total of eight lanes). These projects, which will cost more than $39 million, will be initiated beginning with the first segment during fiscal year 1989-90 (see Appendix A for details). Since the traffic on this section is expected to grow to some 160,000 vehicles per day by the year 2010, the Statewide Transportation Plan recommends a total of ten lanes for this section, four conventional lanes in each direction plus two HOV lanes.

Section 5 - The section of I-64 from Indian River Road in the City of Virginia Beach to Battlefield Boulevard in the City of Chesapeake, is a four-lane facility currently carrying 73,800 vehicles per day. This section of roadway often operates at a level of service E or F during peak periods. Since this section serves the rapidly developing area of the City of Chesapeake, the traffic on this section is expected to grow to over 156,000 vehicles per day by the year 2010. Although a preliminary engineering project has been programmed, no construction funds are currently available for improving this section of I-64. VDOT's Statewide Transportation Plan recommends improvements to provide eight lanes (three conventional lanes in each directions plus two HOV lanes).

Section 6 - The section of I-64 from Battlefield Boulevard to I-464 in the City of Chesapeake is a six-lane facility currently carrying 49,360 vehicles per day. There are no current traffic congestion problems on this section of I-64. This section operates at a level of service C or D during the peak hours. Traffic on this section is expected to grow to 130,000 vehicles per day by the year 2010. Therefore, the Statewide Transportation Plan recommends improving this section to provide a total of eight lanes (three conventional lanes in each direction plus two HOV lanes).

THE HAMPTON ROADS BRIDGE-TUNNEL

Since the Hampton Roads Bridge-Tunnel has come to be regarded by the localities as a "bottleneck" in the I-64 corridor, VDOT has taken steps to provide any possible relief to the facility. In 1988 the Hampton Roads Tunnels Advisory Committee was established to study ways for improving traffic flow through the Hampton Roads Bridge Tunnel and other tunnels in the area. The committee includes representatives from the cities of Hampton, Norfolk, and Portsmouth; the Virginia State Police; VDOT; and area citizens. Details on the work of this committee are given in Appendix B of this report.

Some of the goals of the Hampton Roads Tunnels Advisory Committee (HRTA Committee) are:

- Improving communications with the motorists.
- Improving safety.
- Offering alternative routings via the James River Bridge.

Communications with the motorists are being improved through cellular telephone, VDOT's highway advisory radio station, current traffic reports by local radio, high school and college radio stations. Metro traffic reports in both the Hampton Roads and Richmond areas advise motorists of traffic conditions and possible alternative routings.

The HRTA Committee has recommended several improvements to enhance safety. These recommendations include improving the lighting at the entrance of the tunnels, revising the signs to encourage motorists to maintain posted speeds, additional pull-outs on the westbound lane for use by vehicles during emergencies, and the use of VDOT tunnel personnel to assist in traffic control.

Currently, the only alternative crossing of Hampton Roads is the James River Bridge between the City of Newport News and Isle of Wight County. In the past, motorists have been reluctant to leave the I-64 corridor and use the James River Bridge and U.S. Route 17 as an alternate route to their destination. To encourage motorists to use this alternative routing, the HRTA Committee has made a significant effort to "trailblaze" alternate routes through the Peninsula, across the James River Bridge, and through South Hampton Roads to I-264 and I-64. These trailblazing targets have been installed permanently along the alternate routes and are color coded to lead the motorist to and from his destination. In an effort to publicize these alternate routes, the HRTA Committee has published a brochure that tells motorists destined to Virginia Beach or Eastern North Carolina, how to follow the trailblazing targets. This brochure (shown in Appendix B) is being distributed at hotels and motels in Virginia and North Carolina, at tourist information centers, and at VDOT's Norfolk Residency office.

The Hampton Roads Tunnels Advisory Committee recognizes that all of the recommended interim improvements will have a positive effect on the operation of the Hampton Roads Bridge-Tunnel. However, the Committee also recognizes that the only permanent solution to the traffic congestion on the Hampton Roads Bridge-Tunnel will be in the form of additional capacity across Hampton Roads. To accomplish this, the Committee has recommended to the Commonwealth Transportation Board that in addition to the completion of I-664, the Hampton Roads Bridge-Tunnel crossing be widened to provide additional lanes and increase the capacity of this facility.

VDOT's 2010 Statewide Transportation Plan recommends four additional lanes for the Hampton Roads Bridge-Tunnel. This can be accomplished by constructing a new "twin tube" tunnel on the west side of the two existing tunnels. As shown by the conceptual drawing in Figure 3, the new twin tube tunnel would provide four lanes for the

HAMPTON ROADS BRIDGE - TUNNEL

Proposed Additional Twin Two - Lane Tube

(Conceptual Drawing)

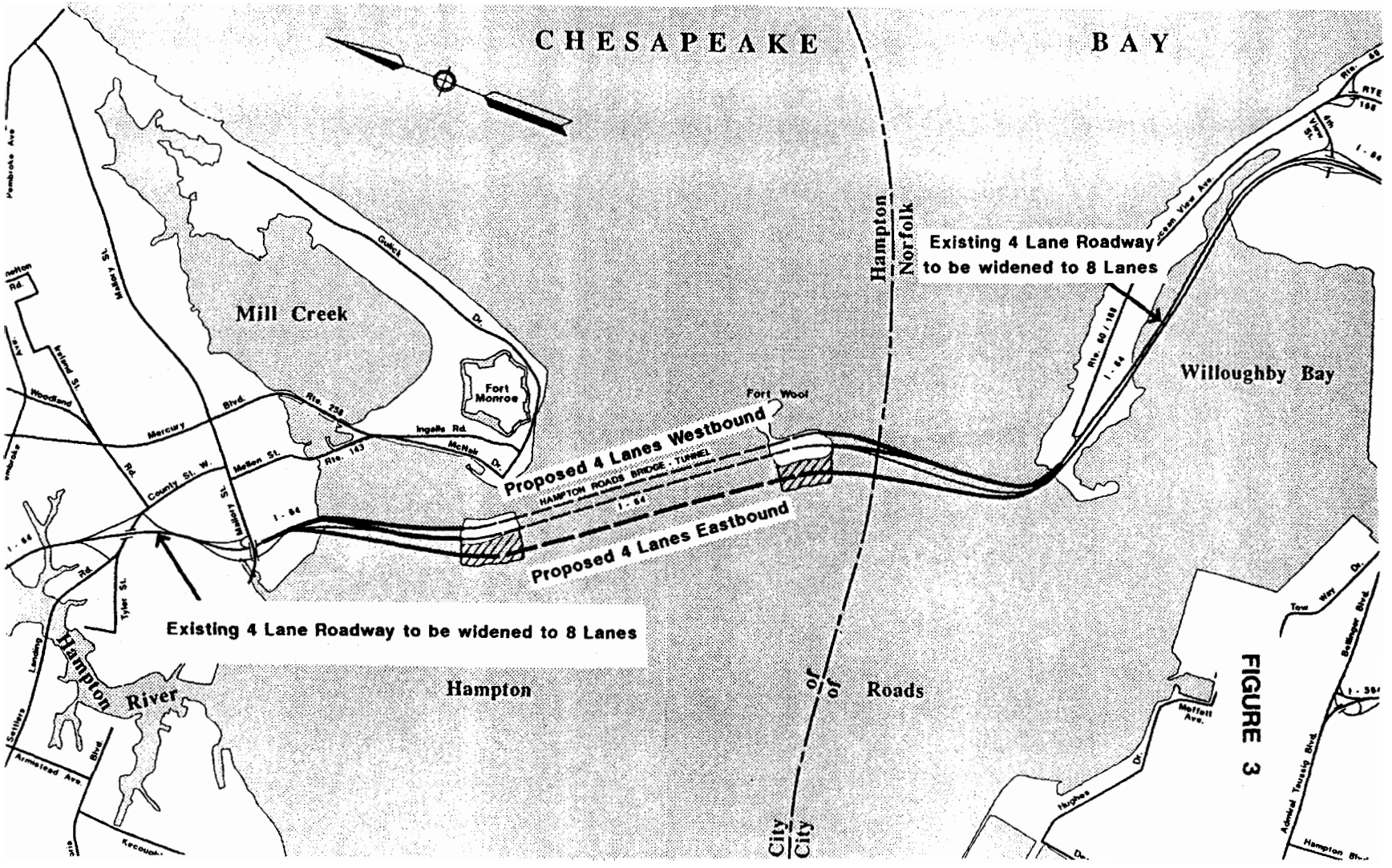
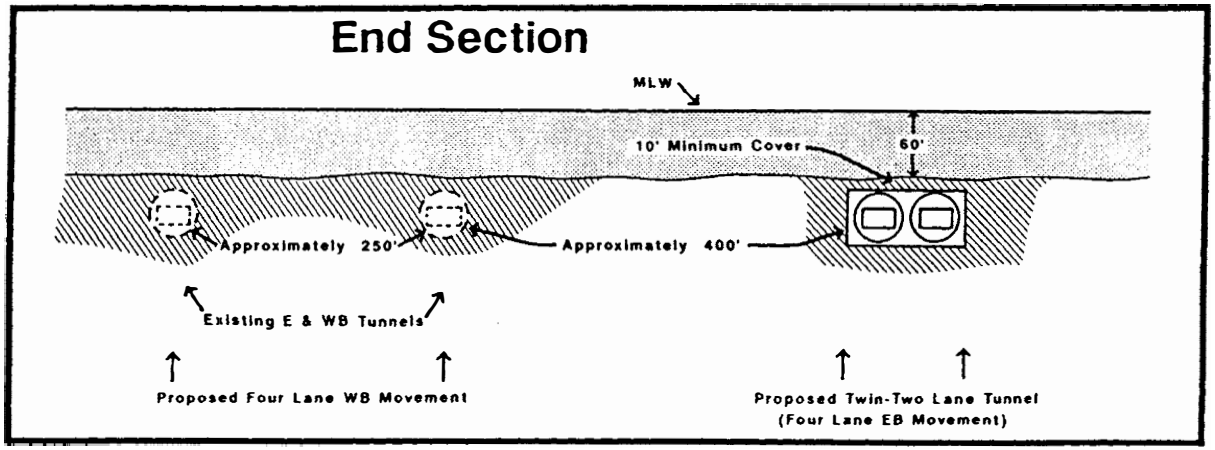


FIGURE 3

HAMPTON ROADS BRIDGE - TUNNEL



Proposed Additional Twin Two - Lane Tube

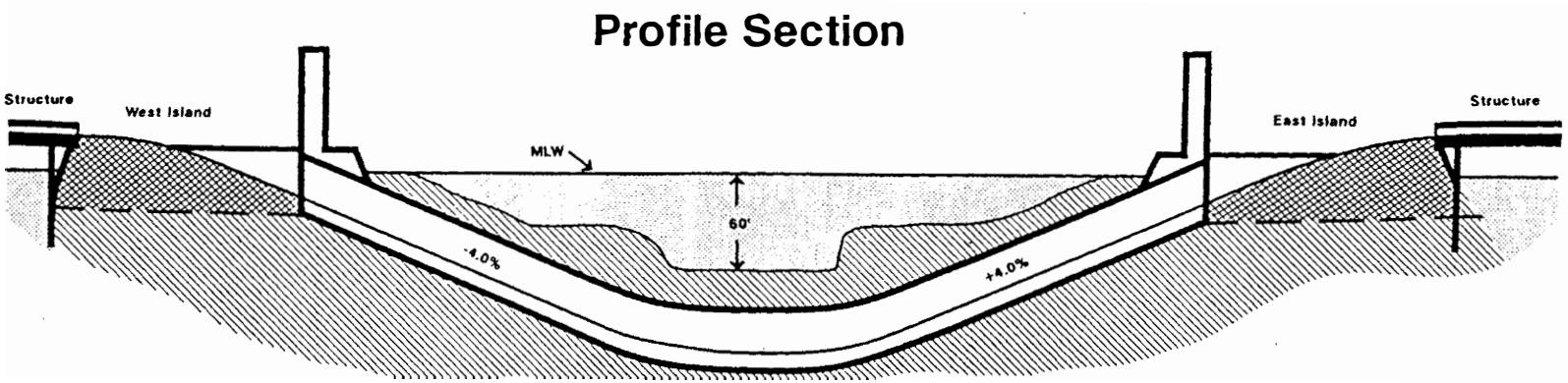


FIGURE 4

eastbound traffic flow and the two existing tunnels would be combined to serve as a four lane conduit for westbound I-64 traffic. Figure 4 shows the proposed layout and profile section for the recommended twin tube tunnel.

I-64 ACCIDENT DATA

Accident information on the I-64 Corridor for the past three years indicates that the accident rates are much higher than the statewide averages for the interstate system. The total accidents for each section of I-64 is shown in Table 2. The accident, injury, and fatality rates are displayed in Table 3. It should be noted that higher accident rates can be expected on congested urban interstate segments versus rural sections. Also, section 1 shows a very high accident rate in 1986 when this section was under construction; in 1987 and 1988 the accident rates are more in line with other sections in the corridor.

TABLE 2
Three Year Accident Summary
January 1, 1986 - December 31, 1988

Section	From	To	Property Damage Accidents	Injury Accidents	Fatal Accidents	Total Accidents
1	I-664	Mallory Street	335	165	1	501
2	Mallory Street	I-564	828	395	5	1,228
3	I-564	I-264/Route 44	817	420	8	1,245
4	I-264/Route 44	Indian River Road	211	125	1	337
5	Indian River Road	Battlefield Blvd	121	101	1	223
6	Battlefield Blvd	I-464	22	21	1	44

PROGRAMMED IMPROVEMENTS

For many years, one of the main transportation concerns of the elected officials and the cities of Hampton Roads has been providing relief to the Hampton Roads Bridge-Tunnel complex. Since it was first conceived in the late 1960s, I-664 has been seen by elected representatives of the area as well as the Department of Transportation, as a means of providing additional vehicular capacity across Hampton Roads, and thus relieving some of the congestion on the Hampton Roads Bridge-Tunnel. In response to the regional support for I-664, the Commonwealth Transportation Board has funded projects in the Six-Year Transportation Improvement Program to complete I-664 during FY-92. The estimated cost for completing this facility during the FY-90 through FY-95 program period is estimated to be $125,000,000 (see Figure 5 for I-664 projects).

TABLE 3

I-64 Accident Rates vs Statewide Interstate Accident Rate

(1986 through 1988)

1986

Section	[1] Accident Rate	Injury Rate	Fatality Rate
1	236	101	0.0
2	181	94	0.9
3	148	69	0.3
4	110	76	1.3
5	68	41	1.0
6	83	71	5.9
1986 Statewide Rates	81	47	0.8

1987

Section	[1] Accident Rate	Injury Rate	Fatality Rate
1	168	74	0.0
2	182	89	0.4
3	126	53	1.5
4	97	63	0.0
5	87	69	0.0
6	77	46	0.0
1987 Statewide Rates	83	46	0.7

1988

Section	[1] Accident Rate	Injury Rate	Fatality Rate
1	140	71	2.0
2	168	66	0.4
3	115	45	0.8
4	146	77	0.0
5	70	31	0.0
6	64	24	0.0
1988 Statewide Rates	76	41	1.0

[1] Accident Rates, Injury Rates and Fatality Rates are based on 100,000,000 vehicle miles of travel.

The Commonwealth Transportation Board has placed a high priority on improving the Route 64 corridor and has made a concentrated effort to complete this corridor as soon as it is financially possible. However, with most of Virginia's Interstate System being over 20 years old there are improvement needs in all other parts of the Commonwealth as well.

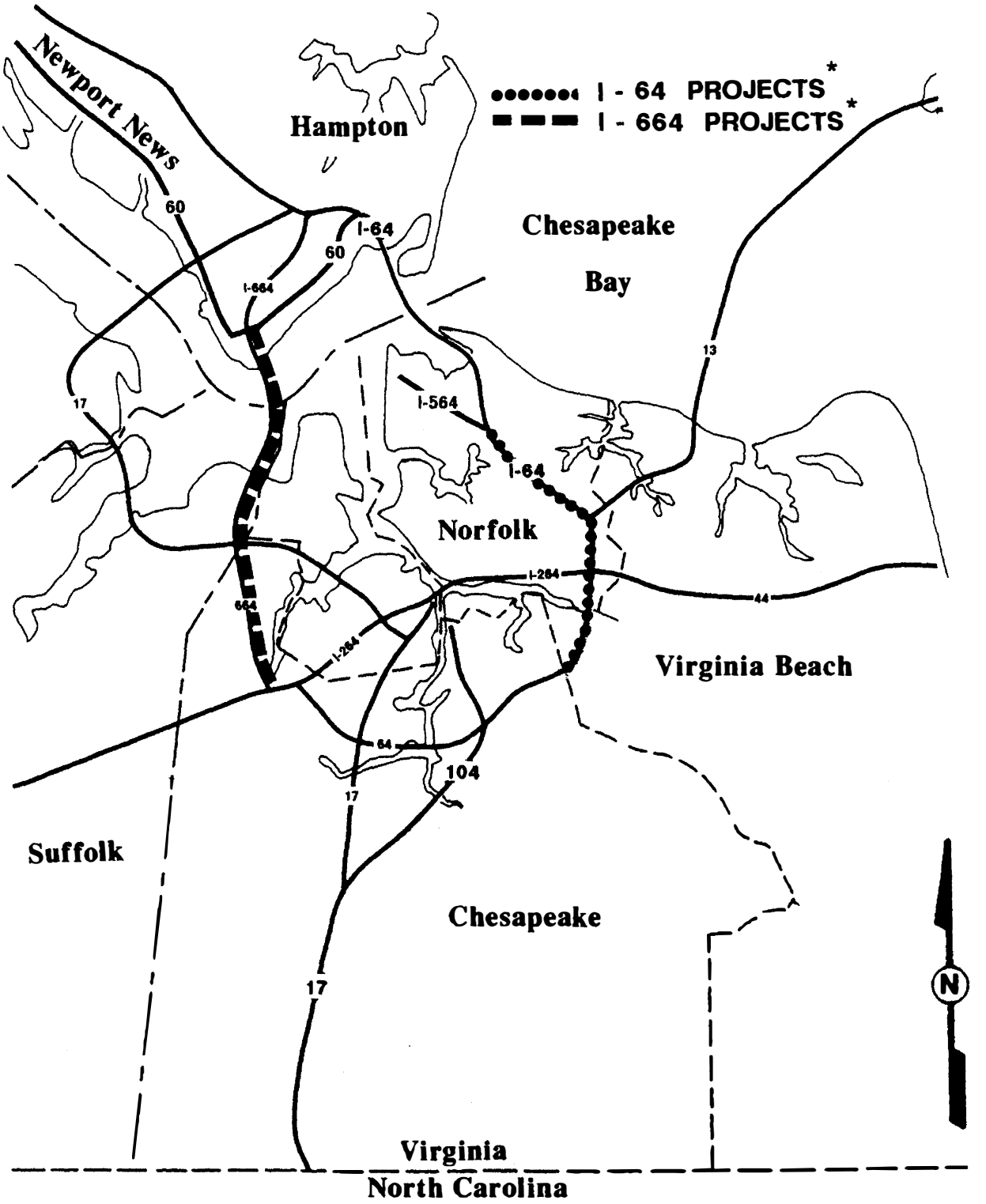
The funding for interstate projects is based on Federal legislation which determines the amount of Federal monies that are available to each state. The current Federal Highway legislation is due to expire at the end of 1991, and it is not possible to determine the level of funding beyond that date. If the Congress should reduce future Interstate funds below the existing level currently available to the Commonwealth, there would be a negative impact on Route 64 as well as other interstate projects already in the Transportation Improvement Program.

The FY-90 through FY-95 Transportation Improvement Program includes nineteen projects in the planning or construction stages on the I-64 corridor (see Figure 5). However, only $86,366,000 of the $140,246,000 needed is currently available for allocation to these projects. A breakdown of the additional funds needed includes $23,205,000 in proposed allocations, $15,675,000 pending Federal legislation in 1991 and $15,000,000 to be allocated after 1995. In brief, the Federal funding is not available to finance all of the currently needed improvements on I-64 within the time frame of VDOT's Six Year Transportation Improvement Program.

Beyond the projects in the Six Year Program, VDOT's 2010 Statewide Transportation Plan identifies the need for future improvements to the I-64 corridor. The programmed projects on I-64 as well as the statewide plan recommendations are shown in Table 4.

FIGURE 5

Programmed Projects



*FROM VDOT'S 6 YR. TRANS. IMPROVEMENT PROGRAM

TABLE 4
I-64 Corridor
Summary of Programmed Projects and 2010 Statewide Plan Recommendations

Section	From:	To:	Existing Cross section	Programmed Projects: Programmed Improvement	Programmed Projects: Cost (000)	Statewide Plan Recommendations: Proposed Cross section	Statewide Plan Recommendations: Cost (000)
1	I-664	Mallory Street	6 lanes			8 lanes	88,840
2	Mallory Street	I-564	4 lanes	I-64/I-564 Flyover	12,370	8 lanes	1,042,086
3	I-564	I-264/Route 44	6 lanes	2 HOV lanes	86,746	10 lanes (1)	164,120
4	I-264/Route 44	Indian River Road	4 lanes	2 Conv and 2 HOV lanes	38,840	10 lanes (1)	45,000
5	Indian River Road	Battlefield Blvd	4 lanes	2 Conv lanes	2,290	8 lanes (2)	34,807
6	Battlefield Blvd	I-464	6 lanes			8 lanes (2)	4,873
	Total				140,246		1,379,726

(1) 8 conventional lanes plus 2 HOV lanes

(2) 6 conventional lanes plus 2 HOV lanes

U. S. ROUTE 17 CORRIDOR

In 1987 the Department of Transportation (VDOT) developed a Transportation Needs Study on the U.S. Route 17 Corridor in the City of Chesapeake. The area covered by the VDOT corridor study, shown in Figure 6, included the segment of Route 17 (George Washington Highway) from the North Carolina line to I-64 and Route 104 (Dominion Boulevard) from its intersection with Route 17 to its tie-in with I-464 at Route 190 (Great Bridge Boulevard). Route 104 was included in the study because it carries the major traffic flow from Route 17 as it enters the urbanized area of the City of Chesapeake.

The purpose of the VDOT study was to identify the immediate or existing needs and to recommend improvements to enhance the traffic flow along the Route 17 corridor. The study included an examination of the existing traffic demand, the forecasted traffic volumes, socioeconomic data, accident data, and future transportation plans. Recommendations for eliminating existing problems on Route 17 and Route 104 were developed by VDOT in cooperation with the City of Chesapeake.

The Route 17/Route 104 Corridor Study was presented at a citizen information meeting on February 18, 1988, at the Deep Creek Junior High School in the City of Chesapeake. Appendix C of this report contains the news release, meeting registration, and a copy of the information meeting handout, which was provided to all attendees of the public meeting. Most of the comments from citizens at the public meeting were in favor of the VDOT study recommendations.

The VDOT study on the Route 17 Corridor is very recent and a review of the corridor indicates that no changes have taken place since the final report of April 18, 1988. Therefore, portions of the VDOT study were updated to reflect the latest traffic and accident information and used as the basis for this report.

Transportation Analysis

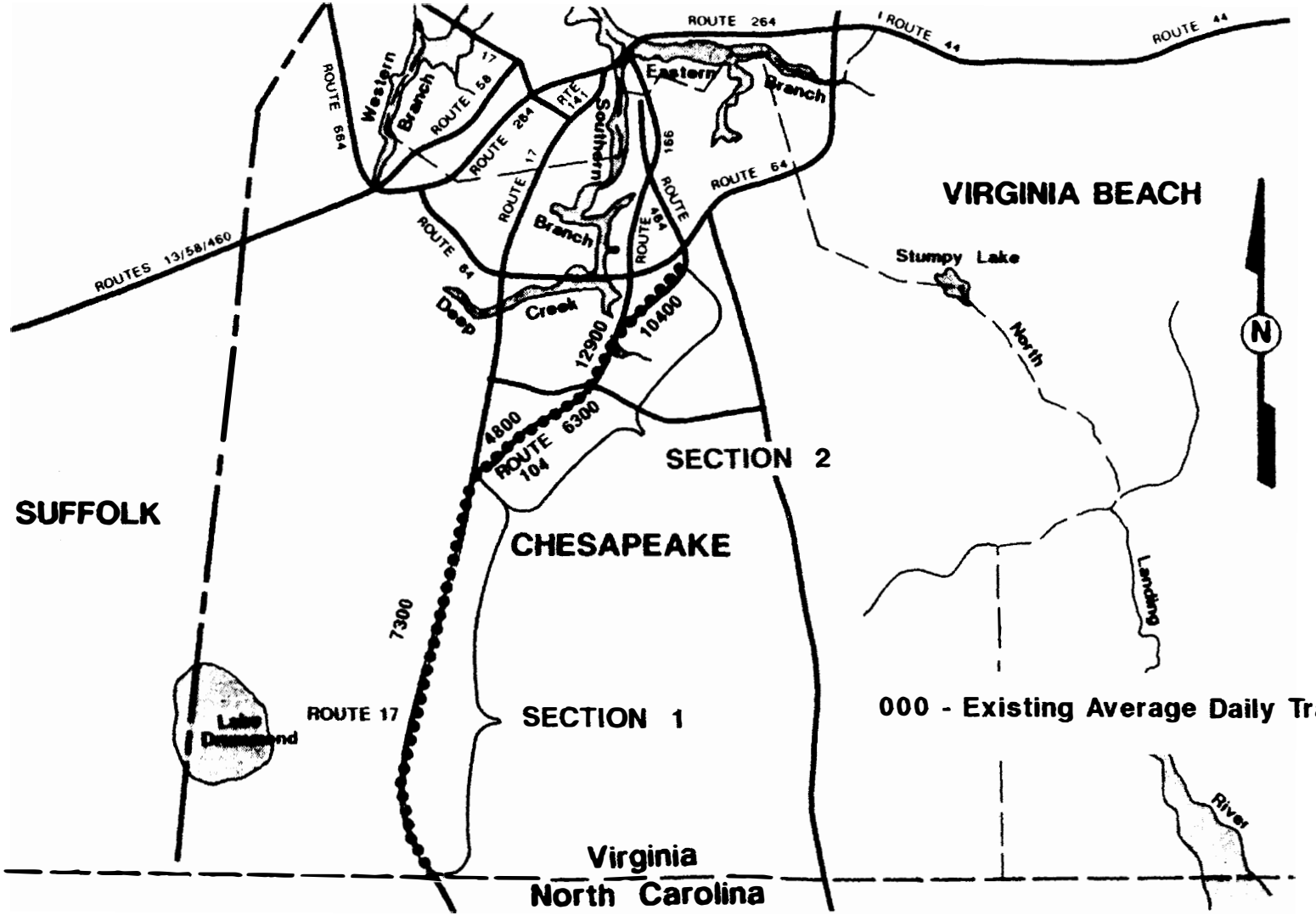
The Route 17/Route 104 corridor was broken into two analysis sections for this report. These analysis sections are shown in Figure 6 and described as follows:

Analysis Section 1 - Route 17
From: North Carolina Line — To: Route 104 (Dominion Boulevard)

Analysis Section 2 - Route 104
From: Intersection with Route 17 — To: Route 190 (Great Bridge Boulevard)

FIGURE 6

Route 17/Route 104 Analysis Sections



Analysis Section 1 - Route 17

Route 17 from the North Carolina line to the intersection of Route 104 is a two-lane facility with 21 feet of pavement providing a 10 foot wide travel lane in each direction. The shoulder on the southbound lane varies from two to six feet in width; on the northbound lane the shoulder is generally two feet wide, but there are places where it is practically nonexistent. The posted speed limit is 55 miles per hour.

During the 1970's the Department of Transportation developed construction plans for a four-lane limited access facility on this section of Route 17 and on approximately 80 percent of the section, the existing right of way is 130 feet or wider. These plans, which are compatible with the existing four lanes in North Carolina, were deferred in the late 1970's due to limited traffic growth in the corridor and the funding needs of higher priority projects.

This section of Route 17 cuts through the Dismal Swamp; therefore, most of the adjacent land is swamp with some areas of reclaimed farm land. There are fewer than five dwellings along this section and two commercial establishments. Only three roads, Ballahack, Douglas, and Cornland connect to Route 17, so there are a limited number of entrance points on this section. The existing traffic on this section is 7,350 vehicles per day (see Figure 6). Ten percent of this traffic volume is made up of heavy trucks. This traffic volume is expected to grow to approximately 11,000 vehicles per day by the year 2010.

Because Route 17 was built on marshland, there are areas where settlement has created depressions or bulges in the pavement. These deviations give the driver a "roller coaster" feeling and these may have contributed to accidents. Trees have overgrown the corridor and the shadows greatly reduce the visibility in winter months, and in the summer months when the foliage is out, these areas become dark, often requiring the use of headlights for visibility. In fact, advisory signs recommending that drivers use headlights have been posted to improve safety and increase visibility along the corridor.

The accident summary in Table 5 shows that during the past four years there were 156 reported accidents on this section. Over the past two years (1987-88) there were seven "head-on" and three fatal accidents. There is not sufficient information available to determine if roadway conditions have contributed to these accidents. However, many of the accidents occurred during passing maneuvers or when vehicles were attempting to make left turns.

At the intersection of Route 104 there is a significant change in the traffic flow because over 65 percent of the traffic from Route 17 follows Route 104 (Dominion Boulevard) into the urbanized area. The existing daily traffic flow and the peak hour traffic turning movements clearly show the need to realign this intersection to expedite the traffic flow and reduce the potential for accidents at this intersection.

Based on criteria from the 1985 Highway Capacity Manual, this section of Route 17 from North Carolina to the Route 104 intersection is operating at a level of service C. However, this does not consider the pavement problems or the visibility limitations caused by the overgrowth of trees.

TABLE 5

Accident Summary

Route 17/Route 104 Corridor

Section	Accidents 1985	1986	1987	1988	Total	Type of Collision Rear End	Angle	Head On	Side Swipe	Ran Off Road	Other
Analysis Section I	32	40	42	42 (3F)	156	21	26	7	12	61	29
Analysis Section II	20	21	48 (1F)	62 (1F)	151 (2F)	44	50	4	11	27	15

1 Analysis Section I - Route 17 from the North Carolina Line to Route 104

2 Analysis Section II - Route 104 from Route 17 to Route 190

3 F - denotes Fatal Accidents

Analysis Section II - Route 104

Route 104 (Dominion Boulevard) between Route 17 and Route 190 (Great Bridge Boulevard) is a two lane 24-foot roadway with ten-foot shoulders. These two lanes were built in the mid 1960's on the ultimate 200 feet of right of way needed for a future four lane facility. South of Cedar Road the access is controlled but between Cedar Road and the Elizabeth River Bridge there are no controls on the access.

Between Route 17 and Cedar Road the existing traffic on Route 104 increases from 4,850 vehicles per day just north of Route 17 to 6,300 vehicles per day at the Cedar Road intersection. The traffic volumes in this area increase because West Road and Shellelagh Road feed traffic onto Route 104 from the Southern Chesapeake area. Although there are no major traffic problems in this area, the p.m. peak hour traffic movements at the Route 104/West Road and Route 104/Shellelagh Road intersections indicate the need for separate left-turn lanes at these intersections. With respect to capacity, this segment operates at a level of service C or better.

North of Cedar Road, Route 104 carries 12,900 vehicles per day. One of the main problems that must be resolved in the near future is the need to control commercial entrances between Cedar Road and Bainbridge Boulevard. One way to control this access problem would be to construct service roads parallel to Route 104 between Cedar Road and Bainbridge Boulevard. A left-turn lane has been constructed at Bainbridge Boulevard. Overall this segment currently operates at a level of service C.

During the past four years there were 151 accidents on this section of Route 104 (see Table 5). It appears that several of these accidents occurred at the approaches to the Elizabeth River Bridge. These may have occurred when traffic was stopped while the bridge was raised for river traffic. Also, due to the configuration of the Route 104/ Route 17 intersection numerous accidents have occurred in which the vehicle ran off the road. During the past two years two fatal accidents have occurred on this segment of Route 104.

Future Growth

Studies by the Southeastern Virginia Planning District staff indicate that residential, industrial, and commercial development will increase substantially during the next 20 years. Population in the Deep Creek and Southern Chesapeake areas is expected to grow from 12,775 in 1980 to 36,840, while employment is expected to increase from 2,730 in 1980 to 8,910 by the year 2005.

With the population and employment showing such large increases, it is obvious that traffic from these areas will show significant increases in the future. Traffic forecasts for the roadway network for the year 2010 are shown in Figure 7. These traffic forecasts were developed by the Southeastern Planning District Staff and VDOT staff.

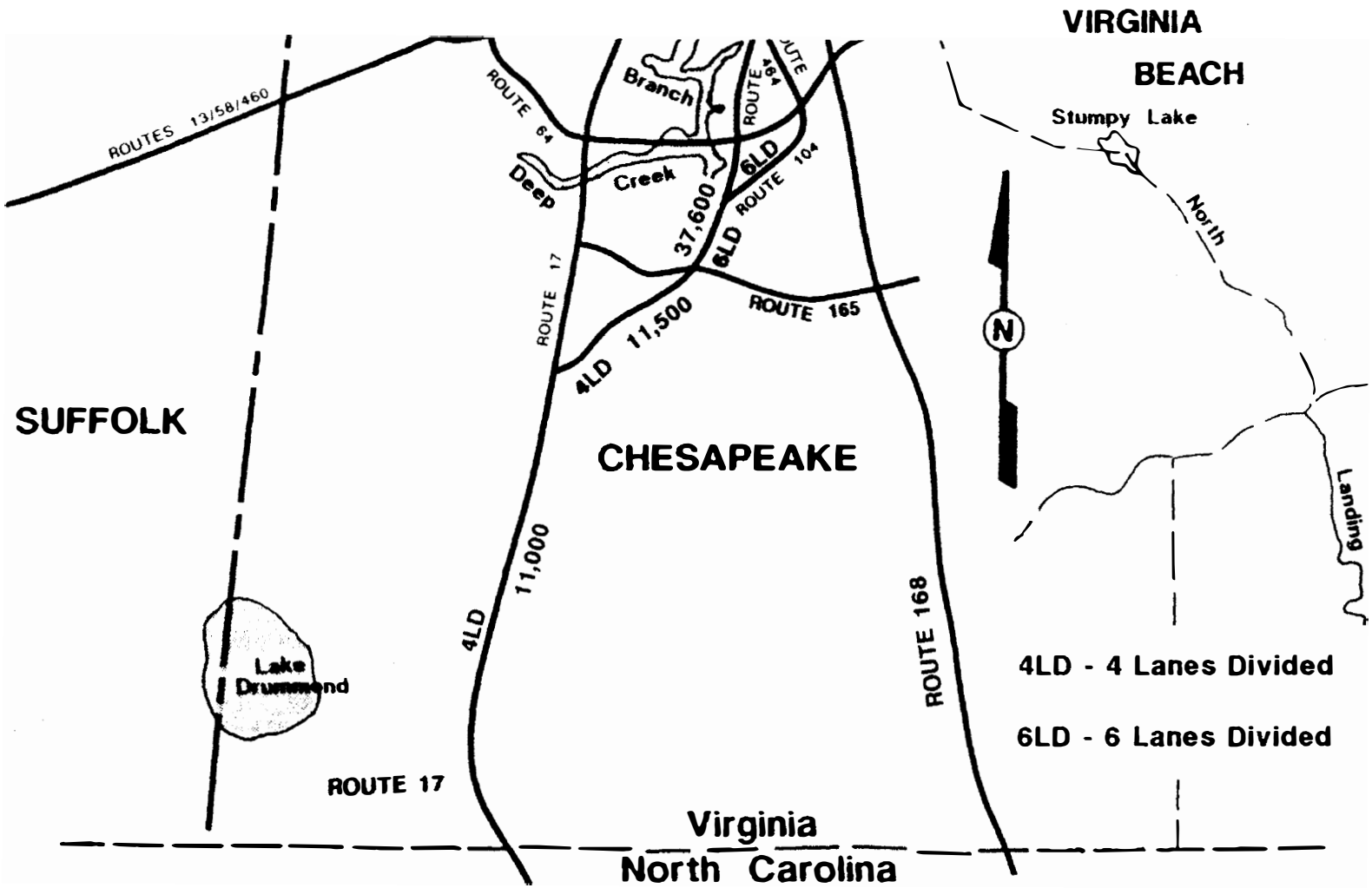
Long-Range Transportation Plan

The future highway transportation needs for the City of Chesapeake are identified in the Southeastern Virginia Regional Highway Needs Study, which was approved by the Southeastern Virginia Metropolitan Planning Organization. The long-range transportation plan indicates that in the future the major traffic flow will continue along Route 17 from North Carolina to Route 104, then follow Route 104 to I-464 and I-64. The plan recommends that Route 17 and Route 104 should be four-lanes from North Carolina to Cedar Road. Additionally, Route 104 between Cedar Road and Route 190 (Great Bridge Boulevard) should be six lanes to accommodate the year 2010 forecasted traffic. These recommended improvements are shown in VDOT's Statewide Transportation Plan.

FIGURE 7

Route 17/Route 104 Recommended Improvements

000 - Year 2010 Average Daily Traffic



Short-Range Improvements

It may be several years in the future before elements of the long-range transportation plan can be implemented. In the short term there are several recommendations that can be implemented to improve traffic flow and reduce traffic conflicts in the corridor. Table 6 describes these recommended improvements and suggests the priority for implementing the improvements.

Transportation Programs

As a result of the Route 17 Corridor Study, the Commonwealth Transportation Board has programmed improvements to relieve the most critical need in the corridor. The realignment of the Route 17 and Route 104 (Dominion Boulevard) intersection, which is estimated to cost $2,755,000, is programmed for construction to begin in FY 1992-93. This realignment should reduce the accidents at this intersection and is compatible with future long-range recommendations in the corridor.

In addition to the project to improve the Route 17/Route 104 intersection, the Commonwealth Transportation Board has programmed a project to begin the preliminary engineering for four lanes on U.S. Route 17. The allocation of $300,000 in FY 1992-93 will initiate the preliminary engineering for a four lane project from the North Carolina Line to 5.4 miles north of the State Line.

TABLE 6
RECOMMENDED IMPROVEMENTS
ROUTE 17/104 CORRIDOR

Recommendation	[1]Priority	Remarks	[2]Cost $1,000
1. Realign intersection of Route 17 (George Washington Highway) and Route 104 (Dominion Boulevard)	Priority I	The major traffic flow northbound is from Route 17 to Route 104. By making this the continuous through move, the traffic pattern will be improved. Route 104 can be improved more effectively than Route 17.	2,755
2. Improve intersections to provide left and right turn lanes at 6 locations	Priority I	To better serve continuous through traffic movements at intersections, and eliminate potential accidents and reduce turning conflicts.	
o Rt 17 at Ballahack Road			350
o Rt 17 at Douglas Road			350
o Rt 17 at Cornland Road			350
o Rt 104 at West Road			350
o Route 104 at Shillelagh Road			350
o Route 104 at industrial entrances south of Elizabeth River Bridge			350
3. Purchase the additional right of way needed on Route 17 for the ultimate four lanes (approximately 80% of this right of way has been acquired previously). Rebuild the existing roadway	Priority II	Reconstruct Route 17 from NC Line to Rte 104 to 24' of pavement, with adequate shoulders. "Daylight" the corridor by cutting the trees that shade and darken the roadway in many spots.	7,800
4. Build six lanes on Route 104 (Dominion Blvd) from Cedar Road to Great Bridge Blvd	Priority III	To accommodate the future traffic demand and provide commercial entrance controls.	26,300
5. Relocate Cedar Road from George Washington Highway (in Deep Creek) to Route 104	Priority III	This relocation is shown in Figure 4 as the South Chesapeake Bypass will divert traffic from the Deep Creek area to Route 104 and reduce traffic on Route 17 south of Deep Creek.	35,000
6. Build four lanes on Route 104 (Dominion Blvd) from George Washington Hwy to Cedar Road	Priority IV	To accommodate the future traffic demand.	14,000
7. Build four lanes on Route 17 (George Washington Highway) from North Carolina to Route 104 (Dominion Boulevard)	Priority IV	To accommodate the future traffic demand.	19,500

[1]A priority number I, II, III, or IV was assigned to each of the recommended roadway improvements. These priority numbers were developed by the study team and are an indication of the importance of each improvement to the overall corridor. The Priority I projects are considered the immediate needs.

[2]The estimated costs for these improvements are based upon recently implemented projects in the area and are presented in 1989 dollars, which includes both right of way and construction.

References -

1. Highway Capacity Manual - Special Report 209
Transportation Research Board - 1985

2. Norfolk Naval Base Commuter Study - Southeastern
Virginia Planning District Commission - 1985

3. Deep Creek Transportation Analysis - Southeastern
Virginia Planning District Commission - 1986

4. Regional Interaction Study - Southeastern
Virginia Planning District Commission - 1985

5. Hampton Roads Bridge Tunnel Traffic Flow Analysis
Southeastern Virginia Planning District Commission - 1988

6. Housing in Hampton Roads - Southeastern
Virginia Planning District Commission - 1989

7. Route 17 Corridor Study - Virginia Department of Transportation - 1987

8. Year 2010 Statewide Highway Plan - Virginia Department of Transportation - 1989

APPENDIX

“A”

FINAL ALLOCATION OF FUNDS
FISCAL YEAR 1989-90

INTERSTATE, PRIMARY & URBAN HIGHWAY SYSTEMS, PUBLIC TRANSIT, PORTS AND AIRPORTS

SIX YEAR IMPROVEMENT PROGRAM
FISCAL YEARS 1989-90 THRU 1994-95

INTERSTATE, PRIMARY, URBAN & SECONDARY HIGHWAY SYSTEMS, PUBLIC TRANSIT, PORTS AND AIRPORTS

VDOT

Virginia Department of Transportation

INTERSTATE SYSTEM
CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST PLANNING	ESTIMATED COST ENGINEER	PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION 1989-90	PROJECTED ALLOCATIONS 1990-91	1991-92	1992-93	1993-94	1994-95	BALANCE TO COMPLETE
★ 64 - Chesapeake Widen to 6 Lanes (PE Only) 2.7 Miles	Virginia Beach/ Chesapeake Corporate Limits - Battlefield Boulevard	PE 2,290 RW - CN - TO 2,290 4464		-	2,290 IR	- 0064-131-109,PE101	-	200	500	500	1,090	-
64 - Chesapeake Widen Ramps to Provide Dual-lanes	At Route 64/264 Interchange (Bowers Hill)	PE 1,000 RW - CN 10,000 TO 11,000 9795		-	- IR	- 0064-131-110,PE101,C501	-	-	-	-	-	11,000
64 - Hampton Construct Interchange	At Hampton Roads Center Parkway: 1.5 Mi. W. Magruder Boulevard - 0.1 Mi. E. Magruder Blvd.	PE 376 RW 1,040 CN 16,261 TO 17,677 2059		12,282	5,395 IR	1,000 0064-114-105,PE101,RW201,C501,B635,B636,B637,B638 CONSTRUCTION UNDER WAY	2,000	2,395	-	-	-	-
64 - Hampton Widen to 6 Lanes 0.4 Mile	0.2 Mile West River Street - 0.3 Mile East Tyler - County Street	PE 5 RW - CN 14,645 TO 14,650 5031		13,615	1,035 IR	500 0064-114-103,C504,B617,B618,B619,B627 CONSTRUCTION COMPLETE	535	-	-	-	-	-
64 - Hampton Noise Abatement Wall	Mallory Street - 0.3 Mile South Mallory Street	PE 10 RW - CN 305 TO 315 9204		315	- IR	- 0064-114-103,PE103,C509	-	-	-	-	-	-
64-Hampton & Newport News Widen to 8 Lanes Preliminary Engineering 6.4 Miles	Route 664 - Route 17	PE 2,600 RW - CN - TO 2,600 4466		-	2,600 IR	- 0064-965-107,PE101	-	200	500	500	1,400	-

★ I - 64 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM RELATED TO THE HJR 404 STUDY.

INTERSTATE SYSTEM
CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST PLANNING	ESTIMATED COST ENGINEER	PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION 1989-90	PROJECTED ALLOCATIONS 1990-91	1991-92	1992-93	1993-94	1994-95	BALANCE TO COMPLETE
64 - James City Construct Interchange	Grove Interchange	PE 1,000 RW 7,000 CN 25,000 TO 33,000		2,455	30,545	-	-	-	-	11,770	18,775	-
		2058			IR	0064-047-105,	PE101,RW201,C501			PENDING FEDERAL LEGISLATION FOR FUNDS		
64 - Newport News Construct Interchange	Intersection of Proposed Oyster Point Road	PE 275 RW 2,200 CN 12,980 TO 15,455		4,700	10,755	2,000	2,000	4,755	2,000	-	-	-
		2047			IR	0064-121-105,	CONSTRUCTION UNDER WAY PE101,RW201,C501					
64 - Newport News Construct 2 Bridges	Intersection of Oyster Point Road	PE - RW - CN 3,150 TO 3,150		-	3,150	2,000	1,150	-	-	-	-	-
		4960			IR	0064-121-105,	B618,B619					
64 - Newport News Widen to 8 Lanes Preliminary Engineering 3.2 Miles	Route 17 - Route 143	PE 1,800 RW - CN - TO 1,800		-	1,800	-	-	200	500	500	600	-
		4468			IR	0064-121-107,	PE101					
64 - Newport News Construct Interchange (PE Only)	At Proposed Lucas Creek Road/Snidow Boulevard	PE 450 RW - CN - TO 450		125	325	-	-	-	-	-	-	325
		4469			IR	0064-121-108,	PE101,RW201,C501					
★ 64 - Norfolk Additional Ramps 0.6 Mile	Intersection Route 564	PE 452 RW - CN 11,918 TO 12,370		9,115	3,255	1,500	1,755	-	-	-	-	-
		1818			IR	0064-122-116,	CONSTRUCTION UNDER WAY PE101,RW201,C501,B673					

★ I-64 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM RELATED TO THE HJR 404 STUDY

INTERSTATE SYSTEM
CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST PLANNING	ESTIMATED COST ENGINEER	PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION 1989-90	PROJECTED ALLOCATIONS 1990-91	1991-92	1992-93	1993-94	1994-95	BALANCE TO COMPLETE
★ 64 - Norfolk Modify Interchange	Intersection Northampton Boulevard	PE RW CN TO	200 - - 200	-	200	-	-	-	-	-	200	-
		9810			IR	0064-122-121, PE101						
★ 64 - Norfolk HOV Lanes Pre. Eng. & Right of Way	0.4 Mile North Granby Street (Route 564) - 0.5 Mile East Route 264/44	PE 3,150 RW 905 CN - TO 4,055		4,055		-	-	-	-	-	-	-
8.5 Miles		2022			I	0064-122-114, PE101, RW201; 115, PE101						-
★ 64 - Norfolk HOV Lanes	0.5 Mile East Route 264/44 - 2.0 Miles West Route 264/44	PE RW CN TO	- - 22,945 22,945	22,945	-	-	-	-	-	-	-	-
2.4 Miles		8354			I/IR	0064-122-114, C506, B601, B610, B611, B691, B692, B697, B698						
★ 64 - Norfolk HOV Lanes	2.0 Mi. W. Rte. 264/44 - 2.8 Mi. E. Granby St.	PE RW CN TO	- - 14,510 14,510	14,510	-	-	-	-	-	-	-	-
2.9 Miles		8355			I-IR	0064-122-114, C505, B608, B609, B682, B683, B684, B685, B686, B687						
★ 64 - Norfolk HOV Lanes	2.8 Miles East Granby Street - 0.4 Mile West Granby Street	PE RW CN TO	- - 28,246 28,246	8,863	19,383	4,383	-	-	-	-	-	15,000
3.2 Miles		8356			I-IR	0064-122-114, C501, B604, B676, B677, B678, B679, B680, B681, B695						
★ 64-Norfolk & Virginia Beach Widen to 6 Lanes and Provide HOV Lanes Pre. Eng.	Route 264/44 - Virginia Beach/ Chesapeake Corporate Limits (Indian River Road)	PE 955 RW - CN - TO 955		955	-	-	-	-	-	-	-	-
3.6 Miles		2026			IR	0064-134-104, PE101						

★ I-64 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM RELATED TO THE HJR 404 STUDY

INTERSTATE SYSTEM
CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST		PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION	PROJECTED ALLOCATIONS					BALANCE TO COMPLETE
		PLANNING	ENGINEER			1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	
★ 64 - Norfolk Widen to 6 Lanes and Provide HOV Lanes 0.5 Mile	0.5 Mile East Route 264/44 - West End Elizabeth River Bridge	PE RW CN TO 2023	- - 2,590 2,590	1,000	1,590 IR	815 0064-122-115	775 C502; (0064-	- 122-114,PE102	- ,C502)	-	-	-
★ 64 - Norfolk & Virginia Beach Widen Bridges	Elizabeth River Bridge	PE RW CN TO 1833	- - 10,660 10,660	1,775	8,885 IR	2,000 0064-134-104	3,000 (PE101),B607	3,885 ,B608	-	-	-	-
★ 64-Norfolk & Virginia Beach Widen to 6 Lanes and Provide HOV Lanes 2.1 Miles	East End Elizabeth River Bridge - Va. Beach/Chesapeake Corporate Limits (Indian River Road)	PE RW CN TO 2026	- - 13,360 13,360	900	12,460 IR	- 0064-134-104	- ,C501	-	- PENDING FEDERAL LEGISLATION FOR FUNDS	7,000	5,460	-
★ 64 - Norfolk Traffic Management System 8.5 Miles	0.5 Mile East Route 264/44 - 0.4 Mile West Granby Street	PE RW CN TO 4470 8416 8417	- - 8,180 8,180	8,180	- I-IR	- 0064-122-114	- ,C503	-	- PENDING FEDERAL LEGISLATION FOR FUNDS	-	-	-
★ 64 - Norfolk Traffic Management System 0.5 Miles	0.5 Mile East Route 264/44 - West End Elizabeth River Bridge	PE RW CN TO 9031	- - 715 715	300	415 IR	- 0064-122-115	- ,C503	-	- PENDING FEDERAL LEGISLATION FOR FUNDS	290	125	-
★ 64 - Virginia Beach Traffic Management System 2.3 Miles	West End Elizabeth River Bridge - Virginia Beach/ Chesapeake Corp. Limits	PE RW CN TO 9032	- - 3,000 3,000	200	2,800 IR	- 0064-134-104	- ,C504	-	- PENDING FEDERAL LEGISLATION FOR FUNDS	1,200	1,600	-

★ I-64 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM RELATED TO THE HJR 404 STUDY

INTERSTATE SYSTEM
CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST PLANNING	ESTIMATED COST ENGINEER	PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION 1989-90	PROJECTED ALLOCATIONS 1990-91	1991-92	1992-93	1993-94	1994-95	BALANCE TO COMPLETE
★ 64 - Norfolk & Va. Beach Sound Barrier Walls	0.4 Mile West Granby Street - Virginia Beach/ Chesapeake Corp. Limits (Indian River Road)	PE - RW - CN 11,300 TO 11,300 9860 9861		-	11,300 IR	- 0064-122-122,C501; 0064-134-106,C501	-	3,165	8,135	-	-	-
★ 64 - Norfolk Additional Ramps	Intersection Robin Hood Road	PE 150 RW - CN - TO 150 1914		150	- IR	- 0064-122-119-PE101	-	-	-	-	-	- -
★ 64 - Virginia Beach Commuter Parking Lot	At Intersection Indian River Road and Reon Drive	PE - RW 1,240 CN 560 TO 1,800 3917		1,800	- IR	- 0064-134-104,RW202,C502	-	-	-	-	-	-
★ 64 - Virginia Beach TMS Building	At Intersection Indian River Road and Reon Drive	PE - RW - CN 2,920 TO 2,920 6616		890	2,030 I	2,030 0064-134-104,C503	-	-	-	-	-	-
95 - Greensville Water, Sewer, Building and Parking Improvements Pre. Eng.	At Rest Area 33N	PE 120 RW 150 CN 2,100 TO 2,370 4472		120	2,250 IR	- 0095-040-111-PE101,RW201,L801	-	-	-	550	800	900
95 - Greensville Widen Bridges and Paving of Acceleration & Deceleration Lanes	Norfolk, Franklin & Danville Railroad	PE 46 RW - CN 1,496 TO 1,542 2028		1,347	195 IR	195 CONSTRUCTION COMPLETE 0095-040-108,PE103,C503,B614,B615	-	-	-	-	-	-

★ I-64 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM RELATED TO THE HJR 404 STUDY

PRIMARY SYSTEM
CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST PLANNING	ESTIMATED COST ENGINEER	PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION 1989-90	PROJECTED ALLOCATIONS 1990-91	1991-92	1992-93	1993-94	1994-95	BALANCE TO COMPLETE
17 - York Safety Improvements	Intersection Routes 718, 678 & 1203/704	PE 10 RW 55 CN 110 TO 175 9182		-	175 HES	10 0017-099-S17	50 PE101,RW201,M501	80	35	-	-	-
★ 17 - Chesapeake Realign Intersection	Intersection Route 104 (Dominion Boulevard)	PE 170 RW - CN 2,585 TO 2,755 8837		100	2,655 S	100 6017-131-105	200 PE102,C502	525	955	875	-	-
★ 17 - Chesapeake Develop to 4 Lanes PE Only 5.4 Miles	North Carolina State Line - 5.4 Miles North North Carolina State Line	PE 300 RW - CN - TO 300 1915 1730		-	300 F	-	-	-	100	100	100	-
						6017-131-105	PE101,RW201,C501; 6017-131-105,PE103,RW203,C503					
31 - Surry Reconstruction 0.9 Mile	0.7 Mile North of Route 604 - West Corporate Limits Dendron	PE 35 RW 170 CN 440 TO 645 1804		450	195 RS	195 0031-090-105	- CONSTRUCTION UNDER WAY PE104,RW204,M504	-	-	-	-	-
35 - Southampton Increase Turning Radius	Intersection Route 186 at Boykins	PE 5 RW 15 CN 15 TO 35 8418		25	10 S	10 0035-087-108	- PE101,RW201,M501	-	-	-	-	-
35 - Southampton Remove Railroad Bridge and Realign Curve 0.4 Mile	0.1 M. E. Inter. Rte. 647 (River St.)- 0.3 M. W. Inter. Rte. 647 (River St.) At Sebrell	PE 25 RW 21 CN 319 TO 365 1828		120	245 S	175 0035-087-109	70 PE101,RW201,M501	-	-	-	-	-

★ US ROUTE 17 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM RELATED TO THE HJR 404 STUDY

I-664 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM

INTERSTATE SYSTEM CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST		PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION	PROJECTED ALLOCATIONS					BALANCE TO COMPLETE
		PLANNING	ENGINEER			1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	
664 - Newport News	North & South Island Jetty & Entrance to Small Boat Harbor	PE - RW - CN 51,692 TO 51,692 4934		51,587	105 I	105 0664-121-102,	- CONSTRUCTION C501,C508	- UNDER WAY	-	-	-	-
664 - Newport News	Hampton Roads Tunnel Contract II - Tunnel	PE - RW - CN 156,200 TO 156,200		121,255	34,945 I	34,945 0664-121-102,	- CONSTRUCTION B617	- UNDER WAY	-	-	-	- -
664 - Newport News Construct 4 & 6 Lanes	33rd Street - Harbor Access Road	PE - RW - CN 26,717 TO 26,717 4935		25,662	1,055 I	1,055 0664-121-102,	- CONSTRUCTION C502,B602,B603	- COMPLETE	-	-	-	-
664 - Newport News Construct 4 & 6 Lanes	Marshall Avenue - 33rd Street	PE - RW - CN 24,105 TO 24,105 4936		24,000	105 I	105 0664-121-102,	- CONSTRUCTION C510,B650,B606,B630,B633	- COMPLETE	-	-	-	-
664 - Newport News	Hampton Roads Tunnel Contract IV - Electrical & Traffic Controls	PE - RW - CN 22,500 TO 22,500 2081		22,485	15 I	15 0664-121-C02,	- B617	-	-	-	-	-
664 - Newport News	South Trestle	PE - RW - CN 66,650 TO 66,650		58,775	7,875 I	7,875 0664-121-102,	- CONSTRUCTION B615,B616	- UNDER WAY	-	-	-	-

I-664 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM

INTERSTATE SYSTEM CONSTRUCTION PROGRAM (In Thousands of Dollars) FY90 thru FY95 — SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST		PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION	PROJECTED ALLOCATIONS					BALANCE TO COMPLETE
		PLANNING	ENGINEER			1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	
664 - Newport News Permanent Traffic Signs 5.8 Miles	South Trestle Hampton Roads - 0.1 Mile North Harbor Access Road	PE - RW - CN 6,200 TO 6,200 1935		2,600	3,600 I	3,600 0664-121-102	- (PE101),S902	-	-	-	-	-
664 Ext.- Suffolk Preliminary Engineering & Right of Way	S. Shore Line Hampton Roads-WCL Chesapeake (S. of Rte. 17)	PE 4,000 RW 11,105 CN - TO 15,105		13,105	2,000 IR	1,000 0664-061-102	1,000 PE101,RW201,RW202,RW203;	-	-	-	103,PE101,RW202,RW203,RW204	-
664 Ext.- Suffolk 4 Lanes on New Location Paving 1.1 Miles	South Shore Line Hampton Roads- 0.2 Mile North Route 135	PE - RW - CN 2,010 TO 2,010 2085		1,400	610 IR	300 0664-061-103	310 P402	-	-	-	-	-
664 Ext.- Suffolk 4 Lanes on New Location 1.8 Miles	0.2 Mile North Route 135 - 0.1 Mile South Route 164 (Route 17)	PE - RW - CN 32,300 TO 32,300 2061		12,225	20,075 IR	5,000 0664-061-103	5,000 CONSTRUCTION UNDER WAY C501	5,000	5,075	-	-	-
664 Ext.- Suffolk Permanent Traffic Signs 3.4 Miles	South Trestle Hampton Roads - Route 17	PE - RW - CN 4,600 TO 4,600 1936		1,800	2,800 IR	500 0664-061-103	1,100 S902	1,200	-	-	-	-
664 Ext.- Suffolk 4 Lanes on New Location Grading 0.8 Mile	0.1 Mile South Route 164 (Route 17)- West Corporate Limits Chesapeake	PE - RW - CN 5,925 TO 5,925 3720		2,000	3,925 IR	1,481 0664-061-103	2,444 G303	-	-	-	-	-

I-664 PROJECTS IN SIX YEAR IMPROVEMENT PROGRAM

INTERSTATE SYSTEM CONSTRUCTION PROGRAM
(In Thousands of Dollars)
FY90 thru FY95

SUFFOLK DISTRICT

ROUTE COUNTY/CITY TYPE LENGTH	DESCRIPTION	ESTIMATED COST		PREVIOUS FUNDING	ADD'L FUNDING REQUIRED /FUND SOURCE	ACTUAL ALLOCATION	PROJECTED ALLOCATIONS					BALANCE TO COMPLETE
		PLANNING	ENGINEER			1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	
664 Ext.- Suffolk 4 Lanes on New Location Paving & Bridges 0.8 Mile	0.1 Mile South Route 164 (Route 17)- West Corporate Limits Chesapeake	PE - RW - CN 6,450 TO 6,450 9012 6157		-	6,450 IR	- 0664-061-103	3,478 P403,S903	2,972	-	-	-	-
664 Ext.- Chesapeake Preliminary Engineering & Right of Way	ECL Suffolk (South of Route 17) - Rte. 64 (Bowers Hill)	PE 4,445 RW 18,615 CN - TO 23,060 4479 4478		4,025	19,035 IR	4,000 7017-131-101	5,000 PE101,PE102,	5,000 RW201; 0664-131-101,PE102,	5,035 RW202; 0664-131-101,PE101;	-	-	- PE103,RW2
664 Ext.- Chesapeake 4 Lanes on New Location 2.6 Mile	East Corporate Limits Suffolk - 0.1 Mile South Route 337	PE - RW - CN 36,845 TO 36,845 3717		3,975	32,870 IR	1,400 0664-131-101	2,000 C503	3,557	12,287	11,000	2,626	-
664 Ext.- Chesapeake 4 Lanes on New Location 1.5 Miles	0.1 Mile South Route 337 - 0.7 Mile North Route 58 (Bowers Hill Interchange)	PE - RW - CN 28,390 TO 28,390 3715		2,000	26,390 IR	1,400 0664-131-101	2,000 C502	3,380	8,000	8,130	3,480	-
664 Ext.- Chesapeake Construct Interchange 1.1 Miles	Bowers Hill Interchange: 0.7 Mi. N. Route 58 0.4 Mi. S. Route 58	PE - RW - CN 11,530 TO 11,530 2054		3,800	7,730 IR	1,545 0664-131-101	3,765 C501,B601,B602,B603	2,420	-	-	-	-

INTERSTATE SYSTEM

CONSTRUCTION IMPROVEMENT PROGRAM
(In Thousands of Dollars)
1989-90 through 1994-95

FISCAL YEAR ALLOCATIONS

DISTRICTS	ACTUAL	PROJECTED						
	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	TOTAL	PERCENT
BRISTOL	2,715	2,375	1,710	1,700	6,175	9,590	24,265	3.78
CULEPEPER	235	37	38	40	42	44	436	0.07
FREDERICKSBURG	13,440	4,545	5,100	100	110	105	23,400	3.65
LYNCHBURG	--	--	--	--	--	--	--	--
NORTHERN VIRGINIA	35,465	45,016	39,864	44,240	35,455	26,350	226,390	35.29
RICHMOND	13,249	11,440	5,906	2,040	2,590	11,220	46,445	7.24
SALEM	4,135	3,965	1,920	2,230	3,515	3,485	19,250	3.00
STAUNTON	2,285	2,460	1,385	1,870	4,925	6,697	19,622	3.06
SUFFOLK	83,574	38,252	38,654	42,357	41,765	37,086	281,688	43.91
TOTAL	155,098	108,090	94,577	94,577	94,577	94,577	641,496	100%

APPENDIX

"B"

In an effort to improve the movement of traffic through the tunnels in the Greater Hampton Roads Area, the Hampton Roads Tunnels Advisory Committee was established in 1988. This committee includes representatives from the cities of Hampton, Norfolk, and Portsmouth; the Virginia State Police; U. S. Navy; citizens at large; and Virginia Department of Transportation.

Mr. C. A. Nash, Jr., Virginia Department of Transportation Suffolk District Engineer, is the chairman of this Committee. Their goals and objectives are moving traffic more expeditiously and safely and establishing better communications and public relations among the entities having tunnels and/or approaches in their area. This committee has met seven times between June of 1988 and June 1989 and developed many recommendations that have resulted in improved traffic flows in the various tunnels serving the Hampton Roads area.

HAMPTON ROADS TUNNELS - ADVISORY COMMITTEE

MAILING LIST

The Honorable Gloria O. Webb, Mayor
City of Portsmouth
P. O. Box 820
Portsmouth, Va. 23705
Telephone 393-8746

Mr. George L. Hanbury, II
City Manager of Portsmouth
P. O.Box 820
Portsmouth, Va. 23705
Telephone 393-8641

Dr. Mason C. Andrews
Dept. OBGYN - EVMA
Hofheimer Hall - 6th Floor
825 Fairfax Avenue
Norfolk,Va. 23507
Telephone 446-8930

Mr. G. Conoly Phillips
Phillips Lincoln-Mercury, Inc.
3525 N. Military Highway
Norfolk, Va. 23518
Telephone 855-3071

Mr. George Brisbin
Traffic Engineer - City of Norfolk
Department of Public Works
Municipal Building
Norfolk, Va. 23501
Telephone 441-2351

Mr. Lawrence C. Riggs, Jr.
Traffic Engineer - City of Hampton
22 Lincoln Street
Hampton,Va. 23669
Telephone 727-6200

Admiral J. Pappas
Norfolk Naval Facilities Command
Building N-26 - Norfolk Naval Base
Norfolk, Va. 23511

HAMPTON ROADS TUNNELS ADVISORY COMMITTEE

Mr. Peter Kilopoulos
24 Orchard Avenue
Hampton, Virginia 23661
Telephone 722-8880

Mr. Thomas P. Chisman, President
TPC, Ltd.
7 W. Queensway - Suite 201
Hampton, Virginia 23669
Telephone 723-6430

Mr. Nathaniel Macon, Vice President
W. M. Jordan Company, Inc.
Post Office Box 1337
(9807 River Road)
Newport News, Virginia 23601
Telephone 596-6341

Mr. George L. Ayers
Realty Consultants
4664 South Boulevard
Virginia Beach, Virginia 23452
Telephone 499-5911

Lt. Dennis W. Robertson
Virginia Department of State Police
Fifth Division Headquarters
Post Office Box 1067
Chesapeake, Virginia 23320-1067
Telephone 424-6820

Mr. M. Frank Dunn, Jr.
Virginia Department of Transportation
1221 E. Broad Street
Richmond, Virginia 23219
Telephone 786-1041

Mr. C. E. Morris
Virginia Department of Transportation
Tunnels and Toll Facilities
Post Office Box 3447
Hampton, Virginia 23662
Telephone 727-4800 or 627-6206

Mr. P. Denis Gribok
Virginia Department of Transportation
Post Office Box 1366
Chesapeake, Virginia 23320
Telephone 494-2451

Stephany D. Hanshaw

Va. Department of Transportation
P.O. Box 1070
Suffolk, Va. 23434
Telephone 925-2566

Mr. C. A. Nash, Jr. (Chairman)
Va. Department of Transportation
P. O. Box 1070
Suffolk, Va. 23434
Telephone 925-2511

ADVISORY MEMBER

Mr. Frank Shepard
Va. Transportation Research Council
Box 3817 - University Station
Charlottesville, Va. 22903
Telephone (804)293-1900

SECRETARY

Mrs. Hilda Mansfield
Va. Department of Transportation
P. O. Box 1070
Suffolk, Va. 23434
Telephone 925-2512

GOALS AND OBJECTIVES
ESTABLISHED BY THE
HAMPTON ROADS TUNNELS ADVISORY COMMITTEE

1. Improve relationships between governments
2. Unite transportation programs and operations
3. Plans for emergencies
4. Work out special events traffic problems
5. Improve communications
6. Propose action plans for improved traffic management
7. Set guidelines for management team
8. Improve safety - traveling public and employees
9. Improve traffic moving capacity of tunnels since they are not expandable
10. Traffic signal and signing system
11. Alternate routes for traffic
12. Public information - media releases
13. Physical improvements - tunnels and approaches
14. Police or enforcement problems
15. Training in day to day operations
16. Authority of this Advisory Committee
17. Meeting Schedule - (monthly, quarterly, or as needed)
18. Budget needs
19. Staff needs
20. Team efforts - work groups, etc.
21. Public involvement for ideas or concepts
22. Measures of effectiveness - impact of implemented ideas - how to measure

SUMMARY
ACCOMPLISHMENTS OF THE
HAMPTON ROADS TUNNELS ADVISORY COMMITTEE
JUNE 1989

* Contract awarded for improving lighting at entrance to HRBT

* Maintain Speed Limit signs installed in HRBT

* Cellular telephone number signs have been installed at various locations.

* Revised overheight and overwidth restrictions to allow more passage through HRBT without stoppages for inspections, or escorts.

* Requested funds for the following at the Preallocation Hearing

    1. Funds for third crossing of Hampton Roads

    2. Funds for additional pull-outs on WBL approach to HRBT

    3. Funds for study to upgrade internal lighting system

* Developed brochure, installed all target signs, and distributed brochure of alternate routes to take to avoid backups at HRBT prior to Memorial Day weekend.

* Coordinating traffic reports with Metro Traffic Reporters of tunnel conditions. Local radio stations, high school and some college radio stations will be giving these reports. Also, a patrol boat will cover the waterways along Hampton Roads and Waterside with up-to-date traffic reports.

* VDOT will provide more visibility of employees in tunnel to encourage traffic to maintain speed limit, and assist with traffic control after stoppages.

NEWS RELEASE

VDOT Virginia Department of Transportation

RELEASE: IMMEDIATE
CONTACT: John Campbell (804) 925-2584

Suff-23
5/16/89

AVOID TUNNEL DELAYS: FOLLOW COLOR-CODED ALTERNATE ROUTES

Last year, a record 93,000 vehicles used the Hampton Roads Bridge-Tunnel the Friday before Memorial Day, causing hours-long backups. This year, motorists can avoid delays at the tunnel by following alternate routes marked with distinctive color-coded signs.

The signs were installed by the Virginia Department of Transportation (VDOT), which is distributing a brochure with a map that explains the alternate routes. About 250,000 brochures are being distributed to tourist information centers and hotels and motels from Nags Head, N.C., to Williamsburg.

VDOT officials urge motorists to pick up a brochure, familiarize themselves with the alternate routes and keep the maps in their glove compartments. They also ask motorists to listen for tunnel conditions on VDOT's highway advisory radio, 530 AM, when they are near the tunnel.

"We have signed each alternate route with a color-coded target to give confidence to motorists, especially tourists, who are unfamiliar

(MORE)

with the area's roads other than the interstate system," said Suffolk District Engineer C.A. Nash Jr. "The targets are erected on route signs, exit signs and some street signs and tell the drivers where they are."

Using alternate routes could add about 30 minutes to a trip, predict transportation officials, but motorists will be moving.

"Last year about 5,000 incidents occurred in the Hampton Roads Bridge-Tunnel ranging from disabled vehicles with flat tires and empty gas tanks to major traffic accidents," said Nash. "One incident can back up traffic, causing delays that range from 15 minutes to two hours. We hope the alternate route-marker program will give drivers the confidence they need to avoid the tunnel when a problem occurs."

Specifically, drivers traveling from North Carolina or Virginia Beach to Hampton or Williamsburg can follow blue and gold target signs that will route them back to Interstate 264 to Route 17 to the James River Bridge. Across the James River Bridge, they will follow the signs along Jefferson Avenue in Newport News back to I-64, westbound.

The brown and gold targets provide motorists using the red alternate route direct access to North Carolina. They will follow the brown target from the I-264/Route 17 interchange in Portsmouth to reach Route 168 in the Outer Banks of North Carolina.

(MORE)

Green and gold targets guide drivers over Route 460 from the Outer Banks or Virginia Beach to Richmond.

The idea of a color-coded route system was sparked last year when VDOT and the Hampton Roads Tunnels Advisory Committee began studying ways to enhance traffic movement through the area's tunnels. The committee is comprised of representatives from Hampton, Norfolk, Portsmouth, the Virginia State Police, the U.S. Navy, the Virginia Transportation Research Council and area citizens. The groups worked in conjunction with the Norfolk Convention and Visitors Bureau and hotel-motel associations, which also saw a need for better traffic flow.

Motorists can obtain a color-coded map of the alternate routes at hotels and motels, tourist information centers or by calling VDOT's Norfolk Residency Office at (804) 494-2451 or the Suffolk District Office at (804) 925-2500.

(END)

Follow the Targets

Virginia Beach/North Carolina To Hampton/Williamsburg

Follow the **BLUE** target to reach I-64 westbound Hampton, Newport News and Williamsburg when traveling from Virginia Beach and the Outer Banks of North Carolina.

Hampton/Williamsburg To Virginia Beach

Follow the **RED** target to reach Portsmouth, Norfolk and Virginia Beach when traveling from I-64 eastbound.

Portsmouth To North Carolina

Follow the **BROWN** target from I-264 in the City of Portsmouth to reach Route 168 to the Outer Banks of North Carolina.

North Carolina To Richmond/ Petersburg

Follow the GREEN target to reach Petersburg, Richmond and Washington, D.C. via Route 460 when traveling from Virginia Beach and the Outer Banks of North Carolina.

Vehicle Check List

- Have your vehicle serviced regularly
- Make sure you have plenty of fuel
- Maintain posted speed in tunnel
- Maintain safe following distance
- Be prepared for sudden stops
- Observe all signals and signs
- In the event of a breakdown, turn on your emergency flashers and stay with your vehicle. A tunnel wrecker will assist you, **Free Of Charge.**

For more information call:
Hampton Roads Bridge-Tunnel
Toll free 1-800-792-2800
Cellular 1-800-792-2800

State Police
Toll free 1-800-582-8350
Monitor Cellular 911

Compressed Gas Regulations

Elizabeth River Tunnel and
Hampton Roads Bridge-Tunnel

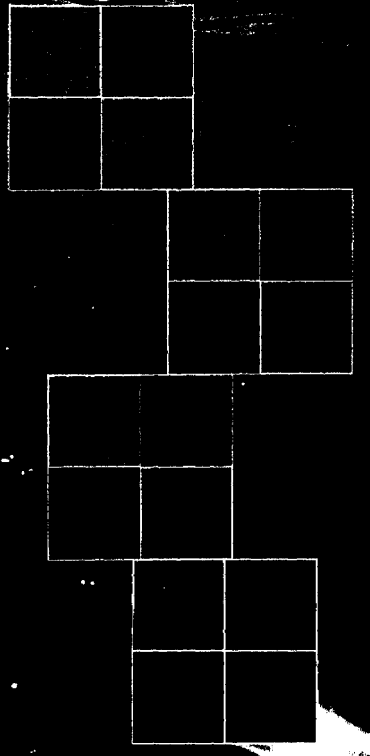
Maximum capacity (a) not more than two non-permanently mounted containers having maximum individual capacity of 45 pounds LP-Gas each, or (b) not more than two permanently mounted containers having maximum total capacityof 200 pounds of LP-Gas. Tanks must meet approved standards of the Department of Transportation and are subject to inspection at toll plaza. They must be properly secured and valves closed while crossing the facility.

250m/May 1989

Hampton Roads Bridge-Tunnel

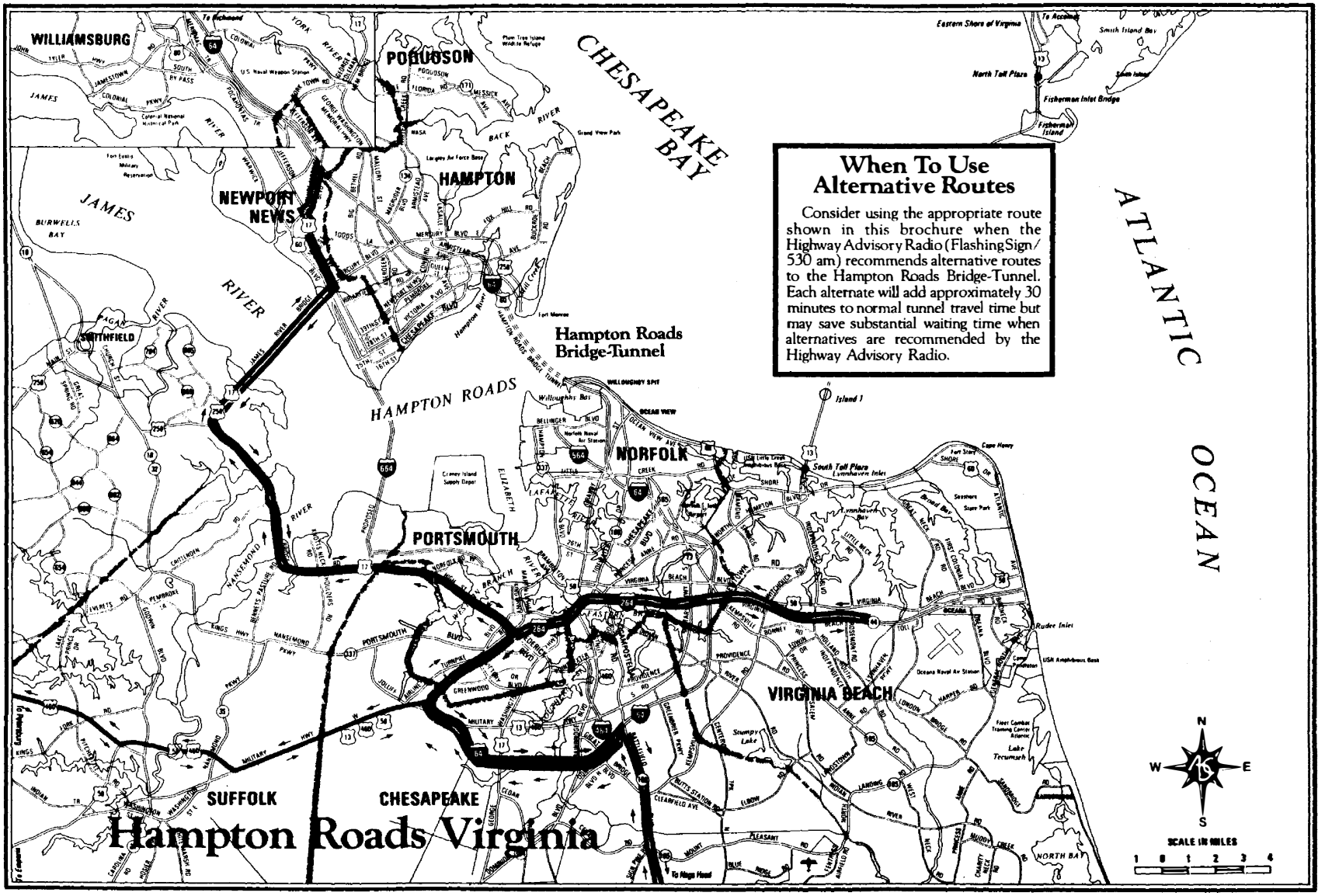
Avoid Delay During Peak Periods - Use Alternate Routes

Follow The Targets



Free Map Inside

Alternatives to Hampton Roads Bridge-Tunnel



Remember: Dial 530 am on your radio when you see the flashing advisory signs

APPENDIX

"C"

CITIZEN INFORMATION/PARTICIPATION MEETING

HIGHWAY IMPROVEMENT PROJECT

ROUTE 17 CORRIDOR STUDY

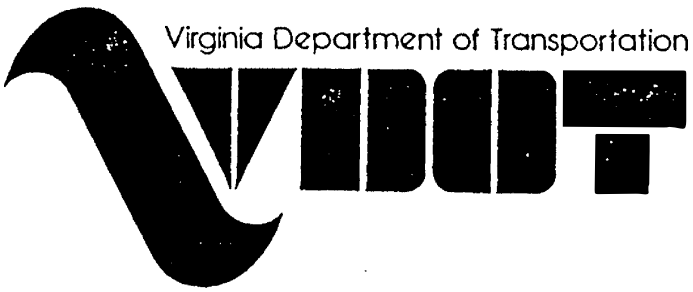
CITY OF CHESAPEAKE

Representatives of the Virginia Department of Transportation (VDOT) will hold a citizen information/participation meeting from 4:00 p.m. to 8:00 p.m. on Thursday, February 18, 1988, at Deep Creek Junior High School, 1955 Deal Drive in Chesapeake.

The purpose of this meeting will be to provide interested citizens an opportunity to informally review and discuss the preliminary plans for the improvement of traffic flow along Route 17 (George Washington Highway) between Interstate Route 64 and the Virginia/North Carolina State Line in the city of Chesapeake.

This meeting is an important part of the Department's citizen participation program which will provide an opportunity for the exchange of information during the development of the engineering studies for the project.

All interested persons are urged to attend. If you have any questions or desire additional information on this project, feel free to contact Mr. D. R. Stout, Chesapeake's City Engineer at 804-547-6101.



January 20, 1988

REGISTRATION SHEET

ROUTE 17 CORRIDOR STUDY
February 18, 1988

NAME	ADDRESS
Frederick A. Moss	3021 E. Va. Beach Blvd. Norfolk, 23504
Robert W. Geske	1513 Blue Ridge Rd Chesapeake,
Barbara & Aubrey Lewis	351 Geo. Washington Hwy. N.
Michael Rashind	3140 Kline Dr. Va Bch, VA 23452
H. T. Gillette	348 N. Geo. Wash. Hwy. Chesa 23323
S. [illegible] Futrell	437 Shell Rd " 23323
Cecil Harrison	331 Kemp Lane Ches, 23325
James Baylor	693 S. George Washington Hwy, 23323
J. V. Barber	328 Geo. Wash. Hwy., N. Ches., Va. 23323
B. L. Whitlock	529 Beauregard Dr. Ches. Va 23320
Richard J. [illegible], Jr.	314 W. Church St, Elizabeth City, NC 27909
Keith Boyce	2505 Dan & Mary St Elizabeth City 27909
Jeff Hampton	Woodstock II Apt. 212 Elizabeth City, NC 27909
Thomas Wade Stanton	Rt. 2 Box 359 Hertford NC 27944
Michael Kinsch	428 Willow Bend Dr. Chesapeake, VA 23323
[illegible]	[illegible]
[illegible]	209 [illegible] Ward. [illegible] Ches, [illegible] 23322
[illegible]	3530 [illegible] Chesapeake [illegible]
Walter [illegible]	2012 [illegible] Road
[illegible]	[illegible] P.O. Box 15225
[illegible]	332 Geo Wash Hwy
George [illegible]	[illegible] Wesley Rd 23323
[illegible]	608 [illegible] Lake Chesapeake 23323
[illegible]	761 Shillelagh Rd Chesapeake 23323
James Rein	P.O. Box 15225 Ches Va [illegible]
Peter D. Abraham	779 Boush St. Norfolk VA 235[illegible]
Lee Baynon	1549 Cedar Rd Chesapeake [illegible]

REGISTRATION SHEET

ROUTE 17 CORRIDOR STUDY
February 18, 1988

NAME	ADDRESS
Marc Basnight	Box 1025 Manteo NC 27954
Lacy J. McNeill	Box 323, Kill Devil Hills N.C. 27947
[illegible]	[illegible] 23333.
[illegible]	[illegible]
W. W. [illegible]	3284 [illegible] Riches
Thomas J Harrelson	NCDOT Deputy Sec. Raleigh NC 27611
Phil Godwin	NCDOT Board of Trans. Gatesville NC
CO White	NCDOT Div. Engineer Ahoskie NC
[illegible]	[illegible]
William W Brockhill	2052 Sherwood Rd Chesapeake Va
Dwight M. [illegible] Jr	3613 [illegible] Norfolk, VA 23513
Louise [illegible]	
[illegible]	
Nora W. Davenport	Chesapeake City Councilman
L E [illegible]	500 [illegible] Ches 23320
[illegible]	712 [illegible] Ches 23323
[illegible] Baylor	693 [illegible] 23323
Randy M. Harrell	City of Elizabeth City N.C.
John L. [illegible]	416 Gwynn Ave, Chesapeake, Va. 23323
[illegible]	[illegible]
Victor S Neal	VDOT Suffolk
Bob S[illegible]	440 G[illegible] Hwy 23323
Wallace Cahoon	411 Pine [illegible] Dr E City NC
Thyron Hopkins	2406 [illegible] St E City NC.
James F. B[illegible]	3112 [illegible] Dr. Chesapeake VA
Scott N Copeland	Rt 2 Box 384-2A Hertford NC 27944
Wm. H. Dorsett Jr	100 S George Wash Hwy Ches
E.B. Hol[illegible]	VDOT Traffic Engr. Suff. [illegible]

REGISTRATION SHEET

ROUTE 17 CORRIDOR STUDY
February 18, 1988

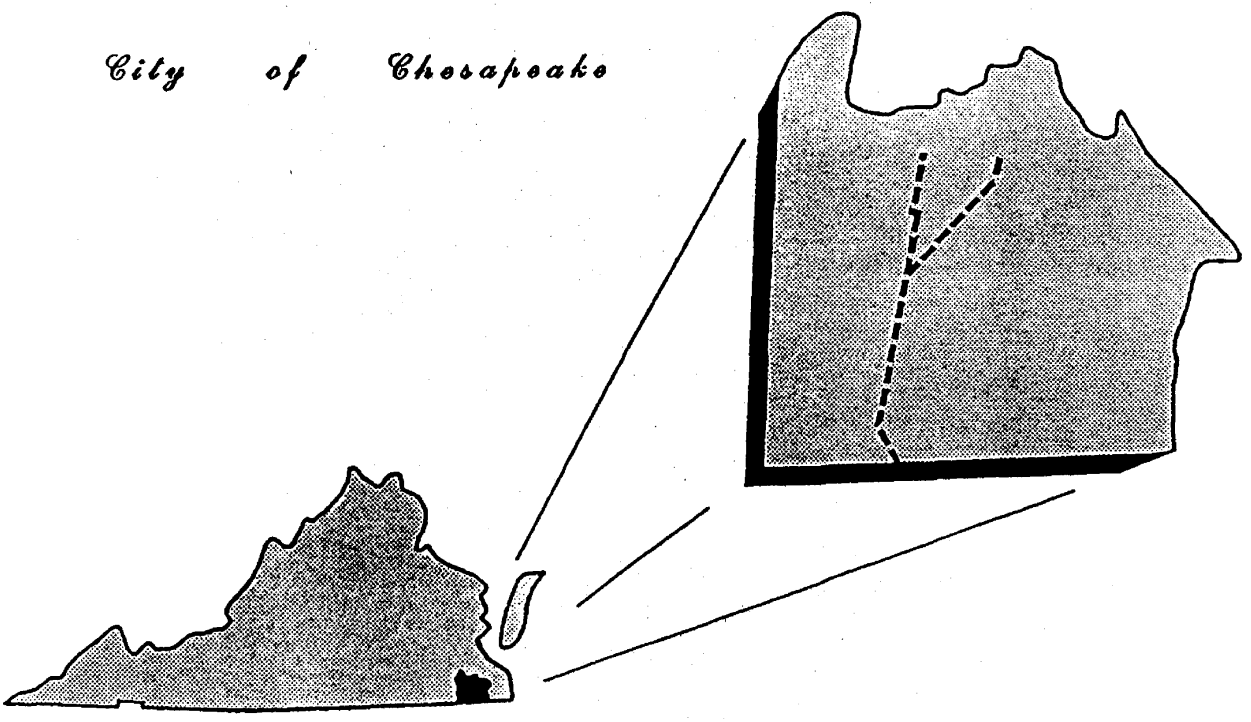
NAME	ADDRESS
William H. White	417 N Geo. Wash. Hwy.
W.C. Barton	403 [illegible] Court Ches Va 23323
Mike Carson	Schofield Plantation Hertford NC 27944
William H Whaley	216 Geo Wash N Hwy
Richard [illegible]	212 [illegible] Ches 23320
Carl E. [illegible]	617 Pintail Ln Ches.
Dr Thomas W. Peterson	3208 Old Mill Road Ches. 23322
[illegible]	5325 Thornbury Ln Va. Beach Va 23462
N.I Williams	3429 old mill Rd Ches. 23323
John W. Butt	2516 Centerville Tpke S. Ches 23322
John B. Gibson Jr.	1207 Godwin Ave. Chesa. 23324
William E. Finck	1404 Campostella Rd Chesa 23320
[illegible]	3641 [illegible] " 23322
Dorothy [illegible]	1908 [illegible] Ches. 23322

REGISTRATION SHEET

ROUTE 17 CORRIDOR STUDY
February 18, 1988

NAME	ADDRESS
[illegible]	3245 [illegible] Rd [illegible]
[illegible]	3113 [illegible] Dr Chesa 23320
[illegible]	3728 Belle [illegible] Chesapeake 23322
[illegible]	5021 Morris Neck Rd [illegible] 23457
[illegible]	[illegible]
WILLIAM C. BERRY JR	309 HARNEY ST. ELIZ. CITY, N.C. 27909
Phil Johnson	217 Thrasher Rd Chesa 23320
J. [illegible] Stallings	Rt. 1 Box 367 Belvidere NC 27919
C L White	Rt. 5 Box A-6 Eliz City NC 27909
[illegible]	1041 N. GEO. WASH. Hwy Ches Va 23323
[illegible]	[illegible] P.C. 325 [illegible] Pkwy Ches.
BONNIE WILLIAMS	180 [illegible] Geo Wash Hwy S
[illegible] K. [illegible]	808 Shell Rd, Ches.
John A O'Connor	City of Chesapeake – Public works dept
[illegible] III	823 Wesley Rd

ROUTE 17 CORRIDOR STUDY



CITIZEN INFORMATION MEETING

Virginia Department of Transportation

VDOT

FEBRUARY 18, 1988

ROUTE 17 CORRIDOR STUDY

CITIZEN INFORMATION MEETING

CITY OF CHESAPEAKE, VIRGINIA
Deep Creek Junior High School
February 18, 1988
4 p.m. - 8 p.m.

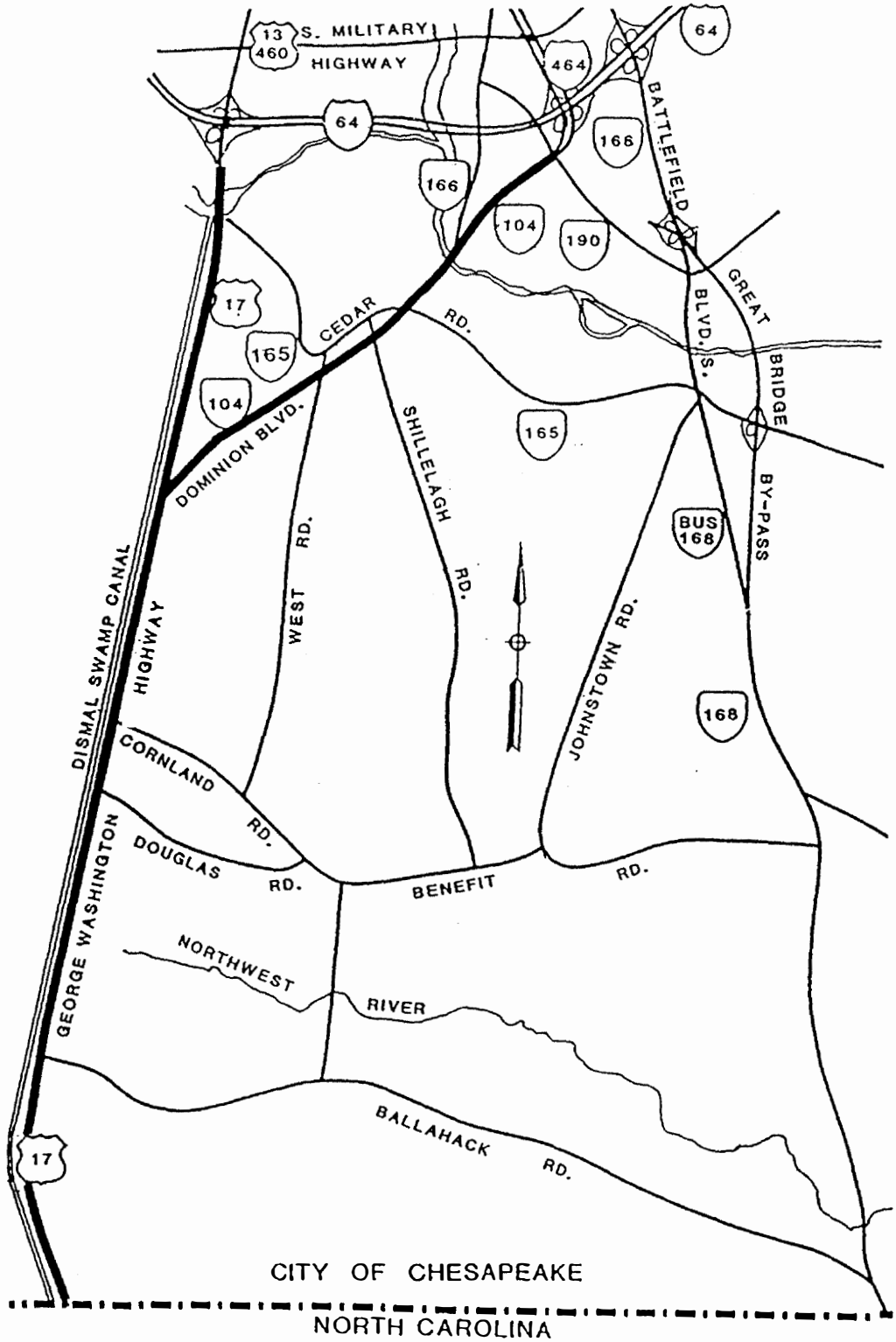
INTRODUCTION

The Virginia Department of Transportation recently completed a study on the Route 17 corridor in the City of Chesapeake. The study area includes the segment of Route 17 from the North Carolina State line to I-64, and Route 104 (Dominion Boulevard) from its intersection with Route 17 to Route 190 (Great Bridge Boulevard). Route 104 is included in this study because it carries the major traffic flow from Route 17 as it enters the urbanized portion of the City of Chesapeake.

The study is a comprehensive assessment of the immediate and future improvements needed on the Route 17 corridor. As part of the study, it was necessary to examine the existing traffic demand, the Year 2005 forecasted traffic volumes, socioeconomic data, accident data, and future transportation plans. Recommendations for eliminating existing problems and making facility improvements were developed by the Department of Transportation in cooperation with the City of Chesapeake.

The purpose of tonight's meeting is to provide the citizens with information and to receive input on the Route 17 study. Copies of the "Route 17 Corridor Study Draft Report" are also available for your examination.

STUDY AREA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460
S. MILITARY
HIGHWAY
64
464
64
166
166
104
190
BATTLEFIELD
BLVD. S.
GREAT
BRIDGE
BY-PASS
17
165
CEDAR
RD.
104
DOMINION BLVD.
SHILLELAGH
RD.
165
BUS
168
WEST RD.
JOHNSTOWN RD.
168
DISMAL SWAMP CANAL
HIGHWAY
CORNLAND
RD.
DOUGLAS
RD.
BENEFIT
RD.
GEORGE WASHINGTON
NORTHWEST
RIVER
BALLAHACK
RD.
17
CITY OF CHESAPEAKE
NORTH CAROLINA

ROUTE 17 CORRIDOR STUDY
Recommended Improvements

Recommendations	Remarks
[1]Priority I Realign intersection of Route 17 (George Washington Highway) and Route 104 (Dominion Boulevard)	The major traffic flow northbound is from Route 17 to Route 104. By making this the continuous through move, the traffic pattern will be improved. Route 104 can be improved more effectively than Route 17.
Improve intersections to provide left and right turn lanes at 6 locations o Rt 17 at Ballahack Road o Rt 17 at Douglas Road o Rt 17 at Cornland Road o Rt 104 at West Road o Route 104 at Shillelagh Road o Route 104 at industrial entrances south of Elizabeth River Bridge	To better serve continuous through traffic movements at intersections, and eliminate potential accidents and reduce turning conflicts.
[1]Priority II Purchase the additional right of way needed on Route 17 for the ultimate four lanes(approximately 80% of this right of way has been acquired previously). Rebuild the existing roadway	Reconstruct Route 17 from NC Line to Rte 104 to 24' of pavement, with adequate shoulders. "Daylight" the corridor by cutting the trees that shade and darken the roadway in many spots.
[1]Priority III Build six lanes on Rte 104 (Dominion Blvd) from Cedar Road to Great Bridge Blvd	To accommodate the future traffic demand and provide commercial entrance controls.
Relocate Cedar Road from George Washington Highway (in Deep Creek) to Route 104	This relocation is shown in Figure 4 as the South Chesapeake Bypass will divert traffic from the Deep Creek area to Route 104 and reduce traffic on Route 17 south of Deep Creek.
[1]Priority IV Build four lanes on Rte 104 (Dominion Bd) from George Washington Hwy to Cedar Road	To accommodate the future traffic demand.
Build four lanes on Rte 17 (Geo.Washington Highway) from North Carolina to Route 104 (Dominion Boulevard)	To accommodate the future traffic demand.

[1]A priority number I, II, III, or IV was assigned to each of the recommended roadway improvements. These priority numbers were developed by the study team and are an indication of the importance of each improvement to the overall corridor. Although Priority I projects are the most important needs in the Route 17 Corridor, they must compete for funding with all other transportation improvements in the City of Chesapeake.

CITIZEN INVOLVEMENT

A vital part of this study is involvement of the citizens who will be affected by the study's outcome. A two-way exchange of information, ideas, and values between the study team and concerned citizens is fundamental to the success of the study effort; and a truly effective exchange may best be achieved by establishing contact. To this end, this public meeting is being conducted in an effort to reach as many citizens as possible.

Citizen involvement in this Study is necessary to determine local goals and attitudes, and to ensure that the planning process is responsive to the needs of the citizens. The two-way flow of information has been initiated. Your comments, questions, and suggestions related to this study may be submitted on the following page.

ROUTE 17 CORRIDOR STUDY

PUBLIC INFORMATION MEETING

Name:_____

Address:_____ Zip_____

Comments:

Please use additional sheets if necessary and submit your comments on this study by March 1, 1988, to:

Mr. Richard C. Lockwood
Transportation Planning Engineer
1401 E. Broad Street
Richmond, Virginia 23219