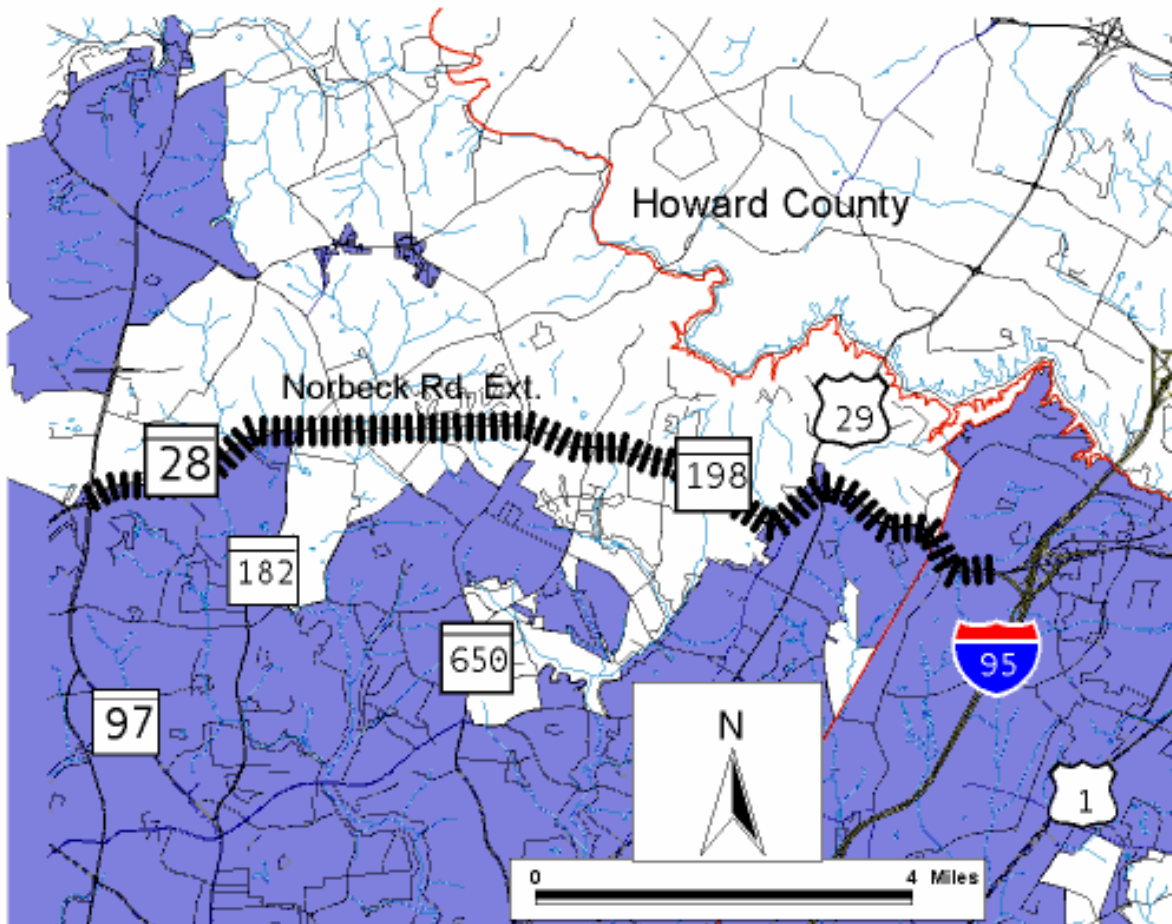

MD 28/MD 198 Corridor Improvement Study

Purpose and Need Statement

FMIS Project # MO886B11

**Maryland State Highway Administration
Office of Planning and Preliminary Engineering**



 Priority Funding Area

FMIS Project # MO886B11

May 2001

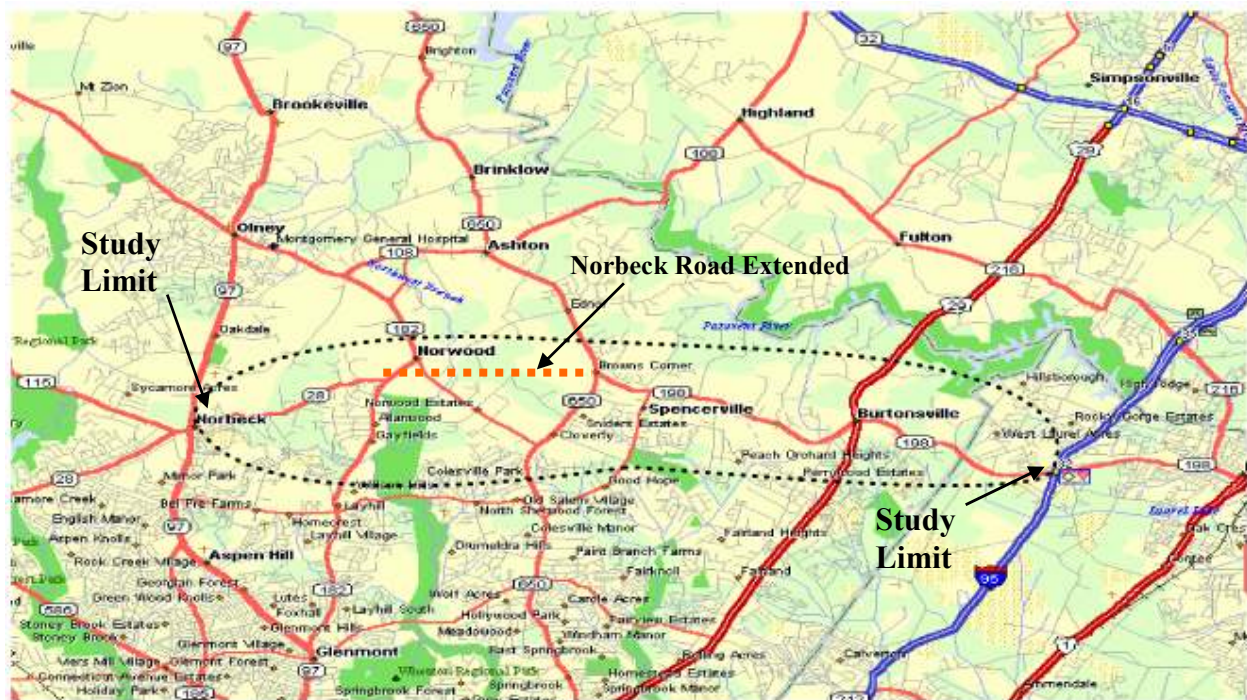
Revised April 2002

Drafted by: Regional and Intermodal Planning Division

Location

The study area encompasses MD 198 (Sandy Spring Road) west of I-95 in Prince George’s County, and MD 198 (Spencerville Road), Norbeck Road Extended (NRE) and MD 28 (Norbeck Road) east of MD 97 in Montgomery County (see Figure 1). The eastern study area terminus is the I-95 corridor in Prince George’s county. The western study area terminus is located east of the intersection of MD 28 with MD 97 (Georgia Avenue). This study will be closely coordinated with the current MD 97 at MD 28 Intersection Improvement Project Planning Study being conducted by SHA. The MD 28 / MD 198 corridor study is in the state Secondary Development and Evaluation program. The Federal Functional Classification of MD 198 is an urban principal arterial from the eastern study limits to Good Hope Road, and a rural minor arterial from Good Hope Road west to MD 650. MD 28 has a Federal Functional Classification of urban minor arterial within the study area.

Figure 1: Study Location



Existing Conditions

The existing typical cross sections of MD 28 and MD 198 vary along the corridor. MD 198 from Van Dusen Road (east of I-95) to just west of I-95 in Prince George’s County is a six-lane divided section. From that point west to US 29 in Montgomery County, MD 198 is a four-lane divided section. The existing typical section for MD 198 transitions from a four-lane undivided section in Burtonsville west of US 29 to a two-lane section west of Burtonsville to MD 650 (New Hampshire Avenue). MD 28 from MD 182 (Layhill Road) to MD 97 (Georgia Avenue) is a two-lane roadway.

These roadways provide uncontrolled access throughout the corridor. Along the 10.63 mile corridor, a total of 294 access points currently exist and are comprised of predominantly private residential driveways (Table 1).

Table 1: Summary of Existing Access Points along MD 28/MD 198

Roadway Segment	Length (mi)	Residential	Commercial	Government	Public Street
MD 97 to MD 650 ¹	4.97	49	8	3	21
MD 650 to US 29	3.38	76	53	3	16
US 29 to I-95	2.28	32	19	3	11
TOTAL	10.63	157	80	9	48

Source: MD 28/MD 198 Access Study, August, 2000

¹ Includes Norbeck Road Extended currently under construction by Montgomery County DPW&T. It is unlikely that new access, beyond public street intersections, will be granted on this section.

The typical cross section for NRE, a Montgomery County project, is varied as well. NRE is scheduled to be constructed and open to traffic in 2003. It will be a four-lane divided highway at the intersection of MD 198 and MD 650. Just west of MD 650, NRE will transition to a two-lane facility until just east of Norwood Road, where NRE will transition back to a four-lane divided highway.

Smart Growth Considerations

The project termini are located within existing Priority Funding Areas (PFA). MD 28 between MD 97 and MD 182 on the western end of the corridor forms the northern boundary of the PFA as does the section of MD 198 that passes through Burtonsville. However, the mid section of the MD 28 / MD 198 corridor between MD 182 (Layhill Road) and Burtonsville is not located within a PFA. Prior to receiving state funding for construction and/or engineering and ROW acquisition, the project must be evaluated by both the Maryland Department of Transportation and the Maryland Department of Planning for compliance with the 1997 Smart Growth and Neighborhood Conservation – Priority Funding Area Act.

Background

The 1998 Highway Needs Inventory (HNI) includes the MD 28/ MD 198 corridor in several segments. For all areas of the corridor that are two lanes, the HNI recommends an upgrade to four lanes. The HNI includes the following areas: MD 198 from US 29 to MD 650; NRE from MD 198 west of MD 650 to MD 182 (this portion was updated in the April 2000 HNI updates); and MD 28 from MD 182 to MD 97. The Maryland Department of Transportation's (MDOT's) fiscal year 2001 Consolidated Transportation Program funds this project for project planning through fiscal year 2004. The Montgomery County Executive and the Montgomery County Council have identified project planning for the widening of MD 28 and MD 198 between MD 97 and US 29 as a top priority. Both branches of the County government recognize that such a widening project would not be a substitute for the former Intercounty Connector (ICC).

The Maryland Department of Transportation previously studied a number of alternatives for the Intercounty Connector (ICC) in the vicinity of the MD 28/MD 198 project area. During the course of that study, federal environmental resource agencies indicated that there were major environmental issues that rendered a freeway along the Master Plan Alignment for the ICC between MD 28 and US 29 unacceptable. Several alignments for a new freeway in the MD 28/MD198 corridor were studied. Due to impacts to communities along these alignments, these alternatives were unacceptable to the Montgomery County Council. Therefore, the Maryland Department of Transportation is no longer pursuing freeway alternatives between the ICC master plan crossing of MD 28 and US 29.

The current federal functional classifications of MD 28 and MD 198 range from major collector to other principal arterial. These classifications are considered appropriate given the nature of traffic using these facilities and the need to access adjacent land uses, and there is no intention of revising the classification of roadway facilities along this corridor.

Purpose

The purpose of the MD 28/MD 198 Corridor Improvement study is to:

- Relieve locally generated congestion while managing access;
- Improve safety and traffic operations for motorists, bicyclists and pedestrians travelling along the MD 28 / MD 198 corridor and across intersecting roads; and
- Preserve the rural and suburban quality of life relative to localized traffic congestion while realizing the local planning visions for the communities along the corridor.

Approved area master plans along the corridor describe visions, goals and objectives for the roadway facilities, such as retaining rural character of adjacent communities and protection of sensitive environmental areas. These master plans also recommend such features as hiker-biker trails and sidewalks at some points, landscaping, etc. Relevant portions of these plans are included in the appendix. Where a proposed alternative for this study differs from the approved area master plans, the environmental document will assess the impact of such change on the development patterns as well as community impacts in the surrounding area and sensitive environmental areas (i.e. the Patuxent Watershed, the Upper Paint Branch Special Protection Area, etc.).

Need

This project is needed to address projected operational and capacity deficiencies that will occur as a result of planned and future development in and around the forecast model area (see Master Plan Considerations section). MD 28 and MD 198 are currently operating near capacity conditions in some areas between I-95 and MD 97. It is expected that congestion will increase from planned and future development. In addition, the completion of the Montgomery County NRE project would provide a direct connection of these facilities. Congestion will continue to worsen leading to stop-and-go conditions, particularly at several intersections in the study area which are projected to experience failing condition by the 2025 design year. The segments between the intersections will experience peak hour capacity constraints imposed both by projected traffic volumes and by the lack of mid-block through lanes on the two-lane facilities

and the lack of storage lanes for left turns and deceleration lanes for right turns constrain intersection operations.

While the accident rate along the study corridor is lower than the statewide average for certain types of accidents, sideswipe, and wet surfaces collisions occurred at a rate significantly higher than their respective statewide average accident rate along portions of the corridor. This condition is expected to worsen as development occurs and congestion increases. This corridor is also an area where sidewalks and bicycle facilities are absent and in some instances not called for by design in master plans.

Traffic Volumes and Traffic Operations

The forecasts developed for this project are based on the recently approved Metropolitan Washington Council of Governments (MWCOG) Round 6.2 land use forecasts and the MWCOG FY 2001-2006 Transportation Improvement Program Conformity Analysis travel demand-forecasting model which allows forecasting to the year 2025. Year 2000 traffic volumes were determined based on recent intersection turning movement and roadway segment volume counts among 16 intersections along the corridor. The year 2025 volumes were developed for 18 intersections, including new intersections resulting from the committed NRE and from the US 29 relocation.

The average daily traffic (ADT) volumes in the year 2000 on MD 28 range from 21,900 east of MD 97 to 13,900 west of MD 182. These are projected to grow to 34,000 and 27,400 respectively in 2025 under no-build conditions. The ADT volumes in year 2025 on NRE are projected to be 21,600 from MD 182 to Norwood Road, and 19,000 from Norwood Road to MD 650.

The ADT volumes on MD 198 in the year 2000 range from 17,300 east of MD 650 to a high of 54,000 west of I-95, adjacent to the study limit. Future year 2025 volumes under no-build conditions will grow to range from 22,000 east of MD 650 to 68,000 west of I-95. Intersection capacity constraints significantly limit traffic growth along MD 198 from MD 650 to US 29. Some of the traffic is expected to be diverted as far south as Randolph Road. The year 2000 ADT volumes and the year 2025 ADT forecasts are illustrated in Figures 2 and 3.

A select link analysis of travel along the corridor concluded that nearly 70 percent of the trips on the study portions of MD 28 and MD 198 either begin, end or begin and end in the surrounding travel analysis zones. This suggests that 30 percent of the trips along the corridor are of a through or regional nature.

Figure 2. Year 2000 and 2025 Average Daily Traffic Volumes for

MD 28 between MD 97 and Norbeck Road Extended

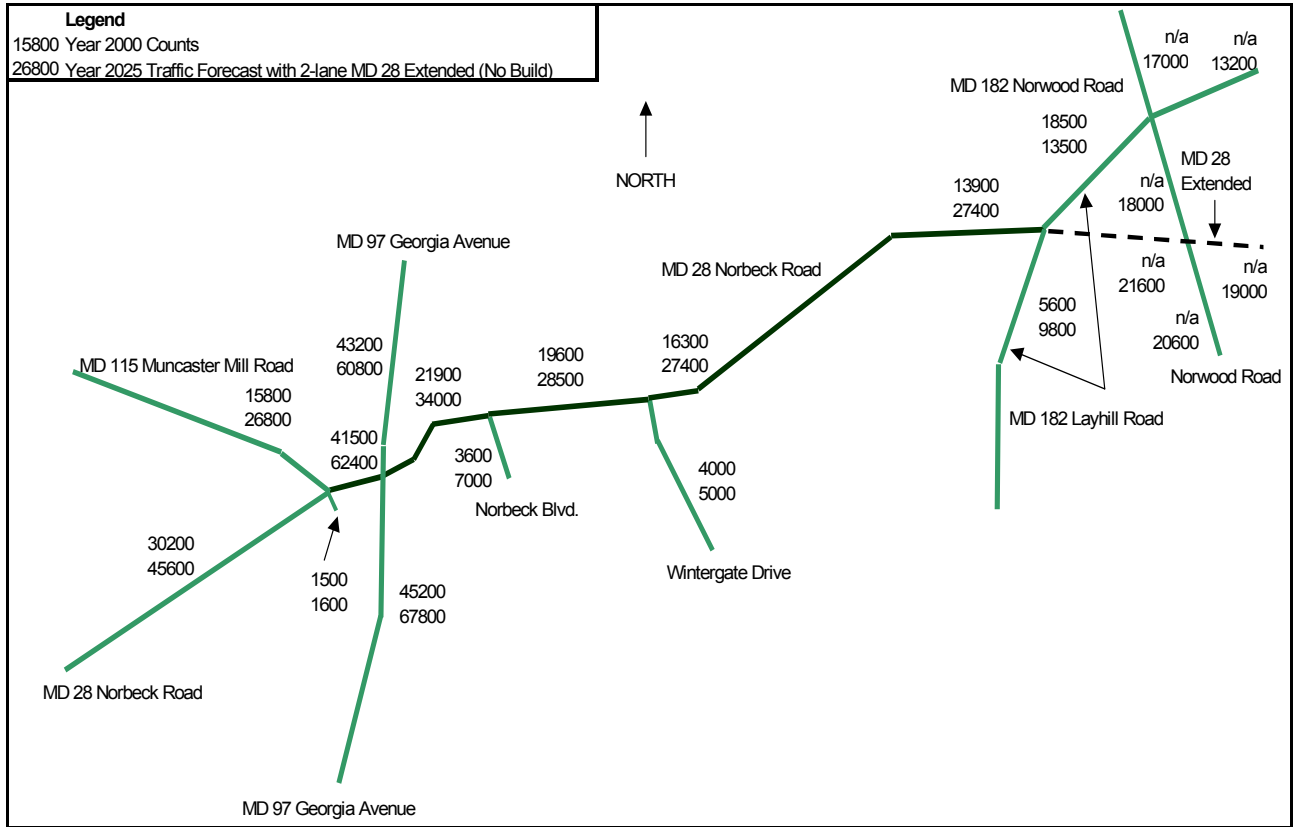
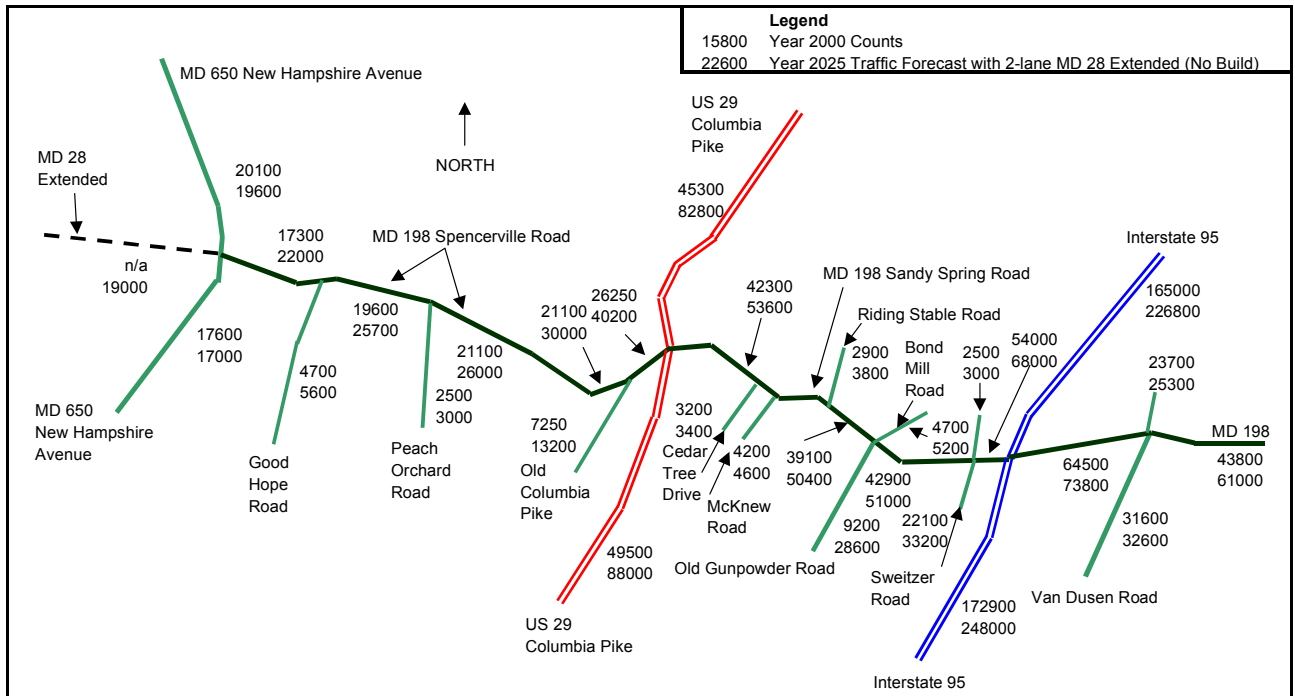


Figure 3. Year 2000 and 2025 Average Daily Traffic Volumes for MD 198 between MD 650 and Van Dusen Road



Roadway Network Measures of Performance

The adequacy of roadway capacity is determined using a measure called the volume-to-capacity, or v/c, ratio. The v/c ratio is the ratio of the peak hour volume carried by a roadway or intersection, and its hourly capacity expressed in vehicles per hour. Roadways may have traffic volumes that exceed or are forecast to exceed capacity. This would result in a v/c ratio that exceeds 1.00, and indicates the need for capacity improvements. Otherwise, if existing or committed levels of capacity exceed traffic volumes, the v/c ratio will be less than 1.00.

Level of service (LOS) is a scale measuring the freedom of mobility or severity of congestion experienced by drivers. The LOS scale ranges from A to F. LOS A represents free flow movement of traffic with little or no congestion. LOS F represents failure with stop-and-go conditions and long queues of traffic. LOS D occurs near a critical boundary where traffic flows become unstable. This level is generally considered acceptable during peak hours of traffic flow on streets and highways in urban and suburban areas. At LOS E, the roadway is operating near capacity, and day-to-day delays are very unpredictable. LOS is normally determined for the peak hours of the typical weekday. These levels have been determined through traffic research, and are related to measurable traffic characteristics such as delays, speeds, traffic density or v/c ratios.

Traffic Analysis Results

Table 2 and Table 3 summarizes the results of an analysis of roadway capacity and level of service conducted for the 18 intersections and 15 link segments along the MD 28 / MD 198 corridor. Under existing year 2000 conditions, most intersections along both MD 28 and MD 198 operate at LOS E or better during the AM and PM peak hours. Under year 2025 no-build conditions, some intersections are forecasted to exceed capacity by a wide margin. Most of the 2 lane segments (the study corridor west of Old Columbia Pike) currently operate at LOS E and are projected to become slightly more congested by 2025.

Though the capacities of most roadways are constrained by the limitations imposed by traffic signals, the physical characteristics of the MD 28 / MD 198 corridor roadways present a situation requiring special consideration for traffic analysis. Many of the intersections along the existing or planned two-lane sections of the corridor from MD 97 to Old Columbia Pike have auxiliary or turning lanes. These lanes drop away between intersections. Therefore, the two-lane sections of the corridor between intersections may impose a larger constraint on capacity than indicated by the intersections on each end of a two-lane roadway segment. Two-lane segments of MD 28 from MD 97 to MD 182, and MD 198 from MD 650 to Old Columbia Pike are forecasted to carry volumes over 25,000 vehicles per day in 2025. For planning purposes, the following guidelines are typically used. A two-lane minor arterial roadway will begin to breakdown when ADT volumes reach 16,000, and major arterials begin to breakdown when ADT volumes reach 18,000. At the forecasted level of traffic on two-lane arterials, these segments will experience peak hour capacity constraints imposed by the lack of mid-block through lanes. These mid-block constraints could exceed the constraints imposed by signalized intersections along the segments of the corridor.

Table 2: MD 28/MD 198 Intersections - V/C & LOS Analysis Results

Location	2000 Existing		2025 No-Build	
	AM Peak LOS (vc)	PM Peak LOS (vc)	AM Peak LOS (vc)	PM Peak LOS (vc)
MD 28 at:				
MD 115 (Muncaster Mill Road)	D (0.88)	C (0.76)	F (1.18)	F (1.02)
MD 97 (Georgia Avenue)	F (1.14)	F (1.04)	F (1.50)	F (1.38)
Norbeck Boulevard	B (0.65)	D (0.83)	F (1.24)	F (1.32)
Wintergate Drive	A (0.58)	A (0.58)	D (0.86)	D (0.86)
MD 182 (Layhill Road)	C (0.76)	C (0.76)	A (0.44)	A (0.46)
Norwood Road (at Norbeck Rd Ext.)	n/a	n/a	B (0.63)	A (0.52)
MD 198 (Sandy Spring Road and Spencerville Road) at:				
MD 650 (New Hampshire Avenue)	B (0.63)	A (0.55)	A (0.57)	A (0.61)
Good Hope Road	E (0.96)	D (0.83)	F (1.21)	F (1.03)
Peach Orchard Road	A (0.62)	A (0.59)	B (0.66)	B (0.66)
Old Columbia Pike	B(0.63)	A (0.56)	D (0.86)	B (0.72)
Existing US 29 (Columbia Pike) SB Ramps	E (0.98)	F (1.03)	A (0.61)	B (0.72)
Relocated US 29-NB Ramps	n/a	n/a	D (0.90)	E (0.97)
Cedar Tree Drive	B (0.65)	A (0.58)	B (0.71)	B (0.65)
McKnew Road	B (0.69)	B (0.71)	C (0.76)	C (0.78)
Riding Stable Road	A (0.54)	B (0.64)	B (0.65)	B (0.67)
Old Gunpowder Road / Bond Mill Road	B (0.65)	B (0.70)	D (0.86)	E (0.96)
Sweitzer Lane	B (0.63)	C (0.73)	D (0.87)	F (1.11)
Van Dusen Road	D (0.85)	D (0.86)	E (0.98)	E (0.99)
I-95 (Directional Interchange)				
NB I-95/ MD 198 (weave on CD)	F	F	F	F
EB MD 198/ I-95 (weave on bridge)	F	F	E	E
WB MD 198 TO NB I-95 CD merge	C	C	C	C
WB MD 198 TO SB I-95 merge	C	B	F	C
NB I-95 diverge TO CD	C	C	D	F
SB I-95 diverge TO EB MD 198	D	C	F	C
EB MD 198 TO NB I-95	C	C	D	D
EB MD 198 merge TO SB I-95	C	B	D	C

Table 3: MD 28/MD 198 Roadway Link - LOS Analysis Results

Roadway Segment	# of Travel Lanes	2000 Existing		2025 No-Build	
		AM Peak LOS	PM Peak LOS	AM Peak LOS	PM Peak LOS
<i>MD 28 at:</i>					
MD 115 to MD 97	4/5	F	F	F	F
MD 97 to MD 182	2	E	E	F	F
MD 182 to Norwood Road (along MD 182)	2	E	E	D	D
<i>Norbeck Road Extended at:</i>					
MD 182 to Norwood Road *	4	n/a	n/a	A	A
Norwood Road to MD 650	2	n/a	n/a	E	E
<i>MD 198 at:</i>					
MD 650 to Good Hope Road	2	E	E	E	E
Good Hope Road to Peach Orchard Road	2	E	E	E	E
Peach Orchard Road to Old Columbia Pike	2	E	E	F	E
Old Columbia Pike to US 29	4	B	B	C	C
US 29 to Cedar Tree Drive	4	C	C	C	D
Cedar Tree Drive to Riding Stable Road	4	C	C	C	C
Riding Stable Road to Old Gunpowder Road	4	C	C	C	C
Old Gunpowder Road to Sweitzer Lane	4	C	C	C	C
Sweitzer Lane to I-95	4	C	E	C	E
I-95 to Van Dusen Road	6	C	E	D	E

Notes: Each of the 2-lane segments was analyzed as a Two-lane link (one lane in each direction).

The 4-lane segments were analyzed using the following assumptions:

- ◆ *Direction 1 is eastbound*
- ◆ *Direction 2 is westbound*
- ◆ *Assumed highest LOS because it is the worst case.*
- ◆ *US 29 to I-95: 65 total access points, distance = 2.28 miles.
65 points/2.28 miles=28 access points per mile.*
- ◆ *Terrain was considered level.*

Traffic Safety

Table 4 summarizes the accident experience on MD 28. The segment of MD 28 from MD 115 to MD 182 experienced a total of 99 police-reported accidents during the three-year study period of 1998 through 2000. The resulting accident rate was 152.0 accidents per 100 million vehicle miles of travel (acc/100mvm), which was significantly lower than the statewide average rate of 183.8 acc/100mvm for all similarly designed state-maintained highways. Sideswipe collisions reported on this roadway occurred at a rate significantly higher than the

respective statewide average accident rate for similar roadways while injury, angle and parked vehicle accidents occurred at a rate significantly lower than the statewide average.

Table 5 summarizes the accident experience on MD 198. The study section of MD 198 from MD 650 to I-95 experienced a total of 293 accidents during the same study period. The resulting accident rate was 142.7 acc/100mvm, which was significantly lower than its comparative statewide average rate of 210.9 acc/100mvm for similar roadways. Wet surface accident rates along this section of the road were significantly higher than statewide averages while injury, property damage, rear end, left turn, angle, pedestrian and parked vehicle accidents occurred at a rate significantly lower than the statewide average.

Table 4: Traffic Safety Analysis (Accident Report) MD 28 from MD 115 to MD 182

Accidents	1998	1999	2000	TOTAL 1998 - 2000	STUDY RATE	STATE RATE
Fatal	-	-	-	0	0.0	1.2
Number Killed	-	-	-	0	-	-
Injury	22	9	10	41	63.0	85.8
Number Injured	33	16	16	61	-	-
Property Damage	13	10	35	58	89.1	96.9
Total Accidents	35	19	45	99	152.0	183.8
ADT	20600	21300	22000	-	-	-
VMT(millions)	21.0	21.7	22.5	65.1	-	-
Rate (Acc per 100)	166.8	87.6	200.3	-	-	-
Accident Type						
Opposite Direction	3	-	4	7	10.8	9.6
Rear End	12	9	18	39	59.9	59.3
Sideswipe	2	2	5	9	13.8*	7.4
Left Turn	1	2	4	7	10.8	15.0
Angle	1	2	5	8	12.3	31.0
Pedestrian	1	-	1	2	3.1	5.2
Parked Vehicles	1	-	-	1	1.5	7.3
Fixed Object	7	3	3	13	20.0	28.3
Wet Surface	14	7	15	36	36.0	28.0
Other	7	1	5	13	20.0	14.9

* Significantly higher than the Statewide Average

There were three Candidate Safety Improvement Intersections (CSII) identified within the corridor as follows:

- 1999 MD 198 at Sweitzer Lane
- 1999 MD 198 at MD 650
- 2000 MD 198 at MD 650

The MD 198 intersection with Sweitzer Lane was recently improved within the East-West Intersection Improvement Program. The intersection of MD 198 at MD 650 will be modified within Montgomery County's current Norbeck Road Extended Project.

Table 5. Traffic Safety Analysis (Accident Report) MD 198 from MD 650 to I-95

Accidents	1998	1999	2000	TOTAL 1998- 2000	STUDY RATE	STATE RATE
Fatal	2	-	2	4	2.0	1.4
Number Killed	2	-	2	4	-	-
Injury	45	36	48	129	62.8	97.4
Number Injured	75	56	70	201	-	-
Property Damage	57	40	63	160	77.9	112.0
Total Accidents	104	76	113	293	142.7	210.9
ADT	29600	30600	31500	-	-	-
VMT(millions)	66.2	68.5	70.7	205.4	-	-
Rate (Acc per 100 MVM)	157.0	111.0	159.9	-	-	-
Accident Type						
Opposite Direction	8	2	2	12	5.8	6.9
Rear End	35	26	31	96	46.8	73.1
Sideswipe	9	4	5	18	8.8	12.6
Left Turn	9	4	8	21	10.2	21.3
Angle	9	11	21	41	20.0	33.3
Pedestrian	-	1	1	2	1.0	5.7
Parked Vehicles	1	-	2	3	1.5	4.9
Wet Surface	48	36	39	123	41.0*	28.0
Fixed Object	13	17	17	47	22.9	25.9
Other	20	11	22	53	25.8	21.2

* Significantly higher than the Statewide Average

Land Use and Master Plan Considerations

The following discussion describes the land use and local roadway classifications as outlined in the different master plans along the MD 28 / MD 198 corridor. In addition, this discussion includes a brief description of the major developments in the pipeline in this study area.

The study area encompasses several master plans within Prince George's and Montgomery counties. There is one master plan that is associated with the study area in Prince George's County: "Subregion I" which covers the communities of Beltsville, Calverton, Montpelier, South Laurel, West Laurel, and Vansville. It was adopted by the Prince George's County Planning Board of the Maryland-National Capital Park and Planning Commission (M-NCPPC) in March 1990, and approved by the Prince George's District Council in October 1990. In Montgomery County, the study area is covered by three master plans: Aspen Hill (1994), Cloverly (1997), and Fairland (1997). The Montgomery County Council has adopted these master plans.

The eastern portion of the study area that lies within Prince George's County along MD 198 varies in land use. Existing land use on the north side of MD 198 is predominantly low suburban and suburban. The area that lies south of MD 198 is comprised mostly of industrial and commercial uses. The Subregion I Master Plan (1990) calls for the continuation of the low-density residential development pattern that currently exists along the MD 198 corridor. The Prince George's County Subregion I Master Plan envisions for MD 198 to be upgraded to six

lanes from I-95 to Montgomery County. The Subregion I Master plan Classifies MD 198 (A-1) as an arterial from Anne Arundel County to Montgomery County.

In Montgomery County, the MD 28 / MD 198 corridor passes through four master plan areas: Fairland, Cloverly, Aspen Hill, and Olney. In the Fairland Master Plan, the north side of MD 198 is predominantly rural to the Howard County line. The south side of MD 198 is predominantly suburban with low-density single family residential use. There are several recommendations for MD 198 in the Fairland Master Plan (as shown in the appendix), including two primary proposals:

1. Widen MD 198 to four travel lanes.
2. Provide a new cross section in the Burtonsville commercial area that consists of four travel lanes, a 16-20 foot median with selected turning lanes, and adequate space for street trees and sidewalks/bikeway on both sides. ... Access to shops along MD 198 should be controlled and consolidated to improve safety and circulation for pedestrians and vehicles.

The Fairland Master Plan classifies MD198 as a Major Highway (M-76) from Prince George's County to western boundary of master plan.

In the Cloverly area, MD 198 (Spencerville Road) passes through mixed single-family residential and agricultural land uses. The Cloverly Master Plan calls for single-family residential development along MD 198. The Plan states that MD 198 should be widened to four lanes between MD 650 and Oursler Road. The Plan recommends that the right-of-way be approximately 70 feet in the commercial area between Thompson Road and a point 360 feet east of Batson Road. Due to close proximity of buildings to the road, turning, acceleration, and deceleration lanes are not recommended in this section. A Class I (separate off-road) bicycle path is recommended along the entire length of MD 198 through Cloverly. The Cloverly Master Plan classifies MD 198 as a Major Highway (M-76) from Oursler Road to New Hampshire Avenue (MD 650).

Montgomery County expects to complete construction of NRE between MD 182 and MD 650 in fiscal year 2003. This project is included in the Montgomery County's Capital Improvement Program (CIP). Sufficient public right-of-way will be reserved for four lanes. The Master Plan states that an equestrian underpass should be constructed where NRE crosses the Northwest Branch. In addition, a Class I bicycle path should be constructed to maximize safety. The Norbeck Road Extended project is consistent with the area's master plan. The Cloverly Master Plan classifies Norbeck Road Extended as a Major Highway (M-18) from New Hampshire Avenue (MD 650) to Layhill Road (MD 182).

In the Aspen Hill area of Montgomery County, the intersection of MD 28 and MD 97 serves as a center of the community. The dominant land use is single-family residential east of this intersection. The Aspen Hill Plan proposes that MD 28 be reconstructed as a four-lane divided highway. The Aspen Hill Master Plan classifies MD 28 as a Major Highway from Layhill Road (MD 182) to the western boundary of the master plan.

According to county planners, there is one development proposed that may impact the traffic patterns in the MD 28 / MD 198 corridor. No such developments are proposed in Montgomery County. In Prince George’s County, the proposed major development that will have an impact on MD 198 is the Konterra Town Center . Konterra Town Center is planned to be located in the vicinity of I-95 and Van Dusen Road. The site has been zoned to include a mall since 1990 and the zoning was extended in 1997, but conceptual plans have not been filed.

Throughout analysis zones surrounding the study corridor, projected growth in households, population and employment is as follows:

Table 6. Projected Household, Population and Employment Growth

	2000	2025	Growth
Households	58,750	70,250	20%
Population	155,170	174,880	13%
Employment	49,620	61,560	24%

*Source: Input to MWCOG Round 6.2 Land Use Forecasts provided by Montgomery and Prince George’s counties
 Note: The projected traffic volumes in Figures 2 & 3 along the corridor are based on trip generation and distribution throughout the entire travel demand forecasting model area. Those traffic volumes are not influenced by area of development analyzed in Table 6.*

Statements from the Montgomery County Council, Montgomery County Planning Board and the Citizen’s Focus Group formed for this study emphasize strong local opposition to any corridor improvements that are not consistent with the guidelines of the local master plans or protection goals established for the Upper Paint Branch Special Protection Area and Patuxent Watershed.

Population Age Trend

From available 1990 census data, approximately 20% of the population in census blocks encompassing the corridor is over the age of 65. In the area of Rossmoor Leisure World, which is located in the western portion of the study area and represents nearly 19% of the study area population, 73% is over 65. The remainder of the study area population over 65 is approximately 5%. Recent studies have concluded that elderly drivers experience a high rate of accidents, injuries and fatalities. The elderly population and those who choose not to drive may rely on pedestrian access to transit facilities.

Intermodal Connectivity

The study area is directly served by several transit providing agencies. The Washington Metropolitan Area Transit Authority (WMATA) Metrobus provides bus service along MD 198 between Burtonsville and MD 650, and ultimately, to the Silver Spring Metro Station. The Montgomery County Ride On program serves the US 29 corridor, where part of its route travels along MD 198 in Burtonsville. Nearby the study corridor in Prince George’s County, public transportation in the Laurel area is served by Howard Area Transit (HAT) and the Corridor Transportation Commission’s Connect-A-Ride service. HAT currently operates two routes in the vicinity of the study area: the Main Street route and the “D” route which follows along MD 198.

There are two park and ride lots within the MD 28 / MD 198 study corridor that serve commuters with an additional lot nearby. They are located at the intersection of MD 198 and

Van Dusen Road, at the northeast quadrant of the intersection of US 29 and MD 198, and at the northeast quadrant of the intersection of MD 97 and MD 28. The lot at MD 198 and Van Dusen Road has 60 spaces and has an annual average usage of 49 percent. The lot at US 29 and MD 198 is currently being expanded by 200 spaces as part of SHA's US 29 / MD 198 project and will have 500 spaces. This lot is served by WMATA and the Montgomery County Ride On bus service. It is anticipated to be open to traffic in summer 2005. The lot at MD 97 and MD 28 has 248 spaces and is served by WMATA and the Montgomery County Ride On bus service as well. This lot is reporting a 6 percent average annual usage rate.

It is important to consider both bicycle and pedestrian accessibility as part of this project. These types of improvements are specifically recommended in the Fairland, Cloverly and Aspen Hill Master Plans. Although some master plans specifically do not recommend sidewalks along portions of the corridor.

Related Projects

Several proposed SHA transportation improvements in proximity of this project's study area are currently in the planning and design phases. SHA currently has no projects under construction in the vicinity of the study area. The improvements that are associated include the following projects in MDOT's Consolidated Transportation Program (CTP):

Construction Program

- *US 29 Interchanges* – Interchanges at Randolph Road, Briggs Chaney Road, and MD 198 / Dustin Road.
- *The East-West Intersection Improvement Program* – Several intersections are scheduled for improvements in northeastern Montgomery and western Prince George's counties. Intersections that are in this program and nearby the study corridor include:
 - MD 182 at Norwood Road
 - MD 650 at Ednor Road
 - MD 198 at US 1

Development and Evaluation Program

- *East-West Link Improvements* – Study to construct new east-west link improvements in Montgomery and Prince George's counties in the corridor between I-370 and US 1.
- *I-95 / Contee Road Interchange* – Study to construct a new interchange with collector-distributor roads at I-95 and Contee Road relocated.
- *MD 201 Extended / US 1, I-95 / I-495 to Contee Road* – Study a four to six lane divided highway from I-95 / I-495 to MD 198. This project also includes study for an interchange at MD 212 (Powder Mill Road).
- *MD 97 at MD 28* – Study to construct improvements at MD 28 / MD 97.
- *US 29 Interchanges* – Interchanges at Stewart Lane, Tech Road, Musgrove Road, Fairland, Greencastle Road and Blackburn Road.

Conclusion

The proposed study is needed to provide traffic operation and safety improvements to enhance the quality of life related to localized traffic congestion within the MD 28 / MD 198 corridor from east of MD 97 to I-95. Corridor improvements are needed to relieve projected increased intersection congestion and improve area link capacity. **The forecast increase of travel demand along the corridor is expected to lower the level of service at 10 intersections from Norbeck Boulevard to Sweitzer Lane by 2025. Seven of these intersections are expected to operate at level of service D or worse during the 2025 No-Build peak hour. Eight roadway links along the corridor are expected to be operating at level of service D or worse in the 2025 No-Build peak hour.** In addition, improvements will provide an opportunity to manage/limit access in order to discourage sprawl development outside the PFAs in addressing smart growth issues and enhance pedestrian and bicycle facilities.

This study is also necessary to address the long-term traffic capacity needs in the MD 28 / MD 198 corridor. According to MWCOG Round 6.2 land use forecasts, the corridor is expected to experience additional population and employment growth. Projected development in the analysis zones surrounding the corridor will increase the average traffic volume by nearly 25% along the study roadways. Projected development throughout the land use model area will contribute to the traffic volume for a total of average volume increase of nearly 35 % along the study roadways, resulting in increased conflicts along the corridor, and may result in increased accident experiences.

Though most accident rates are currently below statewide averages, portions of the corridor have experienced opposite direction, rear end, sideswipe and wet surface accidents at rates higher than statewide average rate for similar roadways.