

SECTION III

SHA Selected Alternate

III. SHA Selected Alternate

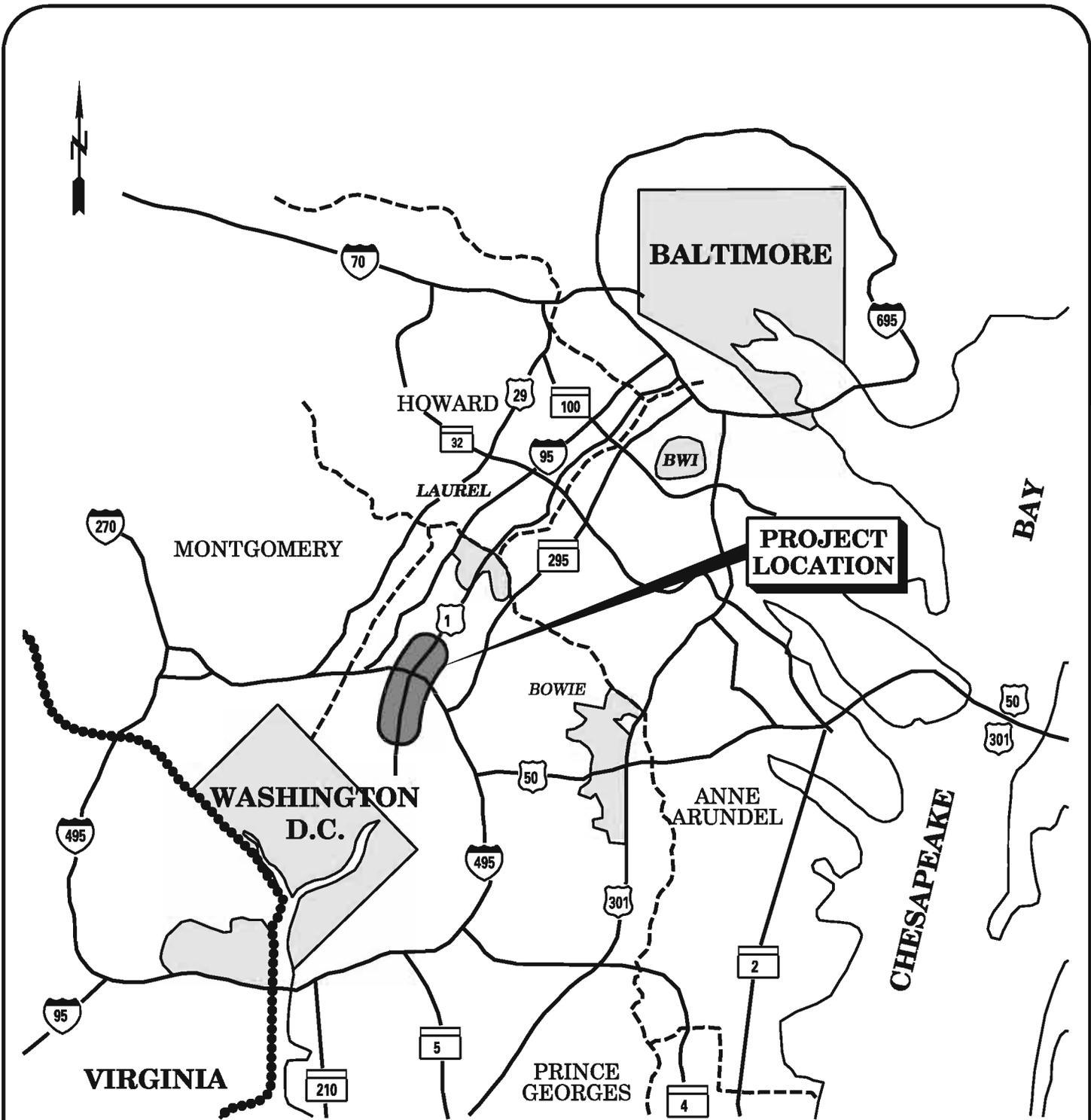
A. PROJECT BACKGROUND

1. Project Location and Description

The study portion of US 1 is located in northwestern Prince George's County, Maryland, within the Washington Metropolitan Area (**Figure 1**). The limits of the proposed project along US 1 (Baltimore Avenue) are from College Avenue, in College Park, to Sunnyside Avenue, in Beltsville (**Figure 2**). The proposed improvements to US 1 are within the Subregion II of Prince George's County and in the College Park-Berwyn Heights Planning Area (Planning Area 66).

2. Existing Conditions

US 1 from Sunnyside Avenue to College Avenue is defined as a non-access controlled principal arterial highway. Traversing the University of Maryland's College Park campus, existing US 1 is generally a five-lane undivided open roadway with a center turn lane, with businesses and medium-density residential neighborhoods adjacent to the roadway. There are no parallel service roads along the commercial strip adjacent to US 1. Discontinuous sidewalks exist along northbound and southbound US 1. Traffic is a mixture of automobiles, trucks, buses, pedestrians and bicycles. There is no buffer or barrier to separate pedestrian and vehicular movements. Marked crosswalks, refuge islands for pedestrians, adequate and safe bus stops, and bus shelters are lacking in the corridor. Traffic congestion is experienced during morning and evening peak periods. Multiple curb cuts and stopped or turning delivery trucks increase the severity of the congestion along this corridor. The many signalized intersections also contribute to poor circulation. The speed limit on US 1 throughout the northern segment of the Study area is 40 mph. South of MD 193 (Greenbelt Road), the speed limit is reduced to 30 mph.

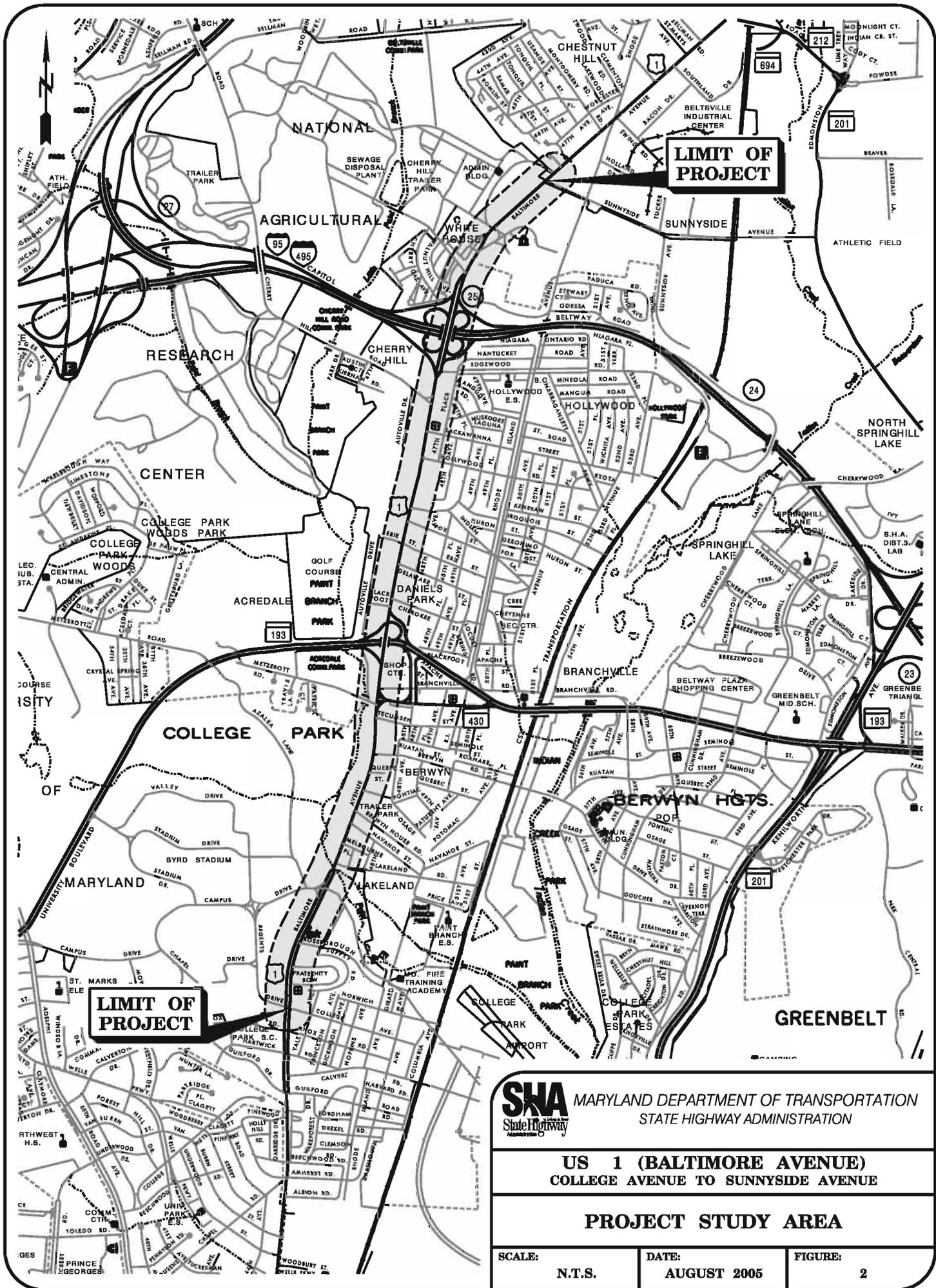


SHA MARYLAND DEPARTMENT OF TRANSPORTATION
 STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
 COLLEGE AVENUE TO SUNNYSIDE AVENUE

PROJECT LOCATION MAP

SCALE: N.T.S.	DATE: AUGUST 2005	FIGURE: 1
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SHA MARYLAND DEPARTMENT OF TRANSPORTATION
 State Highway Administration

**US 1 (BALTIMORE AVENUE)
 COLLEGE AVENUE TO SUNNYSIDE AVENUE**

PROJECT STUDY AREA

SCALE: N.T.S.	DATE: AUGUST 2005	FIGURE: 2
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The features on US 1 do not currently provide safe and efficient accommodations for pedestrian and bicycle traffic. Existing sidewalks are narrow and lie immediately adjacent to the travel lanes and are littered with obstacles such as utility poles, signs, and driveways. Most of the existing pedestrian facilities do not meet Americans with Disabilities Act (ADA) requirements. There are no designated north-south bike lanes along this segment of US 1 and the existing 11-foot outside lanes on US 1 do not provide sufficient room to accommodate bicycle traffic. The Paint Branch Hiker/Biker/Equestrian trail is located within the Study area, with access points on Cherry Hill Road and US 1/Lakeland Road.

Traffic operational problems exist during non-peak periods due to the number of student crossings and bicyclists. Due to the University's urban location, many of the 33,000 University students walk or bike along the corridor. This condition occurs more frequently during the lunch hour and in the Fall and Spring, especially in the vicinity of Campus Drive, the University of Maryland's main access on US 1, located across from Paint Branch Parkway in the southern portion of the study area. The operational problem is exacerbated by frequent stops made by buses picking up and discharging passengers, and by trucks delivering goods to numerous businesses along the segment.

3. **Purpose and Need**

Early in the alternates development process, the US 1 Study Team determined that the primary needs for the US 1 corridor would not be addressed simply by increasing roadway capacity. US 1 is also in need of urban revitalization and enhancements to improve operations and safety of the corridor, and to establish it as a gateway to the City of College Park and the University of Maryland. To meet these needs, the Study Team developed a series of goals for the improvement of the US 1 corridor. The goals established for the US 1 project are as follows:

- **Driver safety and vehicle flow** – To improve the roadway's ability to safely manage current and predicted traffic volumes at a more appropriate level of service.
- **Aesthetics** – To stimulate the emergence of a 'Sense of Place' along the US 1 corridor by developing streetscape plans that, through the use of landscaping, utility

relocation and other unifying elements, present users with consistent and coherent visual themes.

- **Pedestrians** – To identify methods for reshaping US 1 as a pedestrian friendly facility that will improve pedestrian safety and circulation.
- **Bicyclists** – To identify practical measures for the implementation of safe and accessible facility accommodations for individuals wishing to travel via bicycle within the study area.
- **Transit** – To investigate opportunities for improving transit in the corridor in coordination with the City of College Park, University of Maryland, Prince George’s County, the Maryland Transit Administration, and Washington Metropolitan Area Transit Authority.

Using these goals as the foundation, a series of preliminary alternates were developed. In addition to the widening of travel lanes, these alternates included elements for pedestrian and bicycle accommodation, access consolidation, bus accommodation, aesthetic treatments and landscaping opportunities in an effort to provide a sense of place along the US 1 corridor, while helping to improve the operations and safety of the roadway. A Focus Group comprised of local business owners, residents, and elected officials assisted the Study Team in identifying issues and solutions throughout the duration of the study. Their assistance in dealing with and resolving conflicts and issues was an invaluable asset for the progression of the study.

4. Traffic Conditions

The area along the US 1 corridor is comprised of mainly commercial and retail development with adjacent medium-density residential neighborhoods. In addition to the commercial development, a main access to the University of Maryland is located within the project area. A majority of students walk, bike or use their vehicles to enter the University through the gate at Campus Drive. Two metro stations are located in proximity to the Study area, Greenbelt Metro Station (1.0 mile) and College Park Metro Station (0.8 mile). Primary access routes to the College Park Metro Station are along Paint Branch Parkway and Calvert Road. These routes provide access for buses, cars, bicycles and pedestrians. A park and ride lot

is located at exit 27 off I-495/I-95 interchange. The lot is comprised of 147 spaces and experienced a 73% usage rate in 2004.

Twenty-five public roadways intersect US 1 within the project limits. Ten of these intersections are signalized. As requested by the City of College Park, SHA has implemented signal systemization along US 1 from MD 212 in Beltsville to MD 500 in Riverdale. Signals are traffic responsive during peak periods and are synchronized to provide progression for US 1. Timing during the non-peak periods provides simultaneous breaks in traffic to allow pedestrians to cross safely. However, closely aligned signalized intersections have been known to contribute to traffic congestion (**Table III-1**).

Table III-1
Distance Between Signalized Intersections

US 1 Signalized Intersections	Distance From (feet)
Sunnyside Avenue	190
Circle Road	1162
I-95 N/B Ramp	1373
Edgewood Road	634
Cherry Hill Road	2323
Fox Street	3590
Greenbelt Road	1056
Berwyn Road	1373
Navahoe Street	475
Melbourne Place	370
Lakeland Road	475
Paint Branch Parkway/Campus Drive	1200
Rosborough Lane	1250
College Avenue	

The traffic analyses were based on 1997 existing and 2020 projected vehicular and pedestrian traffic volumes (**Figures 3 and 4**). Existing peak hour, peak direction volumes on US 1 range from 2,711 vehicles per hour (vph) southbound during the morning peak period at Cherokee Street, located just north of the MD 193 intersection, to 606 vph northbound during morning peak periods at Berwyn House Road, located just south of the MD 430 intersection. The 2020 projection indicates that the same locations have the highest and lowest directional traffic volumes during morning peak periods. These volumes range from 3,817 vph southbound at Cherokee Street to 1,085 vph northbound at Berwyn House Road.

The team consistently monitors the travel characteristics of the study area to determine whether travel patterns or land use changes to a level that would require updating the traffic data. The US 1 corridor has experienced some changes in travel characteristics; however, those changes were not significant enough to affect the value of the data already gathered.

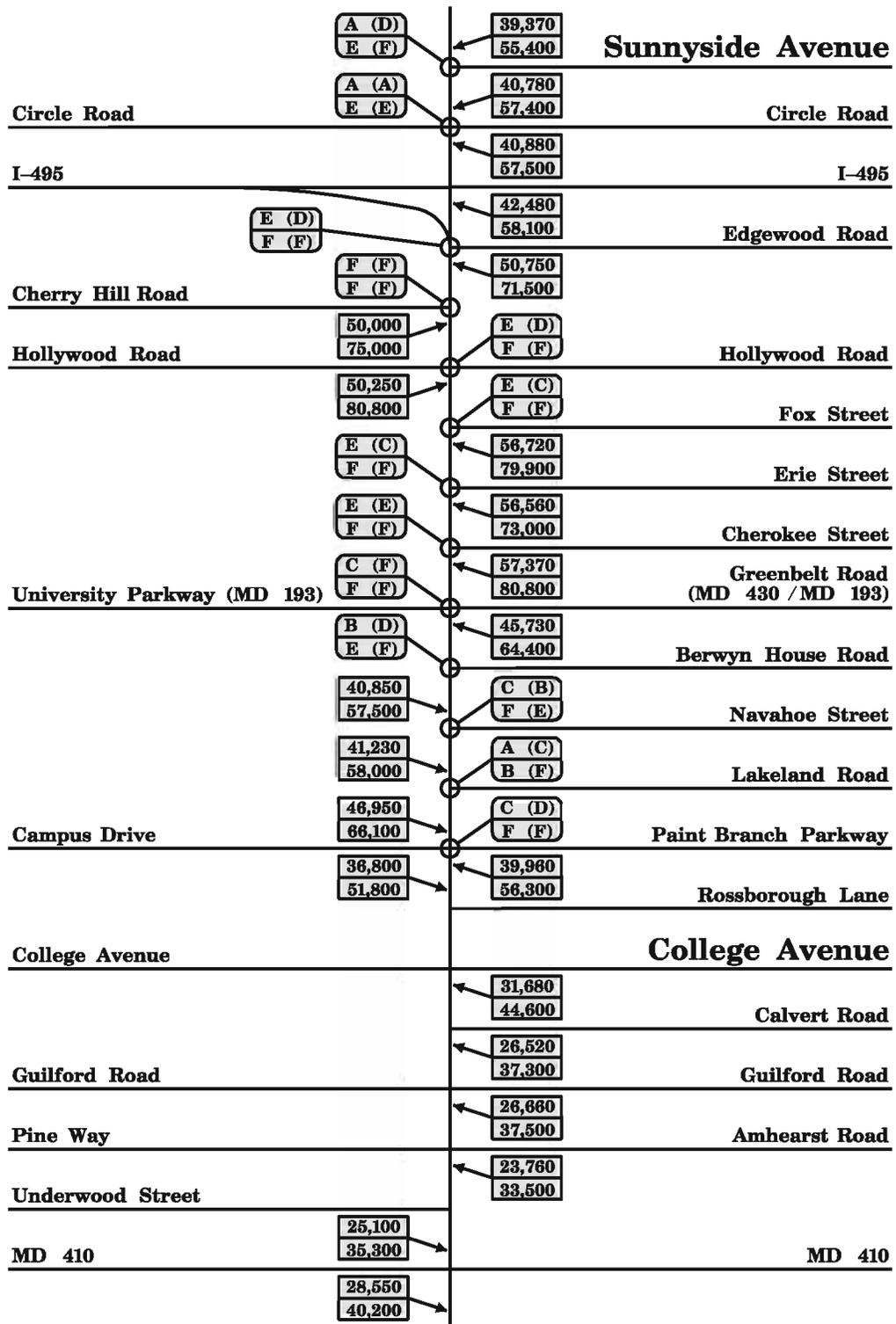
a) **Average Daily Traffic**

The existing Average Daily Traffic (ADT) volumes on US 1 range from approximately 40,000 vehicles per day (vpd) at the Paint Branch Parkway/Campus Drive intersection, to 57,500 vpd north of MD 430 (Greenbelt Road). The projected volumes for this facility for the year 2020 are approximately 56,300 vpd at the Paint Branch Parkway/Campus Drive intersection, and approximately 80,800 vpd north of MD 193. The traffic volumes are the highest at MD 193 and decrease as either the northern limit or the southern limit of the project are approached. The existing volumes decrease to approximately 24,000 vpd near MD 410, south of the project limits.

b) **Pedestrian and Bicycle Traffic**

In 1997, a 12-hour Pedestrian Movement count was conducted. During the 12-hour count, a minimum of zero (at Circle Road) to a maximum of 32 (at Sunnyside Avenue) pedestrians were surveyed along US 1 between the Capital Beltway and Sunnyside Avenue. The number increases to 992 pedestrians in 12 hours at the intersection of Lakeland Road. This

*US 1 College Park - College Avenue to Sunnyside Avenue
Finding of No Significant Impact*



LEGEND

28,550 1997 A.D.T.
40,200 2020 A.D.T.

LEVEL OF SERVICE

C (D) EXISTING AM (PM)
F (F) 2020 AM (PM)

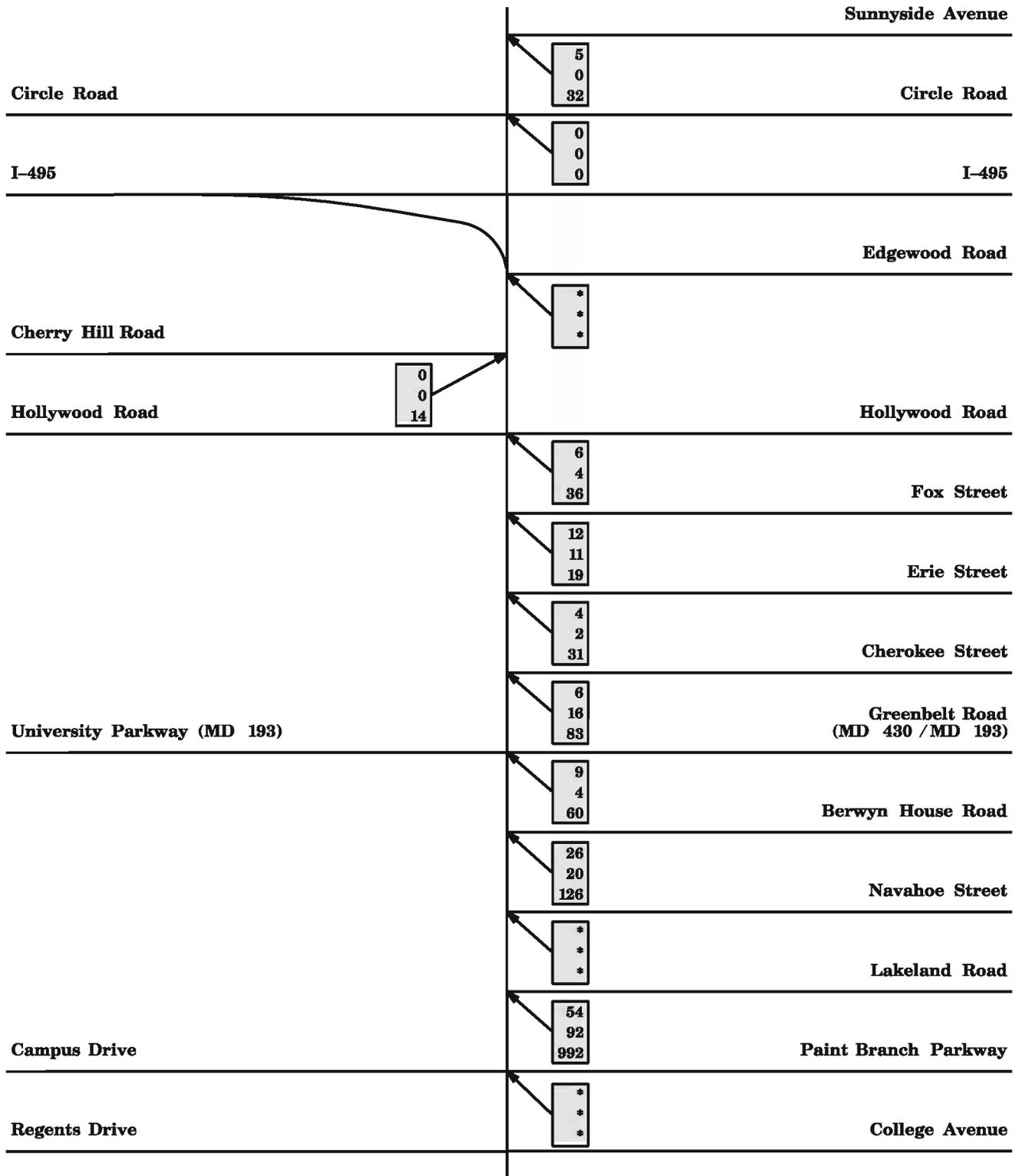


MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

**US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE**

**1997 & 2020 AVERAGE
DAILY TRAFFIC VOLUMES**

SCALE: N.T.S.	DATE: AUGUST 2005	FIGURE: 3
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LEGEND

6	AM
4	PM
36	12 HR TOTAL

* DATA NOT AVAILABLE



US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

1997 PEDESTRIAN MOVEMENT

SCALE: N.T.S.	DATE: AUGUST 2005	FIGURE: 4
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number is expected to be higher at Campus Drive. **Figure 4** shows pedestrian counts at each of the intersections.

US 1 serves a vibrant bicycle population, especially in the southern portion of the Study area which includes the University of Maryland. While exact and reliable data on the number of bicyclists is not available, those using their bicycles to recreate or commute in the corridor have become significant stakeholders in the US 1 study. According to a “1992 College Park Area Bicycle Route Survey” by the College Park Area Bicycle Coalition, 53 of the 161 bicyclists surveyed stated they frequently bicycle along US 1 between Campus Drive (North Gate of the University of Maryland) and Navahoe Street.” The College Park Area Bicycle Coalition is very active in promoting the use of bicycles in the US 1 corridor.

c) **Level-of-Service (LOS) Analysis**

Level of service (LOS) is a measure of the congestion experienced by drivers and ranges from “A” to “F”. In general, LOS “A” (free flow with no congestion) through LOS “D” (approaching unstable flow) is acceptable while LOS “E” (approaching capacity of the highway) and LOS “F” (stop-and-go condition) indicates congested traffic flow. LOS analyses are conducted for the peak hours of a typical day.

Thirteen intersections have been analyzed within the Study area. Two intersections, Cherry Hill Road and MD 430 (Greenbelt Road), are currently operating at LOS “F” during the evening peak period. The volume to capacity ratio (v/c) of both these intersections is 1.06. During the morning peak period, only the Cherry Hill Road intersection is operating at LOS “F” with a v/c of 1.16. Seven out of the 13 intersections analyzed operate at capacity LOS “E” or fail LOS “F” during either the morning or evening peak periods. All intersections analyzed would operate at capacity or fail in both morning and evening peak periods in 2020 (except Lakeland Road in the morning peak). **Table III-2** provides the LOS and v/c ratios for each intersection within the Study area for existing and projected traffic conditions.

**Table III-2
Existing and Projected Traffic Conditions**

Intersections	Existing 1997				Projected 2020			
	A.M.		P.M.		A.M.		P.M.	
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C
Sunnyside Avenue	A	0.62	D	0.85	E	0.91	F	1.19
Circle Road	A	0.63	A	0.62	E	0.93	E	0.91
Edgewood Road	E	0.92	D	0.89	F	1.29	F	1.25
Cherry Hill Road	F	1.16	F	1.06	F	1.55	F	1.45
Hollywood Dr. (unsignalized)	E	0.89	D	0.88	F	1.28	F	1.25
Fox Street	E	0.96	C	0.84	F	1.29	F	1.18
Erie Street (unsignalized)	E	0.90	C	0.73	F	1.28	F	1.05
Cherokee St. (unsignalized)	E	0.96	E	0.92	F	1.30	F	1.32
Greenbelt Road	C	0.77	F	1.06	F	1.13	F	1.58
Berwyn House Road	B	0.65	D	0.84	E	0.92	F	1.20
Navahoe Street	C	0.74	B	0.66	F	1.05	E	0.94
Lakeland Road	A	0.52	C	0.75	B	0.68	F	1.04
Paint Branch Pwky/Campus Drive	C	0.77	D	0.90	F	1.33	F	1.60

* Does not include an analysis of every intersection.

5. Accident Statistics

The accident rate for a particular roadway is a function of the length of the segment, Average Daily Traffic (ADT), the number of accidents, and the period analyzed. Accident rates are based on accidents per 100 million vehicle miles (100 mvm) of travel. The accident rates are then compared to a statewide average for similar state facilities.

A review of the eight-year (1994 to 2002) accident data revealed that 1451 accidents occurred along US 1 from College Avenue to Sunnyside Avenue during that timeframe. This translates into a total accident rate of 486 accidents per 100 mvm. This accident rate is more than the statewide average of 320.1 accidents per 100 mvm for a similar type highway (the rate was 635 per 100 mvm from 1994 to 1996 more than double the average).

The Rear-End, Injury, Sideswipe, Pedestrian and other accident category rates are also statistically higher than the statewide average. The high incidence of rear-end accidents is typical on a roadway that carries a significant amount of traffic with a high number of intersecting streets and access points. The high rate of pedestrian accidents is also typical of a

roadway with heavy traffic and poorly defined pedestrian crossings. Additionally, a high incidence of sideswipe is typically found when lateral clearances and lane widths are substandard. Eleven fatal accidents occurred during the eight-year period and resulted in a fatal accident rate of 2.1 accidents per 100 mvm, which is nearly two times the statewide rate of 1.2 accidents per 100 mvm for a similar highway.

Traffic accident data from 1994-2002 revealed the locations of two high accident sections within the study area. In 1995, the section from 100 feet south of Melbourne Place to 150 feet north of Berwyn Road experienced an accident rate of 461 accidents per 100 mvm, mostly rear-end and sideswipe. Twelve incidences involving pedestrians occurred here between 1998 and 2002. Also in 1995, the section from 100 feet south of MD 193 to 50 feet south of Fox Street experienced an accident rate of 411 accidents per 100 mvm, mostly rear-end and sideswipe. Eleven incidences involving pedestrians occurred here between 1998 and 2002. Further, two high accident intersections were recorded. US 1 at Cherry Hill Road experienced an accident rate of 1.53 accidents per million vehicles entering the intersection in 1994. In 1996, this intersection experienced an accident rate of 1.20 accidents per mvm. In 2000, Cherry Hill Road alone experienced 60 accidents a rate of 11.8 accidents per mvm.

6. System Linkage/Road Function

US 1 is a major arterial within the Baltimore/Washington metropolitan area, providing both local and regional north-south travel. Commuters use this facility as one of the routes to access the Capital Beltway, the District of Columbia, Laurel, Baltimore, Metro/MARC stations and employment centers.

This facility connects the City of College Park, the District of Columbia, Hyattsville, Riverdale, Beltsville, Laurel and Baltimore. It is functionally classified as an Urban-Other Principal Arterial on the Federal Functional Classification System and included on the State Secondary System. It also serves as a connecting link to MD 410, MD 193 and the Capital Beltway. Currently, there are four park and ride lots serving the immediate area as described in **Table III-3.**

**Table III-3
Park and Ride Facilities**

Facility Name	Location	Usage	# Spaces
College Park Metro Station	Paint Branch Parkway	100%	530
Greenbelt Metro/MARC Station	Greenbelt Metro Dr. (Off Cherrywood Lane)	42%	3364
Prince George's Plaza Metro Station	MD 410/Belcrest Road	35%	1068
Prince George's Plaza	MD 410/Toledo Terrace	10%	60
I-495/I-95 Park-and-Ride Lot	I-495/I-95 Interchange	73%	147

There are three Washington Metropolitan Area Transit Authority (WMATA) buses serving the immediate project area in College Park (**Table III-4**). Prince George's County does not have any local bus routes along this portion of US 1 at this time.

**Table III-4
Bus Routes**

Route #	Service Areas on US 1	Daily Ridership	Type of Service
83	US 1, Cherry Hill Road to S. of University Campus	4714*	Every 30 minutes (All Day)
86	US 1, N. of I-495 to S. of University Campus	4714*	Every 30 minutes (Peak Periods) Every Hour (Non-Peak)
C2	US 1, Greenbelt Road to Campus Drive (into campus)	3516	Every 30 minutes (All Day)

* Daily ridership for Bus Nos. 83 and 86 have been combined and totals 4714

Bus Route # 83 provides service to the College Park Metro Station, and Bus Route # 86 provides service to Prince George's Plaza and Prince George's Plaza Metro Station. Bus Route # C2 provides service to the Greenbelt Metro Station.

The Shuttle-UM Transit System of the University of Maryland at College Park has a total of 13 routes operating throughout the course of the day. They are as follows: (1) Greenbelt (2) Rhode Island Avenue (3) Springhill Lake (4) Circuit (5) Graduate Housing (6) Express (7) Adelphi South (8) Adelphi North (9) College Park Metro (10) New Carrollton (11) Queens Chapel (12) Park & Ride and (13) Silver Spring. They serve the College Park Metro, New Carrollton Metro, West Hyattsville Metro, Silver Spring Metro, park-and-ride

facilities, apartment complexes, graduate housing, several shopping centers, and major parking lots and buildings of the University.

Ten of these 13 commuter routes operate from 6:30 a.m. to 8:30 p.m. Monday through Friday during the Fall and Spring semesters when classes are in session. Of these ten, four routes provide evening security service to all of the campus, including the College Park Metro, University College, downtown College Park, Graduate Gardens and Graduate Hills from 5:30 p.m. to 3:00 a.m. The College Park Metro shuttle is the only off-campus route with year-round service. The University plans to extend commuter shuttle service until 11:30 p.m. in response to demand from students. The University would provide additional routes if there is sufficient demand. Of the 13 shuttle bus routes, six of them travel via US 1 (**Table III-5**).

**Table III-5
Shuttle Routes Along US 1**

Service Type*	Shuttle	Route of Travel	Time Schedule	# Stops on US 1	Ave. Daily Ridership
Commuter	Greenbelt	Between Greenbelt Rd. and Paint Branch Parkway	6:45 am to 8:10 p.m.	0	209
Commuter	Springhill Lake	Between Greenbelt Rd. and Paint Branch Parkway	7:10 am to 8:00 p.m.	2	454
Commuter	Rhode Island Avenue	Between Greenbelt Rd. and Paint Branch Parkway	7:00 am to 8:15 p.m.	2	275
Evening	Circuit	Between Hartwick Rd. and Rossborough Lane	5:30 p.m. to 3:15 am	0	801
Evening	Graduate Housing	Between Guilford Dr. and Paint Branch Parkway	5:30 p.m. to 1:00 am	1	96
Evening	Express	Between Rossborough Lane and Berwyn House Rd.	5:30 p.m. to 3:15 am	0	581

**Office of Commuter Affairs, University of Maryland at College Park, 1997
All Shuttle-UM routes are generated from the UMCP Student Union building*

7. County Comprehensive Plan Compatibility

The Langley Park-College Park-Greenbelt Master Plan, 1990, proposes widening US 1 to a six-lane arterial from MD 410 (East-West Highway) to Circle Drive. This plan also includes recommendations for improving pedestrian safety, consolidating access points and eliminating on-street loading. The Subregion I (Beltsville-Calverton-Montpelier-South Laurel-West Laurel-Vansville) Master Plan, 1990, includes recommendations for upgrading US 1 to a six-lane arterial from the Capital Beltway north to Howard County. Both master plans propose expanding bus service, as demand increases, to serve new large-scale developments (employment and commercial areas) along US 1. The City of College Park Comprehensive Plan, approved December 1995, (while acknowledging the recommendation of a six-lane arterial proposed in the 1990 Langley Park-College Park-Greenbelt Master Plan); recommends a divided four-lane roadway from Paint Branch Parkway to the Capital Beltway.

8. Local Concerns

Prince George's County elected officials have identified this project as a need on their transportation priority list to the Maryland Department of Transportation. The City of College Park's primary objective is to make the roadway more pedestrian friendly and safer for transit, walking and bicycling and to provide a landscape buffer between vehicles and pedestrians. The citizens and City officials have expressed concerns about safety and traffic operations along this segment of US 1, and wish to explore methods for discouraging through-traffic. Coordination with City and County representatives to implement initiatives to enhance pedestrian safety and improve traffic operations within the City of College Park has been maintained throughout the study. Local improvement recommendations are provided in the University, City, and County master plans.

9. Alternates Presented at the Alternates Public Workshop

Preliminary alternates were developed and evaluated based on the project goals and objectives identified in the project's Purpose and Need Statement. The following alternates were presented at an Alternates Public Workshop held on Thursday November 4, 1999 at the College Park Community Center and are documented in detail in the Environmental Assessment:

- The No-Build, which functions as a baseline for comparison
- Transportation Systems Management (TSM)/Travel Demand Management (TDM)
- Four-Lane Divided
- Five-Lane Undivided
- Cherry Hill Road Full Bridge Interchange Option

10. Alternates Dropped From Further Consideration

Following the Alternates Public Workshop and a detailed evaluation by the Study Team, the TSM/TDM Alternate was dropped from further consideration a “stand-alone” alternate. The Team determined it did not meet the goals established for the study (such as driver safety and vehicle flow, pedestrian safety and providing accommodations for bicycle travel). However, many of the TSM/TDM strategies evaluated were incorporated into the four and five-lane build alternates carried forward. One TSM strategy that was not included in the build alternates was the opportunity for converting the existing center turn lane into a reversible-lane system. Under this approach, the center lane would serve as a third through lane in the southbound direction in the morning peak period and as a northbound through lane in the evening peak period. Such an operation would severely restrict turning movements to a few select locations that are signalized and divert traffic to parallel residential streets. This option presented many operation and safety concerns and was not favored by local businesses, residents, or state and local agencies and was dropped from further consideration before the Alternates Public Workshop. The TDM strategies not recommended for further consideration as a part of the build alternates are:

Staggered Work/Class Hour Programs – This strategy proposed continued coordination with the University of Maryland to encourage increasing and/or improving existing staggered work and class hour programs to limit the demand during peak hours on the US 1 corridor.

Parking Fee Structure on University of Maryland Campus – This strategy required ongoing coordination with the University of Maryland and City of College Park about revisions to the Parking Fee Structure and its impacts upon US 1. SHA will continue discussions with both the University of Maryland and the City of College Park with regards to implementing these strategies through future efforts.

The staggered work/class hour and fee structure for parking elements of the TDM alternate were not carried forward specifically as part of the build alternatives because they are considered regional strategies and likely could not be considered a part of a single roadway project. However, the Metropolitan Washington Council of Governments (MWCOC) has a progressive set of TDM measures already assumed in the regional travel forecasting model that does take into account many of these types of demand management strategies.

A six-lane widening, as proposed in the Langley Park-College Park-Greenbelt Master Plan, was also evaluated during the initial stages of Project Planning. It was dropped from further consideration due to extensive right-of-way impacts. Because of the right-of-way constraints along the US 1 corridor, the six-lane improvement would have resulted in increased property displacements when compared to the four-lane and five-lane alternates.

B. ALTERNATES RETAINED FOR DETAILED STUDY (ARDS)/ DETAILED PLANNING

As a result of comments received at and following the Alternates Public Workshop, both the Four-Lane Divided and Five-Lane Undivided Alternates were modified slightly and, along with the No-Build, were carried forward for detailed study. Although the TSM/TDM stand-alone alternate and corresponding reversible lane option were dropped, the TSM/TDM improvements (such as intersection improvements, bus pull-offs, signal optimization, access consolidation, and travel diversion methods) described below were incorporated into the build alternates carried forward.

1. Transportation Systems Management (TSM)/Travel Demand Management (TDM)

Transportation Systems Management (TSM)

Intersection Improvements – Thirteen intersections were analyzed in the project area for the year 2020. All intersections analyzed will operate at or above the theoretical capacity in both morning and evening peak periods in 2020 (except Lakeland in the morning peak). The Purpose and Need statement of the document describes these analyses in greater detail. As described earlier, increasing capacity on US 1, due to its likely devastating impacts, is not one of the goals of the study. However, two intersections with very poor operating characteristics have been identified for improvement under the TSM Alternate. These intersections are US 1 at Cherry Hill Road and US 1 at Greenbelt Road.

US 1 at Cherry Hill Road – This intersection is projected to operate at a level of service (LOS) “F” during the AM and PM peak periods in the year 2020 with the current lane configuration (two through lanes northbound and southbound – since the beginning of this study a third southbound through lane has been added as a result of developer activity). Currently, there are two lanes northbound, north of this intersection. Under the TSM Alternate, a third through lane is proposed for US 1 northbound beginning just north of Indian Lane (approximately 1,600 feet). Initial recommendations included extending the third southbound lane that currently drops approximately 500 feet south of the intersection, to where the proposed third northbound lane begins (roughly in front of Jordan Kitts Music). The intersection will continue to operate at LOS “F” during both peak periods. However, the additional lane northbound provides additional storage space, improving the operation of the intersection and improving performance at the intersection of US 1 with Hollywood Road. The US 1/Edgewood Road intersection would have a separate phase from southbound US 1 similar to the existing condition.

US 1 at Greenbelt Road (MD 193) – This intersection is also projected to operate at LOS “F” during the AM and PM peak periods. Adding an approach lane in both directions will improve the intersection to a LOS “D” during the AM peak hour. During the PM peak hour,

the intersection will continue to operate at LOS “F”. However, there will be some improvement in operation during the PM peak hour within the LOS “F”. The third lane northbound begins approximately 400 feet north of Berwyn Road and tapers back to two lanes just prior to the MD 193 Bridge. In the southbound direction, the third lane begins at the ramp gore from MD 193 and tapers back to two lanes in front of the Terrapin Taco House.

Bus Pull-off Lanes – The Washington Metropolitan Area Transit Authority (WMATA) and Shuttle-UM Transit System of the University of Maryland operate buses along US 1 between the study limits. Currently, these buses stop in traffic lanes thereby infringing upon the flow of traffic. To help improve transit operations and traffic flow along this corridor, the State Highway Administration (SHA), along with WMATA and Shuttle-UM identified several existing locations where bus pull-off lanes can be accommodated without impacting properties. However, there will continue to be other locations where buses will have to stop in traffic lanes. For the TSM Alternate, 14 bus pull-off locations have been identified with seven on street bus stops remaining.

Access Consolidation – US 1 within the project area is a principal arterial with no controls of access. Access to businesses is provided through numerous curb cuts. Right-turning and left-turning vehicles approaching the access locations or waiting to turn into businesses slow traffic and cause congestion and accidents. Access Consolidation is defined as the process of balancing access for land development while preserving safe operation and mobility along the highway system. Access consolidation can include a variety of techniques such as:

- Limiting the location and number of median openings;
- Restricting turning movements into and out of properties, which limits the number of conflict points at driveway locations; and
- On corner parcels allowing access only to the side streets where possible.

Currently there are 125 total access points along US 1 within the study limits. Through the suggested consolidation of access locations, the total number of access points would be reduced to 88 locations (near 30% reduction).

Signal Timing/System Optimization – SHA Office of Traffic and Safety performed a study of the Signal Timing/System Optimization for the US 1 corridor approximately four years ago. This study oversaw the interconnection of traffic signals in the US 1 study area. The signal systems are coordinated for peak hour travel hours. During off-peak hours, the systems are not coordinated, allowing each loop to handle traffic demand as it rises. Recent re-timing efforts have lengthened pedestrian phases at some intersections.

Travel Demand Management (TDM)

Travel Diversion Initiatives – One method to divert traffic along US 1, bound for the University of Maryland, to less congested routes is through additional or modified road signs informing motorists of various access points to campus. Efforts to sign alternate routes will continue through the design phase. Another method is through employer/student orientation. This effort is being coordinated with University of Maryland representatives on the Study Team to incorporate into existing and future orientation efforts.

2. Design Enhancements to ARDS

During the detailed planning phase the design enhancements described below were incorporated into the ARDS:

Outside Curb Lane – Bicycle Lane – Prior to the Alternates Public Workshop, the typical sections for both the Five-Lane Undivided and Four-Lane Divided Alternates consisted of a 14-foot outside curb lane that included 11-foot travel lanes and a three-foot area for bicycle use. SHA determined that providing on-road accommodation for bicyclists was paramount and should be included in all of the build alternates. The American Association of State Highway and Transportation Officials (AASHTO) establish standards for roadway features based upon nationwide operational and safety studies. AASHTO recommends that for vibrant environments with bicycle activity that five feet of additional width be added to the outside travel lane. The additional width was applied to the Four-Lane Divided and Five-Lane Undivided Alternates and evaluated for potential impacts. The analysis determined that because there were no additional

displacements introduced with the added lane width, the extra right-of-way impacts and costs associated with the widening were acceptable.

This added outside lane area provides a greater margin of safety for bicyclists in addition to other operational improvements in the corridor. Further, the additional five-foot area provides a minor breakdown area in the absence of a shoulder, should a vehicle using US 1 become disabled, thereby not blocking the entire travel lane and permitting other vehicles to pass. Likewise, in the event an Emergency Response Vehicle is en-route on US 1, the additional outside width provides ample room for motorists to yield to the responding vehicle. In addition, where bus pull-off areas have not been provided, a driver will have an easier time passing a stopped bus when traffic permits. Therefore, the typical sections for both the Four-Lane Divided and Five-Lane Undivided Alternates have been modified to include a 16-foot outside curb lane.

Typical Section Modifications – During the detailed planning of the alternates, additional features and modifications to the typical sections were incorporated in an effort to minimize impacts to properties along US 1. The primary modifications to the typical sections occur in areas where right-of-way is limited or would result in a property impact or relocation. At these locations, the three-foot lawn panel was reduced to a two-foot paver section in order to minimize impacts, without decreasing the aesthetic improvements proposed. This modified typical section was used for both the Four-Lane Divided and Five-Lane Undivided Alternates.

Retaining Walls – Retaining walls were used in combination with the reduced typical section (two-foot paver) to avoid impacting parking and/or business displacements and are included in both the Four-Lane Divided and Five-Lane Undivided Alternates.

Alignment Shifts – Several alignment shifts were adopted to minimize the proposed effects on existing businesses and properties along US 1. The following alignment shifts have been adopted and are included in the Five-Lane Undivided and Four-Lane Divided Alternate:

- The centerline of US 1 was shifted approximately five-feet to the west between Pontiac Street and Quebec Street to avoid displacing one business and requiring strip right-of-way totaling less than one acre from the frontage of the properties on the west side of US 1.

- Between Quebec Street and Berwyn Road, changing the radius of the existing curve along with the reduced typical section (two-foot paver section) avoids displacing three businesses.
- Between Berwyn Road and University Boulevard (MD 193), the existing centerline was shifted to the east by approximately eight-feet. This centerline shift avoids displacing two businesses.
- Between Cherokee Street and Erie Street, a five-foot shift to the west helps reduce parking impacts to the two businesses.
- Between Hollywood Road and Cherry Hill Road, the existing centerline was shifted to the west by approximately 16 feet. This shift in alignment avoids displacements to three businesses, but results in an impact of one new business displacement.

The Study Team found no other reasonable opportunities for impact reduction coinciding with the alternates' modifications. However, a greater level of accuracy gained during the detailed design phase may uncover additional opportunities to avoid impacts along the corridor.

3. Alternates (ARDS) Presented at the Public Hearing

An Environmental Assessment (EA) document was prepared and was approved by the Federal Highway Administration (FHWA) on May 23, 2001, followed by a Location/Design Public Hearing held on June 27, 2001 at Ritchie Coliseum in College Park. Members of the community were given the opportunity at that hearing to testify for the public record. The ARDS described below were presented at the hearing.

a) No-Build (Baseline)

The No-Build Alternate includes no major improvements along existing US 1 within the study limits. Normal highway maintenance such as resurfacing and re-striping, vegetation clearance of State owned right-of-way and signing and safety improvements would be

implemented as needed. The No-Build Alternate did not change during the detailed planning phase of the study.

b) Five-Lane Undivided Alternate

The Five-Lane Undivided Alternate includes a typical section consisting of two 11-foot inside travel lanes and two 16-foot outside travel lanes in each direction (increased from 14-foot outside lanes) separated by a 13-foot center turn lane. Streetscape features would include six-foot lawn panels with trees for the majority of the corridor. The six-foot panels will accommodate street trees, bordered by a five-foot sidewalk and three-foot utility easement on both sides of US 1 with ornamental street lighting, park benches and planters to enhance aesthetics. Utilities, currently located along both sides of the roadway would be relocated on an as needed basis. Where necessary, alignment shifts (similar to those proposed for the Four-Lane Alternate below), retaining walls, and two-foot paver sections have been included to minimize right-of-way impacts. In addition, TSM/TDM components have been included as part of this alternate, as noted previously.

c) Four-Lane Divided Alternate

The Four-Lane Divided Alternate includes a typical section consisting of two 11-foot inside travel lanes and two 16-foot outside travel lanes in each direction (increased from 14-foot outside lanes) separated by a 16-foot raised landscaped median. Streetscape features would include a six-foot lawn panel with trees for the majority of the corridor. The six-foot panel will accommodate street trees, bordered by a five-foot sidewalk and three-foot utility easement on both sides of US 1. Ornamental street lighting, park benches and planters to enhance aesthetics will be included where feasible. Utilities, currently located along both sides of the roadway would be relocated on an as needed basis.

Where necessary, alignment shifts, retaining walls, and/or two-foot brick paver sections have been included to minimize non-State owned right-of-way impacts and property displacements. In addition, TSM/TDM components have been included as part of this alternate,

as noted previously. The Typical Sections are shown in **Figure 5** and detailed mapping is shown in **Figures 6 through 17**.

As a result of the alignment shifts and other mitigating design features described previously, the Four-Lane Divided Alternate requires 13 commercial displacements (two are abandoned properties) and impacts approximately 13 acres of non-State owned right-of-way.

d) **Cherry Hill Road Full Bridge Interchange Option**

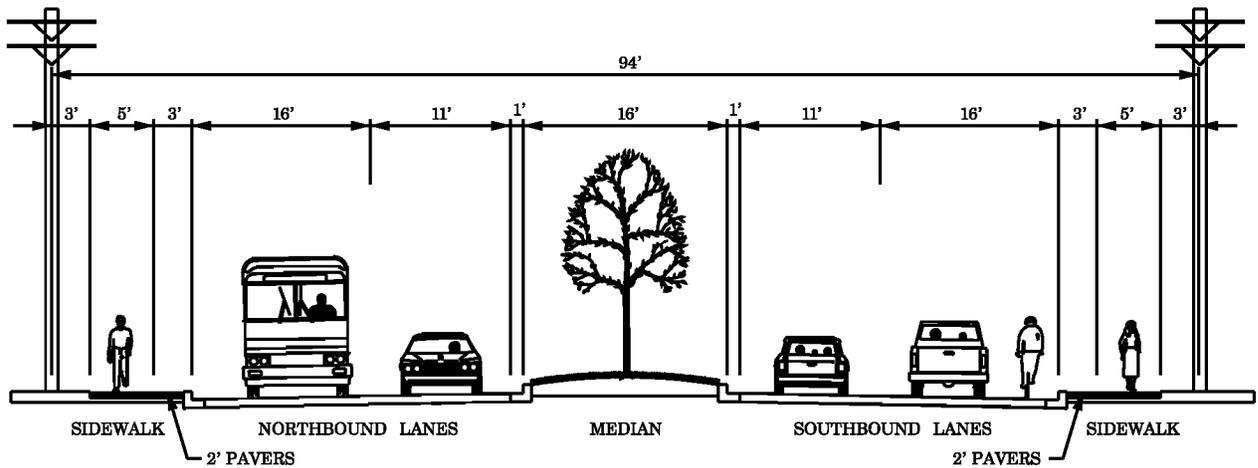
The Cherry Hill Full Bridge Interchange Option was carried forward unchanged from the Preliminary Alternates Presented at the Alternates Workshop. This option, as a stand-alone, would require a total of eight commercial displacements, one out-building, and requires approximately three additional acres of right-of-way. Five of these commercial displacements would be necessary for both of the mainline build alternates and three commercial displacements and one out-building would be additional if the interchange option is chosen.

e) **Public Hearing**

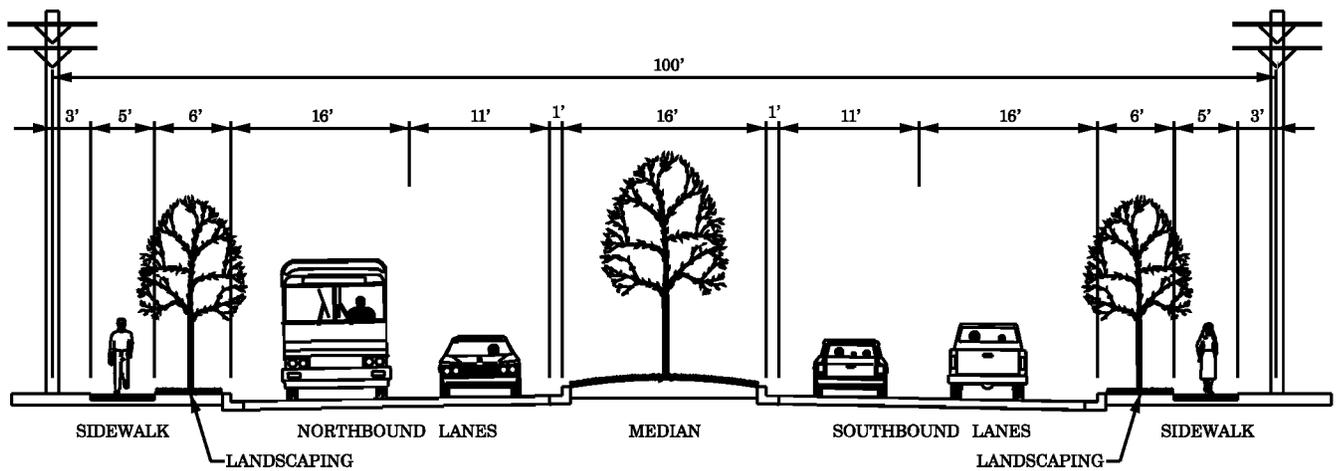
Approximately 170 people attended the June 27th Public Hearing and seventy (70) individuals provided formal testimony. Comments were collected and assessed over the months following to determine which improvement options the community favored and whether additional study or design modifications were necessary. This information was then utilized by the Study Team to evaluate the alternates and make modifications in support of public concerns. The comments from the Hearing are summarized in Section IV of this document.

4. **Cherry Hill Road Options Developed Since the Public Hearing**

Following the Public Hearing and stakeholder coordination meetings, the Study Team members met to discuss the potential consequences of the concerns that were raised regarding the Cherry Hill Road Full Bridge Interchange. These concerns required further analysis prior to the Team's recommendation. Specifically, driver expectancy, signage, and southbound weave issues involving the proposed Cherry Hill Road Full-Bridge Interchange were



**4-LANE DIVIDED ALTERNATE
WITH 3' LANDSCAPE STRIP**



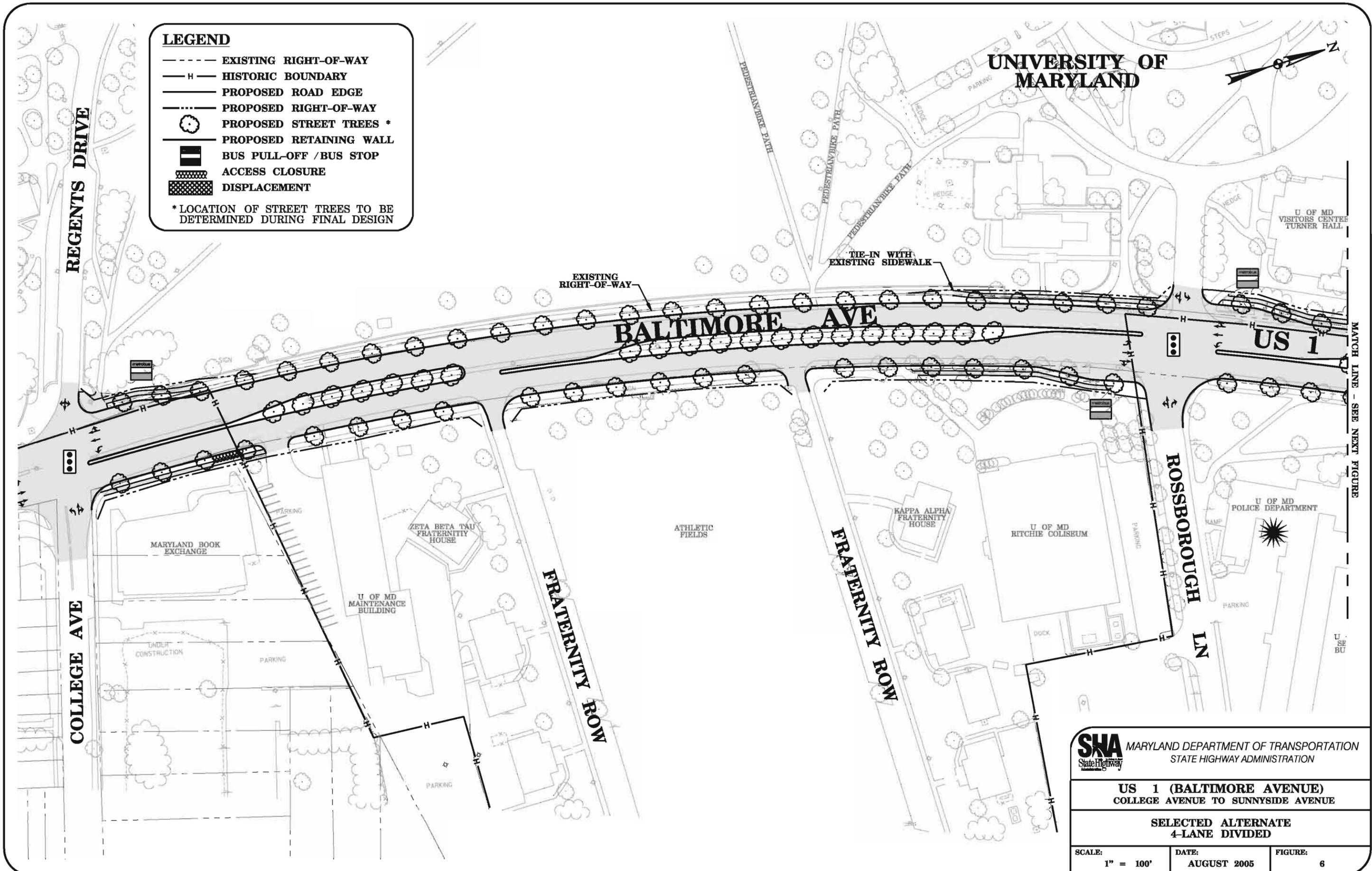
**4-LANE DIVIDED ALTERNATE
WITH 6' LANDSCAPE STRIP**

	MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION	
	US 1 (BALTIMORE AVENUE) COLLEGE AVENUE TO SUNNYSIDE AVENUE	
SELECTED ALTERNATE TYPICAL SECTIONS		
SCALE: N.T.S.	DATE: AUGUST 2005	FIGURE: 5

LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- - - PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF / BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway STATE HIGHWAY ADMINISTRATION

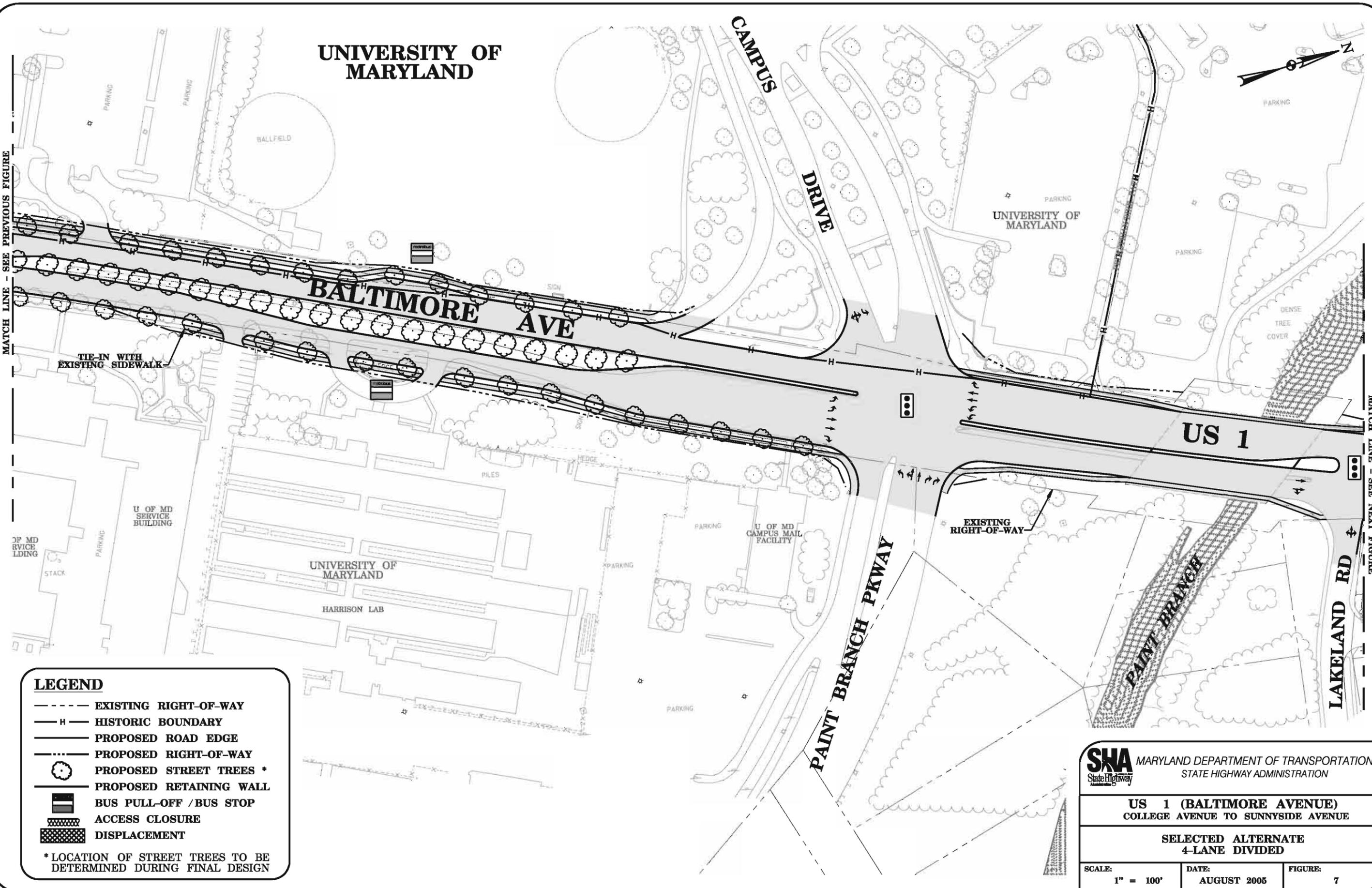
US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

SELECTED ALTERNATE
4-LANE DIVIDED

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 6
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MATCH LINE - SEE NEXT FIGURE

UNIVERSITY OF MARYLAND



LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- - - PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▭ BUS PULL-OFF / BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

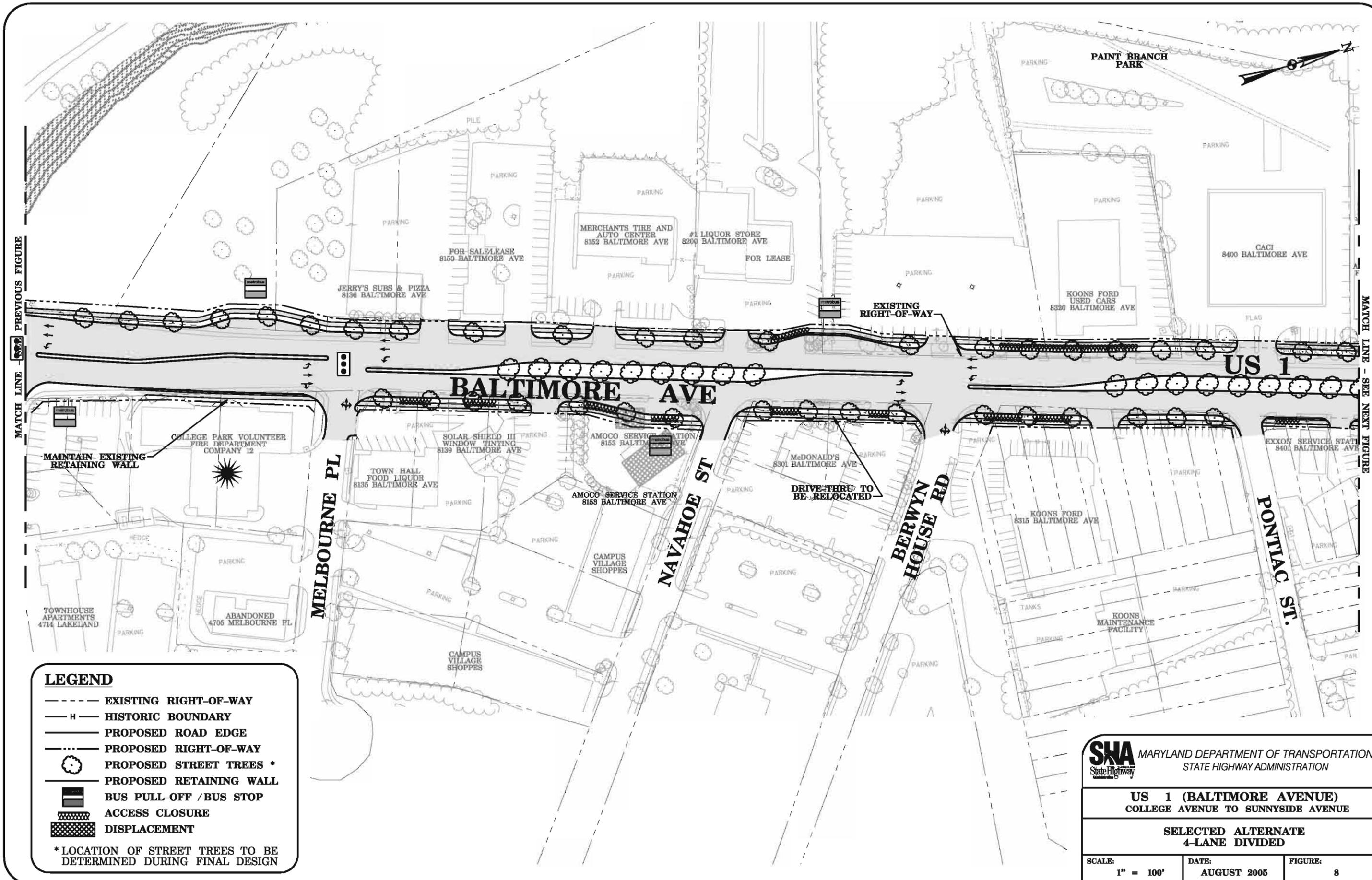
* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

SELECTED ALTERNATE
4-LANE DIVIDED

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 7
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MATCH LINE - SEE PREVIOUS FIGURE

MATCH LINE - SEE NEXT FIGURE

LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- ===== PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ===== PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF /BUS STOP
- ▬ ACCESS CLOSURE
- ▬ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

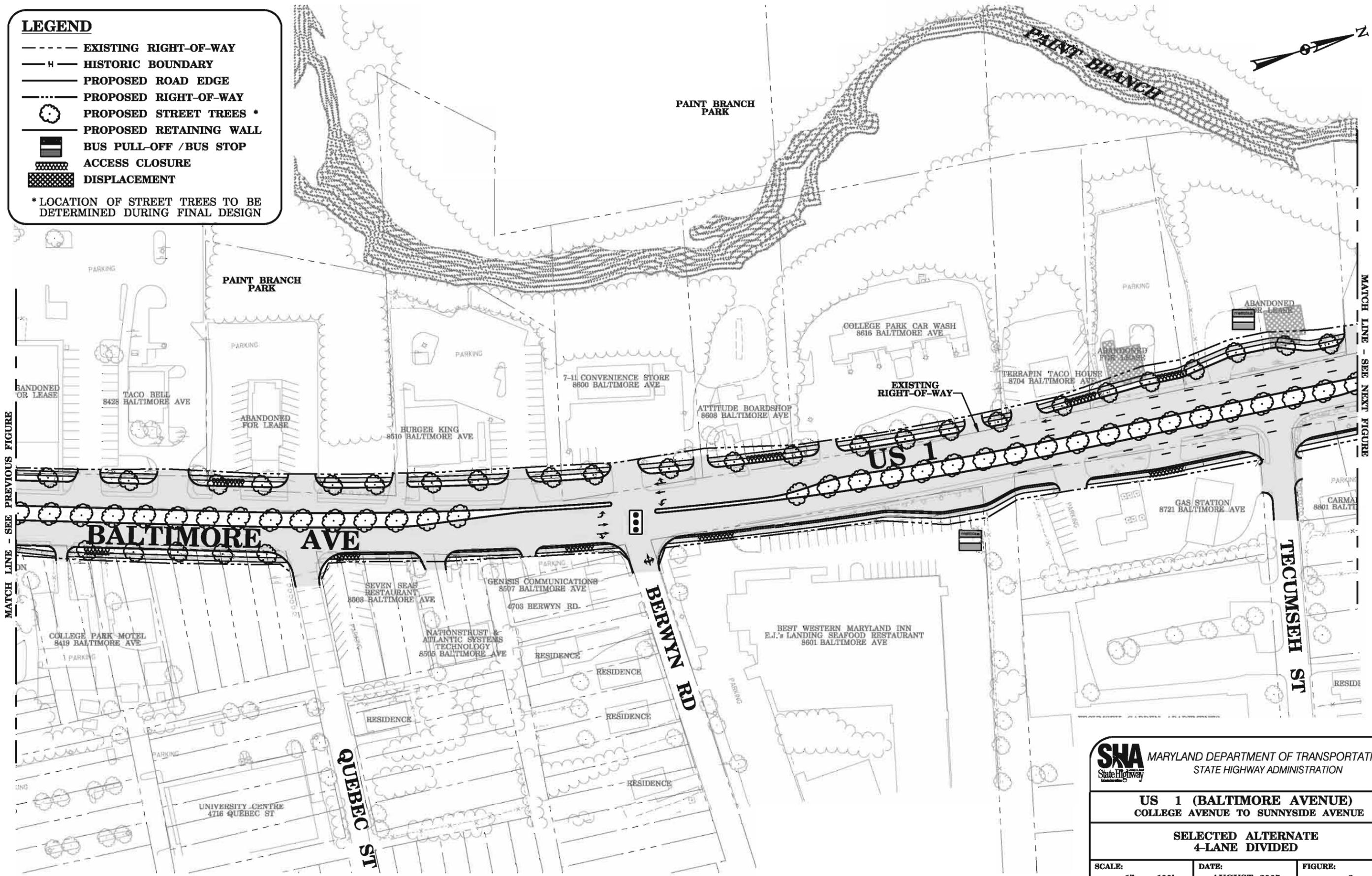
SELECTED ALTERNATE
4-LANE DIVIDED

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 8
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LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF /BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



MATCH LINE - SEE PREVIOUS FIGURE

MATCH LINE - SEE NEXT FIGURE

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

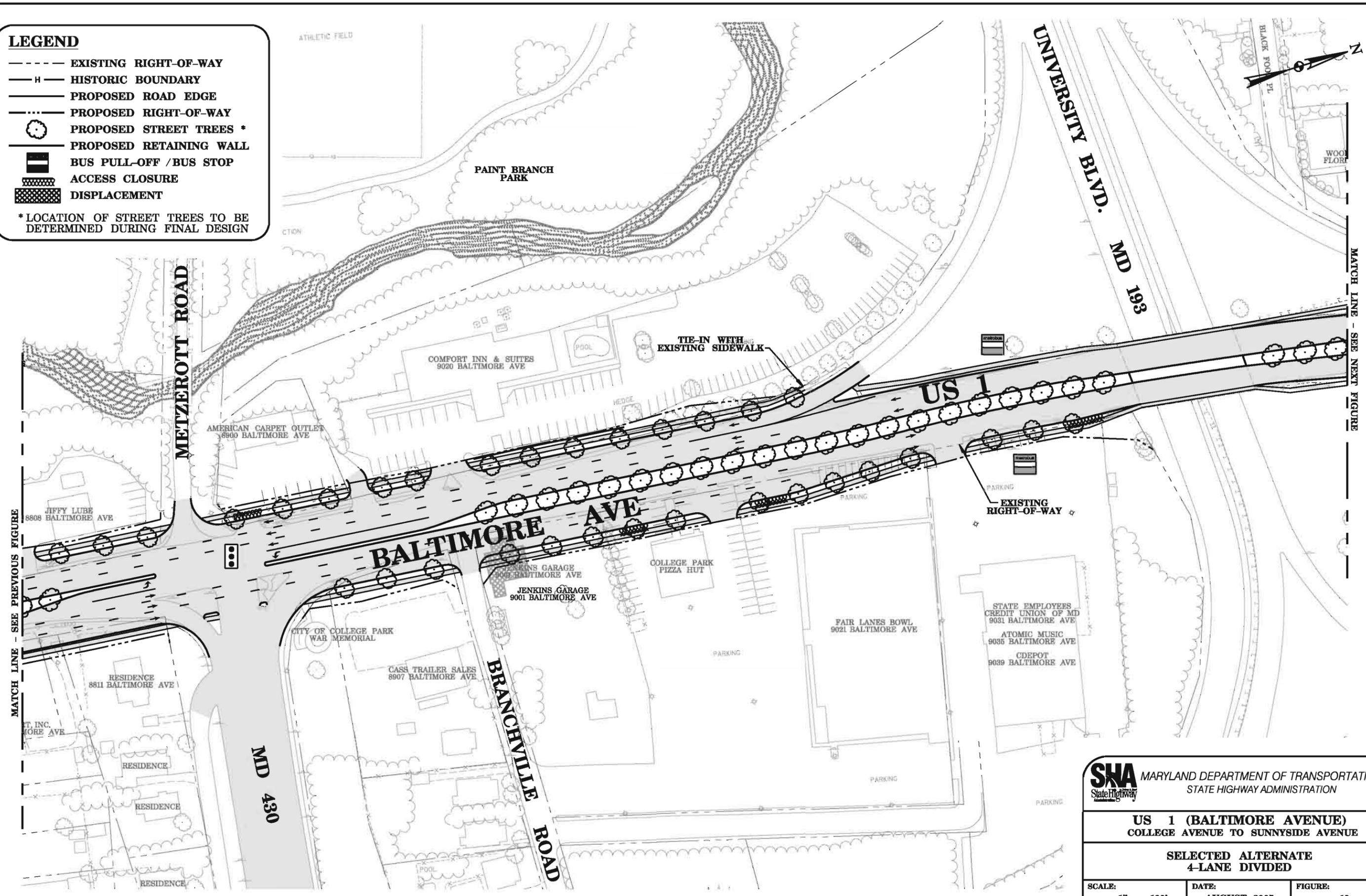
SELECTED ALTERNATE
4-LANE DIVIDED

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 9
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LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- - - PROPOSED RIGHT-OF-WAY
- ☉ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF / BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



 MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION		
US 1 (BALTIMORE AVENUE) COLLEGE AVENUE TO SUNNYSIDE AVENUE		
SELECTED ALTERNATE 4-LANE DIVIDED		
SCALE:	DATE:	FIGURE:
1" = 100'	AUGUST 2005	10

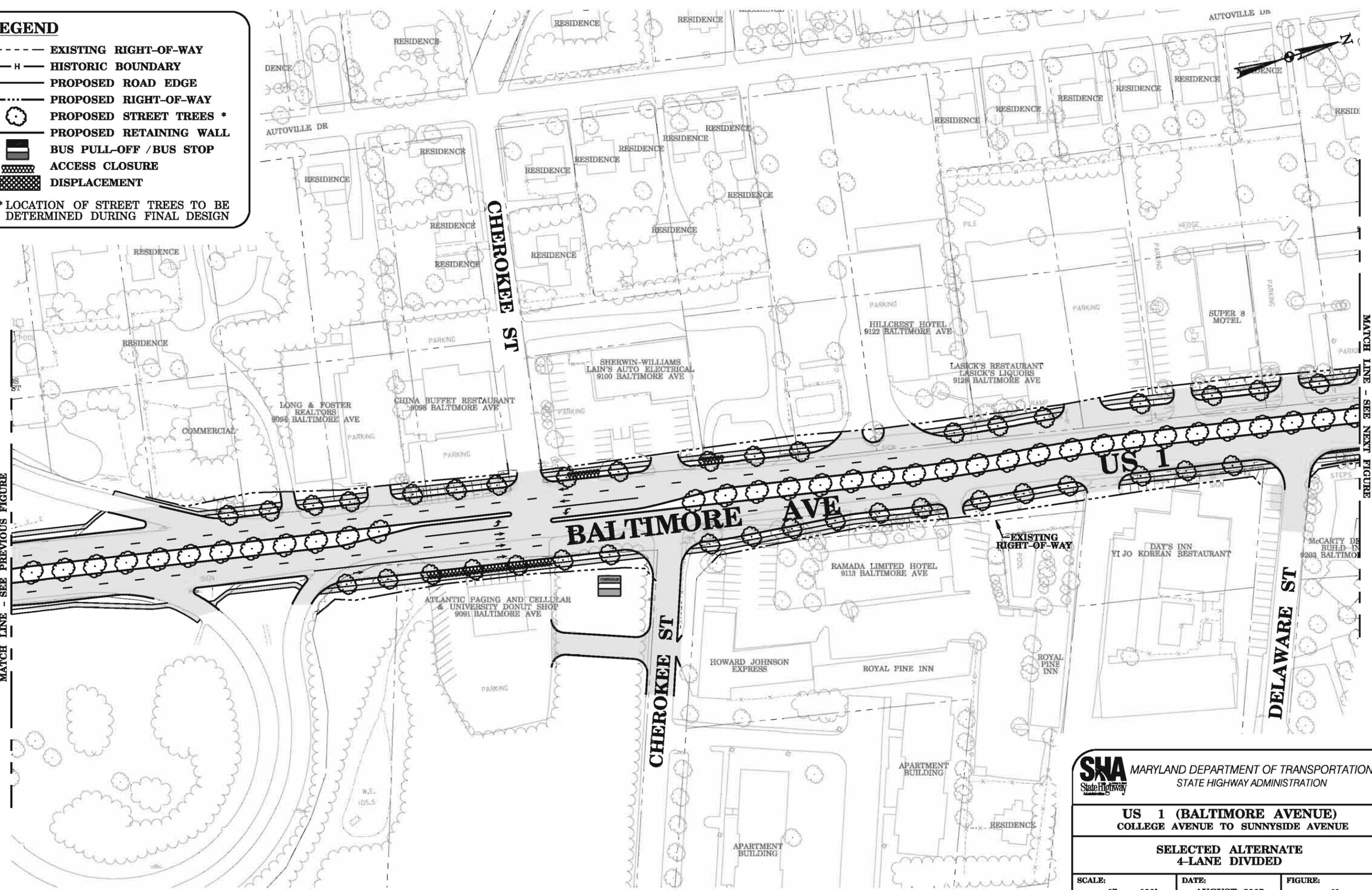
LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ☉ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF / BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN

MATCH LINE - SEE PREVIOUS FIGURE

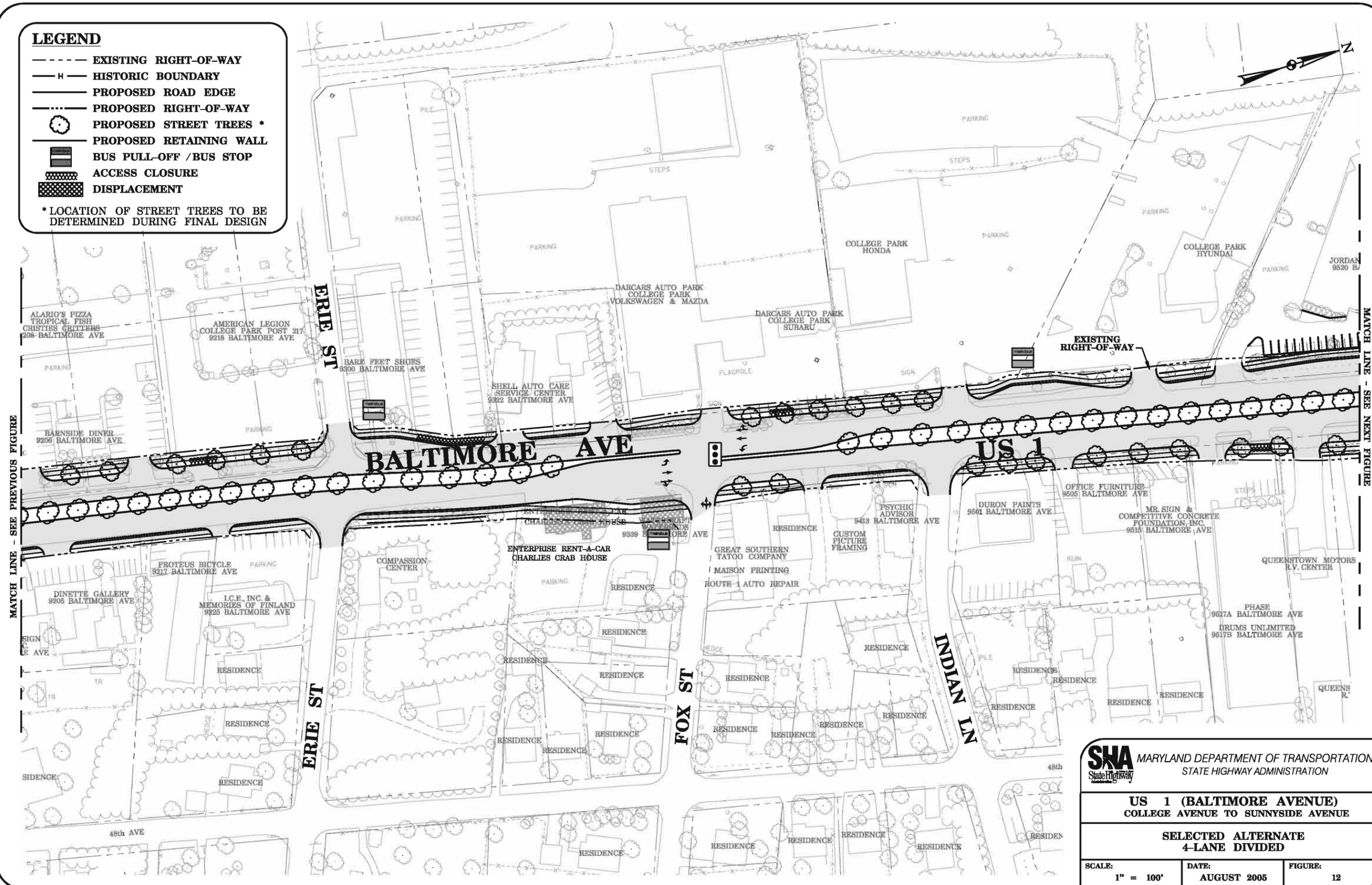
MATCH LINE - SEE NEXT FIGURE



LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF / BUS STOP
- ▬ ACCESS CLOSURE
- ▬ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



MATCH LINE - SEE PREVIOUS FIGURE

MATCH LINE - SEE NEXT FIGURE

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

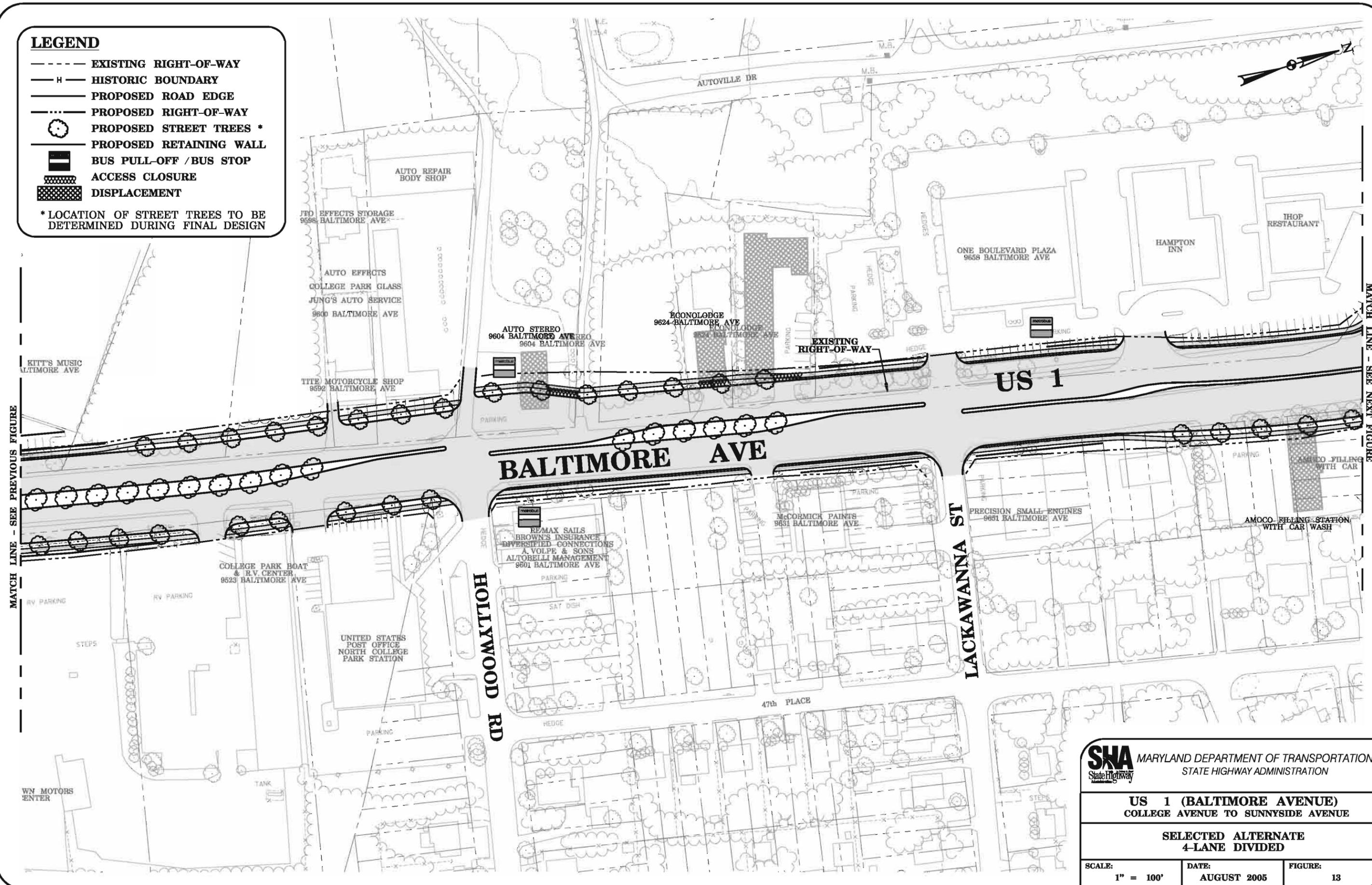
SELECTED ALTERNATE
4-LANE DIVIDED

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 12
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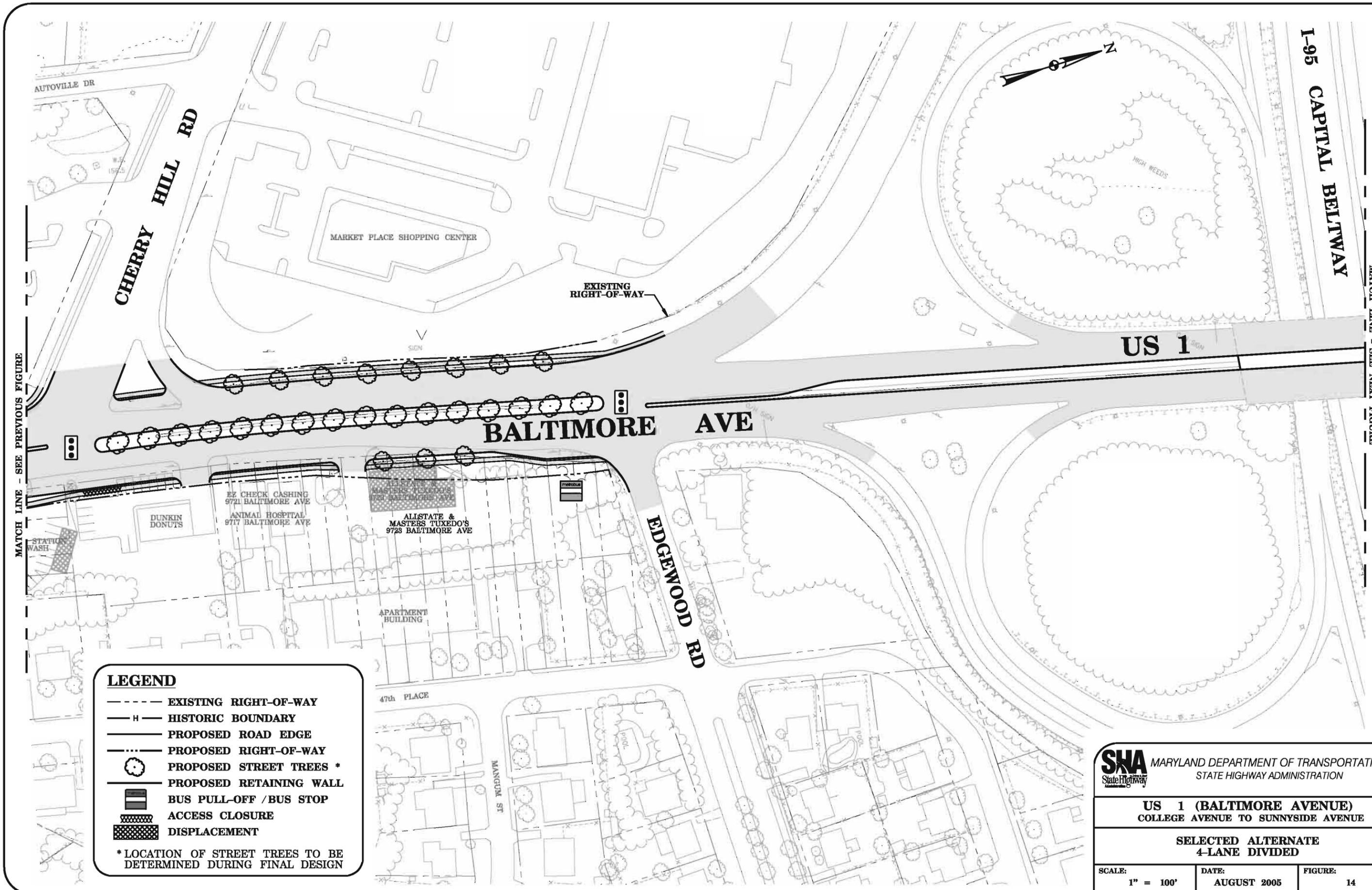
LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF / BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



 MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION		
US 1 (BALTIMORE AVENUE) COLLEGE AVENUE TO SUNNYSIDE AVENUE		
SELECTED ALTERNATE 4-LANE DIVIDED		
SCALE:	DATE:	FIGURE:
1" = 100'	AUGUST 2005	13



MATCH LINE - SEE PREVIOUS FIGURE

MATCH LINE - SEE NEXT FIGURE

LEGEND

- EXISTING RIGHT-OF-WAY
- |- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- - - PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF /BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

SELECTED ALTERNATE
4-LANE DIVIDED

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 14
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LEGEND

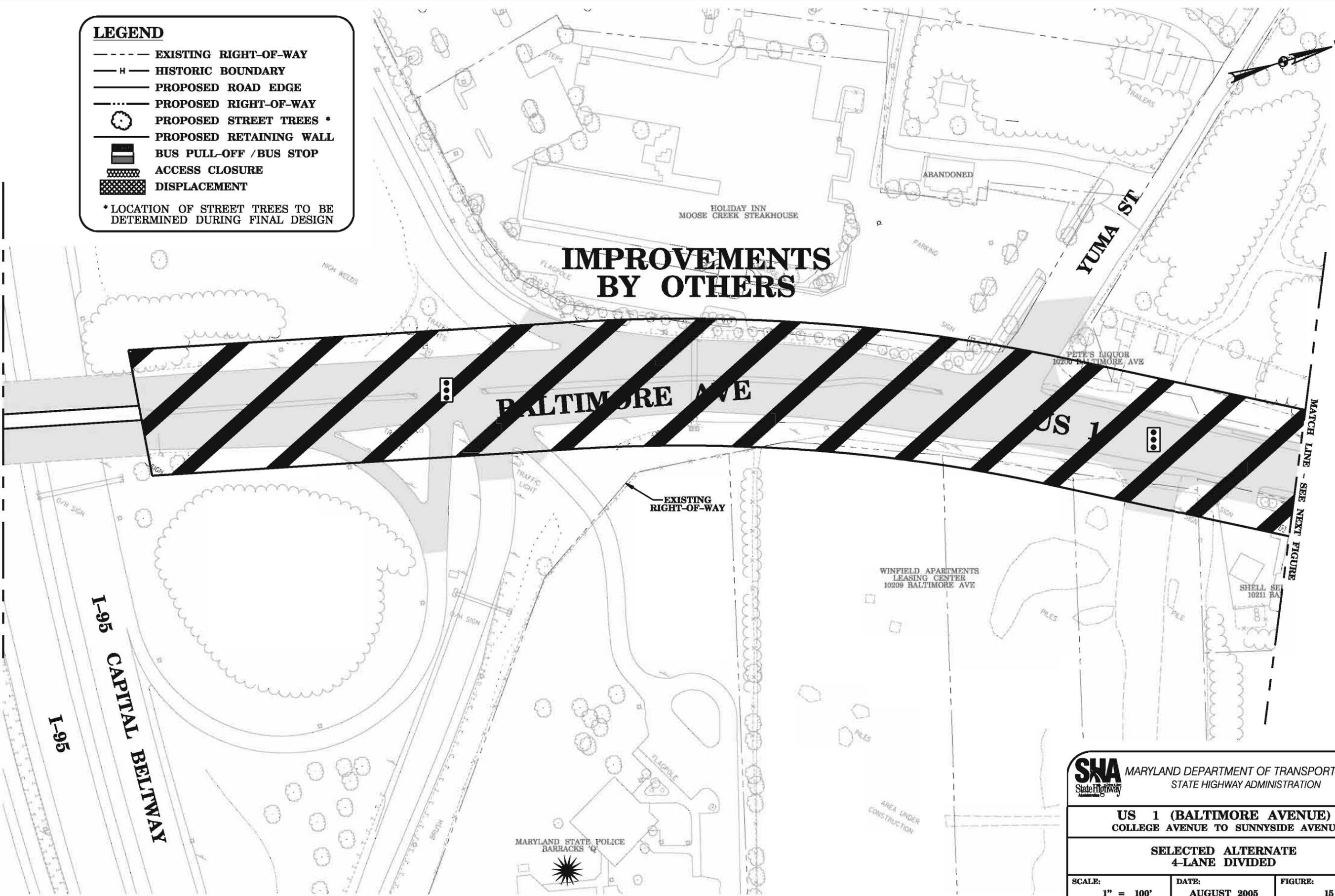
- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF /BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN

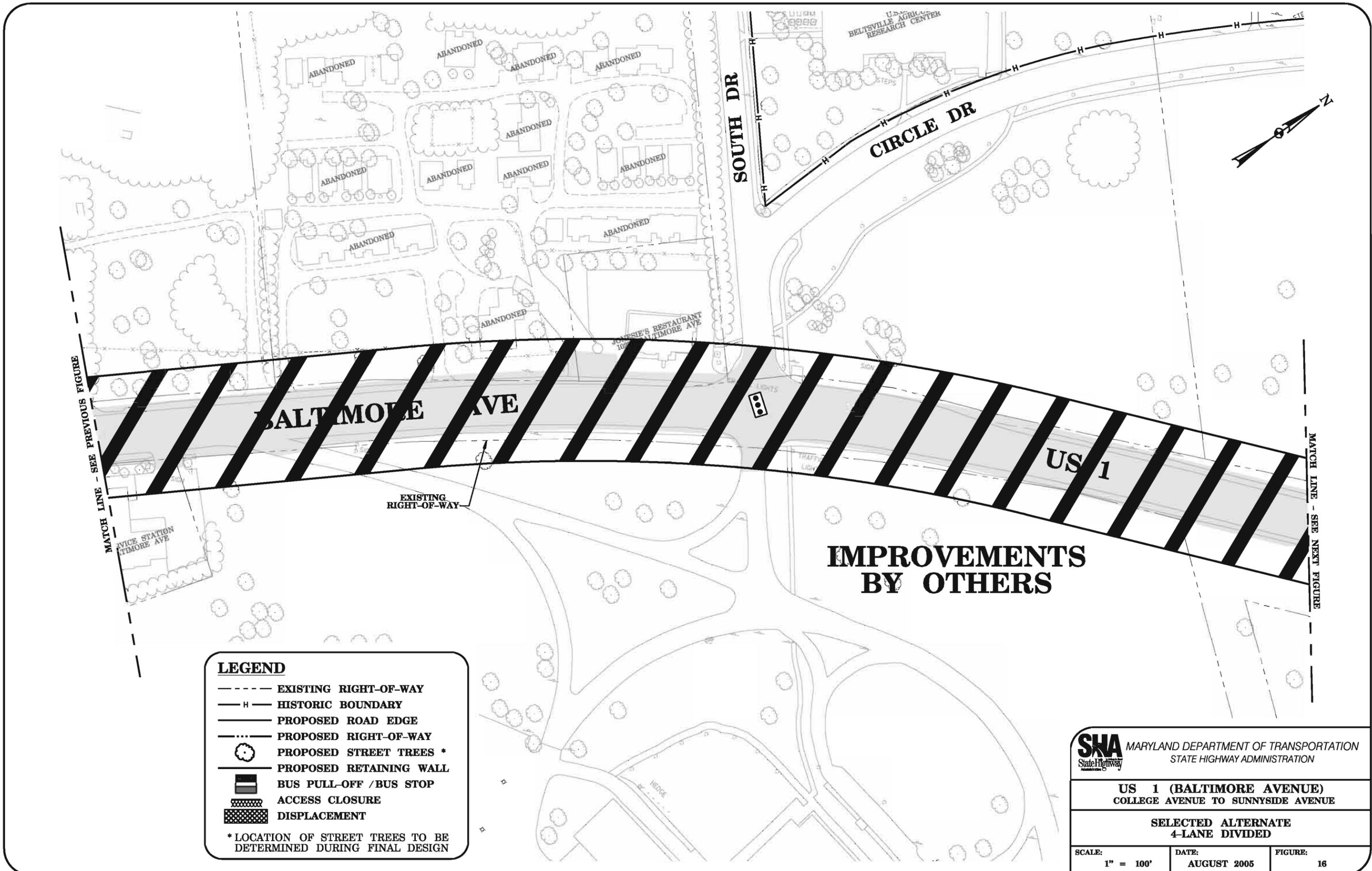
IMPROVEMENTS BY OTHERS

MATCH LINE - SEE PREVIOUS FIGURE

MATCH LINE - SEE NEXT FIGURE



MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION		
US 1 (BALTIMORE AVENUE) COLLEGE AVENUE TO SUNNYSIDE AVENUE		
SELECTED ALTERNATE 4-LANE DIVIDED		
SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 15



LEGEND

- EXISTING RIGHT-OF-WAY
- H - HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF / BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN

SHA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway ADMINISTRATION

US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

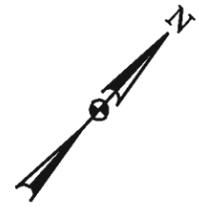
SELECTED ALTERNATE
4-LANE DIVIDED

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 16
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LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▬ PROPOSED RETAINING WALL
- ▬ BUS PULL-OFF / BUS STOP
- ▨ ACCESS CLOSURE
- ▩ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



MAINTENANCE - SEE PREVIOUS SUBMITTALS

EXISTING RIGHT-OF-WAY

BALTIMORE AVE

IMPROVEMENTS BY OTHERS

CIRCLE DR

JERRY'S SUBS & PIZZA

AMOCO FILLING STATION

US 1

SUNNYSIDE AVE

EXXON FILLING STATION

RAY'S USED CARS
1041 BALTIMORE AVE

MEXICANO RESTAURANT

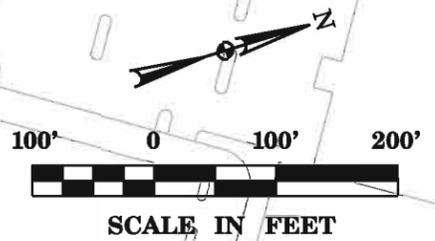
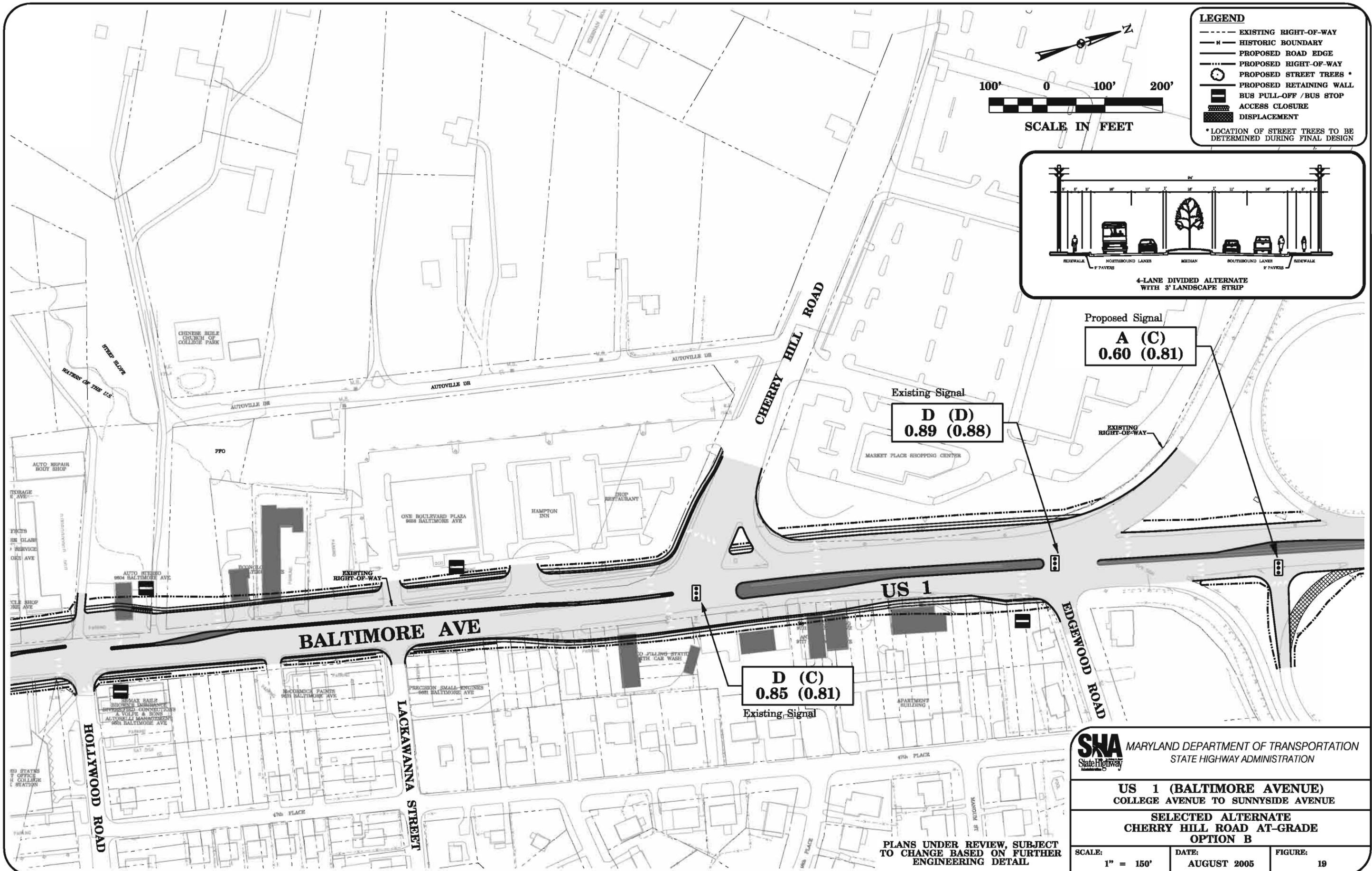
ARBY'S

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway ADMINISTRATION

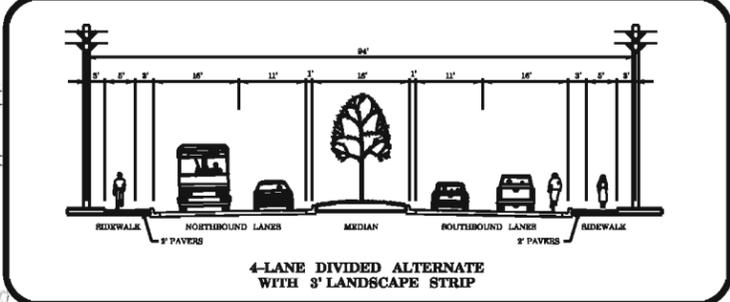
**US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE**

**SELECTED ALTERNATE
4-LANE DIVIDED**

SCALE: 1" = 100'	DATE: AUGUST 2005	FIGURE: 17
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- LEGEND**
- EXISTING RIGHT-OF-WAY
 - - - HISTORIC BOUNDARY
 - PROPOSED ROAD EDGE
 - PROPOSED RIGHT-OF-WAY
 - ⊙ PROPOSED STREET TREES *
 - ▬ PROPOSED RETAINING WALL
 - ▬ BUS PULL-OFF / BUS STOP
 - ▬ ACCESS CLOSURE
 - ▬ DISPLACEMENT
- * LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



Existing Signal
D (D)
0.89 (0.88)

Proposed Signal
A (C)
0.60 (0.81)

Existing Signal
D (C)
0.85 (0.81)

PLANS UNDER REVIEW, SUBJECT TO CHANGE BASED ON FURTHER ENGINEERING DETAIL

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
 State Highway STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
 COLLEGE AVENUE TO SUNNYSIDE AVENUE

SELECTED ALTERNATE
CHERRY HILL ROAD AT-GRADE
OPTION B

SCALE: 1" = 150'	DATE: AUGUST 2005	FIGURE: 19
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noted as potential concerns. In addition, the Team set out to improve the operations of the Edgewood Road intersection to an acceptable LOS.

The following describes the options developed and evaluated as potential solutions for improved safety and traffic flow from Hollywood Road to the I-495 (Beltway) ramps, in response to the concerns raised by the Team. All of the options discussed in this section were presented to the Focus Group, Business Community and property owners at various meetings throughout the many months of development as well as at a Public Informational Meeting. Impacts and costs pertaining to each of the Options are included in Section II since these options would be combined with a mainline alternate as described below.

a) **Cherry Hill Road Half-Bridge Interchange Option**

The Cherry Hill Road Half-Bridge Interchange Option was studied in an attempt to rectify the southbound weave and driver expectancy issues implicated with the Full Bridge Interchange. This Half-Bridge Option would provide a grade-separated crossing of the Cherry Hill Road intersection for southbound US 1 traffic, and would keep northbound traffic at-grade. The Half-Bridge Interchange would result in the Cherry Hill Road intersection operating at a LOS “A”/ (“C”) with a v/c ratio of 0.49/(0.80), however Edgewood Road would remain at a LOS “F”/ (“F”) with a v/c ratio of 1.23/(1.08). Even though this interchange configuration addressed operational concerns, this option was not recommended for selection because of design issues, including a high number of business displacements (9). In addition, this option did not resolve LOS issues at the Edgewood Road intersection.

b) **Beltway Loop Ramp Realignment – Edgewood Road Improvement**

In order to improve the LOS at Edgewood Road, it was necessary to realign the Beltway loop ramp that provides access to northbound US 1. Under the existing condition, the third northbound US 1 through lane ends at the entrance to the Beltway and the loop ramp traffic accessing northbound US 1 must weave with the two remaining northbound through lanes. However, as part of the at-grade improvements, the Study Team has proposed that the loop ramp be realigned and signalized as a “T-intersection” with a triple right turn. This configuration would allow for three northbound through lanes to continue across the Beltway overpass and

improve the Edgewood Road intersection LOS to a “D”/ (“D”) with a v/c 0.89/(0.88) condition from the existing LOS “F”/ (“F”) with a v/c 1.29/(1.25). The reconfiguration of the loop ramp would result in a LOS “A”/ (“C”) v/c 0.60/(0.81) at the “T-intersection” and would have the necessary storage capacity to prevent stacking back to the Beltway. The Loop Ramp realignment is included as part of the capacity improvements for the Autoville Drive Realignment Options as well as the At-Grade Improvement Options detailed below. The Beltway Loop Ramp realignment was recommended for selection because it provides an improved LOS (from “F” to “D”) at Edgewood Road in both the AM and PM peak in the design year 2020.

c) **Autoville Drive “Connector” Realignment**

In response to the issues associated with the grade-separated options (i.e. number of displacements and LOS “F”/ (“F”) at Edgewood Road), the Study Team investigated whether potential congestion improvements would result from the realignment of Autoville Drive. The Autoville Drive study originated from the Maryland National Capital Park & Planning Commission’s (M-NCPPC) Prince George’s County Sector Plan, adopted in 2001. The Sector Plan included an Autoville Road alignment that connected Cherry Hill Road and US 1 between the existing intersections at Market Place Shopping Center and Hollywood Drive. The Team looked to the Sector Plan recommendation as an opportunity to relocate the high volume of northbound left turns away from the Cherry Hill Road intersection, thereby improving the LOS.

Three Autoville Drive Options, A, B, and C, were developed. The three options maintain a County recommended 100-foot arterial typical section, similar to that proposed under the mainline US 1 - Four-Lane Divided Alternate. Autoville Drive, under all three options, is proposed as a four-lane roadway with 11-foot inside, 16-foot outside (to accommodate bicycle traffic) lanes, and a 20-foot median (to provide street trees and pedestrian refuge). The median would be reduced four to six feet in some areas to allow for left and U-turning vehicles. In addition, five-foot sidewalks, four-foot landscaped panels, and three-foot utility easements would be included in the typical section. It should be noted that the proposed typical section and design features of the proposed roadway are larger than intended in the Sector Plan in order to carry the higher forecasted traffic volumes. Option A reflects the “S-curve” alignment shown in the M-

NCPPC Sector Plan. Option B alignment is a more direct connection, avoiding potential wetland impacts. Option C is aligned the furthest to the west of the three options and minimizes direct impacts to existing structures and the identified wetland area.

In the design year 2020, the Autoville Drive realignments would provide a LOS of “E”/ (“C”) with a v/c ratio of 0.96/(0.81) for Cherry Hill Road, a LOS of “E”/ (“E”) with a v/c ratio of 1.00/(0.91) for Hollywood Road, a LOS of “A”/ (“A”) with a v/c ratio of 0.46/(0.60) for Cherry Hill Road/Autoville Drive/College Marketplace Shopping Center, and would incorporate the Loop Ramp improvements at Edgewood Road.

All three realignment options were analyzed for cost and traffic benefits, property/environmental impacts, and presented to the Focus Group, the US 1 business community, Autoville Drive property owners, and the general public at the June 2004 meeting. The Focus Group and business community generally supported the concepts, citing concerns with the proposed roadway width and impacts to businesses. However, community members and property owners in the Autoville Drive area were strongly opposed to the impacts to their properties resulting from the three proposed realignments. In response, the Team examined several variations of a narrower typical section (a two-lane and three-lane section). The analysis determined that a narrower typical section would not provide the necessary operational or safety characteristics that are the basis for developing these options. The narrower, two-lane typical section would not provide the necessary through movement and access (acceleration/deceleration lanes) to existing or future land uses. Likewise, the three-lane solution, providing two lanes in one direction and one lane in the other would lead to similar undesirable traffic conditions. Further, the increased width needed for turning lanes at the intersections would require a distance in excess of 500 feet to accommodate the transition from two to four lanes at both terminal points (Hollywood Road and Cherry Hill Road), resulting in an undesirable and potentially unsafe condition (an hourglass formation). The three Autoville Drive options were not recommended for selection for these reasons discussed above.

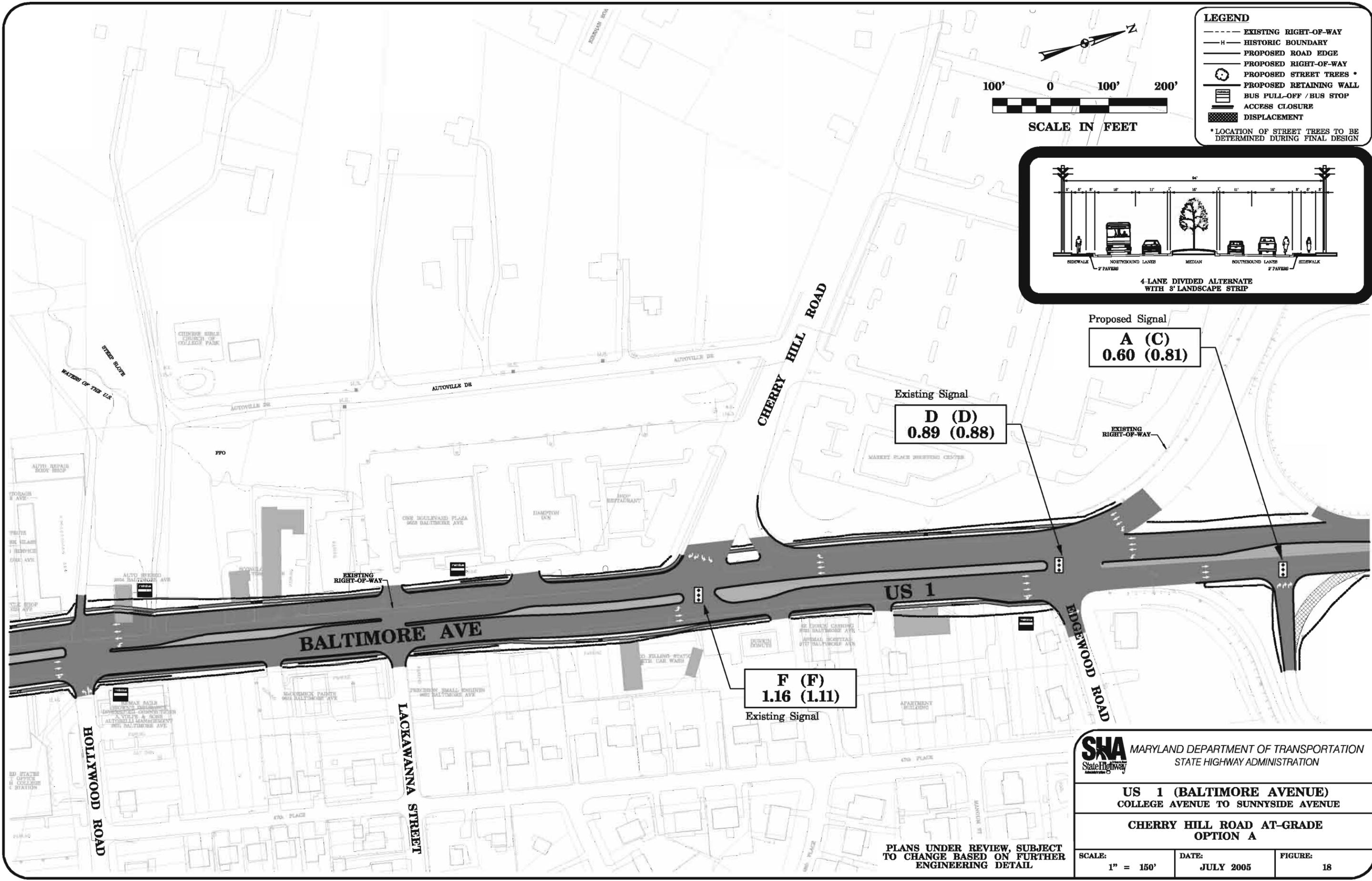
d) **Cherry Hill Road At-Grade Options A, B, C & D**

The Study Team also investigated measures to improve the LOS at the US 1/Cherry Hill Road intersection through at-grade intersection improvements as a means to lower both cost and community impact. These measures included reconfiguration of the intersection, through lane additions and widening. While all of these options would improve future conditions, only one (Option B) would achieve non-failing levels of service in the design year 2020.

At-Grade Option A shown as **Figure 18**, is the Four-Lane Divided At-Grade concept, which shows Cherry Hill Road as it is today with minor spot safety and operational improvements. The intersection's LOS is forecasted at an "F"/("F") with a v/c 1.16/(1.11) for the year 2020. This Option was not recommended for selection because the LOS would deteriorate in the design year 2020. Option A would not introduce any additional displacements beyond those of the Four-Lane Alternate.

At-Grade Option B, shown as **Figure 19**, includes the addition of one northbound US 1 through lane, an additional eastbound Cherry Hill Road left turn lane, an additional northbound left turn lane, and an additional southbound US 1 through lane. This configuration would result in a 10-lane footprint for US 1 and a five-lane footprint for Cherry Hill Road. Therefore, Option B, the most impactful at-grade intersection concept, presented nearly the same number of business displacements as the Full and Half Bridge interchange options (nine total displacements from Hollywood Road to the Beltway as a stand-alone, 16 when combined with the Four-Lane Alternate). Option B provides Cherry Hill Road/US 1 with the greatest LOS improvement, D/(C) with a v/c 0.85/(0.81) for the year 2020.

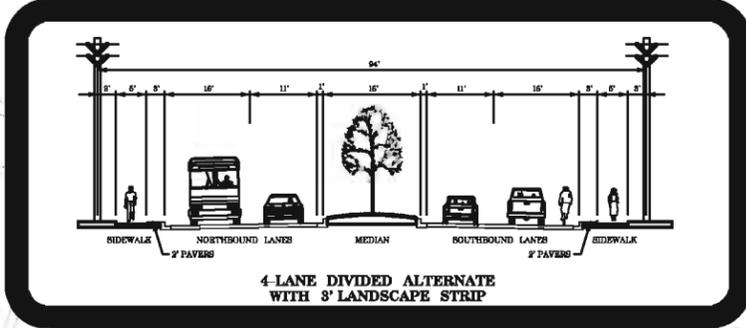
Under At-Grade Option B, the four southbound through lanes are transitioned to two lanes prior to Fox Street. These lane transitions were implemented to avoid additional property displacements and to match the mainline improvements typical section. The distances provided meet the AASHTO requirements for the double lane transition for four 12-foot lanes of traffic to two 12-foot lanes. This option was recommended for selection because it provides the most improved LOS (of the four options analyzed) in the design year 2020.



LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▭ PROPOSED RETAINING WALL
- ▭ BUS PULL-OFF / BUS STOP
- ▭ ACCESS CLOSURE
- ▭ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



Proposed Signal
A (C)
0.60 (0.81)

Existing Signal
D (D)
0.89 (0.88)

Existing Signal
F (F)
1.16 (1.11)

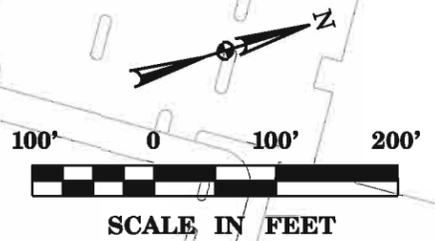
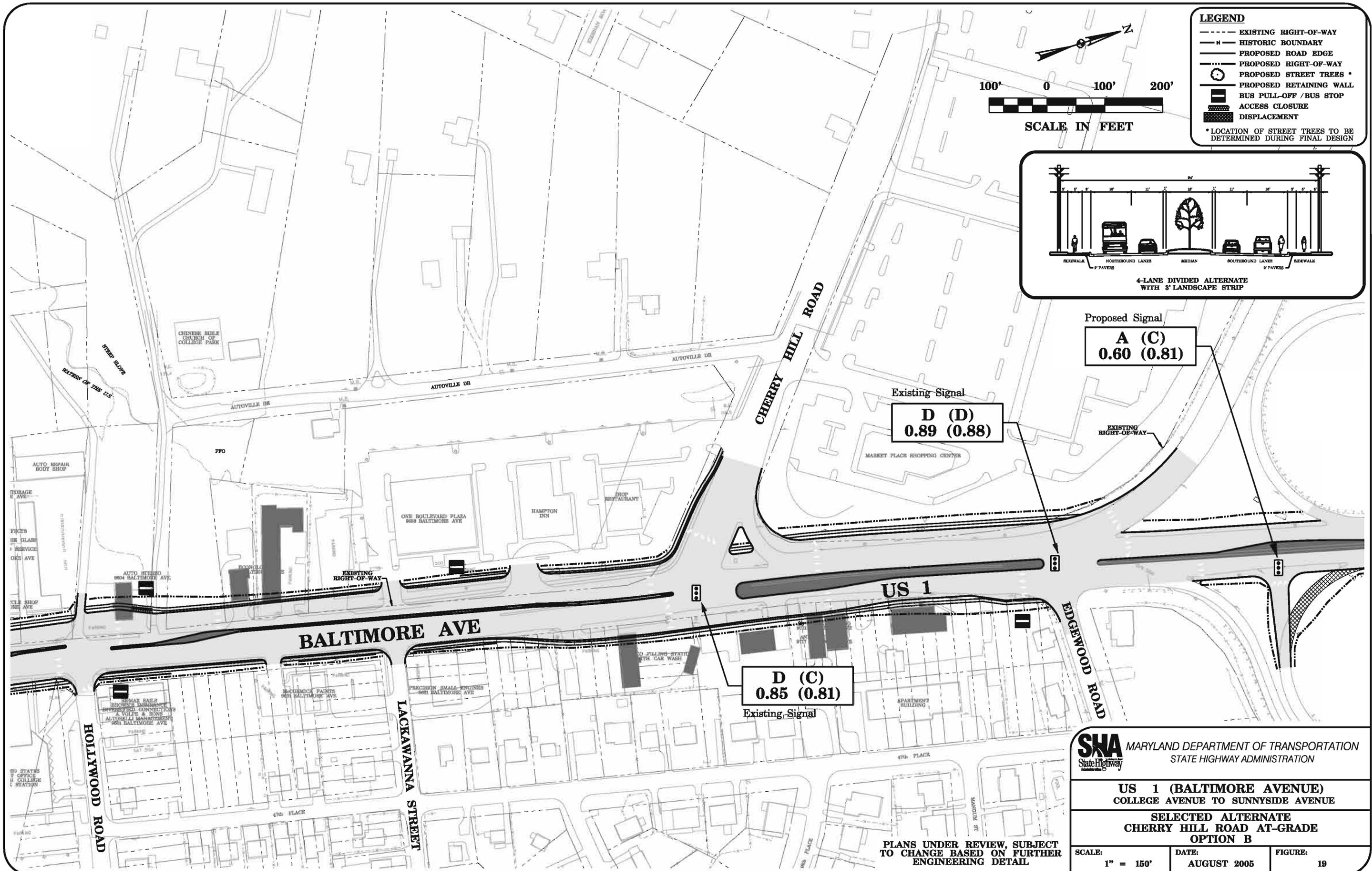
SHA MARYLAND DEPARTMENT OF TRANSPORTATION
 State Highway ADMINISTRATION

US 1 (BALTIMORE AVENUE)
 COLLEGE AVENUE TO SUNNYSIDE AVENUE

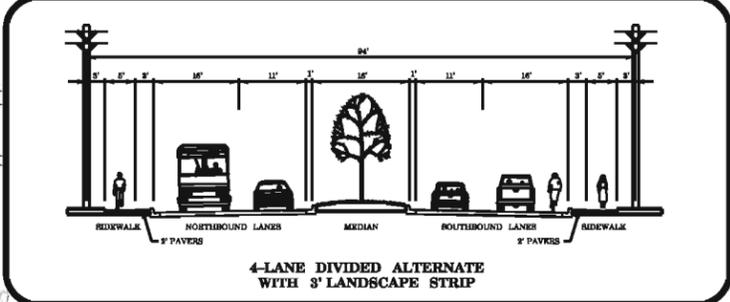
CHERRY HILL ROAD AT-GRADE
 OPTION A

PLANS UNDER REVIEW, SUBJECT TO CHANGE BASED ON FURTHER ENGINEERING DETAIL

SCALE: 1" = 150'	DATE: JULY 2005	FIGURE: 18
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- LEGEND**
- EXISTING RIGHT-OF-WAY
 - - - HISTORIC BOUNDARY
 - PROPOSED ROAD EDGE
 - PROPOSED RIGHT-OF-WAY
 - ⊙ PROPOSED STREET TREES *
 - ▬ PROPOSED RETAINING WALL
 - ▬ BUS PULL-OFF / BUS STOP
 - ▬ ACCESS CLOSURE
 - ▬ DISPLACEMENT
- * LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



Existing Signal
D (D)
0.89 (0.88)

Proposed Signal
A (C)
0.60 (0.81)

Existing Signal
D (C)
0.85 (0.81)

PLANS UNDER REVIEW, SUBJECT TO CHANGE BASED ON FURTHER ENGINEERING DETAIL

SNA MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway STATE HIGHWAY ADMINISTRATION

US 1 (BALTIMORE AVENUE)
COLLEGE AVENUE TO SUNNYSIDE AVENUE

SELECTED ALTERNATE
CHERRY HILL ROAD AT-GRADE
OPTION B

SCALE: 1" = 150'	DATE: AUGUST 2005	FIGURE: 19
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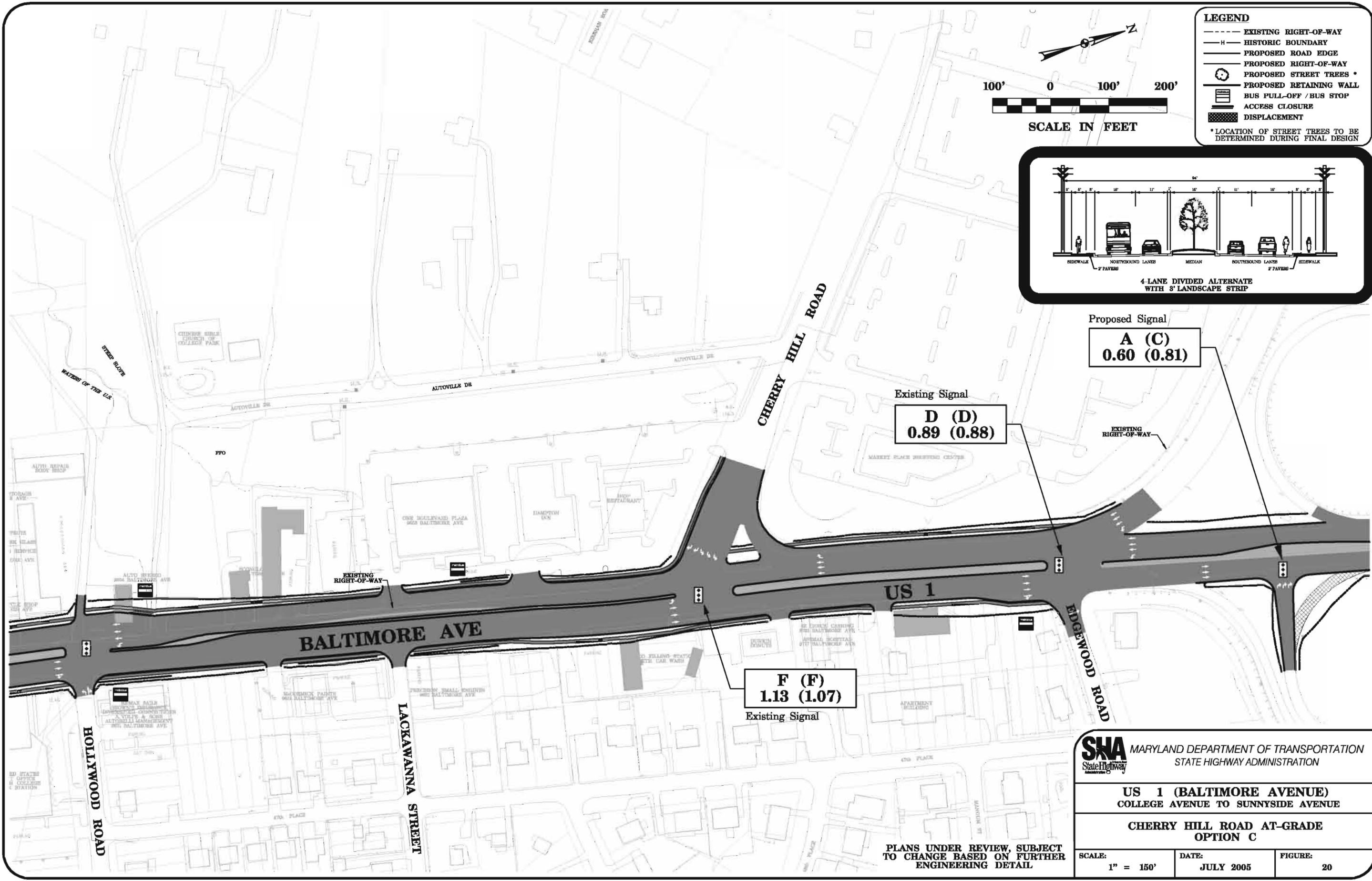
At-Grade Option C shown as **Figure 20** will add an additional northbound US 1 through lane as well as an additional Cherry Hill Road left turn lane for traffic turning onto northbound US 1. However, the addition of these two lanes will not provide adequate improvement or a non-failing LOS for the intersection to be cost effective. Option C will provide a LOS “F”/ (“F”) with a v/c 1.13/(1.07) for the year 2020 and will displace six commercial properties as a stand-alone project (13 displacements with Four-Lane Divided Alternate). This option was not recommended for selection because the LOS would deteriorate to an “F/F” in both the AM and PM peaks in the design year 2020.

At-Grade Option D shown as **Figure 21** included three through lanes on southbound US 1 while accommodating a double left turn from northbound US 1 onto Cherry Hill Road. While this configuration does not provide the Cherry Hill Road intersection with a non-failing LOS, “F”/ (“F”) v/c 1.05/(1.08), it does show marked improvement over the very poor forecasted future levels of service. Option D displaces six businesses as a stand-alone project (13 with Four-Lane). This option was not recommended for selection because the LOS in the design year 2020 is projected to be “F/F”.

The four At-Grade Intersection Options were analyzed for cost, property/environmental impacts, and were presented to the Focus Group and the US 1 Business Community. The Focus Group and Business Community generally accepted the concepts. However, they cited concerns with the proposed roadway and intersection widening and impacts to businesses, most notably Option B, the selected option. However, Option B was selected because it provides an optimum LOS. In response to the Focus Group and Business Community’s concern, SHA will investigate additional opportunities to further reduce right-of-way impacts during the design phase.

5. Environmental Reevaluation and Public Informational Workshop

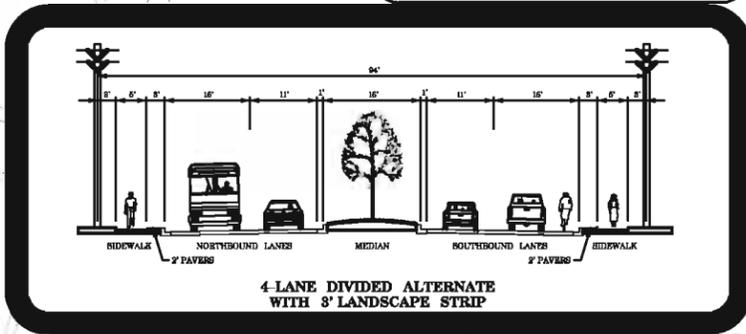
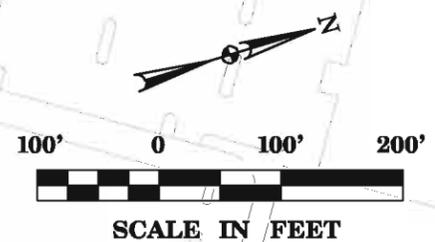
Following the evaluation and refinement of the options developed since the Public Hearing an Environmental Reevaluation of the Environmental Assessment (EA) was completed to address the additional Cherry Hill Road Options that had been developed. The Environmental Reevaluation included an adapted analysis of environmental impacts, secondary and cumulative



LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▭ PROPOSED RETAINING WALL
- ▭ BUS PULL-OFF / BUS STOP
- ▭ ACCESS CLOSURE
- ▭ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



Existing Signal
D (D)
 0.89 (0.88)

Proposed Signal
A (C)
 0.60 (0.81)

Existing Signal
F (F)
 1.13 (1.07)

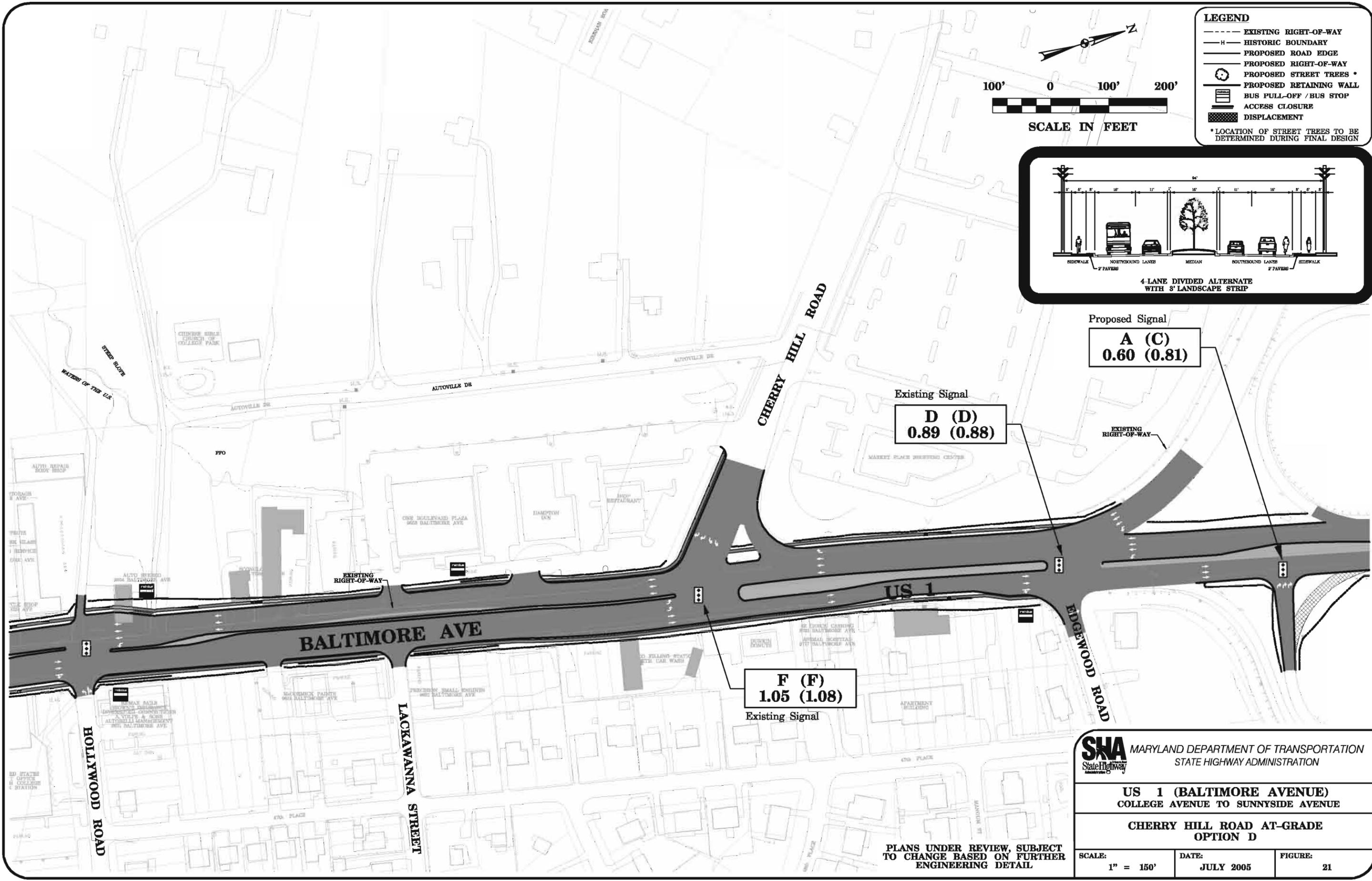
SHA MARYLAND DEPARTMENT OF TRANSPORTATION
 State Highway ADMINISTRATION

US 1 (BALTIMORE AVENUE)
 COLLEGE AVENUE TO SUNNYSIDE AVENUE

CHERRY HILL ROAD AT-GRADE
 OPTION C

SCALE: 1" = 150'	DATE: JULY 2005	FIGURE: 20
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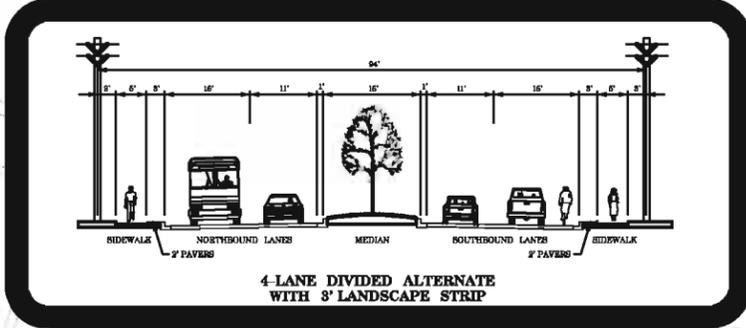
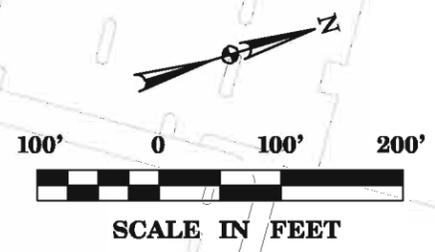
PLANS UNDER REVIEW, SUBJECT TO CHANGE BASED ON FURTHER ENGINEERING DETAIL



LEGEND

- EXISTING RIGHT-OF-WAY
- H- HISTORIC BOUNDARY
- PROPOSED ROAD EDGE
- PROPOSED RIGHT-OF-WAY
- ⊙ PROPOSED STREET TREES *
- ▭ PROPOSED RETAINING WALL
- ▭ BUS PULL-OFF / BUS STOP
- ▭ ACCESS CLOSURE
- ▨ DISPLACEMENT

* LOCATION OF STREET TREES TO BE DETERMINED DURING FINAL DESIGN



Proposed Signal
A (C)
0.60 (0.81)

Existing Signal
D (D)
0.89 (0.88)

F (F)
1.05 (1.08)
 Existing Signal

SHA MARYLAND DEPARTMENT OF TRANSPORTATION
 State Highway ADMINISTRATION

US 1 (BALTIMORE AVENUE)
 COLLEGE AVENUE TO SUNNYSIDE AVENUE

CHERRY HILL ROAD AT-GRADE
 OPTION D

PLANS UNDER REVIEW, SUBJECT TO CHANGE BASED ON FURTHER ENGINEERING DETAIL

SCALE: 1" = 150'	DATE: JULY 2005	FIGURE: 21
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effects, community and economic impacts, cost comparisons and full descriptions of all alternates considered to date. The Environmental Reevaluation was approved by FHWA in August 2004. In conjunction with the Environmental Reevaluation a Public Informational Workshop was held on June 23, 2004 to present the project developments since the Location/Design Hearing. A summary of the comments received at or following the Informational Workshop can be found in Section IV of this document.

Since the approval of the Environmental Reevaluation the number of displaced businesses from the Cherry Hill Road Bridge Interchange Options has been updated from six to eight. The Environmental Reevaluation used an approach by which six “commercial displacements” were quantified as the number of actual structures displaced by the Cherry Hill Road Full Bridge Interchange Option. However, some of the structures housed more than one business. Therefore, the team reassessed this approach and decided for the FONSI to quantify the number of businesses displaced rather than structures. This approach raises the number of displacements to eight with one additional out-building (impact to an out-building does not constitute a business displacement). Further, the number of stream crossings has been decreased from two (as stated in the Environmental Reevaluation) to one. The Paint Branch is the only stream crossed by the Selected Alternate, and because no modifications to the existing structure are planned, there will be no linear feet of impact to the stream.

6. Alternate Selection Meeting With the SHA Administrator

The Alternate Selection Meeting was held on August 9, 2004. The Study Team presented the alternates and options, answered questions, and provided the Team’s recommendation of the Four-Lane Divided Alternate with the Cherry Hill Road At-Grade Intersection Option B.

The Administrator agreed with the Team’s recommendation, but noted that Autoville Drive would more appropriately be implemented by developers, with the County’s approval, and should follow the Sector Plan’s scale and purpose for the rezoned parcels.

It was suggested that the area of displaced commercial properties along the east side of US 1 near the Cherry Hill Road intersection might be used as a future transit center. It was noted that this would be evaluated further as part of the design phase.

C. DESCRIPTION OF SELECTED ALTERNATE

The State Highway Administration has selected the Four-Lane Divided Alternate for mainline US 1 from College Avenue to Sunnyside Avenue (for detailed description see ARDS Presented at the Public Hearing; page III-18). In addition, the Cherry Hill Road At-Grade Intersection Option B was selected for the intersection of US 1 and Cherry Hill Road. The Selected Alternate also includes the reconfiguration of the US 1/Edgewood Road intersection and the I-95/Capital Beltway loop ramp. As previously discussed, the Four-Lane Divided Alternate was selected because this alternate meets the goals of the study most effectively. Pedestrian fatality was a major concern within the project area. One of the major goals of the study was to provide safety for pedestrians on US 1. The Four-Lane Divided Alternate addresses the safety component by providing a median that would serve as a refuge for pedestrians crossing US 1. The Cherry Hill Road At-Grade Intersection B was selected because it achieves a desirable LOS but would not result in additional business displacements.

In response to the suggestions made by elected officials, the Study Team will work with WMATA and Prince George's County to relocate the existing bus stop from Edgewood Road south to the area currently occupied by the gas station opposite of Cherry Hill Road. There may be opportunities for a transit center at this location. During the design phase, SHA will evaluate additional opportunities to limit the overall width/footprint of the project. In addition, SHA will be flexible with the design to address the following features:

- Whether additional median breaks are possible;
- Whether additional emergency vehicle access across the median is possible;
- Minimizing utility impacts;
- Parking impacts and internal circulation;
- Consolidation of access points;
- Sidewalk width and location and;

- Width of the outside travel lanes in constrained areas.

SHA's goal will be to minimize property impacts where possible during the design phase and to work with the operators of local businesses to identify and address concerns specific to each establishment.

D. ENVIRONMENTAL CONSEQUENCES OF SELECTED ALTERNATE

The US 1 study area is located in a highly urbanized region and therefore the majority of environmental consequences are related to human environmental features. This section discusses impacts of the Selected Alternate to socio-economic, natural and cultural resources. The mainline portion of the Selected Alternate is in conformity with the regional air quality plans and proposed improvements are designed to improve operation and safety without increasing capacity in the corridor, therefore noise impact and air quality micro-scale analyses are not required for the corridor. Further, due to the extensive commercial development lining the corridor, noise abatement is not feasible.

1. Socio-economic Environment

a) Displacements and Right-of-Way Acquisitions

The Selected Alternate would displace 16 commercial properties (14 active businesses and two unoccupied sites), and no residential properties. Strip right-of-way acquisition, totaling 14.9 acres adjacent to the existing roadway, would be required, affecting 76 properties within the study area. Of these properties, 75 are commercial and one is residential. SHA has determined there are suitable business relocation opportunities either within or in proximity of the highly urbanized US 1 study area. Those businesses to be relocated and their ultimate location will be determined during the design phase. A proven relocation assistance program is available through SHA to aid businesses in reestablishing at replacement sites. The appendix includes a copy of the updated SHA Relocation Assistance Program Summary.

b) MD State Highway Equal Opportunity Program/Title VI Statement

It is the policy of the Maryland State Highway Administration (SHA) to ensure compliance with the provisions of Title VI of the Civil Rights Act of 1964, and related civil rights laws and regulations which prohibit discrimination on the grounds of race, color, sex, national origin, age, and physical or mental handicap, in all SHA program projects funded in whole or in part by the Federal Highway Administration (FHWA). The SHA Equal Opportunity Program also addresses Executive Order 13166 Limited English Proficiency - LEP (issued August 11, 2000) to improve or provide meaningful access to federally conducted and federally assisted programs and activities for persons with LEP, as well as ensure LEP individuals receive appropriate language assistance services.

The SHA will not discriminate in highway planning, highway design, highway construction, right-of-way acquisitions, or the provision of relocation advisory assistance. This policy has been incorporated into all levels of the highway planning process in order that proper consideration may be given to the social, economic and environmental effects of all highway projects. (Alleged discriminatory actions should be addressed for investigation to the attention of Ms. Jennifer Jenkins, Director, Office of Equal Opportunity, 707 North Calvert Street, Baltimore Maryland 21202).

c) Environmental Justice

Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations* issued on February 11, 1994, requires federal agencies to “identify and address as appropriate, disproportionately high and adverse human health or environmental effect of its programs, policies, and activities on minority populations and low-income populations. Minority is defined as “individuals who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black, not of Hispanic origin, or Hispanic.” Further, low-income is defined as a person whose median household income is at or below the Department of Health and Human Services poverty guidelines (\$19,350 for a family of four, updated 2005). These populations are to be provided access to public information and opportunity to participate in matters relating to the environment.

Based on a review of census data, the Lakeland Community is the only environmental justice population identified within the study area. The SHA conducted two meetings with the Lakeland Civic Association to inform the community of proposed improvements to US 1, to solicit comments and concerns related to the project, and also to encourage their continued involvement through the public participation process. One concern specific to improvements to US 1 within the Lakeland Community was access to Berwyn House Road. The community advised that the traffic signal now located at Navahoe Street would be more effective if it were relocated to the Berwyn House Road intersection. Due to its proximity to the intersection at Melbourne Place, the Selected Alternate would remove the traffic signal at Navahoe Street, and access from Navahoe Street to southbound US 1 would be closed by the median. To address local citizen concerns as well as using recommendations from a prior study of US 1, the traffic signal at Navahoe Street will be relocated to Berwyn House Road as part of the Selected Alternate.

Another concern of the community is the direct impact to Lakeland Community properties along US 1. The community requested that SHA study whether it would be feasible to construct the improvements to US 1 without impacting their properties. With the Selected Alternate there are no direct right-of-way acquisition impacts to the Lakeland Community, only impacts to the frontage of commercial properties directly adjacent to US 1 in the vicinity. The existing Amoco Gas Station is the only displaced property in the area of the Lakeland Community. Further, the access to this neighborhood is enhanced by the signal relocation noted above. Median breaks at Berwyn House Road, Melbourne Place, and Lakeland Road will provide access to the community. The intersections at Melbourne Place and Lakeland Road will continue to be signalized. In addition, there will be a left turn storage area along southbound US 1 for vehicles turning into Berwyn House Road. Pedestrians and bicyclist traveling to and from Lakeland Community will benefit from the improved safety and mobility provided by the upgraded sidewalk and bike lane elements of the Selected Alternate.

The Selected Alternate would not adversely or disproportionately affect minority or low-income communities. This conclusion is based on the limited nature and extent of direct impacts

to the Lakeland Community, as well as coordination with community in addition to the benefits of the US 1 improvements previously discussed.

d) Effects on Neighborhoods, Community Facilities and Services

The Selected Alternate would not impact the cohesion of the adjacent neighborhoods or cause changes in patterns of social interaction. Existing access routes will be consolidated, and landscaped median strips placed along US 1 will modify access points to the neighborhoods. This will limit the number of conflict points for motorists crossing oncoming traffic, creating a safer environment while maintaining access to neighborhoods.

The Selected Alternate will not impact any religious institutions or recreational facilities. Construction impacts to public sewer and water services and to the access points for the University of Maryland, the University Police Department and the Ritchie Coliseum will be temporary. Although the addition of a through lane in each direction will require ten feet of right-of-way from the College Park War Memorial, there will be no direct modification of the display. However, aesthetic improvements such as landscaping, utility relocation and other unifying elements, consistent and coherent visual themes to the Memorial will be included as part of the beautification and landscaping plan for the Selected Alternate. SHA will continue coordinate with the University of Maryland and the City of College park during final design to ensure that the aesthetic improvements are consistent with the goals for the community.

Although access to the College Park Fire and Rescue service would remain unchanged, the firehouse frontage would be impacted. Design elements such as retaining walls, typical section modification and/or lane shifts will be considered during the design phase of the study to minimize these frontage impacts. The College Park Fire and Rescue service (with support from other local Fire and Rescue services) has expressed several concerns with the Selected Alternate, including longer response times to reach accident locations (due to the reduction in median openings), difficulty parking, U-turns, and blocking one or more lanes of traffic during an accident. SHA, in meetings with the Fire and Rescue Service, has discussed providing additional hydrants as well as special median breaks and/or mountable curbs. SHA will continue coordination with the Fire and Rescue Service regarding incorporating these elements into the

project. The decisions to implement these features will be a part of the detailed design process. The additional width provided by the 16-foot wide outside lane will also accommodate motorists pulling over to yield to emergency vehicles. Several Focus Group and Study Team members have suggested adding emergency preemption equipment to traffic signals, allowing emergency vehicles to control signal phasing. The feasibility of implementing preemption and other intelligent transportation system applications will be evaluated during the detailed design phase of the study.

e) **Economic Impacts**

In addition to the 16 business displacements (14 active businesses) previously mentioned, the reconstruction of US 1 will impact access to and parking of many of the existing businesses in the study area, causing some minor changes in turning radii and striping in the parking areas. The locations of the curb breaks along the entire length of the improvement would remain relatively unchanged, although several existing access points would be closed and/or consolidated to improve safety and operations.

Approximately 76 businesses along US 1 would be impacted by landscaping and/or signage, and 34 of those businesses will lose parking spaces. The study team estimates that there will be a total of 321 parking spaces impacted during the construction phase (see **Table III-6** for estimated parking impacts per business). However, there is available space to relocate parking on-site for most of these businesses. It is estimated that at least 260 parking spaces can and will be recouped on-site through the corridor. Excluding those businesses that will be displaced, adequate parking spaces will remain for those businesses where insufficient area exists on-site to relocate parking. No adverse effects to commercial income are expected as a result of parking impacts.

**Table III-6
Potential Parking Stall Impacts Per Business**

Business	Potential Parking Stall Impact Estimates
College Park VFD #12	9
Town Hall Food Liquor	7
McDonald's	1
Koons Ford Used Cars	13
Koons Ford	20
CACI	9
Abandoned for Lease	4
Burger King	2
Attitude Boardshop	8
Best Western Maryland Inn	22
Terrapin Taco House	2
Comfort Inn and Suites	7
College Park Pizza Hut	16
Fair Lanes Bowl	20
Ststae Employees Credit Union	9
China Buffet	12
Atlantic Paging/Donut Shop	9
Howard Johnson Express	2
Ramada Inn	1
Days Inn	10
Super 8 Motel	2
ICE Inc/Finalnd	9
Barnside Diner	3
American Legion	12
Barefeet Shoes	5
Shell Auto Service	2
DarCars Auto	10
Office Furnture	6
Mr. Sign	4
Phase	5
Jordan Kitt's Music	15
College Park Boat & RV	2
Tite Motorcycle Shop	12
US Post Office	9
One Boulevard Plaza	20
IHOP	22
TOTAL	321

The improvements proposed under the Selected Alternate would support planned economic development by providing improved and aesthetically appealing access to the commercial areas and the City of College Park, thereby having a positive effect on the County's tax base and revenues. Some initial revenue reduction to the City and/or County could result due to the 14 active commercial property displacements. However, over the long term, there may be a net increase in the tax base as development and re-development occurs in the revitalized study area. **Table III-7** itemizes the estimated yearly losses in property tax revenues to the City and County and provides an estimated number of employees for each potential displacement. However, because opportunities exist to relocate businesses within the vicinity, losses in tax base, revenues and employment are not anticipated to approach the totals indicated in the table and will be partially (if not fully) recouped as relocations are finalized during the design phase. No long-term detrimental effects to the local economy are expected to result from the potential relocations.

Table III-7
Estimated Yearly Losses in City and County Real Property Tax Resulting from Displacement of Active Business – Based on County Assessments

Business	Estimated City Property Tax	Estimated County Property Tax	Estimated No. of employees
Amoco Service Station – 8153 Baltimore Ave	\$816	\$2,867	8
Jenkins Garage – 9001 Baltimore Ave	\$750	\$2,636	5
Enterprise Rent-a-Car/Charlie's Crab House – 9321 Baltimore Ave	\$653	\$2,296	9/8
Watercraft Waterbeds – 9339 Baltimore Ave	\$410	\$1,444	4
Auto Stereo – 9604 Baltimore Ave	\$1,327	\$4,664	8
Econolodge Motel– 9624 Baltimore Ave	\$2,385	\$8,382	15
Econolodge Office – 9624 Baltimore Ave	\$544	\$1,911	4
Amoco Filling Station with Car Wash – Baltimore Ave	\$1,305	\$4,585	8
Dunkin Donuts – Baltimore Ave	\$1,255	\$4,411	10
EZ Check Cashing – 9721 Baltimore Ave	\$940	\$3,305	6
College Park Animal Hospital – 9717 Baltimore Ave	\$641	\$2,254	8
Allstate Insurance/Masters Tuxedos – 9723 Baltimore Ave	\$2,343	\$8,236	22/4
Total Losses	\$13,369	\$46,991	119

f) Visual Impacts

The future aesthetic character of US 1 will contribute to the success of the businesses located along US 1. Therefore, during the design phase of the study, signage location and visual impacts to properties will be an important factor in deciding how landscaping, utility pole relocation and aesthetic features are applied to the corridor. Many businesses along the US 1 corridor rely upon the ability to be seen by passing motorists; therefore the business community is concerned that signage may obstruct the view of their businesses.

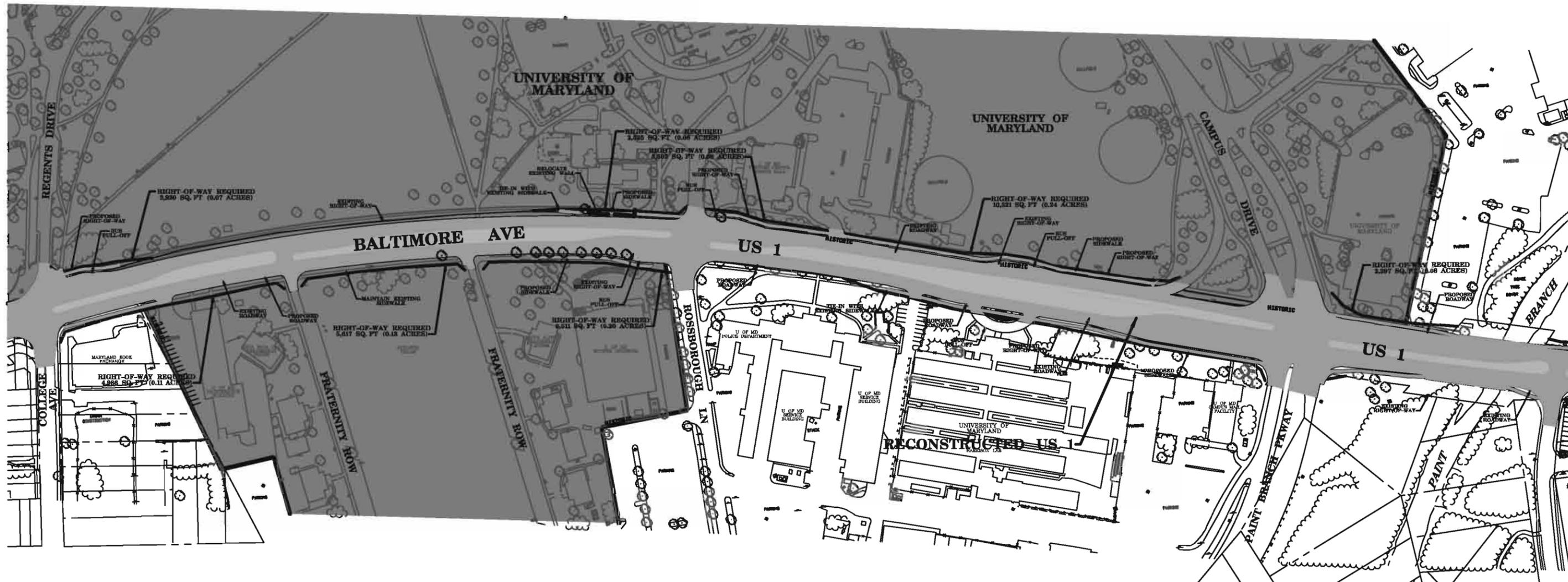
g) Effects on Cultural Resources

Two historic resources have been identified in the study area, both of which are eligible for the National Register of Historic Places; the University of Maryland-College Park Historic District (UMD-CP Historic District) shown on **Figures 6 and 7**, and the Beltsville Agricultural Research Center shown on **Figure 2**. Although there are eight individual locations where right-of-way totaling 0.95 acre is required from within the UMD-CP Historic District, no single area of impact is greater than 0.24 acre (**Figure 22**). Several physical features will be altered within the UMD-CP Historic District, including a 100-foot long decorative wall, located along US 1 in front of the University of Maryland campus, beginning at Paint Branch and ending at College Avenue, and several existing trees, however, none of these features are contributing elements to the historic district. The wall will be reconstructed several feet back from its original location and many more trees associated with the roadway typical section will dot the landscape throughout the UMD-CP Historic District. Because there are no physical improvements north of the Capital Beltway (I-495/I-95) being proposed as part of this study, impacts to the Beltsville Agricultural Research Center are not expected. Within the UMD-CP Historical District there are no differences in impacts between the 4-Lane and 5-Lane Alternatives.

Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. 303 (c)) permits the use of land from a publicly owned public park or recreation area, wildlife refuge, or historic site (as determined by the officials having jurisdiction over the resource) only if there are no feasible and prudent alternates to using that land and the action includes all possible planning to minimize harm to the protected property resulting from this use. Section 4(f) does not apply

**UNIVERSITY OF MARYLAND
HISTORIC PROPERTY IMPACTS**

DECORATIVE WALL \cong 100 L.F.
 TREES TO BE REMOVED \cong 11
 TREES TO BE ADDED \cong 80
 TOTAL RIGHT-OF-WAY REQUIRED \cong 0.94 ACRES



LEGEND

- EXISTING ROADWAY
- EXISTING RIGHT-OF-WAY
- HISTORIC BOUNDARY
- PROPOSED ROADWAY
- PROPOSED SIDEWALK
- PROPOSED RIGHT-OF-WAY
- ⊗ ⊗ TREES TO BE REMOVED

MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION PROJECT PLANNING DIVISION		
US 1 (BALTIMORE AVENUE) COLLEGE AVENUE TO SUNNYSIDE AVENUE		
IMPACTS TO UNIVERSITY OF MARYLAND HISTORIC PROPERTY		
SCALE: 1" = 200'	DATE: JULY 2005	FIGURE: 22

where a property is not individually historic, is not an integral part of the historic district in which it is located, and does not contribute to the factors which make the district historic. In addition, the project must not adversely affect the integrity of the historic district.

In a letter dated March 22, 2001, the Maryland Historical Trust concurred that the decorative wall and trees are not contributing elements to the historic district and therefore, project would have no adverse effect on historic properties. Because the project will not adversely affect the integrity of the Historic District, a Section 4(f) evaluation is not required.

2. Natural Resources

The US 1 study area is located in the Paint Branch watershed. Paint Branch was identified as the only Waters of the U.S. within the project area. No direct impacts to any wetlands or Waters of the U.S., as well as any water supply wells, will result from the Selected Alternate. Coordination with the Maryland Department of Natural Resources (DNR) Wildlife Division, and the U.S. Fish and Wildlife Service (USFWS) indicates that there are no records of any threatened, endangered, or special concern species within the study area. The Selected Alternate will require only slight grade changes in the topography of the US 1 corridor as a result of the roadway reconstruction.

The Selected Alternate would require less than two acres of pervious surfaces to be converted to impervious surfaces for roadway widening. This conversion may have a minor impact on groundwater recharge in the immediate vicinity of the project. Additionally, minor grading and filling of approximately 0.7 acre is required within the 100-year floodplain of Paint Branch. No modifications to the existing structure over the Paint Branch are planned and therefore no linear impacts to the stream are anticipated. This impact will not affect the natural and beneficial value of the floodplain, however, a non-tidal wetlands and waterways permit, issued by the Maryland Department of Environment (MDE), may be required.

3. Hazardous Materials

A Phase I Site Assessment was performed in October 2000 and identified fifteen sites with potential hazardous materials (see **Table III-8**). The Selected Alternate will require the displacement of four properties determined to have the potential for a high risk for contaminants, two properties determined to have a medium-high risk, and one property determined to have a medium risk for contaminants. During the final design phase of the project investigations will be conducted to determine if any contamination of the soils has occurred on those properties with high, medium-high and medium risk for contaminants. Depending upon the type and extent of contaminants encountered, if any, appropriate measures will be taken. These may include removal, encapsulation, and remediation.

Table III-8
Potential Displacement Properties with Documented or
Potential Contamination Problems

Business	Contamination Risk Potential
AJR Inc. EZ Check Cashing	High
Amoco Service Station	High
Jenkins Garage	High
Amoco Service Station	High
Animal Hospital	Medium/High
Water Craft Waterbeds	Medium/High
Enterprise Rent-A-Car	Medium
Allstate Insurance	Low
Masters Tuxedo	Low
Dunkin Donuts	Low
Econolodge Motel	Low
Auto Stereo	Low
Charlie's Crab House	Low
Abandoned Lot	Low
Abandoned Lot	Low

4. Air Quality

As mentioned previously, the mainline portion of the Selected Alternate is in conformity with the regional air quality plans and proposed improvements are designed to improve operation and safety without increasing through traffic capacity in the corridor, therefore air quality micro-scale carbon monoxide (CO) analysis were not required corridor wide. However, with the addition of the Cherry Hill Road At-Grade Option, capacity will be increased and therefore a micro-scale analysis was performed for this location.

Prince George's County is not designated as non-attainment for CO, Nitrogen Dioxide (NO₂), Sulfur Dioxide (SO₂), Lead (Pb) or particulate matter (PM₁₀), but is designated as a serious non-attainment area for ozone (O₃). Since the project area is designated non-attainment for ozone, the region is subject to transportation control measures such as the Vehicle Emissions Inspections Program.

a) Conformity with Regional Air Quality Planning

The corridor is located in an ozone non-attainment area, and therefore conformity to the State Implementation Plans (SIP) is determined through a regional air quality analysis performed on the Transportation Improvement Plan (TIP) and transportation plan. The Selected Alternate as proposed is consistent with the transportation plan and current TIP.

b) Microscale Air Quality Analysis

A detailed microscale air quality analysis was performed during the preparation of the Environmental Reevaluation to determine the local CO impact of the proposed Cherry Hill Road At-Grade Options. The concentrations are all below the State and National Ambient Air Quality Standards (S/NAAQS) of 35 parts per million (ppm) in the one-hour and 9 ppm in the eight-hour analyses. A copy of the technical analysis report is available at the Resource Center, State Highway Administration, 707 North Calvert Street, Baltimore, Maryland 21202.

5. Secondary and Cumulative Effects Analysis (SCEA)

A Secondary and Cumulative Effects Analysis (SCEA) evaluates the impacts of all past, present, and reasonably foreseeable future actions. Secondary effects are those impacts that are “caused by an action and are later in time or further removed in distance but are still reasonably foreseeable”.. Cumulative effects are those “impacts on the environment which result from incremental impact of the action when added to other past, present, and reasonably foreseeable future actions”, regardless of what entity (federal or non-federal) or person undertakes such actions. Secondary and cumulative impacts may occur shortly after project construction, or may occur over many years. A detailed analysis of the potential for secondary and cumulative effects that could result from this project is included in the Environmental Assessment.

Temporal and geographic boundaries were developed to encompass all resources that could be affected. The temporal boundary for the SCEA extends from 1960 to 2020. The geographic boundary is similar to the city limits of College Park and additionally includes a large portion of the Paint Branch Stream Valley Park and a satellite of the National Agricultural Center.

The Selected Alternate for the US 1 project is consistent with land use proposed in the City of College Park Sector Plan. As such, constructing the US 1 improvements would have a positive effect on planned land use within the study area. There are no anticipated changes to the rate and type of planned development, as established by the City’s Sector Plan, from the implementation of the Selected Alternate and therefore no secondary effects on resources are expected.

No direct impacts to wetlands, groundwater, threatened or endangered species, wildlife habitat, surface water, forests or park and recreation areas are expected to result from the Selected Alternate. Similarly, as only minimal direct impacts would result from the Selected Alternate, this project is not expected to result in more than a minimal contribution to cumulative effects on any resources.

E. MITIGATION

1. Socio-economic and Cultural Resources

Relocation of any businesses displaced by this project would be accomplished in accordance with the Uniform Relocation Assistance and Land Acquisition Policies Act of 1970 (42 USC 460 D) as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987, P.L.100-17 and could be accomplished in a timely and humane fashion. A “Summary of the Relocation Assistance Program of the State of Maryland” is provided in the appendix of this document.

To soften the visual impact of the overhead utilities, a three-foot wide utility easement area has been incorporated between the sidewalk and right-of-way line. Tree plantings will partially shield utility poles and provide a sense of separation between the roadway and the utility line. The addition of the tree panels, brick pavers, bus pull-offs, and improved pedestrian and bicycle accommodation all contribute toward US 1 gaining a visual identity as the gateway to College Park and the University of Maryland. The brick pattern and landscaping would be developed to complement the visual theme already in place on the University of Maryland Campus. Aesthetic improvements to the College Park War Memorial will be included as part of the beautification and landscaping plan for the Selected Alternate. SHA will continue coordination with the University of Maryland and the City of College Park during final design to ensure that the aesthetic improvements are consistent with the goals for the community.

Design elements such as retaining walls, typical section modification and/or lane shifts will be considered during the design phase of the study to minimize frontage impacts to the College Park Fire and Rescue facility. SHA will continue coordination with the Fire and Rescue Service through final design regarding incorporating these and other design elements into the project.

The decorative wall located within the University of Maryland-College Park Historic District along US 1 in front of the University of Maryland campus, will be reconstructed several feet back from its original location and additional trees associated with the roadway typical

section will be included in the landscaping plan throughout the Historic District. The wall and trees are not considered contributing elements to the historic district. The Maryland Historical Trust (MHT), in a letter dated March 22, 2001, concurred that the decorative wall and trees are not contributing elements to the historic district and therefore, the project will have no adverse effect on historic properties. The need for further coordination with MHT regarding landscaping within the Historic District will be evaluated and determined during final design.

2. Natural Resources

Roadway construction often causes short-term impacts to the surrounding natural resources. Erosion and sediment control plans, identifying Best Management Practices to minimize sedimentation, will be submitted to and approved by the Maryland Department of the Environment (MDE). Mitigation techniques may include silt fencing as well as measures to vegetatively stabilize any areas disturbed during construction adjacent to Paint Branch. Additionally, impacts to the Paint Branch floodplain will be minimized.

Stormwater management strategies for the US 1 project will be investigated during design phase of the project. Infiltration trenches, preferred by MDE for stormwater management, may be feasible if it can be demonstrated that infiltration rates of the soils in the area are sufficient and if groundwater levels are sufficiently deep. Soil borings will be performed during design to determine the feasibility of constructing infiltration trenches. Alternative strategies may include extended detention and retention.

3. Hazardous Materials

Phase II assessments will be conducted at the following seven properties during final design: two Amoco service stations, Jenkins auto garage, AJR Inc. - EZ Check Cashing, Animal Hospital, Watercraft Waterbeds and Enterprise Rent-a-Car. Prior to any project construction coordination with the MDE will be initiated. Any soil found to exceed MDE standards for contamination will be disposed of at an approved off-site facility. SHA through coordination with MDE will develop a plan for disposal or use of soil with a contamination level between ½ the MDE standards and the MDE standards. The plan will include the proposed location and use

of the material and proposed handling operations. Special protective measures for workers may also be required.