

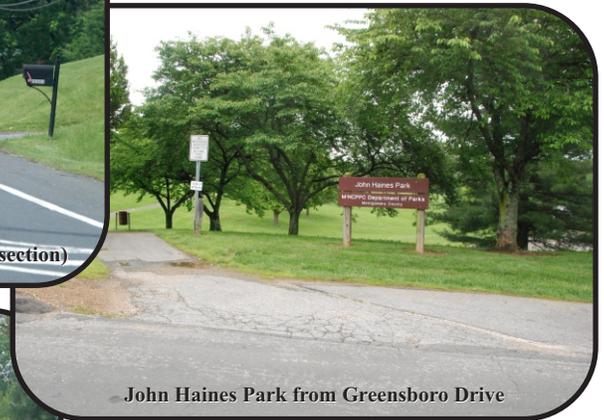
Oak Drive/Ridge Road (MD 27) Sidewalk Improvement Project

Phase I Facility Planning Study Draft Project Prospectus

June 2011



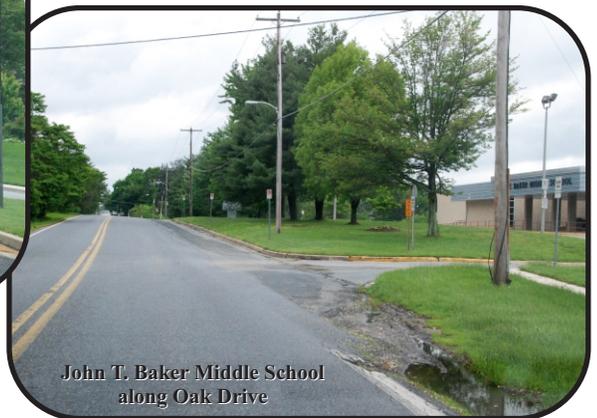
Pedestrians on MD 27 at Oak Drive (north intersection)



John Haines Park from Greensboro Drive



School children on Oak Drive at Avonlea Ridge Place



John T. Baker Middle School
along Oak Drive



Montgomery County Department of
Transportation
Planning

<http://www2.montgomerycountymd.gov/DOT-DTE/Projects/ProjectHome.aspx>

TABLE OF CONTENTS

EXECUTIVE SUMMARY	<i>i</i>
Introduction.....	<i>i</i>
Project Background and Description	<i>i</i>
Project Purpose	<i>iii</i>
Project Need.....	<i>iii</i>
Alternatives Evaluated.....	<i>iii</i>
Team Recommended Alternative	<i>iii</i>
 PROJECT STUDY INFORMATION TABLE	 <i>vii</i>
 STUDY TEAM CONTACT INFORMATION	 <i>xiii</i>

I. PROJECT PURPOSE AND NEED

A. Project Background and Description	1
B. Area Master Plan Recommendations	4
1. Oak Drive / MD 27 Roadway Recommendations	4
2. Pedestrian and Bikeway Network Recommendations	4
C. Project Purpose	5
D. Project Need.....	10
1. Community	10
2. Transportation Demand	10
3. Pedestrian / Bicycle Facility Deficiencies	12
4. Safety Issues and Crash Data.....	12
5. Multimodal Access	13
E. Summary	16

II. ALTERNATIVES EVALUATION

A. Introduction	17
B. Existing Conditions.....	17
1. Roadway Geometry	17
2. Pedestrian and Traffic Volumes	19
C. Alternatives Analysis	20
1. Alternative 1: No-Build	21
2. Alternative 2: Master Plan Alternative (Dropped)	21
3. Alternative 3: Modified Master Plan Alternative (Recommended Alternative).....	23
4. Comparison of Alternatives.....	24
D. Considerations During Final Design.....	31

III. IMPACT ANALYSIS

A. Introduction..... 33
 B. Natural Environmental Resources..... 33
 C. Cultural Resources 35
 D. Socioeconomic Resources..... 35
 E. Utilities and Traffic Signals 37
 F. Transit 37

IV. PUBLIC PARTICIPATION

A. Public Meetings..... 39
 B. Public Comments 39
 C. Project Mailing List 39

LIST OF FIGURES

Figure ES-1. Project Location Map..... *ii*
 Figure ES-2. Alternative 3, Recommended Alternative (along Oak Drive) *v*
 Figure ES-3. Alternative 3, Recommended Alternative (along MD 27)..... *vi*
 Figure 1. Project Location Map..... 3
 Figure 2. Recommended Pedestrian / Bikeway Network..... 5
 Figure 3a. Existing Study Area Resources..... 7
 Figure 3b. Existing Study Area Resources (continued) 8
 Figure 4a. Oak Drive / MD 27 – Existing Peak Hour Traffic Volumes, Weekday 14
 Figure 4b. Oak Drive / MD 27 – Existing Peak Hour Traffic Volumes, Saturday 15
 Figure 5a. Alternative 1: No-Build, Typical Section, along Oak Drive..... 21
 Figure 5b. Alternative 1: No-Build, Typical Section, along MD 27 21
 Figure 6a. Alternative 2 – Typical Section, along Oak Drive..... 22
 Figure 6b. Alternative 2 – Typical Section, along MD 27 23
 Figure 7a. Alternative 3, Recommended Alternative (along Oak Drive) 25
 Figure 7b. Alternative 3, Recommended Alternative (along MD 27)..... 26
 Figure 8a. Proposed Alternative 3 Mapping 27
 Figure 8b. Proposed Alternative 3 Mapping (continued)..... 28

LIST OF TABLES

Table ES-1. Summary of Master Plan Sidewalk and Bikeway Recommendations *iv*
 Table 1. Summary of Existing Pedestrian and Bicycle Facilities within the Project Limits 6
 Table 2. Summary of Master Plan Sidewalk and Bikeway Recommendations 9
 Table 3. Existing Intersection Capacity Analysis at the Intersections of MD 27 at Oak Drive
 (north) and Bethesda Church Road, AM (PM) 12
 Table 4. Percent of Crashes at Intersections along MD 27 within the Project Limits 13

Table 5.	Summary of Existing Right-of-Way Widths within the Project Limits.....	18
Table 6.	Summary of Alternative Features	29
Table 7.	Summary of Potential Impacts (Build Alternatives 2 and 3)	30
Table 8.	Community Facilities and Existing Employment and Business Centers within the Study Area	37
Table 9.	Planned Development and Proposed Public Projects within the Study Area	38

APPENDICES

Appendix A.	Master Plan Excerpts
Appendix B.	Land Use, Zoning and Census Data
Appendix C.	Montgomery County Department of Transportation / Road Code
Appendix D.	Highway Classifications and Characteristics for Study Area Roadways
Appendix E.	Agency Coordination
Appendix F.	Public Participation Materials & Public Comments
Appendix G.	Team Meeting Minutes
Appendix H.	Traffic Analysis Memorandum

EXECUTIVE SUMMARY



Looking north along Oak Drive prior to John T. Baker Middle School.

EXECUTIVE SUMMARY

INTRODUCTION

The Montgomery County Department of Transportation (MCDOT) has completed the Phase I Facility Planning Study for the Oak Drive / Ridge Road (MD 27) Sidewalk Improvement Project. The Study evaluates improving Oak Drive (approximately one mile) from its southern intersection with MD 27 to John T. Baker Middle School; a 1.5 mile section of MD 27 from Oak Drive (southern intersection) to Bethesda Church Road; Kingstead Road; and Greensboro Drive from Oak Drive to the John Haines Neighborhood Park (See **Figure ES-1** on page *ii*) by providing pedestrian and bikeway continuity, connectivity and safety. The Phase I Study includes the purpose and need statement; development of alternatives and their benefits and impacts; outreach to the public and stakeholders; and a technical recommendation to advance to Phase II Facility Planning.

PROJECT BACKGROUND AND DESCRIPTION

The roadways evaluated within the Study Area are located in Damascus, Maryland.

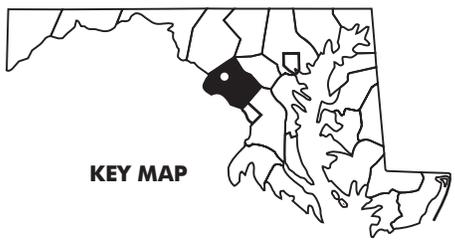
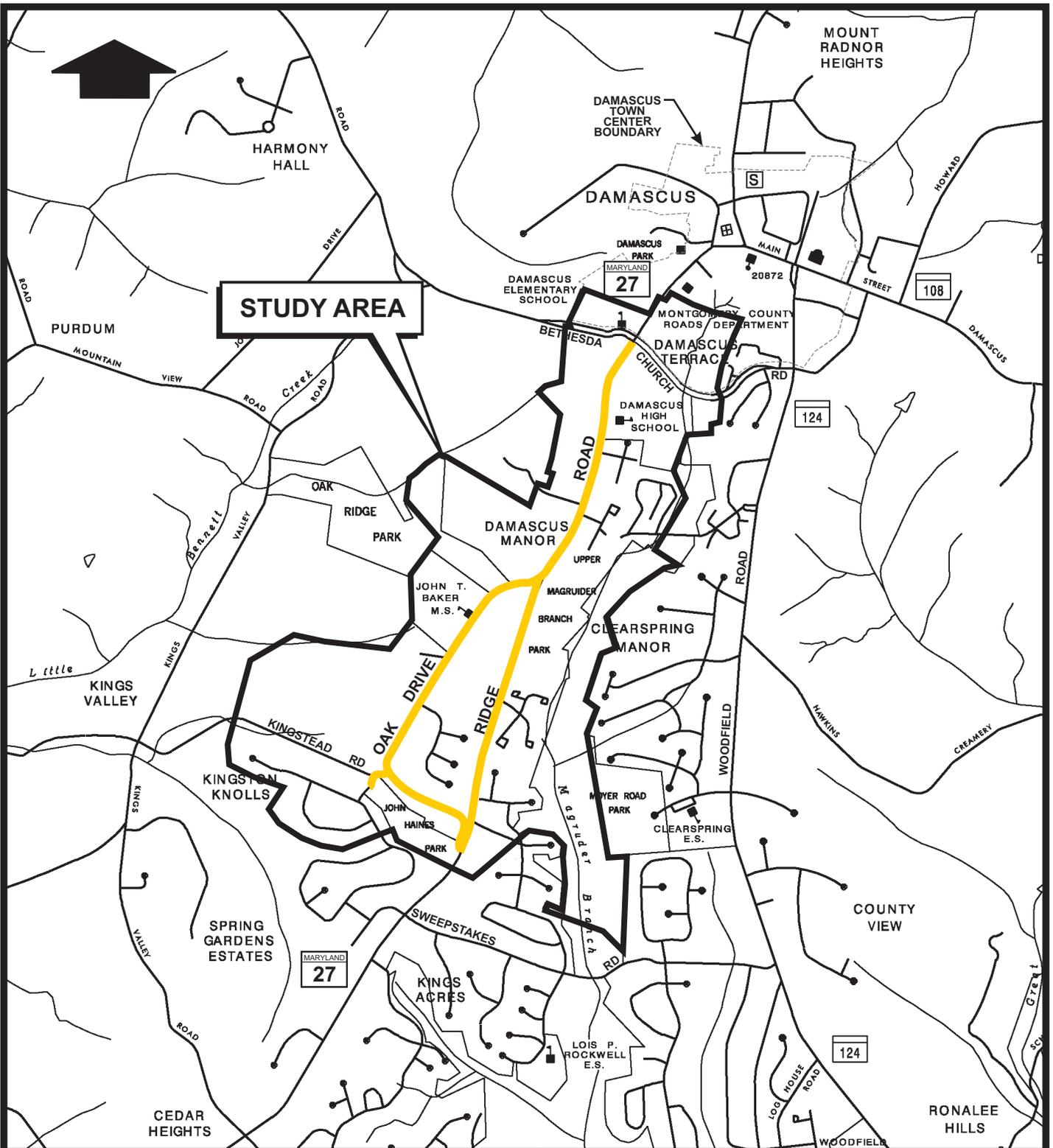
Oak Drive is a county-maintained two-lane primary residential roadway with mostly open-section features. Closed-section roadway features are intermittently present in the area from John T. Baker Middle School east to MD 27. This roadway is approximately one mile long, with a posted speed limit of 30 miles per hour (mph) and variable existing right-of-way (ROW) width of approximately 30 to 80-feet.

MD 27 is a state-maintained two-lane arterial roadway with alternating open and closed-section features. The length of MD 27, from the southern intersection with Oak Drive to Bethesda Church Road, is approximately 1.5 miles. Between its southern and northern intersections with Oak Drive, MD 27 has a posted speed limit of 40 mph. North of Oak Drive to Bethesda Church Road, the posted speed limit slows to 30 mph. Existing ROW width along MD 27 varies from approximately 40 to 140-feet within the project limits.

Kingstead Road is a county-maintained two-lane primary residential roadway with open-section features. The roadway has a posted speed limit of 25 mph, and typically falls within a 60 to 80-foot existing ROW.

Greensboro Drive is a county-maintained two-lane primary residential roadway with open-section features. The roadway has a posted speed limit of 25 mph and typically falls within a 60-foot existing ROW.

The majority of the Study Area consists of residential and institutional/recreational land uses (i.e., John T. Baker Middle School, Damascus Elementary and High School, and Damascus Community Recreation Center). Within a 1.5 mile radius of the project, there are seventeen Montgomery County Ride-On public transit bus stops along MD 27 (14 stops are within the Study Area), which provide service to destinations such as the Shady Grove Metro Station, Damascus Park and Ride Lot, Senior Center and Library via Bus Route 90. Sidewalk exists along the west side of Oak Drive between the John T. Baker Middle School and MD 27 (northern intersection) as well as at the intersections of Oak Drive/Avonlea Ridge Place and Oak Drive/MD 27 (northern intersection). Within the project limits, MD 27 is currently designated as a Signed Shared Roadway with On-Road Bike Lanes in each direction.



KEY MAP

**MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION**

**OAK DRIVE/RIDGE ROAD (MD 27)
SIDEWALK IMPROVEMENT PROJECT
FACILITY PLANNING STUDY - PHASE 1**

LOCATION MAP

DATE	2000	0	2000	FIGURE NO.
JUNE 2011	SCALE IN FEET			ES-1

Sidewalk exists intermittently along the east side of MD 27 as well as at the intersections of Oak Drive (north) and Bethesda Church Road. There are no existing pedestrian or on-road bicycle facilities along either side of Kingstead Road; however, this roadway connects to Greensboro Drive, which provides access to an existing Shared-Use Path within the John Haines Neighborhood Park. There are no existing pedestrian or on-road bicycle facilities along either side of Greensboro Drive; however, there is an existing Shared-Use Path adjacent to this roadway within the John Haines Neighborhood Park.

This Study is being guided by two approved area master plans: (1) 2006 *Damascus Master Plan (Master Plan)*, and (2) March 2005 *Countywide Bikeways Functional Master Plan (Bikeways Plan)*. A summary of Area Master Plan recommendations are highlighted in **Table ES-1** (page *iv*), and excerpts are included in **Appendix A**.

PROJECT PURPOSE

The purpose of the Oak Drive / Ridge Road (MD 27) Sidewalk Improvement Project is to implement the approved Master Plan visions in the Study Area; encourage alternate modes of transportation, provide safe pedestrian and bikeway continuity/connectivity between residential neighborhoods, schools and community facilities; improve access to transit stops; improve access to commercial facilities within the Damascus Town Center; and provide health benefits.

PROJECT NEED

The Oak Drive / MD 27 sidewalk improvements are needed to address the lack of continuous and safe access to existing sidewalks and bikeways, residential neighborhoods, transit stops and commercial and public facilities (e.g., schools, religious facilities, parks, recreation center) along and beyond the Study Area.

ALTERNATIVES EVALUATED

The Study Team, including representatives from several MCDOT divisions and Maryland-National Capital Park and Planning Commission (M-NCPPC), with input from the public, completed an analysis of three alternatives.

- ❑ Alternative 1: No-Build
- ❑ Alternative 2: Master Plan Improvements
- ❑ Alternative 3: Modified Master Plan Improvements (Recommended Alternative)

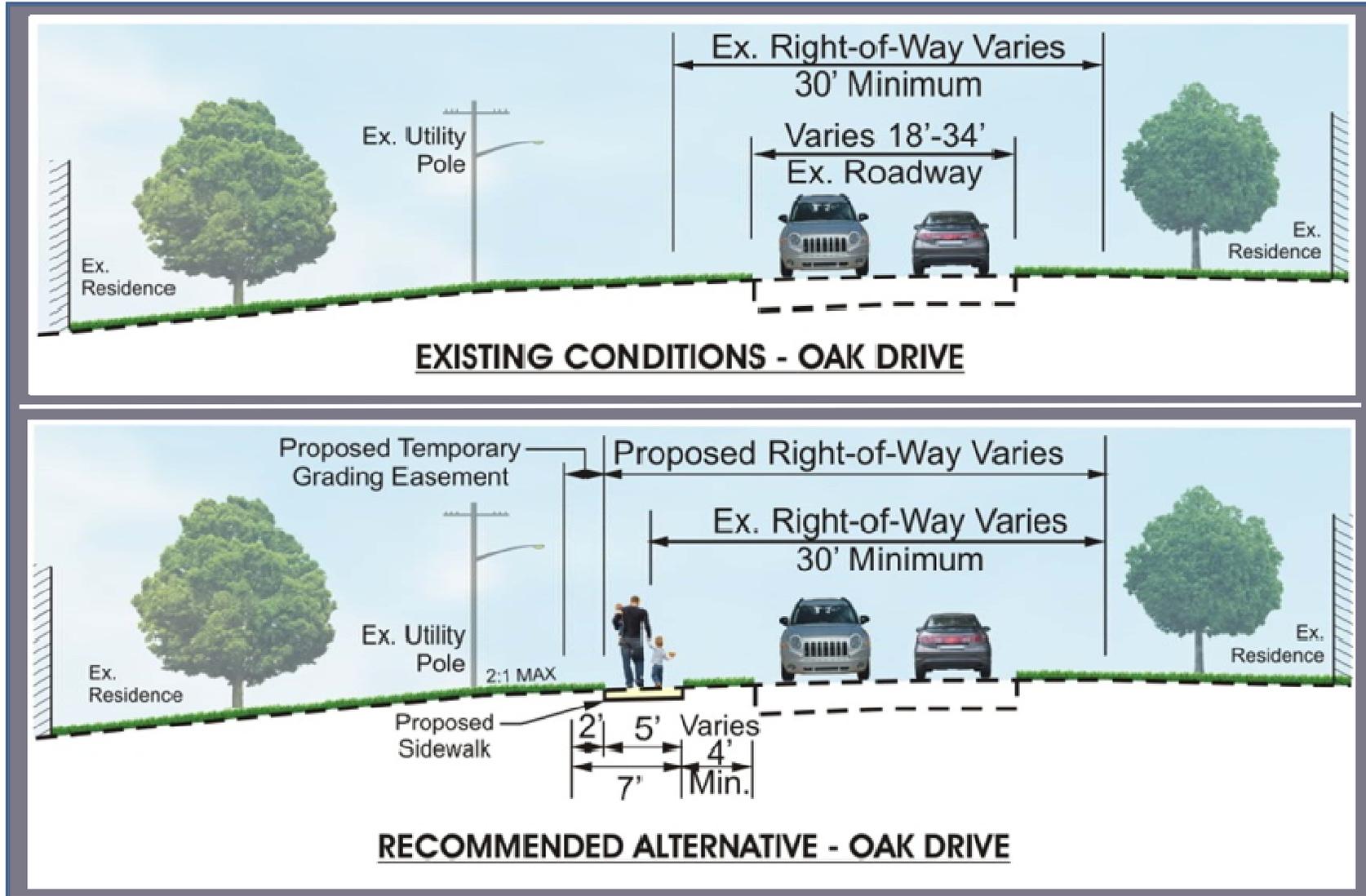
TEAM RECOMMENDED ALTERNATIVE

The Recommended Alternative - Modified Master Plan Improvements (see **Figures ES-2** and **ES-3** on pages *v* and *vi*) provides improvements to pedestrian and bicycle facilities as described below within the project limits:

- ❑ A 5' wide sidewalk with greenspace along the west side of Oak Drive from its southern intersection with MD 27 to John T. Baker Middle School;
- ❑ A 5' wide sidewalk with greenspace along the south side of Kingstead Road from Oak Drive to approximately 50' along Greensboro Drive; and
- ❑ A 5' wide sidewalk on the east side of MD 27 from its southern intersection with Oak Drive to Damascus High School.

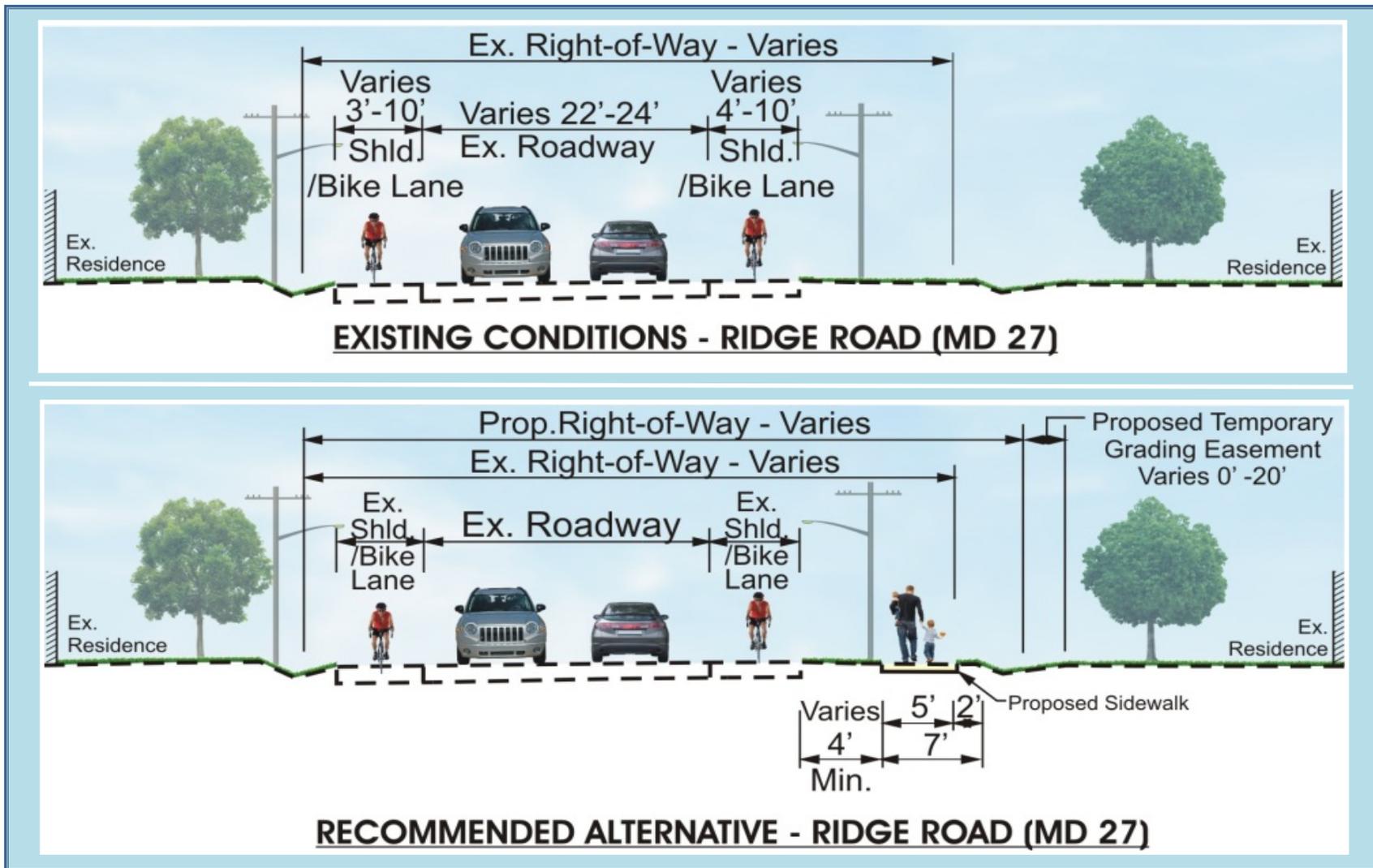
Table ES-1. Summary of Master Plan Sidewalk and Bikeway Recommendations within the Oak Drive / MD 27 Study Area		
Roadway	Damascus Master Plan	Countywide Bikeways Plan
General	Implement sidewalk, shared-use path and bikeway routes to support the goal of increasing opportunities to provide convenient connections and encourage walking to key activity centers within the plan area and to create an interconnected system with the Magruder Branch Trail as the backbone of the trail system.	N/A
Oak Drive	Shared-Use Path (Class I) along Oak Drive (B-8) from MD 27 (north intersection) to Baker Middle School, which provides a connection between Magruder Branch Trail and key activity centers along Oak Drive.	N/A
Ridge Road (MD 27)	<p>Consider a below-grade pedestrian tunnel under Ridge Road at its intersection with Valley Park Drive/Oak Drive for pedestrian safety.</p> <p>Provide safe and effective pedestrian crossings at current and future traffic signals along MD 27.</p> <p>Implement sidewalk or shared-use path connections to key activity centers along MD 27 between the Town Center and Sweepstakes Road.</p> <p>On-Road Bikeway (Class II or III) along MD 27 (SR-39) from Southern Planning Area Boundary to Howard County Line, which provides a connection between Damascus and Germantown.</p> <p>On-Road Bikeway (Class II or III) along Bethesda Church Road (B-1) from MD 27 to Clarksburg Road, which provides a connection to Little Bennett Regional Park.</p> <p>Shared-Use Path (Class I) along Valley Park Drive (B-6) from MD 27 to Woodfield Road (MD 124), which provides a connection to the Magruder Branch Trail.</p>	Signed Shared Roadway (SR-39) along Ridge Road (MD 27) from Brink Road north to the Howard County line, which provides a connection between Damascus and Germantown
Kingstead Road	N/A	N/A
Greensboro Drive	N/A	N/A
Bethesda Church Road	On-Road Bikeway (Class II or III) from MD 27 to Clarksburg Road (B-1)	N/A
Valley Park Drive	Shared-Use Path (Class I) from MD 27 to Woodfield Road (MD 124) (B-6)	N/A

Figure ES-2. Alternative 3, Recommended Alternative (along Oak Drive)*



*To minimize impacts, retaining walls are proposed along Oak Drive in the vicinity of John T. Baker Middle School and the Oak Drive/MD 27 northern intersection. The measurements above are based on planning level analysis and may be subject to change during 35% design.

Figure ES-3. Alternative 3, Recommended Alternative (along Ridge Road, MD 27)*



*To minimize impacts, retaining walls are proposed along MD 27 near Bloom Drive and the Oak Drive/MD 27 northern intersection. The measurements above are based on planning level analysis and may be subject to change during 35% design.

PROJECT STUDY INFORMATION TABLE	
Project Name/CIP #	Oak Drive/Ridge Road (MD 27) Sidewalk Improvement Project (CIP #509337)
Level of Effort	Facility Planning Study, Phase I
Transportation Category	Pedestrian Facilities
Prepared by	Montgomery County Department of Transportation (MCDOT)
Phase I Project Manager	Patricia Shepard (240) 777-7231
Consultant Project Manager	Mark Lotz, The Wilson T. Ballard Company, (410) 363-0150
Facility Name(s)	Oak Drive, Ridge Road (MD 27), Kingstead Road and Greensboro Drive
Project Limits	<ul style="list-style-type: none"> • Oak Drive - between southern and northern intersections with MD 27; • MD 27 - from the southern intersection with Oak Drive to Bethesda Church Road; • Kingstead Road - from Oak Drive to Greensboro Drive • Greensboro Drive - from Kingstead Road to the Shared-Use Path within John Haines Neighborhood Park
Project Length	<ul style="list-style-type: none"> • Oak Drive - approximately 1.0 mile • MD 27 - approximately 1.5 miles • Kingstead Road - approximately 0.1 mile • Greensboro Drive – approximately 50-feet
Functional Classification	<ul style="list-style-type: none"> • Oak Drive, Kingstead Road and Greensboro Drive – County-maintained primary residential roadways • MD 27 - State-maintained arterial roadway
CRASH HISTORY	
2003 - 2007	MD 27 – The average accident rate was 142.8 accidents/100 million vehicle miles (acc/100 mvm), and the average injury accident rate was 69.74 acc/100 mvm.
2008 - 2009	Recent reported crashes include: <ul style="list-style-type: none"> • No bicycle-related crashes; and • Two (2) pedestrian-related crashes.
Fatalities	N/A
EXISTING CONDITIONS	
Annual Average Daily Traffic (AADT)	2008 AADT along MD 27: <ul style="list-style-type: none"> • 22,341 vehicles 1.74 miles south of southern project limit • 21, 511 vehicles 0.32 mile north of the northern project limit
# of Lanes	Oak Drive, MD 27, Kingstead Road and Greensboro Drive are all 2-lane undivided roadways. Oak Drive widens to 3 lanes near the John T. Baker Middle School and MD 27 intersection.

# of Bus Stops	14 Montgomery County Ride-One Bus Stops (Route 90) along MD 27 within the Study Area: <ul style="list-style-type: none"> - 7 northbound - 7 southbound 								
Metro Stations within 2.5 miles	N/A								
# of Signalized Intersections	Two (2) signalized intersections: <ol style="list-style-type: none"> 1. Oak Drive at MD 27 (northern intersection) 2. MD 27 at Bethesda Church Road 								
Portion of Corridor that is Closed Section	<ul style="list-style-type: none"> • Oak Drive, west side – 18% (approximately 965 LF*); • Oak Drive, east side – 1% (approximately 35 LF*); • Kingstead Road and Greensboro Drive - 0%; • MD 27, east side – 38% (approximately 2,930 LF*); and • MD 27, west side – 15% (approximately 1,140 LF*) <p><i>*Calculations do not include driveway entrances.</i></p>								
Posted Speed Limit	<ul style="list-style-type: none"> • Oak Drive - 30 miles per hour (mph) • MD 27 - 40 mph between southern and northern intersections with Oak Drive; 30 mph between Oak Drive (northern intersection) and Bethesda Church Road • Kingstead Road and Greensboro Drive - 25 mph 								
Roadway Fronted Communities	Eight (8) Communities: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Spring Garden Estates</td> <td>Damascus Heights</td> </tr> <tr> <td>Chesney</td> <td>Greenhills</td> </tr> <tr> <td>Montco</td> <td>Magruder’s Park at Magruder’s Overlook</td> </tr> <tr> <td>Avonlea</td> <td>Damascus Manor</td> </tr> </table>	Spring Garden Estates	Damascus Heights	Chesney	Greenhills	Montco	Magruder’s Park at Magruder’s Overlook	Avonlea	Damascus Manor
Spring Garden Estates	Damascus Heights								
Chesney	Greenhills								
Montco	Magruder’s Park at Magruder’s Overlook								
Avonlea	Damascus Manor								
Roadway Fronted Schools	Two (2) existing schools and one (1) future school site: <ul style="list-style-type: none"> John T. Baker Middle School (along Oak Drive) Damascus High School (along MD 27) Oak Drive Elementary School* (future, along Oak Drive) <p><i>*To be converted to park if not needed for school purposes, per Damascus Master Plan</i></p>								
Roadway Fronted Places of Worship	St. Anne’s Episcopal Church								
Roadway Fronted Parks / Recreation Areas	Four (4) parks / recreation areas: <ul style="list-style-type: none"> • John Haines Neighborhood Park • Oak Ridge Conservation Park • Upper Magruder Branch Stream Valley Park • Damascus Community Recreation Center 								
Other Places of Interest	Three (3) other places of interest: <ul style="list-style-type: none"> • Children’s Center of Damascus at Saint Anne’s • Damascus Veterinary Hospital • Ridgeview Center (retail/office center) 								



<p>Portion of Corridor with sidewalk/ bicycle facilities</p>	<ul style="list-style-type: none"> • Oak Drive, west side – 18% (approximately 930 LF) • Oak Drive, east side – 0% • Kingstead Road and Greensboro Drive – 0% • MD 27, east side – 43% (approximately 3,310 LF) • MD 27, west side – 1% (approximately 40 LF)
<p>Portion of Corridor that has shoulder less than 4 feet</p>	<ul style="list-style-type: none"> • Oak Drive, west side – 79% (approximately 4,200 LF); • Oak Drive, east side– 100% (approximately 5,305 LF); • Kingstead Road and Greensboro Drive – 100% (approximately 100 LF); • MD 27, east side - 0% • MD 27, west side - 7% (approximately 510 LF)
<p>Right-of-way (ROW) width</p>	<ul style="list-style-type: none"> • Oak Drive: <ul style="list-style-type: none"> - MD 27 to Kingstead Road: Varies 30’ to 70’* - Kingstead Road to MD 27: Varies 30’ to 80’* • Kingstead Road <ul style="list-style-type: none"> - Greensboro Drive to Oak Drive: Varies 60’ to 80’ • Greensboro Drive: <ul style="list-style-type: none"> - Bellehaven Boulevard to Kingstead Road: 60’ • MD 27: <ul style="list-style-type: none"> - Oak Drive (south intersection) to Bloom Drive: Varies 80’ to 100’ - Bloom Drive to Tralee Terrace: Varies 100’ to 120’ - Tralee Terrace to Valley Park Drive: Varies 110’ to 140’ - Valley Park Drive to Oak Drive (north intersection): 100’ - Oak Drive (north intersection) to Bethesda Church Road: Varies 40’ to 80’* <p><i>*Note: For these segments of Oak Drive and MD 27, several properties appear to have a prescriptive right-of-way for the highway, whereby the deed descriptions for the properties include land out to the center of the road as part of the property, but the roadway portion (approximately edge-of-shoulder to edge-of-shoulder) is dedicated to public use. Some of the properties in this segment have a prescriptive right-of-way for one-half of the roadway and a dedication of up to 30’ or 40’ for the other half, thus the assumption of 60’ or 80’ as the upper ROW limit for Oak Drive and MD 27, respectively.</i></p>
<p>Existing SWM facilities</p>	<ul style="list-style-type: none"> • Intermittent drainage swales along MD 27 • Potential SWM Pond between Applecross Terrace and MD 27, within the Chesney residential community • Potential SWM Pond near Magruder’s Park at Magruder’s Overlook
<p>Watershed names</p>	<p>Three (3) watersheds were identified:</p> <ul style="list-style-type: none"> • Little Bennett Creek; • Bennett Creek; and • Upper Great Seneca Creek.
<p>Location of 100-year floodplain and buffers</p>	<p>100-year floodplain is associated with Magruder Branch, along the eastern edge of the Study Area, within County-owned Upper Magruder Branch Stream Valley Park.</p>

Hazardous Materials	N/A
Cultural Resources	N/A
FACILITY PLANNING, PHASE I SUMMARY	
Transportation Category	Pedestrian Facilities
Referenced Master Plans	<ul style="list-style-type: none"> • 2006 Damascus Master Plan • March 2005 Countywide Bikeways Functional Master Plan
Purpose	<ul style="list-style-type: none"> • To promote and enhance continuous, safe pedestrian and bicycle facilities between residential neighborhoods, schools and community facilities; • To improve access to transit stops and commercial facilities within the Damascus Town Center; and • To implement the approved Master Plan vision in the Study Area.
Need	<ul style="list-style-type: none"> • Address lack of continuous and safe access to existing sidewalks and bikeways, transit stops and commercial and public facilities, as recommended in the area’s Master Plans; • Improve access to east-west routes and link residential neighborhoods with numerous community destination points; • Provide connection to existing and proposed pedestrian facilities and on and off-road bike facilities; and • Allow future flexibility, by the Board of Education, in setting school attendance boundaries and/or bus routing programs.
Project Start Date	March 2009
Project Prospectus Completion Date	July 2011
Alternatives Evaluated	<p>Alternative 1: No-Build</p> <p>Alternative 2: Master Plan Improvements</p> <p>Alternative 3: Modified Master Plan Improvements</p>
Recommended Alternative	<p><u>Alternative 3 - Modified Master Plan Improvements*</u></p> <ul style="list-style-type: none"> • Proposes a 5’ wide sidewalk along the west side of Oak Drive from its southern intersection with MD 27 to the John T. Baker Middle School; • Proposes a 5’ wide sidewalk along the the south side of Kingstead Road from Oak Drive to approximately 50-feet along Greensboro Drive; • Proposes a 5’ wide sidewalk along the east side of MD 27 from its southern intersection with Oak Drive to the Damascus High School; and • Incorporates a proposed 4’ buffer (minimum) between the existing edge of road and proposed sidewalk. <p><i>*All measurements and referenced impacts to resources determined during Phase I are based on planning level information and are subject to change, at any time, during preliminary and final design. Right-of-way (ROW) impacts will not be available until the project advances to Facility Planning, Phase II, whereby a field survey will identify the specific right-of-way requirements.</i></p>



Recommended Alternative Impacts	<p><u>Property Impacts</u></p> <ul style="list-style-type: none"> • Just over one-half acre fee simple right-of-way • Less than two acres of grading easement • Linear strip property from one school and two parks • No building or parking impacts <p><u>Natural Environmental Impacts</u></p> <ul style="list-style-type: none"> • Up to five specimen trees impacted* • No stream or wetland impacts • No forest impacts <p><u>Utility Impacts/Relocations*</u></p> <ul style="list-style-type: none"> • Potential relocation of utility poles, underground utilities (e.g., water, sewer and gas lines), fire hydrants, gas vents, bus shelters, and traffic signal modification <p><i>*Some specimen trees and utility relocations may be deemed avoidable during the Final Design stage</i></p> <p><i>All measurements and referenced impacts to resources determined during Phase I are based on planning level information and are subject to change, at anytime, during preliminary and final design. Right-of-way (ROW) impacts will not be available until the project advances to Facility Planning, Phase II, whereby a field survey will identify the specific ROW requirements.</i></p>
--	---

PUBLIC OUTREACH

Public Meeting	December 8, 2009
Newsletter(s) Distributed	October 2009; December 2010
Mailing List	Approximately 225
Active Civic/HOA with President Name	<p>Avonlea Ridge Estates Homeowners Association, Robert Lampe Clearspring Manor Homeowners Association Country Road Townhouse Condominium, Greg Morris Damascus Gardens Condominium, Inc., Joseph Mamana Damascus Hill Homeowners Association, Jabreel Hampton Damascus Manor Homeowners Association, Doug Tanner Damascus Valley Homeowners Association, Inc., Jerry Bucy Grandview Homeowners Association, Valerie Ostach-Fagan Greenhills Condominium I V, Linda Johnson Greenhills Condominium Section I, Mark Kostreski Kings Bridge Homeowners Association, Barry Dauber Park Damascus Homeowners Association, Cindy Martin Kings Valley Manor Community Association, Jonathan Principi Preakness Drive Homeowners Association, Lillian Dangerfield Ridgeview Condominium Association, Michael McIntosh Ridgeview Townhouse Association, Inc, Walter Winyall Sweepstakes Homeowners Association Westview Estates HOA Inc., Rick Windon Woodfield Knolls HOA, Jay Traverso</p>



OTHER	
Unresolved issues	<ul style="list-style-type: none"> • Minimization/Avoidance options for potential impacts to Specimen Trees; • Minimization/Avoidance Options for potential impacts to utility poles and fire hydrants; • Stormwater Management Analysis; and • Proposed Retaining Wall Structural Analysis
Unique features	N/A
Planning Board Briefing	To Be Determined
Montgomery County Council's Transportation and Environment Committee (T&E) Briefing Date	To Be Determined
Budget Cut-backs	Due to budget deficit, Phase II Facility Planning will be deferred to FY 2012.



STUDY TEAM CONTACT INFORMATION		
Team Member	E-Mail	Phone
Montgomery County Department of Transportation (MCDOT)		
Patricia D. Shepherd, Project Manager	Patricia.Shepherd@montgomerycountymd.gov	240-777-7231
Aruna Miller, Planning Manager	Aruna.Miller@montgomerycountymd.gov	240-777-7194
Bob Simpson, Senior Planning Specialist, Director's Office	Bob.Simpson@montgomerycountymd.gov	240-777-7170
Deanna Archey, Planner, Transit Services	Deanna.Archey@montgomerycountymd.gov	240-777-5828
Fran Marcus, Property Acquisition	Fran.Marcus@montgomerycountymd.gov	240-777-7256
Gail Tait-Nouri, Bikeway Program Coordinator	Gail.Nouri@montgomerycountymd.gov	240-777-7243
Mark Terry, Area Engineer	Mark.Terry@montgomerycountymd.gov	240-777-2198
Carl Starkey, Traffic Operations	Carl.Starkey@montgomerycountymd.gov	240-777-8780
Stacy Coletta, Transit Services	Stacy.Coletta@montgomerycountymd.gov	240-777-5836
Maryland-National Capital Park and Planning Commission (M-NCPPC)		
Ki Kim, Transportation Planning	Ki.Kim@mncppc-mc.org	301-495-4538
Cherian Eapen, Transportation Planning	Cherian.Eapen@mncppc-mc.org	301-495-4525
Larry Cole, Transportation Planning	Larry.Cole@mncppc-mc.org	301-495-4528
Montgomery County Public Schools (MCPS)		
Fred Punturiero, Department of Transportation, Clarksburg Depot, Depot Manager	Fred_Punturiero@mcpsmd.org	301-353-0815
Consultants		
Mark Lotz, Project Manager, The Wilson T. Ballard Company	mlotz@wtbco.com	410-363-0150
Robert Bull, Environmental Specialist, The Wilson T. Ballard Company	rbull@wtbco.com	410-363-0150
Joe Dement, Project Engineer, The Wilson T. Ballard Company	jdement@wtbco.com	410-363-0150
Troy Lutz, Graphic Design, The Wilson T. Ballard Company	tlutz@wtbco.com	410-363-0150
Jennifer Rohrer, Environmental Specialist, The Wilson T. Ballard Company	jrohrer@wtbco.com	410-363-0150
Laura Scaler, Graphic Design, The Wilson T. Ballard Company	lscaler@wtbco.com	410-363-0150

PROJECT PURPOSE & NEED



Looking south along Oak Drive at John T. Baker Middle School.

A. PROJECT BACKGROUND AND DESCRIPTION

The Montgomery County Department of Transportation (MCDOT) has performed a Phase I Facility Planning Study to evaluate improvements along Oak Drive and MD 27, in Damascus, Maryland (see **Figure 1** on page 3). The study analyzed:

- ❑ Safety enhancements for pedestrian and bicycle facilities connecting residential neighborhoods, schools and community facilities;
- ❑ Pedestrian and bicycle access and continuity; and
- ❑ Access improvements to transit stops and commercial facilities within the Damascus Town Center.

Oak Drive is a one-mile long county-maintained, two-lane primary residential roadway, with a posted speed limit of 30 miles per hour (mph), an average lane width of 9 to 11-feet, and varying right-of-way width of 30 to 80-feet (see **Photo 1**, page 1). The roadway is mostly open-section (i.e., no curb); however, intermittent closed-section roadway features exist from the John T. Baker Middle School east to MD 27.



Photo 1. Looking North along Oak Drive.

Sidewalk exists along open and closed-section areas of westbound Oak Drive between John T. Baker Middle School and MD 27 (north intersection). Sidewalk also exists at Oak Drive's intersections with Avonlea Ridge Place and MD 27 (north intersection). No bicycle facilities exist along Oak Drive. No sidewalk exists along the east or west sides of Oak Drive from MD 27 (south intersection) to John T. Baker Middle School. **Table 1** (page 6) provides a summary of pedestrian and bicycle facilities located within the project area.

18% of Oak Drive (west side only) and 35% of MD 27 (east side) currently contains sidewalk.

Ridge Road (MD 27), within the project limits, is a 1.5-mile long section of state-maintained, two-lane arterial roadway, with an average lane width of 11 to 12-feet and alternating open and closed-section features (see **Photo 2**, page 1). The portion of MD 27 between Oak Drive, south and north is posted as 40 mph; the speed limit drops to 30 mph north of Oak Drive (north) to Bethesda Church Road. Existing roadway ROW width varies from approximately 40 to 140-feet, with roadway widening occurring at major intersections of Oak Drive (south and north intersections), Bloom Drive, Tralee Terrace, Valley Park Drive, Damascus Manor Road and Bethesda Church Road, for additional through and/or turn lanes.



Photo 2. Northbound MD 27 with designated on-road bike lane (Bikeway Route SR-39) near Damascus High School.

Sidewalk exists intermittently along open and closed-section areas of MD 27 from Oak Drive (south) to Bethesda Church Road.

Along the east side of MD 27, segments of sidewalk exist at the following locations:

- 50’ south of Bloom Drive to the Bloom Drive intersection (60 linear feet (lf));
- 300’ north of Tralee Terrace to 520’ north of Valley Park Drive (1,490 lf); and
- 100’ south of Damascus Manor Road to Bethesda Church Road (1,760 lf).

Along the west side of MD 27, sidewalk exists only at MD 27 at Oak Drive (north intersection, northwest quadrant only) and MD 27 at Bethesda Church Road.

Within the project limits, MD 27 is a Signed Shared Roadway with On-Road Bike Lanes in each direction (shoulder space has been delineated for preferential use by bicycles). Approximately 97% of the MD 27 open and closed-section roadway (i.e., acceleration, deceleration and right turn lanes) contain shoulders greater than four feet in width, and could therefore adequately accommodate on-road bike lanes (Signed Shared Roadway).

Kingstead Road and Greensboro Drive are county-maintained two-lane primary residential roadways with posted speeds of 25 mph and open-section features. The lane width along Kingstead Road averages 9 feet wide and typically falls within a 60 to 80-foot ROW, while Greensboro Drive has an average lane width of 8 feet and typically falls within a 60-foot ROW (see **Photo 3**, page 2). No pedestrian or bicycle facilities exist along either roadway; however, there is an existing Shared-Use Path within the John Haines Neighborhood Park (see **Photo 4**, page 2) that connects to Greensboro Drive.



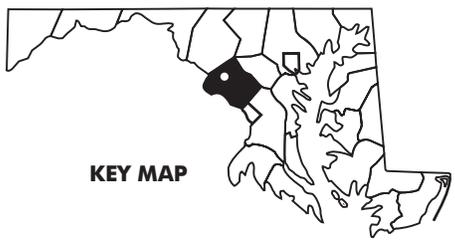
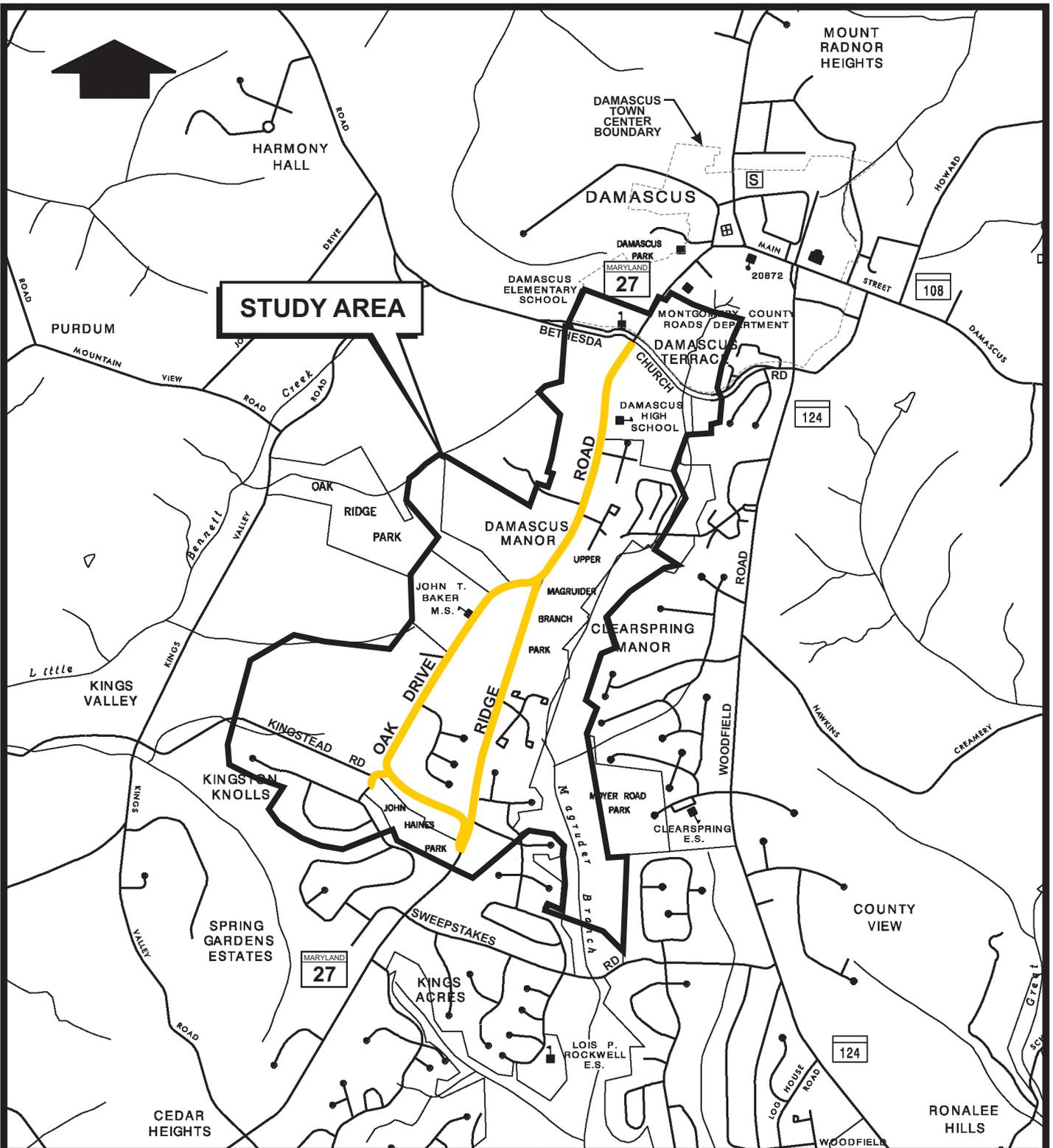
Photo 3. Kingstead Road at Greensboro Drive



Photo 4. Entrance to John Haines Neighborhood Park from Greensboro Drive

The majority of the Study Area consists of residential and institutional/recreational land uses (i.e., John T. Baker Middle School, Damascus Elementary and High School, and Damascus Community Recreation Center). The study portion of MD 27 provides access to one public transit bus route (#90) and 14 public transit bus stops. No on-street parking exists along Oak Drive, Kingstead Road, Greensboro Drive or MD 27 within the project limits.

Within the project limits, MD 27 intersects with eight roadways (Oak Drive (south), Bloom Drive, Tralee Terrace, Valley Park Drive, Oak Drive (north), Sunset Drive, Damascus Manor Road, and Bethesda Church Road); Oak Drive intersects with two roadways (Kingstead Road and Avonlea Ridge); and Kingstead Road intersects with one roadway (Greensboro Drive) (see **Appendix D** for a description of highway classifications and characteristics for Study Area roadways). The intersections of MD 27 at Oak Drive (north) and MD 27 at Bethesda Church Road are considered major intersections and have existing bikeway, shared-use path, sidewalk facilities, traffic control signal and marked crosswalk (see **Table 1** on page 6).



KEY MAP

**MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION**

**OAK DRIVE/RIDGE ROAD (MD 27)
SIDEWALK IMPROVEMENT PROJECT
FACILITY PLANNING STUDY - PHASE 1**

LOCATION MAP

DATE	2000	0	2000	FIGURE NO.
JUNE 2011	SCALE IN FEET			1

B. AREA MASTER PLAN RECOMMENDATIONS

The Oak Drive/MD 27 study segments are identified in two Approved and Adopted Master Plans (see **Table 2** on page 9 and **Appendix A**):

1. 2006 *Damascus Master Plan (Master Plan)*
2. 2005 *Countywide Bikeways Functional Master Plan (Bikeways Plan)*

1. OAK DRIVE / MD 27 ROADWAY RECOMMENDATIONS

The 2006 *Damascus Master Plan (Master Plan)* identifies the following roadways within the Study Area:

- Oak Drive (P-9): 2-lane primary residential roadway with a 70' ROW minimum width.
- MD 27 (A-11): 2-lane arterial roadway with a 100' ROW minimum width from the Southern Plan Area boundary to Bethesda Church Road.
- Kingstead Road (P-10): 2-lane primary residential roadway with a 70' ROW minimum width, from Kings Valley Road to Oak Drive.
- Bethesda Church Road (A-10): 2-lane arterial roadway with an 80' ROW minimum width from Kings Valley Road to Woodfield Road (MD 124).
- Valley Park Drive (A-25): 2-lane arterial roadway with an 80-120' ROW minimum from MD 27 to Woodfield Road (MD 124).

Transportation recommendations are broken down into four primary components: Roadway, Pedestrian System, Bikeway System and Transit, with the following goals:

- To improve efficiency of the roadway network,
- To expand pedestrian and bicycle path networks (and the goal of this study); and
- To improve the potential for intercepting commuters through expanded transit options.

Master Plan recommendations to improve transportation operations in Damascus due to heavy commuter traffic include:

- Installing auxiliary turning lanes and pedestrian and bicycle amenities, particularly along MD 27, south of Bethesda Church Road;
- Developing a road design template that supports a Town Center Street Design, providing visual clues to motorists that they are entering a town area where slower traffic speeds are posted and logical; and
- Increasing ROW width along MD 27 from 80 to 100-feet, from the Southern Plan Area boundary to Bethesda Church Road, to improve flexibility in future roadway design treatments.

2. PEDESTRIAN AND BIKEWAY NETWORK RECOMMENDATIONS

The 2006 Master Plan states a need for "...a dense network of sidewalk within the [Damascus] town center with extensions to key civic destinations." To provide these extensions and gain access to key activity centers, both the Master Plan and Bikeways Plan recommend implementation of pedestrian / bicycle facilities along MD 27 within the Study Area (see **Figure 2** on page 5, **Table 2** on page 9, and **Appendix A**).

The 2006 Master Plan recommends either sidewalk or shared-use path be installed along MD 27 between Sweepstakes Road and the Damascus Town Center. Both the 2006 Master Plan and 2005 Bikeways Plan recommend an on-road bikeway (Class II or III) / signed shared roadway (Bikeway Route SR-39) be provided along MD 27 within the project limits. Currently, shoulders along both sides of MD 27 are signed for shared bicycle usage (see **Photo 2**, page 1), although shoulder widths appear to be less than four-foot wide (substandard width) for a short segment on the southbound side of the road in the Damascus Manor Road area.

Along Oak Drive, the 2006 Master Plan recommends a shared-use path (B-8) from John T. Baker Middle School to MD 27 (north intersection). Since approval of the 2006 Master Plan, B-8 was constructed as a sidewalk along the west side of Oak Drive, providing access to John T. Baker Middle School, Damascus Community Recreation Center, and the Magruder’s Overlook community.

The 2006 Master Plan also recommends pedestrian and bicycle facilities along connecting roadways within the Study Area, such as Bethesda Church Road and Valley Park Drive. An on-road bikeway facility (Class II or III, Bikeway Route B-1) is identified along Bethesda Church Road, and a Shared-Use Path (Class I) is recommended along Valley Park Drive (B-6). These facilities would provide ultimate linkages to Little Bennett Regional Park and the Magruder Branch (hiker/biker) Trail within the Upper Magruder Branch Stream Valley Park (parallel to MD 27). The Magruder Branch Trail provides connections to the communities of Greenhills, Ridge Landing Place and Magruder’s Overlook.

C. PROJECT PURPOSE

The project’s purpose is to promote and enhance continuous, safe pedestrian and bicycle facilities between residential neighborhoods, schools and community facilities; to encourage alternate modes of transportation; improve access to transit stops and commercial facilities within the Damascus Town Center; and implement the approved Master Plan vision in the Study Area.

Generally, pedestrian and bicycle facilities such as sidewalks and bike paths bring about desirable changes in a community by providing cohesion, the option to choose an alternative mode of transportation

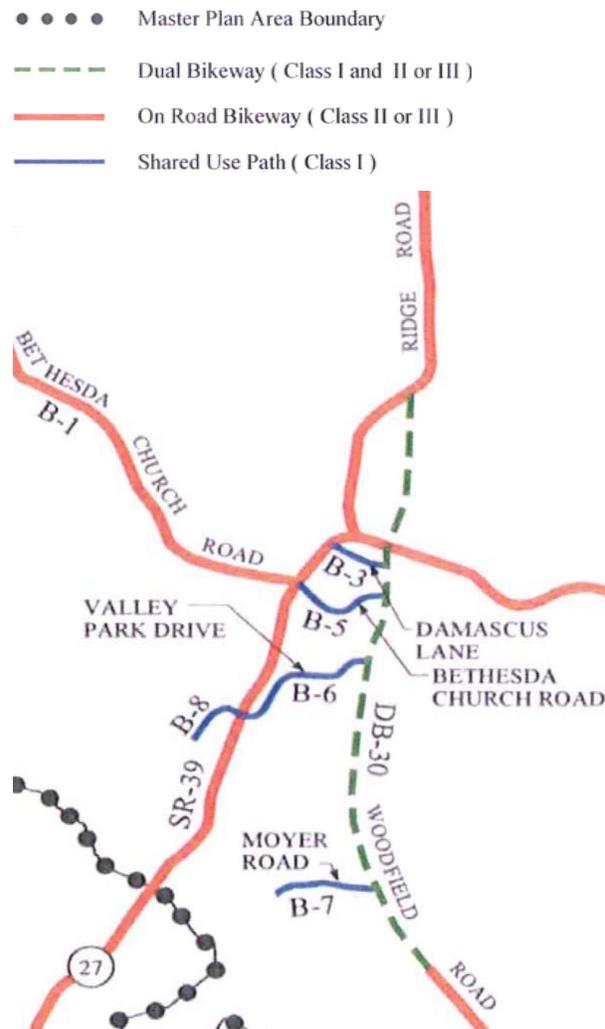


Figure 2. Recommended Pedestrian/Bike Network (from 2006 Damascus Master Plan)

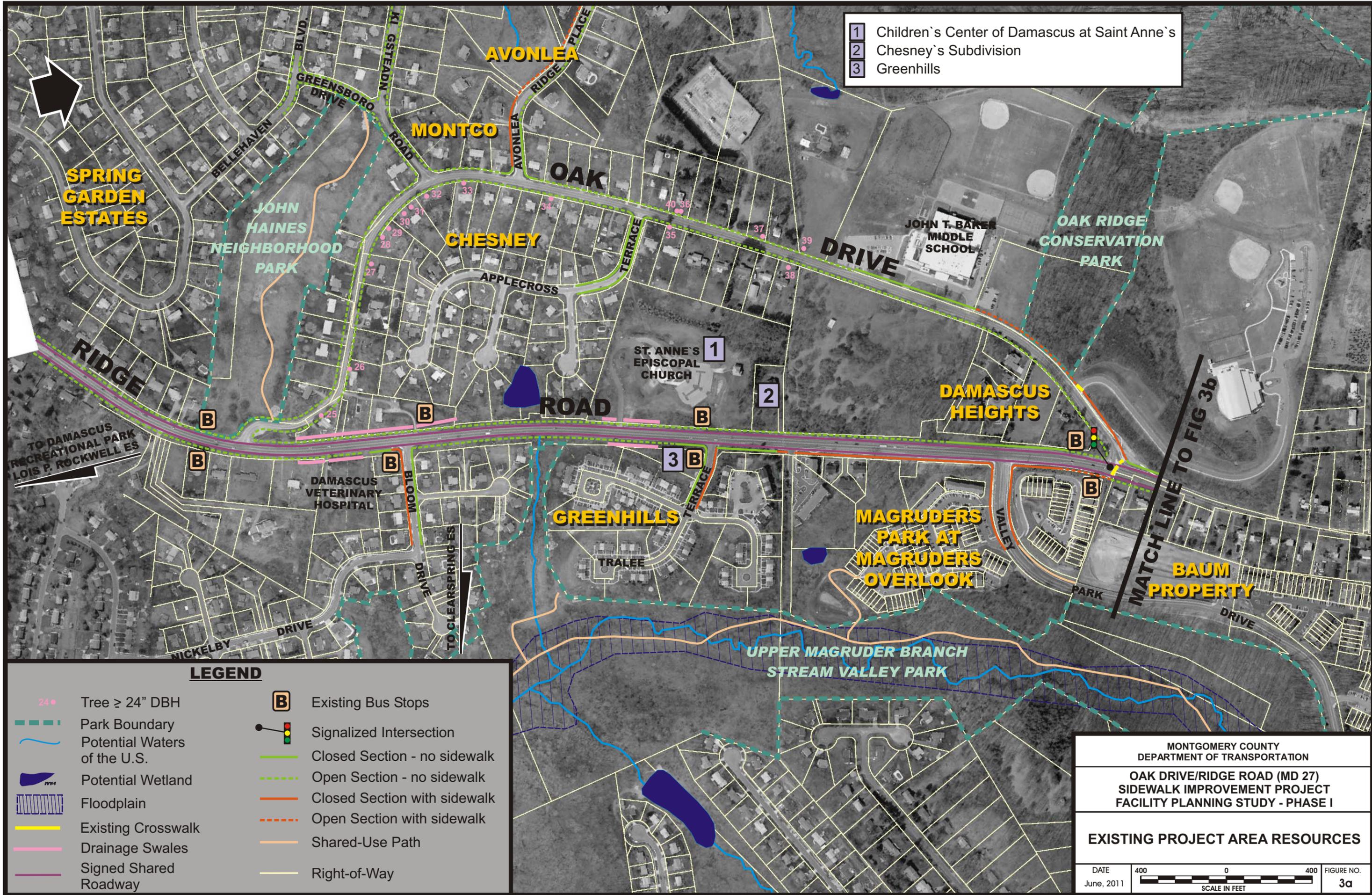
(via walking, bicycle), a greater degree of accessibility to schools, parks, stores, places of worship, social connectivity between neighborhoods, as well as health and environmental benefits.

MCDOT strives to meet the many challenges of balancing the planning and design of a safe and efficient transportation system for all users while considering the specific needs of the local residents as well as the community at large. Safety is always a major factor in implementing pedestrian and bicycle facilities within or along the County’s roadways. Additionally, the study team understands some of the residents have direct frontage along Oak Drive and MD 27 and may have one viewpoint different from those of others who live further away. In light of this, and the added challenge of retrofitting improvements in an established and mature setting, MCDOT is mindful of safeguarding a high quality of life for the residents. MCDOT has and will continue to be attentive and receptive to the extensive public and agency feedback.

The Oak Drive / Ridge Road (MD 27) Sidewalk Improvement Project consists of identifying locations and evaluating improvements within the Oak Drive, MD 27, Kingstead Road and Greensboro Drive project limits where there are opportunities for connections to existing and proposed pedestrian and bicycle facilities.

Table 1. Summary of Existing Pedestrian and Bicycle Facilities at Intersections within the Oak Drive / Ridge Road (MD 27) Project Limits				
INTERSECTION/ LOCATION	EXISTING SHARED-USE PATH	EXISTING TRAFFIC CONTROL SIGNAL	EXISTING MARKED CROSSWALK	EXISTING SIDEWALK*
MD 27 at:				
◆ Oak Drive (south)	<input checked="" type="checkbox"/>			
◆ Bloom Drive	<input checked="" type="checkbox"/>			
◆ Tralee Terrace	<input checked="" type="checkbox"/>			
◆ Valley Park Drive	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/> (east side)
◆ Oak Drive (north)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (in SE / NW quadrants)
◆ Sunset Dr.	<input checked="" type="checkbox"/>			
◆ Damascus Manor Road	<input checked="" type="checkbox"/>			
◆ Bethesda Church Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (east side)
Oak Drive at:				
◆ Kingstead Road	N/A			
◆ Avonlea Ridge Place				<input checked="" type="checkbox"/> (west side)
Kingstead Road at Greensboro Drive	N/A			
Within John Haines Neighborhood Park	<input checked="" type="checkbox"/>			

**All existing sidewalk locations are discontinuous*



- 1 Children's Center of Damascus at Saint Anne's
- 2 Chesney's Subdivision
- 3 Greenhills

LEGEND

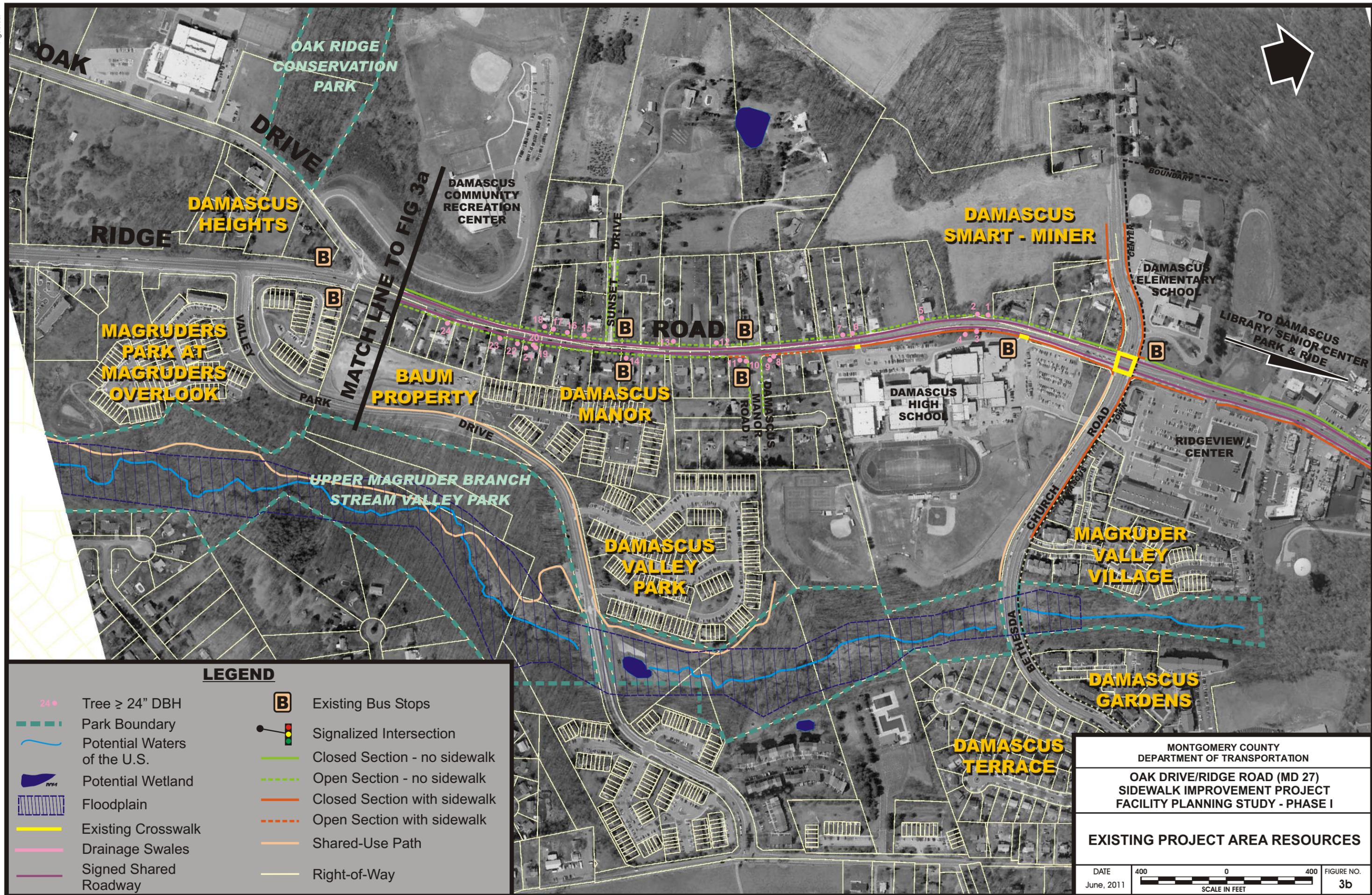
- 24 ● Tree ≥ 24" DBH
- Park Boundary
- ~ Potential Waters of the U.S.
- Potential Wetland
- ▨ Floodplain
- Existing Crosswalk
- Drainage Swales
- Signed Shared Roadway
- B** Existing Bus Stops
- 🚦 Signalized Intersection
- Closed Section - no sidewalk
- Open Section - no sidewalk
- Closed Section with sidewalk
- Open Section with sidewalk
- Shared-Use Path
- Right-of-Way

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

**OAK DRIVE/RIDGE ROAD (MD 27)
SIDEWALK IMPROVEMENT PROJECT
FACILITY PLANNING STUDY - PHASE I**

EXISTING PROJECT AREA RESOURCES

DATE June, 2011	<p>SCALE IN FEET</p>	FIGURE NO. 3a
--------------------	----------------------	-------------------------



LEGEND

- 24 Tree ≥ 24" DBH
- - - Park Boundary
- ~ Potential Waters of the U.S.
- Potential Wetland
- ▨ Floodplain
- Existing Crosswalk
- Drainage Swales
- Signed Shared Roadway
- B Existing Bus Stops
- ● ● Signalized Intersection
- Closed Section - no sidewalk
- - - Open Section - no sidewalk
- Closed Section with sidewalk
- - - Open Section with sidewalk
- Shared-Use Path
- Right-of-Way

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

**OAK DRIVE/RIDGE ROAD (MD 27)
SIDEWALK IMPROVEMENT PROJECT
FACILITY PLANNING STUDY - PHASE I**

EXISTING PROJECT AREA RESOURCES

DATE: June, 2011

400 0 400
SCALE IN FEET

FIGURE NO. 3b

Table 2. Summary of Master Plan Sidewalk and Bikeway Recommendations within the Oak Drive / MD 27 Study Area		
Roadway	Damascus Master Plan	Countywide Bikeways Plan
General	Implement sidewalk, shared-use path and bikeway routes to support the goal of increasing opportunities to provide convenient connections and encourage walking to key activity centers within the Plan area and to create an interconnected system with the Magruder Branch Trail as the backbone of the trail system.	N/A
Oak Drive	Shared-Use Path (Class I) along Oak Drive (B-8) from MD 27 (north intersection) to Baker Middle School, which provides a connection between Magruder Branch Trail and key activity centers along Oak Drive.	N/A
Ridge Road (MD 27)	<p>Consider a below-grade pedestrian tunnel under Ridge Road at its intersection with Valley Park Drive/Oak Drive for pedestrian safety.</p> <p>Provide safe and effective pedestrian crossings at current and future traffic signals along MD 27.</p> <p>Implement sidewalk or shared-use path connections to key activity centers along MD 27 between the Town Center and Sweepstakes Road.</p> <p>On-Road Bikeway (Class II or III) along MD 27 (SR-39) from Southern Planning Area Boundary to Howard County Line, which provides a connection between Damascus and Germantown.</p> <p>On-Road Bikeway (Class II or III) along Bethesda Church Road (B-1) from MD 27 to Clarksburg Road, which provides a connection to Little Bennett Regional Park.</p> <p>Shared-Use Path (Class I) along Valley Park Drive (B-6) from MD 27 to Woodfield Road (MD 124), which provides a connection to the Magruder Branch Trail.</p>	Signed Shared Roadway (SR-39) along Ridge Road (MD 27) from Brink Road north to the Howard County line, which provides a connection between Damascus and Germantown
Kingstead Road	N/A	N/A
Greensboro Drive	N/A	N/A
Bethesda Church Road	On-Road Bikeway (Class II or III) from MD 27 to Clarksburg Road (B-1)	N/A
Valley Park Drive	Shared-Use Path (Class I) from MD 27 to Woodfield Road (MD 124) (B-6)	N/A



D. PROJECT NEED

The project is needed to address:

- 2006 *Damascus Master Plan* and 2005 *Countywide Bikeways Functional Master Plan* recommendations for sidewalk facilities within the Study Area; and
- The lack of continuous and safe pedestrian access to existing sidewalks and bikeways, transit stops, commercial areas, and community and public facilities along, and beyond, the Study Area.

1. COMMUNITY

Land use identified within the Study Area consists of elements that promote pedestrian and bicycle modes of travel, including well established residential neighborhoods with single-family residential homes and townhouses, 14 transit stops, commercial and other community facilities. Also within the Study Area are institutional and public facilities, three existing schools (John T. Baker Middle School, Damascus High School and Damascus Elementary School), one future school site (Oak Drive Elementary School), one place of worship/preschool/daycare (St. Anne’s Episcopal Church), three parks (Upper Magruder Branch Stream Valley Park, Oak Ridge Conservation Park and John Haines Neighborhood Park), a recreation center (Damascus Community Center), and two employment/business centers (see **Figures 3a** and **3b** on pages 7 and 8; and **Table 8** on page 37, for employment/business centers). Homeowners / Civic Associations and Community Centers located within the vicinity of the Study Area have been included on the project mailing list and have been invited to attend public involvement activities for the project (See **Section IV. Public Involvement**). The Damascus Master Plan notes if the property slated for the future Oak Drive Elementary School is not needed, it is to be converted to park (see **Appendix A**).

There are no fire department facilities or police stations located in the Study Area. Nearby fire stations providing fire, rescue and emergency medical services to the Study Area include: Station 13 in Damascus, Station 35 in Clarksburg and Station 17 in Laytonsville. Police service is provided by the 5th District Police Station in Germantown. See **Appendix B** for an analysis of the socioeconomic resources in the Study Area.

Pedestrian and bikeway facility improvements along Oak Drive and MD 27 are needed to provide a north-south route that will connect to east-west routes, as well as link residential areas with numerous community destination points such as area schools, religious facilities, and parks.

2. TRANSPORTATION DEMAND

a. Existing Traffic Volumes

Existing traffic data, including vehicular and pedestrian volumes, was provided by Montgomery County DOT along MD 27 and at the signalized intersections of Oak Drive (north intersection) and Bethesda Church Road (see **Appendix H**). The turning movement and pedestrian breakdown reports provided were recorded in February 2006 and January 2008 at the Oak Drive (north intersection) and Bethesda Church Road intersections, respectively.

In addition, Annual Average Daily Traffic (AADT) was provided along the MD 27 corridor for the year 2008. Data was monitored and collected at two stations along MD 27, one located 1.74 miles south of the southern project limit (Station B2701) and the other located at 0.32 mile north of the northern project limit (Station B2945). The average daily vehicle count at the southern monitoring station was 22,341 vehicles and 21,511 vehicles at the northern station. **Figures 4a** (page 14) and **4b** (page 15) show peak hour volumes at the northern intersection of MD 27 at Oak Drive (north intersection) and MD 27 at Bethesda Church Road, respectively.

In addition to vehicular traffic volumes, pedestrian traffic counted at the Oak Drive (north) intersection on February 7, 2006 from 6:00 am to 6:00 pm totaled 17 people. Pedestrian counts indicated that seven people approached the intersection between 7:00 and 9:00 AM and between 4:00 and 6:00 PM accounting for approximately 82 percent of the total 12-hour pedestrian traffic at this location. Approaching this intersection, sidewalks only exist on the east side of MD 27 up to the intersection crosswalk and along the west side of Oak Drive.

The pedestrian movements at Bethesda Church Road were counted on January 22, 2008 between 6:00 AM and 6:00 PM. Analysis revealed 14 people approached the intersection with the majority of pedestrian movements occurring between 9:00 to 11:00 AM and 4:00 to 5:00 PM, totaling six and four pedestrians, respectively. At this location, 72% of the total 12-hour pedestrian volume occurred between those time periods. Approaching this location, sidewalks exist in all quadrants except along the west side of MD 27, north and south of the intersection.

No proposed public projects have been identified within the Study Area. Planned development identified within the Study Area includes 37 single-family residential detached units and 46 single-family residential attached units, which could increase the potential for pedestrian and bicycle traffic within the Study Area.

Pedestrian counts along roadways with no existing sidewalk tend to be unreliable predictors of future pedestrian demand. Planners generally believe it more appropriate to use housing density and proximity to transit, community facilities, town centers and other pedestrian facilities in determining pedestrian facility needs. For example, within approximately one mile of the John T. Baker Middle School, Oak Ridge Conservation Park and the Damascus Community Recreation Center (DCRC) there are approximately 284 residences that would benefit from a future Oak Drive sidewalk if destined to these facilities. Consideration of this sidewalk is consistent with local, state and national initiatives to support Smart Growth, promote transit connectivity and reduce automobile dependency.

b. Capacity and Level of Service

The Critical Lane Volume (CLV) Analysis methodology was used to evaluate traffic operations at Study Area intersections during the AM and PM peak hours. Performance measures of effectiveness include critical lane volume (CLV), volume-to-capacity ratio (V/C ratio), and level of service (LOS). The total CLV for each peak period is calculated by combining the CLVs for the NB/SB movements and EB/WB movements. The CLV indicates the highest volume for a given approach lane configuration in a given direction.

The v/c ratio is the ratio of flow rate to the capacity of the facility. This ratio is often used to determine sufficiency of capacity at a given intersection. Generally speaking, a ratio of 1.0 indicates that the intersection is operating at capacity. A ratio of greater than 1.0 indicates that the facility is failing, as the number of vehicles exceeds the roadway capacity. The LOS is a letter designation that corresponds to a certain range of roadway operating conditions. The levels of service range from A to F, with A indicating the best operating conditions and F indicating the worst, or a failing, operating condition.

The results of the capacity analysis at Study Area intersections with existing traffic volumes are provided in **Table 3** on page 12.

LOCATION	CLV	V/C RATIO	LOS
MD 27 at Oak Drive (north intersection)	867 (1109)	0.54 (0.69)	A (B)
MD 27 at Bethesda Church Road	886 (1039)	0.55 (0.65)	A (B)

The capacity analysis for the intersections along MD 27 within the study area shows that the existing traffic configuration is operating at an adequate condition for the current traffic volumes.

3. PEDESTRIAN / BICYCLE FACILITY DEFICIENCIES

In general, insufficient pedestrian and bicycle facilities exist within the Study Area, reducing the ability for pedestrians to safely access local parks, the Damascus Recreation Center, area schools, community facilities, and transit stops.

The existing notable pedestrian/bicycle facility deficiencies within the project limits include:

- Discontinuous sidewalk along Oak Drive and MD 27
- Partial sidewalk at the Oak Drive/MD 27 northern intersection
- Lack of sidewalk at the MD 27/Oak Drive southern intersection
- Lack of crosswalk provided at the MD 27/Oak Drive southern intersection
- Substandard shoulder width along MD 27 to accommodate existing signed on-road bike lanes (i.e., shoulder is less than four-feet wide in some areas and should be between four and six-feet wide)
- Lack of sidewalk/bicycle facilities along Kingstead Road or Greensboro Drive
- Lack of connection to the shared-use path within John Haines Neighborhood Park

4. SAFETY ISSUES AND CRASH DATA

To evaluate safety within the Study Area, a crash analysis was conducted based on data provided by the Montgomery County DOT, Traffic Engineering and Operations Section for a 5-year period from January 1, 2003 to December 31, 2007 and compared to statewide average rates for the years 2005 through 2007. Crash data was analyzed along MD 27 between the intersections of Oak Drive (south) and Bethesda Church Road including Bloom Drive, Tralee Terrace, Valley Park Drive, Sunset Drive, Oak Drive (north) and Damascus Manor Road. All study intersections are controlled by stop signs, except for MD 27 at

Oak Drive (north) and Bethesda Church Road, which are both controlled by traffic signals. These intersections have marked crosswalks and are the only locations within the Study Area where crosswalks are provided.

Within the project limits along MD 27, the average crash rate was 142.8 crashes/100 million vehicle miles (crashes/100 mvm), which is higher than the statewide crash rate of 105.94 crashes/100 mvm for similar roadways. All categories of crashes had crash rates higher than the statewide average, including opposite direction, rear end, left turn sideswipe, angle, single vehicle and other.

The most prevalent crash type in the Study Area is rear-end, accounting for nearly 37% of all collisions, followed by left-turn (over 15%), single vehicle (over 13%) and right angle (over 10%) collisions. Additionally, the average injury crash rate (69.74 crashes/100 mvm) was higher than the statewide average (47.93 crashes/100 mvm).

Table 4, page 13, shows the percentage of crashes occurring at Study Area intersections along MD 27.

Table 4. Percent of crashes at Intersections along MD 27 between Oak Drive (south) and Bethesda Church Road.

TOTAL CRASHES (%)*	LOCATION / INTERSECTION WITH MD 27
21%	Bethesda Church Road
13%	Oak Drive (north)
11%	Oak Drive (south)
8%	Tralee Terrace
8%	Valley Park Drive
8%	Sunset Drive
5%	Damascus Manor Road
5%	Bloom Drive

**21% of all crashes occurred at a location along MD 27 not at an intersection.*

There were two pedestrian-related crashes with injuries, but no fatalities, reported in the Study Area. One pedestrian-related crash occurred at MD 27 and Tralee Terrace, and one occurred south of the MD 27 and Bloom Drive intersection. There were no reported bicycle-related crashes. The most commonly cited probable cause of crashes at the study intersections was failure to give full attention (48%), followed by failure to yield right-of-way (22%), influence of alcohol and drugs, following too closely and failure to obey traffic controls (under 4% each) and too fast for conditions and failure to keep right of center (over 2%).

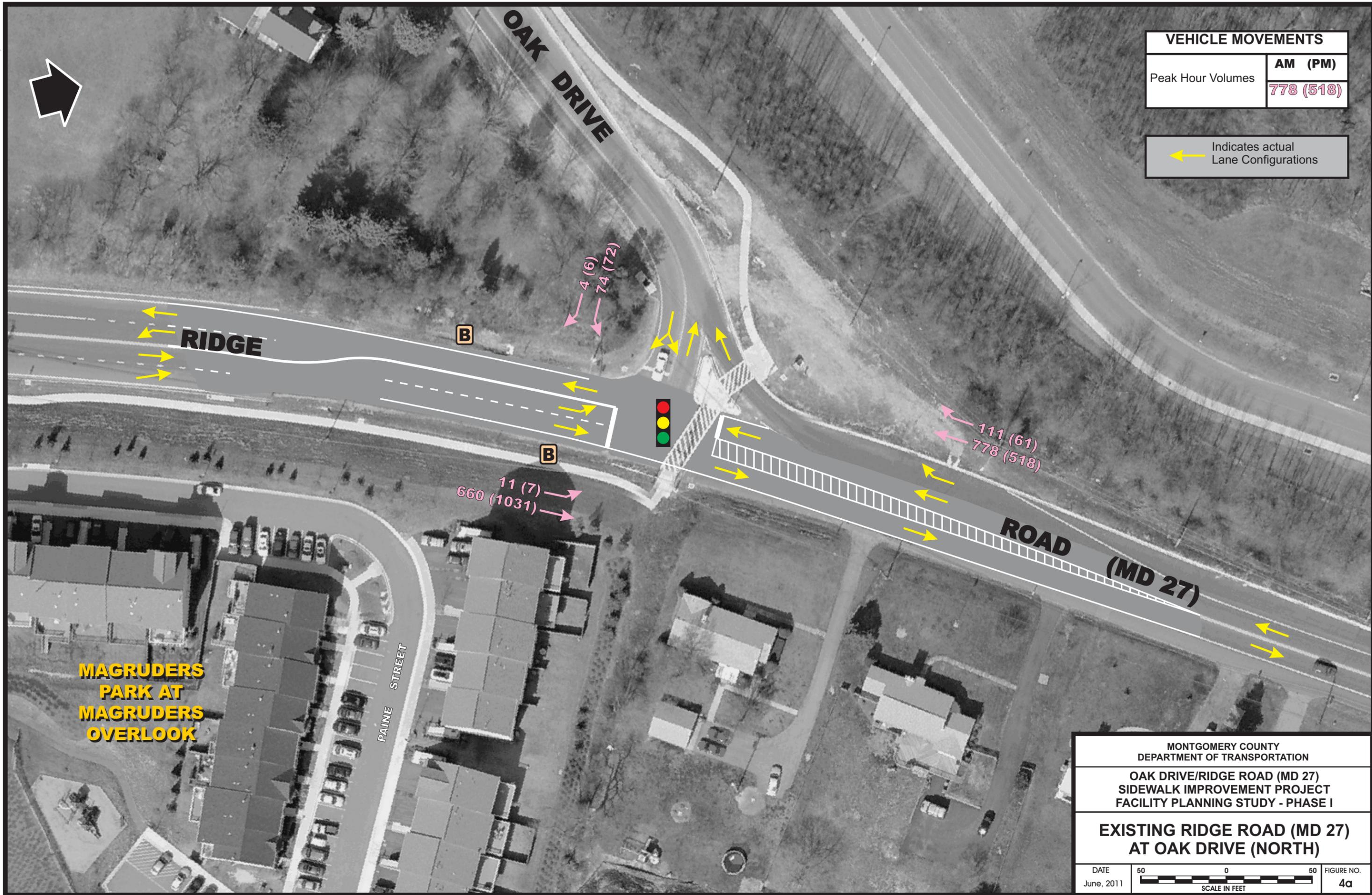
5. MULTIMODAL ACCESS

Continuous (approximately every 20 to 30 minutes) weekday transit service is provided within the Study Area by Montgomery County Ride-On Bus Route 90. The study team identified fourteen bus stops along MD 27 between Oak Drive (southern intersection) and Bethesda Church Road (see **Figures 3a** and **3b**, on pages 7 and 8, respectively). Bus Route 90 also services Damascus Library and Senior Center, Shady Grove Metro Station, Shady Grove Road, Montgomery Airpark, Woodfield Road and Damascus Park-N-Ride. The installation of continuous sidewalk facility improvements along Oak Drive and MD 27, within the project limits, would improve and enhance pedestrian access to the existing bus stops and expand transportation mode choices for those in the community. Access to these bus stops would provide riders with connections to the Damascus Town Center, religious facilities, schools, community centers and parks within the transit service area (see **Table 8**, page 37).



VEHICLE MOVEMENTS	
Peak Hour Volumes	AM (PM)
	778 (518)

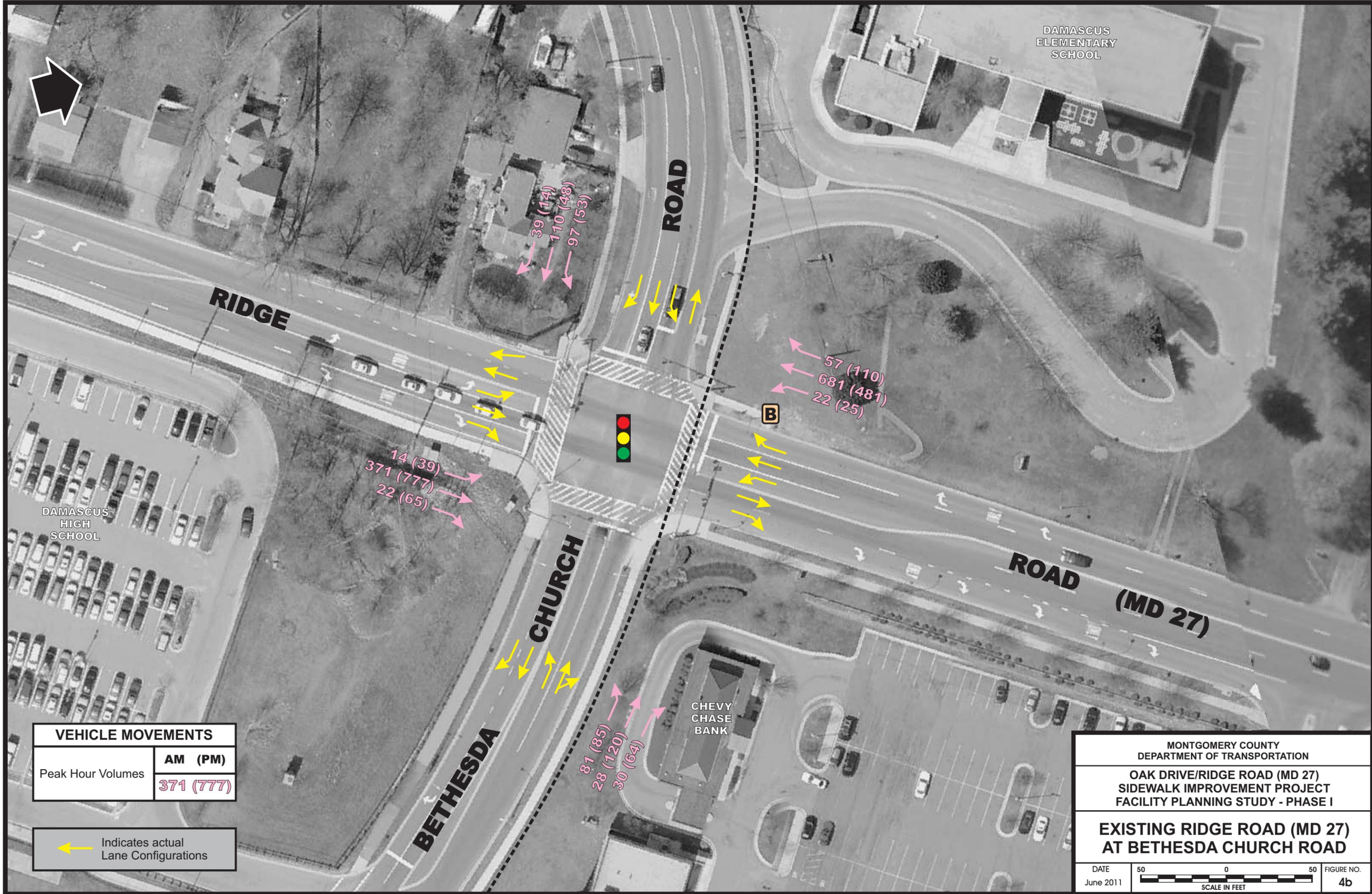
← Indicates actual Lane Configurations



**MAGRUDERS
PARK AT
MAGRUDERS
OVERLOOK**

PAINE STREET

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION		
OAK DRIVE/RIDGE ROAD (MD 27) SIDEWALK IMPROVEMENT PROJECT FACILITY PLANNING STUDY - PHASE I		
EXISTING RIDGE ROAD (MD 27) AT OAK DRIVE (NORTH)		
DATE June, 2011	50 0 50 SCALE IN FEET	FIGURE NO. 4a



VEHICLE MOVEMENTS	
	AM (PM)
Peak Hour Volumes	371 (777)

← Indicates actual Lane Configurations

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

OAK DRIVE/RIDGE ROAD (MD 27)
SIDEWALK IMPROVEMENT PROJECT
FACILITY PLANNING STUDY - PHASE I

**EXISTING RIDGE ROAD (MD 27)
AT BETHESDA CHURCH ROAD**

DATE June 2011	50 0 50 SCALE IN FEET	FIGURE NO. 4b
-------------------	--------------------------	------------------

E. SUMMARY

The Study Area consists of elements that promote pedestrian and bicycle modes of travel, including well established residential neighborhoods (single-family residential homes and townhouses within 10 designated communities), 14 transit stops served by Montgomery County Ride-On Bus Route 90, three existing schools and one proposed school, one place of worship, three parks (e.g., John Haines Neighborhood Park, Upper Magruder Branch Stream Valley Park, Oak Ridge Conservation Park), Damascus Community Recreation Center, commercial (Damascus Veterinary Hospital and Ridgeview retail/office center) and numerous other community facilities.

Within the project limits, intermittent pedestrian and bicycle facilities (e.g., sidewalk, marked crosswalks, Shared-Use Path, signed shared roadway with on-road bike lanes) are present (see **Table 1** on page 6, and **Figures 3a** and **3b** on pages 7 and 8, respectively). The installation of continuous sidewalk facility improvements along Oak Drive and MD 27 would provide a north-south route connecting to east-west routes as well as link residential areas with community destination points noted above. Improvements will also connect existing and proposed signed shared roadways (SR) and dual bikeways (DB) to the Damascus Town Center running along Woodfield Road (DB-19, SR-61), Damascus Road (SR-44) and Kemptown Road (SR-48). Continuous sidewalk within the project limits would also improve and enhance pedestrian access to the existing 14 transit bus stops along MD 27 and expand transportation mode choices for those in the community. Access to these bus stops would provide riders with connections to the Damascus Town Center, religious facilities, schools, community centers and parks within the transit service area.



ALTERNATIVES EVALUATION



Looking south along Oak Drive at John T. Baker Middle School.

A. INTRODUCTION

Following completion of the Purpose and Need Statement, and review of existing and future conditions, improvement alternatives were developed and evaluated. Different features such as varying typical section widths and installation of retaining walls were evaluated to minimize impacts to properties along Oak Drive and MD 27.

- Alternative 1: No-Build
- Alternative 2: Master Plan Improvements
- Alternative 3: Modified Master Plan Improvements (Recommended Alternative)

The two build alternatives (Alternatives 2 and 3), were developed based on the recommendations of the Montgomery County's 2006 Damascus Master Plan, Maryland-National Capital Park and Planning Commission's 2005 Countywide Bikeways Functional Master Plan, recent and planned development and current public transportation within the Oak Drive / MD 27 Study Area, as well as public and agency input. Below is a summary of the process undertaken in the evaluation of the alternatives.

B. EXISTING CONDITIONS

1. ROADWAY GEOMETRY

a. Lane Configuration and Traffic Control.

The following eight intersections along MD 27 within the study limits (southern intersection with Oak Drive to Bethesda Church Road) were analyzed:

- Oak Drive (south intersection),
- Bloom Drive,
- Tralee Terrace,
- Valley Park Drive,
- Oak Drive (north intersection),
- Sunset Drive,
- Damascus Manor Road, and
- Bethesda Church Road.

All of the study intersections along MD 27 are controlled by a stop sign on the minor street except for Oak Drive (northern intersection) and Bethesda Church Road, which are controlled by traffic signals. **Figures 4a** and **4b** (on pages 14 and 15, respectively) provide existing intersection lane configuration diagrams for the two signalized intersections.

The major roadways included in the Oak Drive / MD 27 study area are Oak Drive, MD 27, Kingstead Road and Greensboro Drive. Descriptions of these roadways are provided in detail **Section I. A. Project Background and Description**, on pages 1 and 2. In addition, as depicted in the Damascus Master Plan's Roadway Network Classifications map, a summary of the functional classification of each roadway is provided in **Appendix D**.

b. Public Right of Way

Within the project limits, existing ROW varies along Oak Drive, Kingstead Road, Greensboro Drive and MD 27 (see **Table 5**, page 18).

Table 5. Summary of Existing Right-Of-Way (ROW) Widths within the Oak Drive / Ridge Road (MD 27) Project Limits		
EXISTING ROADWAY SECTION	APPROXIMATE EXISTING ROW WIDTHS	MASTER PLAN MINIMUM ROW WIDTH RECOMMENDATIONS
MD 27 – Oak Drive (south intersection) to Bloom Drive	Varies 80' - 100'	100'
MD 27 - Bloom Drive to Tralee Terrace	Varies 100' - 120'	100'
MD 27 – Tralee Terrace to Valley Park Drive	Varies 110' - 140'	100'
MD 27 – Valley Park Drive to Oak Drive (north intersection)	100'	100'
MD 27 – Oak Drive (north intersection) to Damascus Manor Road	Varies 32' - 80'*	100'
MD 27 – Damascus Manor Road to Bethesda Church Road	Varies 32' - 80'	100'
Oak Drive – Ridge Road to Kingstead Road	Varies 30' - 70'	70'
Oak Drive – Kingstead Road to MD 27	30' - 80'	70'
Kingstead Road – Greensboro Drive to Oak Drive	60' - 80'	70'

**Note: For these segments of Ridge Road (MD 27), several properties appear to have a prescriptive ROW for the highway, whereby the deed descriptions for the properties include land out to the center of the road as part of the property, but the roadway portion (approximately edge-of-shoulder to edge-of-shoulder) is dedicated to public use. Some of the properties in these segments have a prescriptive ROW for one-half of the roadway and a dedication of up to 40-feet for the other half, thus the assumption of 80-feet as the upper ROW limit.*

Along Oak Drive, existing ROW ranges from approximately 30 feet to 80 feet; there are no locations along Oak Drive that contain ROW greater than 80 feet wide. The Master Plan recommends that the entire length of Oak Drive have a minimum ROW width of 70-feet with two travel lanes.

Along MD 27, existing ROW ranges from approximately 40 feet to 140 feet wide between its southern intersection with Oak Drive and Bethesda Church Road. Approximately 56 percent of existing ROW along MD 27 is 80-feet wide or greater. To provide additional through and/or turn lanes, MD 27 widens at the major intersections of Oak Drive (south and north intersections), Bloom Drive, Tralee Terrace, Valley Park Drive, Damascus Manor Road and Bethesda Church Road. The Master Plan recommends MD 27, from the Southern Plan Area boundary (south of Sweepstakes Road) to Bethesda Church Road, have a minimum ROW width of 100-feet with two travel lanes.

Along Kingstead Road, existing ROW ranges from approximately 60 foot to 80 foot, and Greensboro Drive typically falls within a 60-foot existing ROW. There are no locations along Kingstead Road or Greensboro Drive that are greater than 80 feet wide. The Master Plan recommends Kingstead Road, from Kings Valley Road to Oak Drive, have a minimum ROW width of 70-feet with two travel lanes.

c. Typical Section

Existing typical sections of Oak Drive and MD 27 are shown in **Figures 5a** and **5b** on page 21, and consist of the following features:

- Oak Drive: 18-foot wide, two-lane roadway (one lane in each direction), with sidewalk along approximately 18% of the west side Oak Drive, from the John T. Baker Middle School to the intersection of Oak Drive and MD 27 (north);
- MD 27: 24-foot wide, two-lane roadway (one lane in each direction), 6-foot (+/-) wide shoulder/bike lane along northbound MD 27, 8-foot (+/-) wide shoulder/bike lane along the west side of MD 27, approximately 35% of the east side MD 27 has existing sidewalk.

2. PEDESTRIAN AND TRAFFIC VOLUMES

- Crash Study. The average crash rate along MD 27 between Oak Drive (south) and Bethesda Church Road, for the 5-year period from January 1, 2003 to December 31, 2007, was 142.8 crashes/100 million vehicle miles (crashes/100 mvm), which is higher than the statewide crash rate of 105.94 crashes/100 mvm for similar roadways. Most crashes (21%) occurred at MD 27's intersection with Bethesda Church Road (see **Table 4**, page 13). Another 21% of all crashes occurred at locations along MD 27 not at an intersection. All categories of crashes had crash rates higher than the statewide average, including opposite direction, rear end, left turn sideswipe, angle, single vehicle and other. The most prevalent crash type in the Study Area is rear-end, accounting for nearly 37% of all collisions, followed by left-turn (over 15%), single vehicle (over 13%) and right angle (over 10%) collisions. Additionally, the average injury crash rate (69.74 crashes/100 mvm) was higher than the statewide average (47.93 crashes/100 mvm). There were two pedestrian-related crashes with injuries, but no fatalities, reported in the Study Area. One pedestrian-related crash occurred at MD 27 and Tralee Terrace, and one occurred south of the MD 27 and Bloom Drive intersection. There were no reported bicycle-related crashes.
- Traffic Signal Operations. There are two traffic signals within the project limits: MD 27 at Oak Drive (north), and MD 27 at Bethesda Church Road. Marked crosswalks, existing shared-use path, and portions of sidewalk are provided at both of these signalized intersections.
- Capacity Analysis – Existing Conditions. **Figures 4a** (page 14) and **4b** (page 15) show existing peak hour traffic volumes at the northern intersection of MD 27 at Oak Drive (north intersection) and MD 27 at Bethesda Church Road, respectively (see **Section I.D.2** and **Appendix H** for more details). Results of the capacity analysis indicate that both signalized intersections currently operate at LOS A during AM and LOS B during PM commuter peak hours (see **Table 3**, page 12).
- Pedestrian Traffic – Existing Conditions. Pedestrian counts indicated that seven people approached the Oak Drive / MD 27 (north) intersection between 7:00 and 9:00 AM and between 4:00 and 6:00 PM accounting for approximately 82 percent of the total 12-hour pedestrian traffic

at this location. Analysis revealed 14 people approached the MD 27 / Bethesda Church Road intersection with the majority of pedestrian movements occurring between 9:00 to 11:00 AM and 4:00 to 5:00 PM, totaling six and four pedestrians, respectively. At this location, 72% of the total 12-hour pedestrian volume occurred between those time periods.

C. ALTERNATIVES ANALYSIS

The 2006 Master Plan makes specific recommendations for required public ROW to define each roadway's character and number of lanes (see **Table 5** on page 18). The minimum recommended ROW width for Oak Drive within the project area is 70-feet (existing ROW ranges from approximately 30' to 80'); the minimum recommended ROW width for MD 27 is 100-feet (existing ROW ranges from approximately 32' to 140'). The proposed recommended design elements are intended to accommodate the vehicular, bus, bicycle and pedestrian traffic needs of the area. The proposed improvements have considered the 2008 County Design Standards / Road Code and the recommendations of the Master Plan and Bikeways Plan, while minimizing, to the extent practicable, the impact to private property, environmental features and drainage structures, as well as earthwork and construction cost. Build Alternatives 2 and 3 propose sidewalk improvements along the west side of Oak Drive and the east side of MD 27.

In the initial concept development phases of the alternatives analysis, the study team considered sidewalk improvements on both sides of Oak Drive. However, the decision was made to consider sidewalk only on the west side of Oak Drive for the following reasons:

- West side sidewalk connects a larger number of residences to pedestrian destinations;
- West side sidewalk serves the same side of Oak Drive as the John Haines Neighborhood Park, John T. Baker Middle School, and Damascus Community Recreation Center;
- West side sidewalk ties-in to existing sidewalk along Oak Drive near the Ridge Road intersection (north);
- East side sidewalk would have greater impacts to trees, particularly specimen trees.

The decision was made to consider sidewalk only on the east side of MD 27 for the following reasons:

- East side sidewalk ties-in to existing sidewalk in the vicinity of Tralee Terrace, Valley Park Drive, and Damascus High School;
- East side sidewalk connects the Greenhills and Magruders Park at Magruders Overlook communities to Damascus High School and destinations farther north;
- West side sidewalk would encroach more on residential properties, including potential displacements, particularly north of Sunset Drive. Extensive grading and retaining walls would likely have to be utilized in order to limit impact to residential properties.

The build alternatives have been refined through involvement of public officials, neighborhood groups, and the general public, resulting in the creation of a Recommended Alternative, Alternative 3. **Table 6**, page 29, provides a summary of alternative features for Alternatives 1, 2 and 3, and **Table 7**, page 30, provides a summary of potential impacts of the Build Alternatives 2 and 3. Typical roadway cross-sections (drawings of the roadway defining ROW limits, pavement widths, shoulder widths, bicycle and pedestrian amenities, etc.) were developed for each alternative to evaluate the feasibility of providing

sidewalk facilities along Oak Drive and MD 27. All dimensions are approximate based on planning level information and subject to change, during the preliminary and final design phases.

1. ALTERNATIVE 1: NO-BUILD

Existing typical sections were measured along Oak Drive and MD 27 within the project limits. During field reviews, existing lanes, sidewalk and shared-use paths, the posted speed limit, and bus stops were all noted.

No-Build Alternative (Baseline Alternative, Alternative 1) was removed from further consideration because it does not meet the project’s Purpose and Need; it would not improve access to transit stops or commercial facilities within the Damascus Town Center, and pedestrian and bikeway disconnects would remain (see **Figures 5a** and **5b**, on page 21).

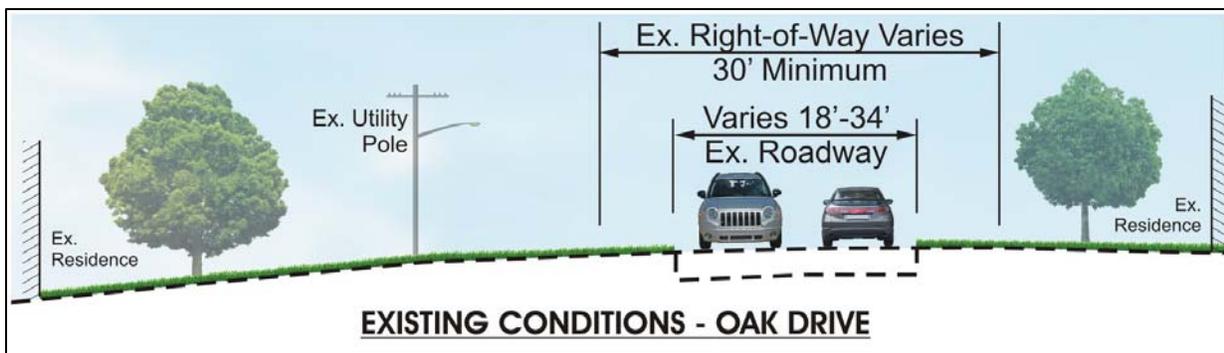


Figure 5a. Alternative 1: No-Build, Typical Section, along Oak Drive.

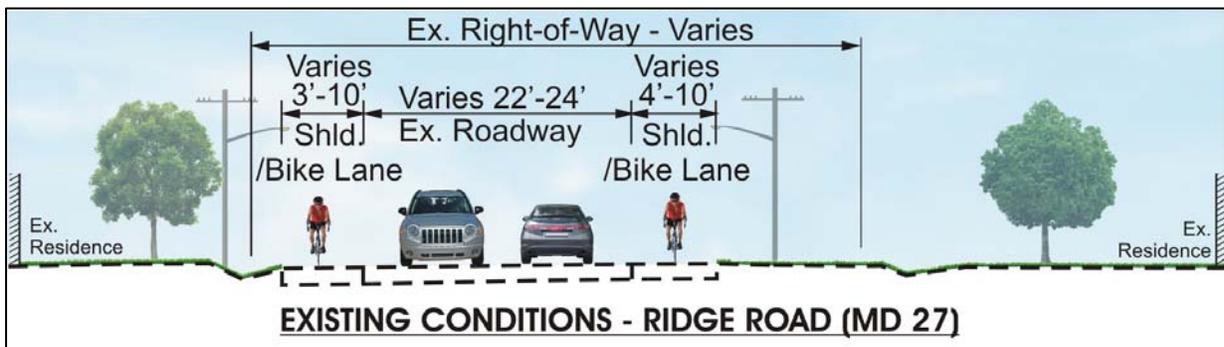


Figure 5b. Alternative 1: No-Build, Typical Section, along Ridge Road (MD 27).

2. ALTERNATIVE 2: MASTER PLAN ALTERNATIVE (Dropped)

Alternative 2 was developed based on Master Plan guidance, and consists of providing pedestrian and bicycle improvements along Oak Drive, Kingstead Road, Greensboro Drive and MD 27 (see **Figures 6a** and **6b**, on pages 22 and 23, respectively). Montgomery County Standard / Road Codes 2003.10 and 2004.18 were used for Oak Drive and MD 27, respectively. **Appendix C** summarizes County Design Standards / Road Code used during development of the build alternatives.

Features of Alternative 2 include:

- ❑ **Oak Drive – Within a Master Planned 70-foot Right-of-Way**
 - 9-foot wide travel lane in each direction, with no shoulder (currently exist today)
 - 6-foot wide sidewalk along the west side of roadway
 - variable width open space (minimum 4-foot) between edge of road and sidewalk
- ❑ **Ridge Road (MD 27) – Within a Master Planned 100-foot Right-of-Way**
 - 12-foot wide travel lane in each direction
 - variable width shoulder / signed-shared roadway (6' ± to 8' ±) (currently exist today)
 - 6-foot wide sidewalk along the east side of roadway (discontinuous portions of sidewalk exist today)
 - variable width open space (approximately 22') between edge of road and sidewalk
- ❑ **Kingstead Road**
 - 9-foot wide travel lane in each direction, with no shoulder (currently exist today)
 - 5-foot wide sidewalk along the south side of roadway from Oak Drive to approximately 50-feet along Greensboro Drive
 - variable width open space (minimum 4-foot) between edge of road and sidewalk
- ❑ **Greensboro Drive**
 - 8-foot wide travel lane in each direction, with no shoulder (currently exist today)
 - variable width open space (minimum 4-foot) between edge of road and shared-use path
 - 5-foot wide sidewalk along the south side of roadway from Oak Drive to approximately 50-feet along Greensboro Drive (reword)

Alternative 2 was removed from further study due to the extensive amount of property impacts incurred.

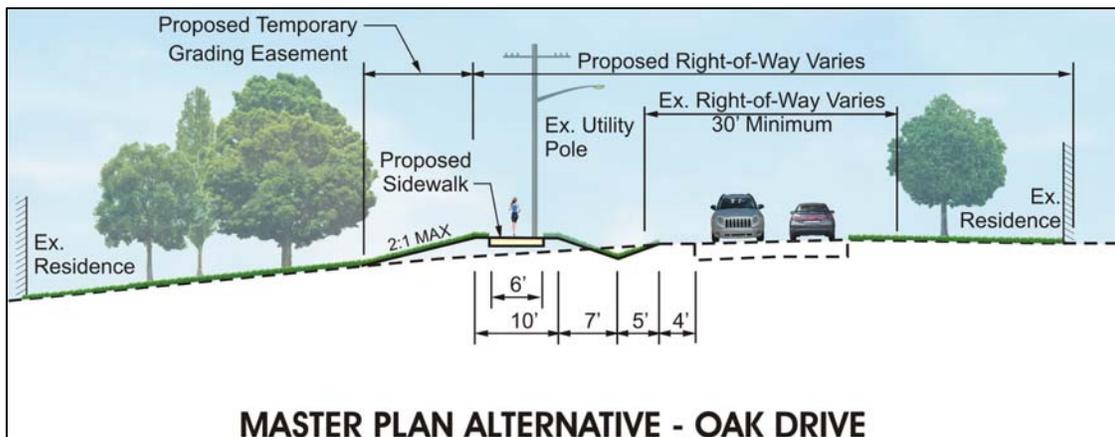


Figure 6a. Alternative 2 – Typical Section, along Oak Drive

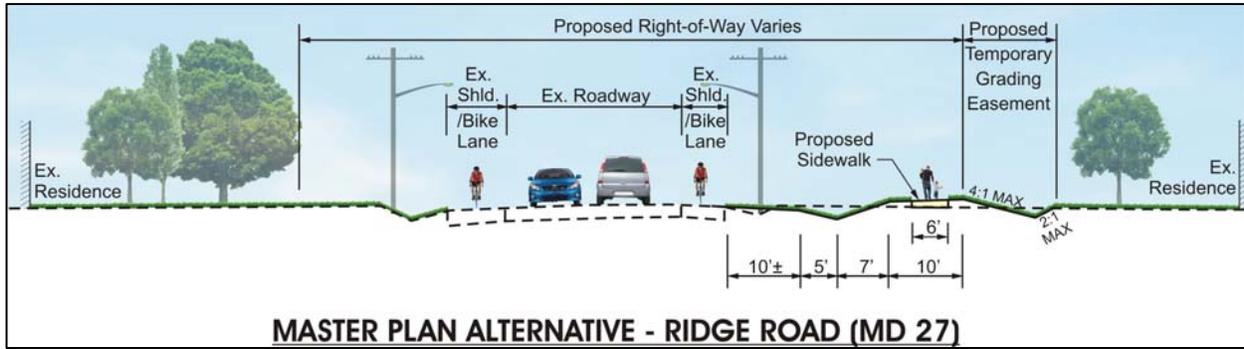


Figure 6b. Alternative 2 – Typical Section, along Ridge Road (MD 27)

3. ALTERNATIVE 3: MODIFIED MASTER PLAN ALTERNATIVE
 (RECOMMENDED ALTERNATIVE)

The Modified Master Plan Alternative was developed based on public feedback and comments and Study Team review of the alternatives developed for this study (see **Figures 7a, 7b, 8a and 8b** on pages 25, 26, 27, and 28 respectively.) The Recommended Alternative contains design elements consistent with the Master Plan and Bikeways Plan, and is compatible with planned development and transportation projects (e.g., master planned pedestrian and bikeway facilities on intersecting roadways) and addresses the project Purpose and Need. As with Alternative 2, Montgomery County Standard / Road Codes 2003.10 and 2004.18 were used for Oak Drive and MD 27, respectively; however, modifications were made to reduce impacts to property and resources in the area.

Alternative 3 provides the following features:

Along Oak Drive

- ❑ A five-foot wide sidewalk is proposed along the west side of Oak Drive from its southern intersection with MD 27 to the John T. Baker Middle School, placed a minimum of four-feet from the existing edge of road. The southern portion of this sidewalk will connect to the existing Shared-Use Path within the southern portion of John Haines Neighborhood Park, while the northern portion of this sidewalk will connect to existing sidewalk leading up to the northern, signalized intersection of Oak Drive and MD 27.
- ❑ A five-foot wide sidewalk is proposed along the south side of Kingstead Road from Oak Drive to approximately 50-feet along Greensboro Drive, placed a minimum of four-feet from the existing edge of road. This sidewalk will connect to the existing Shared-Use Path within the northern portion of John Haines Neighborhood Park.

Along Ridge Road (MD 27)

- ❑ A five-foot wide sidewalk is proposed on the east side of MD 27 from its southern intersection with Oak Drive to the Damascus High School, placed a minimum of four-feet from the existing edge of road. The proposed sidewalk will tie into existing sidewalk located 300 feet± north of Tralee Terrace to 520 feet± north of Valley Park Drive and will also connect to existing sidewalk in front of Damascus High School, which leads up to the signalized intersection of MD 27 and Bethesda Church Road.

Retaining wall typical sections are designed to minimize impacts to properties adjacent to Oak Drive and MD 27, while incorporating the Master Plan/Bikeways Plan recommended improvements. Retaining walls are proposed in the following locations:

- ❑ along Oak Drive in the vicinity of the John T. Baker Middle School to avoid impacts to the school's parking lot,
- ❑ along MD 27 near Bloom Drive to avoid property impact and potential displacement, and along MD 27 on the property adjacent to the Oak Drive / MD 27 north intersection to avoid displacement.

Sidewalk improvements along MD 27 will occur within a variable ROW width between its southern intersection with Oak Drive and Bethesda Church Road. A five-foot wide sidewalk is proposed on the east side of MD 27 from its southern intersection with Oak Drive to the Damascus High School, placed a minimum of four-feet from the existing edge of road. The proposed sidewalk will tie into existing sidewalk located 300 ± feet north of Tralee Terrace to 520 ± feet north of Valley Park Drive and will also connect to existing sidewalk in front of Damascus High School, which leads up to the signalized intersection of MD 27 and Bethesda Church Road.

In order to minimize impacts to properties adjacent to Oak Drive and MD 27, the Recommended Alternative utilizes a mixture of Roadway Typical Sections and Retaining Wall Typical Sections along the length of the project. The Oak Drive and MD 27 typical sections still allow full build-out of proposed master plan improvements; however, they will be constructed within a narrower area and will have a smaller buffer space/lawn panel distance separating the shoulder/signed shared roadway along MD 27, or edge of roadway (along Oak Drive, Kingstead Road and Greensboro Drive), from the pedestrian and bicycle facilities.

4. COMPARISON OF ALTERNATIVES

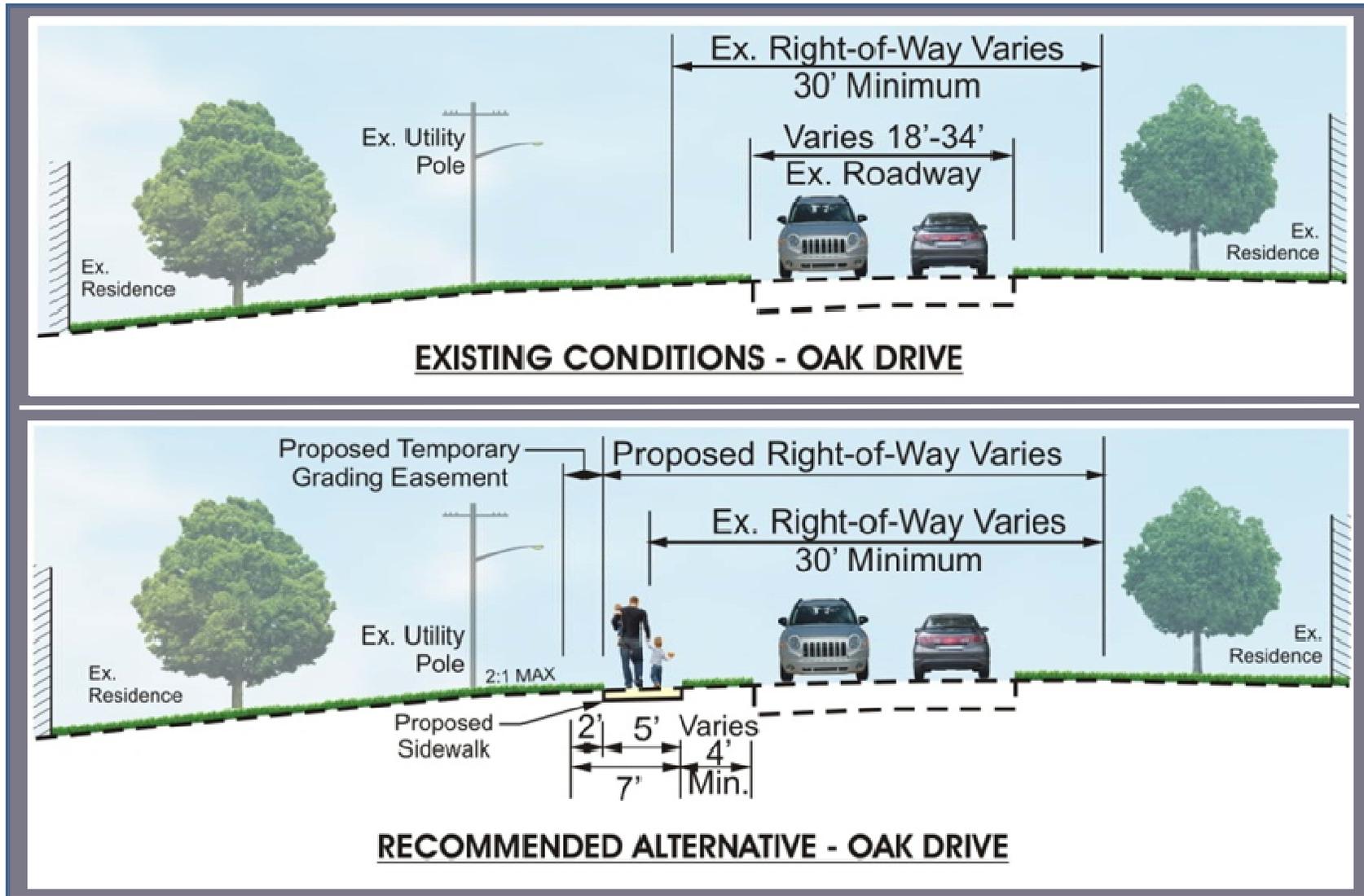
Table 6 (page 29) provides a side by side comparison of existing condition features (Alternative 1, No-Build), and features proposed with Build Alternatives 2 (Dropped) and 3 (Recommended).

Table 7 (page 30) provides a summary of potential impacts for the alternatives described below, and a detailed impact analysis of the Recommended Alternative is located in ***Section III, Impact Analysis***.

All measurements and referenced impacts to resources determined during Phase I are based on planning level information and are subject to change, at any time, during preliminary and final design. Final right-of-way (ROW) impacts will not be available until the project advances to Facility Planning, Phase II, whereby a field survey will identify the specific ROW requirements.

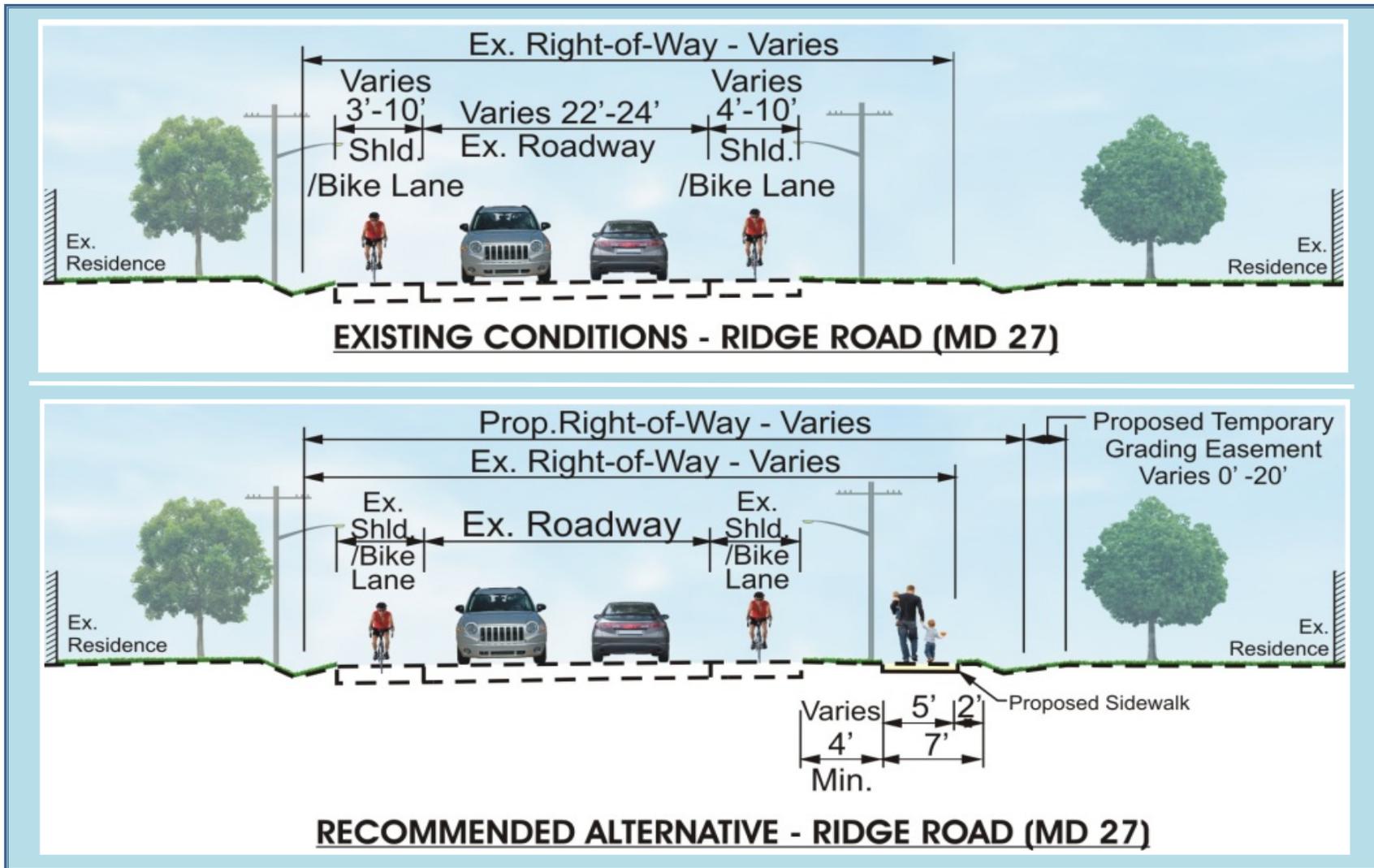
After thorough evaluation, and consideration of impacts and benefits, the Study Team recommends that proposed improvements along Oak Drive / MD 27, from Oak Drive (south) to Bethesda Church Road, proceed to a Phase II Study.

Figure 7a. Alternative 3, Recommended Alternative (along Oak Drive)*

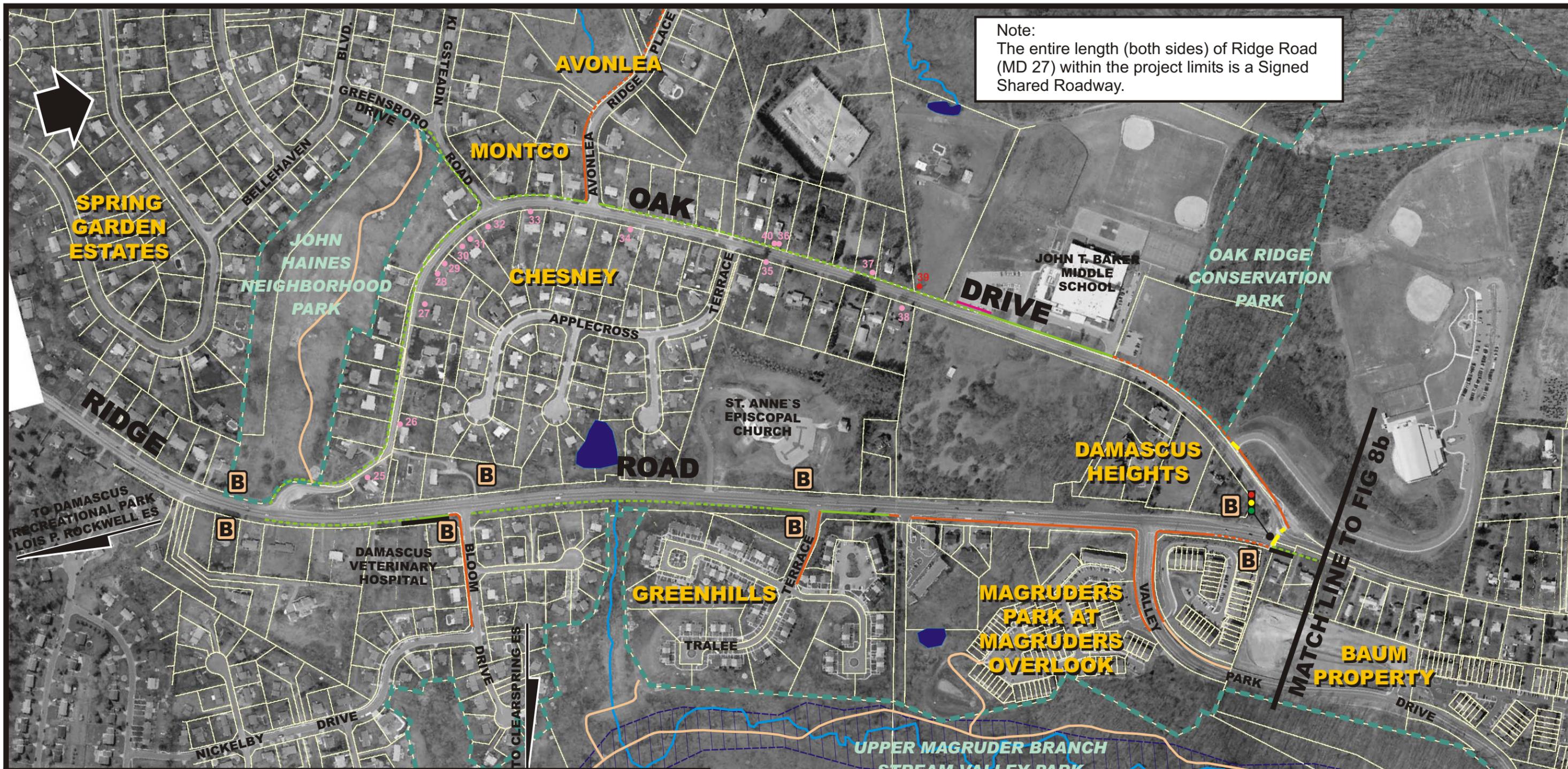


*To minimize impacts, retaining walls are proposed along Oak Drive in the vicinity of John T. Baker Middle School and the Oak Drive/MD 27 northern intersection. The measurements above are based on planning level analysis and may be subject to change during 35% design.

Figure 7b. Alternative 3, Recommended Alternative (along Ridge Road, MD 27)*



*To minimize impacts, retaining walls are proposed along MD 27 near Bloom Drive and the Oak Drive/MD 27 northern intersection. The measurements above are based on planning level analysis and may be subject to change during 35% design.



Note:
The entire length (both sides) of Ridge Road (MD 27) within the project limits is a Signed Shared Roadway.

LEGEND

- B Existing Bus Stops
- Park Boundary
- Potential Waters of the U.S.
- Potential Wetland
- Floodplain
- Existing Crosswalk
- Right-of-Way
- Tree ≥ 24" DBH (Potentially Impacted)
- Tree ≥ 24" DBH (Not Impacted)
- ● ● Signalized Intersection
- Proposed Retaining Wall
- Proposed Closed Section - with sidewalk
- Proposed Open Section - with sidewalk
- Existing Closed Section - with sidewalk
- Existing Open Section - with sidewalk
- Existing Shared-Use Path

POTENTIALLY IMPACTED SPECIMEN TREES*

TREE ID	DBH	SPECIES
39	38.3"	Pin Oak

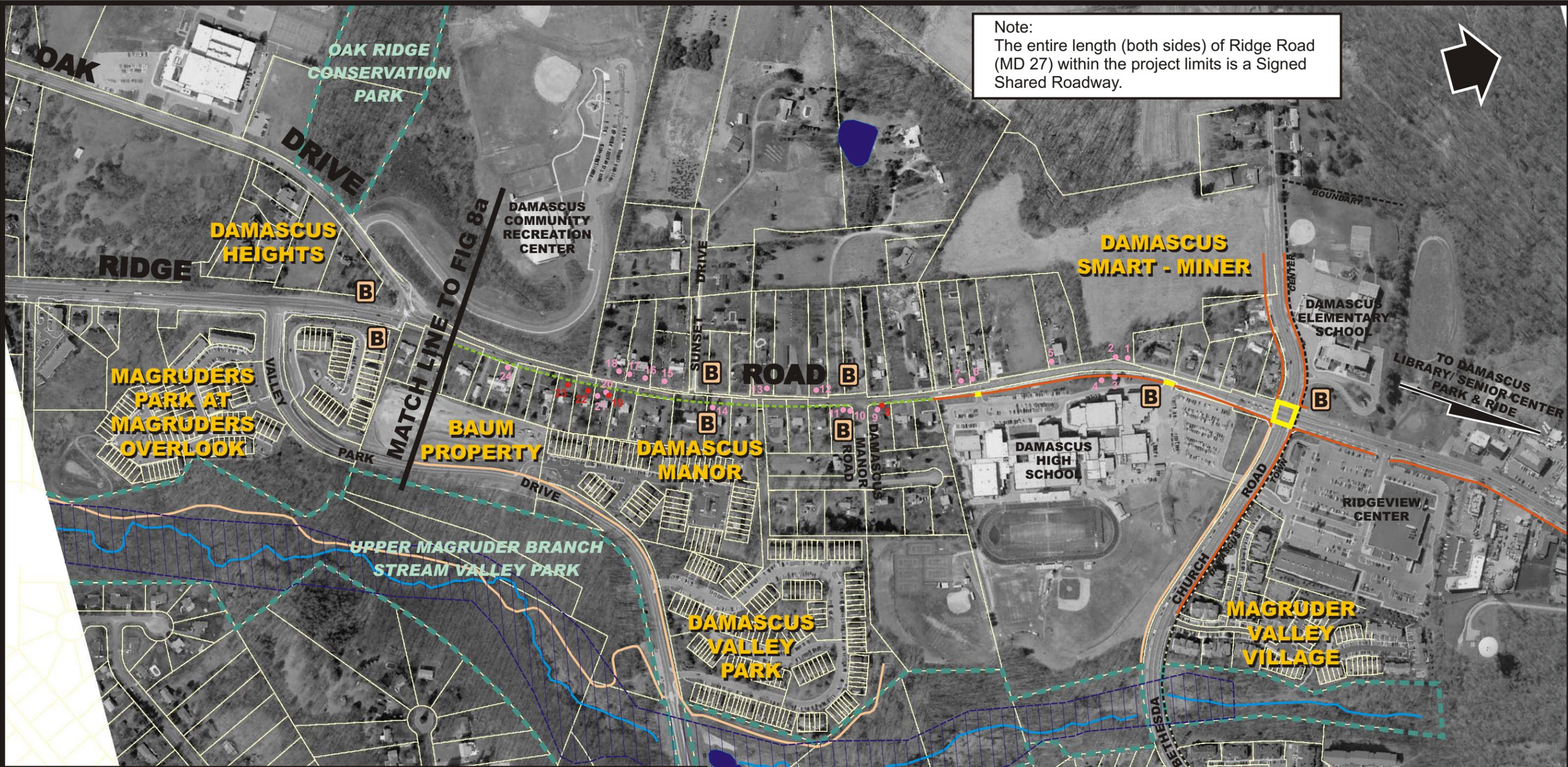
*SPECIMEN TREE, AS DEFINED BY M-NCPP'S MONTGOMERY COUNTY TREE TECHNICAL MANUAL.

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
**OAK DRIVE/RIDGE ROAD (MD 27)
SIDEWALK IMPROVEMENT PROJECT
FACILITY PLANNING STUDY - PHASE I**

PROPOSED ALTERNATIVE 3

DATE: June, 2011
SCALE IN FEET: 0 to 400
FIGURE NO.: 8a

Note:
The entire length (both sides) of Ridge Road (MD 27) within the project limits is a Signed Shared Roadway.



LEGEND

- B Existing Bus Stops
- Park Boundary
- Potential Waters of the U.S.
- Potential Wetland
- Floodplain
- Existing Crosswalk
- Right-of-Way
- Tree ≥ 24" DBH (Potentially Impacted)
- Tree ≥ 24" DBH (Not Impacted)
- Signalized Intersection
- Proposed Retaining Wall
- Proposed Closed Section - with sidewalk
- Proposed Open Section - with sidewalk
- Existing Closed Section - with sidewalk
- Existing Open Section - with sidewalk
- Existing Shared-Use Path

POTENTIALLY IMPACTED SPECIMEN TREES*

TREE ID	DBH	SPECIES
8	34.0"	Silver Maple
19	30.3"	Norway Maple
22	35.0"	Pin Oak
23	30.1"	Norway Maple

*SPECIMEN TREE, AS DEFINED BY M-NCPP'S MONTGOMERY COUNTY TREE TECHNICAL MANUAL.

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

**OAK DRIVE/RIDGE ROAD (MD 27)
SIDEWALK IMPROVEMENT PROJECT
FACILITY PLANNING STUDY - PHASE I**

PROPOSED ALTERNATIVE 3

DATE: June, 2011

400 0 400
SCALE IN FEET

FIGURE NO. **8b**

Table 6. Summary of Alternative Features for Oak Drive / Ridge Road (MD 27) Sidewalk Improvements.

	Alternative 1: No-Build (Dropped)				Alternative 2: Master Plan (Dropped)				Alternative 3: Modified Master Plan (Recommended Alternative)			
	Oak Drive	Ridge Road (MD 27)	Kingstead Road	Greensboro Drive	Oak Drive	Ridge Road (MD 27)	Kingstead Road	Greensboro Drive	Oak Drive	Ridge Road (MD 27)	Kingstead Road	Greensboro Drive
Travel Lanes	Variable 9' to 11' wide travel lane in each direction *Roadway widens to 3 lanes in vicinity of John T. Baker Middle School and Ridge Road intersection	Variable 11' to 12' wide travel lane in each direction	9' wide travel lane in each direction	8' wide travel lane in each direction	9' wide travel lane in each direction *Roadway widens to 3 lanes in vicinity of John T. Baker Middle School and Ridge Road intersection	12' wide travel lane in each direction	9' wide travel lane in each direction	8' wide travel lane in each direction	Variable. 9' to 11' wide EB travel lane 9' to 23' wide WB travel lane* *Roadway widens to 3 lanes in vicinity of John T. Baker Middle School and Ridge Road intersection	Variable. 11' to 12' wide NB and SB travel lanes	9' wide travel lane in each direction	8' wide travel lane in each direction
Shoulder	None	Variable NB: 6' ± SB: 8' ± Signed-Shared Roadway (Shoulder /Bike Lane)	None	None	None	Variable NB: 6' ± SB: 8' ± Signed-Shared Roadway (Shoulder /Bike Lane)	None	None	None	Variable. NB: 4' to 10' Shoulder/Bike Lane SB: 3' to 10' Shoulder/Bike Lane	None	None
Sidewalk	Along WB Oak Drive, from Damascus Recreation Center to the northern intersection of Oak Drive and Ridge Road	Current disconnects on NB side (approximately 35% has sidewalk) On SB side, sidewalk exists at intersections with Oak Drive and Bethesda Church Road	None	None	6' wide sidewalk along WB side of road	6' wide sidewalk along NB side of road	5' wide sidewalk along EB side of road from Oak Drive to approx. 50' along Greensboro Drive. Will connect to existing SUP in John Haines Neighborhood Park.	None	5' wide sidewalk along the WB side of road	5' wide sidewalk along the NB side of road	None	None
Shared-Use Path (SUP)	None	None	None	Adjacent path within John Haines Neighborhood Park	None	None	None	8' wide SUP along WB side of the road from its southern intersection with Ridge Road (MD 27) to John Haines Neighborhood Park. Will connect to existing SUP in John Haines Neighborhood Park.	None	None	8' SUP from Oak Drive to Greensboro Drive	8' SUP from Kingstead Road, connecting to existing SUP within John Haines Neighborhood Park
Open Space	N/A	N/A	N/A	N/A	Variable. Minimum 4' wide open space between edge of road and sidewalk	Variable. Approximately 22' wide open space between edge of road and sidewalk	Variable. Minimum 4' wide open space between edge of road and SUP.	Variable. Minimum 4' wide open space between edge of road and SUP.	Variable. Minimum 4' wide open space between edge of road and sidewalk.	Variable. Minimum 4' wide open space between edge of road and sidewalk.	Variable. Minimum 4' wide open space between edge of road and SUP.	Variable. Minimum 4' wide open space between edge of road and SUP.

Table 7. Summary of Potential Impacts (Build Alternatives 2 and 3).

	Alternative 2 Master Plan Alternative (Open Section Grading)		Alternative 3 Modified Master Plan (Open Section Grading)	
Properties & Resources Affected (no.)^{(2), (3)}				
a. Residential	61		56	
b. Business/Commercial	3		3	
c. Agricultural	1		1	
d. Schools	2		1	
e. Parks	2		2	
Total	69		63	
Right-of-Way (ROW) Impact (acres)				
	Fee Simple	Temporary Easement	Fee Simple	Temporary Easement
a. Residential	2.30	1.63	0.51	1.40
b. Business/Commercial	0.09	0.07	0.02	0.05
c. Agricultural	0.06	0.04	0.02	0.03
d. Schools	0.16	0.18	0.12	0.17
e. Parks	0.08	0.16	0.01	0.10
Total	2.69	2.08	0.68	1.75
Natural Environmental Impacts				
a. Stream Crossings (no.)	2		2	
b. Waters of the U.S. (lf)	0		0	
c. Wetland (acres)	0		0	
d. 100-Year Floodplain (acres)	0		0	
e. Forest (acres)	0		0	
f. Specimen Trees (no.)	11 to 13 ⁽⁴⁾		Up to 5 ⁽⁴⁾	
g. New Impervious Area (acres)	0		0	
Utility Impacts/Relocations				
Utility Pole Relocations (no.)	20 to 50 ⁽⁴⁾		13 to 48 ⁽⁴⁾	
Underground Utility Relocations (water, sewer, gas, etc.) (Yes/No)	Yes		Yes	
Fire Hydrant Relocations (no.)	2 to 4 ⁽⁴⁾		1 to 4 ⁽⁴⁾	
Traffic Signal Modifications (no.)	1		1	

Notes: (1) Alternative 1, No-Build, would have no impacts to property, parking, environmental resources, or utilities in the Study Area; (2) None of the alternatives result in any displacements or parking impacts; (3) Ranges pertain to minimum or maximum items impacted; (4) Utility poles, specimen trees and fire hydrants may be deemed avoidable during the Final Design stage.

D. CONSIDERATIONS DURING FINAL DESIGN

If the Oak Drive / MD 27 Sidewalk Improvement project moves into Phase II of the Facility Planning Study (i.e., Design), the following will be evaluated in detail:

Stormwater Management. To minimize impacts to adjacent properties, the use of pervious pavement is being considered to address new stormwater management (SWM) requirements. If pervious pavement is used to construct the sidewalk, no impervious surface would be added to the study area. Detailed hydrologic and hydraulic analyses will be performed and a preliminary stormwater management (SWM) plan developed in accordance with the Stormwater Management Act of 2007 (the "new" SWM Regulations), which took effect May 2010. Environmental Site Design (ESD) or Low Impact Development (LID) techniques will be considered in Phase II (35% design) to meet new Stormwater Management Requirements.

Specimen trees, utility poles and fire hydrants. Further minimization and avoidance options for potential impacts to specimen trees, utility poles and fire hydrants will be evaluated.

Retaining Walls. A structural analysis will be completed to verify feasibility of proposed retaining walls.

Should this project advance to design and construction, MCDOT will meet with adjacent property owners to address individual concerns.

IMPACT ANALYSIS



View from along Oak Drive.

A. INTRODUCTION

The MCDOT has a long-standing investment in conserving natural, cultural, and socioeconomic resources. As part of the Phase I Facility Planning Study, the Study Team performed an impact analysis to determine the potential effect of the Recommended Alternative on natural environmental, cultural, and socioeconomic resources, including impacts to wetlands, streams, properties, communities and community facilities within the Oak Drive / MD 27 Study Area.

Within the Study Area, resources were inventoried using the Master Plan, Bikeways Plan, interactive internet mapping resources supplied by MCDOT and Maryland-National Capital Park and Planning Commission (M-NCPPC), agency correspondence, census data, and geographic information system (GIS) data. Field reviews were conducted in April 2009 to verify the location of natural environmental resources and existing structures. Recent development and approved public projects on file with the MCDOT and M-NCPPC were also inventoried. An official Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) for the project is typically prepared and submitted as part of any Phase II Facility Planning activities. See **Figures 3a and 3b**, on pages 7 and 8, respectively, for existing project area resources. Supplemental agency coordination and correspondence is located in **Appendix E**.

B. NATURAL ENVIRONMENTAL RESOURCES

Waters of the U.S., including Wetlands. The Study Area lies within three watersheds: Bennett Creek, Little Bennett Creek, and Upper Great Seneca Creek. Within the Study Area, field reviews conducted in April 2009 and GIS analysis identified three potential wetland areas, four unnamed tributaries to Little Bennett Creek, two unnamed tributaries to Magruder Branch, and Magruder Branch mainstem. These locations are preliminary and have not received official jurisdictional determination by the Maryland Department of the Environment (MDE) or U.S. Army Corps of Engineers (COE).

Although the Recommended Alternative will cross two tributaries (just south of Valley Park Drive and between Tralee Terrace and Bloom Drive), these tributaries are currently crossed by existing MD 27 and are culverted under the roadway. No impacts are expected to occur to any of the identified wetlands or streams as a result of the Recommended Alternative.

Floodplains. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Map 24031C0065D) for Montgomery County, Maryland indicates 100-year floodplain associated with Magruder Branch is located within the Study Area. The Recommended Alternative is not expected to impact any areas within the 100-year floodplain.

Prime Farmland Soils and Soils of Statewide Importance. As identified by the *Soil Survey of Montgomery County, Maryland*, no prime farmland soil exists within the Study Area; however, four soil types are classified as soils of statewide importance. Although soils of statewide importance were identified, zoning codes (residential and/or planned development) in the Study Area, as well as the lack of Federal assistance, exempt the project from the Farmland Policy Protection Act. Therefore, this project will not have an impact to prime farmland or soils of statewide importance.

Forest Resources. Forested areas were identified within the Study Area based on aerial photography and field reviews conducted in April 2009. Forested areas within the Study Area are concentrated within

Upper Magruder Branch Stream Valley Park and Oak Ridge Conservation Park. DNR mapping (MDPV, 2007) indicates potential habitat for Forest Interior Dwelling Bird Species (FIDS) may exist within these forested areas. The potential FIDS habitat would not be directly impacted by the Recommended Alternative. In addition, Maryland Department of Natural Resources has not referenced the potential for FIDS habitat in any of the forested areas adjacent to Oak Drive or MD 27 in their written correspondence for this project.

Forty trees were identified as being greater than or equal to 24-inches in diameter at breast height (dbh) within the 50-foot buffer around Oak Drive and MD 27 north of its intersection with Oak Drive (see **Figures 3a and 3b**). The majority of trees identified were Norway, silver and red maple. Of the 40 trees identified, 21 meet Specimen Tree criteria (generally >30” dbh, but species dependant). No trees identified meet State Champion criteria. Up to five specimen trees are expected to be impacted by the Recommended Alternative (see **Figures 8a and 8b**); however, impacts to these trees may be deemed avoidable during the final design phase.

On April 8, 2010, a field meeting was held with a Montgomery County Certified Arborist, to examine specimen trees. Recommendations were given as to which trees should be removed and which should be retained and pruned. In particular, a specimen pin oak at 25314 Oak Drive was found to be in rapid decline, showing obvious evidence of root rot and crown dieback; it was recommended that this tree be removed. Pruning of lateral branches and roots were recommended for the remainder of the trees at this location. In addition, pruning was recommended for several trees located near 25224, 25220, 25200 and 25116 Oak Drive. At 10801 Kingstead Road, one dead multi-stemmed eastern hemlock is within the proposed alignment and a multiple stem red maple is about 19” from the edge of road. Tree save fencing and root pruning were recommended for this tree. A memo documenting this field meeting is located in **Appendix E**.

Areas identified as Green Infrastructure (GI) hubs, corridors and gaps were identified within the Study Area using Maryland Department of Natural Resources’ (DNR) GI data set (MDPV 2007). GI corridor and hub areas within the Study Area have boundaries closely mimicking those of Oak Ridge Conservation Park and Upper Magruder Branch Stream Valley Park, while the area between the two parks is considered a gap area. The proposed project will not impact GI corridors, hubs, or gaps. Montgomery County, in coordination with the regulatory agencies, can use GI data as a mitigation tool in the planning process to locate areas of land that could be targeted for protection or restoration to help ensure habitat for Maryland’s plants and wildlife, as well as to promote a healthier environment including improved outdoor recreation, clean drinking water, and erosion prevention.

Hazardous Materials. Through coordination with the Montgomery County Department of Environmental Protection (DEP) and Maryland Department of the Environment (MDE), no records related to hazardous waste sites, or underground storage tanks involving properties along Oak Drive and MD 27 within the Study Area were identified.

Rare, Threatened and Endangered Species. Through coordination with the US Fish and Wildlife Service (USFWS), except for occasional transient individuals, no federally proposed or listed endangered or threatened species are known to exist within the project impact area, and no Biological Assessment of further Section 7 Consultation with the USFWS is required. USFWS stated that if the project will cause disturbance to the bald eagle, the National Bald Eagle Management Guidelines should be consulted.

DNR's Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened, or endangered species within the boundaries of the Study Area; therefore, there are no specific requirements pertaining to protection measures at this time. Although no surveys were required by DNR, it was noted that there are database records indicating occurrences of state rare American Chestnut (*Castanea dentata*) within close proximity to the project site. During field reviews, no American Chestnut trees were identified.

DNR's Environmental Review Unit review was contacted to identify the presence of anadromous fish and/or other fish species that may occur in the Study Area. Per the request of DNR, coordination will be resumed during Facility Planning Phase II, should it proceed to this next phase of the project. Improvements proposed with the Recommended Alternative would cross two tributaries that are currently crossed by MD 27, and are already culverted under the roadway; therefore, there are no anticipated direct effects to any potential anadromous fish or other fish species that may occur in the Study Area.

Natural Resource Inventory/Forest Stand Delineation (NRI/FSD). An official NRI/FSD for the project will be prepared and submitted as part of any Phase II Facility Planning activities. The official NRI/FSD will include the location of existing utilities, storm drains, stormwater systems, topography and other physical features as outlined in the Forest Conservation Manual and Environmental Guidelines.

C. CULTURAL RESOURCES

The Montgomery County Historic Preservation Office (MCHPO) was contacted to assist in the identification of any potential cultural resources located within the Study Area, including those of an historic or archeological nature. The MCHPO referred the study team to the Montgomery County Atlas GIS website to identify existing and potential historic or archeological resources. A review of the Montgomery County Atlas GIS website, M-NCPPC's MCAtlas website, and Study Area master plans did not identify any historical or archeological resources/sites within the Study Area.

D. SOCIOECONOMIC RESOURCES

Community facility data within the Oak Drive / Ridge Road (MD 27) study area was obtained using 2007 Maryland Property View GIS Database, the Master Plan, Montgomery County ADC Map (33rd Edition) and M-NCPPC's Research & Technology Center IS/GIS Team. U.S. Census data (2000) was used to determine if any substantial differences exist between Montgomery County and the study area census tract data. Detailed population, income and housing data for Montgomery County and the study area are summarized in **Appendix B**.

Communities, Community Facilities and Employment Centers. The study area is comprised of single-family residential homes and townhouses within ten designated communities and includes three existing schools, one future school site, one place of worship/preschool/daycare, three parks, a recreation center, and two employment/business centers (see **Table 8**, on page 37, and **Appendix B**). The Upper Magruder Branch Stream Valley Park, Oak Ridge Conservation Park and John Haines Neighborhood Park are all under the jurisdiction of Montgomery County Department of Parks – Maryland-National Capital Park and Planning Commission (M-NCPPC). The Damascus Community Center property is under the jurisdiction of the Montgomery County Department of Recreation. In 2009, approximately 70,000 people visited the community center. There are no fire department facilities or police stations located in the study area.

Nearby fire stations providing fire, rescue and emergency medical services to the study area include: Station 13 in Damascus, Station 35 in Clarksburg and Station 17 in Laytonsville. Police service is provided by the 5th District Police Station in Germantown.

Homeowners / Civic Associations and Community Centers located within the vicinity of the project area have been included on the project mailing list and have been invited to attend public involvement activities for the project (See **Section IV. Public Involvement**).

Pedestrian and bikeway improvements along Oak Drive and MD 27 are needed to provide a north-south route that will connect to east-west routes, as well as link residential areas with numerous community destination points (e.g., schools, religious facilities, and parks, including the John Haines Neighborhood Park, Upper Magruder Branch Stream Valley Park and Oak Ridge Conservation Park as well as the Damascus Community Recreation Center).

The Study Team identified preliminary ROW and potential land acquisition needs through the development of the alternatives described in Section II. Less than one acre (0.68 acre) of permanent ROW and 1.75 acres of temporary easement will be required from properties adjacent to Oak Drive, Ridge Road (MD 27), Kingstead Road and Greensboro Drive for the Recommended Alternative. If the project progresses to Facility Planning Phase II Study, a more thorough evaluation will be conducted in which engineering plans would be carried to 35 percent completion.

Planned Development and Public Projects. No proposed public projects have been identified within the Study Area. Planned development within the Study Area has been identified based on information about active development projects obtained from the M-NCPPC Research and Technology Center website. (See **Table 9**, on page 38, and **Figures 3a and 3b**, on pages 7 and 8).

The Recommended Alternative will enhance access to the planned developments by providing linkages via pedestrian and bicycle path connections.

Parking. There are no anticipated impacts to parking as a result of the Recommended Alternative. Should any parking spaces be impacted, mitigation for these spaces would be coordinated with the property owners.

Land Use and Zoning. Land use and zoning within the Oak Drive / MD 27 Study Area were obtained using the 2007 Maryland Property View GIS database for Montgomery County and the Area Master Plans (See **Appendix B**).

In summary, socioeconomic impacts projected to occur as a result of the Recommended Alternative will include the creation of a link between existing and proposed pedestrian and bicycle facilities, and the connection to various communities, community facilities, and transit within the Oak Drive / MD 27 Study Area. Positive impacts also include the establishment of a greater travel choice and service to existing land uses. No disproportionately high and adverse impacts are expected with the Recommended Alternative.

Table 8. Community Facilities and Existing Employment/Business Centers within the Oak Drive / Ridge Road (MD 27) Study Area.		
	FIGURE 3A (PAGE 7)	FIGURE 3B (PAGE 8)
Residential Communities	Spring Garden Estates Avonlea Montco Chesney Greenhills Damascus Heights Magruder’s Park at Magruder’s Overlook	Damascus Manor Damascus Valley Park Magruder Valley Village
Schools	John T. Baker Middle School	Damascus High School
	Future Oak Drive Elementary School Site	Damascus Elementary School
Places of Worship	St. Anne’s Episcopal Church	None
Fire / Police Stations	None located in the Study Area	None located in the Study Area
Points of Interest	Damascus Community Recreation Center	Damascus Community Recreation Center
	Children’s Center of Damascus at Saint Anne’s	
Parks	John Haines Neighborhood Park	Upper Magruder Branch Stream Valley Park
	Upper Magruder Branch Stream Valley Park	Oak Ridge Conservation Park
	Oak Ridge Conservation Park	
Employment / Business Centers	Damascus Veterinary Hospital	Ridgeview Center (retail/office center)

E. UTILITIES AND TRAFFIC SIGNALS

The Study Team performed cursory research to identify utilities within the Oak Drive / MD 27 Study Area. Based on as-built utility plans, it appears that the Recommended Alternative will require relocation of up to four fire hydrants and approximately 13 to 48 utility poles providing electric, telephone and cable services, although these impacts may be deemed avoidable during the final design phase. In addition to the utility poles, several underground utilities exist along Oak Drive and MD 27, including sewer, water, gas, electric, and telephone lines. It appears four fire hydrants will need to be relocated.

The Recommended Alternative may also require modification of one signal within the Study Area in order to accommodate the proposed improvements.

F. TRANSIT

The Recommended Alternative is not expected to impact existing transit services along MD 27 within the Study Area. A purpose of this project is to provide improved pedestrian and bicycle access to transit facilities, which is provided by the Recommended Alternative.

Table 9. Planned Development within the Oak Drive / Ridge Road (MD 27) Study Area.	
DEVELOPMENT ACTIVITY / PUBLIC PROJECT	ACTIVITY / PROJECT DESCRIPTION
Avonlea	Located on Kingstead Road, west of Oak Drive, this residential development totaling 20 single-family, detached units was approved with condition on March 16, 2000. Development of the site is nearing the approved number of units.
Baum Property	Located on the west side of Valley Park Drive at Coltrane Drive, east of MD 27, this residential development totaling 42 single-family, attached units was approved with condition on January 20, 2005. This townhome development is currently under construction.
Chesney's Subdivision	Located on the west side of MD 27, 200 feet north of the MD 27/Tralee Terrace intersection, this residential subdivision was approved on June 13, 1996. One of the two single-family, detached units that were approved has been built.
Damascus Smart-Miner	Located on the south side of Bethesda Church Road, 500 feet west of MD 27, this residential development totaling 15 single-family, detached units was approved with condition on June 5, 2008. Development of the site has not commenced.
Greenhills	Located on the east side of MD 27 at Tralee Terrace, this residential development totaling four single-family, attached units was approved with condition on December 6, 2007. Development of the site has not commenced.



PUBLIC PARTICIPATION



School children on Oak Drive at Avonlea Ridge Place.

A. PUBLIC MEETINGS

In October 2009, a newsletter was mailed to adjacent property owners and area homeowner and civic associations containing project information and served as an invitation to the Public Information Meeting for the Oak Drive / MD 27, Facility Planning, Phase I Study. The Public Information Meeting was held on December 8, 2009 from 7:00 – 9:00 p.m. at the Damascus Elementary School located at 10201 Bethesda Church Road in Damascus, Maryland.

The Public Information Meeting was held to introduce members of the Project Team, explain the project planning process and schedule, provide an overview of the project, share background data, listen to the community's concerns, and answer the community's questions. Team members from MCDOT's Division of Transportation Engineering, Division of Traffic Engineering and Operations as well as M-NCPPC and the consultants attended the meeting and were available to answer questions. In addition to Study Team members, approximately 23 individuals attended the meeting.

In December 2010, a second project newsletter was distributed to the mailing list, announcing the Recommended Alternative, soliciting comments, and providing responses to Frequently Asked Questions.

Appendix F contains a copy of the project newsletters, as well as the presentation and materials (e.g., meeting brochures, comment cards), that were available to the public at the information meeting.

B. PUBLIC COMMENTS

During the public comment period following the Public Information Meeting, MCDOT received comments from 67 individuals, including adjacent property owners and the community-at-large. Thirty-eight comments were received regarding sidewalk improvements along Oak Drive, of which 24 expressed support for the improvements. There were no comments received in opposition to proposed improvements along MD 27. In addition to comments received at the Informational Public Hearing, comments were received during meetings with property owners, and public comments were provided via comment card, e-mail or letter subsequent to the meeting.

Some common concerns identified through comments provided include 1) pedestrian/bicyclist safety along Oak Drive and at the southern intersection of Oak Drive and MD 27; 2) property impacts; 3) project cost; 3) how the project team will handle stormwater management along the corridor; and 4) maintenance of sidewalk. See **Appendix H** for a summary of public comments received on the East Gude Drive Roadway Improvements Project. Additionally, **Appendix F** contains MCDOT responses to Frequently Asked Questions, which was included in the December 2010 project newsletter.

All public comments were considered during evaluation of the Recommended Alternative.

C. PROJECT MAILING LIST

The following Homeowners / Civic Associations and Community Centers located within the vicinity of the project area are included on the project mailing list and receive project mailings such as newsletters and meeting announcements:

- Avonlea Ridge Estates Homeowners Association
- Clearspring Manor Homeowners Association
- Country Road Townhouse Condominium
- Damascus Gardens Condominium, Inc.
- Damascus Hill Homeowners Association
- Damascus Manor Homeowners Association
- Damascus Valley Homeowners Association, Inc.
- Grandview Homeowners Association
- Greenhills Condominium I V
- Greenhills Condominium Section I
- Kings Bridge Homeowners Association
- Park Damascus Homeowners Association
- Valley Manor Community Association
- Preakness Drive Homeowners Association
- Ridgeview Condominium Association
- Ridgeview Townhouse Association, Inc.
- Sweepstakes Homeowners Association
- Westview Estates HOA Inc.
- Woodfield Knolls HOA



Sources:

2006 Damascus Master Plan

Federal Emergency Management Agency (FEMA). Montgomery County, Maryland Flood Insurance Rate Map (FIRM) No. 24031C0065D

Maryland-National Capital Park and Planning Commission, Montgomery County, Maryland. (September 1992) *Montgomery County Tree Technical Manual*.

Montgomery County Department of Park and Planning, Maryland-National Capital Park and Planning Commission. (March 2005). *Approved and Adopted Countywide Bikeways Functional Master Plan, A Comprehensive Amendment to the 1978 Master Plan of Bikeways*.

Montgomery County Department of Transportation. *Montgomery County Standards*.

Maryland Property View (MDPV) Geographic Information System (GIS) Data. 2007. Maryland State Geographic Information Committee Data (MSGIC)

U.S. Census Bureau. Census 2000. (8 February 2007) Summary File 3. <<http://factfinder.census.gov>>

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). *Hydric Soils of Maryland*. 2009. <http://soils.usda.gov/use/hydric/lists/state.html>.

United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), 1995. *Soil Survey of Montgomery County, Maryland*. Map No. 23.

