



Gaithersburg
A Character Counts! City

City of Gaithersburg
TRANSPORTATION

A Master Plan Element

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2009

MASTER PLAN

CITY OF GAITHERSBURG 2009 MASTER PLAN

TRANSPORTATION ELEMENT

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CITY OF GAITHERSBURG 2009 MASTER PLAN

CHAPTER 3 TRANSPORTATION

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1. Purpose and Need

The City of Gaithersburg is empowered, under Article 66B, *Land Use*, of the Annotated Code of Maryland, to exercise autonomous planning and zoning powers. Article 66B establishes the requirements of a municipal comprehensive master plan and its required elements, and the procedures for approving said master plan. Codified in Article 66B, Section 3.05(a)(4)(iii) requires the development of a Transportation Element as part of the City's comprehensive master plan. This element will present recommendations for the future of Gaithersburg's transportation system while being consistent with the State and City visions laid forth in the City's *2009 Process and Overview Element*.

A Master Plan Element, this plan is an update of the *1997 City of Gaithersburg Transportation Plan*. The 1997 plan presented a historical account of transportation planning that has affected Gaithersburg. It presented a review of the transportation conditions as they were in 1997 and gave recommendations for short and long-term transportation improvements within the City of Gaithersburg. This 2009 element will give an overall account of conditions, projects, and policies that are now shaping the local transportation system.

The 2009 Transportation Element will serve as an informational and policy document to the Mayor and City Council, the Planning Commission, other boards and committees of the City, and the residents of Gaithersburg. The link between land use and transportation will be highlighted. The plan will describe the current and near future multi-modal transportation system within the City of Gaithersburg. This element will also identify the needs of, and provide recommendations for improving the transportation system. Ultimately, this Element will support the visions, policies, and principles of the City, as well as the other Master Plan Elements.

2. Introduction

An efficient transportation system enhances the quality of life for all City of Gaithersburg residents. The entire community relies upon the transportation system to get to school, work, recreational activities, and the commercial services residents depend upon. Transportation infrastructure is one of the largest public investments and assets that a city possesses. The regional transportation network and associated rights of way (ROW) constitute the largest ‘public realm’ in the City of Gaithersburg.

The City has many roles in the transportation system such as planning, construction, and maintenance. The City of Gaithersburg works closely with State and County officials when planning transportation projects. This coordination is important as the City and surrounding area grows and must contend with a future of interrelated transportation challenges.

The City of Gaithersburg is experiencing both population and employment growth and will continue to do so for the coming years. Gaithersburg is one area of a much larger region experiencing continued growth. Economics, employment opportunities, and housing have led to the population growth along the I-270 corridor and surrounding D.C. suburbs. The Metropolitan Washington Region extends from Fairfax County in Virginia to Frederick County in Maryland.

The Round 7.2A Forecasts, adopted by the Metropolitan Washington Council of Governments (MWCOG) Board in October 2009, predict such increases in employment, households, and population by 2040 for the Washington DC region. The report, “**Growth Trends to 2040: Cooperative Forecasting the Washington Region**”¹ states regional employment will increase forty-eight (48) percent from a base of 2.9 million jobs in 2005 to more than 4.3 million by 2040. During this same time period, regional population is anticipated to increase by thirty-five (35) percent reaching nearly 6.2 million in 2040 from 4.6 million in 2005².

The immediate area surrounding the City of Gaithersburg is already experiencing current or near-term growth. The Clarksburg residential development and implementation of the Montgomery County *Great Seneca Science Corridor (GSSC)* and *Germantown* master plans will equate to more traffic coming to and going through the City of Gaithersburg. These changes coincide with the City’s own plans for increased growth with projects such as the Watkins Mill Town Center, Crown Farm, Spectrum, and the realization of the *Kentlands Commercial District* and *Olde Towne Master Plans* expected within the next decade.

The current transportation system within the City is already congested, with intersections such as MD 124 and MD 355 currently failing the City’s APFO critical lane volume (CLV) test of 1450³. A number of challenges face the City of Gaithersburg as it addresses both internal and external transportation pressures in the face of future growth. The City has long championed Smart Growth principles. These principles may improve the environment and reduce dependency upon the single-occupancy vehicle (SOV) by:

- Promoting the use and availability of various public mass transit options

¹ <http://www.mwcog.org/uploads/pub-documents/zlZXXw20091211140013.pdf>

² <http://www.mwcog.org/uploads/pub-documents/zVZXXg20091211140123.pdf>

³ The draft “2009 Montgomery County, MD Highway Mobility Report” produced by Maryland-National Capital Park & Planning Commission ranks this intersection as the 16th most congested in Montgomery County for 2009 with a critical lane volume (CLV) of 1697.

- Constructing and maintaining a safe and convenient bicycle and pedestrian network
- Encouraging planning techniques such as transit oriented development designs that create environments not dependent on the car.

This Element focuses on multi-modal transportation planning. A transportation mode refers to one particular means of transportation, such as the private automobile, public transportation, bicycling, or walking. A multi-modal system is one in which these various modes of transportation are integrated and transfers between modes are facilitated and encouraged.

The City of Gaithersburg must take into account the influences of land use, historically significant areas, and the environment when planning for and developing a comprehensive transportation network. The system must work efficiently to serve all residents, employment and activity centers, and recreational and educational facilities. This element is not a stand alone document. The recommendations laid forth in this element must work cohesively and take into account those outlined in other elements such as Land Use, Historic Preservation, and the guiding Process & Overview⁴.

⁴ http://www.gaithersburgmd.gov/poi/default.asp?POI_ID=664&TOC=664;

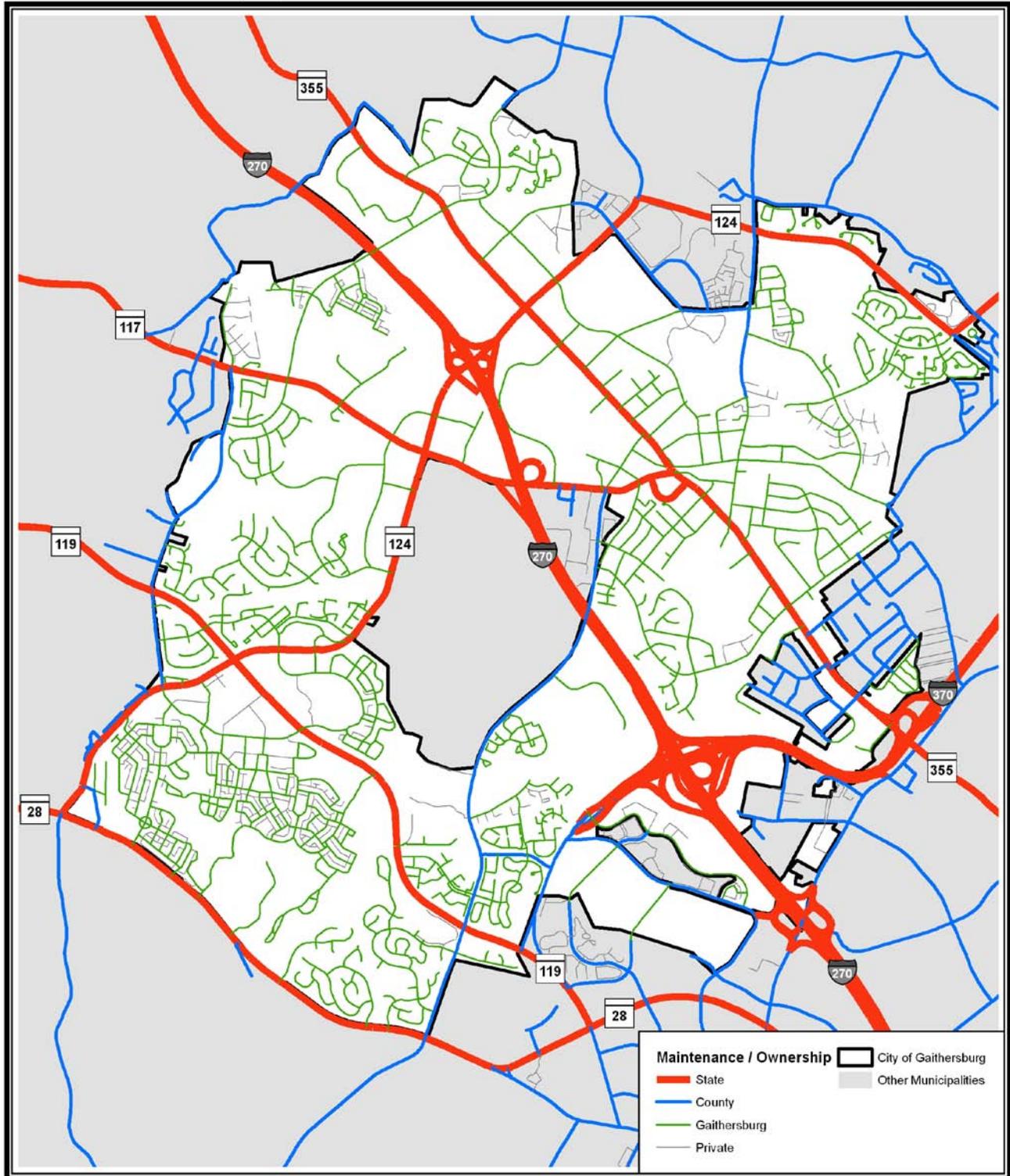
3. System Background

3.1 Hierarchy of Streets

The automobile is generally accepted to be the primary mode of choice for travel. To support this mode, an intricate network of roads has developed. The City of Gaithersburg currently has ownership and maintenance responsibilities for 77 miles of roadways in the City.⁵ The City's capital outlays for roads are supplemented by private construction, most often when a subdivision is planned and the developer constructs the initial roads in the subdivision. Many of the City-owned and maintained roads are smaller arterial, collector/local, and commercial streets. High-capacity freeways and major arterial roads are owned and maintained for the most part by Montgomery County or the State of Maryland.

⁵ As of 2004

Map 1: Road Maintenance Responsibility



Source: City of Gaithersburg

Within the City of Gaithersburg are found roads ranging from interstates to alleys. Streets are designed to serve various functions. Functional Street Classifications are assigned based upon traffic volume, physical characteristics, and the types of existing and planned land use along each route. The City of Gaithersburg has two separate road classification systems. The first system is described in Chapter 19 of the City Code. This is a functional and design/construction road code, "Road Code". While addressing adjoining land uses and road volumes, this classification system is primarily an engineering tool; each individual road category has specific right-of-way (ROW) width, paving width, and material standards that must be met. The following are the various classifications according to Chapter 19 of the City Code:

Alley-Includes any so designated right-of-way which provides secondary service access for vehicles to the side or rear of abutting properties. Alleys shall be classified as one-way, 15' ROW with 12' width paving, or two, 25' ROW with 20' width paving.

Residential tertiary-Low volume roads to serve residential developments in lieu of residential secondary roads, where the planning commission finds that the site development plan features are such as to render unnecessary the right-of-way width and paving width requirements for residential secondary roads.

Residential secondary-Low volume secondary roads serving up to 50 housing units, utilized as extensions of existing secondary roads or incorporated as feeders to cul-de-sacs, all servicing lots provided with off-street parking for 2 vehicles.

Residential primary-Moderate volume primary roads serving between 50 and 750 housing units with essentially residential land usage abutting; not to be used as a through traffic carrier except in extenuating circumstances.

Residential collector-Moderately high volume collector roads serving in excess of 750 housing units with essentially residential land usage abutting; with variable land usage abutting, or where by virtue of location, the road will become a link between one or more major roads and in a high density development area the paving shall be dualized.

Business district-Moderately high volume road in or abutting a commercial, industrial district or utilized as a transition between a major highway and lower classification road that will be subject to considerable turning and stopping movements as well as back traffic. In critical locations the required right-of-way shall be increased for future augmentation.

Major limited control-High volume road with grade intersections and limited direct access to abutting property (with restriction at intersections), utilizing geometric design and traffic control to expedite traffic movement.

Major controlled-High volume road in congested location, augmented by service roads which may or may not be continuous and with access connections limited to selected grade intersections.

Service drive-Any road which parallels or augments a federal, state or major road and is separated therefrom by a median strip and is utilized to separate and control local traffic from

through traffic. The service drive may be required prior to the recordation of a dedication plat wherever traffic studies indicate the need exists.

The second classification system approved in the 1997 Master Plan, functions as a planning tool. This system's categories are more consistent with those used by the State and Federal governments. Field research completed in the summer of 1994 resulted in an extensive inventory of existing streets. This inventory, along with the Montgomery County Master Plan of Highways, was utilized to update the classification system in the 1997 Transportation Master Plan. This system does not address construction materials, specific dimensions, or measurements. The following categories are based mainly upon the access and service uses of the road:

Local - Provides for short distance traffic movement, not intended for through traffic; connects to collector, minor collector, and arterial streets. Local roads provide direct access to abutting land and functions for traffic movements within neighborhoods. Traffic is generally unseparated with one lane in each direction. Examples: Hutton Street, Firehouse Lane

Minor Collector- Provides for short distance traffic movements, collects and distributes traffic between local streets and arterial streets. Minor Collector roads provide direct access to abutting land and have some access control through spacing of driveways and intersections. Traffic is generally unseparated with one through lane in each direction. Examples: Summit Avenue, Emory Grove Road

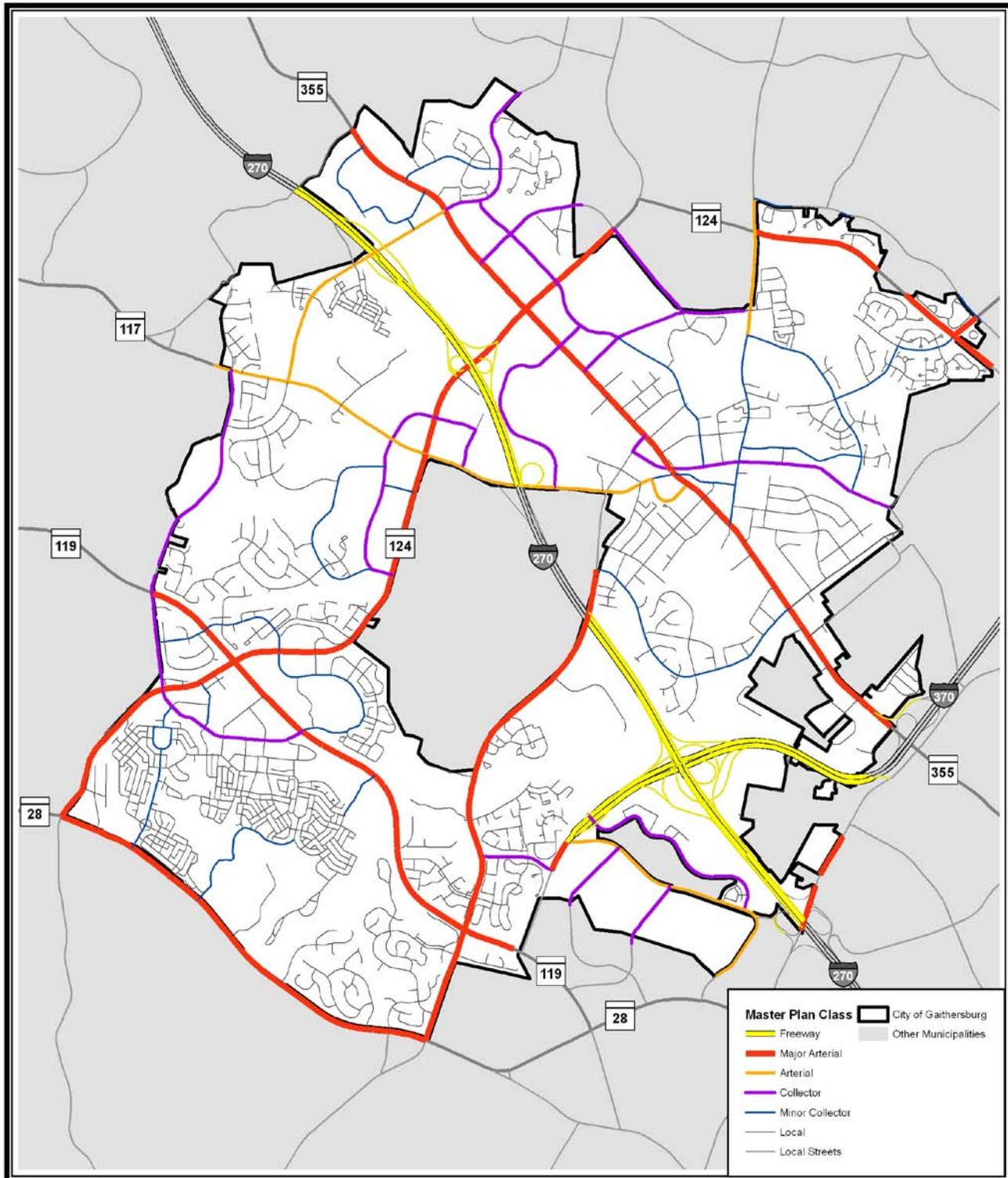
Collector - Provides for short distance traffic movement; primarily functions to collect and distribute traffic between local streets or high volume traffic generator and arterial streets. Collector roads provide direct access to abutting land with some access control through the spacing and location of driveways and intersections. Generally, collector roads provide unseparated traffic lanes with one to two lanes in each direction. Examples: Firstfield Road, East Diamond Avenue

Arterial - Provides for moderately long distance traffic movements within Gaithersburg and areas outside of the City. Arterial roads provide moderate service to abutting land. Access is controlled through frontage roads, medians, and the spacing and location of driveways and intersections. Opposing traffic is separated by a median with two or three lanes in each direction. Examples: Clopper Road (MD 117), Goshen Road

Major Arterial - Provides for long distance traffic movement within the City and other destinations. A major arterial provides limited service to abutting land. Access is controlled through medians and the spacing and location of driveways and intersections. Opposing traffic flows are separated by a median with two to three lanes in each direction. Examples: Frederick Avenue (MD 355), Great Seneca Highway (MD 119)

Freeway - Provides for the expeditious movement of large volumes of through traffic between areas and/or around or through Gaithersburg. A freeway is a divided roadway with control of access, and is not intended to provide access to abutting land. A freeway has complete separation of conflicting traffic flows. Opposing traffic lanes are separated by a median, with a minimum of two lanes in each direction. Examples: Interstate 270, Interstate 370

Map 2: City Master Plan Road Classification System



Source: City of Gaithersburg

Development projects within Gaithersburg since the 1980s have incorporated roads that do not conform to the Road Code requirements. This has led to the majority of recent City roads being granted under the road code waiver process, whereby the Mayor and City Council approves road designs. These roads do, however, conform to categories within the Master Plan-approved planning classification system.

The two classification systems should not be viewed as conflicting. They serve different purposes; one is a planning tool, the other more engineering based. Kentlands Boulevard, approved under a Road Code waiver can be categorized as a “collector” under the Master Plan classifications. The following chart illustrates the general relationship between the two systems, keeping in mind that a waiver-granted road may be in any Master Plan category:

<i>Master Plan Class</i>	<i>Road Code Class</i>
Freeway	none
Major Arterial	Major Controlled
Arterial	Business District Major Limited Control
Collector	Residential Collector
Minor Collector	Residential Primary
Local	Residential Tertiary Residential Secondary

3.2 Current Congestion Levels

Roads and intersections are designed to accommodate specific volumes of traffic. The growth of the Metropolitan Washington region has led to local roads reaching levels that exceed acceptable capacity. Critical lane volume analysis is a technique for measuring congestion on roads. It involves defining the optimum and actual number of vehicles passing through a given intersection during an AM and PM weekday peak hour. The City established a critical lane volume (CLV) limit for the majority of the City’s roads at 1450 vehicles/hour. Different CLV amounts determine the level of service (LOS), graded “A” through “F”, of roads.

<i>Critical Lane Volume</i>	<i>Level Of Service Grade</i>
≤ 1000	A
1001-1150	B
1151-1300	C
1301-1450	D
1451-1600	E
≥1601	F

In 2007, the City of Gaithersburg adopted an Adequate Public Facilities Ordinance (APFO) that requires proposed development meet certain standards for traffic impacts, school capacity, water and sewer capacity, and the provision of fire and emergency services. The APFO applies to

all future development proposed within the City boundary, unless exempted by an annexation agreement.

As it relates to transportation, the City's APFO requires that any proposed development address traffic impacts through a Traffic Impact Study (TIS). Specifically, all intersections and/or links within the study area resulting in a Level-of-Service (LOS)/CLV worse than the City's current congestion standard of 1450 must be identified and improvement(s) recommended. The improvements must provide sufficient capacity to either result in a CLV for the total traffic condition that is less than the 1450 standard or mitigate the traffic impact if the calculated CLV in the total traffic condition exceeds the City congestion standard. Mitigation is achieved when the CLV in the total traffic condition with the improvement is equal to or less than the CLV in the background traffic condition without the improvement.

The following chart displays current findings of CLVs and LOS at major intersections in the City of Gaithersburg.⁶ The data shown is the most current and has been taken from traffic studies submitted to the City of Gaithersburg as part of development proposals or from the Montgomery County Planning Department, Division of Transportation Planning⁷.

Table 1: Characteristics of Major Intersections in Gaithersburg⁸

Intersection	Map Key	Date	AM CLV	LOS	PM CLV	LOS
Bickerstaff Way at Diamondback Dr /Story Dr	-	09/07/2005	681	A	635	A
Clopper Rd (MD 117) at Longdraft Rd	-	03/17/2009	925	A	1070	B
Clopper Rd (MD 117) at Watkins Mill/Phasant Run Dr	-	09/07/2005	864	A	908	A
Clopper Rd (MD 117) at Metropolitan/Twelve Oaks Dr	-	09/07/2005	887	A	1002	B
Clopper Rd (MD 117) at Firstfield Rd	1	04/29/2009	1258	C	1302	D
Clopper Rd (MD 117) at Quince Orchard Rd	2	03/10/2009	1355	D	1463	E
West Diamond Ave (MD 117) at Bureau Drive	3	09/07/2005	1191	C	1300	C
West Diamond Ave (MD 117) at Perry Parkway	4	04/01/2008	1196	C	1410	D
West Diamond Ave (MD 117) at Muddy Branch Rd/Chestnut St	5	04/14/2009	1040	B	1434	D
West Diamond Ave (MD 117) at Meem Ave/Water St	-	06/25/2008	524	A	935	A
Darnestown Rd (MD 28) at Quince Orchard Rd	6	10/02/2007	1311	D	1123	B
Darnestown Rd (MD 28) at Tschiffely Square Rd	-	10/02/2007	1202	C	997	A

⁶ CLV data may fluctuate daily, monthly, or yearly. Traffic studies provide a "snapshot" in time that allows for inferences to be drawn.

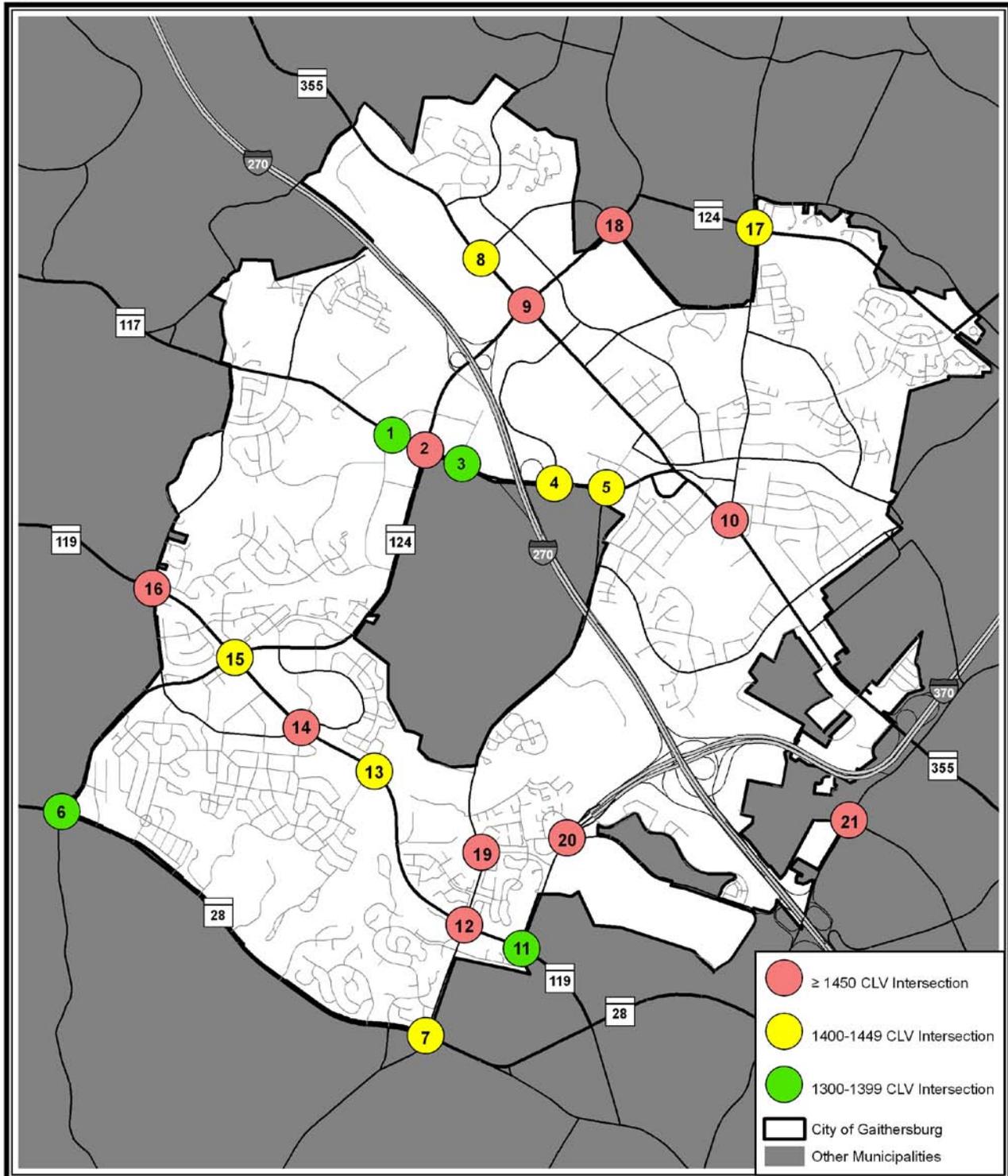
⁷ The draft "2009 Montgomery County, MD Highway Mobility Report" produced by Maryland-National Capital Park & Planning Commission

⁸ Highlighted intersections have a CLV exceeding the APFO standard of 1450

Intersection	Map Key	Date	AM CLV	LOS	PM CLV	LOS
Darnestown Rd (MD 28) at Muddy Branch Rd	7	01/21/2009	1417	D	1347	D
Fields Rd/Omega Drive at Ramp from I-270 SB	-	09/07/2005	682	A	628	A
Firstfield Rd at north Orchard Pond Access	-	09/07/2005	258	A	296	A
Frederick Ave (MD 355) at Watkins Mill Rd	-	04/02/2009	960	A	1189	C
Frederick Ave (MD 355) at Christopher Ave	8	02/26/2009	1057	B	1417	D
Frederick Ave (MD 355) at Montgomery Village Ave (MD 124)	9	05/05/2009	1697	F	1553	E
Frederick Ave (MD 355) at Odend'hal Ave	-	03/31/2009	1013	B	1272	C
Frederick Ave (MD 355) at Chestnut St	-	03/25/2009	1144	B	1191	C
Frederick Ave (MD 355) at ramp from Clopper Rd(MD 117)	-	06/25/2008	1129	B	453	A
Frederick Ave (MD 355) at Cedar Ave/Fulks Corner Ave	-	10/31/2008	1068	B	948	A
Frederick Ave (MD 355) at DeSellum Ave	-	10/31/2008	949	A	754	A
Frederick Ave (MD 355) at South Summit Ave	10	07/17/2007	1491	E	1303	D
Frederick Ave (MD 355) at Education Boulevard	-	02/21/2007	1221	C	862	A
Frederick Ave (MD 355) at West Deer Park Road	-	02/21/2007	1176	C	1070	B
Frederick Ave (MD 355) at South Westland Drive	-	04/07/2005	1006	B	1147	B
Girard St at East Diamond Ave	-	12/21/2007	732	A	555	A
Goshen Road at Emory Grove Road	-	04/15/2009	873	A	1061	B
Great Seneca Highway (MD 119) at Sam Eig Highway	11	10/10/2007	1240	C	1348	D
Great Seneca Highway (MD 119) at Muddy Branch Rd	12	05/12/2009	1512	E	1647	F
Great Seneca Highway (MD 119) at Lakelands Boulevard	13	01/14/2009	1425	D	1211	C
Great Seneca Highway (MD 119) at Kentlands Boulevard	14	04/23/2009	1498	E	1252	C
Great Seneca Highway (MD 119) at Quince Orchard Rd(MD 124)	15	04/23/2009	1440	D	1423	D
Great Seneca Highway (MD 119) at Longdraft Rd	16	04/28/2009	1295	C	1477	E

Intersection	Map Key	Date	AM CLV	LOS	PM CLV	LOS
Midcounty Hwy at Goshen Rd	17	04/02/2009	1176	C	1425	D
Midcounty Highway at Woodfield Rd/Saybrooke Blvd	-	04/14/2009	976	A	1090	B
Montgomery Village Ave (MD 124) at Russell Ave	-	04/22/2009	816	A	1218	C
Montgomery Village Ave (MD 124) at Christopher Ave/Lost Knife Rd	18	05/09/2006	1037	B	1454	E
Muddy Branch Rd at Diamondback Dr	19	10/09/2007	1563	E	1195	C
Muddy Branch Rd at West Side Dr	-	10/10/2007	945	A	817	A
Muddy Branch Rd at Festival Shop Center Entrance	-	10/10/2007	830	A	966	A
Odend'hal Ave at Lost Knife Rd	-	05/09/2006	425	A	874	A
Odend'hal Ave at Russell Ave	-	05/09/2006	412	A	744	A
Quince Orchard Rd (MD 124) at Sioux Lane	-	10/08/2007	866	A	1092	B
Quince Orchard Rd (MD 124) at Longdraft Rd	-	09/20/2007	669	A	1017	B
Russell Ave at Christopher St	-	05/06/2009	382	A	750	A
Sam Eig Highway at Diamondback Dr	-	10/10/2007	933	B	1217	C
Sam Eig Hwy at Fields Rd	20	10/11/2007	1456	E	1297	C
Shady Grove Rd at Gaither Rd	21	04/16/2009	1033	B	1468	E
South Summit Ave at East Diamond Ave	-	12/21/2007	831	A	976	A
North Summit Ave at Brookes Ave./School Entrance	-	12/21/2007	764	A	753	A
N. Summit Ave at Girard St	-	12/21/2007	640	A	1053	B
Goshen Rd at Odend'hal Ave	-	12/21/2007	816	A	1051	B

Map 3: Critical Lane Volume (CLV) of Select City Intersections from Table 1⁹



Source: City of Gaithersburg, Maryland-National Capital Park & Planning Commission

⁹ The intersections shown either are failing the APFO standard of 1450 or have the potential to fail depending upon future impacts associated with development or redevelopment

As stated, The City has an adopted a congestion CLV standard of 1450. However, it should be noted that areas surrounding the City have increased their congestion standard to meet current or near-term future growth. The City of Rockville congestion standard ranges from 1500 to 1700. The City of Rockville's CLV range is based upon signal phases and cycle lengths: the greater the density; the longer the cycle lengths; the higher the CLV standard. The Shady Grove area has a congestion standard of 1800 CLV, to reflect the recommendations made in the adopted *Shady Grove Sector Plan*. Montgomery County has also raised the CLV standard to 1600 for the Germantown Town Center area; also to implement the *Germantown Master Plan*¹⁰.

These surrounding areas have increased congestion standards to facilitate their vision for planned growth. The City, located so close to these areas, will be impacted with additional congestion as these areas develop. These neighboring regions have adopted a policy that accepts and permits greater congestion in exchange for multimodal Smart Growth redevelopment projects. The City's own plans for future growth through redevelopment may be hampered as these external traffic pressures prevent City projects from passing the APFO test. The City's APFO standard of 1450 will be difficult to achieve and the high costs associated with required mitigation measures as well as the physical limitations of real-world implementation may render development projects financially infeasible.

3.3 Transit

Public transit is the foremost alternative to the automobile. Bus or rail transit accounts for 15.8% of the Gaithersburg population's work commute mode. This is higher than the 14.6% found for the Gaithersburg and Vicinity.¹¹ Overall, 15.5% of work commutes in Montgomery County are done by bus or rail transit.¹² The City of Gaithersburg is served by Montgomery County's Ride-On program, the Maryland Rail Commuter transit service (MARC), and, indirectly, by the Washington Area Metropolitan Transit Authority's (WMATA) Metrorail Red-line and its partner-Metrobus.

Bus transit in the City of Gaithersburg is provided by the Montgomery County operated Ride-On service. Ride-On maintains 13 routes within the City¹³. Two Metrobus express lines also operate in the City with direct connection from the regional transit center located at Lakeforest Mall to the Shady Grove Metro Station. The Lakeforest Regional Transit Center stop is located near the intersection of Lost Knife Road and Odendhal Avenue and supports both Ride-On (seven routes) and Metrobus (two routes) and provides 300 free parking spaces. Public transit is also supported in the City by two I-270 park-and-ride lots. One is located at MD 124, Montgomery Village Avenue (517 spaces) and the other at MD 117, Clopper Road (350 spaces).

The use of rail is a popular alternative for commuting to Washington D.C. Commuters use the Maryland Area Regional Commuter (MARC) train service connecting Gaithersburg and vicinity to the District of Columbia. MARC Train service is operated under contract with the National Railroad Passenger Corporation (Amtrak) and CSX Transportation. The 187-mile

¹⁰ It is to be noted that the recently adopted Great Seneca Science Corridor Master Plan retains the current CLV standard of 1450

¹¹ 2005 Census Update Survey; Montgomery County Planning Dept. Research and Technology Center June 2006

¹² 2005 Census Update Survey; Montgomery County Planning Dept. Research and Technology Center April 2006

¹³ Specific information regarding Ride-On routes may be found at:

<http://www.montgomerycountymd.gov/tsvtmpl.asp?url=/content/DOT/transit/routesandschedules/rideonroutes.asp>

commuter rail system provides service on three lines: between Washington DC's Union Station and Baltimore's Camden Station (Camden Line); Union Station and Baltimore's Penn Station (Penn Line) with peak hour AM and PM service to Perryville, MD; and Union Station and Martinsburg, WV (Brunswick Line). Gaithersburg is sited along the Brunswick Line.

There are two MARC commuter train stations in the City of Gaithersburg; one located in the heart of Olde Towne and the other located on Metropolitan Grove Road. The nearby Washington Grove MARC station is also convenient to City residents. MARC provides nine (9) trains east (south) bound in the AM Monday through Friday and eight (8) trains west (north) bound in the PM Monday through Friday.¹⁴ There are no reverse peak trains on the Brunswick Line during the AM and PM periods.¹⁵ Brunswick MARC passengers have service connections to both the Metrorail system (at Rockville and Silver Spring) and Washington's Union Station, where there is further connecting service available to Amtrak, other MARC lines, Metrorail, and by extension the Virginia Railroad Express (VRE) commuter system. A free park-and-ride lot is provided adjacent to the Metropolitan Grove station and a portion of the public parking garage in Olde Towne is available for MARC Train commuters.

In September 2007, MTA issued the "MARC Growth and Investment Plan." This plan outlined specific objectives for improving the MARC system going out to 2035.¹⁶ The Plan's objectives for the Brunswick Line by 2035 include:

- A third track from Point of Rocks to Silver Spring (including Gaithersburg)
- Additional station parking including the Gaithersburg station in Olde Towne
- Increased peak and off-peak service
- Reverse-commute service
- Weekend service

In the short term, by 2015, The Plan proposes increasing seating capacity and beginning the addition of a full third rail by constructing the Washington Grove to Rockville segment.

The Maryland Transit Administration (MTA) is finalizing plans¹⁷ for the Corridor Cities Transitway (CCT). This 14 mile transit system will link Clarksburg with the Shady Grove Metro on a dedicated ROW, including five potential stops within the City of Gaithersburg¹⁸. The City has long supported this project and has stated its preference for light-rail as opposed to bus-rapid transit and for the Kentlands and Crown Farm realignments. In planning for the CCT, the City has obtained the majority of needed ROW and approved such high-density transit oriented developments as the Crown Farm, Watkins Mill Town Center, and adopted the *Kentlands Boulevard Commercial District Special Study Area*.

¹⁴ MARC runs an additional PM line on Fridays only bringing the total to 9 lines

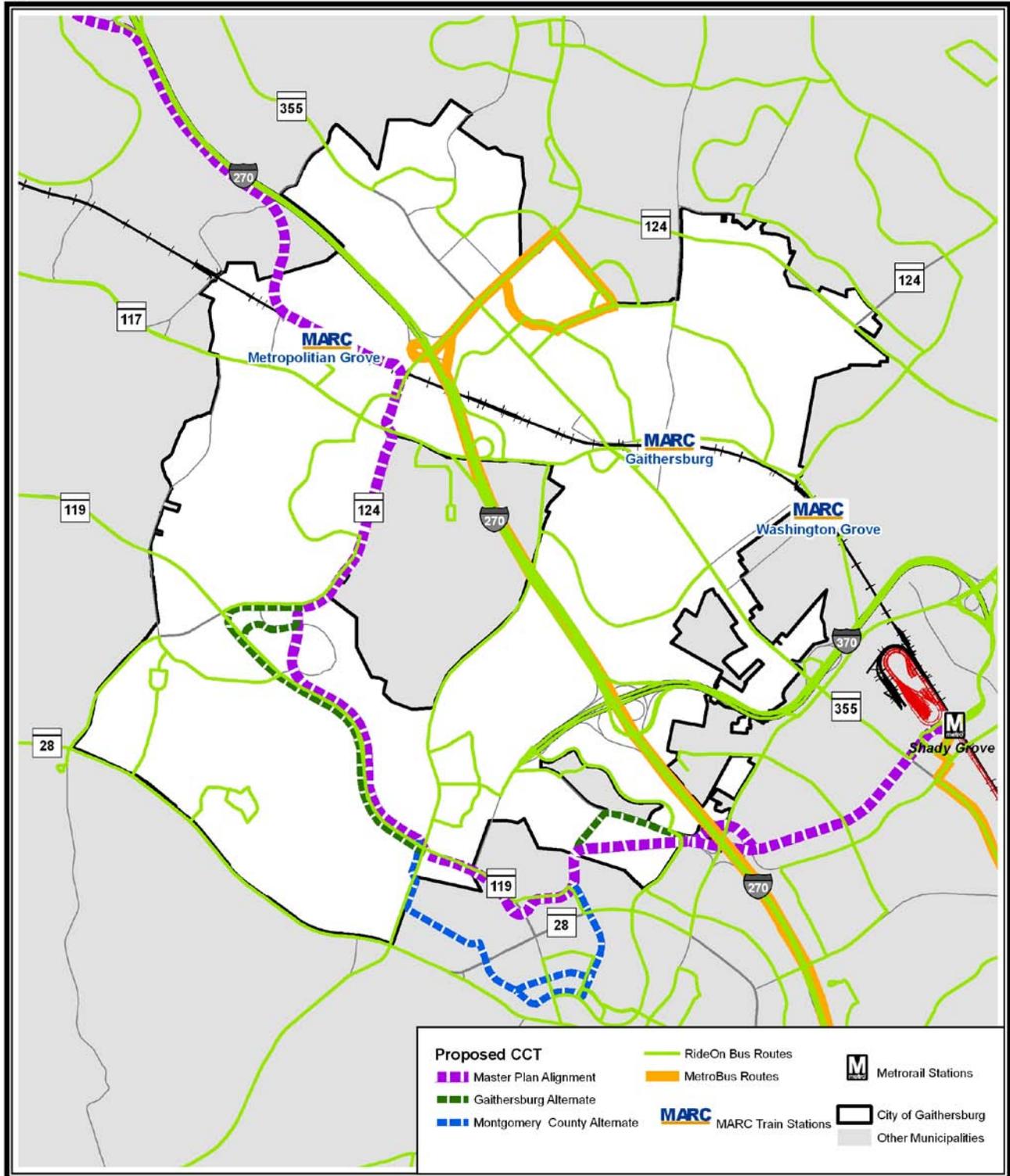
¹⁵ [http://www.mtmaryland.com/services/marc/schedulesSystemMaps/BrunswickInsidePanel%2001-12-09%20\(3\).pdf](http://www.mtmaryland.com/services/marc/schedulesSystemMaps/BrunswickInsidePanel%2001-12-09%20(3).pdf)

¹⁶ <http://www.mtmaryland.com/marc%20plan%20full.pdf>

¹⁷ At the time of writing this document, MTA is working on a revised environmental assessment that focuses on the proposed realignments' impacts. The Locally Preferred Alternative (LPA) has yet to be chosen by the Governor.

¹⁸ The proposed stops include: Crown Farm, the Kentlands/Quince Orchard Park, NIST, Orchard Pond, and Metropolitan Grove. The final location of the stops will be determined following the Governor's selection of the LPA.

Map 4: Transit Serving Gaithersburg



Source: City of Gaithersburg, Montgomery County

3.4 Bicycle and Pedestrian Facilities

Gaithersburg is home to pedestrians and many types of bicyclists who desire safe access to street, trail and sidewalk systems. These bicyclists include children, bike commuters, and recreational riders. According to the 2005 Census Update 2.3% of all worktrips in the City are by walking, bicycling, or other. This is higher than for Gaithersburg and Vicinity, where 1.5% of all worktrips are by walking, bicycling, or other; however, this is less than the Montgomery County total of 2.8% for the same update.

In March 2007, the City of Gaithersburg initiated a planning process to develop a Bikeway Improvement Plan with consultant Toole Design Group. Included in this plan was an inventory of existing bicycle facilities. Gaithersburg has a well developed network of existing bikeways, consisting primarily of off-road facilities, such as the sidepaths and low volume residential streets that can be used as shared use roadways.

The term bikeway is a general term that is used in the field of bicycle transportation planning to refer to the wide range of bicycle facilities and types of accommodations that can be provided for bicycle travel. This includes trails and greenways (i.e. shared use paths for bicyclists, pedestrians and others; bike lanes; shared lane markings (auto/bike); shared use roadways (auto/bike); striped, but unmarked shoulders; streets with wide outside lanes; sidepaths (shared use paths on the edge of a roadway); sidewalks designated for bicycle travel, and other types of accommodations.

The following charts summarize the inventories conducted for both on and off road bicycle facilities. The on-road inventory conducted by the consultant included only those roads recommended for a designated bikeway network; routes linking activity centers, points of interest, and employment centers and not all roads within the City.

Table 2: Existing On-Road Bicycle Facilities

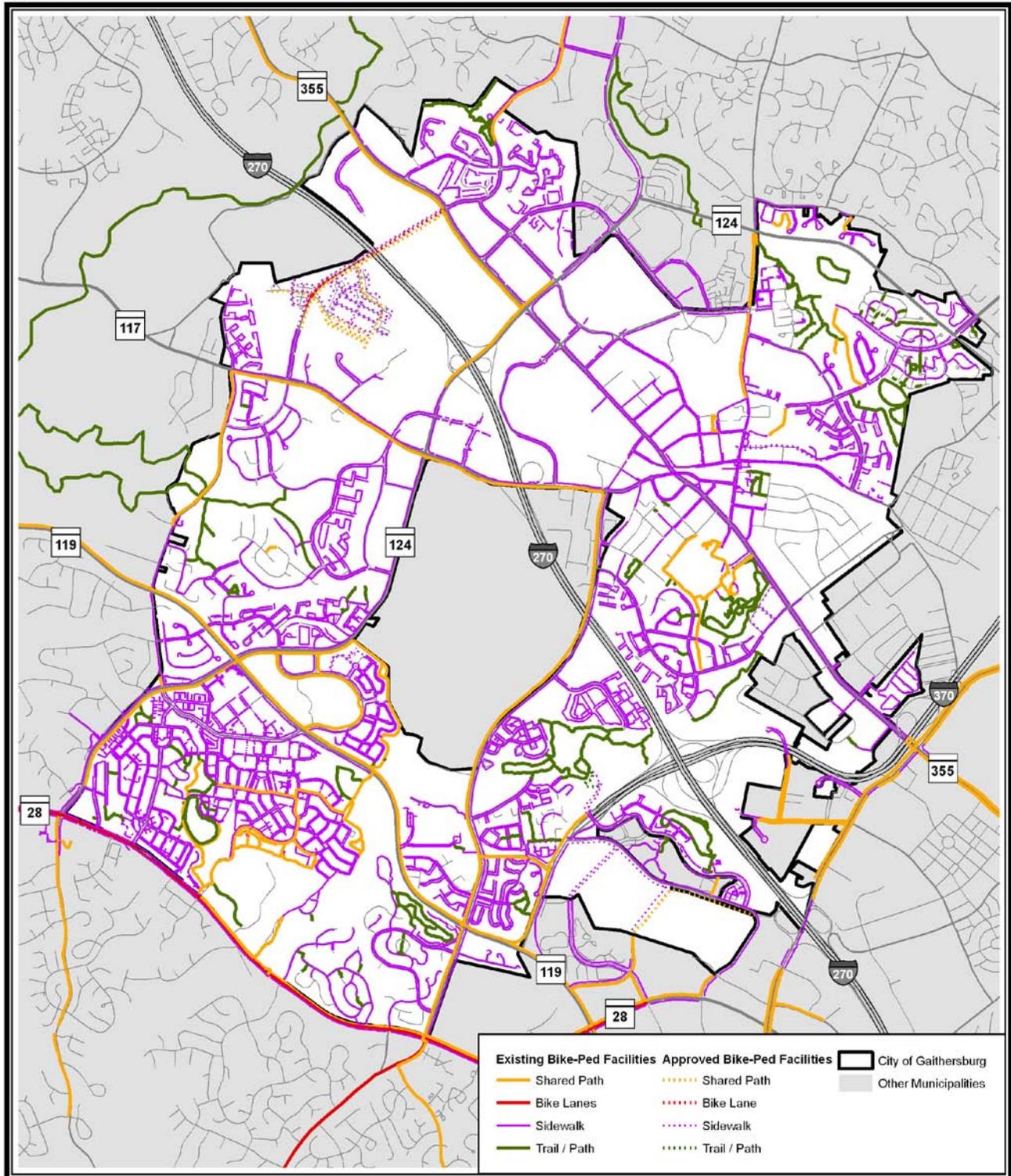
Facility Type	Mileage
Shared Road Way	17.8 Miles
Paved/Striped Shoulder	3.0 Miles
Wide Outside Lane	0.5 Miles
Total On Road Facilities	21.3 Miles

Table 3: Existing Off-Road Bicycle Facilities

Facility Type	Mileage
Sidepath	16.3 Miles
Paved Park Trail	7.5 Miles
Unpaved Park Trail	0.3 Miles
Sidewalk Bikeway	4.3 Miles
Connector Path	2.3 Miles
Total Off Road Facilities	30.7

In addition to the bicycle facilities noted above, there is approximately 160.3 miles of sidewalk found throughout the City of Gaithersburg.

Map 5: Existing and Approved Bicycle and Pedestrian Facilities



Source: City of Gaithersburg

4. Areas of Special Focus

4.1 Olde Towne

Olde Towne is the historic center of the City of Gaithersburg and was the subject of its own master plan adopted in 2005. The area is aligned along the axis of Summit and Diamond Avenues. This area has one of two MARC stations located within the City, with an at-grade crossing immediately south of the Summit-Diamond intersection. Direct access to MD 355, Frederick Avenue is either by way of Summit Avenue or can be navigated on Olde Towne's west side along Brookes Avenue and Fulks Corner Avenue. These routes are poorly signed, not as direct, and/or take motorists through residential neighborhoods.

The west side of Summit Avenue, including the Brookes Russell Walker Historic District, has a developed interconnected network of streets in predominately single family residential areas. This is not true for the east side of Summit. The eastern portion of Olde Towne has numerous older multifamily garden apartments, public uses such as schools and the Youth Center, and commercial uses facing and linked by only one collector road such as Diamond Avenue and Girard Street.

Olde Towne is currently served by two Ride-On routes. Route 57 goes through the core of Olde Towne with stops along Russell and Diamond Avenues. The other route, 61 serves the outer eastern Olde Towne areas with stops along Girard Street and East Diamond Avenue to Railroad St. Both Ride On routes allow links to both the Lakeforest Transit Center and Shady Grove Metro Station.

Transportation issues facing Olde Towne:

- Perceived lack of parking. Olde Towne is served by one municipal garage, six public surface lots (some of which may be lost to redevelopment opportunities), and on street parking.
- MARC service to Olde Towne is limited to southbound only in the AM hours and northbound only in the PM hours
- Minimal number of streets providing full access across Olde Towne. Diamond and Summit Avenues are the only streets that fully cross Olde Towne. Additional street connections would improve traffic flow through the entire Olde Towne Central Business District and reduce the traffic burden that Summit and Diamond currently carry.
- Limited network of streets on the eastern side of Summit Avenue. Traffic is directed onto Girard Street, East Diamond Avenue, and Summit Avenue only with no interconnecting streets.
- The rail line increases congestion on Diamond and Summit Avenues with the lack of crossings over the railroad tracks. Heavy use of the rail corridor by MARC, CSX, and AMTRAK trains creates traffic congestion particularly along Summit Avenue when trains are present.
- Minimal bicycle and pedestrian facilities. Olde Towne has a fully connected sidewalk system; however, many of these sidewalks are narrow (3'), are immediately adjacent to the curbline, and have obstructions such as utility poles located within them. There are few

dedicated bicycle facilities with the exception of the multi-use path found on the west side of North Summit Avenue.

Transportation recommendations for Olde Towne:

- Explore private/public partnerships for future structured parking
- Develop and implement an Olde Towne district parking plan
- Support the State’s “MARC Growth and Investment Plan” and the recommendations for the Brunswick Line
- Work with CSX and MARC to explore the possibility of relocating the evening MARC stop to the north so the train will not block Summit Avenue.
- Work with CSX on possible bicycle trail along rail right-of-way.
- Continue to seek funding, design, and construction of Teacher’s Way extended and reevaluate the extension of Victory Farm Drive after the Archstone and Teachers Way projects are implemented.
- Any redevelopment of properties east of Summit Avenue and north of Diamond Avenue should include a design that includes a well defined grid of connecting streets from Summit to Girard Street, Diamond Avenue, Teacher’s Way, and/or future Victory Farm extended.
- Redesigns of Diamond Avenue should include on-street parking, street trees and larger bicycle/pedestrian facilities.
- Redevelopment projects in Olde Towne should comply with the Olde Towne Design Guidelines and incorporate bicycle and pedestrian facilities in all designs.
- New construction of roads or redesign/retrofit of existing roads in Olde Towne should study the feasibility of incorporating “Green Street” methods to reduce stormwater runoff impacts.
- A new street connection with an unencumbered rail crossing that parallels Summit Avenue would greatly improve vehicular traffic through Olde Towne.

4.2 Frederick Avenue Corridor, MD 355:

The Frederick Avenue Corridor, MD 355 is the major non-freeway north-south route through the City of Gaithersburg. This State owned and maintained road has 3.84 miles within the City of Gaithersburg. Frederick Avenue is a six lane major arterial with median separation¹⁹. The State Highway Administration (SHA), in its 2008 year end report, estimates that MD 355 north of Montgomery Village Avenue (MD 124) has an annual average daily traffic count (AADT) of 31,252 vehicles. South of MD 124, the AADT rises to 35,132 vehicles²⁰. The subject of its own Master Plan, adopted in 2001, the Corridor is divided into three districts; the Northern Employment, the Fairgrounds Commercial and the Southern Residential. Each district has its own unique features and challenges.

¹⁹ The exception is the Frederick Avenue Commercial District. This area approximately from Odenhal to the Father Cuddy Bridge is four lanes with no median separation. This area has a dual turn center lane.

²⁰ “2008 Calendar Year, HIGHWAY LOCATION REFERENCE ALL INTERSECTIONS
Data as of December 31, 2008 MONTGOMERY COUNTY, SHA DISTRICT #3”

The Northern Employment District is located from the northern City line to Montgomery Village Avenue, MD 124. This district is so named due to the presence of such employment hubs as IBM, Lockheed Martin, and the Monument complex. Additionally, the Spectrum development, auto dealerships, Costco, and the underutilized Hechinger's shopping center are also found within this district. This section of MD 355 is six lanes with a well developed and defined median. A wide multi-use path is found along the southbound side and a sidewalk with a grass separation is found along the northbound side. This district lacks direct Ride-On service from Travis Avenue south to Montgomery Village Avenue, MD 124. Route 55 diverts from MD 355 at Travis Avenue.

Transportation Issues for the Northern Employment District:

- Difficult left hand turn from Game Preserve Road onto Southbound MD 355
- As new development, such as the Spectrum and potential redevelopment opportunities are realized, the need for the Watkins Mills Road extension and I-270 interchange becomes all the more critical.
- A possible alternative being retained for further study in regards to the Midcounty County Highway M-83 study would direct additional traffic to Montgomery Village Avenue, MD 355, and Watkins Mill Road. Additionally, this alternative creates the potential for "cut through" trips on Christopher Avenue and Russell Avenue.
- Lack of public transit alternatives.

Transportation Recommendations for the Northern Employment District:

- Work with Montgomery County to improve traffic operations at MD 355 and Game Preserve Road. This may include conducting a signal warrant analysis for Game Preserve Road and MD 355 should future growth increase.
- Continue to encourage and prioritize the need for the Watkins Mill Interchange to be fully funded and constructed by the State. Further, advance the need that this be one project and that the ramps be phased with the interchange bridge. The Watkins Mill Interchange will not only alleviate congestion at the MD 355-MD 124 intersection, it will provide an important multi-modal link in the transportation network. This interchange will allow drivers to leave Frederick Avenue and cross into the Watkins Mill Town Center where they may transfer to either MARC service or the future CCT.
- Continue to oppose any M-83 alternatives that direct traffic onto MD 124 or MD 355. Part of the County's stated Purpose & Need for this project is the existing congestion and accident levels found on MD 355. Any alternative that increases traffic on these roads is counter to the stated goals and should not be supported. The "Master Plan" alignment for M-83 would cross the City's Blohm Park and would have a number of environmental impacts. The City has requested that these issues be addressed prior to the possible selection of this alternative.
- Work with Montgomery County Ride-On to reinstate service lines along the stretch of MD 355 from Travis Avenue south to Montgomery Village Avenue, MD 124. The lack of viable public transit options for these major employment bases all but requires the use of SOVs as the primary form of transportation.
- Encourage the major employers in this district to work together in developing a cooperative Transportation Management District plan.

The Commercial District extends from MD 124 south to Summit Avenue. The character of this district is determined by the commercial buildings that front Frederick Avenue. The northern section is typified by retailers such as the “Big Box” Sam’s Club and Burlington Coat Factory and the Gaithersburg Square Shopping Center. Further south are found smaller parcels with a variety of uses, many of which are built closer to the road edge. The Historic Preservation Element has identified many potential historic resources along this section of Frederick Avenue. There are several neighborhoods to the east of MD 355 and the Montgomery Agricultural Center/Fairgrounds is to the west of this district.

There are numerous curbcuts facilitating the various parcels’ driveways, increasing points of potential conflict. The sidewalks are narrow and immediately adjacent to the curbline. Many impediments including streetlights and utility poles also obstruct the non-pedestrian friendly sidewalks. This district is amply served by two Ride-On routes and covered bus stops can be found. The section from Odend’hal to the Father Cuddy Bridge reduces to four lanes and does not have median separation, but rather a dual turn center lane, sometimes referred to as a “suicide” lane. From the bridge, both the lanes and the median return to the district’s end at Summit Avenue.

Transportation Issues for the Commercial District:

- The intersection of MD 124 and MD 355 is the worst congested in the City (failing the APFO) and is currently ranked as the 16th most congested in Montgomery County for 2009.
- Redevelopment of either Lakeforest Mall or the Fairgrounds would significantly increase traffic levels on MD 355 and may be precluded for not achieving the APFO 1450 requirements.
- The current ROW for MD 355 is 120 feet. Montgomery County has recommended a ROW of 150 feet both north and south of the City. This district has many existing buildings and potential historic resources placed close to, if not in the recommended 120’ ROW.
- The numerous curbcuts coupled with narrow, often obstructed sidewalks increases the potential for vehicle-bicycle/pedestrian conflicts.
- The lack of median and long expanses of road without a demarked crosswalk increases potential hazards for pedestrians during midblock crossings of MD 355.
- The number of small individual parcels creates a challenge to initiate a unified streetscape and acquire additional ROW.

Transportation Recommendations for the Commercial District:

- Study raising the APFO congestion standard to help foster redevelopment opportunities and better reflect the realities of a more urban environment.
- Any potential redevelopment of either Lakeforest Mall or the Fairgrounds should include an alternative main road running parallel to MD 355. These projects should also include an internal grid network of roads linking to the established network. This network will help disperse and not concentrate traffic.
- Encourage the consolidation of the smaller parcels in redevelopment projects thus eliminating the multiple curb cuts. Access to these projects should be achieved through the use of the existing side streets and alleys sited in the immediate rear of said parcels and not

from MD 355. This design of vehicular entrances should be context sensitive in design and not encourage “cut through” traffic into the adjoining residential neighborhoods.²¹

- Redevelopment projects in this district should site new construction further from the street edge allowing for either increased ROW or the installation of improved sidewalks/paths and street tree planting.
- Continue to work with SHA and encourage the eventual construction of a median from Odend’hal to the Father Cuddy Bridge. This should include both short and long term pedestrian safety improvements by SHA.
- Review the current 120 foot ROW standard for entire corridor.

The Southern Residential District extends from Summit Avenue to the southern City limit. The MD 355 connection to I-370 and by extension the ICC and Sam Eig Highway is also found within this district. This section of MD 355 fronts numerous public and civic uses such as the Bohrer Park at Summit Hall Farm, the Casey Barns, and many churches. The Walnut Hill Shopping Center, located in Montgomery County, and smaller individual commercial uses also found in this district. Behind these properties immediately fronting MD 355 are long established residential neighborhoods located both within the City of Gaithersburg and Montgomery County. Ride On again provides both ample service routes and busstops. There is a complete sidewalk system on either side of MD 355 with the majority of these walks setback from the curbline.

Transportation Issues for the Southern Residential District:

- This district functions well with the majority of traffic impacts coming during the peak hours from commuters.

Transportation Recommendations for the Southern Residential District:

- Continue to review Montgomery County projects bordering this district as to their potential impacts on MD 355.
- Work to enhance the streetscape within this district and further improve bicycle and pedestrian facilities.
- Encourage consolidation of access curbcuts for the numerous smaller parcels located in the northern most northbound section of this district.

In addition to the specific district recommendations listed above, for the long term the City should work with the neighboring jurisdictions in studying the feasibility of a bus rapid transit (BRT) line on MD 355, further widening the multimodal network and creating a regional alternative to the SOV. This line would be the eastern counterpart to the CCT. The City should also review the current 120 foot ROW standard for MD 355 in order to facilitate a future BRT corridor lane.

²¹ **Appendix B: Frederick Avenue Sample Alley Configuration** illustrates the design concept of minimizing conflict points on MD 355 and creating shared parking and alleyways.

4.3 Kentlands Vicinity:

The Kentlands and immediate vicinity is an area that in the coming years will experience both internal and external transportation impacts. This area is bounded and influenced by a number of major arterials: Quince Orchard Road (MD 124), Great Seneca Highway (MD 119), Darnestown Road (MD 28)²², and to a lesser extent Montgomery County's Muddy Branch Road. In the near future the Medimmune Campus will continue to expand and residential developments, such as the Vistas will come online, joining the established Kentlands, Lakelands, and Quince Orchard developments. These definitive growth changes could be coupled with the State's Corridor Cities Transitway (CCT) potentially beginning construction in 2015 and implementation of both the City's *Kentlands Boulevard Commercial District Special Study Area* plan and the proposed Life Sciences Center as part of Montgomery County's approved *Great Seneca Science Corridor Master Plan* (GSSC).

The current Kentlands Square and Market Square shopping centers and the shops along Main Street were designated as a master plan special study area in the City's 2003 Land Use Plan. The *Kentlands Boulevard Commercial District Special Study Area* was adopted in 2008. This plan made a number of recommendations including improving bicycle and pedestrian connectivity, creating a grid network of new roads, and realigning the CCT to travel along the southwest side of MD 119. The plan's land use recommendations equate to an approximately two million square feet of additional commercial uses and two thousand new residential units.

The primary focus of the *Great Seneca Science Corridor Master* is the Life Sciences Center. This area directly borders the City of Gaithersburg. Access to this 883 acre area will be by such major routes as Sam Eig Highway, Muddy Branch Road, Shady Grove Road, MD 119, and MD 28. The Plan, as currently proposed will include 17,500,000 square feet of commercial uses; 9,000 housing units; and 60,000 jobs²³. Of note with this plan are the associated transportation impacts. The plan ambitiously strives for a 30% non-auto driver mode share (NADMS). Analysis performed for this document²⁴ states that the impacts will be far reaching with certain intersections such as Great Seneca Highway at Muddy Branch Road failing even with a 1600 CLV and 30% NADMS. The plan also includes recommendations for a number of grade separated interchanges that are located within the City of Gaithersburg.

Transportation issues for Kentlands Vicinity:

- Great Seneca Highway, MD 119 acts as a bicycle and pedestrian barrier separating the Quince Orchard neighborhood and Medimmune employment hub from the Kentlands and Lakelands neighborhoods.
- Kentlands Boulevard acts as a bicycle and pedestrian barrier separating the Kentlands Square from Market Square shopping centers.
- The proposed Master Plan alignment for the CCT would have impacts on Medimmune's growth and would underserve the Kentlands Special Study Area.

²² The 2008 AADT volumes for these State Routes are: MD 124 (23,172); MD 119 (34,400); MD 28 (26,502)

²³ The 1990 *Gaithersburg and Vicinity* Master Plan, by comparison, recommended 13,000,000 Square Feet of commercial; 3,800 housing units; and 38,000 jobs

²⁴ <http://www.montgomeryplanning.org/community/gaithersburg/documents/Appendix7.pdf>

- The GSSC includes a recommendation of a grade separated interchange at the intersection of MD119 and MD 124. This interchange would impact and possibly preclude the implementation of recommendations made in the *Kentlands Boulevard Commercial District Special Study Area*, the *2003 Land Use Special Study Area 9*, *Uptons-Boston Market*, the City-requested Kentlands Realignment for the CCT, and expansion on the Medimmune campus.
- Implementation of the *Kentlands Boulevard Commercial District Special Study Area* will require the development of a new grid network of roads.
- While there is significant parking currently located on surface lots within the Kentlands commercial areas, there is a perception of it not being functional. Further, the development called for in the *Kentlands Boulevard Commercial District Special Study Area* will require the redevelopment of said surface lots.

Transportation recommendations for Kentlands Vicinity:

- The City does not support any grade separated interchanges within the City limits such as the proposed MD 124 and MD 119 interchange that may impede the implementation of the recommendations in the adopted City Master Plan, preclude the Kentlands CCT Realignment, or conflict with any approved development site plans.
- Continue to vigorously advocate for both the Kentlands and Crown Farm Realignments
- Coordinate with both the State and private sector on the feasibility of constructing a bicycle/pedestrian connection across MD 119 linking the Quince Orchard-Medimmune areas with the Kentlands.
- Explore public/private partnerships in the development of structured parking facilities.
- Develop and implement a Kentlands Commercial District parking plan
- Continue to support and implement the road design recommendations presented in the *Kentlands Boulevard Commercial District Special Study Area* for redevelopment projects, with the inclusion of possible “Green Street” methods.
- Study raising the APFO congestion standard to help foster redevelopment opportunities and better reflect the realities of a more urban environment.
- Work with the commercial tenants and owners to enhance the streetscape within this district and further improve bicycle and pedestrian facilities.

5. Traffic Mitigation Strategies

As has been discussed previously in this document, the City and the surrounding region will continue to grow and increase the traffic currently found on the existing road network. The historic mitigation solutions of building new roads or expanding existing road capacity (new lanes) may no longer be practical or even feasible and smaller scale actions such as installing sidewalks or bicycle racks may not mitigate enough traffic impacts. As such, the City must be at the forefront in developing creative mitigation strategies that foster and enhance a multi-modal network that reduces dependence on the single-occupancy vehicle (SOV) while at the same time fosters an environment conducive for economic development.

5.1 Bus Rapid Transit Network

Transit is a viable alternative to the SOV only if it is perceived to be affordable, timely, and provides convenient access to major destination points, such as MARC stations, employment centers, and residential neighborhoods. The City has long supported the Corridor Cities Transitway (CCT). The CCT will provide an important SOV alternative, linking Clarksburg to Shady Grove; however, this transit line should be supplemented with additional transit lines/corridors, creating a regional network, in order to more fully mitigate regional traffic. Montgomery County Department of Transportation has undertaken a feasibility study²⁵ for such a network, based upon Bus Rapid Transit (BRT).

This regional network would include corridors, in addition to the CCT, within the City. The corridors within the City would then extend into and connect with other BRT corridors in the surrounding region. All activity/employment/transit-oriented development areas within the greater Montgomery County/ Washington DC metropolitan area would then be accessible through this BRT network either directly or through its connections to MARC and Metro.

The City will continue to be active participants as this study progresses and help in the identification of future possible BRT corridors, such as Frederick Avenue (MD 355), Muddy Branch Road, Sam Eig Highway, and Quince Orchard Road (MD 124). The identification should include a study of ROW needs, connectivity, and surrounding current and future land-uses. In an effort to further this study, the City should advocate this vehicular alternative to the County, State, and federal levels for increased funding for regional transit.

5.2 Other Mitigation Techniques

The City generally requires developers to fully fund and/or construct physical engineered methods of traffic mitigation. This may become impractical as the necessary mitigation required for certain projects may be physically infeasible or the financial requirements for mitigation may render the project cost-prohibitive. Additionally, State and County funding sources for transportation improvements may remain limited.

To address these situations the City may consider creative solutions. For example, Montgomery County recently approved, as part of its annual growth policy, an \$11,000 per trip mitigation fee. This establishes a fee-in-lieu program for mitigation. The applicant may pay this amount per trip over the established threshold. Mechanisms such as this would allow the City to

²⁵ As of June 1, 2010

create a fund that could then be used to facilitate public/private partnership transportation improvements throughout the City. Further, policies such as this would allow a developer to move forward with projects that would otherwise be stopped for engineering factors or will allow for more needed mitigations improvements outside of the project limits to move forward. These monies could be used to help fund:

- State and County road and transit projects that benefit the City as a whole and enhance the overall multi-modal network for the entire region, both inside the City and out.
- A City commuter circulator bus that would supplement Ride-On and link various points of interest within the City.
- Identifying and improving gaps in the road or bicycle/pedestrian network.
- Public sector participation in the creation and implementation of private sector Transportation Demand Management districts or agreements, such as facilitating parking cash out subsidies/incentives.

It is to be noted that these programs could be used in conjunction with existing methods. A developer could still add turn lanes or install a path to partially mitigate the required number of trips, but could then pay for the remaining balance. These programs would help decrease the “piecemeal” approach to improving the multi-modal network that results from improvements coming only from site by site projects.

6. City Bicycle and Pedestrian Plan

In March 2007, the City of Gaithersburg initiated a planning process to develop a Bikeway Improvement Plan with consultant Toole Design Group to incorporate in the 2009 Transportation Element. The plans were developed with a wide range of bicyclists in mind. They focus on the physical improvements that are needed to improve conditions in the public realm. While this section does not discuss traditional bicycle planning topics such as bicycle safety education, encouragement of bicycling, or traffic law enforcement, it serves as a guide for the City of Gaithersburg as it develops a functional network of bikeways and pedestrian facilities.

Providing improved bicycle accommodations on roadways, trails and sidewalks is the foundation for allowing for more people to bicycle more often, for both recreation and transportation. Physical improvements are also a key to making the urban bicycle network more inviting.

Bicycle access and connectivity needs were initially identified and mapped in a meeting that included key City staff and members of the City's Bicycle and Pedestrian Advisory Committee. The discussion of access and needs included identification of the following: key bicycle trip origins and destinations, physical barriers, inhospitable roads (due to traffic speed, volume, and turning movements), and difficult intersections. Additional bicycle access and connectivity needs were identified through analysis of City-provided Geographic Information System (GIS) data, field work and through consultation of maps of the surrounding areas.

The following list highlights some of the most important locations considered for bicycle access, trip origins, and destinations:

- ❖ National Institute of Standards and Technology (NIST) Campus
- ❖ Olde Towne
- ❖ Various destinations along the Frederick Avenue Corridor
- ❖ Elementary, Middle Schools, and High Schools
- ❖ Shady Grove Metro Station
- ❖ The Metropolitan Grove, Gaithersburg, and Washington Grove MARC Stations
- ❖ The Lake Forest Mall and Transit Center
- ❖ The two I-270 Park and Ride Lots
- ❖ Washingtonian Center
- ❖ Kentlands Commercial District
- ❖ Office Parks along Quince Orchard Road, Clopper Road, West Diamond Avenue, Russell Avenue, Perry Parkway, and Christopher Avenue
- ❖ Malcolm King, Victory Farms, Bohrer, Morris, Robertson, Kelly and Blohm Parks
- ❖ The Millennium Trail and Great Seneca State Park
- ❖ Montgomery Village
- ❖ New Developments such as Watkins Mill Town Center and Crown Farm

In addition to identifying the aforementioned destinations, the planning process identified barriers to connectivity and challenging arterial roadways. These include:

- ❖ I-270
- ❖ CSX Railroad
- ❖ NIST Campus

- ❖ I-370 / Sam Eig Highway
- ❖ Challenging Arterial Roadways
 - Fredrick Avenue
 - Clopper Road
 - Quince Orchard Road
 - Montgomery Village Avenue
 - Darnstown Road
 - Muddy Branch Road
 - Sam Eig Highway
 - Goshen Road
 - Mid-County Highway
 - Western Portion of West Diamond Avenue
 - Oakmont

Streets and roadways in Gaithersburg follow a fairly consistent pattern of widths and layouts, and there are a relatively small number of street types. For this reason a high-quality network of on-road bikeways presented in the following plan can be created using a small set of facility types. These include traditional bicycle lanes, the new shared lane marking or sharrows, and paved/striped shoulders identified as shared roadways. Generally, acquisition of additional right-of-way will not be required to install these facilities. However, on-road facilities are recommended for streets that are administered by a variety of jurisdictions and agencies, including those owned and managed by the Maryland State Highway Administration (SHA), the Montgomery County Department of Transportation (DOT), and the City of Gaithersburg. Continued coordination between the City and these agencies is critical.

In addition to the following bicycle plans illustrated below, the following policies are further recommended in order for the City of Gaithersburg to continue to be a community that addresses the needs of bicyclists and pedestrians:

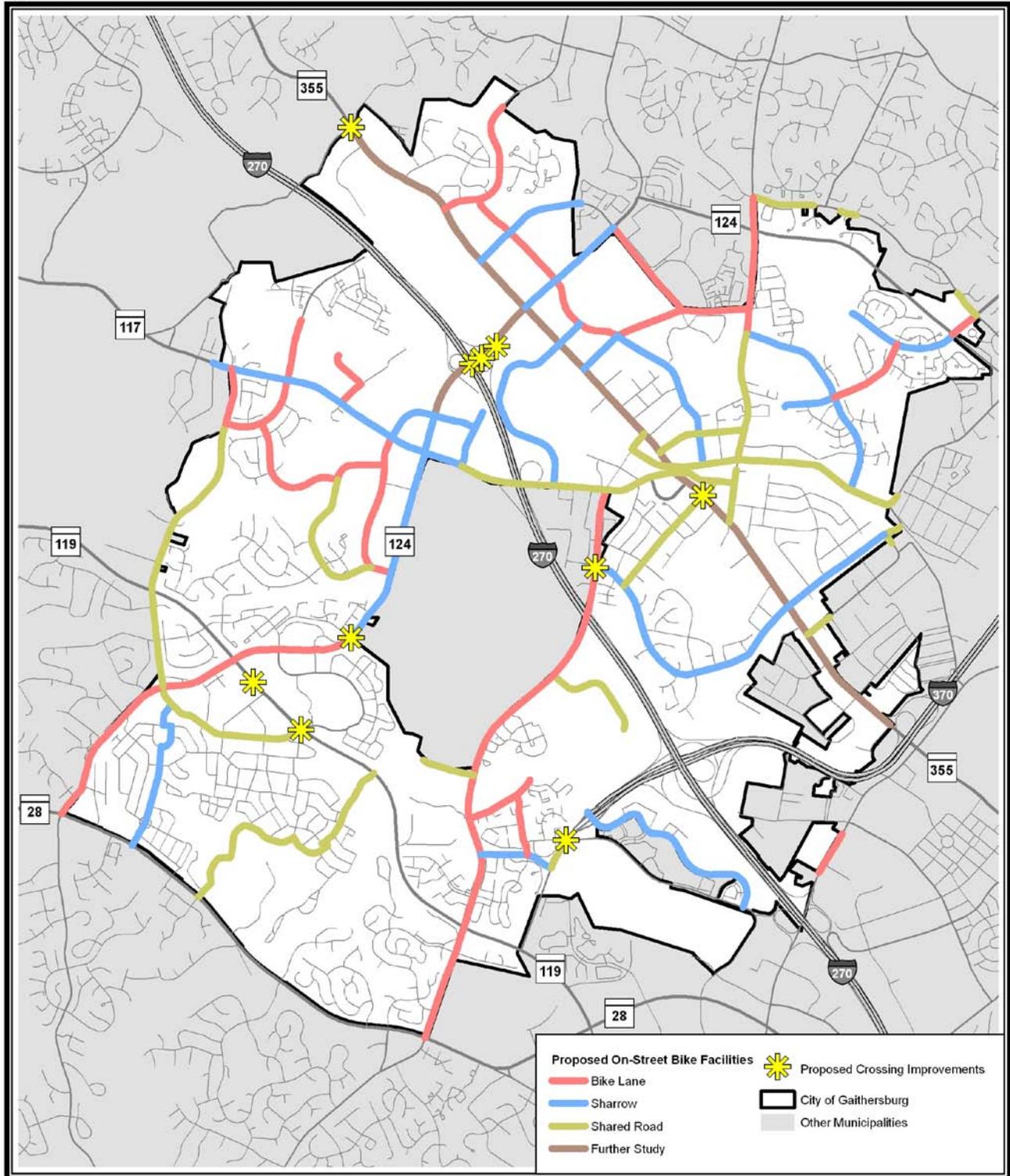
- Encourage development of connective pedestrian and bicycle systems in all projects. This should emphasize links among schools, parks, shopping centers, and the pathway systems in the surrounding region.
- Require that newly constructed streets have a minimum of five foot (5') sidewalks on both sides.
- Evaluate existing railroad rights-of-way for potential opportunity for future pedestrian and bicycle paths. The City should work with CSX railroad in trying to develop a trail system, running parallel to the rail-lines, connecting Olde Towne to the Shady Grove Metro Station.
- Continue to coordinate with Montgomery County in connecting and expanding existing trail links, wherever feasible, between the two municipalities.
- Continue to, wherever feasible, encourage State and County road projects to incorporate Hiker/biker pathways and/or on-street bike lanes.
- Coordinate with SHA on incorporating possible future facilities that will allow bicyclists and pedestrians to safely cross I-270.
- Coordinate with Montgomery County on creating a safe bicycle/pedestrian crossing of Muddy Branch Road onto the Belward Farm site within the Life Sciences Center.

- Require bicycle parking in new developments, in addition to automobile parking. This may include the addition of lockers and storage racks.
- Encourage locating parking to the side or behind developments to provide pedestrian accessibility of building entrances and walkways to the street.
- Ensure the provision of clearly delineated routes through parking lots to safely accommodate pedestrian / bicycle circulation and provide circulation among the various businesses or properties served by the lots.
- The delineated routes for safe bicycle and pedestrian circulation should be included as part of any directional signage application or pavement marking and signage plan.
- Continue to include City programs that educate and advocate bicycling to the City's youth.
- Continue to involve the public and the City Transportation Committee in identifying hazardous intersections and other gaps in the bicycle/pedestrian network.
- Engage the public and business community in developing a City-wide bicycle route signage program.
- In areas where the potential for bicycle/pedestrian and automobile interaction is high:
 - Install pedestrian crossing signals
 - Erect warning signage-alerting motorists to cyclists and walkers sharing the road or entering intersections
 - For visibility, prohibit closed-body trucks and vans from parking within 25 feet of a street intersection.

The following plans are divided into on-road and off-road facilities. The recommendations presented would enhance the existing system presented in the background chapter. The recommendations made will create an efficient network fulfilling the connectivity needs of those origin-destination points identified by the City. The On-Road plan presents five recommendations: the inclusion of delineated bicycle lanes; the use of sharrows; identifying shared roadways through off-road signage; identifying routes that are deficient in facilities, but require further detailed study as to what facility method is most appropriate; and areas requiring improved crossing for bicyclists and pedestrians.

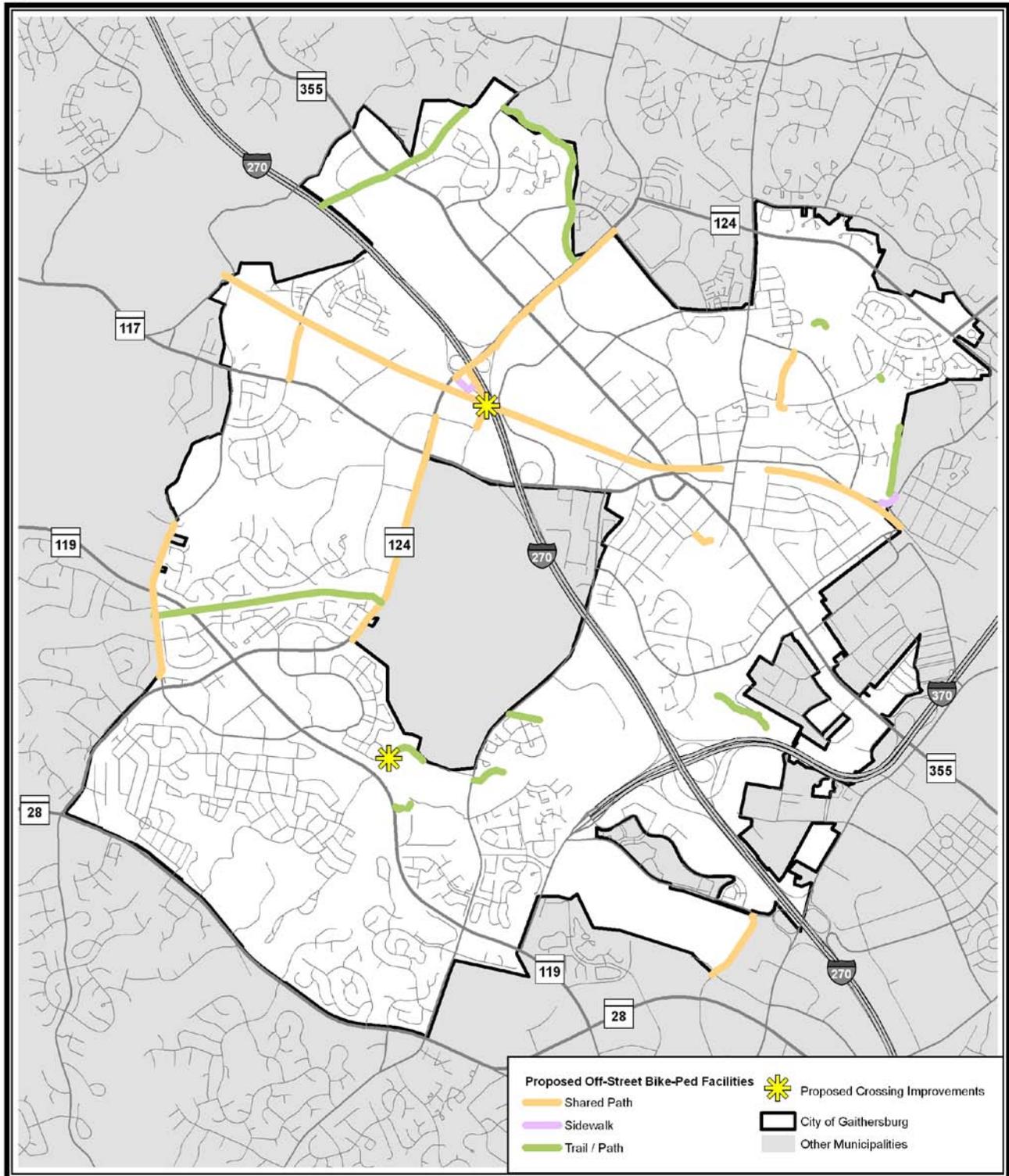
The Off-Road plan is organized in much the same way as the On-Road plan. This plan presents four recommendations: trails, including gravel and asphalt, found in parks and not aligning with a roadway; shared-use paths are those adjacent to roads such as Great Seneca Highway (MD 119) and are typically anywhere from 6-10' in width; traditional sidewalks; and areas requiring improved crossing for bicyclists and pedestrians.

Map 6: Proposed On-Road Bicycle Facilities



Source: City of Gaithersburg

Map 7: Proposed Off-Road Bicycle and Pedestrian Facilities



Source: City of Gaithersburg

7. Policy Objectives and Recommendations

- ❖ **Objective 1: Promote connectivity within the transportation network for new, infill, and re-development projects.**
 - Encourage interconnected grid systems in new/redevelopment projects while discouraging dead end facilities.
 - Preserve adequate right-of-way for future roadway or transit corridors and improvements and avoid the preemption of a roadway or transit line by new construction or subdivision activity within the ROW corridor.
 - Identify future corridor needs, including transit, on the roadway system map and ensure adequate building setbacks through the master plan and site development process.
 - Require preservation of roadway corridors as a condition of approval for any future annexation approval.
 - Encourage and promote the sharing of access points between adjacent properties
 - Preserve the function of and connectivity to major thoroughfares, with abutting developments, by requiring the creation of parallel roads or cross access easements.
 - Preserve existing roadway connections, restore incomplete connections, and create new connections where appropriate.
 - Ensure that streets in new or redevelopment projects are designed with stubouts and/or ROW to connect to abutting undeveloped lands and/or land with redevelopment potential. Provisions for these future connections shall be provided whether the streets are public or private, except where abutting land is undevelopable. The City shall further ensure that all new developments will align their roadways to connect with the stubouts/ROW provided by adjacent developments.
 - Continue to support and encourage Montgomery County and Maryland State to provide both highway and transit projects that improve connectivity within Gaithersburg.
 - Continue to encourage the prioritization, funding and construction of the Watkins Mills Interchange.
 - Remain active participants in major projects that help connect the City of Gaithersburg to the surrounding region.

❖ Objective 2: Maintain or improve the functioning of the City's road network

- Review the 1450 CLV standard and its impact on future redevelopment opportunities. Consider raising the CLV standard or adopting creative mitigation policies and strategies in and around the City's activity centers to remain competitive with similar centers in adjoining jurisdictions.
- Strive for all City roads to have a LOS of "D" or better, but recognize that increased congestion is a result of increased density and growth. Physical site limitations and the costs associated with mitigation to maintain a LOS "D" may prohibit redevelopment projects.
- Ensure that existing and future land uses are appropriate for the function of adjacent roadways that serve them.
- Ensure the design of offsetting driveways in new projects to produce T-intersections and minimize the number of conflict points between traffic using the driveways and through traffic when driveways are far enough apart to prevent left turns from conflicting with each other.
- Support the installation of median barriers to control conflicts associated with left turn movements on multiple lane roads.
- Limit the number of approaches or curb cuts onto collectors and major and minor arterials, by requiring access to the development via minor collector or local streets as infill or redevelopment occurs.
- Encourage constructing parallel roads and rear parking to separate local traffic from through traffic.
- Study and implement transportation system management (TSM) strategies that increase the vehicle capacity on the roadway system in the most productive, safest, and cost-effective manner, which may include:
 - Converting two-way streets to one-way streets, thus reducing through traffic
 - Working with Montgomery County on the review of the coordinated traffic signal system and adjust or optimize signal timing as needed

- ❖ **Objective 3: Encourage and promote the City of Gaithersburg as a multi-modal community and reduce the dependence upon single occupancy vehicles (SOV)**
 - Continue to support the Corridor Cities Transitway (CCT) with the Kentlands and Crown Farm realignments and endorse light rail transit (LRT) as the preferred mode option for CCT.
 - Continue to work with Montgomery County and Maryland State in the creation and funding of a regional bus rapid transit (BRT) network.
 - Support and facilitate express toll lane (ETL) direct access ramps for I-270 at the Metropolitan Grove Road extended site.
 - Continue to work with MTA, SHA, and developers to ensure appropriate ROW is secured for the CCT alignment and the Watkins Mills Road Interchange.
 - Continue to coordinate with MTA, WMATA, and CSX on potential expansion, additional ROWs, and/or increased service for rail uses such as MARC and Metrorail.
 - Encourage the funding and implementation of the State’s “MARC Growth and Investment Plan.”
 - Continue to work with Montgomery County on the Ride-On program and service in Gaithersburg. Study the Ride-On demand needs for new developments and existing lines that serve the most highly frequented destinations, major residential areas, and traffic generators.
 - Support and encourage mass transit use by working with Montgomery County and developers in providing transit passengers amenities such as:
 - Information programs and route maps signs which acquaint passengers with transit routes and available services and destinations
 - Increased numbers of bus stops and shelters, providing weather protection at stops along the transit routes
 - Clear signage that identifies transit stops and routes
 - Lighting and emergency call boxes at selected stops
 - Encourage carpool/vanpool and park-and-ride use by such methods as:
 - Preferential parking for rideshare participants

- Convenient access points for passenger drop-offs and pick-ups at designated transit facilities and at commercial and office development sites
- Increase public awareness as to the locations and functionality of the City's park-and-ride lots
- Restrict availability and/or increase parking costs for single occupancy vehicles
- Review the use of incentive zoning to advance the City's multi-modal goals during development projects. These incentives could be used to encourage developers/businesses to adopt transportation demand management (TDM) strategies. TDM strategies help alleviate the demand for single occupancy travel by reducing volumes through private sector promotion of multi-modal alternatives, not construction of new or expanded roadways. Examples of TDM strategies include:
 - Employer/developer funded ride-share programs or shuttle service to and from the City's park-and-ride lots and major transit stations
 - Cash-out parking subsidies; these allow employees to convert employer paid parking subsidies to transit subsidies or cash, thus reducing automotive use.
 - Staggered work hours or flex time policies to more evenly distribute the number of commuters on the road throughout the day and parking spaces being used.
 - Telecommuting; this allows employees to work out of the home on at least a part-time basis.
 - Help organize transportation management associations, usually through employers or business associations, which will coordinate opportunities and incentives for shared travel.
- Incorporate dedicated bicycle parking in public parking garages at the ground floor level and on parking lots.
- Study the feasibility of a proportionate share development impact fee program to include street improvements and foster multi-modal infrastructure and use
- Encourage mixed-use transit oriented development projects that promote automobile alternatives and allow for shared and/or reduced parking

- ❖ **Objective 4: Ensure that land use and transportation decisions, strategies, and investments are in step and consistent with the health, safety, and welfare goals of the City of Gaithersburg, its neighborhoods, and its citizens**
 - Welcome and encourage citizen involvement in identifying problem areas and solutions in regards to transportation issues and projects.
 - Work with developers in creating major entryways and gateways into the city that present a positive image of the community.
 - Provide and plan for full accommodation for the mobility impaired, including parking spaces, sidewalks, and ramps for handicapped access. The study and review of use of universal design principals will be incorporated into the site development process, in addition to ADA compliance.
 - Continue to actively participate in transportation planning coordination with the State, Montgomery County, and other jurisdictions on all transportation project teams affecting the City.
 - Continue to ensure all development projects will be viewed with public safety in mind by maintaining and improving access for emergency services.
 - Ensure that the transportation system contributes to the protection of natural features and the environment. This includes incorporating “Green Streets” technologies in the design of new and retrofit roads and the promotion of the use of public transit and bicycling as viable alternatives to the SOV.
 - Encourage developers to improve environmental quality and promote energy-efficient transportation by providing for a range of transportation alternatives to the automobile, including public transit amenities and projects conducive to bicycling and walking.
 - Continue to study the installation of new crosswalks and the addition of signalized crossings to enhance pedestrian safety.

8. Appendix A: Master Plan Road Classification System

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ²⁶	Notes
Interstate 270	Shady Grove Rd to Game Preserve Rd	Freeway	300'	12	Refer to I-270/US 15 Multimodal Corridor plan
Interstate 370	Sam Eig Hwy to Shady Grove Rd	Freeway	300'	6	

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ²⁷	Notes
Darnestown Rd (MD 28)	Muddy Branch Rd to Quince Orchard Rd	Major Arterial	120'	4	
Frederick Ave (MD 355)	Shady Grove Rd to Game Preserve Rd	Major Arterial	120'	6	Additional ROW for BRT
Great Seneca Highway (MD 119)	Sam Eig Highway to Longdraft Rd	Major Arterial	150'	6	
Midcounty Highway (MD 124)	Washington Grove La to Montgomery Village Ave	Major Arterial	150'	4-6	
Montgomery Village Ave (MD 124)	I-270 to Midcounty Highway	Major Arterial	150'	6	
Muddy Branch Rd	Darnestown Rd to Great Seneca Highway	Major Arterial	170'	6	Additional ROW for CCT
Muddy Branch Rd	Great Seneca Highway to West Diamond Ave	Major Arterial	150'	4	
Quince Orchard Rd (MD 124)	Darnestown Rd to Twin Lakes Dr	Major Arterial	120'	4	
Quince Orchard Rd (MD 124)	Twin Lakes Dr to I-270	Major Arterial	150'	4	
Sam Eig Highway	Great Seneca Highway to I-370	Major Arterial	210'	6	Additional service lanes, BRT, Grade Separation
Shady Grove Rd	Key West Ave to I-370	Major Arterial	150'	6	
Woodfield Rd (MD 124)	Midcounty Highway to Emory Grove Rd	Major Arterial	120'	4	

²⁶ The number of planned through travel lanes in both directions, not including lanes for turning, parking, acceleration, deceleration, or other auxiliary purposes.

²⁷ Ibid.

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ²⁸	Notes
Clopper Rd (MD 117)	Quince Orchard Rd to Firstfield Rd	Arterial	150'	6	
Clopper Rd (MD 117)	Firstfield Rd to Game Preserve Rd	Arterial	120'	4	
Fields Rd	Omega Dr to Decoverly Dr	Arterial	150'	4	Includes 50' for Transitway
Fields Rd	Decoverly Dr to Sam Eig Highway	Arterial	120'	4	
Goshen Rd	Girard St to Emory Grove Rd	Arterial	120'	4	
MD 355 service road	Frederick Ave to West Diamond Ave	Arterial	75'	2	
Omega Dr	Key West Ave to Fields Rd	Arterial	100'	4	
Watkins Mill Rd	Clopper Rd to Frederick Ave	Arterial	150'	6	Additional ROW needed for I-270 interchange
West Diamond Ave (MD 117)	MD 355 service road to Perry Parkway	Arterial	120'	4	
West Diamond Ave (MD 117)	Perry Parkway to Quince Orchard Rd	Arterial	150'	6	

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ²⁹	Notes
Bureau Dr	West Diamond Ave to Firstfield Rd	Collector	80'	4	
Chestnut St	East Diamond Ave to Frederick Ave	Collector	60'	2	
Christopher Ave	Montgomery Village Ave to Frederick Ave	Collector	80'	4	
Decoverly Dr	City line to Fields Rd	Collector	150'		Includes 50' for Transitway
Diamondback Dr	Sam Eig Highway to Muddy Branch Rd	Collector	100'	4	This road to be renamed

²⁸ The number of planned through travel lanes in both directions, not including lanes for turning, parking, acceleration, deceleration, or other auxiliary purposes.

²⁹ Ibid.

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ³⁰	Notes
Diamondback Dr	Reprise Dr to Fields Rd	Collector	80'	2	
East Diamond Ave	Railroad Ave to Chestnut St	Collector	40'-60'	2	Where feasible, 60' ROW is preferred
Firstfield Rd	Quince Orchard Blvd to Bureau Dr	Collector	80'	4	
Kentlands Blvd	Great Seneca Highway to Quince Orchard Rd	Collector	120'	4	
Lakeforest Blvd	Frederick Ave to Russell Ave	Collector	100'	4	
Longdraft Rd	Quince Orchard Rd to Great Seneca Highway	Collector	80'	2-4	
Longdraft Rd	Great Seneca Highway to Clopper Rd	Collector	80'	2	
Lost Knife Rd	Odend'hal Ave to Montgomery Village Ave	Collector	120'	4	
Odend'hal Ave	Goshen Rd to Russell Ave	Collector	120'	4	
Odend'hal Ave	Russell Ave to Frederick Ave	Collector	80'	4	Existing ROW is 70'
Perry Parkway	West Diamond Ave to Frederick Ave	Collector	70'	4	80'-100' ROW near Frederick Ave
Quince Orchard Blvd	Quince Orchard Rd to Firstfield Rd	Collector	80'	4	
Rio Blvd	Fields Rd to Washingtonian Blvd	Collector	80'	4	
Russell Ave	Odend'hal Ave to Watkins Mill Rd	Collector	100'	4	
Washingtonian Blvd	Fields Rd to I-370	Collector	85'	4	
Watkins Mill Rd	Frederick Ave to City line	Collector	80'	4	

³⁰ The number of planned through travel lanes in both directions, not including lanes for turning, parking, acceleration, deceleration, or other auxiliary purposes.

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ³¹	Notes
Bank St	Quince Orchard Rd to Firstfield Rd	Minor Collector	80'	4	
Booth St	Kentlands Blvd to Quince Orchard Rd	Minor Collector	60'	2	
Emory Grove Rd	Washington Grove La to Goshen Rd	Minor Collector	70'	2	
Girard St	East Diamond Ave to Summit Ave / Goshen Rd	Minor Collector	80'	4	
Lakelands Dr	Gatestone St to Great Seneca Highway	Minor Collector	50'	2	
Main St	Darnestown Rd to Bright Meadow La	Minor Collector	60'	2	
Saybrooke Oaks Blvd	Midcounty Highway to Victory Farm Dr	Minor Collector	90'	4	
Olde Towne Ave	Summit Ave to MD 355 Service Rd (MD 117)	Minor Collector	70'	2-4	
Professional Dr	Spectrum Ave to Frederick Ave	Minor Collector	80'	4	
Orchard Ridge Dr	Great Seneca Highway to Quince Orchard Rd	Minor Collector	110'	4	
Quince Orchard Blvd	Firstfield Rd to Firstfield Rd	Minor Collector	70'	2	
Russell Ave	East Diamond Ave to Odend'hal Ave	Minor Collector	40'-60'	2	Where feasible, 60' ROW is preferred
Spectrum Ave	Frederick Ave to Professional Dr	Minor Collector	60'	2	
Spectrum Blvd	Watkins Mill Rd to Spectrum Ave	Minor Collector	66'	4	
Travis Ave	Watkins Mill Rd to Frederick Ave	Minor Collector	60'	2	
Victory Farm Dr	Saybrooke Oaks Blvd to Girard St	Minor Collector	80'	2-4	
Victory Farm Dr	Girard St to Summit Ave or Teachers Way	Minor Collector	80'	2-4	Recommended future street – Olde Towne Master Plan

³¹ The number of planned through travel lanes in both directions, not including lanes for turning, parking, acceleration, deceleration, or other auxiliary purposes.

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ³²	Notes
Sioux La	Quince Orchard Rd to Dosh Dr	Minor Collector	70'	2-4	
Sioux La	Dosh Dr to Longdraft Rd	Minor Collector	60'	2	
Summit Ave	Frederick Ave to Girard St	Minor Collector	40'-80'	2-4	Where feasible, 80' ROW is preferred
Teachers Way	Girard St to Summit Ave	Minor Collector	60'	2	
Tschiffeley Square Rd	Darnestown Rd to Kentlands Blvd	Minor Collector	62'-86'	2	62' ROW at "tuning fork" / club house and at Chestertown St
West Deer Park Rd	Frederick Ave to Muddy Branch Rd	Minor Collector	70'	2	

Street Name	Location	Master Plan Classification	Minimum ROW	Through Lanes ³³	Notes
all other streets	within the City of Gaithersburg	Local	40'-80'	2	Preferred minimum right of way (ROW) is 50'

³² The number of planned through travel lanes in both directions, not including lanes for turning, parking, acceleration, deceleration, or other auxiliary purposes.

³³ Ibid.

9. Appendix B: Frederick Avenue Sample Alley Configuration



The preceding conceptual diagrams illustrate how the use of context sensitive design techniques can enhance safety and function along MD 355. Redevelopment should include the consolidation of both lots and driveways. These new coupled/shared driveways, serving multiple parcels, should be sited to align across from existing side streets wherever feasible to facilitate potential new traffic signals. Other shared driveways from MD 355 should be designed as “right-in/ right-outs” when additional access points are available from side streets. New construction should be sited to the fronts of lots or roads so orientation and access for both pedestrians and bicyclists is from MD 355. Parking lots should be sited in the rear of lots and shared among multiple properties. These parking lots should be linked together and connected to the shared driveways through the use of “alley” drive aisles. These “alleys” have a design similar to a dedicated roadway rather than an undefined aisle. These techniques will allow for fewer conflict points along MD 355 with the reduction of driveways; will decrease “short” trip traffic on MD 355 as connections between properties will be available using the rear lot “alleys”; will restrict left turning movements onto MD 355 from properties by redirecting traffic to signalized intersections; and will facilitate an enhanced streetscape that is conducive for pedestrian and bicycle use by orientating the buildings fronting MD 355. An additional benefit of a better functioning MD 355 will be the reduced inclination to use residential side streets as “cut-throughs” to reach destinations and avoid traffic.