

Facility Planning Study - Phase I

Goldsboro Road

Purpose and Need



June 2013



Montgomery County Department of
Transportation
Planning



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Prepared for:
Montgomery County
Department of Transportation
Division of Transportation Engineering
100 Edison Park Drive, 4th Floor
Gaithersburg, Maryland 20878



Prepared by:
Rummel, Klepper & Kahl, LLP
81 Mosher Street
Baltimore, Maryland 21217

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I. Project Description

The Montgomery County Department of Transportation (MCDOT) is performing a Phase I Facility Planning Study to evaluate the need for master planned bicycle lanes and sidewalks along a 1-mile segment of Goldsboro Road (MD 614), between MacArthur Boulevard and River Road (MD 190). The study will develop recommendations for improving the Goldsboro Road roadway section to provide adequate on-street space and improved safety for bicyclists. The study will also develop recommendations for improving pedestrian access and safety adjacent to the roadway, at pedestrian crossings and intersections and at transit stops along the corridor.

II. Project Background

Within the study area (**Figure 1**), Goldsboro Road is an undivided, two-lane, two-way roadway, with a speed limit of 35 mph. The roadway is located within a residential community, with relatively small commercial centers located just east of the Goldsboro Road / Massachusetts Avenue intersection and just north of the MacArthur Boulevard / Goldsboro Road intersection. Goldsboro Road is centrally located within the 4-miles between the Capital Beltway (I-495) and the Washington D.C line and serves as a primary east-west connection between the Glen Echo and Bethesda areas of southwestern Montgomery County.

There are three major intersections along Goldsboro Road within the study area, including a complex stop sign and yield-controlled traffic circle / frontage road at MacArthur Boulevard and signalized intersections, with turn lanes, at Massachusetts Avenue (MD 386) and River Road. Other intersections along the corridor are stop sign controlled. Throughout the corridor there is a network of Ride-On bus stops, most located along existing shoulders. **Figure 1** identifies the intersection controls and bus stops along the corridor.

i. Master Plan Recommendations

Goldsboro Road is identified in the *1990 Bethesda-Chevy Chase Master Plan* as Arterial A-84 from MacArthur Boulevard to Massachusetts Avenue, and as Major Highway M-93 from Massachusetts Avenue to River Road. The Master Plan recommends that A-84 retain its two-lane section, and recommends M-93 retain its two-lane section with consideration for long-term ultimate width of four lanes.

The *2005 Countywide Bikeways Functional Master Plan* proposes on-street bike lanes along Goldsboro Road (identified as Route #BL-1 in the *Countywide Bikeways Functional Master Plan*) within the limits of the study.

Nearby existing and proposed Master Plan bicycle facilities include (see **Figure 1**):

- MacArthur Boulevard (Route #DB-1, existing shared use path / proposed bike lanes) – **directly connected to Goldsboro Road**
- Massachusetts Avenue (Route #SR-50, proposed signed shared roadway) - **directly connected to Goldsboro Road**





GOLDSBORO ROAD (MD 614) BICYCLE & PEDESTRIAN IMPROVEMENT PROJECT



- River Road (Route # DB-2 – proposed shared use path / signed shared roadway) - **directly connected to Goldsboro Road**
- Bradley Boulevard (Route #DB-4, proposed shared use path / signed shared roadway) - **directly connected to Goldsboro Road with future Goldsboro Road improvements between River Road and Bradley Boulevard**
- Capital Crescent Trail (existing shared use path) – **connected to Bradley Boulevard**

ii. Community Facilities and Destination Points

Community facilities and destination points within the study area include (see **Figure 1**):

- Glen Echo Park and Clara Barton National Historic Site (National Park Service managed sites) located just west of the Goldsboro Road / MacArthur Boulevard intersection with entrances in close proximity to Goldsboro Road. Pedestrians and bicyclists were observed crossing MacArthur Boulevard at the Goldsboro Road traffic circle to access these sites.
- Merrimack Neighborhood Park, a 10-acre multi-use recreational facility, is located just north of Goldsboro Road, with access off of Goldleaf Drive via Goldsboro Road.
- The Episcopal Church of the Redeemer located just north of the Goldsboro Road / MacArthur Boulevard intersection.
- Concord-St. Andrews United Methodist Church and Cooperative Nursery School located at the Goldsboro Road / River Road intersection.
- The MacArthur Boulevard Multi-Use Trail, which extends north-south through the project area along southbound MacArthur Boulevard.
- Wood Acres and Bannockburn Elementary Schools (less than ½ mile from Goldsboro Road), Thomas W. Pyle Middle School (approximately 1 ¼ mile from Goldsboro Road) and Walt Whitman High School (less than 1 mile from Goldsboro Road).

iii. Existing Bicycle and Pedestrian Facilities

Existing travel lanes along Goldsboro Road are typically 11'-12' wide. Shoulders along the majority of the project corridor are typically only 2'-4' wide. In some spot locations, mainly east of Goldleaf Drive on the westbound side, the shoulders vary to approximately 8' wide. Approaching the Massachusetts Avenue intersection (where turn lanes are formed) shoulders reduce to approximately 1' wide. The existing shoulders provide some space for bicyclists, but widths are inconsistent and existing shoulders and pavement edges are deteriorated in many locations throughout the corridor. Bicyclists were observed utilizing the Goldsboro Road through lanes along the corridor.



Figure 2: Goldsboro Road looking west toward Massachusetts Avenue



There are limited pedestrian facilities along Goldsboro Road. The only continuous sidewalk is along the southern side of the roadway, from Tulip Hill Terrace to approximately ¼ mile east of Massachusetts Avenue. West of Massachusetts Avenue this sidewalk is concrete (5' wide) and east of Massachusetts Avenue this sidewalk is asphalt (approximately 4' wide). **Figure 1** identifies existing sidewalk along the corridor.

There is one marked pedestrian crosswalk across Goldsboro Road located near Wedgewood Road. This crosswalk is a marked school crossing and it is adjacent to an existing pedestrian bridge over Minnehaha Branch, a stream that parallels and crosses Goldsboro Road through the limits of the project. There is an unmarked crossing with pedestrian ramps located at the intersection of Rannoch Road, providing access to existing bus stops on the eastbound and westbound sides of Goldsboro Road. There are no marked cross walks or pedestrian ramps at the Goldsboro Road / River Road and Goldsboro Road / MacArthur Boulevard intersections.

iv. Public Transportation

Goldsboro Road is served by Ride-On Route 29, which operates from Bethesda Metro Station to Friendship Heights Metro Center. Weekday services for the route are provided from approximately 5:45 AM to 10:00 PM. All buses are wheelchair accessible.

Ride-On Route 29 services nine stops on Goldsboro Road between MacArthur Boulevard and River Road. Also, within the study area, there is one bus stop on MacArthur Boulevard (west side of traffic circle) and two bus stops on River Road (just north of Goldsboro Road). Existing bus stops include small sections of sidewalk near the stop or no sidewalk with access at the roadway shoulder. The bus stop with the highest ridership is the stop located just east of MacArthur Boulevard (near the Exxon Station) with 39 riders on / 58 riders off. **Figure 1** shows the location of each bus stop and **Table 1** identifies ridership (provided by Montgomery County Ride-On) at each stop.

Table 1: Goldsboro Road Bus Stop Ridership

Bus Stop Location	Direction	Riders On	Riders Off	Sidewalk/Pad at Stop	Shelter at Stop
Rannoch Road	Eastbound	1	0	Yes	No
Goldleaf Dive	Eastbound	3	6	Yes	No
Redwing Road	Eastbound	5	5	No	No
Haviland Drive	Eastbound	5	0	No	No
Haviland Drive	Westbound	7	3	No	No
Redwing Road	Westbound	1	17	No	No
Gold Leaf Dive	Westbound	2	4	No	No
Rannoch Road	Westbound	3	13	Yes	No
MacArthur Blvd.	Westbound	39	58	Yes	Yes

There are public school bus stops along Goldsboro Road serving Wood Acres Elementary School (three stops), Thomas W. Pyle Middle School (four stops) and Walt Whitman High School (five stops). The school bus stops are located at Rannoch Road, Tulip Hill Terrace, Goldleaf Drive, Wedgewood Road, Blackwood Road, Haviland Drive and at three residences along the corridor.

Figure 3: Goldsboro Road Bus Stop at Goldleaf Drive



v. Traffic and Safety

Field visits were performed in January 2013 to observe pedestrian and bicyclist activity along the corridor. Pedestrian and bicyclist volumes were relatively low during these observation periods, mainly believed to be a result of very cold temperatures. During the visit (6:00 AM to 7:00 PM), 36 pedestrians and 3 bicyclists were observed along Goldsboro Road.

Additional field visits were performed on a Friday and Saturday in April 2013 (both 7:00 AM to 7:00 PM) to observe pedestrian and bicyclist activity along the corridor during more favorable weather conditions. During the Friday visit 61 pedestrians and 17 bicyclists were observed. During the Saturday visit 38 pedestrians and 83 bicyclists were observed. Pedestrians (87 total during the April 2013 visits) were observed crossing at the MacArthur Boulevard traffic circle with destinations being Glen Echo Park, the MacArthur Road multi-use trail and an existing bus stop along MacArthur Boulevard on the south side of the circle. Without clear pedestrian routes (sidewalk / pedestrian ramps), these crossings occurred at various locations around and through the traffic circle.

Figure 4: Pedestrians crossing MacArthur Blvd. traffic circle (Goldsboro Rd. on left, Glen Echo Park on right)



Capacity analyses were performed at the signalized intersections along Goldsboro Road (River Road and at Massachusetts Avenue). The results of the analyses showed that both intersections currently operate at level of service (LOS) D or better during both the AM and PM peak hours on a typical weekday. Analyses were also performed to determine if the addition of pedestrian signal phasing would have an adverse impact on peak hour vehicular traffic operations. The analyses indicated that the addition of pedestrian phasing would have no impact on intersection performance, even with much higher pedestrian volumes that would be expected in warmer temperatures.

Table 2: Traffic Analysis Summary

Intersection	Peak Period	Existing Level of Service (Delay in sec./veh.)	Level of Service with Pedestrian Crossing Phase
Massachusetts Avenue	AM	C (26.5)	C (26.5)
	PM	C (24.7)	C (24.7)
River Road	AM	C (31.3)	C (31.3)
	PM	D (47.4)	D (49.4)

*Note: A sensitivity analysis was completed to determine the pedestrian volume threshold to yield on unacceptable level of service (LOS E). There would need to be more than 400 pedestrians crossing at each intersection to cause LOS E.

A review of Maryland State Highway Administration (SHA) data on reported crashes along Goldsboro Road for a five year period (2007 – 2011) indicated there were no pedestrian-related crashes. There were a total of 22 crashes reported during this period with the predominant type being fixed-object/run-off-road collision.

SHA also provided crash data reported during a five year period (2008 – 2012) for MacArthur Boulevard from south/east of Goldsboro Road to Oxford Road. There were a total of 8 crashes with 3 crashes involving vehicles striking bicyclists. Aside from the bicycle-involved crashes, the most common crash type was the angle crash. Most crashes occurred during off-peak daytime hours on weekdays under dry pavement conditions. Only the 3 bicycle-involved crashes resulted in injuries; the remaining 5 crashes were property damage only.

III. Purpose of the Project

The purpose of the Goldsboro Road project is to:

- Comply with the 1990 Bethesda-Chevy Chase Master Plan and the 2005 Countywide Bikeways Functional Master Plan
- Promote bicycling and pedestrian use along the Goldsboro Road corridor
- Provide connections to existing and proposed bicycle and pedestrian facilities
- Improve access for bicyclists and pedestrians to transit stops, parks and recreation areas, places of worship, schools and homes
- Enhance safety for bicyclists and pedestrians along the Goldsboro Road corridor, including at intersections and transit stops

IV. Project Need

The need for the Goldsboro Road project is based on the following:

- Improve the bicycle and pedestrian network as well as access to destinations along and beyond the study area
- Address existing pedestrian and bicycle facility disconnects and inadequacies within the roadway section
- Create a safer environment for bicyclists and pedestrians that utilize the corridor

