

Transportation

OVERVIEW

The transportation recommendations support the Plan's goals to improve the pedestrian network and to improve the form and function of the natural environment. The recommendations address both the location and character of the area's sidewalks, ensuring a connected network and a safe and pleasant pedestrian environment. The proposed transportation network and development pattern are focused on Metro to foster transit use.

The 1992 Plan shared the goal of creating vehicle connections, establishing a network of pedestrian routes, and maximizing transit access. It made specific recommendations, focused on Montrose Crossing and the area of Twinbrook Station, both now outside the Plan boundary. Nonetheless, this Plan recognizes those destinations and makes connection recommendations. This Plan also makes road standard recommendations that support the urban design goals for the area and encourage redevelopment to create a grid street system for vehicle and pedestrian connections.

The Plan's specific recommendations for pedestrian routes, street design, and local connections treat the pedestrian environment and Metro proximity as primary goals.

OBJECTIVES

- Complete pedestrian links throughout the Plan area, coordinating them with building and design recommendations, establish new links that connect to the Metro station and nearby parkland, and improve existing links.
- Through redevelopment, complete the master planned bike route network in this area, connect to City of Rockville bike routes, and provide a route through the northern end of the Plan area, connecting to Veirs Mill Road and Rock Creek Park.
- Encourage complementary transit services that connect MARC, Metro, bus and flex-car services with pedestrian and bike routes.
- Develop new road connections in the local street system that provide alternative routes and relieve intersection congestion.
- Encourage shared and structured parking.

EXISTING CONDITIONS

As did the 1992 Plan, this Plan seeks to build on Twinbrook's existing network of transportation routes and modes, completing links and providing alternatives. This network has evolved with the area's land use, from a railroad village built on a grid of streets to a Metro-accessible employment center with office buildings set in parking lots.

Twinbrook continues to be a business location, with Metro proximity, access to the east via Randolph Road, and to the west and I-270 and the Beltway. Proximity to Rockville Pike also offers a route north and south. This central and convenient location continues to place demands on all travel modes in the area and this Plan supports the objectives of the 1992 plan to provide a balanced system, increase non-auto alternatives, and improve local circulation.

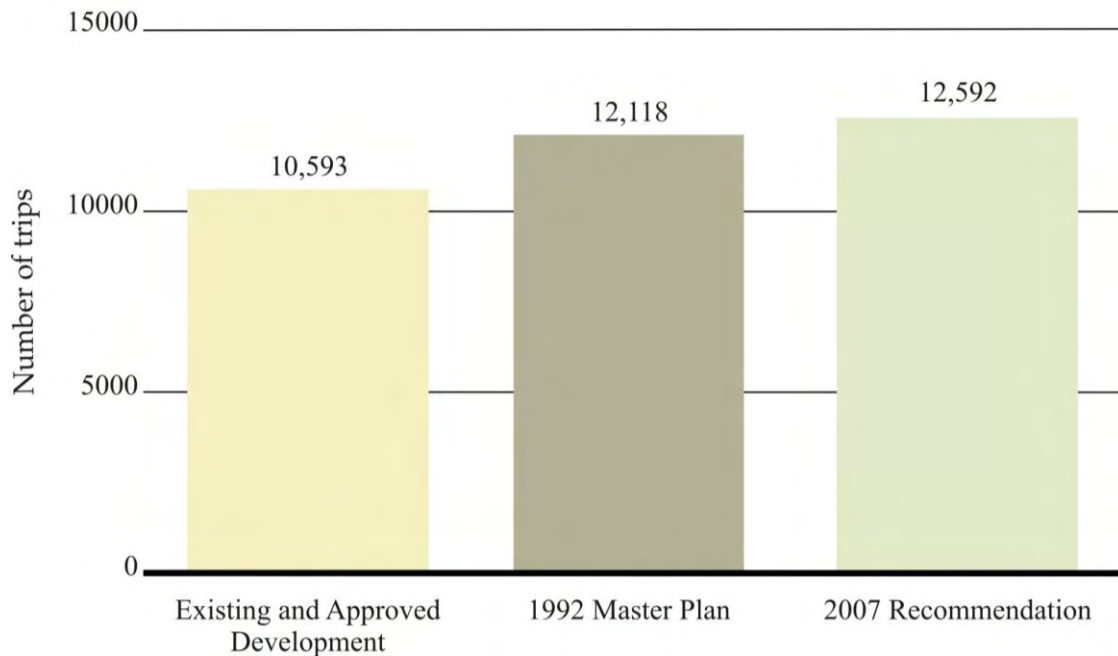
Along with the existing network, the proposed Montrose Parkway East runs along the Plan area’s southern boundary and intersects with Parklawn Drive.

To determine a development balance, road capacity was measured and modeled regionally and locally. The regional model develops baseline conditions of planned land use and road improvements while a local model measures development scenarios within the Plan area. In Twinbrook, these models generated two pieces of information: a cordon line analysis measuring trips in and out of the area and critical lane volume measuring intersection congestion. Both models include a completed Montrose Parkway.

The modeling used a number of land use scenarios that were measured against a baseline of build out of current Master Plan recommendations. Since the TOMX zones allow a wide range of land uses, modeled redevelopment scenarios included housing, industrial, and residential focuses.

This Plan’s land use recommendations could generate an increase in square footage over the 1992 master plan to accommodate the desired residential and technology redevelopment. Modeling projections indicate a three to five percent potential increase in trips generated, depending on build-out and land use. The Plan’s recommendations for road connections, pedestrian routes, and staging will help mitigate the increase in trips.

Estimated Trip Generation



RECOMMENDATIONS

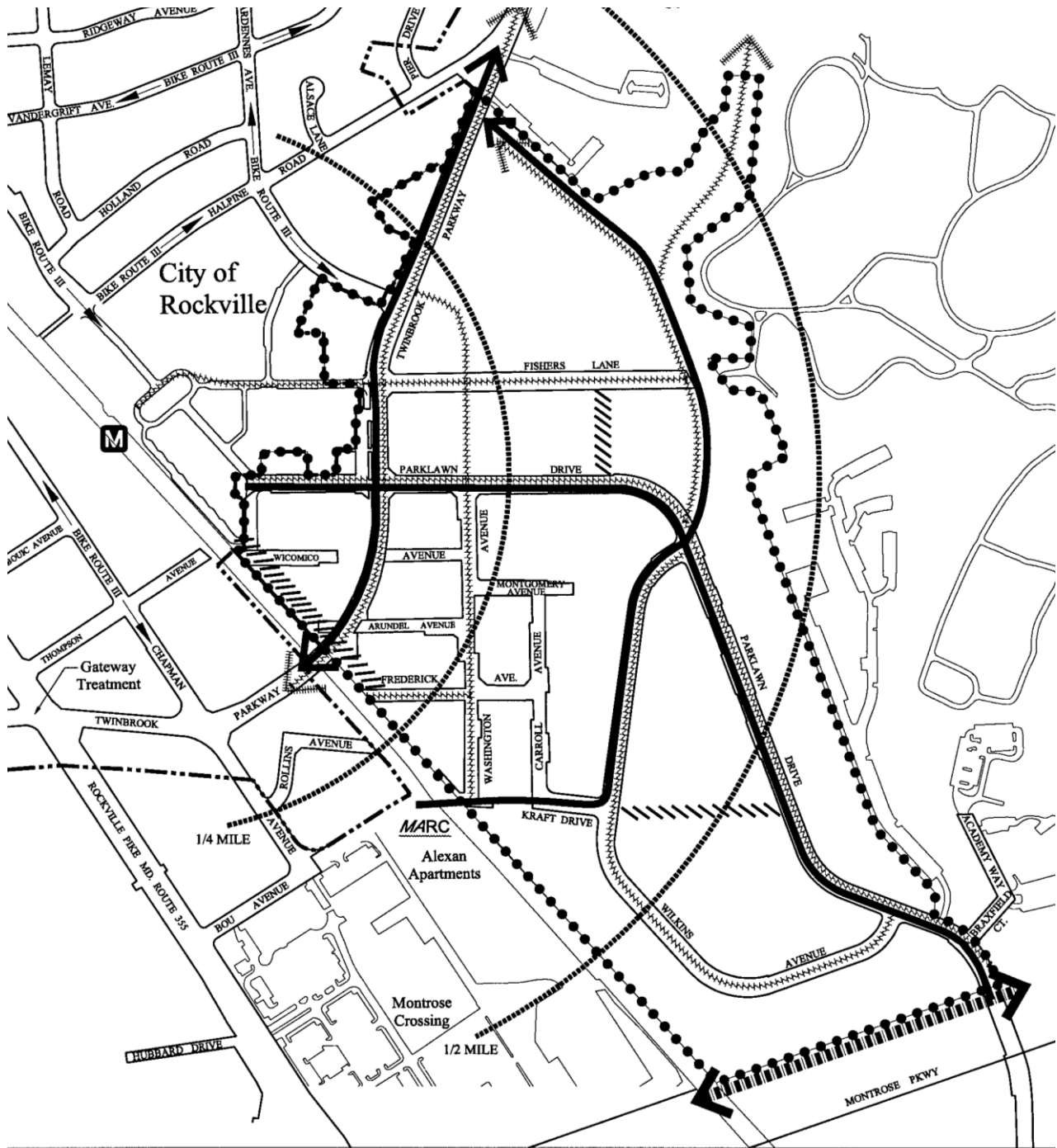
Pedestrian System

- Provide safe and effective pedestrian crossing treatments at all street intersections. Design intersections to include pedestrian-supportive characteristics such as reduced corner radii, accessible crosswalks at all intersection approaches, and special visible or textured crosswalk treatments. Particular care should be taken at the intersections of Fishers Lane and Parklawn Drive with Twinbrook Parkway.
- Provide sidewalks that are routed to provide convenient access, and that are shaded and buffered from traffic. Sidewalks should be faced with active building facades whenever possible.

Through redevelopment of sites along Fishers Lane and Parklawn Drive, create a fine-grained street grid with sidewalks that create an urban profile with buildings oriented to the street rather than parking lots.

- Create a landscaped, shared vehicle and pedestrian link that breaks the long block created by Parklawn Drive and Fishers Lane. This link should be animated by storefronts and doorways, and should take advantage of the grade change in its design. This link is intended to make a convenient pedestrian connection between two active streets.
- Establish a sidewalk and trail link through the northeast corner of the Plan area, connecting to Rock Creek Park and Veirs Mill Road and one to the south, connecting to the Montrose Parkway hiker-biker trail.
- Through redevelopment, consider a pedestrian route through the large block created by Wilkins Avenue and Parklawn Drive, to more conveniently connect pedestrians to the bus routes along Parklawn Drive.
- Provide safe and effective pedestrian and bicycle connections across and along the railroad tracks, at the following opportunities.
 - A pedestrian connection, either at-grade or elevated, between Washington Avenue and Bou Avenue (via Kraft Drive) would provide a direct connection across the CSX tracks between the Twinbrook Plan area and the residential and retail uses at Montrose Crossing and MD 355.
 - A pedestrian connection along the east side of the CSX tracks and beneath Twinbrook Parkway from Washington Avenue, via Frederick or Arundel Avenues, to Wicomico Avenue. The reduced walking distances and a grade-separated crossing of Twinbrook Parkway would encourage walking to Metro from this area. This path should be provided in a right-of-way or easement directly east of the CSX right-of-way. Work with property owners to make best use of County right-of-way to accommodate path and continued commercial operations.

Pedestrian and Bicycle Connections



- M** Metro Station
- MARC** Potential MARC Train Station
- Sector Plan Boundary
- - - - City of Rockville

- Note: Walking time from Parklawn at Wilkins to Metro is 15 minutes.
- ////// Sidewalk/Pedestrian Route
 - ↔ Bike Route
 - ⚡ Sidewalk



Bicycle System

- Support the 1992 Plan’s recommendation for bike lanes along Twinbrook Parkway connecting Aspen Hill with Rockville and North Bethesda. This bike route is included in the *Countywide Bikeways Functional Master Plan*.
- Support this Plan’s recommendation for a trail connection north through the Plan area into parkland, Rock Creek Park and to Veirs Mill Road and a southern connection to the Montrose Parkway hiker-biker trail.
- Establish a network of bikeways within the Plan area that connect to the regional bike route system, including access via the proposed trail from the north end of the Plan area connecting to Rock Creek Park and Veirs Mill Road.
- Ensure a shared use path connection from Parklawn Drive to the proposed bike route along the Montrose Parkway.

Ensure that redevelopment projects include the planned bike routes in street cross-sections and site design, minimizing curb cuts, and including bicycle amenities such as bike racks lockers.

Bikeway Classifications

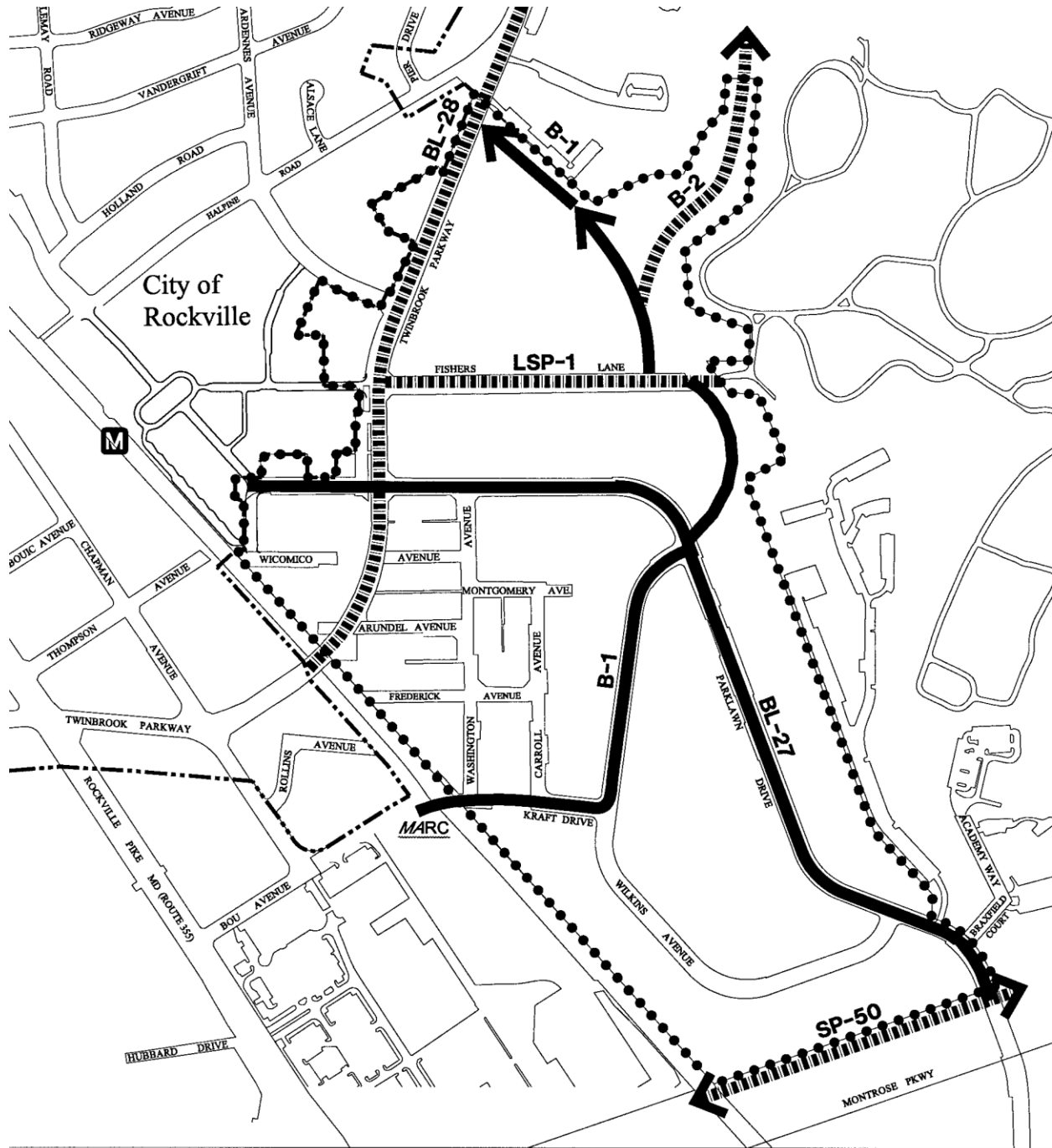
Bikeway Name	Route #	Type	Limits
Countywide Bikeways Functional Master Plan Routes			
Parklawn Drive	BL-27	bike lane	Nebel Street to Twinbrook Parkway
Twinbrook Parkway	BL-28	bike lane	Frederick Road (MD 355) to Veirs Mill Road (MD 586)
Montrose Parkway	SP-50	shared use path	Falls Road (MD 189) to Veirs Mill Road (MD 586)
Local Bike Routes			
Fishers Lane	LSP-1	shared use path	Twinbrook Parkway to cemetery access road
Wilkins Avenue	B-1	bike lane or signed, shared roadway	CSX tracks via Kraft Drive and Wilkins Avenue Extended to Twinbrook Parkway
Wilkins Avenue Extended to Veirs Mill Road	B-2	shared use path	Wilkins Avenue Extended through “thumb” parcel


The City of Rockville and the County use the same bike route standards and connect their routes to each other and to Metro. The following paths converge in the Twinbrook Plan area.

City of Rockville Bike Routes

Ardennes Avenue	signed shared roadway	Twinbrook Parkway to Rockville city limits
Fishers Lane	signed shared roadway	Through Twinbrook Station to Metro
Lewis Avenue	signed shared roadway	Connection to Metro
Halpine Road	signed shared roadway	Connection to Metro
Twinbrook Parkway	signed shared roadway	Consistent with County route

Bikeways



- SP-50** Bikeway Functional Master Plan Number
 - M** Metro Station
 - Sector Plan Boundary
 - - - - City of Rockville
 - ||||| Shared Use Path
 - Bike Lanes or Signed/Shared Roadways
 - MARC Potential MARC Train Station
- 

 0 600'

Public Transportation System

- Consider a new MARC station to serve the Twinbrook area.
- Ensure safe and pleasant pedestrian connections to transit stops and the Metro station from all parts of the Twinbrook Plan area, with attention to the details of sidewalk environment and crossings.
- Encourage expanded shuttle bus service that includes midday service, particularly connected to the Metro station and MARC services.

Future Transitway Alignments

- Confirm the 1992 Plan's support for a future transitway in the Montrose Parkway right-of-way. The 1992 Plan recommended that the eastern portion of the Montrose Parkway be designed as either a four-lane divided roadway or a three-lane roadway with a reversible lane. The Phase I facility planning for the Parkway confirmed that a four-lane divided roadway is needed. This Plan recognizes that the 1992 Plan's recommendation for a future transitway in the Montrose Parkway right-of-way should not affect either the recommended 300-foot right-of-way or the current facility design. The 1992 Plan transitway concept remains a potential long-term strategy. The current facility design emphasizes use of the 300-foot right-of-way as a green buffer between the four-lane Montrose Parkway and adjacent communities.

Transportation Demand Management (TDM)

- Support the established North Bethesda Transportation Management District (TMD), by rezoning for transit-friendly land uses, and by supporting the use of parking credits, waivers, and reductions as allowed in the Zoning Ordinance.
- Study expansion of the feeder and shuttle bus routes, including the use of alternative and hybrid fuel vehicles, to connect the Plan area to surrounding neighborhoods, to the Metro station, to the Rockville MARC station, to White Flint and to nearby retail centers. These bus routes can be a mix of complementary public and private services.

Road System

Interconnected streets provide vehicular, bicycle, and pedestrian access to Metro, other transit stops, public space, and other destinations. Twinbrook's secondary streets should connect with proposed pedestrian-only links and create a more finely grained street fabric. New streets should break-up longer blocks, shorten walking distances, and make walking convenient. Street design should include pedestrian amenities and green design features, as described in the urban design section.

- Through redevelopment create a street grid that makes vehicle and pedestrian connections throughout the area.
- Support the 1992 Plan's recommendation and the recommendations in the 2000 *Montrose Road Limited Amendment* to construct the Montrose Parkway from Montrose Road to Veirs Mill Road. This road section should include bicycle and pedestrian paths in initial construction.

- Support the eastern leg of the Montrose Parkway with the addition of an interchange at the intersection with Parklawn Drive, consistent with the Department of Public Works' (DPWT) completed Phase I facility-planning study.
- Construct a partial ring road, the eastern Wilkins Avenue Extension, with a 70-foot right-of-way, as an alternate vehicle route through the Plan area.

This road is envisioned in three sections. The southernmost, from Parklawn Drive to Fishers Lane allows vehicles, shuttle buses, bikes, and pedestrians an alternative to the intersection of Twinbrook Parkway and Parklawn Drive. The middle link, from Fishers Lane through the Plan area's northeast corner, should be routed to meet any security needs and to minimize environmental impacts. It provides access to redevelopment on that site and continues a through connection. The northernmost link, from the property line north to Twinbrook Parkway, provides access to the eastern portion of the planning area and completes the bypass of the Twinbrook Parkway and Parklawn Drive intersection.

These sections would be staged to coincide with redevelopment. The first two sections would be completed as part of site redevelopment. The third section, envisioned as a commercial street with a 70-foot right-of-way, is outside the Twinbrook Plan area. It would require coordination with properties outside the planning area and could be implemented as a private street. Its route should minimize impact on any adjacent residential development and should be outside the recommended stream buffer.

All segments of the road should include bicycle and pedestrian facilities and be built using green design elements, such as bio-swales and other techniques to address stormwater management.

- Extend Washington Avenue north to Twinbrook Parkway. This shared pedestrian and vehicle connection should be landscaped and would connect the northern and southern portions of the planning area.
- Extend Washington Avenue's southern end to Kraft Drive with a 70-foot right-of-way. This route would also eventually connect an at-grade pedestrian crossing of rail tracks at Bou Avenue extended.
- Connect Kraft Drive to Washington Avenue to add a link to an east-west pedestrian connection across the Plan area and to provide access to a future MARC station and crossing of the CSX tracks.

Roadway Rights-of-Way and Standards

Roads are classified by how much access they offer to adjacent properties. Classifications range from limited access freeways to local residential streets and each road type must be built to defined standards. The Twinbrook Plan area has two classes of roads: arterials for access to and through the area, and commercial/industrial streets that provide access to properties. The public streets not explicitly referenced in this Plan should be considered commercial/industrial streets and may be augmented or refined as redevelopment allows.

- Maintain the classification of Twinbrook Parkway as an arterial road and support a 120-foot right-of-way, rather than the 104-foot right-of-way in the 1992 Plan.
- Ensure that right-of-way truncations at intersections allow building placement close to corners, create adequate pedestrian spaces, and create safe sight lines.

- New streets serving local traffic in the Plan’s redeveloping areas should be built to create a connected grid and constructed or improved with a 60-foot right-of-way to commercial/industrial road standards.
- Streets in the Light Industrial Area should continue at their current rights-of-way.

Street and Highway Classifications

Master Plan of Highways	Name	Limits	Travel Lanes*	Min. ROW
Arterial Streets				
A-37	Twinbrook Parkway	Southern Rockville city limits to Ardennes Avenue	6, divided	120’
	Twinbrook Parkway	Ardennes Avenue to 950 feet north of Ardennes Avenue	4, divided	120’
A-64	Parklawn Drive	From 600’ west of Twinbrook Parkway to Montrose Parkway	4	80’
A-270	Montrose Parkway	MD 355 to Parklawn Drive	4, divided	300’
A-270	Montrose Parkway	Parklawn Drive to Rock Creek Park	4, divided	300’
Commercial/Industrial Streets				
B-1	Fishers Lane	City limits to Parklawn Memorial Park	2	70’
B-9	Wicomico Avenue	Wicomico Avenue to Parklawn Drive	2	70’
B-12	Washington Avenue	Twinbrook Parkway to Kraft Drive Extended	2	70’
B-13	Kraft Drive Extended	Washington Avenue to Wilkins Avenue	2	70’
B-14	Wilkins Avenue Extended	Fishers Lane to Parklawn Drive	2	70’
B-15	Wilkins Avenue	Parklawn Drive north to Parklawn Drive south	2	70’
B-16	Wilkins Avenue Extended	Fishers Lane north to Twinbrook Parkway	2	70’

* These are the number of planned through travel lanes for each segment, not including lanes for turning, parking, acceleration, deceleration, or other purposes auxiliary to through travel.

Parking Requirements

Parking supply management can influence commuter choices and auto use and can be managed by user fees such as metered on-street parking or by limiting available parking through planning and zoning policies. The 1992 Plan recommended increasing parking charges and decreasing parking supply as examples of programs that could be pursued to meet the mode share goals of the North Bethesda TMD.

This Plan supports the 1992 Plan’s recommendation to limit parking supply in the Twinbrook Plan area by pursuing the Zoning Ordinance’s incentives based on Metro station proximity and by investigating opportunities for further restrictions or incentives in revisions to the Ordinance. Opportunities to replace surface parking with parking structures should also be pursued.

- Support the established North Bethesda TMD.
- Encourage shared and structured parking, located mid-block, built with green construction techniques and with retail or active streetfront facades.
- Set aside parking spaces for flex and zip car programs, both on-street and structured spaces, and in public and private facilities.
- Support and encourage the use of parking standards in Section 59-E of the Zoning Ordinance, including parking credits, parking waivers, and parking reductions.
- Locate parking garages in a way that does not interrupt pedestrian scaled street activity and that limits auto travel through pedestrian areas.

Street Classifications

