

Revised Planning Board Draft

Twinbrook Sector Plan

An Amendment to the North Bethesda/Garrett Park Master Plan

Prepared by the Maryland-National Capital Park and Planning Commission
8787 Georgia Avenue
Silver Spring, Maryland 20910-3760

Approved by the Montgomery County Council
Date

Adopted by the Maryland-National Capital Park and Planning Commission
Date

ABSTRACT

TITLE: Revised Planning Board Draft of the Twinbrook Sector Plan
An Amendment to the North Bethesda/Garrett Park Master Plan

SUBJECT: A redevelopment plan for the Twinbrook Metro Station area

DATE: June 2008

SOURCE OF COPIES: The Maryland-National Capital Park and Planning Commission
8787 Georgia Avenue
Silver Spring, MD 20910-3760

ABSTRACT: This document contains the text and supporting maps of the *Twinbrook Sector Plan*. It is a comprehensive amendment to the approved and adopted 1992 *North Bethesda/Garrett Park Master Plan*. It also amends the *Master Plan of Highways*, the *Master Plan of Bikeways*, and the *General Plan (On Wedges and Corridors) for the Physical Development of the Maryland-Washington Regional District Within Montgomery and Prince George's Counties*, as amended.

The Plan makes recommendations for land use, urban design, environment, transportation, and community facilities to be implemented through zoning that is intended to guide development.

REVISION: This revised Planning Board Draft of the Twinbrook Sector Plan replaces the TOMX-2, TOMX-2/TDR, and the TOMX-1/TDR Zones with a new TMX Zone. It also modifies the maps and text as recommended by the County Executive at the County Council's public hearing.

CERTIFICATION OF APPROVAL AND ADOPTION

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

The Maryland-National Capital Park and Planning Commission is a bi-county agency created by the General Assembly of Maryland in 1927. The Commission's geographic authority extends to the great majority of Montgomery and Prince George's Counties; the Maryland-Washington Regional District (M-NCPPC planning jurisdiction) comprises 1,001 square miles, while the Metropolitan District (parks) comprises 919 square miles, in the two counties.

The Commission has three major functions:

1. The preparation, adoption, and from time to time, amendment or extension of The General Plan (On Wedges and Corridors) for the Physical Development of the Maryland-Washington Regional District in Montgomery and Prince George's Counties;
2. The acquisition, development, operation, and maintenance of a public park system; and
3. In Prince George's County only, the operation of the entire County public recreation program.

The Commission operates in each county through a Planning Board appointed by and responsible to the county government. All local plans, recommendations on zoning amendments, administration of subdivision regulations, and general administration of parks are responsibilities of the Planning Boards.

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NOTICE TO READERS

A sector plan, after approval by the County Council and adoption by The Maryland-National Capital Park and Planning Commission, constitutes an amendment to the General Plan for Montgomery County. It provides a set of comprehensive recommendations and guidelines for the use of publicly and privately owned land within its plan area. Each sector plan reflects a vision of future development that responds to the unique character of the local community within the context of a countywide perspective.

Sector plans are intended to provide a point of reference with regard to public policy. Together with relevant master and functional plans, sector plans should be referred to by public officials and private individuals when decisions are made that affect the use of land within the plan's boundaries.

Sector plans generally look ahead 20 years from the date of adoption, although they are intended to be updated and revised every ten to fifteen years. The original circumstances at the time of plan adoption will change, and specifics of a sector plan may become less relevant as time passes.

THE SECTOR PLAN PROCESS

STAFF DRAFT PLAN — This document is prepared by the Montgomery County Department of Park and Planning for presentation to the Montgomery County Planning Board. The Planning Board reviews the Staff Draft Plan, makes preliminary changes as appropriate, and approves the Plan for public hearing. After the Planning Board's changes are made, the document becomes the Public Hearing (Preliminary) Draft Plan.

PUBLIC HEARING DRAFT PLAN — This document is a formal proposal to amend an adopted master plan or sector plan. Its recommendations are not necessarily those of the Planning Board; it is prepared for the purpose of receiving public hearing testimony. The Planning Board holds a public hearing and receives testimony on the Draft Plan. After the public hearing record is closed, the Planning Board holds public worksessions to review the testimony and to revise the Public Hearing Draft Plan as appropriate. When the Planning Board's changes are made, the document becomes the Planning Board Draft Plan.

PLANNING BOARD DRAFT PLAN — This document is the Planning Board's recommended Plan and it reflects the revisions made by the Planning Board in its worksessions on the Public Hearing Draft Plan. The Regional District Act requires the Planning Board to transmit the sector plan directly to the County Council with copies to the County Executive. The Regional District Act then requires the County Executive, within sixty days, to prepare and transmit a fiscal impact analysis of the Planning Board Draft Plan to the County Council. The County Executive may also forward to the County Council other comments and recommendations regarding the Planning Board Draft Plan within the sixty-day period.

After receiving the Executive's fiscal impact analysis and comments, the County Council may hold a public hearing to receive public testimony on the Sector Plan. After the record of this public hearing is closed, the Council's Planning, Housing, and Economic Development (PHED) Committee holds public worksessions to review the testimony and makes recommendations to the County Council. The Council holds its own worksessions, then adopts a resolution approving the Planning Board Draft Plan, as revised.

ADOPTED PLAN — The Sector Plan approved by the County Council is forwarded to The Maryland-National Capital Park and Planning Commission for adoption. Once adopted by the Commission, the Plan officially amends the various master plans, functional plans, and sector plans cited in the Commission's adoption resolution.

TABLE OF CONTENTS

PLAN GOALS	1
KEY RECOMMENDATIONS	2
PLAN AREA CONTEXT	5
Existing Development Character and Land Use	5
Plan Boundary	7
Relationship to the MD 355/I-270 Corridor.....	7
Relationship to the City of Rockville.....	12
AREAWIDE PROPOSALS	13
Land Use and Zoning	13
Connections	17
Public Amenities and Community Facilities	26
Environmental Resources	30
TWINBROOK NEIGHBORHOODS	32
Metro Core Area.....	32
Technology Employment Area	38
Light Industrial Area.....	46
IMPLEMENTATION	51
Zoning	51
TMX Zone	52
I-4 Zone.....	53
Public Improvements for Redevelopment.....	56
Capital Improvements Program	58
APPENDIX	61
Planning History.....	61
Population and Housing	62
Transportation	64
Environment	65
Historic Resources	69
Community Facilities	71
Parks and Recreation	71
Public Schools	72
Fire, Rescue, and Emergency Medical Services	74
Planning Process.....	75

LIST OF ILLUSTRATIONS

Existing Land Use	6
Twinbrook Illustrative	8
Twinbrook Location in MD-355/I-270 Corridor	10
Sector Plan Boundaries	11
Twinbrook Plan Concept.....	14
Proposed Land Use	15
Bikeways	19
Pedestrian and Bicycle Connections	20
Twinbrook Parkway Illustrative	22
Street Classifications.....	25
Public Amenities and Community Facilities	29
Analysis Areas.....	33
Metro Core Area Illustrative	34
Metro Core Area Existing and Proposed Zoning	35
Technology Employment Area Illustrative	38
Technology Employment Area Existing and Proposed Zoning.....	40
Illustrative of Fishers Lane with Urban Park.....	41
Parklawn Drive at Wilkins Avenue	42
Light Industrial Area Illustrative	48
Light Industrial Area Existing and Proposed Zoning.....	49
Existing Zoning	54
Proposed Zoning	55
Potential Housing Growth in Twinbrook.....	63
Environmental Change	67
Higgins Cemetery.....	70
Community Facilities	73

LIST OF TABLES

Twinbrook Zones – Existing and Proposed	16
Bikeway Classifications	18
City of Rockville Bike Routes	21
Street and Highway Classifications.....	24
Proposed Amendments - I-4 Zone in Transit Station Development Areas.....	53
Proposed Zoning	56
Programmed Capital Improvement Projects, Fiscal Year 07-12.....	58
Proposed School CIP Projects.....	59
Proposed CIP and Private Redevelopment Projects.....	60
Land Use in the Twinbrook Plan Area	64
Estimated Trip Generation	65

PLAN GOALS

The Twinbrook Sector Plan area is located in the I-270 Technology Corridor, along the Metro Red Line, and adjacent to the City of Rockville.

Redevelopment since 1992 has begun to change Twinbrook's character. The Twinbrook Station project in Rockville is redeveloping Metro's surface parking lots into a transit and pedestrian oriented community of office, retail, and residential uses. This Plan seeks to meet that change with complementary uses and connections that fulfill long-standing County policies to direct density and mixed uses to areas with transit access.

Twinbrook is envisioned as a community of employment, residential, retail, and technology uses in an urban environment. Convenient to transit, employment and services, Twinbrook will integrate its land use, urban design, environmental, transportation, and community facilities to create a distinct community connected to the resources of the Washington region.

The Plan's recommendations seek to create Twinbrook as a distinct and varied community. Redevelopment in Twinbrook has the opportunity to create a technology node that builds on existing government agencies and private businesses, make use of adjacent light industrial sites for incubator activities, develop a community profile with housing and retail near the Metro station, and establish park connections.

Create Twinbrook as a distinct place along the Metro Red Line

The Twinbrook Sector Plan makes recommendations for three mutually supportive districts:

- The Metro Core Area – An area of mixed uses focused on the Metro station and its emerging neighborhood.
- The Technology Employment Area – An area located along Fishers Lane and Parklawn Drive, with mixed uses featuring advanced technology and biotechnology activities in an area of high quality public design.
- The Light Industrial Area – The thriving goods and services businesses in the area located around Carroll and Wilkins Avenues.

Provide opportunities for housing

The Plan encourages a range of new housing near Metro and jobs, improving the balance of jobs and housing in the I-270 Corridor and enhancing the 1992 Plan's housing recommendations. The Plan recommends housing in the Metro Core area, building on the emerging Twinbrook Station neighborhood.

Reduce the impact of development on the natural environment

The Plan proposes mixed-use development near the Metro station to create a walkable environment that encourages fewer vehicle trips. Redevelopment will require improved stormwater management techniques, an increase in the requirement for pervious surface, and substantial tree cover, which will transform an area of paved parking lots into an environmentally sensitive mix of public spaces and buildings.

Create a connected road network

A grid street pattern with a range of route options will be created through redevelopment and will improve traffic flow and reduce impacts on intersections.

Provide an improved system of pedestrian and bicycle connections

The Plan recommends routes that connect within and through the area, to the Metro station, and to adjacent regional parks and trails.

Encourage high quality design features

The Plan's recommendations will provide an upgraded public environment by incorporating parks, streetscaping, public open spaces, connections, and the natural environment into redevelopment that will serve future employees and residents.

Establish a development envelope balanced with infrastructure capacity

The mixed uses, road network, and community facilities proposed in this Plan maintain a balance while allowing for redevelopment that will make best use of the Metro system.

KEY RECOMMENDATIONS

Land Use and Zoning

- Establish and apply the TMX Zone to facilitate mixed-use development in the Metro Core Area and the Technology Employment Area.
- Amend the I-4 Zone in Transit Station Development Areas to facilitate an urban environment, with standards appropriate to a transit-accessible area of light industrial uses.

Urban Design

- Establish design standards for Fishers Lane and Parklawn Drive to redevelop them as active streets, connecting to Metro, linked by streetscaped pedestrian/vehicle connections, and lined with commercial, retail and some residential uses.
- Create public open spaces at the eastern end of Fishers Lane and along Parklawn Drive that contribute to a network of green spaces and pedestrian routes.
- Ensure that new development and redevelopment contribute to improving both the natural environment and community spaces.

Transportation

- Create a network of local streets that offers alternative vehicle routes.
- Create and enhance pedestrian and bike routes that connect to parks and the Metro station.

Park and Recreation Facilities

- Improve connections to public and private parks and open spaces.
- Secure new urban parks east of Twinbrook Parkway, along Parklawn Drive and at the eastern end of Fishers Lane.
- Establish pedestrian and bicycle routes through the Plan area's northeast corner connecting to the M-NCPPC park facilities, Rock Creek Park, and Veirs Mill Road, as well as a connection south to the planned Montrose Parkway shared use path.

Environmental Resources

- Integrate urban design, parks, land use, and transportation recommendations with environmental improvements to create an urban form that promotes the function of healthy natural processes.
- Encourage the highest feasible use of green building and site design.
- Reduce automobile dependence by encouraging increased pedestrian activity and transit accessibility.

Historic Resources

- Add the Higgins Cemetery to the *Master Plan for Historic Preservation* and incorporate its open space with the area's system of open space and pedestrian routes.

PLAN AREA CONTEXT

Existing Development Character and Land Use

Land uses in Twinbrook are a mix of small and large commercial uses on a mix of small and large lots, ranging from the 15-story Parklawn Building offices to a few remaining single-family houses used by commercial operations. Most development falls in between, a mix of simple office buildings and warehouses. Surrounding Fishers Lane, properties assembled into larger lots have encouraged office and biotechnology redevelopment and have upgraded sidewalks, streetscapes and public spaces. South of Parklawn Drive, the pattern of small lots, remains, and with fewer assemblages, has allowed a mix of advanced technology support services and light industrial services.

The 1992 Plan envisioned Twinbrook as an area of residential and industrial uses, and recommended retaining a significant portion of the area for light industrial uses with redevelopment and employment focused on sites nearest the Metro station. It confirmed the I-1 and I-4 industrial zones. To encourage mixed-use development, the Plan also allowed the application of the TS-M, TS-R, and O-M floating zones. That Plan increased the area's density, recognizing its proximity to Metro, but limited by road capacity and traffic standards. This Plan reduces the level of commercial redevelopment, but significantly increases the amount of housing to create the desired mixed-use profile and make best use of nearby transit.

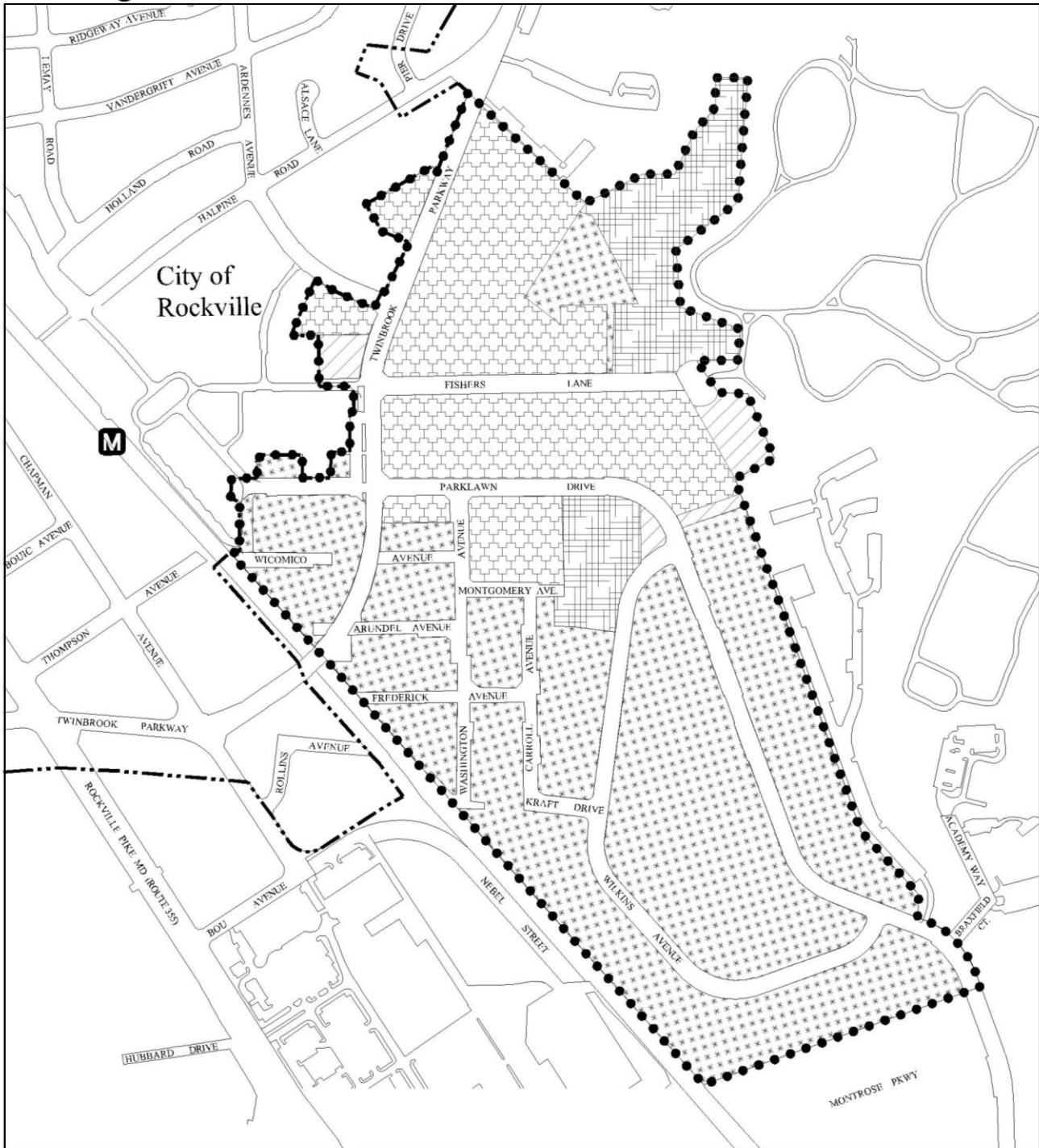
Most of Twinbrook is zoned I-1 and I-4. The industrially zoned land makes up about five percent of the County's total industrial land. As it has throughout the County, this industrial zoning has generated office and laboratory uses. Other zoning designations include single-family residential zones (R-200 and R-90) and commercial zones (C-O and O-M) that reflect earlier land use decisions to move from residential to commercial uses in the area.

The environment and public realm have received little attention. As a center for office and industrial uses along a rail line, Twinbrook sites have been paved for storage and parking as needed. Without a resident population, there has been little impetus to create park and recreation facilities. Nonetheless, the area is close to Rock Creek Regional Park, and redevelopment can help regenerate the natural environment, add park facilities, and make park and trail connections.








Twinbrook Parkway connects Veirs Mill Road and Rockville Pike. As a through route, it tends to divide the area, particularly for pedestrians. It also gathers traffic from the area's two parallel primary streets, Fishers Lane and Parklawn Drive, and so has the potential for congestion. The area also is close to the proposed Montrose Parkway and regional bike routes, and to Metro. The Metro station is located in the City of Rockville, and its surface lots are undergoing redevelopment into a mixed-use community, the Twinbrook Station project.

The Twinbrook Station project will be a mixed-use, main street pattern community with 1,595 multifamily housing units, and approximately 500,000 square feet of retail and office space. It will significantly change the area's character and it is the starting point for many of this Plan's recommendations which seek to create Twinbrook as a distinct community of complementary uses.

Existing Land Use



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-  Metro Station
-  City of Rockville
-  Sector Plan Boundary
-  Parking
-  Office
-  Retail/Mixed
-  Light Industrial



Plan Boundary

The area addressed by the Twinbrook Sector Plan is located in the North Bethesda planning area, three miles north of the Beltway, and adjacent to the Metro Red Line. The Twinbrook area's northern and western edges abut the City of Rockville and the CSX/MARC rail line. Its eastern boundary is adjacent to Parklawn Memorial Park, and to the south is the future Montrose Parkway right-of-way.

This Plan expands the Twinbrook area defined in the 1992 North Bethesda/Garrett Park Master Plan. The northeastern boundary has been extended to include the Parklawn Building's northern parking lot. The southeastern boundary has been extended to Montrose Parkway. The area's southeastern boundary now includes the entire area of light-industrial land along Wilkins Avenue and Parklawn Drive. Including these properties allows the Plan to address the Light Industrial Area as a whole and to incorporate current facility planning recommendations for the future Montrose Parkway.

The boundary has been further adjusted to reflect the City of Rockville's June 2005 annexation of land east of the Metro station to include Twinbrook Station.

Finally, this Plan designates the area of the Twinbrook Sector Plan as a Transit Station Development Area (TSDA). The recommended TMX Zone designated by this master plan and Road Code business street standards would be applicable.

Relationship to the MD 355/I-270 Corridor

Beginning with the *General Plan*, expanded upon in the *1970 North Bethesda/Garrett Park Master Plan*, and continuing through successive plans, the County has recognized the MD 355/I-270 Corridor as a distinct place, and recommendations in area plans strive to support the corridor's advanced technology and biotechnology centers with transit-accessible communities of residential and commercial options, while continuing the County's strong tradition of linked open spaces and parks. Located along the Metro Red Line, Twinbrook will be one of a number of transit-oriented communities in the MD 355/I-270 Corridor.

The County has undertaken the MD 355/I-270 Corridor project to coordinate issues that cross planning area boundaries. The project will examine the character of corridor communities, support advanced technology uses, balance jobs and housing, enhance mobility, address environmental needs, and coordinate public facilities.

This Plan's recommendations fulfill countywide policies in the MD 355/I-270 Corridor by supporting its concentration of biotechnology and advanced technology uses and by adding housing incentives to help balance jobs and housing. The Plan also recommends retaining and maximizing the existing light industrial uses that support not only the County's basic high-technology economy, but provide services to residents as well. The Plan also addresses community character with design and environmental standards for street oriented, high quality redevelopment.

Twinbrook Illustrative



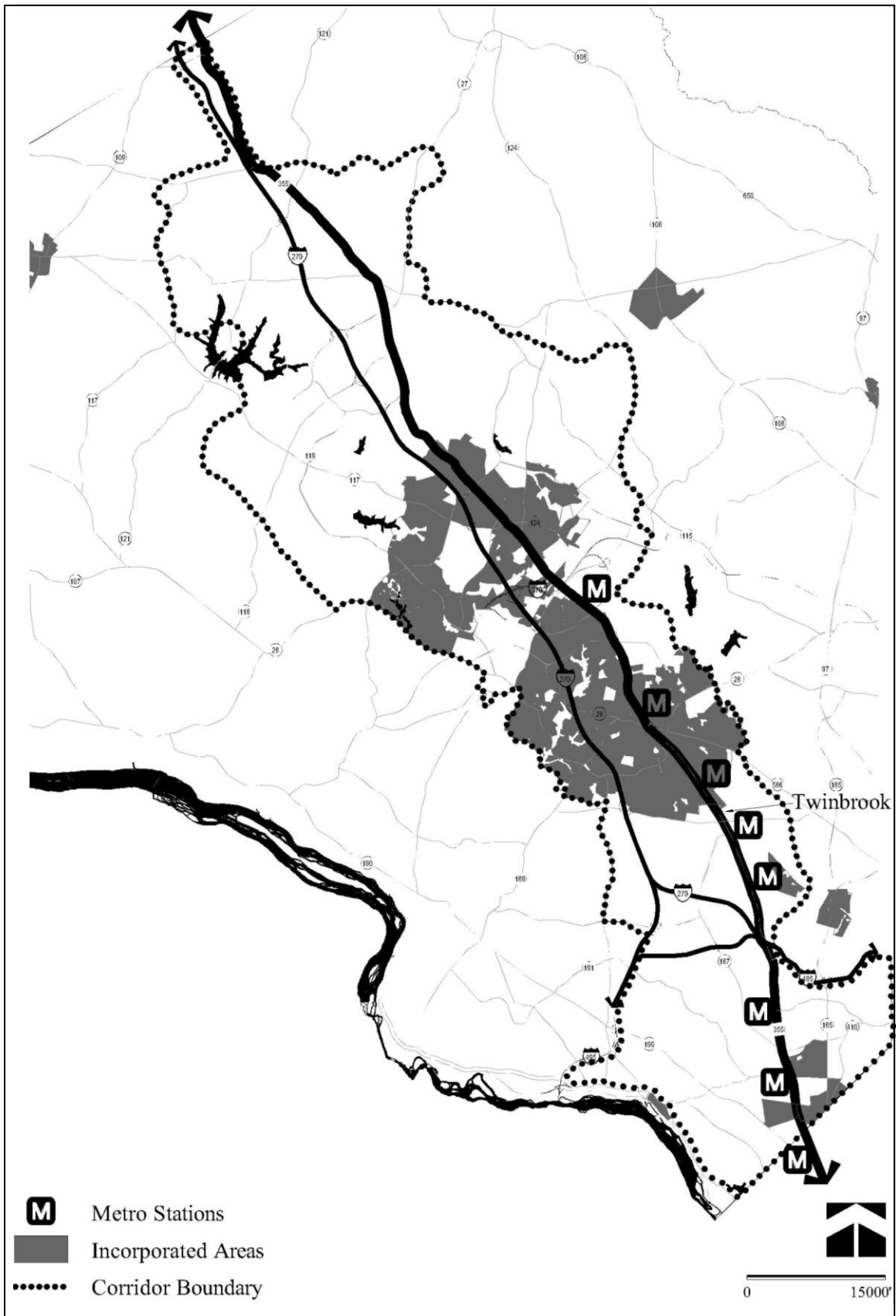


The Plan's recommendations will create a living and working community marked by public spaces and amenities, and connected to parks and Metro.

- 1 Twinbrook Metro Station
- 2 U.S. Pharmacopeia headquarters
- 3 Fishers Place project
- 4 Parklawn Building
- 5 Twinbrook Station project

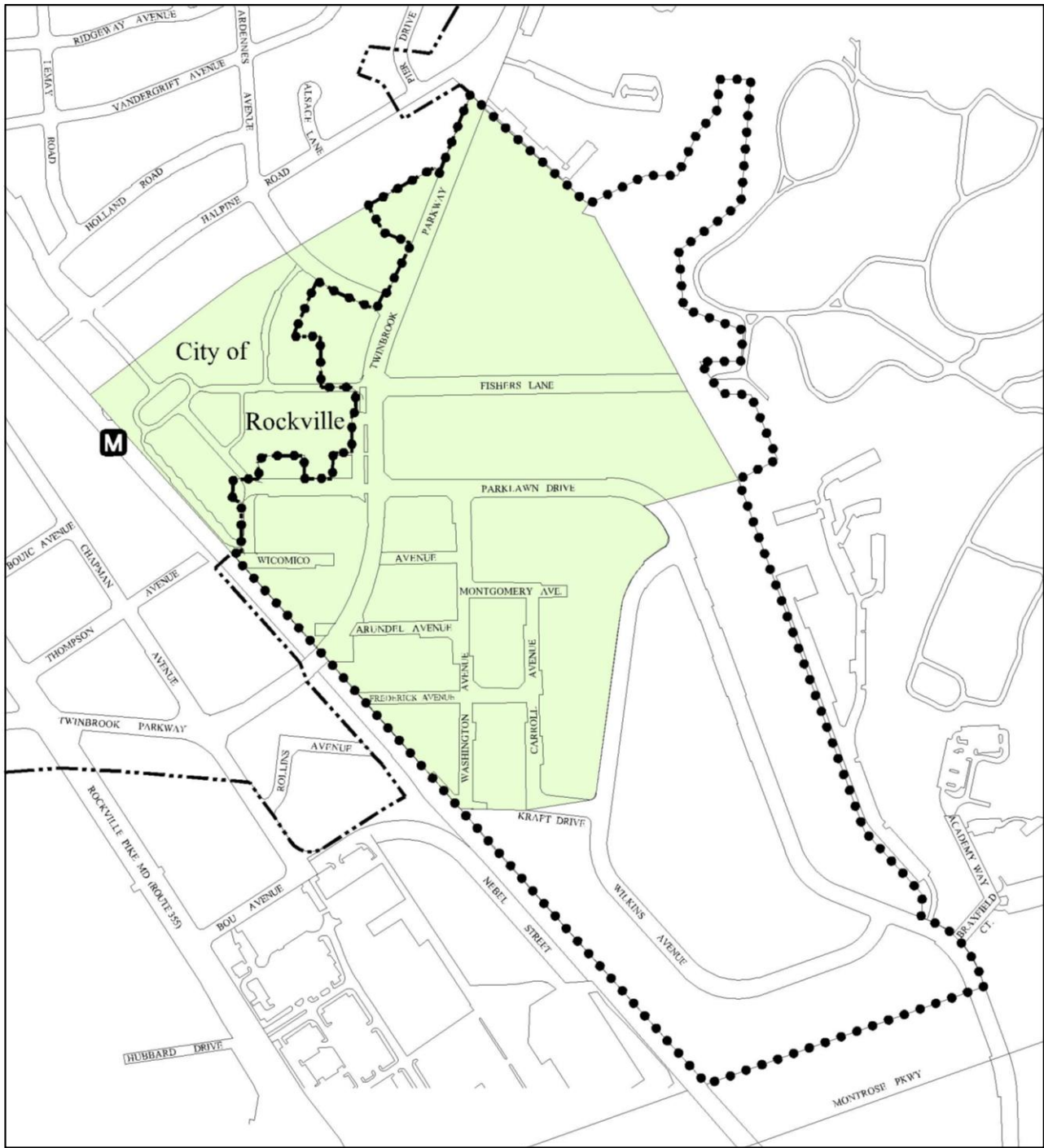
The Plan envisions Twinbrook as a single community of complementary residential and commercial neighborhoods.

Twinbrook Location in MD-355/I-270 Corridor



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Sector Plan Boundaries



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- M** Metro Station
- City of Rockville
- 1992 Sector Plan Boundary
- 2008 Sector Plan Boundary



Relationship to the City of Rockville

The Twinbrook Sector Plan area lies within the City of Rockville's Urban Growth Area and includes land that abuts the City's current boundaries. In June 2005, the City annexed the roughly sixteen acres east of the Metro station proposed for redevelopment as a mixed-use community, Twinbrook Station, a project that achieves some of the goals identified in previous City and County planning efforts.

The City of Rockville is completing its own master planning for areas adjacent to the Twinbrook Metro Station. In the *Rockville Pike Corridor Neighborhood Plan*, which abuts Twinbrook at the Metro station, the City has designated the area west of the CSX tracks as a Metro Performance District and has developed urban design goals and development guidelines intended to focus significant commercial and residential densities at the Twinbrook Metro Station.

The *Twinbrook Neighborhood Plan* abuts the northern edge of the County's Twinbrook Plan area and is designed to maintain the existing residential communities, allow further study of industrial land use policy, and explore traffic calming, pedestrian safety, and policies that enhance the area's environmental quality.

Just as the City and County share the land surrounding the Metro station, they share a vision of its redevelopment, with density and activity focused to create a distinct neighborhood of varied uses and public spaces. This Plan recommends redevelopment with compatible uses and densities.

AREAWIDE PROPOSALS

The goal of creating Twinbrook as a distinct place requires addressing planning issues that shape the community. Proposed land uses are intended to create a balance of land use options, urban design to define pedestrian ways and public space, transportation to provide choices for local and through travel, the environment to return function and quality, and community facilities that serve this newly shaped community.

Land Use and Zoning

The Twinbrook Sector Plan area reflects the change taking place at the Metro station and in the City of Rockville. The Plan's proposed mixed uses and complementary light industrial uses offer an opportunity to create a fully rounded community on both sides of the Metro station.

The 1992 Plan focused density at the Metro station and on the area's central block between Fishers Lane and Parklawn Drive, creating a spine of mixed-uses. While Twinbrook Station was approved at the Metro station, a more homogenous pattern of laboratory and office uses developed along Fishers Lane and Parklawn Drive east of Twinbrook Parkway. This Plan refocuses efforts to develop the remaining sites near Metro and insert mixed-use potential through the center of the area.

To facilitate the desired development pattern while allowing market flexibility, the Plan recommends the Transit Mixed Use (TMX) Zone in areas closest to Metro. This zone allows a broad range of technology and commercial uses, along with housing. It also requires significant public amenities and urban design improvements. The TMX densities range from 1.5 to 2 FAR, to focus intensity at this transit station area. The recommended densities vary with site location and the development undertaken, and the Plan places density caps on some sites to moderate trip generation.

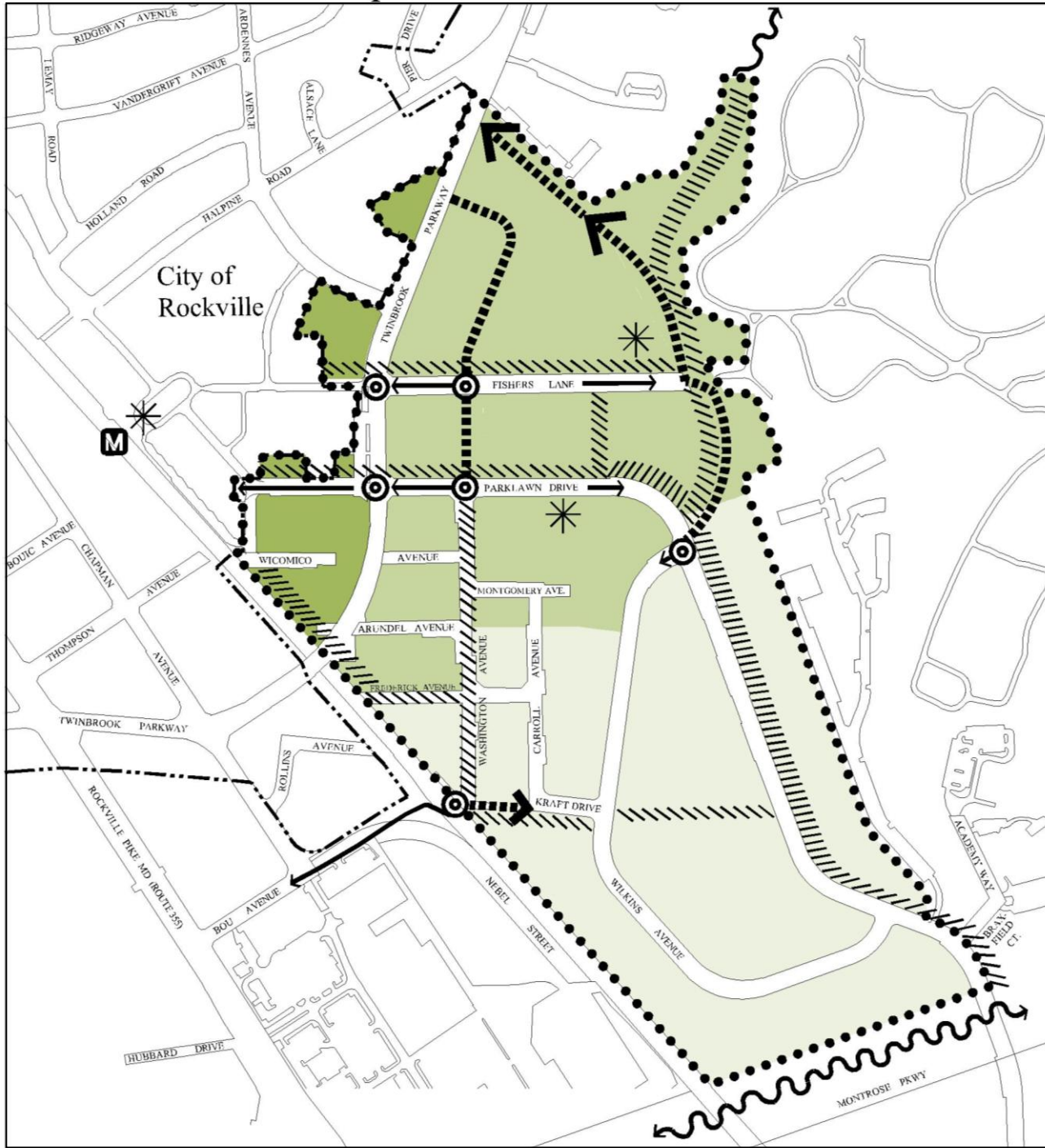
The 1992 Plan limited office uses in the light industrial areas by rezoning them to I-4. This Plan goes further to retain and support industrial uses by recommending modifications to the I-4 Zone that would support redevelopment on the area's small sites. Allowing the Planning Board to grant waivers from lot sizes, setbacks, and green areas, and allowing a limited residential component will provide development options that encourage continued light industrial uses in the urban pattern prevalent at this location.

TMX Zone Design Standards in Twinbrook

The TMX Zone encourages an urban pattern through the development standards, and ensures that mixed-use development is served by appropriate public facilities and amenities.

In Twinbrook, the density and proximity of retail, office, laboratory, and residential uses require excellence in project design that is guided by Plan recommendations. Development must create street-oriented buildings; side, rear, and below-grade off-street parking; street facades and uses that are pedestrian-oriented; continuous, safe, and landscaped pedestrian routes; and screening of loading and mechanical structures. Streetscape elements must include lighting, street tree planting, street furniture, and enhanced crosswalks.

Twinbrook Plan Concept

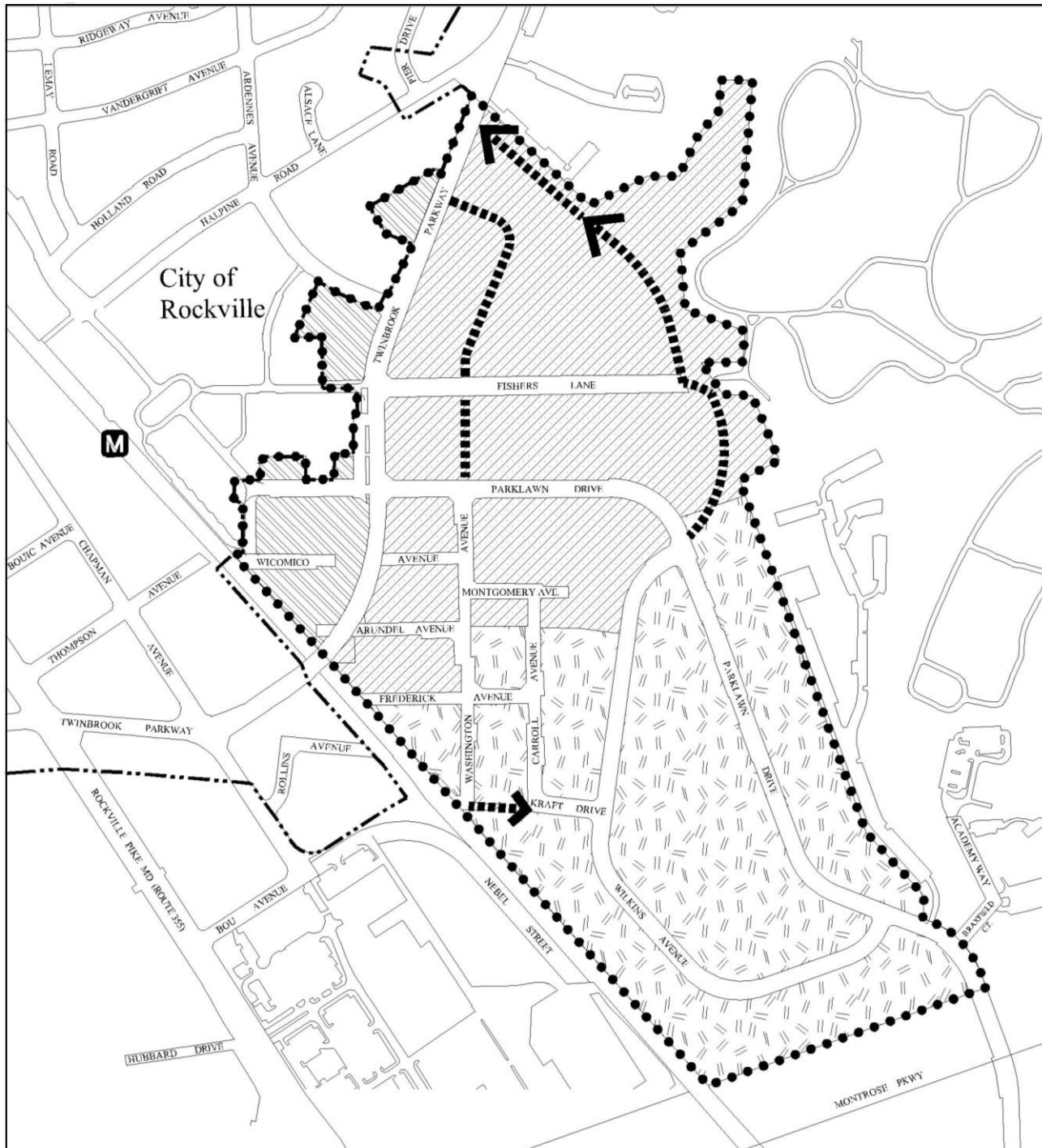


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- | | | |
|----------------------------------|-------------------------|------------------------------|
| //// Major Pedestrian Connection | * Public Open Space | ■ Metro Core Area |
| ⊙ Pedestrian Crossing | ↔ "Market" Main Streets | ■ Technology Employment Area |
| M Metro Station | ~ Trail Connections | ■ Light Industrial Area |
| - · - · - City of Rockville | ▬▬▬ Proposed Streets | |
| · · · · Sector Plan Boundary | | |



Proposed Land Use



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	Metro Station		Metro Core Area: Mixed Use
	City of Rockville		Technology Employment Area: Mixed Use
	Sector Plan Boundary		Light Industrial Area
	Proposed Streets		

0 600'

Development under the Optional Method requires improvements and amenities substantially beyond the minimal public facilities needed to accommodate development. Amenities will create public open spaces, give attention to the character of streets, create pedestrian routes, and enhance the natural environment, including:

- Fountains that are design features as well as masking noise and mitigating heat islands.
- Shared mid-block parking facilities that contribute to streetscape with retail frontage or other design elements.
- Where security elements are necessary, they should be designed in the context of streetscape enhancements between buildings and the curb, such as raised planters, decorative walls and fencing, street furniture, bollards, and light fixtures.
- Art and entertainment venues.

Twinbrook Zones – Existing and Proposed

Zone	Description	FAR	Minimum Lot Size/Height	Comments
Existing				
I-1	Industrial	none	none/42 ft, up to 120 ft	Allows office uses
I-4	Low Intensity Light Industrial	1	1 acre/42 ft	No office uses
R-90	Residential, One-family	n.a.	9,000 sf/35 ft	Suburban single-family
R-200	Residential, One-family	n.a.	20,000 sf/50 ft	
C-O	Commercial Office	1.5 – 3.0	none/42 ft	No mixed uses
O-M	Office, Moderate Intensity	1.5	none/42 ft	No mixed uses
TS-M	Transit Station Mixed-Use	3.0	40,000/master plan	Density capped by master plan
TS-R	Transit Station Residential	2.5	18,000/master plan	plan
Proposed				
TMX	Transit Mixed-Use	1.5-2.0	18,000 sf	Height and density capped by master plan
I-4 (amended)	Light Industrial in TSDAs	1	1 acre unless waived by Planning Board	Lot size and dimension waivers, and accessory residential with Planning Board approval

The TMX Zone allows the transfer of public use space, density, and uses between lots within the same Transit Station Development Area. In Twinbrook, transfers would be most appropriate where they can create substantial public open spaces. Transfers can also distribute density between sites to achieve the desired urban pattern and character.

Redevelopment in the Technology Employment Area will require new building types to serve advanced technology and biotechnology users that require a changing mix of uses including conference spaces, offices, laboratories, limited manufacturing of prototypical products, and high quality interior and exterior spaces that can support collaborative efforts that drive innovation. The TMX Zone supports these uses that encourage innovative design, flexibility, and a streamlined development process that all support mixed-use including biotechnology industries.

Connections

The Plan's proposed density and use changes must be supported by connected systems of sidewalks, paths, bike routes, and streets to make Metro truly accessible. In this relatively small Plan area, attention to detail will help create effective connections that are essential to making Twinbrook a functioning residential and commercial, transit-oriented community.

Pedestrian System

A successful pedestrian environment is a collaboration of public and private design efforts and the accumulation of many decisions. The following recommendations are intended to focus attention on those details and identify improvements in the public and private realms to create streets to serve pedestrians, transit users, drivers, residents, shoppers, and employees.

This Plan recommends a local network of sidewalks lining Twinbrook streets, but also makes regional connections with paths and sidewalks to Metro and to regional park trails. Routes through the area can also connect residents in the Plan area and beyond it to commercial services along Rockville Pike.

- Construct streetscaped sidewalks throughout the Plan area. They should be 8 to 10 feet wide, set off the curb, and buffered with street trees.
- Redevelopment projects should devise a streetscape plan that includes bicycle facilities, and coordinates all aspects of the street and building relationship to create pedestrian safety, comfort, and convenience.
- Buildings should be sited and designed to create clear streetfront entrances and active street facades.
- Sidewalks and bike routes should connect to open spaces in the Plan area, to Metro, and to regional trails, parks, and destinations.
- Safe and effective pedestrian crossing treatments should be provided 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.

Bicycle System

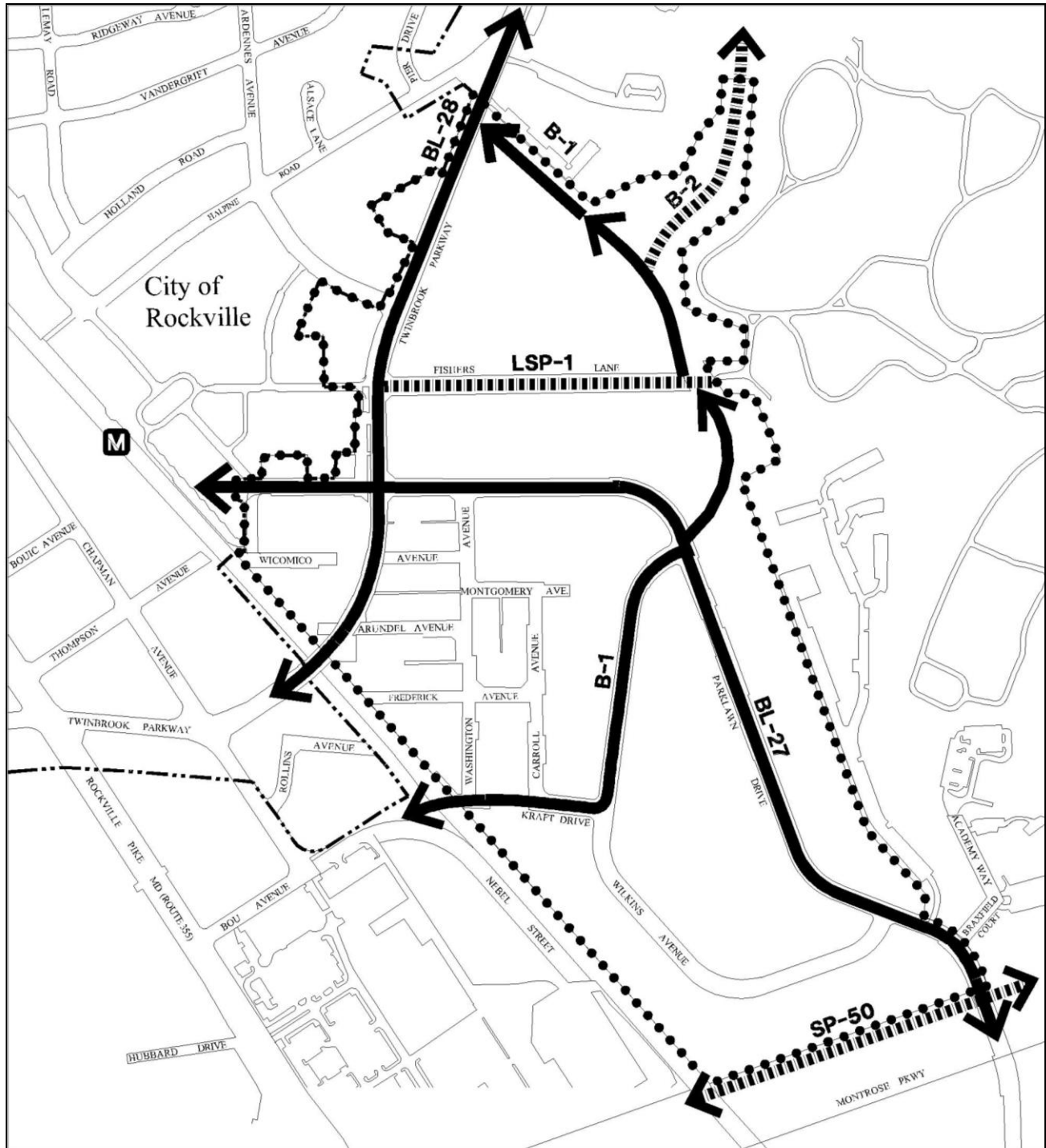
A network of connected bikeways through Twinbrook has the potential to link the plan area and surrounding neighborhoods with regional parks and transit service. The system proposed connects to the City of Rockville’s proposed bike route plan.

- 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.
- Provide a connection north through the Plan area into parkland, Rock Creek Park and to Veirs Mill Road.
- Establish a network of bikeways within the Plan area that connect to the regional bike route system, including access via the proposed shared use path from the north end of the Plan area connecting to Rock Creek Park and Veirs Mill Road.
- Ensure a connection from Parklawn Drive to the proposed shared use path 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 and lockers.







Bikeway Classifications

Bikeway Name	Route #	Type	Limits
Countywide Bikeways Functional Master Plan Routes			
Parklawn Drive	BL-27	bike lane	Plan southern boundary to 600 feet west Twinbrook Parkway
Twinbrook Parkway	BL-28	bike lane	Rockville Pike (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 Wilkins Avenue Extended.
Wilkins Avenue	B-1	bike lane or signed, shared roadway	Washington Avenue via Kraft Drive and Wilkins Avenue Extended to Twinbrook Parkway
Wilkins Avenue Extended to Rock Creek Park	B-2	shared use path	Wilkins Avenue Extended through “thumb” parcel

Bikeways

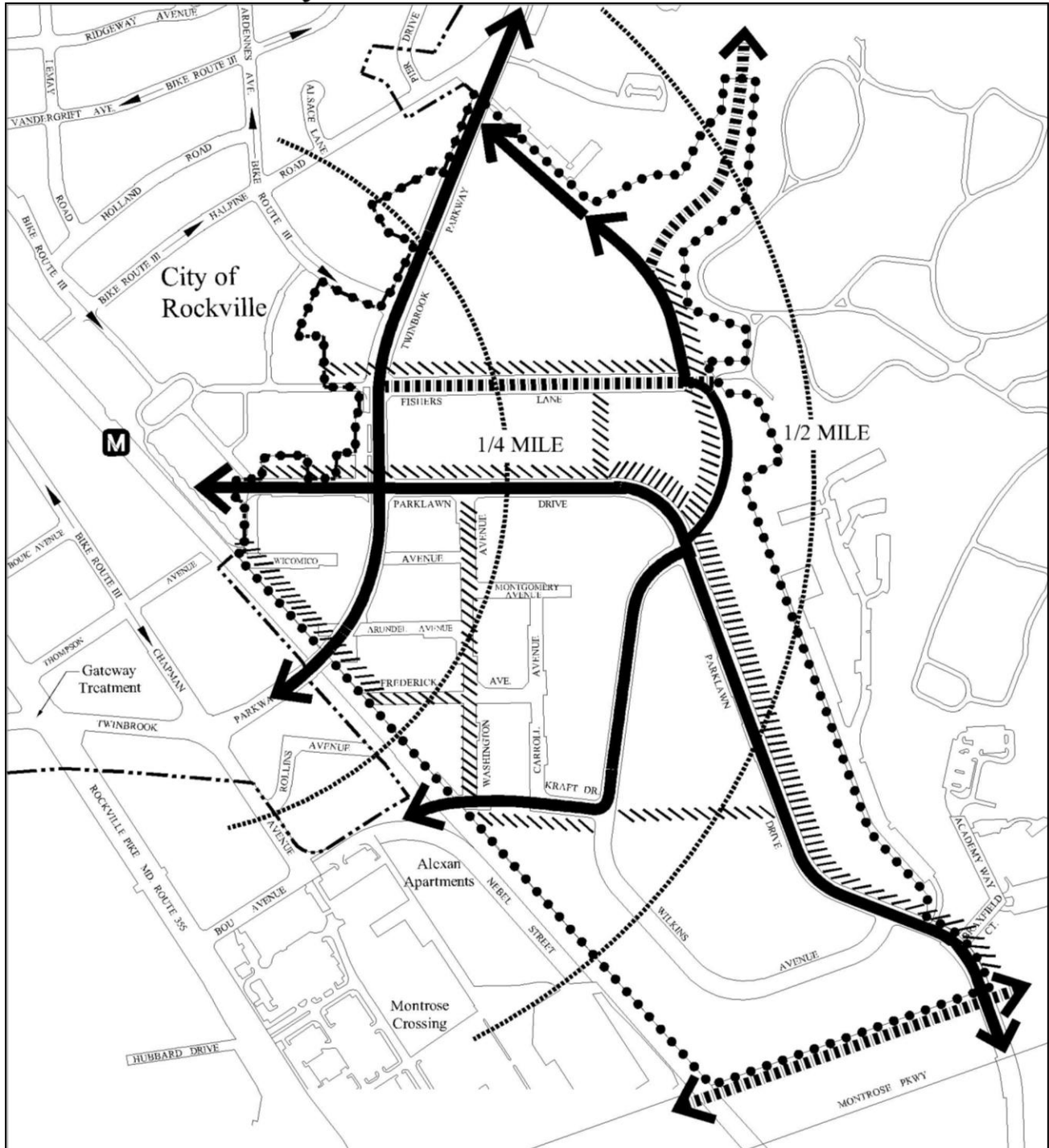


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-  Metro Station
-  Shared Use Path
-  City of Rockville
-  Bike Lanes or Signed/Shared Roadways
-  Sector Plan Boundary
-  **SP-50** Bikeway Number



Pedestrian and Bicycle Connections



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- M** Metro Station
- City of Rockville
- Sector Plan Boundary
- Distance from Metro Station (1/4 and 1/2 Mile)
- ////// Major Pedestrian Connection
- ↔ Bike Route
- ⋯ Shared Use Path



The City of Rockville and Montgomery County use the same bike route standards and connect their routes to each other and to Metro. The table below identifies the bike routes in the Twinbrook Plan area.

City of Rockville Bike Routes

Bikeway Name	Type	Limits
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	Coordinated with County route

Street Character

Streets are the most important open space elements in defining the public realm and creating memorable places. Using buildings to create spaces defines the street as public space and provides an interesting pedestrian environment. Streets should include amenities, landscaping, and sidewalks, but most importantly, should make desired connections. The County’s Road Code will establish standards that support the Plan’s goals for safe and pleasant pedestrian routes and street crossings for this Transit Station Development Area.

Some streets in the Light Industrial Area date from the land’s initial subdivision as a residential community, and are built to older standards. These streets function adequately and should be allowed to remain with minimal improvements, to allow small lots to redevelop without undue burden. All other new and existing streets in the area of the Twinbrook Plan should be designed to meet the needs of pedestrians, with the following features.

- Facades located to create a continuous building line along the street with the occasional defined and usable open space
- Closely spaced street trees in a lawn panel where parking is prohibited. Trees should be given extensive soil treatment and irrigated with graywater, where possible
- On-street parking and a minimal number of driveway cuts
- Utilities relocated underground and within the street right-of-way on highly visible streets
- Street crossings that are smoothly paved, visible to drivers and pedestrians, buffered from traffic, and unencumbered by utilities
- Support the design guidance for Fishers Lane, Parklawn Drive, Washington Avenue, and the extension of Wilkins Avenue in this Plan.

The following Twinbrook streets are important shaping elements and should be treated as such.

Twinbrook Parkway – The area’s most visible road, classified as an arterial and carrying both through and local traffic. From the southern boundary of the City of Rockville to Ardennes Avenue, it should be a six-lane, divided road. From Ardennes Avenue north to the boundary of the Plan area, it should be a four-lane, divided road. Its right-of-way should include bike lanes and sidewalks set off from the curb by a lawn panel and street trees. Twinbrook Parkway should serve vehicle traffic as well as pedestrians, particularly at its intersections with Fishers Lane and Parklawn Drive, where building massing, frontage, and uses are encouraged to be pedestrian oriented. Features should include:

- Buildings sited to frame public space and to allow for sidewalks on both sides of the street and using reflective paving materials if possible
- Pedestrian crosswalks at the intersections with Fishers Lane and Parklawn Drive should be clearly marked, provide adequate distance from stopped cars, and made handicapped accessible
- Signal timing that allows safe pedestrian crossings at morning and evening rush hours
- Combined vehicular entrances to minimize driveway cuts
- Pedestrian refuge in the median
- Bike lanes along Twinbrook Parkway as recommended in the *Countywide Bikeways Functional Master Plan*
- A 120-foot right-of-way to accommodate pedestrian and bike areas.

Twinbrook Parkway Illustrative (Between Fishers Lane and Parklawn Drive)



Montrose Parkway – Construction of this parkway will provide an important commercial link to I-270, but it will also provide an opportunity for park, bicycle and pedestrian connections.

- 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 Parklawn Drive.
- 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.

Roadway Rights-of-Way and Standards

Roads are classified by the access they offer to adjacent properties, 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 business streets that provide property access.

The public streets not explicitly referenced in this Plan should be considered business streets and may be augmented or refined as redevelopment allows.

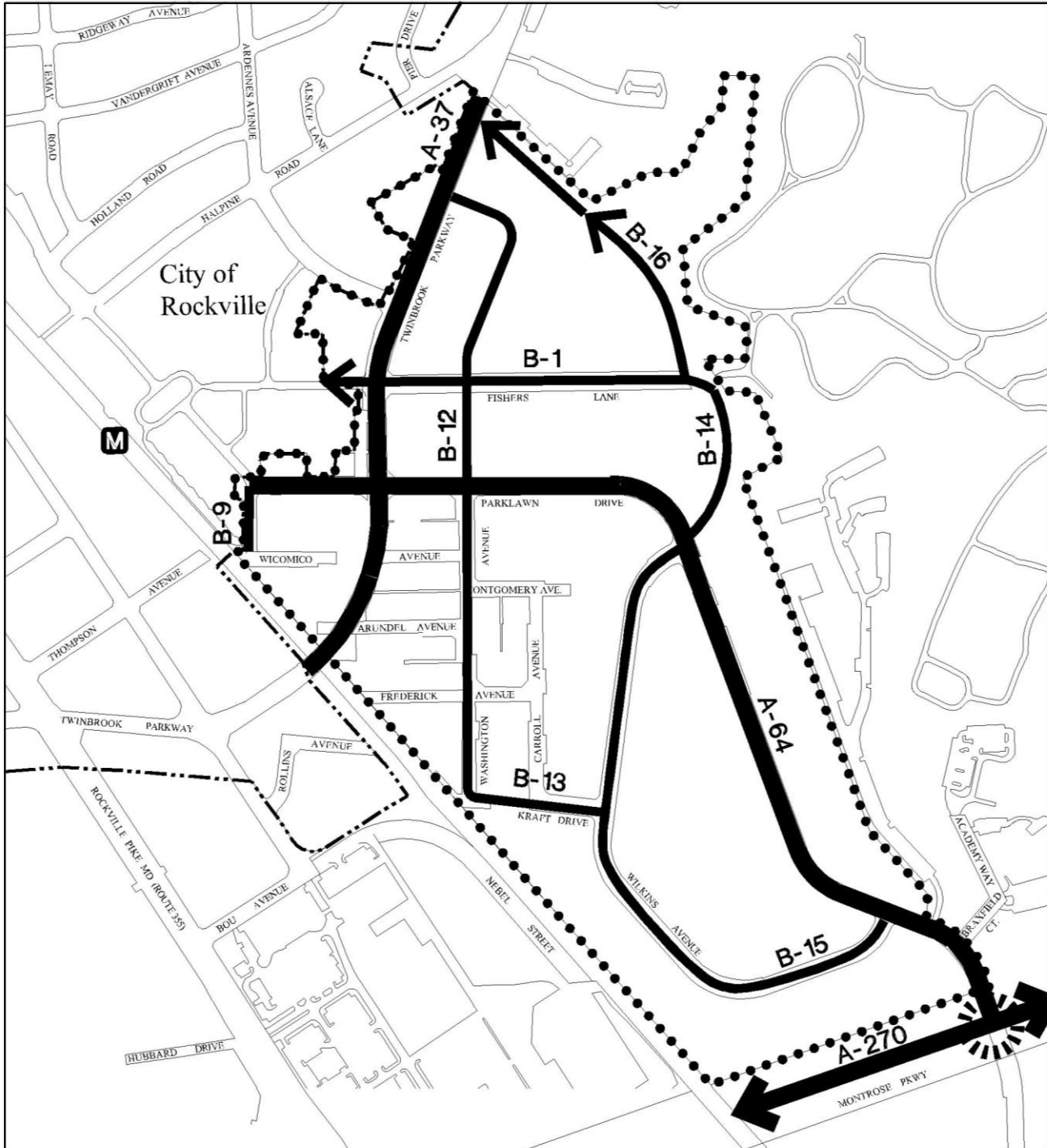
- Ensure that right-of-way truncations at intersections allow building placement close to corners, create adequate pedestrian spaces, and create safe sight lines.
- New unclassified streets serving local traffic in the Plan’s redeveloping areas should be built to create a connected grid and constructed to business street standards.
- All roads should be built with bicycle and pedestrian facilities using green design elements such as bio-swales and other techniques to address stormwater management.
- Unclassified 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	Rockville city limits 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'
Business Streets				
B-1	Fishers Lane	Rockville city limits to Wilkins Avenue Extended	2	80'
B-9	Wicomico Avenue	Wicomico Avenue to Parklawn Drive	2	70'
B-12	Washington Avenue	Fishers Lane to Kraft Drive Extended	2	70'
B-12	Washington Avenue	Fishers Lane to Twinbrook Parkway (Existing Private Street – Future Public Street)	2	60'
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	60'




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

Street Classifications



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- A-64** Master Plan of Highways Road Number
- M** Metro Station
- City of Rockville
- Sector Plan Boundary

-  Arterial Street
-  Commercial/Industrial Street
-  Proposed Interchange



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. This Plan supports the 1992 Plan's recommendation to limit parking supply 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 Zoning Ordinance. Opportunities to replace surface parking with parking structures should also be pursued.

- Encourage shared and structured parking rather than surface lots and explore the feasibility of a parking lot district.
- Parking should be located mid-block, built with green construction techniques and with retail or active streetfront facades.
- Set aside on-street and garage parking spaces for flex and zip car programs 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.

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. Encourage expanded shuttle bus service that includes midday service, particularly connected to the Metro station.

Public Amenities and Community Facilities

This Plan seeks to provide public services to employees and residents as part of building a well-rounded and well-served community. As a small planning area, without a current resident population, opportunity and demand for facilities in Twinbrook has been limited. This Plan recommends incorporating parks, paths, and other public facilities into redevelopment projects to provide community facilities to serve new residents and an increased employee population.

- Use opportunities generated by redevelopment to create urban parks and open spaces to serve residents and employees.
- Ensure that changing public service needs are met.
- Incorporate landscaped open spaces into commercial and residential redevelopment that may be private, but are open for public enjoyment.

The TMX Zone recommended for much of the Plan area requires a significant component of public amenities, recognizing that, along with land uses, they contribute to defining the character of a place. This Plan proposes specific, large public open spaces that will anchor a network of smaller spaces, both created through redevelopment. They are designed to serve both residents and employees with places for the informal activities of public life. The requirements for public use space are significant, and those spaces should be high quality environments that will serve well into the future, that will provide an attractive setting for technology businesses, and that will serve as meeting points between the varied land uses allowed.

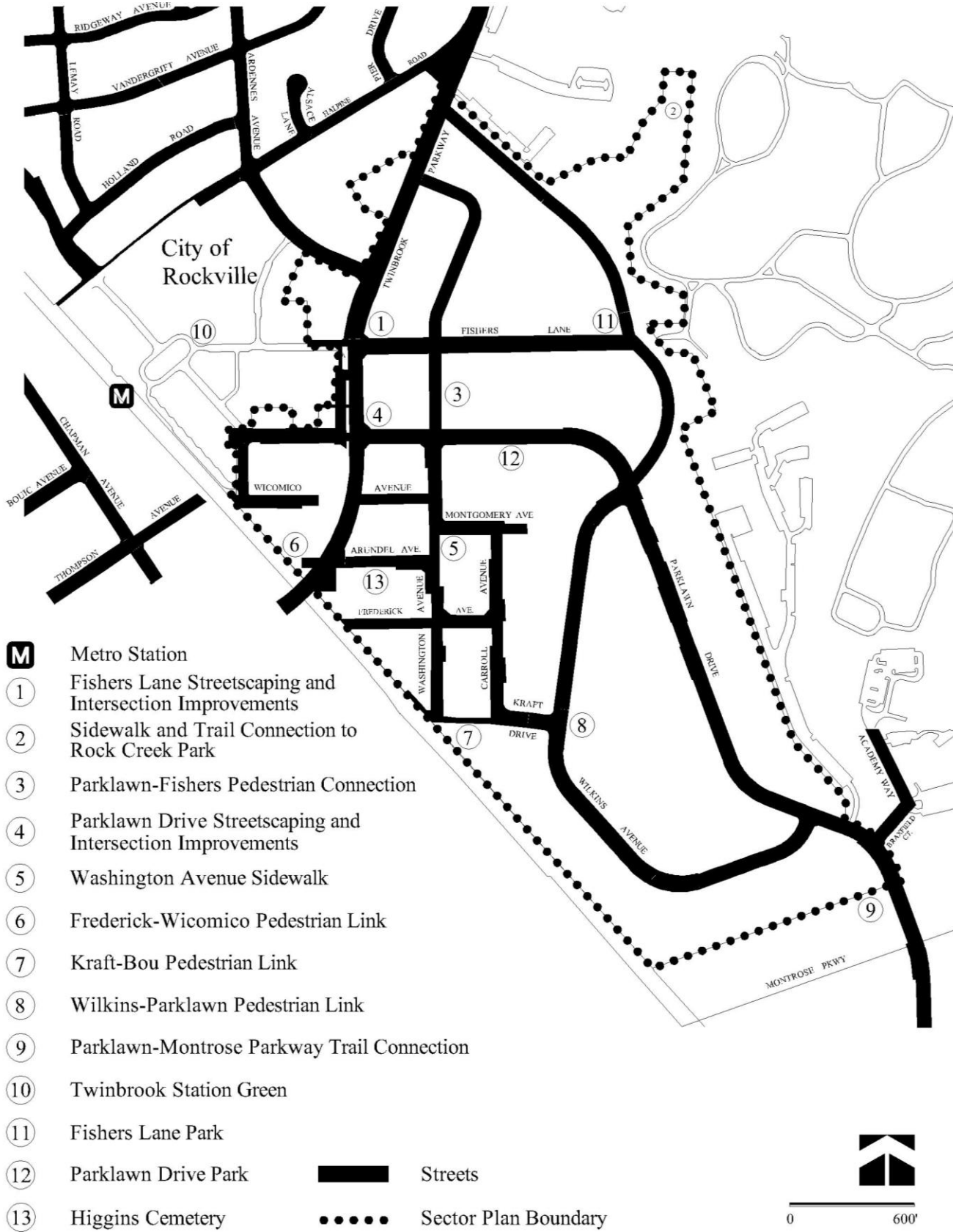
- Public spaces should be intensively designed to offer varied recreation and open space options on small sites.
- Public spaces should function to support and enhance the natural environment with design features that also perform environmental functions, such as tree coverage and pervious surfaces.
- Allow public space requirements on separate sites to be combined to create larger spaces or design with more function and visual impact than individual sites.

In contrast, the Plan's recommendation to maintain the existing light industrial uses under an amended I-4 Zone recognizes a business area in which improvements to the public realm are less important.

The following elements, shown on the adjoining map, illustrate public facilities and amenities recommended in this Plan.

1. **Fishers Lane Streetscaping and Intersection Improvements** – Though this intersection is marked with special paving, redevelopment will increase the number of people crossing to and from Metro. Pedestrian safety issues that can be addressed in design and operations should be examined. Improvements should also be coordinated with Parklawn Drive’s intersection with Twinbrook Parkway and should contribute to creating the east side of Twinbrook Parkway between the two streets as a pedestrian environment.
2. **Sidewalk and Trail Connection to Rock Creek Park** – A bike and pedestrian connection to a local and regional park would be a significant asset for this community. It will be necessary to work with property owners to create a short easement between the Plan area and the park.
3. **Parklawn Drive-Fishers Lane Pedestrian Connections** – These routes already exist as a driveway and a somewhat hidden stairway. Both should be made more visible and accessible to create a comprehensive pedestrian route through the area that eventually reaches Metro.
4. **Parklawn Drive Streetscaping and Intersection Improvements** – As with Fishers Lane, the sidewalks, street character, and pedestrian crossing should be upgraded for safety and appearance through redevelopment.
5. **Washington Avenue Sidewalk** – The street is proposed to be extended to the north as a vehicle and pedestrian connection, and anchored at the south with a pedestrian crossing of the CSX tracks that also serves the extended Kraft Drive from the east. A sidewalk along the street, through the Light Industrial Area, will create a complete pedestrian network.
6. **Frederick Avenue-Wicomico Avenue Pedestrian Link** – A desire line path has already been created here to link to Metro, but it is a dangerous route, climbing up an embankment and crossing Twinbrook Parkway at mid-block. A safe route should be established beneath the Twinbrook Parkway overpass through redevelopment of the Wicomico Avenue area.
7. **Kraft Drive-Bou Avenue Pedestrian Link** – Extending Kraft Drive to meet the southern end of Washington Avenue will complete one link in an east-west pedestrian route through the Plan area.
8. **Wilkins Avenue-Parklawn Drive Pedestrian Link** – This route will complete another link in an east-west pedestrian route and create a shorter pedestrian route to the bus stops on Parklawn Drive.
9. **Parklawn Drive-Montrose Parkway Trail Connection** – The Montrose Parkway will have a vehicle connection with Parklawn Drive. The road design should include a safe and separate pedestrian and bike route from existing sidewalks to the proposed shared use path.
10. **Twinbrook Station Green** – Though outside the Plan area, this green is a significant space that marks the Metro station and provides a community focus. It will be mirrored by a similar, green open space at the eastern end of Fishers Lane.
11. **Fishers Lane Park** – This is one of the large public open spaces proposed in the Plan and while at the intersection of proposed streets and driveways should be large, visible, and predominantly pervious.
12. **Parklawn Drive Park** – This park is the second large public open space proposed in the Plan, and it will be created at some point along the length of Parklawn Drive. It should coordinate with the pedestrian space at Washington Avenue, and it should be visible and substantially pervious.
13. **Higgins Cemetery** – This historic site is privately owned and maintained, but it is a significant open space in this largely developed Plan area. Any redevelopment of sites and paths adjacent to it should complement and respect the cemetery’s boundaries.

Public Amenities and Community Facilities



Recreation Facilities

A key to providing adequate, close-to-home recreation is ensuring that opportunities are incorporated into plans for new development, which should provide private recreation areas for all age groups, as appropriate. Private redevelopment should include:

- Playgrounds for young children
- Multi-use courts for children, teens, and young adults
- Level grass areas for leisure and informal play to serve people of all ages
- Adult recreation areas
- Walking and bicycling paths.

In mid-rise and high-rise housing and transit station areas such as Twinbrook, indoor recreation areas will be essential. Project development should explore innovative approaches to providing recreation facilities as well as landscaping, seating areas, and public art that improves the working and living environment.

- Require two new urban parks.

A new public urban park, privately developed, should be created along Parklawn Drive as a public amenity space related to new development. It should complement the streetscape and urban design features, relate to the Parklawn-Fishers mid-block path, and provide seating areas.

A second park, also privately developed and maintained and open to area residents, should be located at the eastern end of Fishers Lane, incorporated into pedestrian road improvements, and connected to sidewalks and bike routes.

- Improve existing sidewalks and paths, and create new routes.

New and redeveloped areas should emphasize walkways and path connections to parks and recreation facilities inside and outside of the planning area. These routes should be wide enough for safety and lighted for night use.

Environmental Resources

Rezoning and redevelopment in Twinbrook is an opportunity to improve environmental sustainability – both function – primarily air and water quality – and appearance by incorporating features such as pervious open spaces and tree-planting into land use, transportation, park, and urban design recommendations. Metro station locations such as Twinbrook already create environmental benefits by redeveloping built environments and using existing infrastructure with proximity to transit, thereby containing the impacts of development.

This Plan's environmental goal is to move beyond the benefits of location through green building and site design. Redevelopment of the area should create a recognizably green setting in function and appearance where residents and employees can walk between work and transit, and to community services and retail.

- Increase the amount of pervious surface to improve the quality and reduce the quantity of stormwater runoff, mitigate heat island effects, and contribute to a green and pedestrian-friendly environment.
- A significant portion of paved area should be shaded through trees within five years of occupancy or paved with reflective materials.

- Street trees should be spaced and sized to create 30 percent canopy coverage on redeveloped areas, and open space should be planted and substantially pervious.
- Improve air quality through development decisions that increase tree canopy and pervious surfaces, and the use of reflective materials.
- Encourage public and private projects to use emerging technologies in building, site, and road design that incorporate stormwater treatment features into urban design and streetscape options. They can include, but not be limited to green streets (as defined in the County Road Code), water features that buffer noise and capture stormwater, graywater cisterns, and open spaces that can capture, filter and reuse stormwater.
- Encourage redevelopment that creates connected street patterns that contribute to a safe and pleasant pedestrian and bicycle network that encourages residents and employees to replace auto trips with walking and bicycling options.
- Support a shuttle bus system that encourages residents and employees to replace short auto trips.
- Encourage site and building design that locates public and other occupied spaces away from noise sources. Encourage new development to integrate noise mitigation measures at the earliest possible stage.

TWINBROOK NEIGHBORHOODS

This Plan divides Twinbrook into three neighborhoods that reflect the area's variety of uses and its potential for change. Building on the base of redevelopment around the Metro station, the high technology uses along Fishers Lane, and the light industrial enclave to the south, Plan recommendations create the potential for the neighborhoods to combine into a complete community of connected mixed uses supported by transit and public facilities.

Metro Core Area

(West of Twinbrook Parkway)

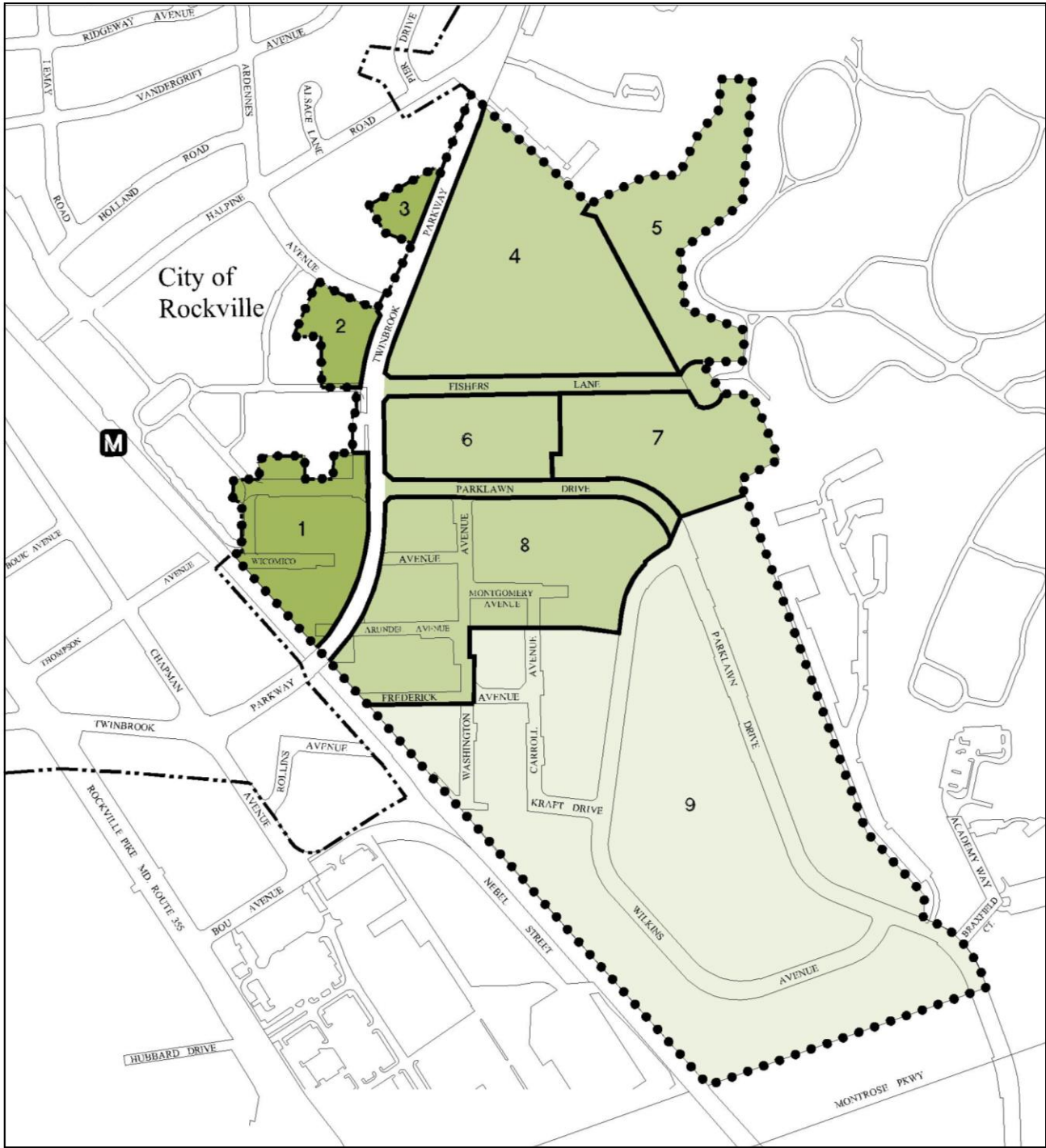
Sites in the area west of Twinbrook Parkway are focused around Wicomico Avenue and the western ends of Fishers Lane and Parklawn Drive. They contain a mix of commercial and light industrial uses on sites abutting the Twinbrook Station project. They are suited to continue its housing, mixed-use, and pedestrian-oriented pattern. Twinbrook Parkway is a route through the Plan area, but by virtue of its overpass, traffic, and topography, is a barrier, particularly for pedestrians.

The 1992 Plan recognized the area's proximity to Metro and recommended it for mixed-use redevelopment under the TS-R and O-M floating zones. Since the 1992 Plan, the sites in the Metro Core Area in the Twinbrook Station project have been annexed into the City of Rockville. Twinbrook Station was approved under the TS-R floating zone applied at the applicant's request. The area's proximity to the Metro station, WMATA's interest in redeveloping its parking lot, and a low-density base zone (R-90) encouraged its redevelopment into the mixed-use residential and commercial community envisioned for Metro station areas.

Of the Metro Core Area sites that remain in the County's jurisdiction, one has developed using the O-M floating zone and others remain in light industrial use in the R-90 and I-1 Zones. The haphazard mix of uses reflects the variety of zoning. All are single use zones and some, such as the R-90, are no longer relevant in an urban area. This uneven zoning pattern makes it difficult to encourage redevelopment with uses and densities appropriate to the Metro station. The existing recommendation for an O-M floating zone is cumbersome to apply and does not allow the housing or the neighborhood retail uses now desired. Further, the remaining sites recommended for TS-R are too small to develop under the zone and have no options for assembling.

For these reasons, the Metro Core Area is recommended for unified zoning in the TMX Zone, allowing mixed-use potential as a residential incentive on several sites. Redevelopment in the Metro Core should continue the walkable street and community character established by Twinbrook Station. With the Metro and urban scale, density and mixed uses, this entire area will become a center for the Twinbrook neighborhoods in the City of Rockville and the County where people can work, play, and enjoy the mix of uses and public amenities. Development should also provide pedestrian and vehicle connections to Metro and to other parts of the Plan area.

Analysis Areas



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- M** Metro Station
- City of Rockville
- Sector Plan Boundary
- 1-3 Metro Core Area
- 4-8 Technology Employment Area
- 9 Light Industrial Area

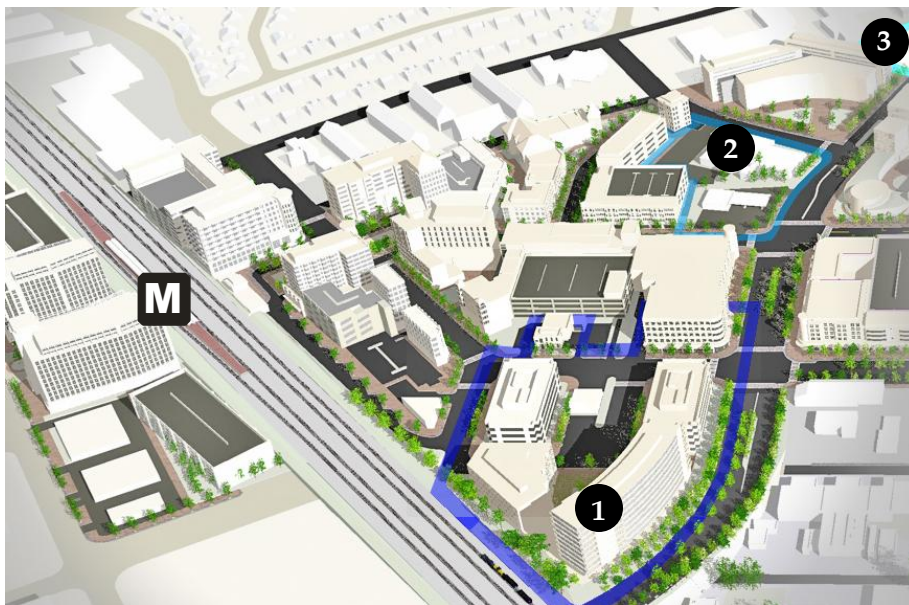


Design Guidelines

- Establish varied building heights, but no higher than those at Twinbrook Station, with 10 to 12 stories near the Metro station, stepping down to four and five stories next to the residential communities along Ardenes Avenue and Halpine Road.
- Encourage a mix of uses, including street-oriented, neighborhood serving retail and office uses.
- Optional Method of Development projects must follow the design guidelines outlined in this Plan.
- Provide a variety of urban open spaces such as pocket parks, plazas, landscaped lawn panels, and other gathering spaces.
- Locate buildings close to the street with parking in the rear or center of the blocks.
- Create shared parking when possible.
- Redevelopment should be compatible with the uses and connections of surrounding uses.
- Make improved sidewalk connections to the recreation center north of the sites on Twinbrook Parkway.
- As redevelopment occurs south of Wicomico Avenue, provide a pedestrian path to the Metro station from Frederick Avenue, under the Twinbrook Parkway overpass.

Metro Core Area Illustrative

Looking north between CSX tracks and Twinbrook Parkway






- M** Twinbrook Metro Station
- 1** Analysis Area
- 2** Analysis Area
- 3** Analysis Area

Metro Core Area Existing and Proposed Zoning



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- Sector Plan Boundary
- TMX Transit Mixed Use
- R-90 Residential, One-Family
-  I-4 Light Industrial, Low Intensity
-  I-1 Light Industrial
-  O-M Office
- * O-M Floating Zone Option



Metro Core Area 1

While some properties in this approximately six-acre area have been assembled, others are the original small residential lots. They are situated around Wicomico Avenue and adjoin the Twinbrook Station development. All are recommended for the TMX Zone.

The 1992 Plan recommended that some of this area be included in the TS-R Zone at the Metro station, which would become Twinbrook Station, but not all of the lots were assembled. The area's central section, around Wicomico, was to maintain its O-M zoning, under which the existing office building was developed at a .56 FAR. The O-M Zone allows up to 1.5 FAR. A small triangle of land abutting the railroad tracks was recommended for rezoning from I-1 to O-M. This site has not redeveloped and retains its I-1 zoning.

Rezoning these sites to TMX provides an incentive to assemble the lots and allow the active mix of residential, retail, and office uses that extend the character of the Twinbrook Station project. Redevelopment should continue the street pattern and ensure vehicle and pedestrian connections to the Metro station. The full 2 FAR is appropriate in this area, since it is close to Metro. Any development above 1.5 must be applied to residential uses. Sites could also redevelop with residential buildings at 2 FAR with ground floor retail uses, and provide moderately priced dwelling units and workforce housing.

Recommendations

- Rezone sites from R-90, O-M, and I-1 to TMX.
- Limit commercial development to 1.5 FAR and allow additional residential development up to 2 FAR.
- Wherever possible, locate structured parking adjacent to Metro/MARC tracks to mitigate noise.
- Redevelopment should complete a pedestrian link from the Light Industrial Area, underneath Twinbrook Parkway to the Metro station.
- Abutting railroad tracks, Twinbrook Parkway and adjacent redevelopment in the City of Rockville, building heights may go no higher in feet than the tallest buildings at Twinbrook Station.

Metro Core Area 2

These properties contain a gas station and office building that adjoin the Twinbrook Station project. The 1992 Plan recommended this site for the O-M floating zone on an I-4 base zone, but the floating zone was never applied. Redevelopment density and mixed uses should continue the Twinbrook Station pattern of buildings oriented to the street and create pedestrian connections. The full 2 FAR is appropriate in this area, but any development above 1.5 must be applied to residential uses. The site could also redevelop completely with residential uses at 2 FAR, and provide MPDUs and Workforce Housing units.

Recommendations

- Rezone from I-4 to TMX, continuing the pattern established by Twinbrook Station.
- Limit commercial development to 1.5 FAR and allow additional residential development up to 2 FAR.
- Development should continue the neighborhood street pattern of buildings oriented to the street, streetscaping, and small urban open spaces.

- Provide pedestrian connections to the Twinbrook Station project.
- Building heights should be compatible with adjacent redevelopment in the City of Rockville.

Metro Core Area 3

This site is farther north along Twinbrook Parkway and contains a mix of office and retail uses. An adjacent site on the southern portion of this block was annexed by the City of Rockville in 2003 and though currently vacant, is approved for an office building. The western side of this block, in the City of Rockville, is under consideration for garden apartment development. Because the County sites are within easy walking distance of Metro, and because they are adjacent to proposed development of increasing density, the Plan recommends them for moderate intensity mixed-use.

Recommendations

- Rezone from O-M to TMX with a 1.5 FAR cap, consistent with uses and densities proposed for adjacent sites in the City of Rockville.
- Encourage development to continue the neighborhood street pattern of buildings oriented to the street with streetscaping and small urban open spaces.
- Ensure pedestrian connections to the Twinbrook Station project.
- Building heights should step down from Twinbrook Parkway to be compatible with adjacent redevelopment in the City of Rockville.

Technology Employment Area

(East of Twinbrook Parkway along Fishers Lane and Parklawn Drive)

The Technology Employment area located east of Twinbrook Parkway includes a mix of office and laboratory uses, some of them recently developed. The National Institutes of Health (NIH) and other federal agencies have located here, near the Metro Red Line, and between the NIH Bethesda campus and the Shady Grove Life Sciences Center.

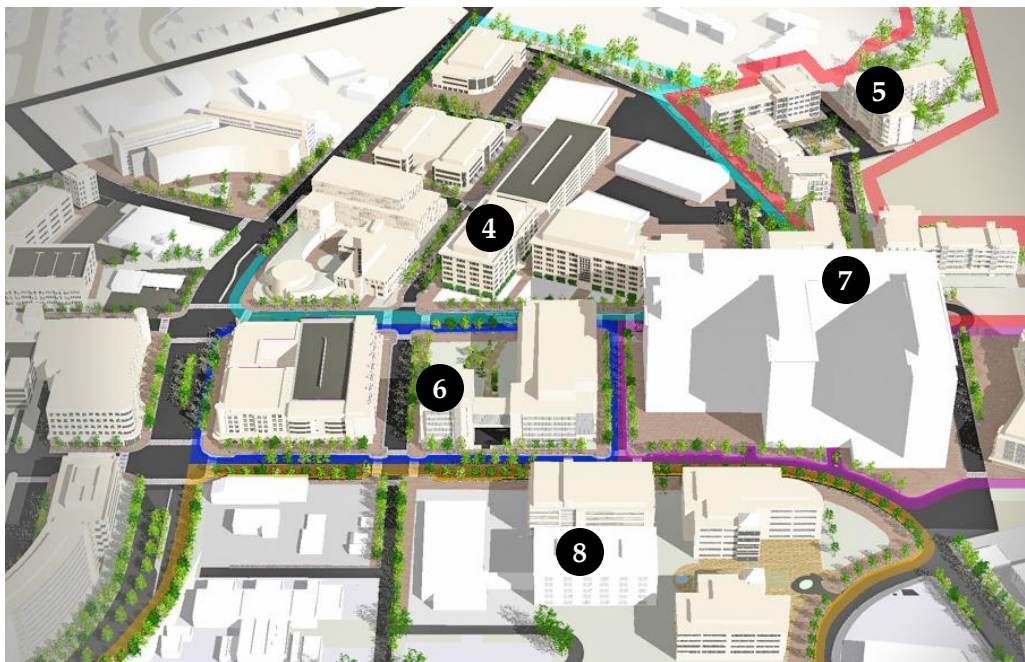
The area's most prominent building is the 1.3-million square foot Parklawn Building. Associated with it are sites to the north and south with significant development potential that have long been used as employee parking lots. These sites combined with redevelopment potential of the Parklawn Building, have the ability to substantially change the area's character.

The small lots surrounding Washington Avenue are the sites of the area's early development – the residential Spring Lake neighborhood, subdivided in 1892. While the 1978 Plan noted 13 remaining residential units, these have all since evolved into commercial and light industrial uses that provide jobs and services to neighboring businesses and residents.

The goal of this Plan is to improve the area's urban environment, build on its existing concentration of technology uses, and create an employment district with a high quality public and private realm that can serve residents and employees. An internal network of streets should make pedestrian and vehicle connections that create safe and pleasant routes to Metro and other destinations. Streetscape should be substantial and public use space requirements can create visible and useful public open spaces, particularly along Parklawn Drive. Buildings of varied height and character should define Fishers Lane and Parklawn Drive.

Technology Employment Area Illustrative

Looking north between Twinbrook Parkway and Parklawn Memorial Park



Analysis Areas

- Analysis Area 4
- Analysis Area 5
- Analysis Area 6
- Analysis Area 7
- Analysis Area 8

Design Guidelines

- Require the design of the proposed major public use spaces recommended for Fishers Lane and Parklawn Drive to include pervious surfaces.
- Create a connected system of public green open spaces along pedestrian routes, including parks along Fishers Lane and Parklawn Drive and a mid-block connection between those streets.

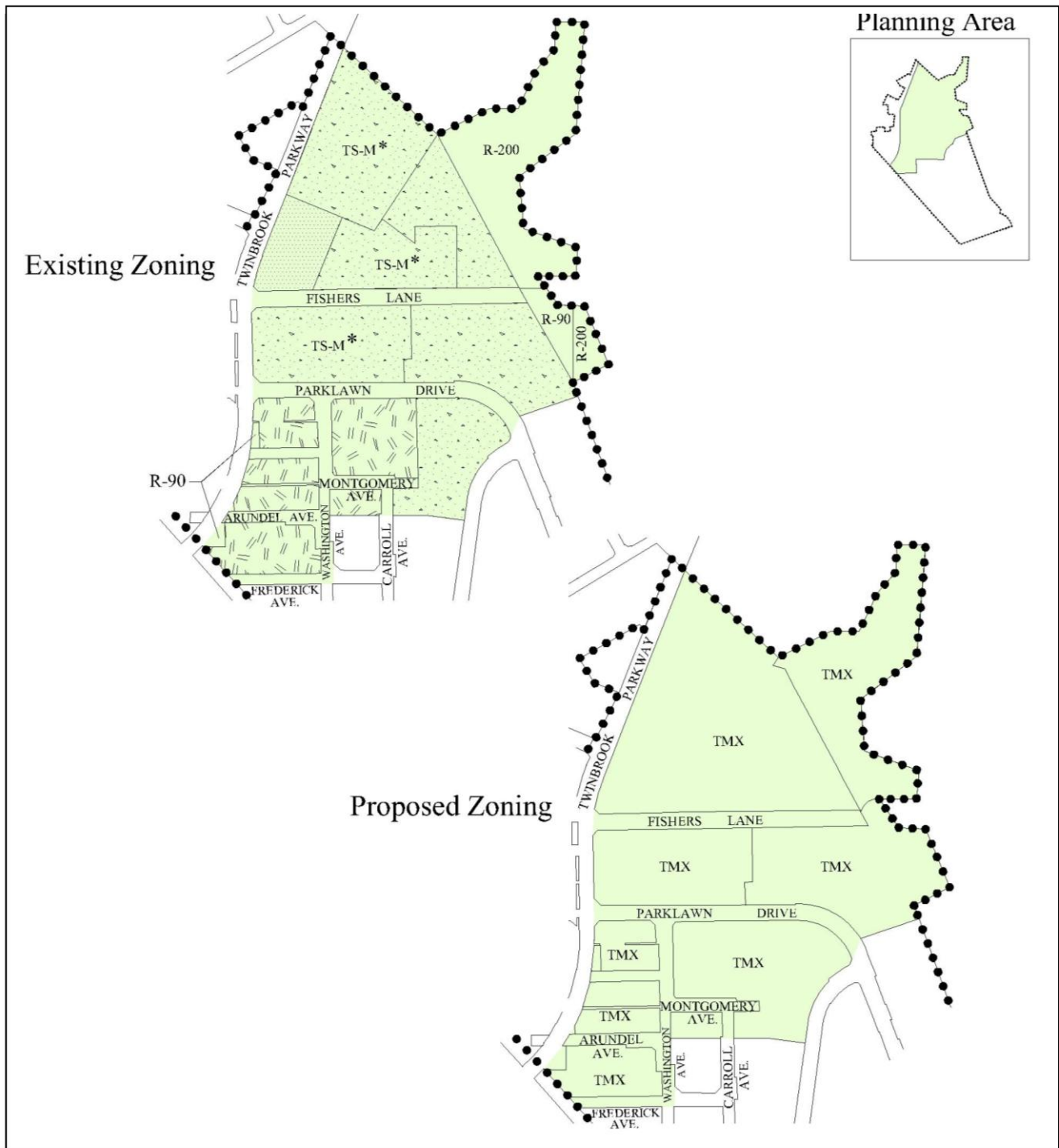
Streets and Street Character

The area's parallel streets, Fishers Lane and Parklawn Drive, are a defining feature and the Plan's recommendations aim to create them as active streets, lined with commercial, retail, and residential uses, making a direct connection to the Metro station. The eastern end of Fishers Lane will be anchored with a public open space and as sites redevelop they should create a connected street system to provide pedestrian access and alternative vehicle routes. Rezoning should create opportunities for re-use of the Parklawn Building, and require design improvements and an urban environment that will serve into the future.

Fishers Lane and Parklawn Drive are the major streets through the Technology Employment Area, with sites fronting on both. The Plan also recommends that Wilkins Avenue be extended north through the Plan area to connect with Twinbrook Parkway. Redevelopment will offer the opportunity to upgrade the street environment, create connections, and coordinate land uses and public spaces. Specific recommendations follow.

Fishers Lane is a business street with an 80-foot right-of-way that should include two vehicle travel lanes, on-street parking, sidewalks, a shared use path, and streetscaping. It is envisioned as a pedestrian-oriented street lined with activating retail and service uses, connecting to the Metro station. The street design should focus on the pedestrian experience. Its intersection with Twinbrook Parkway is a significant pedestrian crossing and should be marked by wide sidewalks.

Technology Employment Area Existing and Proposed Zoning



- | | | | |
|-----------|-------------------------------------|-------|--------------------------|
| ●●●●● | Sector Plan Boundary | R-90 | Residential, One-Family |
| [Pattern] | I-1 Light Industrial | R-200 | Residential, One-Family |
| [Pattern] | C-O Commercial Office | TMX | Transit Mixed Use |
| [Pattern] | I-4 Light Industrial, Low Intensity | * | TSM Floating Zone Option |



Illustrative of Fishers Lane with Urban Park



Though **Parklawn Drive** also serves the Plan's Light Industrial Area, its character is most important in shaping the Technology Employment Area. It should maintain its classification as a four-lane arterial road for its length from Montrose Parkway to the Metro station, but its vehicle and pedestrian function should be improved with four lanes, and include wide sidewalks. Sidewalks on both sides of the street should be set off from the curb edge by a lawn panel and street trees. Pedestrian crosswalks should be provided at Twinbrook Parkway and Wilkins Avenue.

The intersection with Washington Avenue should be marked and landscaped for safe pedestrian crossing and Metro access. With future traffic generated by Montrose Parkway, design recommendations will ensure that the road also serves as a safe and pleasant pedestrian route.

The streetscape of both Fishers Lane and Parklawn Drive should connect with the proposed pedestrian connection between the two streets. Planting patterns, street furniture, and crossing points should all mark and support this pedestrian space. Street features should include:

- Retail, employment, formal public spaces and other activating uses lining the street
- Wide sidewalks on both sides of the street using reflective paving materials if possible
- An anchoring feature at the eastern end of Fishers Lane that includes a major green open space incorporating complementary environmental and design features
- On-street parking with single-station parking meters, shared parking facilities, and combined vehicle entrances to minimize curb cuts
- Parklawn Drive could be realigned to the south, away from the Parklawn Building, to improve site security and create a safe pedestrian crossing, if necessary to meet the tenant's security needs
- Connections to the extension of Washington Avenue, which should be animated by storefronts and doorways, and should take advantage of the grade change in its design.

Parklawn Drive at Wilkins Avenue



80' ROW – 4 Lanes

Redevelopment will create the need and opportunity for the **Wilkins Avenue Extension** as an alternate vehicle route through the Plan area. This road extension is envisioned in three sections.

- The southernmost, from Parklawn Drive to Fishers Lane connects Twinbrook Parkway and Parklawn Drive.
- The middle link, from Fishers Lane through the Plan area's northeast corner, should meet any security needs and 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 northernmost link 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.

A planned extension of **Washington Avenue** runs through this area, connecting the two existing segments of Washington Avenue with a final segment between Parklawn Drive and Fishers Lane. This will add an important connecting element to the expanding grid in Twinbrook. Improvements should recognize its importance as both a vehicle and pedestrian link. Guidance for Washington Avenue is provided in the discussions of Analysis Area 4, 6, and 8 in the Technology Employment Area.

Technology Employment Area 4

The U.S. Pharmacopeia (USP) building and Fishers Place office and laboratory projects were recently developed and under proposed rezoning would have no additional commercial redevelopment potential. Other sites in this 19-acre area are zoned I-1 and are used as parking lots or built with light industrial and laboratory uses. The 1992 Plan also described USP as built out and this Plan recommends rezoning this site capped to reflect the current use and density.

The 1992 Plan recommended the TS-M Zone in this area to create mixed uses, and anticipated nearly 500,000 square feet of new development. Instead, under the I-1 base zone with no FAR limit, Fishers Place was built at 715,200 square feet and an FAR of 1.42.

The remaining sites are recommended for a 1.5 FAR density cap for commercial development, reflecting this location further removed from Metro. The recommendation provides redevelopment incentive for projects that complement the existing offices and would contribute to creating street and pedestrian connections.

Recommendations

- Rezone the USP site from C-O to TMX, with a 1.85 FAR cap for commercial development reflecting the existing density of construction completed in 2007.
- Rezone Fishers Place from I-1 to TMX, with a 1.5 FAR cap for all development.
- Rezone remaining acres from I-1 to TMX, with a 1.5 FAR cap for all development.
- Overcome Twinbrook Parkway's effect as a pedestrian barrier by improving the safety of pedestrian crossings at the intersection with Fishers Lane.
- Fishers Lane should be lined with buildings oriented to the street and treated with streetscape features that connect to the proposed open space at the eastern end of the street.
- Place buildings along Twinbrook Parkway to create a wide and landscaped sidewalk.
- Create a connected grid of new streets throughout this large block that are defined by buildings, streetscaping, and public spaces.
- Development and building heights should be compatible with adjacent garden apartments.

Technology Employment Area 5

This site comprises two properties both in use as parking lots, of nine acres and approximately four acres. The nine-acre property, accessible only from Fishers Lane, is surrounded by a cemetery and garden apartments. It was not included in the 1992 Plan and remains in the R-200 Zone (from earlier development patterns) with a special exception for the parking lot use. The roughly four-acre property is zoned I-1.

This Plan proposes the new TMX Zone on this site. This substantial density increase provides incentive for redevelopment. Redevelopment will provide significant public improvements, including a public space at the end of Fishers Lane, and sidewalk and bicycle connections.

Recommendations

- Rezone this site from R-200 to TMX.
- Development limited to 1.5 FAR.
- Route the proposed extension of Wilkins Avenue away from the stream valley buffer.
- Provide stream restoration or off-site mitigation to minimize the impact of redevelopment.
- Create a public space at the eastern end of Fishers Lane to mirror the public open space proposed at the western end in Twinbrook Station.
- Create pedestrian connections through this site that connect with the proposed shared use path connection to the north.
- Contribute to a street grid that serves vehicles and pedestrians.
- Development and building heights should be compatible with adjacent garden apartments.
- Require redevelopment to set aside open space that marks the proposed trail connection, provides green space within the Plan area, and further buffers the adjacent stream.

Technology Employment Area 6

The two sites in this area are highly visible and accessible. They are currently developed with office uses. This Plan continues the 1992 Plan's recommendation for mixed commercial development in a pattern that contributes to the area's pedestrian environment.

The site in this area facing Twinbrook Parkway deserves particular attention. Though the road is a major auto thoroughfare, at this point its western side will be fronted with the street-focused development of Twinbrook Station and pedestrians from Fishers Lane and Parklawn Drive will be crossing to the Metro station. Accordingly, land use and urban design features facing Twinbrook Parkway should create a street-focused, pedestrian environment.

A planned extension of **Washington Avenue** runs through this area connecting Washington Avenue segments north of Fishers Lane and south of Parklawn Drive. Improvements should recognize the changing character of the land uses along the road and its importance as a pedestrian link.

- Work with business and property owners through the Capital Improvements Program (CIP) to determine an appropriate route.
- Provide streetscaping and public use space along this road segment.

Recommendations

- Rezone from I-1 to TMX, with a 1.5 FAR cap on commercial development, with up to 2 FAR for residential development.
- Land uses and building arrangement along the block of Twinbrook Parkway between Fishers Lane and Parklawn Drive should mirror pedestrian-scaled uses across Twinbrook Parkway at Twinbrook Station.

- Create the extension of Washington Avenue north across Parklawn Drive to Fishers Lane and Twinbrook Parkway as a pedestrian-friendly environment lined with buildings and streetscaping, and marked with public open space.
- Establish streetscape and contribute to a new urban park along Parklawn Drive, east of Twinbrook Parkway.
- Improve the pedestrian crossing of Twinbrook Parkway at Parklawn Drive.

Technology Employment Area 7

This roughly ten-acre area includes a small, residentially zoned site at the eastern end of Fishers Lane and the Parklawn Building. The Parklawn Building was built in the early 1970s under a contract with the federal government, at a higher density than currently allowed (FAR 5.16). Prior plans for the area made no recommendations for changing the building or its use, given the federal government's long-term lease. The U.S. Food and Drug Administration's relocation to White Oak leaves the Department of Health and Human Services as the primary tenant. With the agency's lease due in 2009, the building may be upgraded as office space or reconfigured for mixed uses. The 1992 Plan recommended only that no further special exceptions for parking on adjacent sites be issued.

This Plan recommends rezoning the building to TMX allowing re-use that would keep the building viable and generate employees, residents, and street activity at an urban scale. Any redevelopment should make vehicle and pedestrian connections within and through the Plan area and should contribute to streetscape and urban design improvements, including an urban park and open spaces.

Recommendations

- Rezone the Parklawn Building and surrounding sites from R-90, R-200, and I-1 to TMX, with a 1.5 FAR cap. Because this building was legally developed at 5.16 FAR, its existing height and density are grandfathered in this Plan for this building. Alternate uses, especially housing, are recommended should the federal agency lease not be renewed.
- Improve the visibility and accessibility of the existing pedestrian connection on the building's west side.
- Encourage redevelopment in a main street pattern of mixed uses incorporating street orientation, pedestrian connection, a shuttle bus route, and public spaces into the design.
- Provide stream restoration or off-site mitigation to minimize the impact of redevelopment.
- Create a public space at the eastern end of Fishers Lane to mirror the public open space proposed at the western end in Twinbrook Station.
- Contribute to a new urban park along Parklawn Drive, east of Twinbrook Parkway.
- Build the extension of Wilkins Avenue with streetscaping and sidewalks and contribute to a street grid.

Technology Employment Area 8

This area comprises sites lining Parklawn Drive and Washington Avenue. Redevelopment should contribute to the mixed-use pedestrian environment. The area includes the Parklawn Building's southern parking lot, and small light industrial businesses and office buildings. All are recommended for the TMX Zone, reflecting their proximity to both Metro and bus transit along Parklawn Drive.

To retain industrial uses, the 1992 Plan rezoned portions of this area to the I-4 Zone. This Plan instead, treats the street-fronting blocks on Parklawn Drive and around Wicomico Avenue as one unit, drawing density and mixed uses along both sides of the street. Redevelopment should be in an urban pattern with buildings edging the street, create significant streetscaping including public space, and contribute to vehicle and pedestrian connections.

Recommendations

- Rezone from R-90, I-1 and I-4 to TMX.
- Limit commercial development to 1.5 FAR and allow additional residential development up to 2 FAR.
- Provide stream restoration or off-site mitigation to minimize the impact of development.
- Contribute to a new urban park along Parklawn Drive, east of Twinbrook Parkway.
- Buildings along this southern frontage of Parklawn Drive should be oriented to the street, with parking to the rear or side. Street frontage should include pedestrian amenities and streetscape.
- Redevelopment in this area should make street and landscaping connections with the proposed northern extension of Washington Avenue.
- Consider adding a pedestrian crossing on the south side of the intersection of Parklawn Drive and Twinbrook Parkway.

Light Industrial Area

(Washington Avenue and Wilkins Avenue)

Of the County's nearly 2,500 acres of industrial land, approximately 109 acres (zoned I-1 and I-4) are located in Twinbrook. Because the County has a limited and decreasing amount of industrial land, this Plan seeks to preserve a portion of Twinbrook's industrial potential, as did the 1992 Plan. This land provides important services to the Twinbrook area and the central part of Montgomery County. The I-4 Zone's development standards should be amended for Transit Station Development Areas (TSDAs) to recognize the realities of these small lots, and allow businesses to evolve without relocating.

Light Industrial Area 9

This area surrounding Carroll Avenue, Wilkins Avenue, and Parklawn Drive includes a mix of light industrial uses, some that serve technology businesses, others traditional light industrial and service commercial uses. It is also an area that can meet the needs of start-up businesses. The predominance of small lots in the areas surrounding Carroll Avenue reflects the area's prior residential development. The residential Spring Lake neighborhood was subdivided in 1892. While the 1978 Plan noted 13 remaining residential units, these have all since evolved into commercial and light industrial uses that provide jobs and services to neighboring businesses and residents.

Similar commercial and industrial uses continue in the area around Wilkins Avenue, but on generally larger sites, oriented and connected to Randolph Road and the future Montrose Parkway. The area includes light industrial uses, construction companies, and wholesale businesses. These industrial areas are some of the few remaining in the County and provide useful jobs and services. As in the 1992 Plan, this Plan recognizes the value of these uses and the limited options they have for relocation in the County.

To help preserve them, the 1992 Plan rezoned the area south of Parklawn Drive from I-1 to I-4, which successfully limited office encroachment. But owners of smaller properties have found that the I-4 Zone's development standards limit their ability to upgrade and even modestly expand their businesses. The I-4 Zone's requirement for a minimum one-acre lot size is oriented to creating a pattern of large lots in an "Industrial Park" setting. The setbacks, green space, and parking requirements further limit building potential in this area. Without development standards suitable for industrial uses on small sites, these light industrial uses may be forced to relocate.

Design Guidelines

The mix of light industrial and retail uses in the area around Washington and Wilkins Avenues should be maintained with an opportunity for businesses to evolve in place. Redevelopment is intended to be on the existing small sites, not on assembled lots and accordingly improvements to the public realm will be minimal. Vehicle and pedestrian connections should follow the existing street grid pattern and cross-section. Connections across this area to the Metro station will be incremental, but vital to linking residents and employees to transit, shopping, and park facilities.

Washington Avenue runs from the southern end of the Plan area through the Light Industrial Area and into the Technology Employment Area. Improvements should recognize the changing character of the land uses along the road and its importance as a pedestrian link.

- Work with business and property owners through the CIP to determine an appropriate route and character for a sidewalk.
- Extend Kraft Drive to Washington Avenue. This route would also eventually connect a pedestrian crossing of rail tracks at Bou Avenue extended.

Light Industrial Area Illustrative

Looking north between CSX tracks and Parklawn Drive





Analysis Area 9

Light Industrial Area Existing and Proposed Zoning



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 I-4 Light Industrial, Low Intensity

 Sector Plan Boundary



NOT TO SCALE

Recommendations

- Amend the I-4 Zone to allow urban development patterns and small business development.
- Allow parking waivers in this area, recognizing its proximity to transit.
- Create a pedestrian connection to the Metro station beneath Twinbrook Parkway along the east side of the railroad tracks. Work with the County-owned outlots and private owners to create a safe and feasible route.
- Establish CIP projects for sidewalks along Washington Avenue and a sidewalk connection from Parklawn Drive to the Montrose Parkway shared use trail.
- Encourage redevelopment projects to contribute to the area's environmental and urban design goals, including accommodating stormwater management.
- Ensure a pedestrian and bicycle connection at the southern end of Washington Avenue across the CSX tracks.
- Through redevelopment, consider a pedestrian route through the large block created by Wilkins Avenue and Parklawn Drive, to conveniently connect pedestrians to the bus routes along Parklawn Drive.

IMPLEMENTATION

The recommendations of the Twinbrook Sector Plan will be achieved primarily through redevelopment that follows urban design guidance for projects developed under the TMX and I-4 Zones. The zoning recommendations allow mixed uses and provide development standards appropriate to densely developed areas near transit. The density levels, mixed uses, and design guidance make the best use of Metro and contribute to an active, pedestrian-scaled community.

Public capital improvements are also critical implementation tools. Capital improvement projects ensure that public facilities will be supplied in a timely manner. The projects are critical to creating the pedestrian links and spaces that complement and connect improvements made through private redevelopment. The Plan's CIP recommendations should be built in concert with redevelopment.

The Plan's goals will also be implemented by applying its recommendations and guidelines through the development review process. Environmental, urban design, transportation, and park recommendations will improve environmental function, create a complete pedestrian system, create a street, trail and sidewalk network, and connect the community to the park system.

Zoning

This Plan recommends modifying the Zoning Ordinance to support mixed uses and provide development standards appropriate to densely developed areas near transit. The density levels, mixed uses, and design guidance are intended to make the best use of Metro and to contribute to an active, pedestrian-scaled community.

The application of the mixed-use, higher intensity TMX Zone reflects the Plan's intent to provide a high quality, mixed-use community offering services and amenities for residents and employees. The zone is recommended at varied intensities, reflecting proximity to the Metro station, coordination with the City of Rockville, the character of adjoining uses, and the existing zoning.

The TMX Zone is recommended to allow flexible redevelopment in Metro station areas outside Central Business Districts (CBDs) with densities and development standards appropriate for a transit station area. The standards recognize the character of Metro stations, suitable for a higher intensity mixed-use development, and the opportunity station-area development offers for increasing transit ridership.

Metro Core and Technology Employment Areas

Applying a mapped TMX Zone rather than floating zones recommended in the 1992 Plan ensures that development will reflect the Plan vision, will more closely direct redevelopment, and will still allow market flexibility with mixed uses. The TMX Zone in Twinbrook increases the potential for housing to shape a mixed-use community. Development that follows the urban design requirements and Plan guidance will create extensive improvements to the public realm that build a walkable, urban style community.

Light Industrial Area

Twinbrook's existing service and retail industrial uses provide important support functions for residents and businesses. This Plan proposes amending the I-4 Zone in Transit Station Development Areas (TSDAs) to support the existing service and retail businesses by allowing smaller lot sizes and ancillary housing. These changes allow the dense, more urban character of transit station industrial development that can flourish on smaller lots and be supported by complementary residential uses.

TMX Zone

The TMX Zone is intended to create "distinct and compact mixed-use centers for housing and employment," in accordance with guidelines in master and sector plans. The modifications allow greater flexibility for redevelopment, but in return, higher development standards will be required. To ensure that new development in Twinbrook reflects the level of quality anticipated by this Plan, all development under the Optional Method must follow the guidelines established for the zones.

The standards and incentives in the TMX Zone create a mix of uses that includes housing, office space for advanced technology and biotechnology uses, and retail that offers jobs and meets the service needs of residents and employees ranging from a FAR of 1.5 to 2. The zone encourages an urban pattern through development standards, and ensures that mixed-use development is served by appropriate public facilities and amenities.

Guidelines for Optional Method Development

To ensure that new development in Twinbrook reflects the level of quality anticipated by this Plan, and achieves the other policy objectives of this Plan, development in the TMX Zone must meet certain expectations. To qualify for the Optional Method in the TMX Zone, projects must demonstrate to the Planning Board, at time of Project Plan review, how they achieve the following elements:

- The highest feasible amount of MPDU and Work Force housing
- Superior design
- Significant public amenities and facilities
- Sustainable design

Application

The **TMX Zone** is applied throughout the Metro Core Area and the Technology Employment Area. The map of Proposed Zoning and the table of Proposed Zoning identify the limits of development in the TMX Zones for each Analysis Area.

I-4 Zone

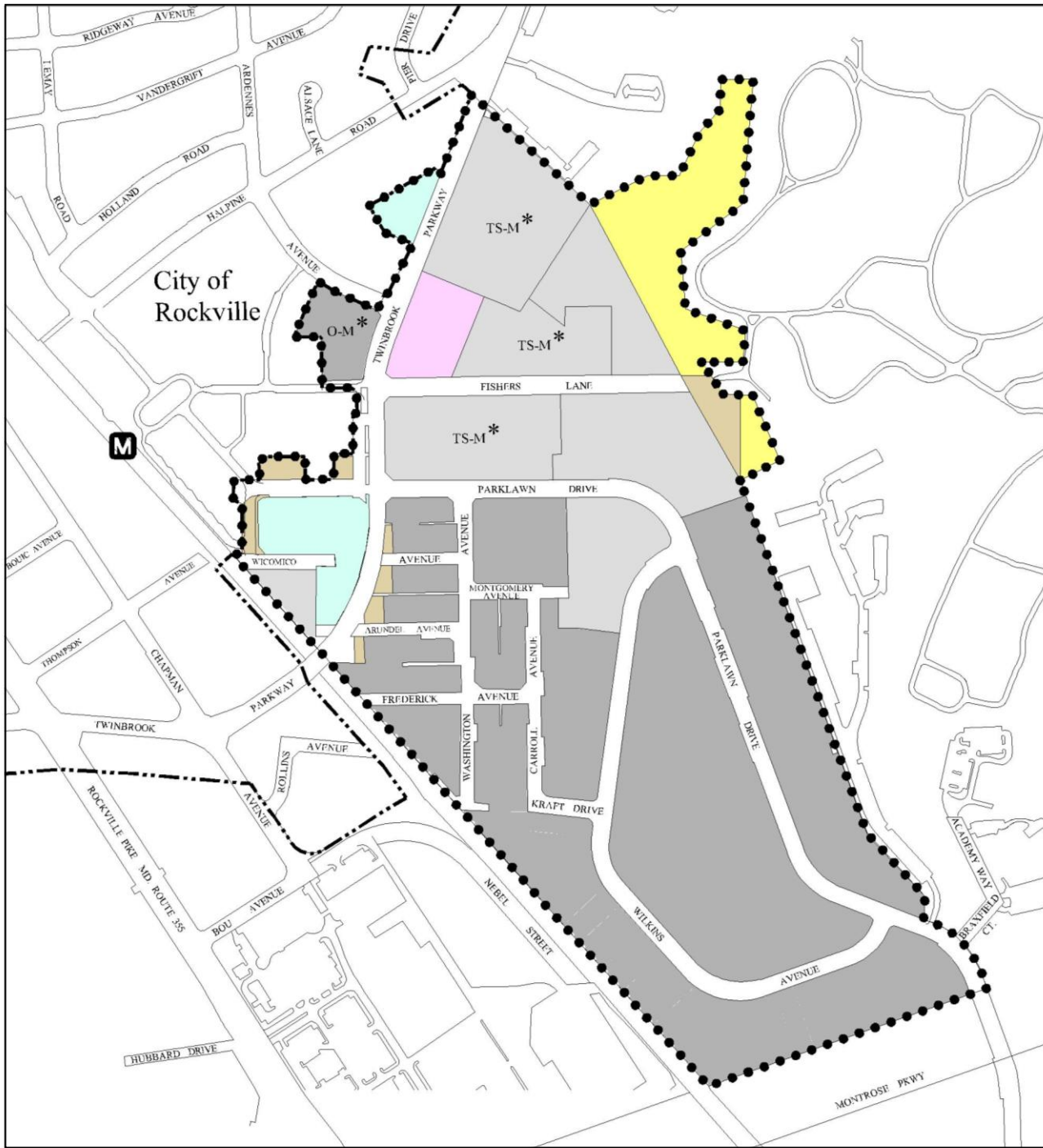
The Plan proposes modifying the I-4 Zone to increase development flexibility and provide an accessory residential use option in this area of urban oriented light industrial uses. The Plan's goal to maintain the area's existing character is supported by modifications, applicable in Transit Station Development Areas, which allow the Planning Board to waive or reduce development requirements related to lot size, setbacks, green area, and parking.

The proximity to transit also supports the potential for limited live-work structures, providing housing, if clearly subordinate to the main business. This type of dwelling is intended to support the primary economic function of the area, not create significant housing resources. These live-work units would be authorized by the Planning Board under additional standards that address compatibility, parking, and the units' size and location in a given building.

Proposed Amendments - I-4 Zone in Transit Station Development Areas

	Existing I-4	Proposed I-4
Minimum lot size	1 acre	Less than 1 acre
Setbacks	10' from adjacent commercial uses	No change
	50' from rail, utility r.o.w. or arterial road separating from residential	No change
	25' from arterial road separating from commercial	May be reduced to 10'
Green space	20 percent	May be reduced to 10 percent or relocated
Building height	3 stories/42'	No change
Uses	Light industrial uses	Adds live/work accessory units
FAR	1 FAR	No change

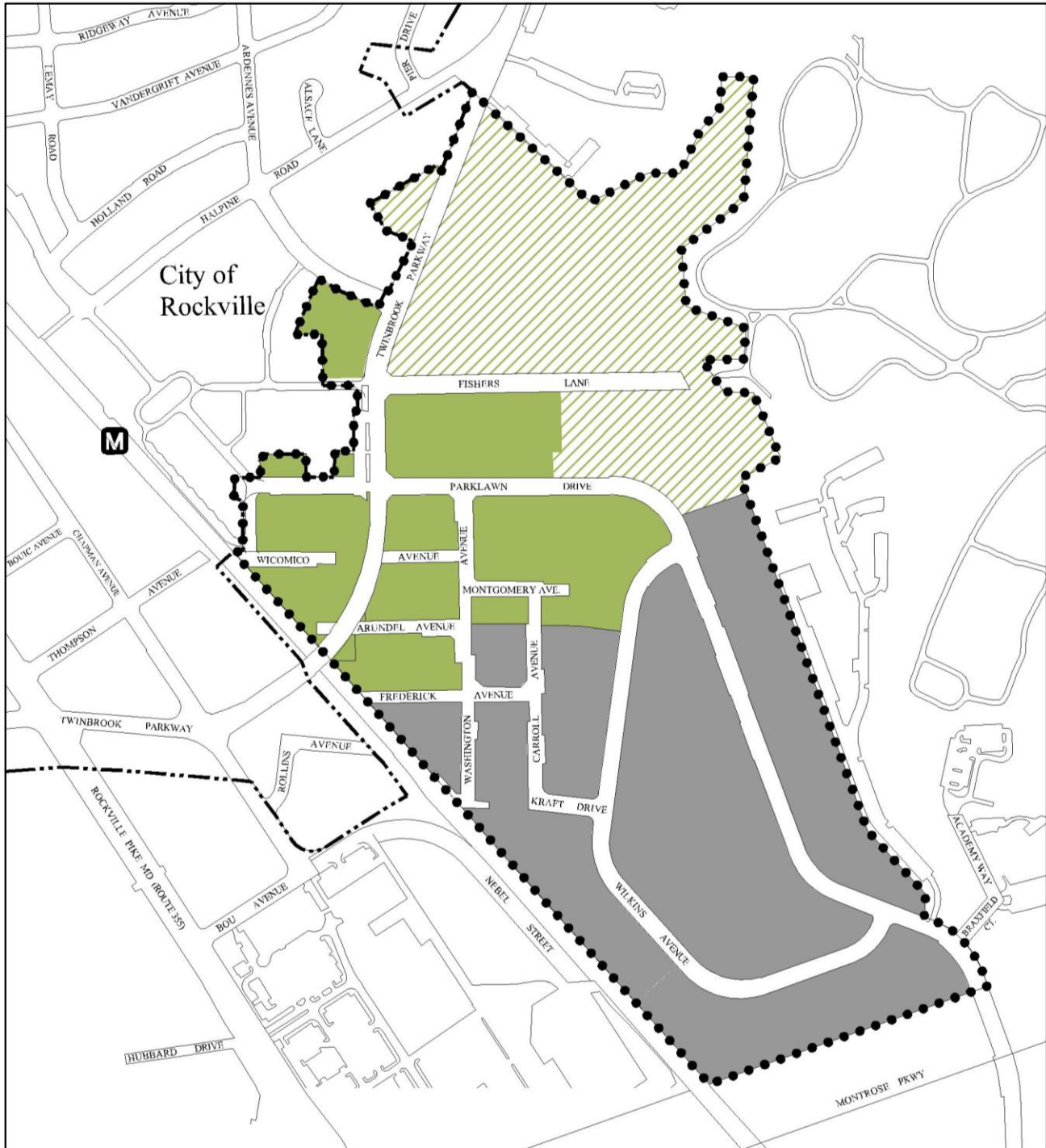
Existing Zoning



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M Metro Station	I-4 Light Industrial, Low Intensity
City of Rockville	O-M* I-4 Light Industrial, Low Intensity/ Recommended for O-M
Sector Plan Boundary	I-1 Industrial
R-200 Residential, One-Family	TS-M* I-1 Industrial/Recommended for TSM
R-90 Residential, One-Family	O-M Office Building, Moderate Intensity
	C-O Commercial Office Building

Proposed Zoning



- M** Metro Station
- City of Rockville
- Sector Plan Boundary
- TMX (2.0 FAR) Transit Mixed Use
- TMX (1.5 FAR) Transit Mixed Use
- I-4 Light Industrial, Low Intensity



Proposed Zoning

Analysis Areas	Proposed Zoning	Maximum Density
Metro Core Area		
Area 1 - Wicomico Avenue	TMX (2.0)	2.0 FAR with a maximum commercial density of 1.5 FAR
Area 2 - North of Fishers Lane	TMX (2.0)	2.0 FAR with a maximum commercial density of 1.5 FAR
Area 3 - North of Ardennes Avenue	TMX (1.5)	1.5 FAR maximum
Technology Employment Area		
Area 4 - USP Building	TMX (1.5)	1.5 FAR with a maximum commercial density of 1.85 FAR for the existing USP
Area 4 - North of Fishers Lane	TMX (1.5)	1.5 FAR maximum
Area 5 - Northern HHS Parking Lot	TMX (1.5)	1.5 FAR maximum
Area 6 - Between Fishers Lane and Parklawn Drive	TMX (2.0)	2.0 FAR with a maximum commercial density of 1.5 FAR
Area 7 - Parklawn Building Between Fishers Lane and Parklawn Drive	TMX (2.0)	2.0 FAR with a maximum commercial density of 1.5 FAR, existing building density is grandfathered
Area 8 - South of Parklawn Drive	TMX (2.0)	2.0 FAR with a maximum commercial density of 1.5 FAR
Light Industrial Area		
Area 9	I-4	1.0 FAR

Notes:

1. The Standard Method of Development is limited to 0.5 FAR for the TMX Zone in the Twinbrook area.
2. The densities described in the above table can be increased to accommodate a permitted density bonus for Moderately Priced Dwelling Units and Work Force Housing.

Public Improvements for Redevelopment

In the Twinbrook area, intended for dense, mixed-use development with an urban character, the details of development are important in creating the connections, open space, and amenities that complete the community. This Plan recommends parks, streetscaping, trail connections, and road projects tied to private redevelopment projects.

Redevelopment will proceed after County Council approval of amendments to the Zoning Ordinance and the completed Sectional Map Amendment. Before development proceeds, the boundary of the North Bethesda Transportation Management District should be amended to include all TMX zoned properties.

Metro Core Area 1, 2 and 3

- Establish the pedestrian route to the Metro station, intended for eventual connection beneath Twinbrook Parkway.
- Provide pedestrian connections and streetscape to improve connections to the Metro station.

Metro Core Areas 4 and 5 (Fishers Lane)

- Provide streetscape improvements along Fishers Lane.
- Contribute to a new urban park at the end of Fishers Lane.
- Provide Wilkins Avenue Extended connection.
- Provide connections to the Rock Creek Stream Valley Park through the Plan area's northeast corner to connect with the existing regional park and trail system.
- On the northern end of Area 5, incorporate forestation, and stream buffering.
- Provide Wilkins Avenue Extended connection, routed away from adjacent streams and incorporating a stormwater management facility.

Technology Employment Areas 6 and 7 (Fishers Lane and Parklawn Drive)

- Provide road and streetscape improvements along Fishers Lane.
- Construct a new urban park at the end of Fishers Lane.
- Provide intersection improvements at Twinbrook Parkway and Fishers Lane.
- Provide road and streetscape improvements along Parklawn Drive.
- Construct the extension of Washington Avenue from Fishers Lane to Parklawn Drive.

Technology Employment Area 8 (Parklawn Drive)

- Provide road and streetscape improvements along Parklawn Drive.
- Construct a new urban park.
- Provide intersection improvements at Twinbrook Parkway and Parklawn Drive.

The following projects should be completed or fully funded for construction through the CIP.

Metro Core Area

- Provide a pedestrian underpass and bikeway connection to Metro along the east side of the CSX rail line at Frederick Avenue that will improve access to Metro.

Technology Employment Area

- Provide northernmost extension of Wilkins Avenue to Twinbrook Parkway.

Light Industrial Area

- Construct Kraft Drive extension.
- Construct the Frederick-Wicomico pedestrian connection underneath Twinbrook Parkway.
- Implement the recommended pedestrian connection across the CSX tracks to Nebel Street extended.
- Construct bike lanes along Parklawn Drive from the shared use path on Montrose Parkway to Twinbrook Parkway and the City of Rockville.

Capital Improvements Program

The Capital Improvements Program (CIP) allocates public resources among varying needs and populations. Determination of project funding is based on fiscal planning, projects' readiness for programming, and identification of needs.

Along with other County agencies, the M-NCCPC is responsible for identifying some of those needs in its master and sector plans. As noted in the CIP, "One objective is to give high priority to areas of the greatest employment and residential density when allocating public investment."

The following tables identify programmed CIP projects and CIP projects proposed by this Plan. School projects are listed according to the November 2006 Capital Projects Status Report.

Programmed Capital Improvement Projects, Fiscal Year 07-12

Project #	Description	Agency	Cost	Comments
Public Safety				
450105	Rockville Fire Station # 3 renovation	Fire/Rescue Services	500K through FY06	Nearing Completion
470703	1 st District Police Station Rockville	Police	1,246K through FY06	Site selection, planning and design for new station
Transportation				
500153	Twinbrook Station Access			Nearing Completion
500717	Montrose Parkway East	DPWT	2,287K through FY06	Fund planning stage of road segment that will travel from Parklawn to Veirs Mill Road

Proposed School CIP Projects

School	Project	Project Status	Completion	Comments
Walter Johnson Cluster				
Walter Johnson HS	Auditorium	Approved	SY 2006-07	
	Modernization	Recommended	August 2009	
	Site work	Recommended	August 2010	
Ashburton ES	Classroom additions	Recommended	August 2008	To meet projected enrollment
Farmland ES	Classroom additions	Approved	SY 2006-07	
	Gymnasium	Approved	SY 2006-07	
	Modernization	Programmed	August 2011	
Garrett Park ES	Modernization	Programmed	January 2012	
	Gymnasium	Programmed	January 2012	
Luxmanor ES	Classroom additions	Recommended	August 2008	To meet projected enrollment
	Modernization	Proposed	TBD	
Richard Montgomery Cluster				
Richard Montgomery HS	Replacement facility	Approved	August 2007	To meet projected enrollment
	Site work	Approved	August 2008	
College Gardens ES	Modernization	Recommended	January 2008	
	Gymnasium	Approved	January 2008	

This Plan relies on redevelopment and private investment to achieve some improvements in the private and public realms. The Plan also recommends public sector investment to complete the desired improvements. In combination, public and private investment can ensure best use of Metro and coordination of transportation, urban design, and environmental recommendations. Relevant agencies should pursue federal, state, and local grant and targeted program monies to complete these projects, such as Montgomery County's streetscaping grants.

Proposed CIP and Private Redevelopment Projects

Project	Description	Responsibility	Estimated Improvements
Land Use/Urban Design			
Fishers Lane Streetscape	Streetscaping	Private	Sidewalks, landscaping, amenities that serve design and environmental goals
Parklawn Drive	Streetscaping	Private	Sidewalks, landscaping, amenities that serve design and environmental goals
Fishers Lane/Parklawn Drive mid-block connection	Park/pedestrian space	Private	Connecting two large blocks to increase pedestrian access
New urban park	Along Parklawn Drive	Private	Designed to complement streetscape and located to complement mid-block connection
Fishers Lane public space	Public and usable open space	Private	Located at eastern end of Fishers, to serve employees and residents and create a link point for sidewalks and trail
Washington Avenue	Streetscape and sidewalk improvements	Public and private	Pedestrian connection to Metro
Environment			
Wilkins Avenue stormwater facility	Street treatment and other techniques	Public and/or private	Protect the headwaters of the streams in the area
Alternative fuel bus shuttle	Connect increased community of residents and employees to Metro	Public and/or private	Work with Ride-On and businesses to provide this service to encourage Metro use and minimize air pollution
Transportation			
Twinbrook Parkway street crossings	Pedestrian connections to Metro	Public and private	Safe street crossings are vital to increase walking and transit use
Shared use path and bicycle link to Veirs Mill Road	From planning area to regional parks	Public and private	Opportunity to make a trail link and preserve forest
Pedestrian connection to Nebel Street	Between Washington Avenue and Nebel Street	Public and private	Connects pedestrians to Nebel Street
Pedestrian connection under Twinbrook Parkway	Between Wicomico Avenue and Washington Avenue	Public and private	Pedestrian connection to Metro
Bike routes	Along Twinbrook Parkway, Parklawn Drive, Montrose Parkway, Fishers Lane, Ardennes Avenue	Public and private	As recommended in Bikeways Master Plan
Montrose Parkway	Segments and Parklawn Drive interchange	Public	Include bike and pedestrian routes and landscape buffering
Wilkins Avenue Extended	Completed in three segments – north and south of Fishers Lane	Public and private	Make vehicle and pedestrian connections, preserve stream buffer
Historic Preservation			
Higgins Cemetery	Incorporate cemetery into area urban design and park plans	Public and private	Connect with Twinbrook Parkway outlot landscaping
Public Services			
MCPS			Review capacity as development proceeds
EMS/Fire			Review capacity as development proceeds

APPENDIX

Planning History

Development in Twinbrook was established as the residential Spring Lake subdivision in 1892 and the area was eventually zoned R-90. The R-90 zoning at the eastern end of Fishers Lane is a holdover from this era, as are the small lots in the industrial area south of Parklawn Drive.

By the time of the **1970 North Bethesda/Garrett Park Master Plan** land uses around Twinbrook Parkway were commercial and industrial. That Plan also describes the area straddling the City of Rockville and County lines as one of three “primary impact areas” from the proposed transit line. Because the area is primarily within the City and at the time, the station was planned to be located entirely within the City, the Twinbrook area of the County is not specifically addressed in the Plan. The station was later moved to the south, and the area is more directly addressed in later plans.

Overall, the 1970 Plan’s policies and recommendations recognized the impact of I-270 and transit, and established a pattern of mixed offices, retail uses, and multifamily dwellings around transit stations that stands to this day.

The **1978 Twinbrook Sector Plan** begins by stating “The Twinbrook Metro station was located to serve a number of primary passenger generators including Parklawn HEW (the building was leased by the federal Health Education and Welfare agency which later became the Department of Health and Human Services), and other commercial and industrial employers.” The Plan noted that the area “is dominated by the Parklawn Building...” and recommended retaining the area’s existing I-1 zoning to limit development in the area in response to a County Council mandate to decrease trip generation.

The Twinbrook area was last examined in the **1992 North Bethesda/Garrett Park Master Plan**. That Plan compared the area to the adjacent City of Rockville, which had begun redeveloping land around the Twinbrook Metro Station with moderate density office buildings and townhouses, while County sites remained low-intensity uses.

The Plan recognized the area as an “underutilized yet potentially important asset...” and sought through rezoning, to introduce a residential component into the area, to retain industrial uses, and to improve the area’s urban design. The primary implementation tools recommended were the Transit Station-Mixed and Transit Station-Residential floating zones. These zones allow mixed uses, but require a cumbersome review process and offered a lower density potential than the underlying I-1 base zone. In redeveloping the area, property owners used the underlying I-1 Zone that offered them a simpler process, more density, and enough flexibility to meet market demands for office and laboratory space. As a result, the area redeveloped without the desired component of housing or urban design improvements. This Plan proposes the TMX Zone that will allow mixed uses, require public amenities, emphasize high quality design, and the area to be shaped by plan recommendations.

The 1992 Plan recognized another significant feature of the area, the Parklawn Building, then occupied by the federal government’s Department of Health and Human Services. At that time, the 1.3 million square foot building housed almost 6,000 employees. The government’s lease will end in 2009, and the agency is seeking improved space, either in the building or elsewhere. This Plan seeks to ensure that future redevelopment of the building and site contributes to the desired mixed-use urban environment and continues the development of technology uses.

The 1992 Plan also identified and created an “industrial sanctuary” on sites south of Parklawn Drive, rezoning them from I-1, which allows office uses, to I-4, a strictly light industrial zone. While this has maintained the industrial uses, many of the smaller lots cannot expand or improve their businesses under the I-4 Zone’s current development standards, and may be forced to relocate.

In the **2000 planning and design charrette**, the M-NCPPC staff worked extensively with community members and consulting architects to develop an Initial Concept Plan for the Twinbrook area. The concept plan described a community with an identifiable center, a public space at Metro, new residential development, a transit center, and higher densities at the Metro core. Since that charrette, the JBG Companies teamed with WMATA to create Twinbrook Station, a mixed-use development on Metro and private property that will meet many of the charrette’s goals. The project accommodates Metro buses and parking, includes 1,595 residential units, and organizes mixed office and retail uses around a central green. Since its design and approval, Twinbrook Station has been annexed by the City of Rockville, but has become a driver of change in the Twinbrook Plan area.

Other desired elements of character and use identified by the charrette included a mix of uses, an expanded circulation network, and an emphasis on streetscape design and urban design standards. This Plan fills out the charrette recommendations with mixed-use zones that build on the pattern established by Twinbrook Station.

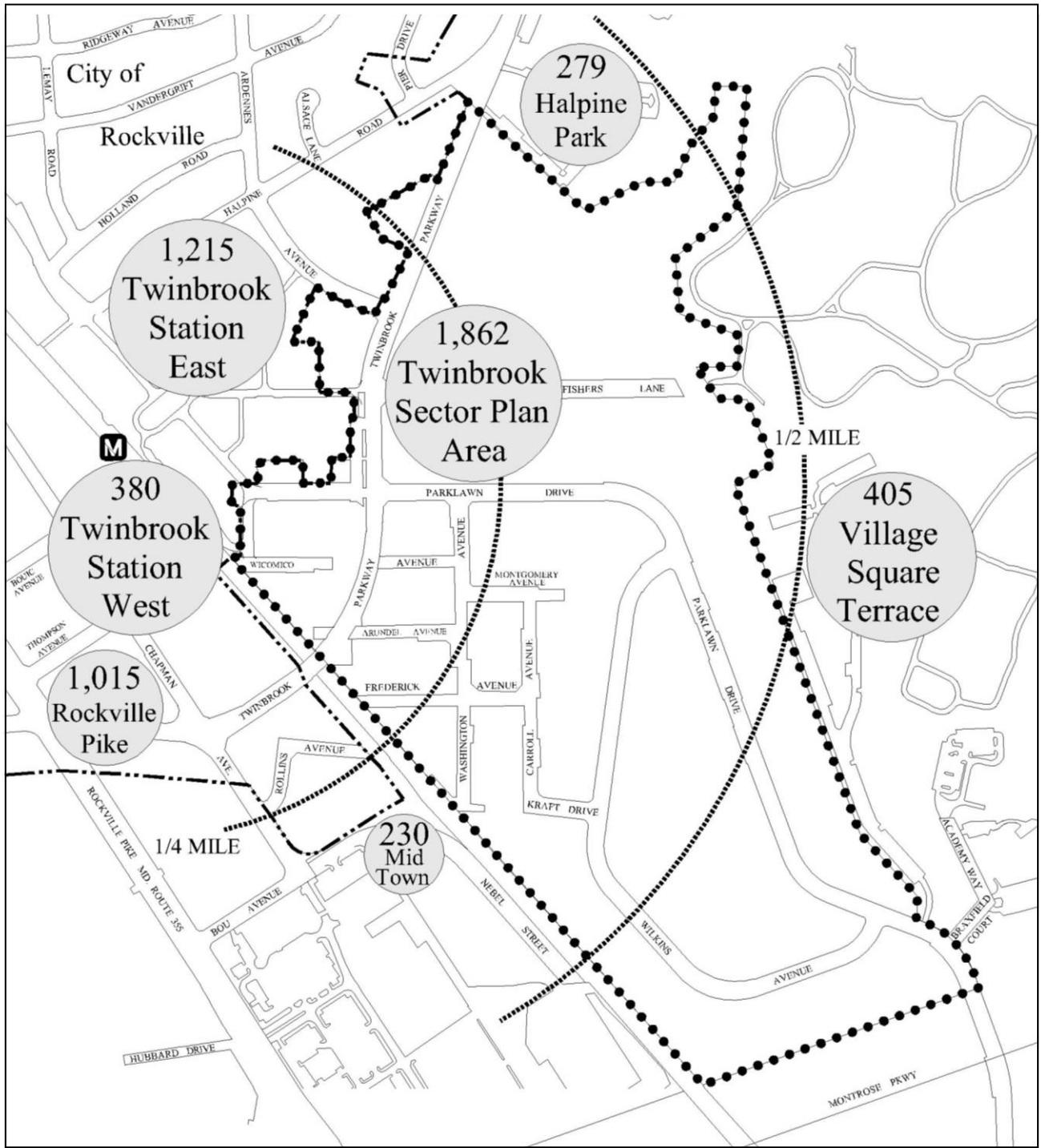
Through time, Twinbrook has consistently been shaped by its proximity to transit, and early development patterns and plan recommendations have sought to build on this resource. This Plan proposes zoning and improvements to the public realm that move Twinbrook closer to becoming the mixed-use, transit-oriented community envisioned in previous plans.

Population and Housing

The Twinbrook Plan area has no resident population, but 2000 Census data for the larger surrounding North Bethesda planning area provides a profile of other Metro Red Line communities. North Bethesda residents tend to be older and more educated than the County average; 76 percent have a bachelor’s degree or higher. At \$79,620, the area’s median household income reflects this level of education. Slightly more than half of North Bethesda residents work in the County and prefer to drive to their jobs, with an average commuting time of close to 30 minutes.

About half of North Bethesda households are married couples. One-third of the households are single-person households. This percentage jumps for those living in high-rise apartments to 61.4 percent. North Bethesda households generate the smallest percentage of school-age children (5.3 percent in high-rise and 11.8 percent in garden apartments). More North Bethesda householders own their home or apartment than rent.

Potential Housing Growth in Twinbrook



M Metro Station

--- City of Rockville

●●●● Sector Plan Boundary



There are about 18,000 housing units in North Bethesda, primarily multifamily, ranging from single-family attached townhouses to buildings with 20 or more units; and extensive stable single-family neighborhoods border Twinbrook in the City of Rockville. More than half of North Bethesda householders live in multifamily housing (54.3 percent), in contrast to the I-270 Corridor (32.0 percent) and Countywide (30.8 percent). Households in all locations and apartment types have at least one car.

Another nearly 6,000 dwelling units have been approved or are proposed for the North Bethesda area, and include the 1,595 units at Twinbrook Station, and 2,200 units among various projects in White Flint.

Land Use in the Twinbrook Plan Area

Land Use	Existing	1992 Proposed	2008 Proposed
Residential (total)	0	416 du	1,000–3,077 DUs*
- Work Force Housing	0	0	100-301 DUs
- MPDUs	0	52	125-462 DUs
Commercial	4.0m sf	5.2m sf	4.9m sf

**The Twinbrook Station project in the City of Rockville will generate 1,595 units and redevelopment of the Parklawn Building could generate another 700 units.*

Transportation

Existing Conditions and Analysis

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 and suburban neighborhood built on a grid of streets to a Metro-accessible employment center with office buildings set in parking lots.

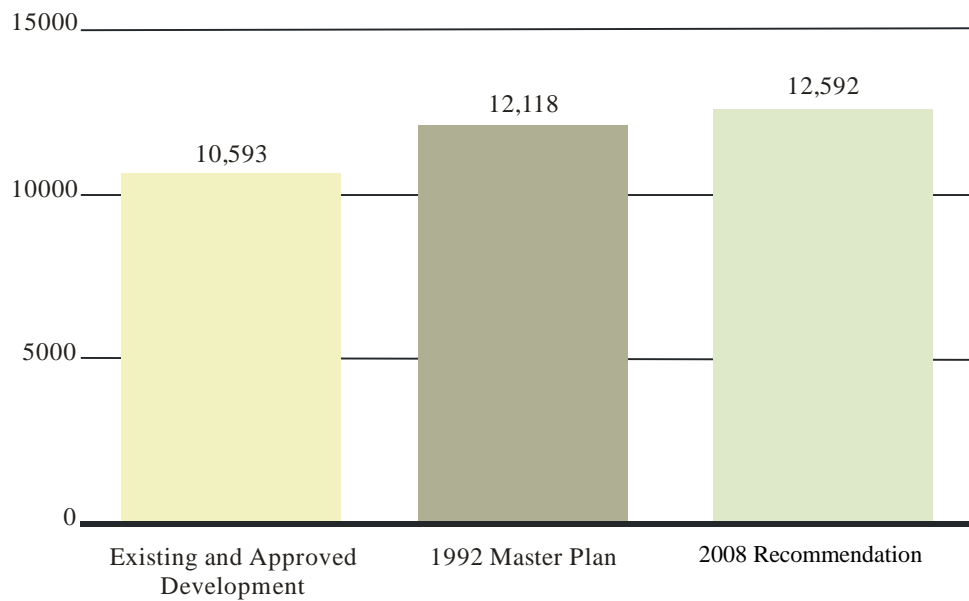
Twinbrook has primarily been a business location, with Metro proximity. It has access to the east via Twinbrook Parkway and Randolph Road, and to the west to I-270 and the Beltway along Montrose Road and Rockville Pike. Proximity to Rockville Pike and Veirs Mill Road also offers alternative routes north 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 TMX Zone allows a wide range of land uses, modeled redevelopment scenarios included housing, industrial, and office scenarios.

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 land use will help mitigate the increase in trips.

Estimated Trip Generation



Environment

Existing Conditions and Analysis

Twinbrook has changed significantly from its original natural state and from its early development as a 19th century railroad village to become a center of office and light industrial uses along a busy rail line. Its continuing evolution with mixed-use redevelopment should contribute to restoring portions of natural function and appearance as sites are redeveloped.

The Plan area is approximately 80 percent impervious with a majority of the imperviousness devoted to automobile use (42 percent surface parking lots and 11 percent roads). This imperviousness has allowed uncontrolled run-off that contributes to poor water quality in the Rock Creek watershed. Between 1951 and 1970, the area’s streams were buried and piped to accommodate development. This left no open streams in the Plan’s area and contributed to erosion and poor water quality in the nearby Rock Creek mainstem.

Precursors of ozone and fine particles are declining in the Washington Metropolitan area and will probably continue to do so until 2030. This is due to a combination of better emission controls on new automobiles and 2004 federal regulations placed on power plants in the mid-west. The State Implementation Plan (SIP) to bring this region into compliance with EPA eight-hour ozone air quality standards is under review by EPA. The Washington Metropolitan Council of Governments (WMCOG) is currently working on a SIP to meet annual and daily particulate matter standards.

Although the region has improved air quality with respect to ozone, carbon dioxide emissions are still of great concern. WMCOG believes that unless action is taken, carbon dioxide emissions from added population will increase 48 percent by 2030.

Twinbrook also has significant noise volumes from a variety of sources including Twinbrook Parkway and other roads, and from the Metro and CSX service on the rail tracks. Once built, the Montrose Parkway East will be another source of noise. Although a certain level of noise is inevitable in urban locations, targeted mitigation can reduce overall noise levels.

The pedestrian system proposed in this Plan is intended to have a transportation function – connecting to Metro and other parts of the planning area, and a design function – creating and connecting public spaces. The pedestrian system also has an environmental function in encouraging walking that replaces short auto trips and adding more opportunities for tree planting and pervious surfaces.

Most Twinbrook streets have sidewalks, although they are often narrow, unshaded, cluttered with street furniture, and pass by blank building facades or parking lots. This Plan strives to create an improved pedestrian network that encourages walking.

The 20 percent public use space requirement of the TMX Zone is a significant increase over the 10 percent required by current zones and has the potential to generate over 12 acres of visible and accessible open space that could create up to ten acres of high quality pervious ground that is well located to serve environmental and design purposes. Further, streetscaping requirements and recommendations for planting street trees in panels will contribute additional pervious surface.

Twinbrook also has environmental advantages; its proximity to Metro makes it ideal for transit-oriented redevelopment. Nationally recognized environmental building standards award points for many features of proposed redevelopment in Twinbrook, including proximity to transit and use of existing infrastructure at a higher intensity.

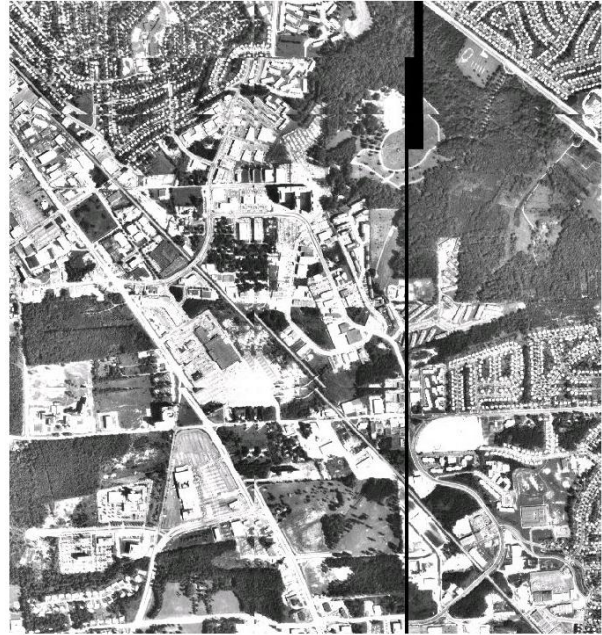
Carbon Footprint Analysis

In the Twinbrook Sector Plan area a minimum of 20,825 tons or 47 percent of projected carbon dioxide emissions for new residential units can be avoided each year through improved building design, behavioral change of residents, and increased transportation efficiencies. Emissions can be further reduced through energy efficiency measures made to existing buildings by planting shade trees, sealing the building envelope, or upgrading HVAC systems. And further savings can be realized by constructing new high performance commercial or industrial buildings.

Environmental Change



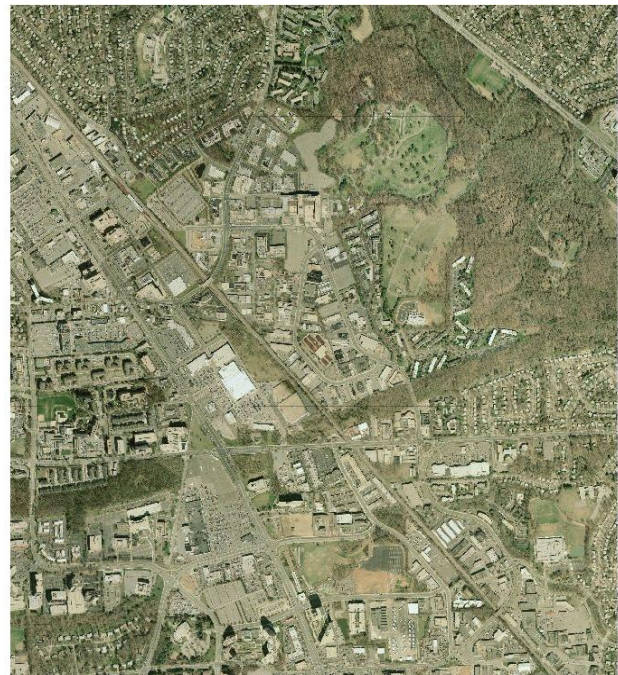
1950



1970



1979



2000

Of the 20,825 tons of carbon emissions avoided, eight percent can be saved by constructing new residential properties with energy efficient windows and appliances rather than conventional models. Another six percent can be saved when residents change behavior to use energy efficient (LED or CFC lighting), adjusting the thermostat by 10 degrees on winter nights and summer days, and by recycling aluminum, glass, plastic, steel cans, and magazines. The greatest amount of CO₂, 33 percent, can be saved by both replacing one car in a two car family with a more energy efficient model (35 mpg following the new federal requirement) and replacing the second car with use of public transportation, walking, and bicycling.

The amount of carbon emissions avoided was calculated with the Environmental Protection Agency Personal Emissions Calculator. Using this model, the average carbon dioxide each household emits per year is 27 tons. This assumes there are two people living together in a dwelling unit with electric heat. Following national averages, they use an average amount of gas and electricity and do not recycle as part of their lifestyle. They own two cars with a fuel economy of 20 miles per gallon and drive 462 miles per week.

If each of the anticipated dwelling units in Twinbrook were two person households having conventional lifestyles and the units they live in were built in a conventional manner, approximately 44,300 tons of carbon dioxide per year will be added to the total carbon dioxide currently emitted. The Plan's recommendations would reduce those emissions by approximately one-half.

Community Water and Sewer

Community (public) water and sewer service is available throughout the Sector Plan area and is provided by the Washington Suburban Sanitary Commission (WSSC).

Water

The Sector Plan lies within the Montgomery Main Service Area which is served with water from the Potomac Water Filtration Plant. A major project in the Sector Plan area is the Potomac Bi-County Water Tunnel (formerly called the Bi-County Water Supply Main). The proposed tunnel is a new 84" water main needed to meet growing demands and ensure continued reliable water supply. The new tunnel will connect two existing mains in Montgomery County, Maryland. The western connection is located just north and east of where Tuckerman Lane passes under I-270 in Rockville and the eastern connection is located near the intersections of Beach and Stonybrook Drives in Kensington. The bi-county tunnel project will have no impact in the Twinbrook Sector Plan Area. Construction may delay residents in that sector as they travel through areas to the south. But when the connection to the existing line is made, local water service will not be impacted.

Sewer

Wastewater from this Sector Plan area drains from the Rock Creek Basin in the WSSC Service Area to ultimate treatment at the Blue Plains Wastewater Treatment Plant in Washington, D.C. The sewer transmission line that provides service for the area runs along Rock Creek to the east of the Sector Plan area. Under an inter-municipal agreement (IMA) with the District of Columbia peak flow limits must be met at the District of Columbia boundary line. To achieve this, during significant wet-weather events some portions (up to 6 million gallons) of the peak wastewater flows in the Rock Creek conveyance system are diverted and stored at the WSSC's Rock Creek Storage Facility. This facility is located downstream of the Sector Plan area. These stored wastewater flows are later allowed back into the Rock Creek conveyance system to drain by gravity flow under low demand conditions.

Local sewer capacity will be at issue and will be managed as development proposals are submitted for review. These improvements are generally the responsibility of the property owner. The Twinbrook Station project required a WSSC System Expansion Project (SEP) providing 1,300 feet of 18" relocated sewer main with the Twinbrook Station property. Twinbrook Station will also require the replacement of the Halpine Road billing meter, used to measure the City of Rockville's wastewater flow into the WSSC sanitary system.

Historic Resources

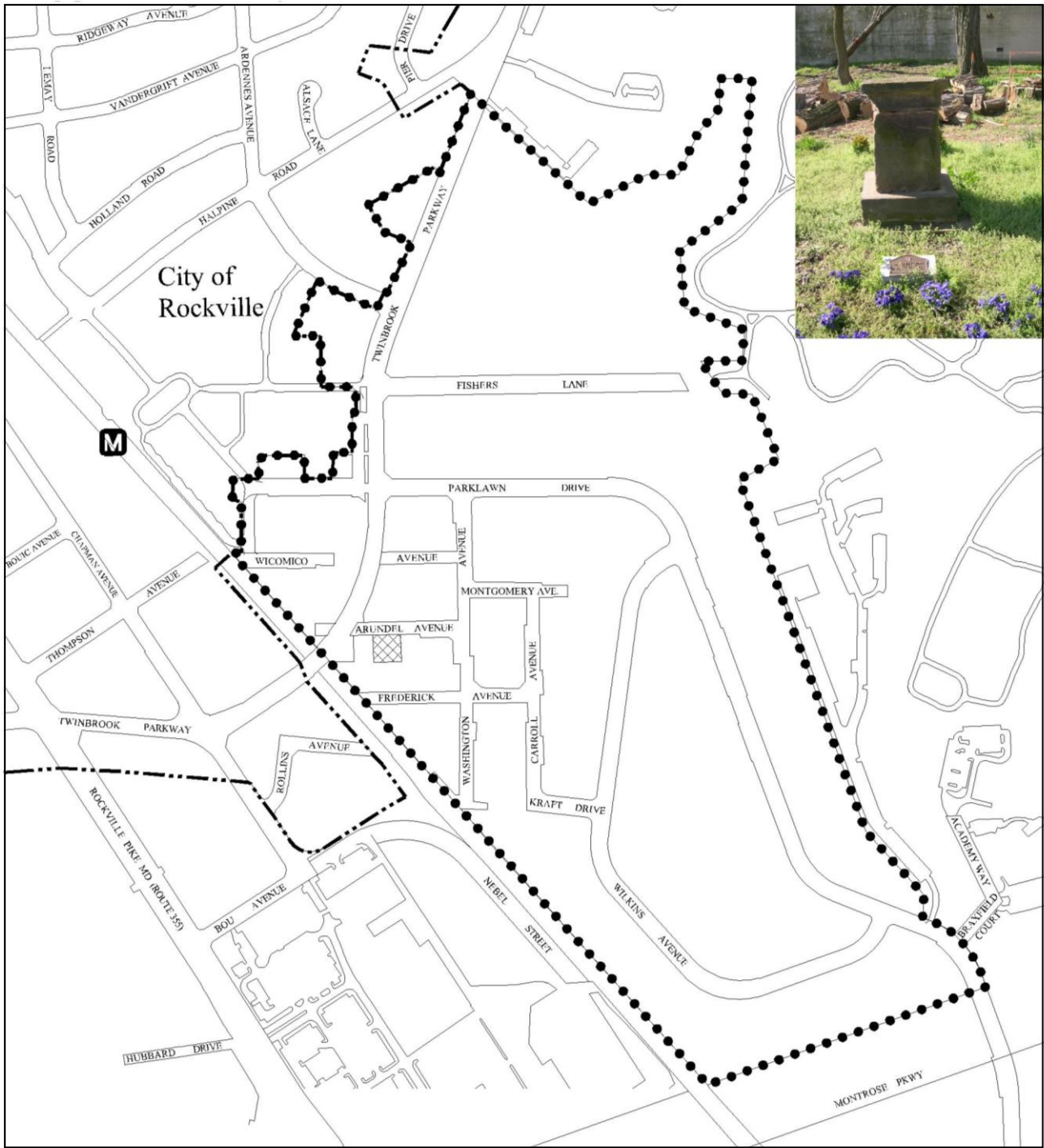
This Plan endorses all of the historic designations made in the 1992 Plan and supports the recommendation to designate the Higgins Cemetery (#32-50) in the Twinbrook Plan area to the *Master Plan for Historic Preservation*. The environmental setting of the cemetery should be the entire 14,400 square foot site including a portion of the proposed right-of-way for Arundel Avenue.





Even though the cemetery is not currently included in the Locational Atlas, which identifies resources potentially suitable for preservation, it has been identified and researched. The cemetery should be protected by designation on the Master Plan for Historic Preservation.

The Higgins Cemetery, a small family burial ground, is located in the 5700 block of Arundel Avenue. The period of significance for the cemetery dates between 1816 and 1891. The plot holds at least 11 known burials of Higgins family members and possibly includes graves of several of their slaves.

The Higgins family is important in state and local history. James Higgins (1733-1816), a planter who served in the Maryland militia during the Revolutionary War, and his wife Luraner Becraft Higgins (1744-1819) were the first generation to be buried on the farm. Their son James Becraft Higgins (1772-1848) and his wife Mary Eleanor (1783-1845) are memorialized by a red sandstone monument placed in the center of the cemetery in 1866.

Higgins Cemetery



-  Higgins Cemetery
-  Metro Station
-  City of Rockville
-  Sector Plan Boundary



0 600'

www.cityofrockville.com/transportation/td

Their granddaughter Luraner Higgins (1811-1883) and her husband George Knowles (1805-1881) who founded Knowles Station (now the town of Kensington), are also buried here. Other grandchildren and great-grandchildren of James and Luraner Higgins were interred here between 1869 and 1891.

The Higgins Cemetery and farmhouse survived subdivision of the farm in 1891 as Spring Lake Park, but this marked the start of nearly a century of neglect. A grass roots community project led to incorporation of the Higgins Cemetery Historic Preservation Association, which took title to the property in 1999. Since then, the volunteer organization and its private and public partners have documented the property through research and archaeology, removed invasive trees and debris, prepared a master plan, and reconstructed the Higgins monument. Future plans are to repair additional gravestones, recreate the fence, install appropriate plantings, and install interpretive signs for future generations.

Community Facilities

Parks and Recreation

Existing Conditions and Analysis

There is no existing parkland within the boundaries of the Twinbrook Plan. Near the area's eastern edge is Rock Creek Stream Valley Park, which abuts the Parklawn Memorial Park cemetery and is accessible from Twinbrook Parkway. Its paved hiker/biker path extends 14 miles from Rock Creek Regional Park south to the District line. Nearby resources within the park include a group picnic area and a primitive camping area.

Twinbrook is also served by local parks in adjacent planning areas. Closest to the Plan area is the Twinbrook Park along Twinbrook Parkway, and though it is in the City of Rockville's jurisdiction, it is a recreation resource for future Twinbrook residents. The Parklawn Local Park on Veirs Mill Road includes two heavily used soccer fields. Winding Creek Local Park, also off of Veirs Mill Road, has been recently renovated and will eventually be connected to the Twinbrook Plan area via a shared use path along Montrose Parkway and from there to the Rock Creek Stream Valley Park. It includes a playground, basketball court, and two soccer fields. The Parklawn Memorial Park, on the Plan area's eastern boundary, also offers visual open space and is used informally for walking.

Park paths and trails should work with the system of sidewalks and pedestrian routes to make walking connections between the community and its parks. The 2003 *Park Users Satisfaction Survey* identified trail use (walking, biking, jogging etc.) has been identified as the most popular recreation activity of County residents of all ages and abilities.

Trail resources in the Twinbrook area include the Rock Creek Stream Valley Park Trail and the future Matthew Henson Trail that will connect the Rock Creek Trail with Northwest Branch and along streets to Wheaton Regional Park. A bike path along Montrose Parkway will make this trail network accessible from the planning area's southern boundary.

Improved walking connections are needed within the Twinbrook area. This Plan's sidewalk and trail recommendations will connect residents and employees to both Metro and the park system via a system of comprehensive streetscape improvements and privately provided urban open spaces.

Recreation Needs Assessment

Parks for Tomorrow (1998) indicates that urban residential areas including Twinbrook need several types of recreation including hiker/biker paths and community connectors, neighborhood recreation for new residential areas, and urban recreation and open space for existing and proposed businesses. This Plan's recommendations recognize that urban areas present distinct challenges and opportunities to provide park and recreation resources and strive to incorporate and create those resources with redevelopment.

The 2005 *Park, Recreation, and Open Space Master Plan* measures need based on residential population. Its assumptions are suburban in nature – that housing will be built on large tracts of land and that desired facilities are playing fields and courts. Accordingly, it indicated that the North Bethesda planning area, which includes Twinbrook, needs additional ball fields, soccer fields, and playgrounds. Large recreation areas cannot be provided in Twinbrook, given the scarcity and value of land in the planning area.

This Plan recommends facilities scaled to an urban area and provided through a combination of public and private efforts. Proposals include small urban public spaces, larger park spaces, and connections to nearby local and regional parks.

Community Recreation Centers

The Twinbrook Plan area is served by recreation centers in surrounding communities. The closest center is the Twinbrook Community Recreation Center just north of the Plan area on Twinbrook Parkway owned and operated by the City of Rockville. Its facilities include a gym and fitness room, game courts, computers, and community meeting rooms. Twinbrook is also within the service area of the Montgomery Aquatic Center in North Bethesda and could be served by a planned recreation center in the Rock Spring area.

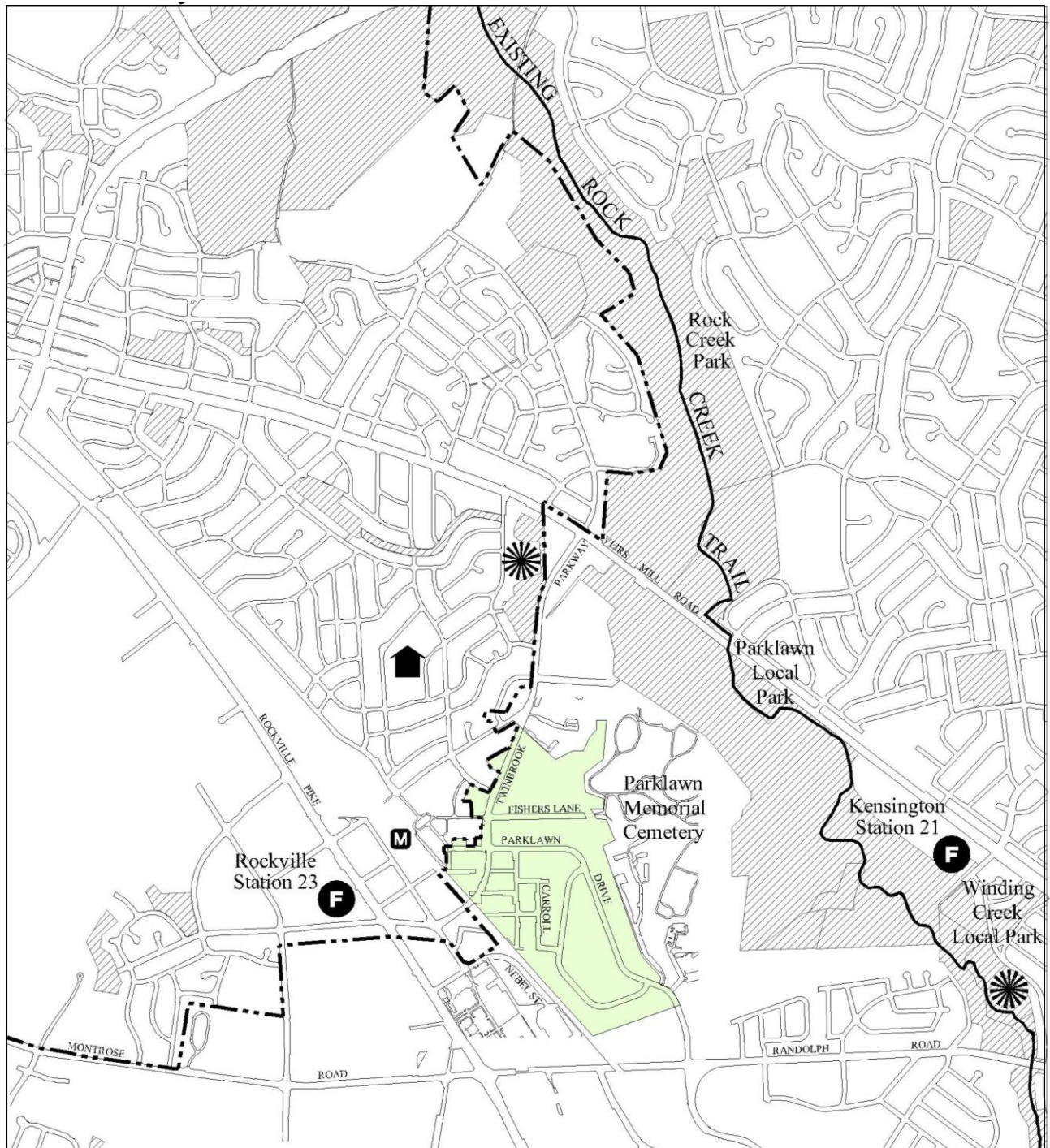
This plan supports construction of the CIP planned recreation center in the Rock Spring area of North Bethesda.

Public Schools

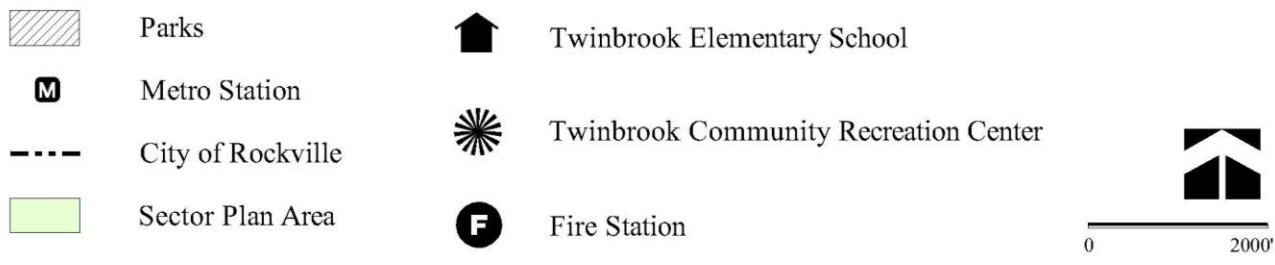
At present, without a resident population, the Twinbrook Plan area does not generate any students in the Montgomery County Public Schools (MCPS) system. The Plan's proposal to allow multi-family housing through the TMX Zone will likely generate students.

The MCPS regularly estimates student generation based on Census and other sample demographic information. The following estimates of demand are based on recommendations for more housing in the Twinbrook Plan area. The estimated additional dwelling units proposed by this Plan could generate an estimated 138 new students to be served.

Community Facilities



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The schools in the Walter Johnson and Richard Montgomery high school clusters would serve residents in the Twinbrook Plan area. Space availability projections indicate a current shortfall at schools in both clusters. Neither the shortfall nor students generated through future development are sufficient to require that an elementary, middle, or high school site be identified in the planning area.

Factoring in school improvement projects adopted in the *FY 2005 Capital Budget and the FY 2005-2010 CIP*, schools in the Richard Montgomery cluster will be at or near capacity for the forecast period, with Richard Montgomery High School having space available in 2007 through a modernization project. The elementary and high schools in the Walter Johnson cluster are not expected to exceed capacity until 2011 and 2009 respectively, when modernization projects will be complete.

MCPS bases these assessments on comparisons of projected enrollment and available capacity in future years, and on residential development of mid-rise projects with structured parking. The M-NCPPC will continue to work with MCPS throughout the Plan's implementation to ensure adequate school capacity is provided for future residential development.

Fire, Rescue, and Emergency Medical Services

The Twinbrook Plan area is currently served by fire, rescue, and emergency medical services (EMS) at Rockville Volunteer Fire Department Station 23 on Rollins Avenue and Kensington Station 21 on Veirs Mill Road. Rockville Station 3 on Hungerford Drive, just north of the Rockville Town Center, can also serve Twinbrook.

The Twinbrook plan area is located on the eastern edge of Station 23's service area and service to the area meets all the response goals set by the Montgomery County Fire and Rescue Service. Station 21 serves the Plan area's northeast corner.

New residences and businesses in Twinbrook will increase the day and night time populations, resulting in increased EMS incident call load, and may create demand for an additional EMS unit at nearby Station 23. The EMS call volume will be particularly impacted should a significant number of elderly residents occupy the new residences.

While the need for additional fire-rescue facilities within the Twinbrook area is unlikely to increase during the next twenty years, the stations serving the area have no further capacity for additional vehicles and may require renovation/expansion should new services (e.g., a third EMS unit at Station 23) be added.

This Plan supports the expansion of EMS capabilities at Rockville Volunteer Fire Department Station 23.

Planning Process

The goal of the Twinbrook Plan's community outreach process was to engage a non-resident community and to ensure that all interests in the community were heard and addressed.

The primary constituency in the Twinbrook Plan area was the business community, since there is no existing residential population. Because the Plan area is adjacent to residential neighborhoods in the City of Rockville, staff worked with the City's planners and civic groups to define an interested residential community in adjacent neighborhoods. These groups, along with businesses in the Plan area, were the basis for the Plan's outreach effort.

Outreach efforts were designed to engage residents, businesses, developers, and government agencies in large meetings, small focus groups, and workshops. A range of meetings allowed for both focused and open discussion and offered a choice of dates and forums. Initial focus groups addressed the concerns of particular communities, including the technology businesses, the government tenants, the City of Rockville, and the small businesses. These meetings helped define the Plan's approach to land use and zoning issues by identifying issues such as the County's limited availability of light industrial land, security needs, and the desires of employees to walk safely to Metro.

At each type of meeting, participants' suggestions and comments were recorded and incorporated into the development of the Plan. The goal was to reach as many stakeholders as possible and to this end; meetings were announced in the media, online, and through mailings. At each meeting, mailing lists were built to keep in contact with interested participants. To define issues in the *Purpose and Outreach Report*, staff interviewed 80 business owners in the Plan area, met with developers, and talked to community members. These issues and opportunities began to shape the Plan concept.

As Plan concepts evolved, staff held public workshops and community meetings to discuss planning recommendations with residents, businesses, and property owners. Smaller focus groups allowed in-depth exploration of particular topics, including transportation congestion and connections, land use, and public facilities. Throughout the process, staff attended community group meetings in both the City of Rockville and the County, and met with interested parties and advocacy groups.

In 2006, staff invited interested participants to join an informal advisory group to review the Staff Draft Plan before its release to the general public and to the Planning Board. This group represented large and small property and business owners as well as residents from surrounding communities. Their varied points of view and experience allowed staff a focused review of the Plan and led to further refinements of its recommendations. In preparation for the Planning Board's public hearing, staff distributed the document to interested participants, posted the plan on-line, and met with the public.

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Rollin Stanley, Director
Montgomery County Planning Department

John A. Carter, Chief
Urban Design and Special Projects Division

PROJECT STAFF

Judy Daniel, Bethesda-Chevy Chase Team Leader, Community-Based Planning Division**
Kristin O'Connor, Senior Planner, Community-Based Planning Division
Sandy Tallant, Planner Coordinator, Community-Based Planning Division*
Miguel Iraola, Urban Design, Community-Based Planning Division**
Claudia Kousoulas, Senior Editor, Management Services Division***
Marion Clark, Countywide Planning Division, Environmental Planning
Dan Hardy, Countywide Planning Division, Transportation Planning
Clare Kelly, Countywide Planning Division, Historic Preservation
Wayne Koempel, Research and Technology Division
David Paine, Countywide Planning Division, Transportation Planning
Tanya Schmieler, Countywide Planning Division, Park Planning and Stewardship

TECHNICAL STAFF

Holly Adams, Word Processing
Sam Dixon, Graphic Design
Shahzad Etemadi, Mapping and Graphics
Tony Pins, Urban Design

Thanks to all the M-NCPPC staff and to staff of the City of Rockville, Montgomery County Government, and State of Maryland who contributed to this Plan.

* Initial Lead Planner

** Former Staff Member

*** Lead Planner until December 2007