



City of
Rockville
Get Into It

Municipal GIS Uses and Applications

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City of Rockville

MSGIC Quarterly Meeting
16 July 2012



Get Into It

Overview

- ❖ Rockville as an example of a municipal GIS
- ❖ Resources and Intergovernmental Interaction
- ❖ GIS Directives
- ❖ GIS Application Scope and Strategies
- ❖ GIS Application Examples
- ❖ Future



Get Into It

Rockville Stats

- ❖ 13 square miles in Montgomery County (County Seat)
- ❖ 61,000 residents in 25,000 households
- ❖ City staffing of about 540 FTE plus seasonal and other temporary



Get Into It

GIS Resources

- ❖ GIS staffing = GIS Manager in IT + Public Works GIS Specialist + Planning GIS Specialist
- ❖ GIS software = 15 ArcGIS Desktop concurrent licenses (incl. 3 each ArcEditor and ArcInfo) + ArcSDE on SQL Server + ArcGIS Server + EDN subscription
- ❖ GIS operating budget = \$59k (91% for ongoing maintenance of software, data, and hardware)
- ❖ Development resources = GIS Manager



Intergovernmental Interaction

- ❖ Rockville is mostly self-sufficient for data
- ❖ Municipal: data exchange as needed
- ❖ Montgomery County: orthophoto & Pictometry, data exchange as needed, SWM fee coordination with treasury office
- ❖ State: MD Property View subscription
- ❖ Regional: MWCOCG, NCRGDX participation



Get Into It

GIS Directives

- ❖ Serve the needs of varied user groups, internal and external
- ❖ Extend access and utility of GIS to more users
- ❖ Make GIS data available to public
- ❖ Work within limits of funding, resources, system growth



Get Into It

GIS Application Scope

- ❖ ArcGIS Desktop (all license levels); centralized administration with multiuser editing on SDE
- ❖ Third-party GIS applications
- ❖ Web-based maps and tools
- ❖ Public GIS data downloads in multiple formats



Get Into It

Strategies

- ❖ Web: Flex chosen for viewer and relative ease of modification (May 2011)
- ❖ Web: ArcGIS Online for simple, focused maps to get information (Sep 2011)
- ❖ Data sharing: open government, reduced staff time (March 2012)
- ❖ What's missing: web-based map composition, mobile, enterprise integration



Get Into It

GIS Application Examples

- ❖ Public Flex Map Applications
- ❖ Internal Flex Map Applications
- ❖ ArcGIS Online
- ❖ ArcGIS Desktop Tools
- ❖ Public GIS Data Downloads

Rockville Public Flex Maps Page

[General Purpose City Map](#)

Search Addresses, Find City Services and Property Information

This interactive map provides a convenient way to search addresses for location and to view information for City services and property ownership. City-related information associated with properties includes water service source, recycling & refuse service, voting location, neighborhood coordinator contacts, code inspection contacts, zoning, and more. In addition, each property includes State of Maryland property parcel data for tax assessment information. Schools, parks, City facilities and other points of interest can also be located in the map, many with links to descriptive web pages.



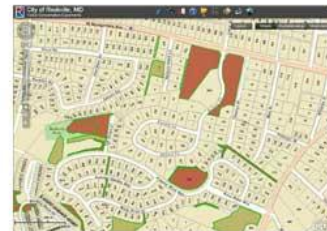
[Stormwater Management Utility Fee Estimate](#)

City of Rockville property owners can view their property on an aerial photo map that shows the measured impervious area and generates an estimate of the annual [Stormwater Management Utility Fee](#). The measured impervious area is colored light brown on the map. Owners may access the map here. This map will be updated as information changes. To view a property, click on the 'Find an Address' tool in the top of the screen and type in the address. Alternately, use the navigation toolset on the left side of the screen to navigate to your property. Use the 'hand' tool to move around in the view to your vicinity and zoom in on the property with the zoom slider. Once you find your parcel, click on the 'i' (identify) tool, then click on the desired parcel.



[Forest Conservation Easements](#)

This map shows the existing forest conservation easements within the City of Rockville and provides supplemental data such as the approved Forest Conservation Plan number, Montgomery County Land Records reference number (if available), size and type of easement, and notes on forest conservation credits. There are two types of forest conservation easements: one that protects forests and one that protects individual trees. Easements protecting forests are placed over the forested areas only within the property boundary and are labeled as "partial". Easements protecting individual trees are usually placed over the entire property and refer back to the approved Forest Conservation Plan to show which trees are covered by the easement. These easements are labeled as "entire." Street trees are protected under the Maryland Roadside Tree Law and therefore, not subject to forest conservation easements. If you have questions on forest conservation easements, please contact the City Forester's office at 240-314-8700.

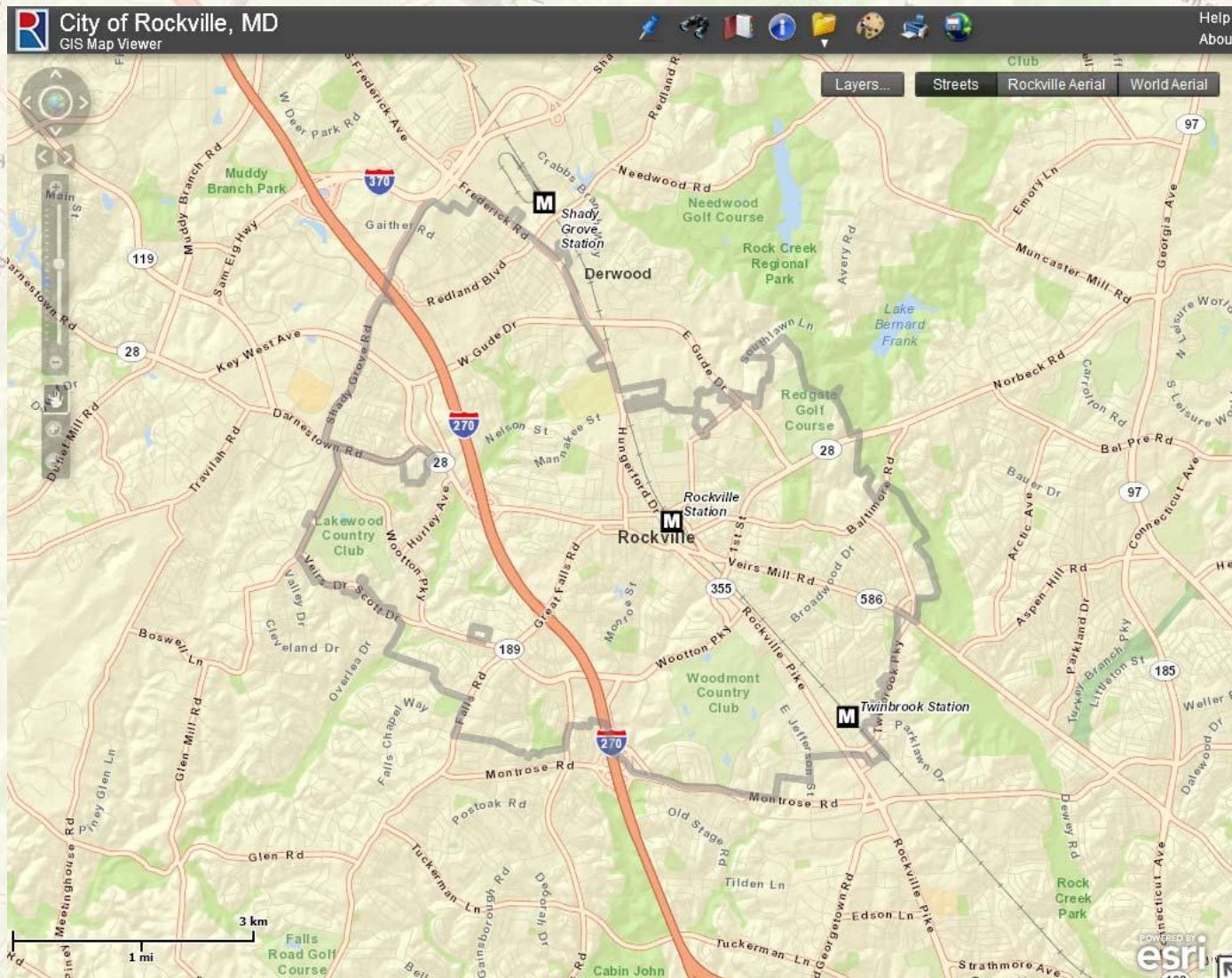


[Urban Tree Canopy](#)

City of Rockville property owners can view their property on a map that shows the estimated percentage of their property that is covered by tree canopy. Properties are color coded based upon the percentage range of tree canopy their property falls into. This map shows tree canopy data taken from 2007 aerial imagery. The analysis was performed by the University of Vermont's Spatial Analysis Laboratory in consultation with the USDA Forest Service's Northern Research Station. For more information, view the [Urban Tree Canopy Report](#) (pdf).



Rockville General Purpose Flex Map



Rockville General Purpose Flex Map

The screenshot displays the City of Rockville, MD GIS Map Viewer interface. The map shows a residential area with streets including Dawson Ave, Upton St, N Van Buren St, and Beall Ave. A property is highlighted with a blue dot. The information panel on the left provides detailed data for this property.

City of Rockville, MD
GIS Map Viewer

Identify

Clear

Tax Account ID: 160400159753
Property Address: 212 N VAN BUREN ST
Property Zip Code: 20850
Occupied (H-Owner; N-Not Owner; D-Dual Use): H
Owner Name: CHANG KAN-TAI
Owner Name 2:
Owner Address: 212 N VAN BUREN ST
Owner Address 2:
Owner City: ROCKVILLE
Owner State: MD
Owner Zip: 20850
Owner Zip 2:
Legal Descrip. 1: IMPSBEALLS SUB
Legal Descrip. 2:
Legal Descrip. 3:
Deed Liber: 08921
Deed Folio: 0261
Subdivision: 0202
Plat:
Section:
Block: 15
Lot: 22
Parcel Map: GR343
Parcel Map Grid: 0000
Parcel: 0000
Land Use: Residential
Land Area (acres): 0.167
Construction Type: brick
Building Type: standard single family unit 1, 2 or 3 story
Building Units: 0
Enclosed Square Footage: 1012
Year Built: 1956
Assessed Land Value: 275800
Assessed Improvement Value: 89100
Assessed Total Value: 364900
Last Assess Date:

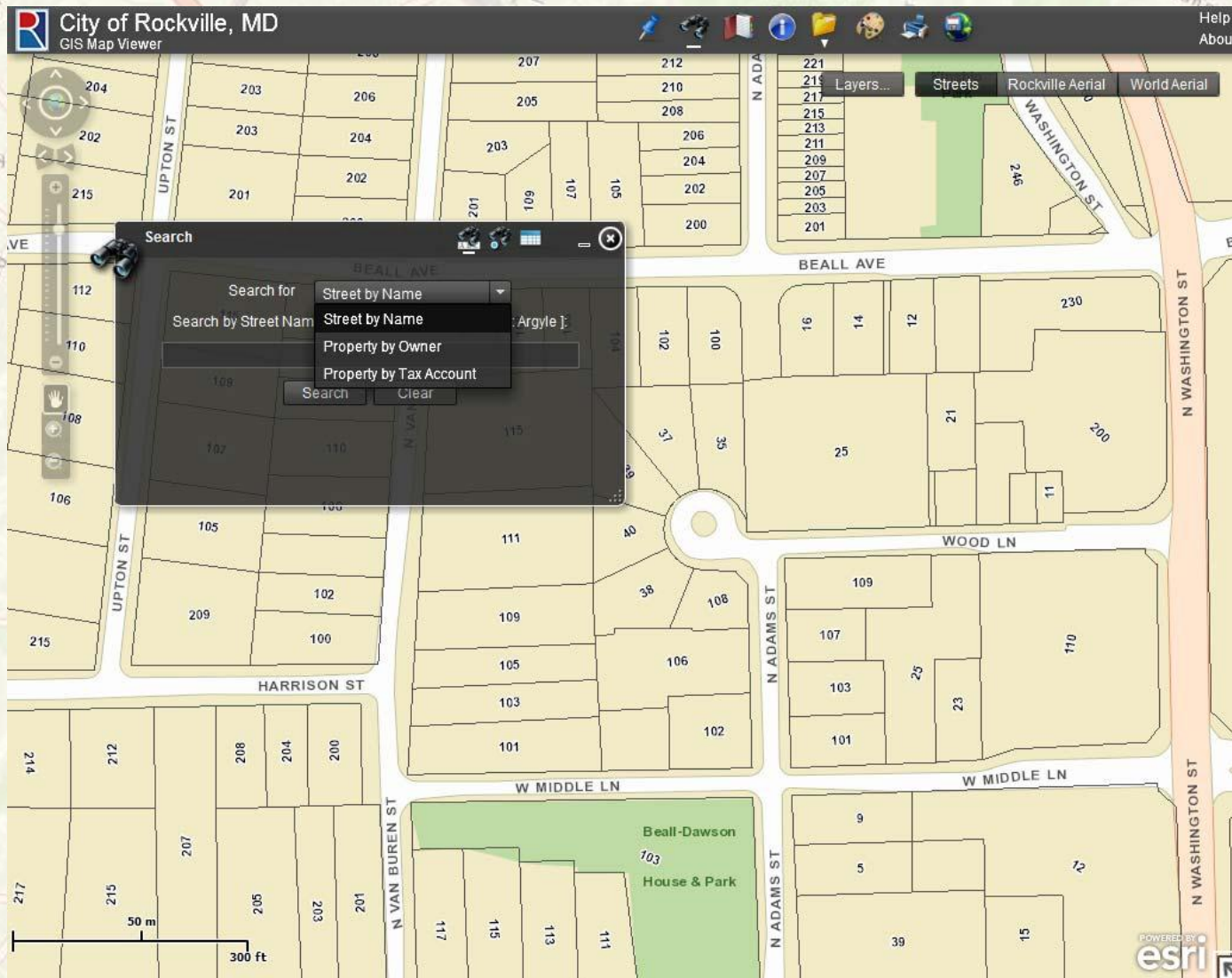
Link

Within City Limits?: YES
Rockville City Water Service?: YES
Recycle-Refuse Route: M4
Recycle-Refuse Pickup Day: Monday
Voting Location: Rockville Municipal Swim and Fitness Center

300 ft

POWERED BY esri

Rockville General Purpose Flex Map



Rockville General Purpose Flex Map

City of Rockville
Get Into It

Search

[Home](#) [Residents](#) [Business](#) [Visitors](#) [Government](#) [Forms](#) [FAQs](#) [Contact Us](#)

[Home](#) > [GIS](#) > [Viewer](#) > [City of Rockville GIS Map Viewer](#)
[Viewer Help](#)

Select Language

Powered by Google Translate

City of Rockville GIS Map Viewer (Internal)

This general purpose GIS map viewer is intended for basic mapping, finding addresses, and retrieving information at locations including property parcels and places of interest within the City of Rockville. The map content consists of a combination of local Rockville information and worldwide street and aerial maps.

With this map viewer you can:

- Locate addresses.
- Get information at locations within Rockville.
- Search to find streets within Rockville.
- Search to find properties by owner or by tax account ID number.
- Find and open plats where available for property parcels
- Highlight and locate Rockville parks, facilities, schools, neighborhoods, and historic districts.
- View Montgomery County traffic camera images.
- Use and create bookmarks to easily return to map locations.
- Create drawings, including text, to highlight map points and areas.
- Print and export map images.

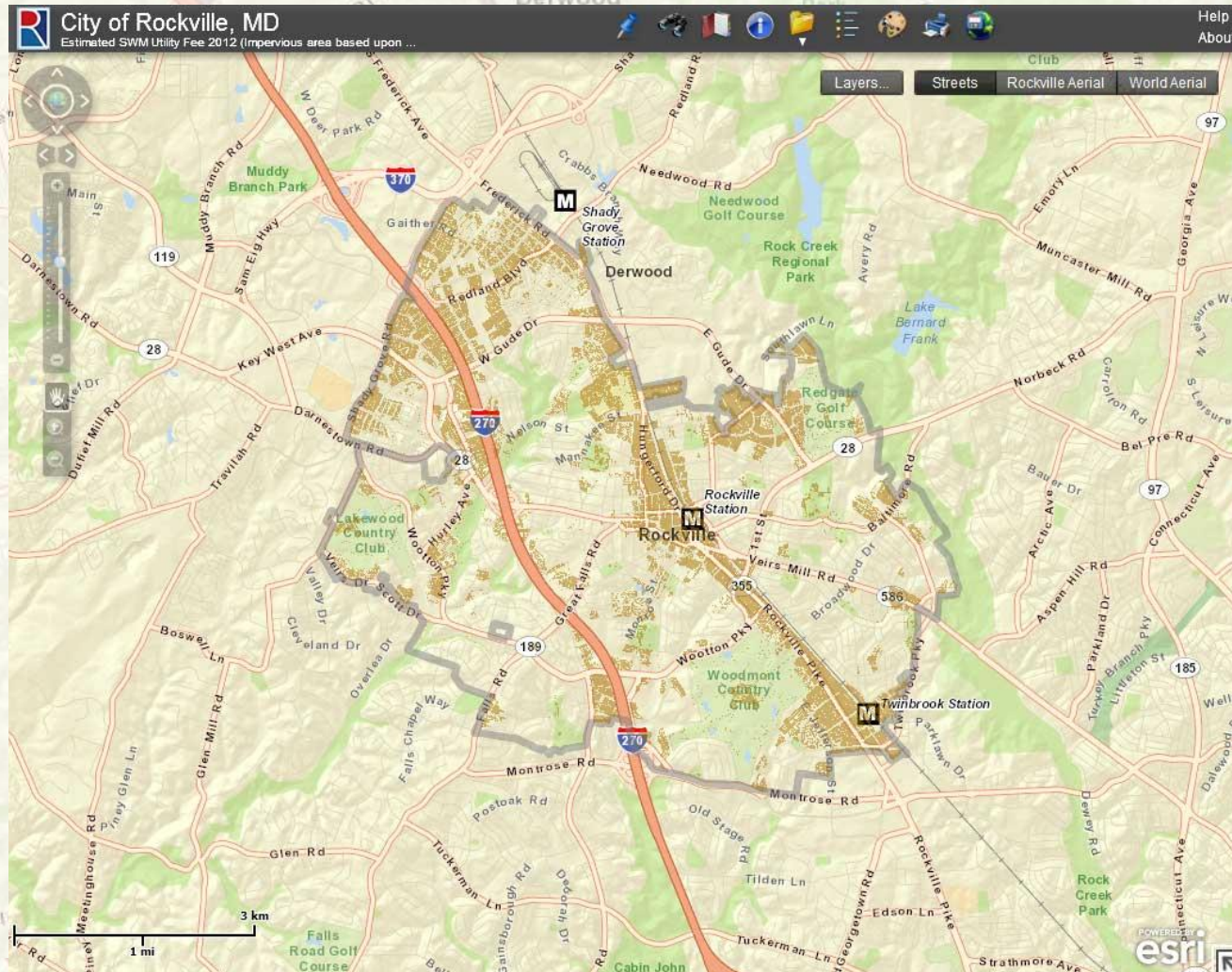
To learn how to use this GIS map application, start with the [Orientation and Quick Reference](#) page or select a specific topic from the menu on the left.

This map viewer will evolve and improve as new features and functions become available. Please check the [revision history](#) for the latest news.

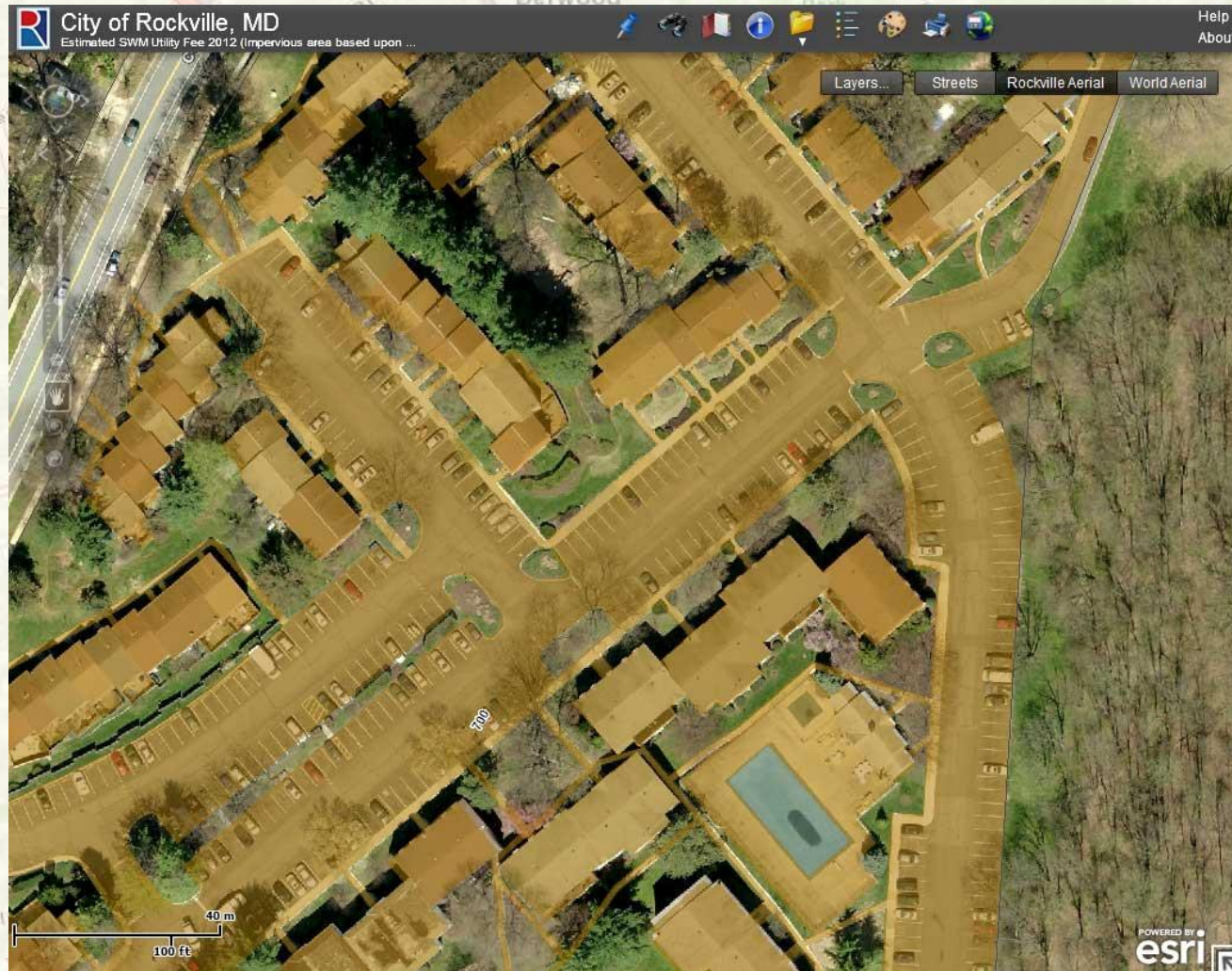
Geographic Information System Map Viewer

- [Map Summary](#)
- [Map Orientation and Quick Reference](#)
- [Map Content Control](#)
- [Map Navigation](#)
- [Toolbar](#)
- [Find an Address](#)
- [Search](#)
- [Bookmarks](#)
- [Identify](#)
- [Map Overlays](#)
- [Draw and Measure](#)
- [Print and Export](#)
- [Revision History](#)

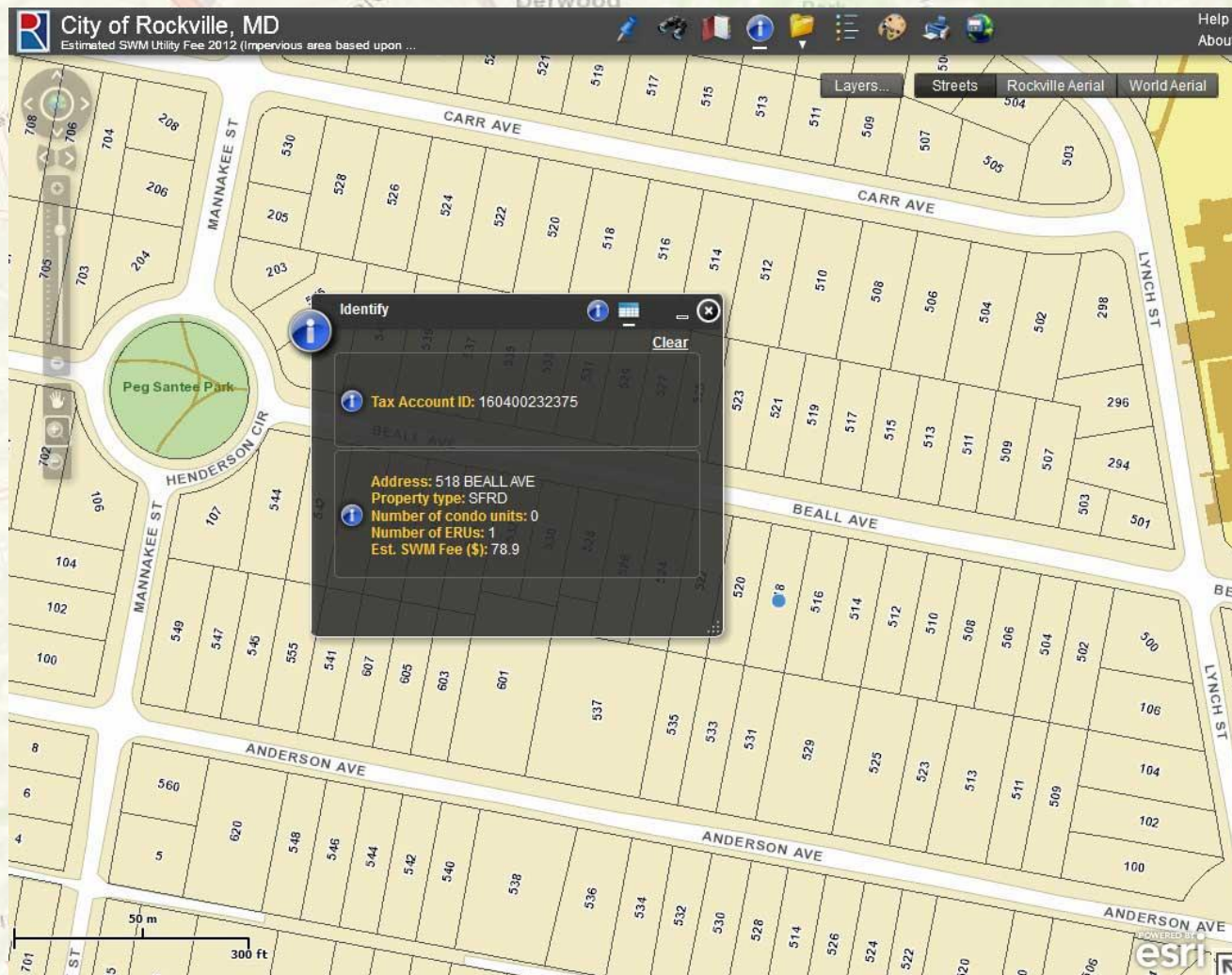
Rockville SWM Utility Fee Flex Map



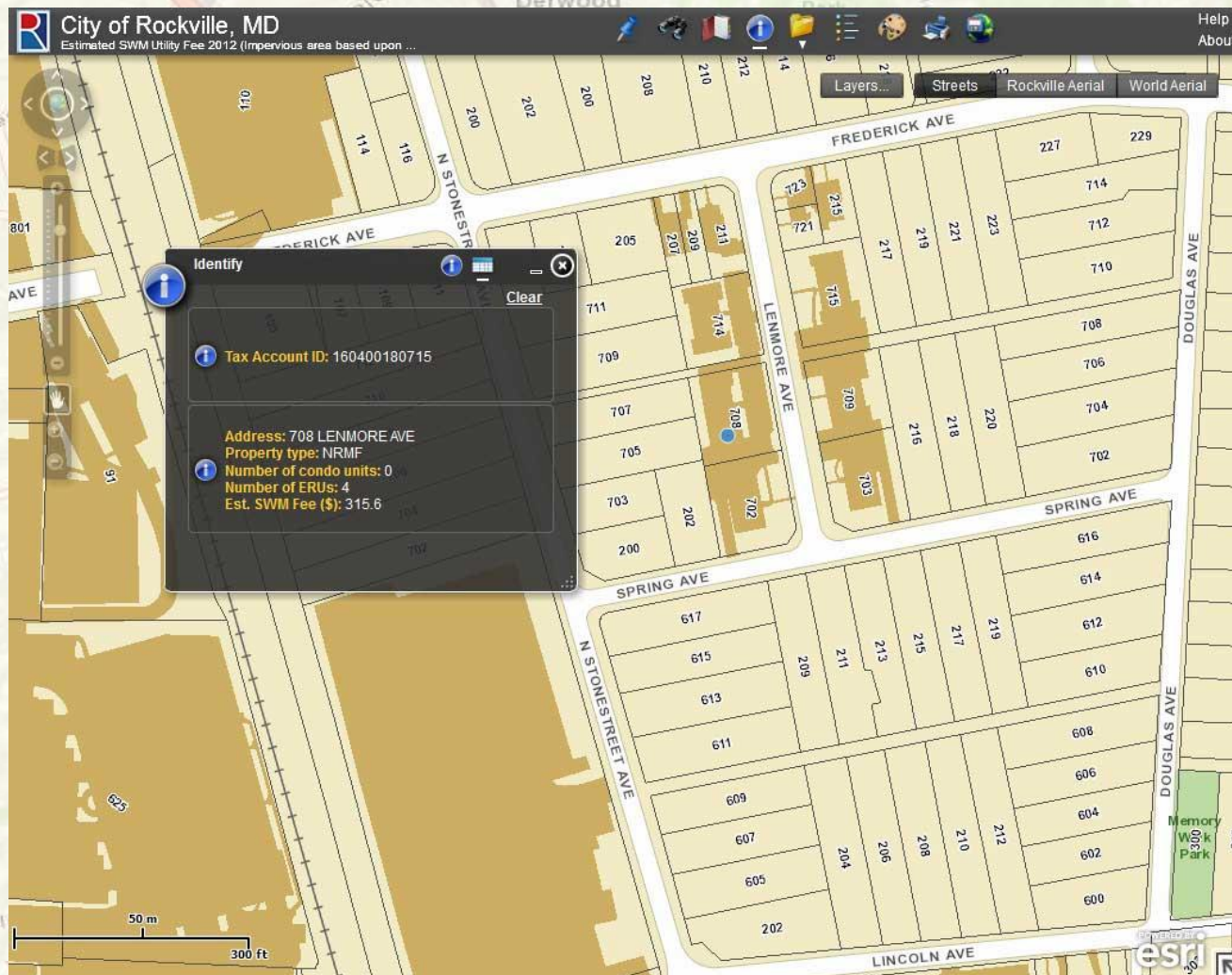
Rockville SWM Fee Flex Map



Rockville SWM Fee Flex Map

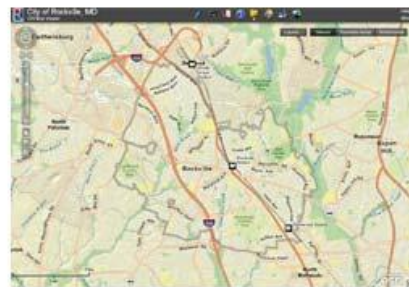


Rockville SWM Fee Flex Map



Rockville Internal Flex Maps Page

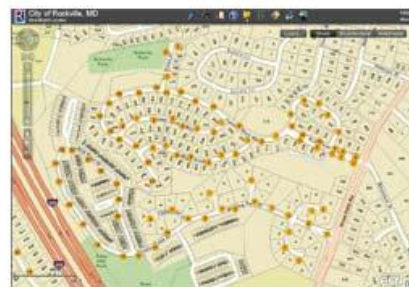
Maps



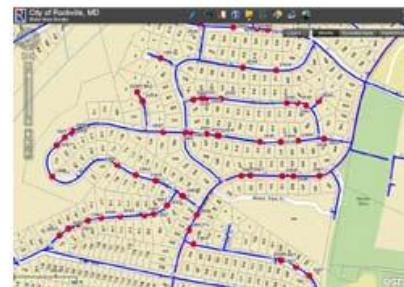
[General Purpose GIS Map](#)



[Mailing Label Generator](#) (use with Internet Explorer browser only)



[Streetlight Locator](#)

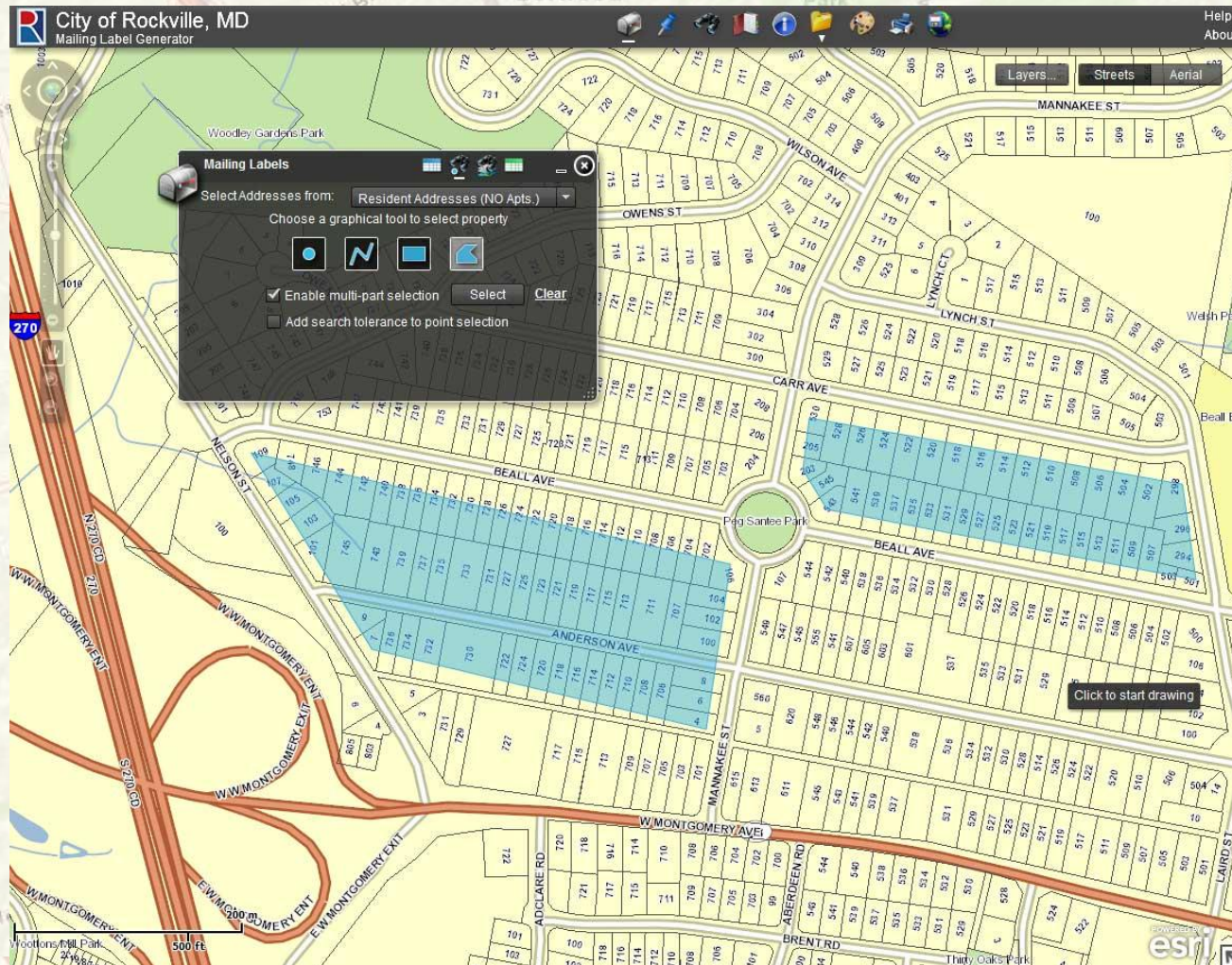


[Water Main Breaks](#)



[Storm Drain System](#)

Rockville Mailing Labels Flex Map



Rockville Mailing Labels Flex Map

City of Rockville, MD
Mailing Label Generator

Search Results

Address	Unit	City	Zip	Zip4
717 ANDERSON AVE		ROCKVILLE	20850	
740 BEALL AVE		ROCKVILLE	20850	
739 ANDERSON AVE		ROCKVILLE	20850	
725 ANDERSON AVE		ROCKVILLE	20850	
727 ANDERSON AVE		ROCKVILLE	20850	2104
731 ANDERSON AVE		ROCKVILLE	20850	
748 BEALL AVE		ROCKVILLE	20850	
726 BEALL AVE		ROCKVILLE	20850	
723 ANDERSON AVE		ROCKVILLE	20850	

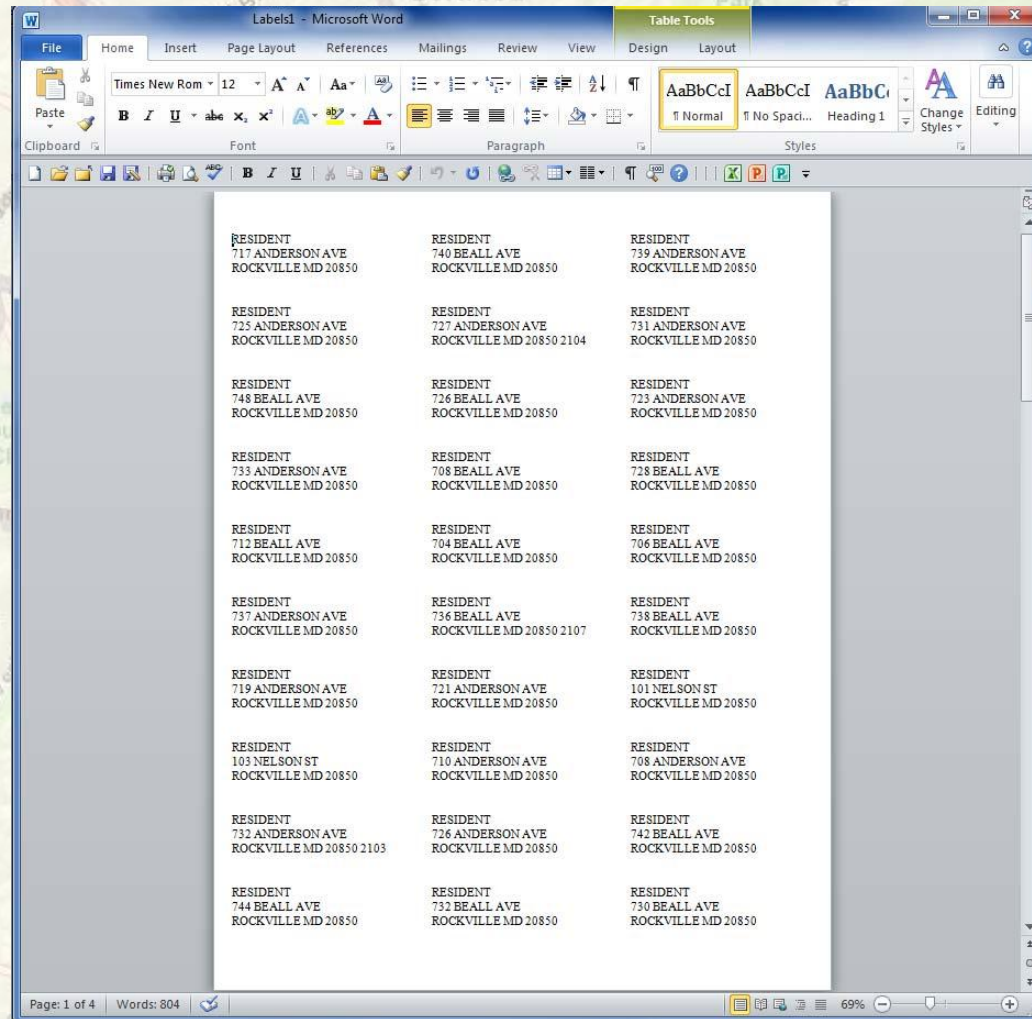
Export... Formatter...

Layers... Streets Aerial

500 ft

esri

Rockville Mailing Labels Flex Map





Rockville Map Gallery

Maps

This Map Gallery is a collection of web maps for the City of Rockville, Maryland.



2010 Census and
Demographics Data



City Elections



Development Review
Projects



Forest Conservation
Easements (requires Flash)



General Purpose City Map
(requires Flash)



Historic Buildings Catalog



Historic Districts



Neighborhood Associations



Parks and Facilities

More Maps

Additional maps on the
City of Rockville web site:

[Bicycle Routes](#)

[Leaf Collection](#)

[Red Light Cameras](#)

[Speed Cameras](#)

[Water & Sewer Service
Boundary](#)

Rockville ArcGIS Online Content

ArcGIS

GALLERY

MAP

GROUPS

MY CONTENT

Find maps, applications and more... 







My Content

 New  Delete

—  RockvilleMD_MapsApps

 Add Item  Create Map  Share  Delete  Move To ▼

Using 0% of 2GB

<input type="checkbox"/>		▲ Title	Type	Modified	Shared	Size
<input type="checkbox"/>		2010 Census and Demographics Data	Web Mapping Application	Dec 28, 2011	Everyone	1 KB
<input type="checkbox"/>		City Elections	Web Map	Jan 30, 2012	Everyone	2 KB
<input type="checkbox"/>		Development Review Projects	Web Map	Feb 1, 2012	Everyone	7 KB
<input type="checkbox"/>		Forest Conservation Easements (requires Flash)	Web Mapping Application	Dec 28, 2011	Everyone	1 KB
<input type="checkbox"/>		General Purpose City Map (requires Flash)	Web Mapping Application	Dec 28, 2011	Everyone	1 KB
<input type="checkbox"/>		Historic Buildings Catalog	Web Map	Jan 30, 2012	Everyone	2 KB
<input type="checkbox"/>		Historic Districts	Web Map	Jan 30, 2012	Everyone	3 KB
<input type="checkbox"/>		Neighborhood Associations	Web Map	Feb 9, 2012	Everyone	2 KB
<input type="checkbox"/>		Parks and Facilities	Web Map	Jan 30, 2012	Everyone	2 KB
<input type="checkbox"/>		Recycle and Refuse Pickup Routes	Web Map	Jan 30, 2012	Everyone	2 KB
<input type="checkbox"/>		Stormwater Management Utility Fee (requires Flash)	Web Mapping Application	Dec 28, 2011	Everyone	1 KB
<input type="checkbox"/>		Streetlights	Web Map	Jan 30, 2012	Everyone	35 KB
<input type="checkbox"/>		Urban Tree Canopy (requires Flash)	Web Mapping Application	Dec 28, 2011	Everyone	1 KB
<input type="checkbox"/>		Zoning Map	Web Map	Jan 30, 2012	Everyone	6 KB

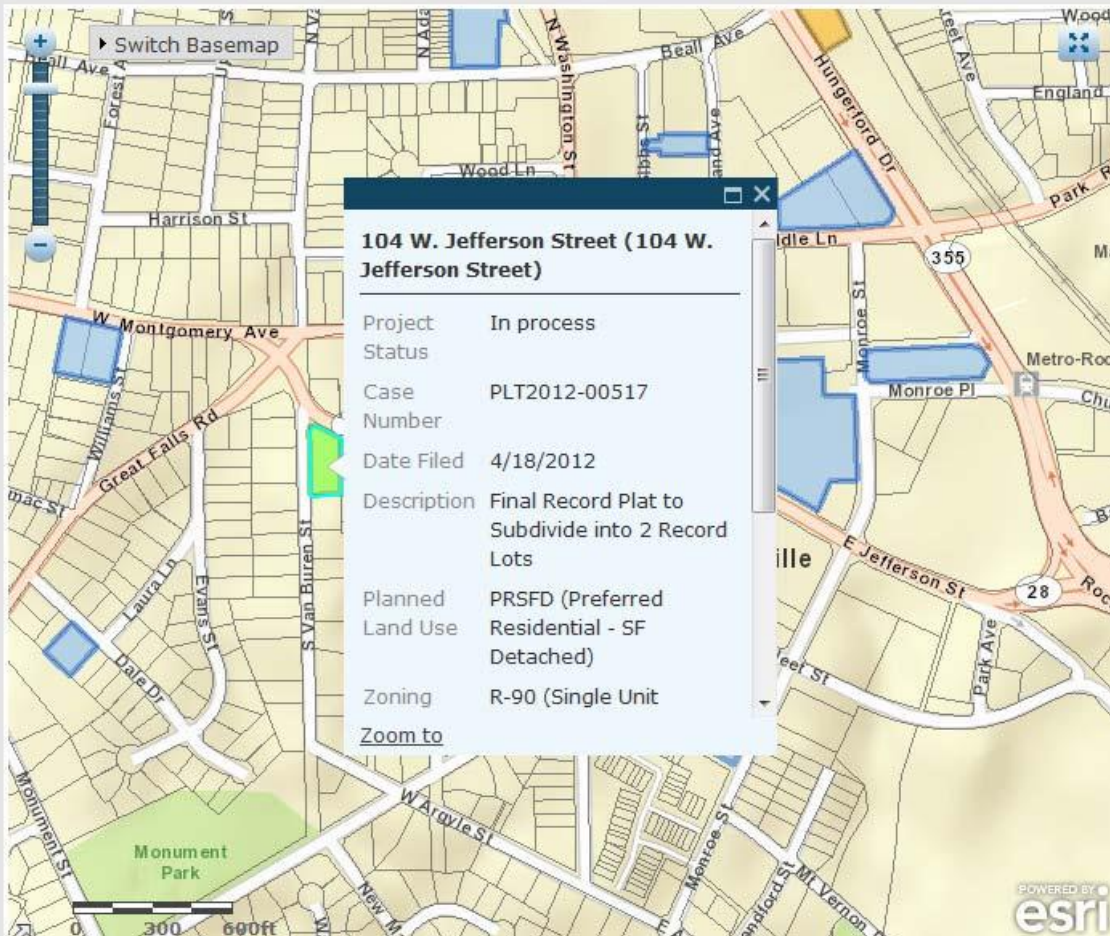


Rockville Map Gallery

Development Review Projects

City of Rockville, MD Development Review Projects

Locate an address



Legend

About

Layers

- ☒ Rockville City Limits
- ☒ Rockville Development Review Projects
- ☒ Rockville Property

Legend

Rockville City Limits
Rockville City Limits

Rockville Development Review Projects
Development Review Projects

- Pre-Application
- In process
- Approved

Rockville Property
Property

Property Display
Property 15k - 1k

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esri

Applications In Process

The following is a list of formal application submittals that are currently in the City's Development Review Process.

3 Choke Cherry Road (Upper Rock District)

File #: STP2012-00118

Description: Minor Site Plan Amendment for the Development of a Median Landscape Plan

Status: Application Accepted as Complete

Project Planner: Cas Chasten, 240-314-8223, cchasten@rockvillemd.gov

[View Details](#)

[View Project Map](#)

104 West Jefferson Street

File#: PLT2012-00517

Description: Final Record Plat to Subdivide into 2 Residential Lots

Status: Planning Commission Meeting Scheduled

Project Planner: Margaret Hall, 240-314-8226, mhall@rockvillemd.gov

[View Details](#)

[View Project Map](#)

626 & 628 Great Falls Road (Chinese Takeaway's Witness)

File #: STP2012-00114

Description: Proposed development

Status: Application Accepted as Complete

Project Planner: Margaret Hall, 240-

[View Details](#)

[View Project Map](#)

1235 Potomac Valley Road (Potomac Valley)

File #: SPX2012-00385

Description: Major Modification to an Home

Status: Development Review Commil

Project Planner: Cas Chasten, 240-

[View Details](#)

[View Project Map](#)

1900 Chapman Avenue

File #: STP2012-00112

Description: Proposed Mixed Use De

Status: Development Review Commil

Project Planner: Margaret Hall, 240-

[View Details](#)

[View Project Map](#)

12720 Twinbrook Parkway (Avon)

File #: STP2009-00008

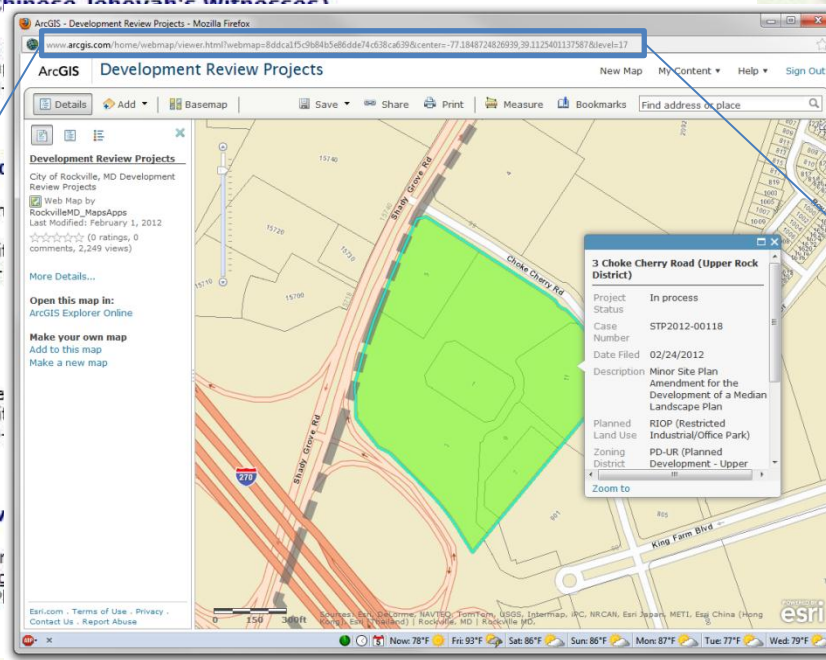
Description: Site Plan Application for

Status: Post-Application Area Meeting

Project Planner: Jeremy Hurlbutt, P

[View Details](#)

[View Project Map](#)



ArcGIS Online Map ID URL

<http://www.arcgis.com/home/webmap/viewer.html?webmap=8ddca1f5c9b84b5e86dde74c638ca639¢er=-77.1848724826939,39.1125401137587&level=17>

Map scale level

Location coordinates



Get Into It

Department of Community Planning and Development Services

HISTORIC BUILDINGS CATALOG

ROCKVILLE



City of Rockville

Historic Preservation Section



Get Into It

Historic Buildings Catalog

BUNGALOW (1890-1930)

The most common form of the craftsman style in Rockville is the bungalow. Introduced in California at the turn of the twentieth century, bungalow designs were widely published in pattern books and mail order catalogs. Several of the bungalows in Rockville follow the intricately designed models in the Sears Roebuck Catalog. The house at 2 W. Argyle Street, built in 1927, is an example of Sears Roebucks' "Vallonia" model.



16 Williams St.

1912



201 N. Horners Ln.

1922



307 Baltimore Rd.

1923



117 S. Van Buren St. ▲

1923



127 S. Adams St.

1924

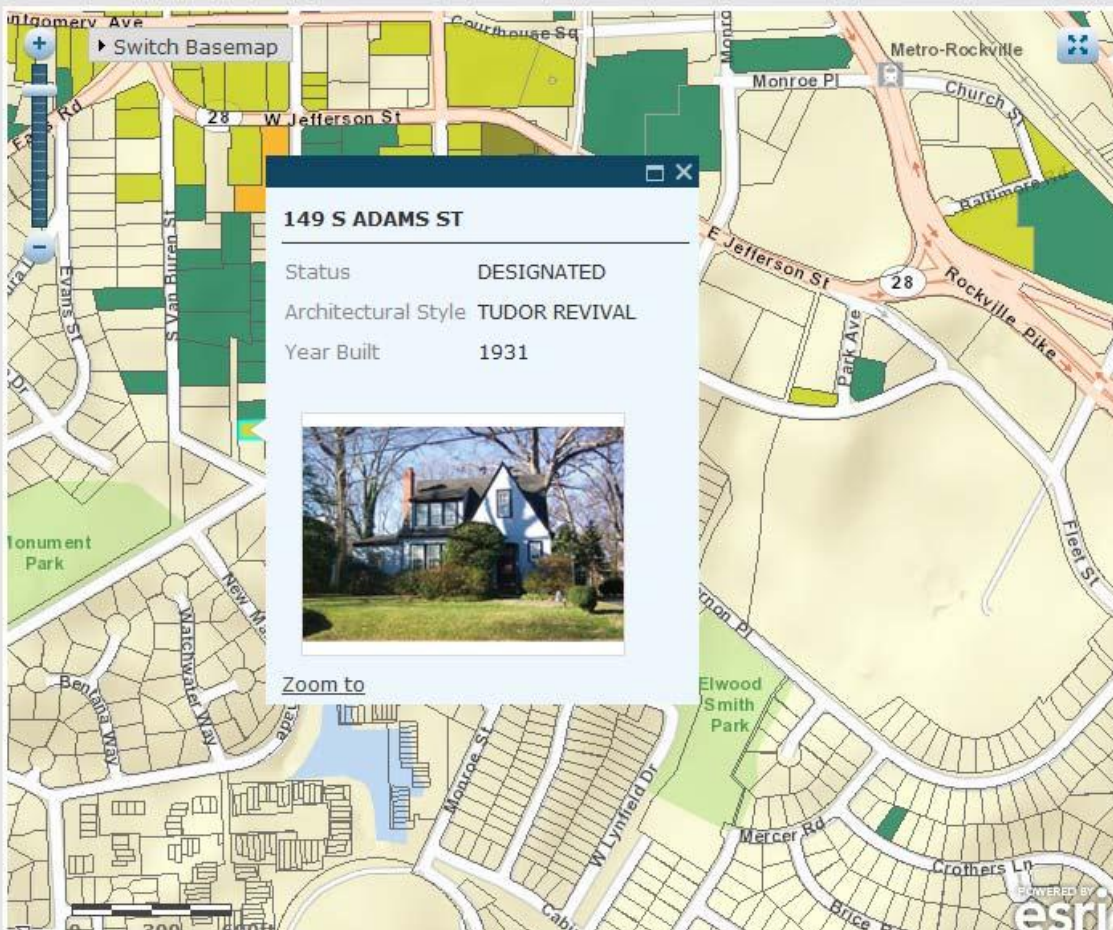


Rockville Map Gallery

Historic Buildings Catalog

Historic Buildings Catalog of the City of Rockville, Maryland

Locate an address



Legend

About

Layers

- ☒ Rockville City Limits
- ☒ Rockville Property
- ☒ Rockville Historic Bldgs





Legend

Rockville City Limits
Rockville City Limits

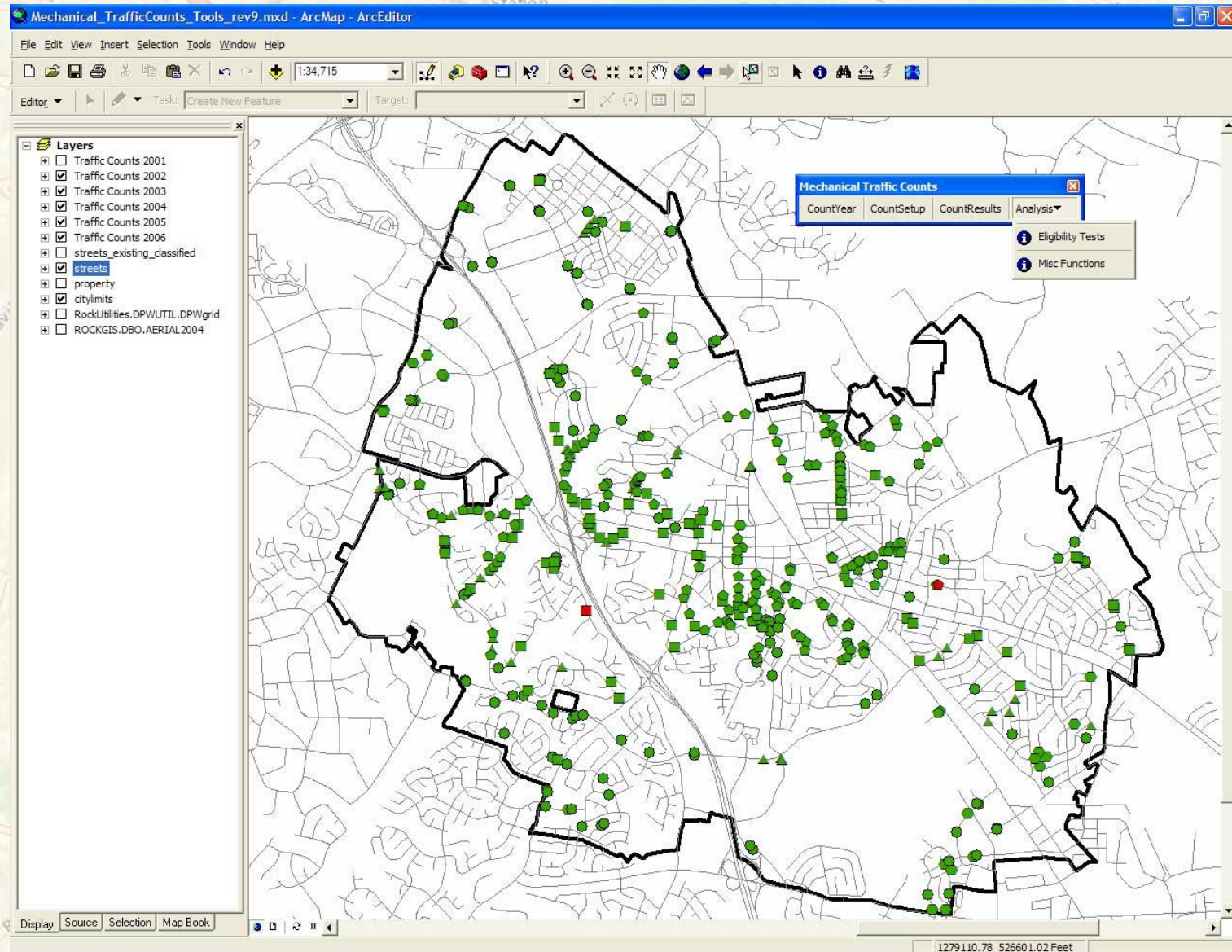
Rockville Property
Property

Property Display
Property 15k - 1k

Rockville Historic Bldgs
Historic Building
Catalog

-  Designated
-  Non-Designated
-  Demolished
-  National Register

Rockville Traffic Counts VBA Tool



Rockville Traffic Counts VBA Tool

Mechanical Traffic Count Setup Data Entry Form

Count ID Number:

Count Street:

A-Street:

B-Street:

Select Directionality of the count:

☐ Uni-Directional ☒ Bi-Directional

Start Date of the count:

Month	Day	Year
<input type="text" value="9"/>	<input type="text" value="12"/>	<input type="text" value="2005"/>

Posted Speed Limit:

Notes:

Enter **Cancel**

Rockville Traffic Counts VBA Tool

Mechanical Traffic Count Results Entry

Setup Data Summary

Count ID: S3635 **Count Street:** Argyle Street

Start Date: 9/12/2005 **A-Street:** Monroe Street

Speed Limit: 25 **B-Street:** S.Washington Street

Directionality: Bi-directional

Notes:

Results Data Summary

AWDT:	1866	AM Peak Vol A>B:	161
85% Speed A>B:	24.4	AM Peak Vol B>A:	34
85% Speed B>A:	23.3	AM Peak Vol Tot.:	193
85% Speed Tot.:	24.2	PM Peak Vol A>B:	102
Peak Hr Vol A>B:	161	PM Peak Vol B>A:	52
Peak Hr Vol B>A:	52	PM Peak Vol Tot.:	143
Peak Hr Vol Tot.:	193		

☐ View Excel Report (To close Excel, you must uncheck this box.)

Rockville Traffic Counts VBA Tool

Eligibility Criteria Analysis

Traffic Count Data Summary

Count ID:	S3635	Count Street:	Argyle Street
Start Date:	9/12/2005	Speed Limit:	25
Vehicles per day (avg):	1866		
Peak vehicles per hour (2-direc):	193		
Peak vehicles per hour (1-direc):	161		
85th percentile speed:	24.2		

Eligibility Criteria for Residential Traffic Diversion Plans

Street Classification:	Secondary Residential Street	
Minimum # vehicles per day in both directions = 2000	Met?	NO
Minimum # vehicles in any hour, both directions = 200	Met?	NO
Minimum # vehicles in any hour, one direction = 150	Met?	YES

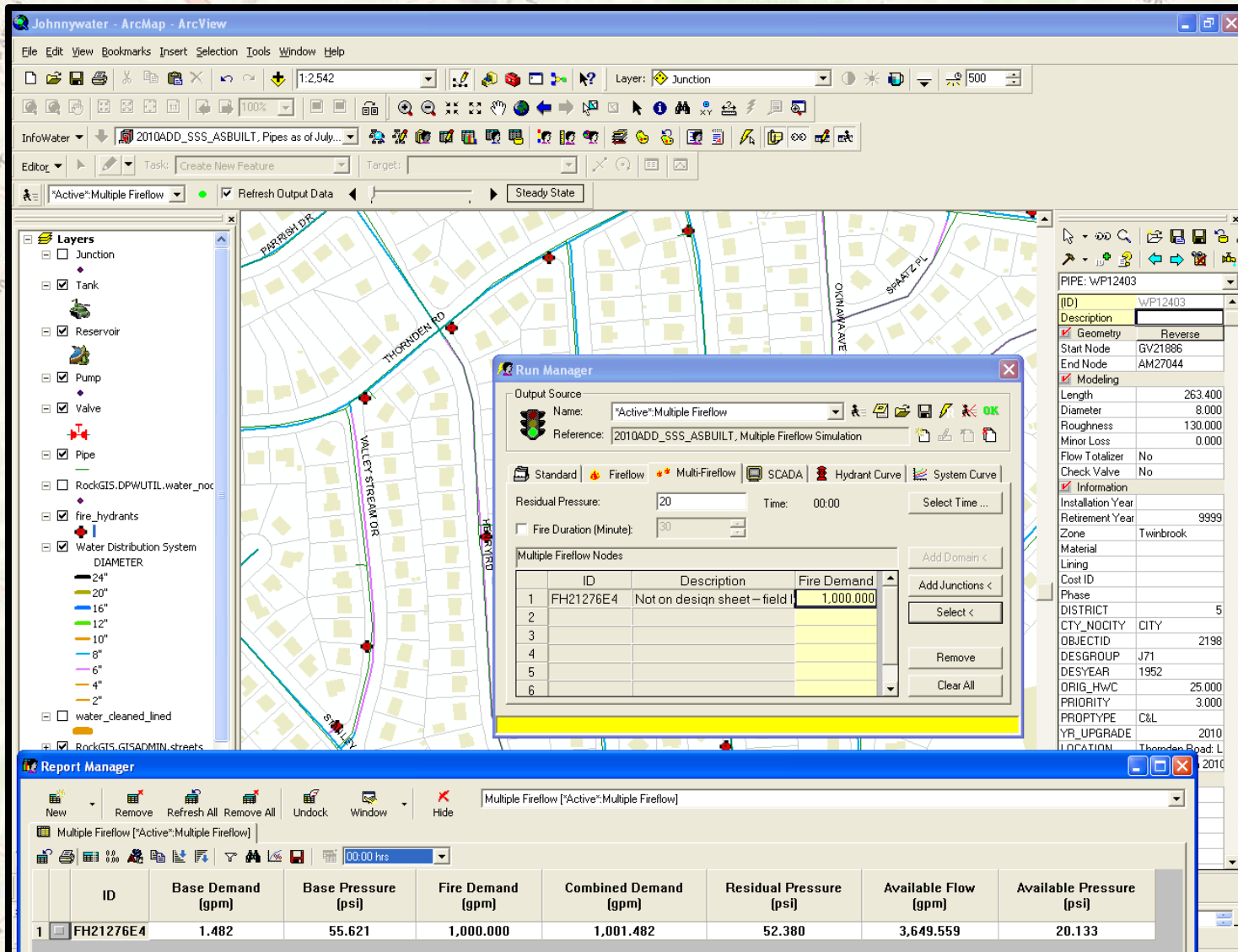
Eligibility Criteria for Residential Speed Control Plans

Street Classification:	Secondary Residential Street	
Minimum # vehicles per day in both directions = 500	Met?	YES
85th percentile speed over speed limit by (mpg) = 7	Met?	NO
Minimum segment length of 600 feet.	Met?	Separately determined.

☐ View Excel Report (To close Excel, you must uncheck this box.)

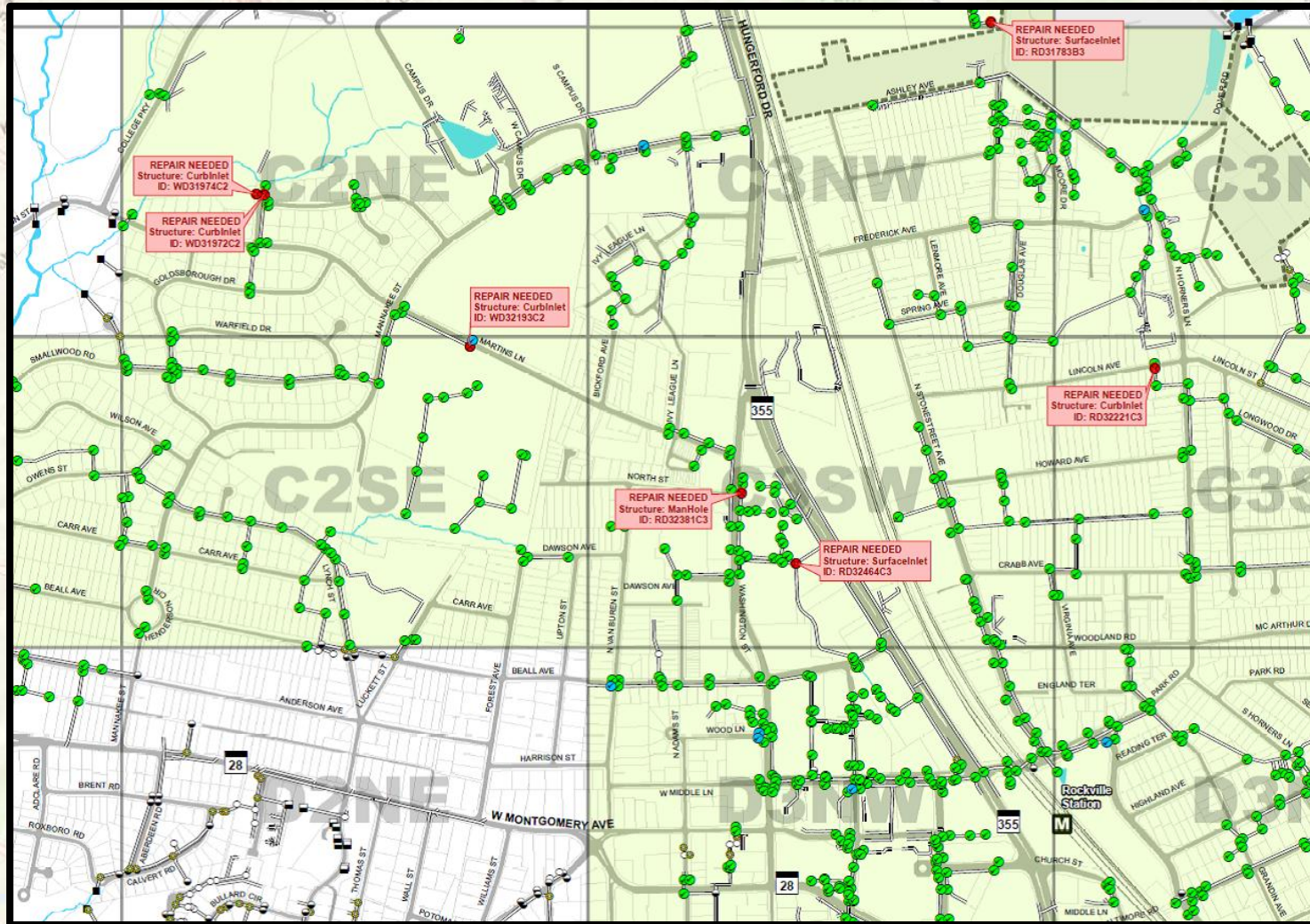
Done

Fire Flow Analysis

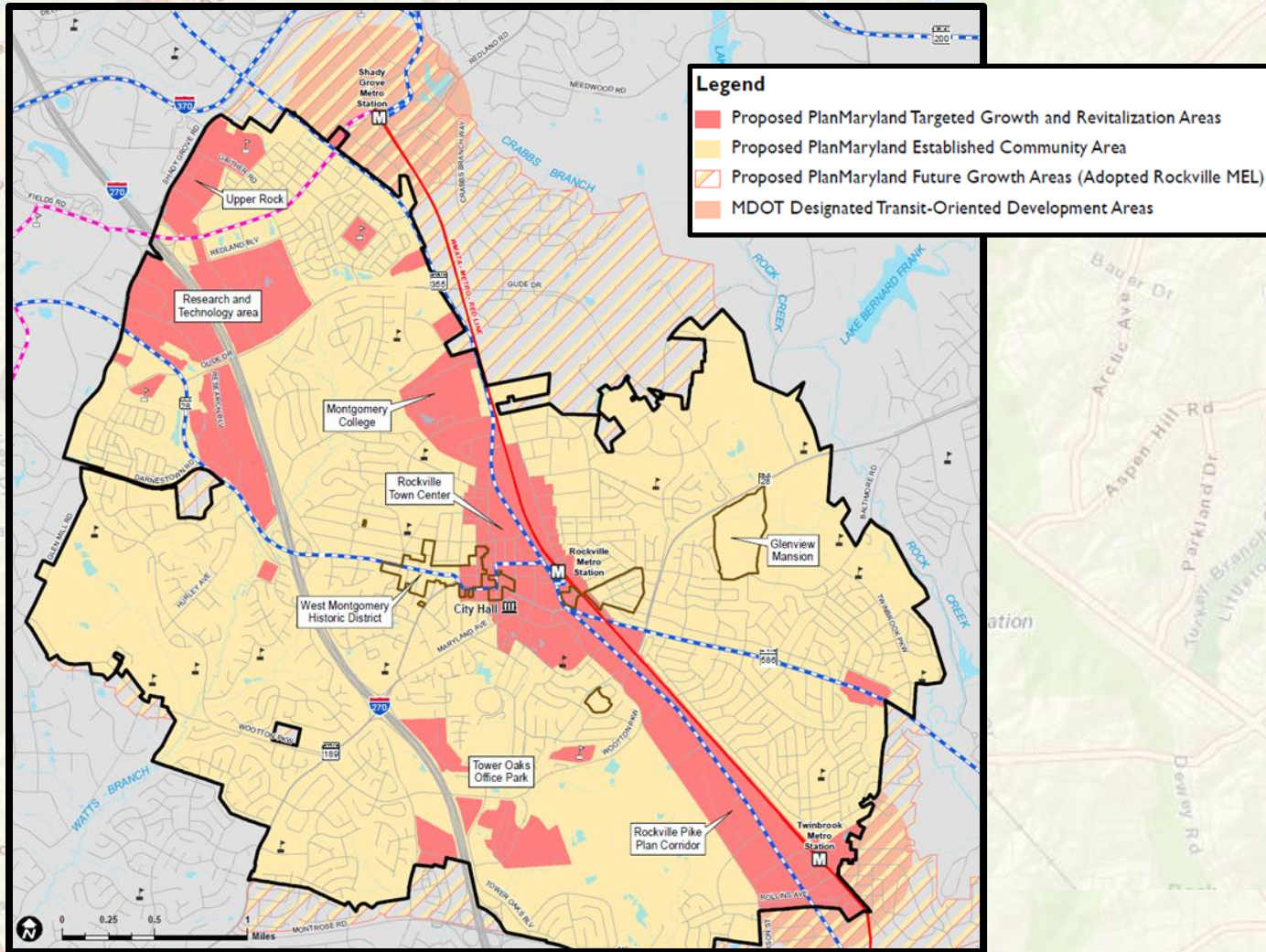


[illegible]

Storm Drain Structure Inspection



Proposed Plan Maryland Planning Areas



Rockville GIS Data Downloads Page

GIS Data Downloads

Terms of Use

By downloading and/or using the GIS data on this page you agree to these [Terms of Use](#).

Rockville GIS Data

The table below presents the list of GIS data available for downloading. For each dataset there are downloads for metadata (data about the data) in XML format along with a choice of GIS data formats as described here.

XML Download/view the metadata in XML format

FGDB (9.3) Download the data in ESRI File Geodatabase format, version 9.3 (zipped)

SHP Download the data in ESRI Shapefile format (zipped)

KMZ Download the data in zipped KML (Keyhole Markup Language)

All file geodatabase and shapefile data is in the NAD 1983 State Plane Maryland FIPS 1900 (Feet) projected coordinate system. All KMZ files are in the WGS 1984 geographic coordinate system.

All data formats can be used in the ArcGIS for Desktop application or the free [ArcGIS Explorer Desktop](#) application, both from [ESRI](#).

KMZ files can be used in the same ESRI applications as well as the free [Google Earth](#) application from [Google](#).

The brief dataset description shows the geometry type of the data in parentheses. The date shown is the date the data was published here, and updates will be provided periodically.

To report problems, e-mail gis@rockvillemd.gov

Name	Description	Metadata	Download	Date
Bicycle Routes	Bicycle paths/routes. (Line)	XML	FGDB (9.3) SHP KMZ	7-Mar-2012
City Limits	Corporate limits of the City of Rockville. (Polygon)	XML	FGDB (9.3) SHP KMZ	13-Apr-2012
Historic Buildings	Sites of historic buildings. (Polygon)	XML	FGDB (9.3) SHP KMZ	17-Feb-2012
Hydrology	Streams and bodies of water. (Polygon)	XML	FGDB (9.3) SHP KMZ	7-Mar-2012
Metro Stations	Locations of Metro stations. (Point)	XML	FGDB (9.3) SHP KMZ	7-Mar-2012
Neighborhoods	Neighborhoods, associations, and neighborhood coordinators. (Polygon)	XML	FGDB (9.3) SHP KMZ	17-Feb-2012
Parks	Rockville park sites. (Polygon)	XML	FGDB (9.3) SHP KMZ	17-Feb-2012



Get Into It

Future

- ❖ Expanded web-based mapping
- ❖ HTML5 transition from Flex?
- ❖ Mobile solutions
- ❖ Enterprise integration (ERP and asset management)



Get Into It

Review

- ❖ Rockville as an example of a municipal GIS
- ❖ GIS resources and intergovernmental interaction
- ❖ GIS directives
- ❖ GIS application scope and strategies
- ❖ Application examples
- ❖ What's next