

WebGIS-Based DOT Storm Operations Map Tracking System

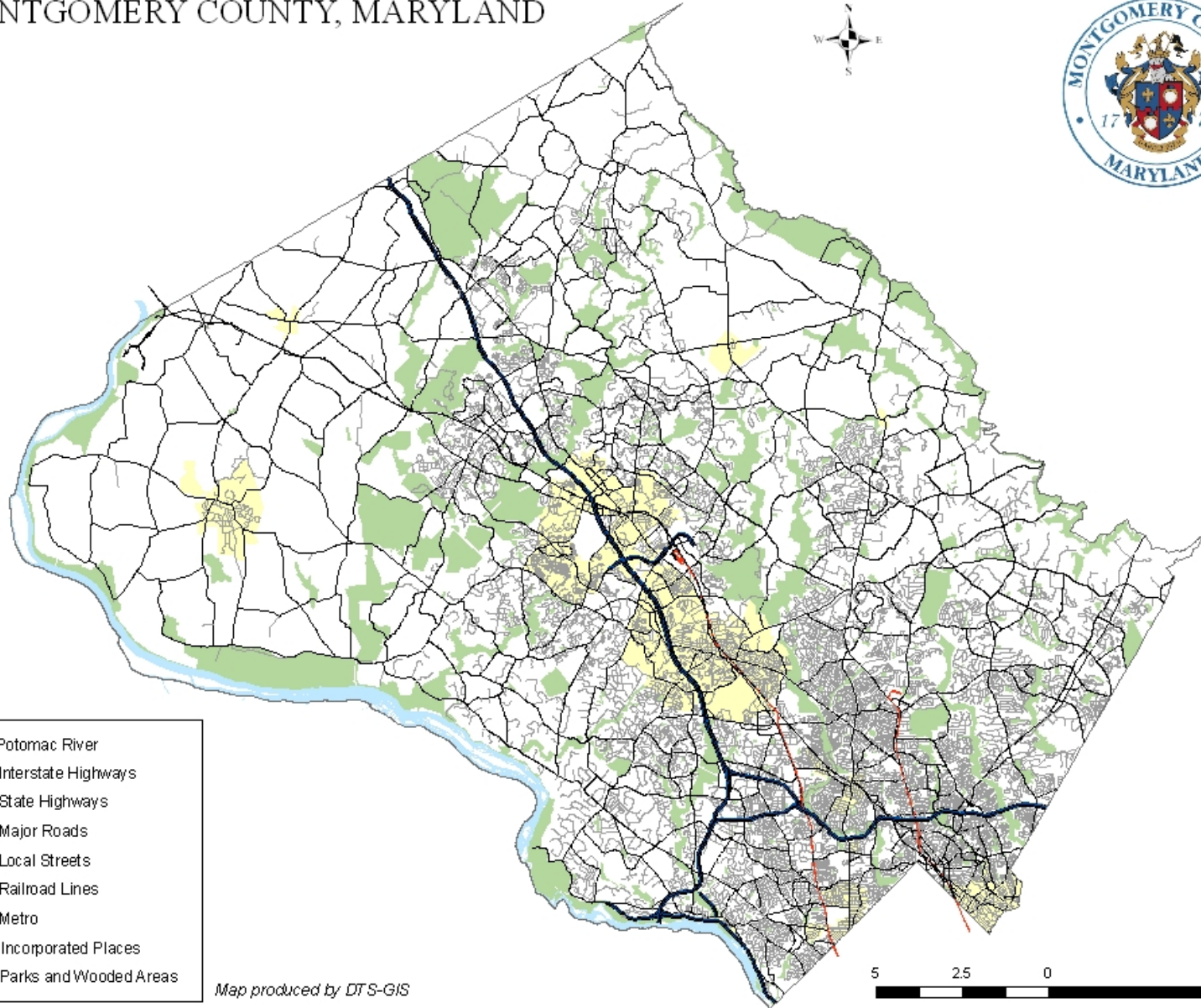
Apollo Teng, *DTS GIS Manager*

Reza Zarif, *DOT Highway Services IT Manager*

Montgomery County, Maryland

Roadways in Montgomery County

MONTGOMERY COUNTY, MARYLAND



- Potomac River
- Interstate Highways
- State Highways
- Major Roads
- Local Streets
- Railroad Lines
- Metro
- Incorporated Places
- Parks and Wooded Areas

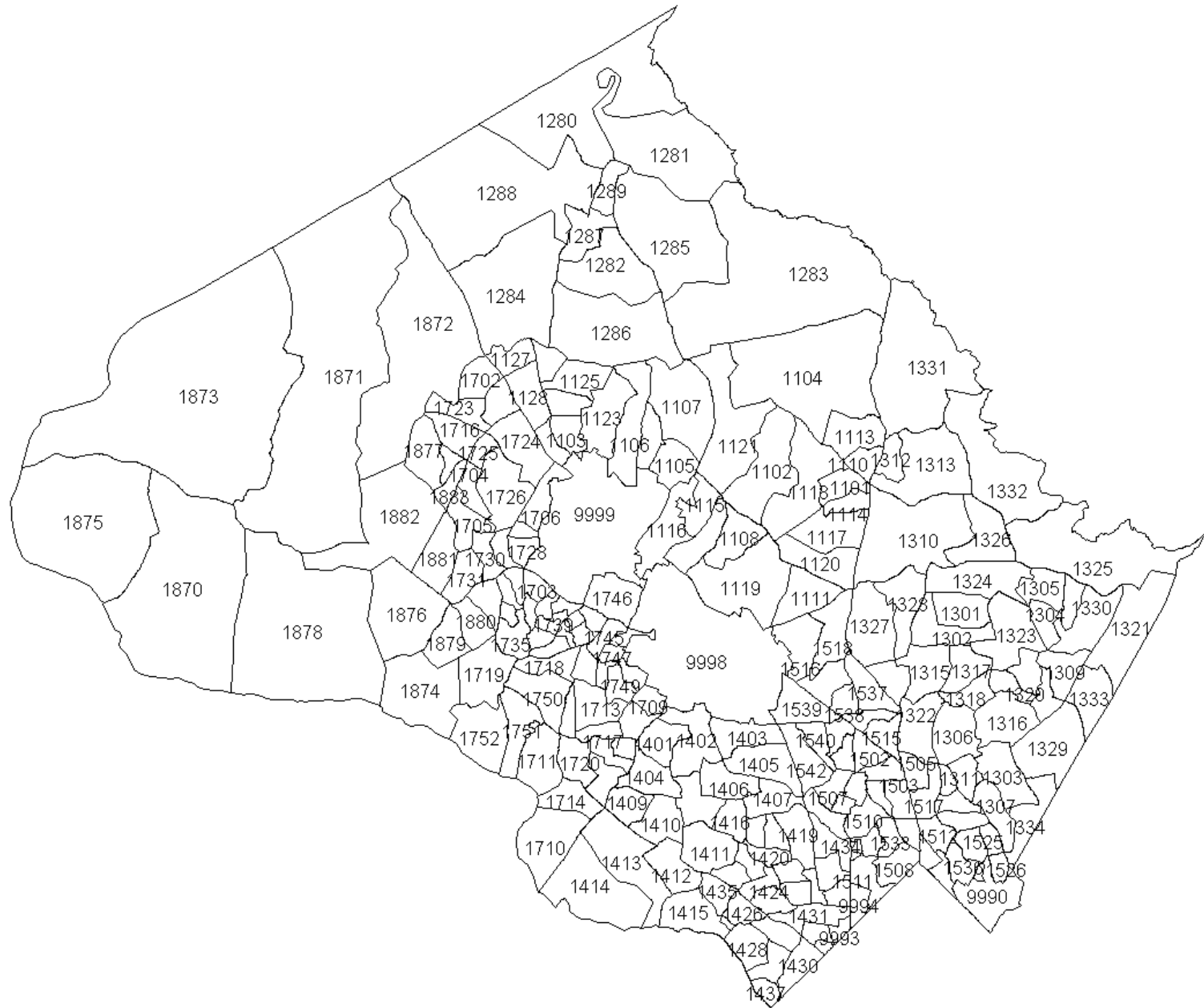
Map produced by DTS-GIS

5 2.5 0 5 Miles

Operation Terms

- Responsibility
 - County or not county
- Categories
 - Emergency, primary, neighborhood
- Status
 - Not yet started, in progress, complete

Snow Plow Routes



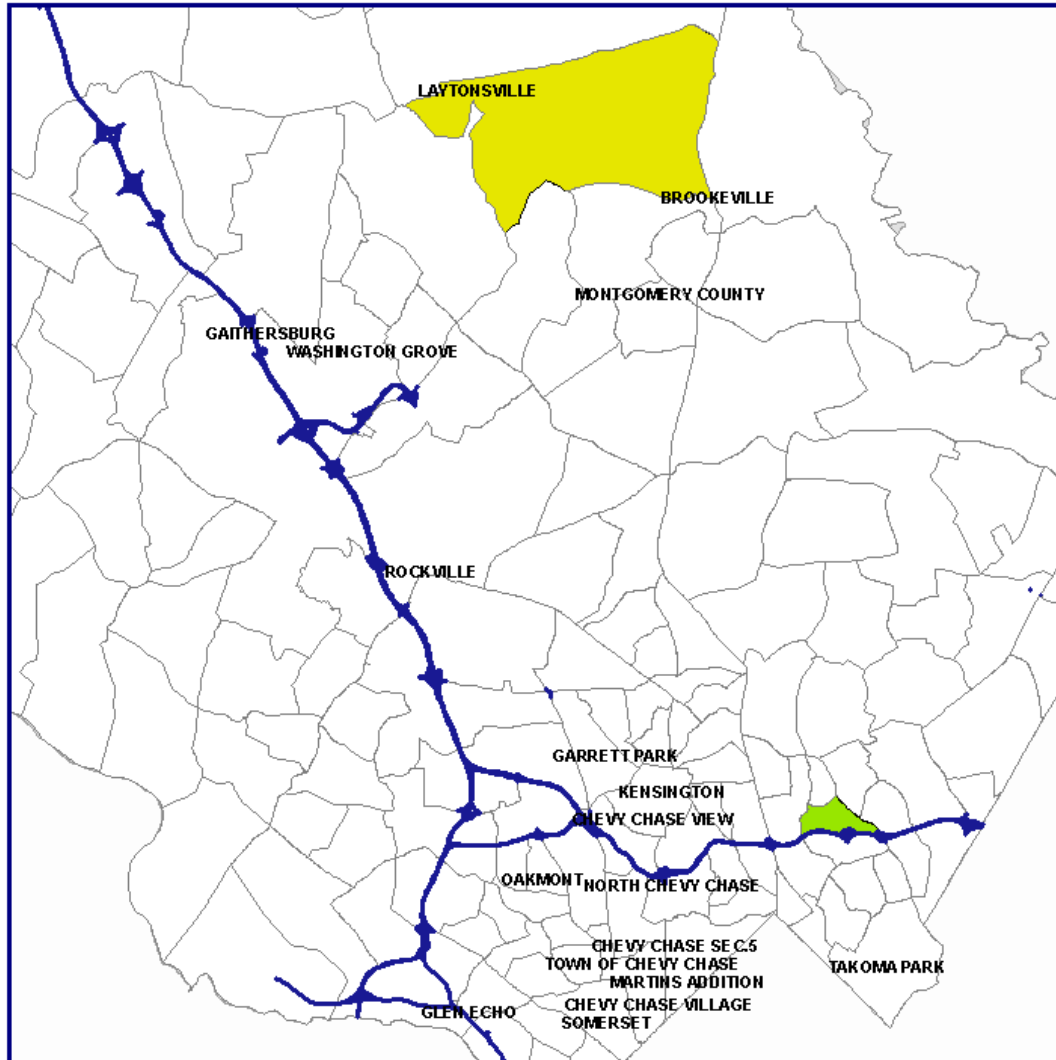
Old Snow Map

County Snow Clearing Status

In Progress Completed Not Started



Refresh



County main page

http://www.montgomerycountymd.gov/

Welcome to the Montgomery County Maryland Website

Text Version December 16, 2010

MONTGOMERY COUNTY MARYLAND

montgomerycountymd.gov

Home | Translate Montgomery County's 311 Online and Telephone System Reac

RESIDENTS **GOVERNMENT** **BUSINESSES** **CULTURE & LEISURE**

SEARCH

News
County Executive
County Council
Judiciary
Departments
I Want To ...
Services & Info.
Online Services
County Cable 6
NEW Seniors
Education
Libraries
Volunteer
Careers
Contact Us

Winter Storm Information

- Delays, Closings, & Other Information
- Latest snow removal status

Translate Our Site
Español 中文 한국어
Tiếng Việt Français

Welcome: From County Executive Isiah Leggett

Welcome: From County Council President Nancy Floreen

Alert Montgomery: Sign up to get emergency alerts

MONTGOMERY ON DEMAND

You Tube: Produced by Montgomery County Government

Facebook: Use keywords: Montgomery County Government.

Twitter: Use Montgomery County MD in "Find People."

MC311
ANSWERING TO YOU

The Paperless Airplane

DOT Snow Tracking page

The screenshot shows a web browser window with the URL <http://www.montgomerycountymd.gov/apps/dot/snowtrack/pubservreq.asp>. The page header includes the text "Text Version" on the left and "December 16, 2010" on the right. The main header features the "MONTGOMERY COUNTY MARYLAND" logo and the website address "montgomerycountymd.gov". Below the header is a navigation bar with four colored buttons: "RESIDENTS" (orange), "GOVERNMENT" (blue), "BUSINESSES" (red), and "CULTURE & LEISURE" (purple). A search bar is located on the left side of the page. The main content area is titled "Winter Storm Information" and contains the following text: "Crews are beginning to spread salt and /or abrasives on neighborhood roads maintained by County along established Neighborhood Plow routes. Tree crews will be responding to major tree damage in public rights-of-way as conditions warrant." Below this text is a bullet point: "• [View Countywide Snow Map](#)". In the top right corner of the main content area, there are links for "FAQ" and "Help". The left sidebar contains a list of navigation links: "News", "County Executive", "County Council", "Judiciary", "Departments", "I Want To ...", "Services & Info.", "Online Services", "County Cable 6", "NEW Seniors", "Education", "Libraries", "Volunteer", "Careers", and "Contact Us". At the bottom left of the page is the "MC311 ANSWERING TO YOU" logo.

Text Version December 16, 2010

MONTGOMERY COUNTY MARYLAND

montgomerycountymd.gov

Home | Translate

SEARCH

RESIDENTS **GOVERNMENT** **BUSINESSES** **CULTURE & LEISURE**

Winter Storm Information

[FAQ](#) | [Help](#)

Crews are beginning to spread salt and /or abrasives on neighborhood roads maintained by County along established Neighborhood Plow routes. Tree crews will be responding to major tree damage in public rights-of-way as conditions warrant.

- [View Countywide Snow Map](#)

MC311
ANSWERING TO YOU

Snow Map – Main Page

MCDOT Storm Operations

HOME [Navigation Icons] X: -77.6692, Y: 39.3442

Current Action: Move Map

Map Legend

- Street Intersection Closed
- Street/Lane Closed
- Non-County Maintained Roads
- Emergency Roads
 - Not Started
 - In Progress
 - Complete
- Primary Neighborhood Roads
 - Not Started
 - In Progress
 - Complete
- Neighborhood Roads
 - Not Started
 - In Progress
 - Complete

Find My House

Street:

Locate Clear

Street Address Required: e.g. 123 Main St

Locate Intersections [Crosshair Icon]

Report Missed Streets [Pencil Icon]

Report Damaged Map [Car Icon]

Snow Map – Map Legend turned off

MCDOT Storm Management Operations

HOME + - Bus M ? ↻

X: -76.8185, Y: 38.9147

Current Action: Move Map

Map Legend

Find My House

Street:

Locate Clear

Street Address Required: e.g: 123 Main St

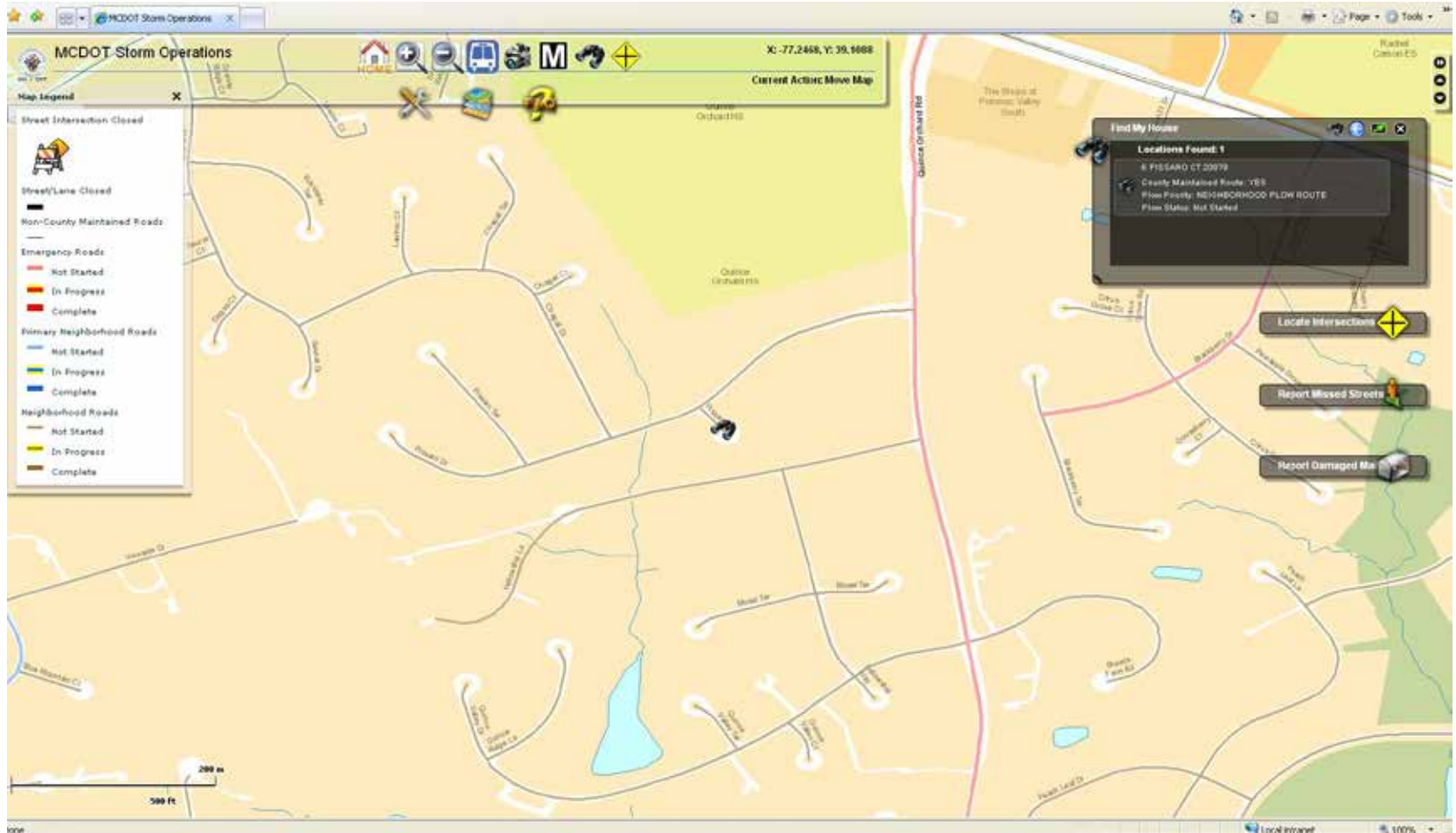
Locate Intersections

Report Missed Streets

Report Damaged Mail

The image displays a web-based map interface for Montgomery County, Maryland, used for snow management operations. The map shows major roads, including Interstates 270 and 495, and various towns such as Hyattstown, Clarksburg, Rockville, and Silver Spring. The map legend is turned off. A 'Find My House' dialog box is open, allowing users to search for a specific street address. Three utility buttons are visible on the right side of the map: 'Locate Intersections', 'Report Missed Streets', and 'Report Damaged Mail'.

Find My House



My House found

The screenshot displays the MCDOT Storm Operations software interface. At the top, the title bar reads "MCDOT Storm Operations". Below it, the application header includes the MCDOT logo, the text "MCDOT Storm Operations", and a toolbar with icons for Home, Zoom In, Zoom Out, Street View, a large 'M', and a yellow crosshair. The main map area shows a street network with a red circle highlighting a specific location. A "Find My House" popup window is open, displaying the following information:

Find My House

Locations Found: 1

- 20600 SUMMER SWEET TER 20876
 - County Maintained Route: YES
 - Plow Priority: NEIGHBORHOOD PLOW ROUTE
 - Plow Status: Not Started

A smaller popup window for the same address is also visible on the map:

20600 SUMMER SWEET TER 20876

- County Maintained Route: YES
- Plow Priority: NEIGHBORHOOD PLOW ROUTE
- Plow Status: Not Started

On the left side, a "Map Legend" window is open, detailing various road types and their plow statuses:

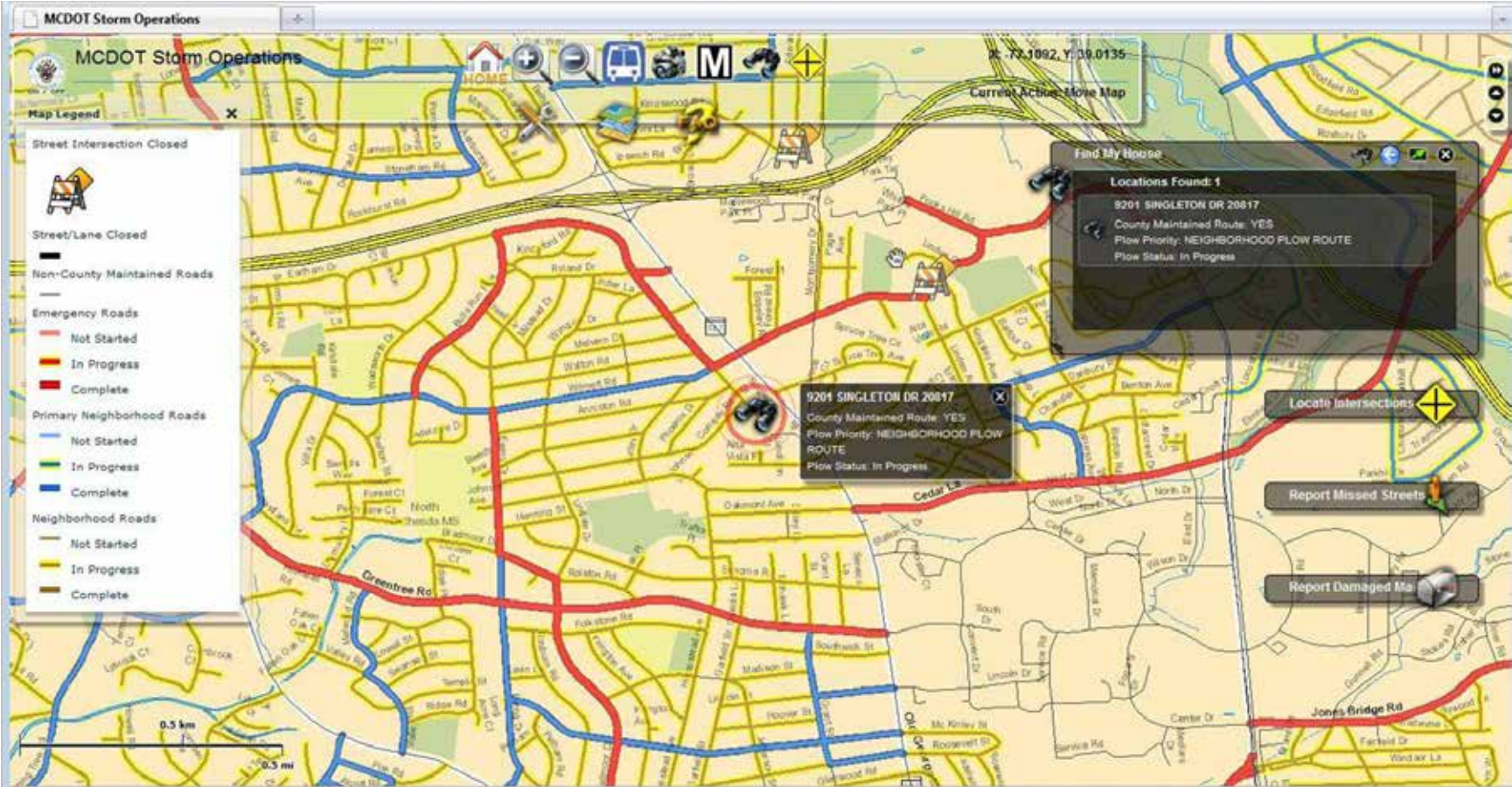
- Street Intersection Closed**: Represented by a yellow diamond with a black cross.
- Street/Lane Closed**: Represented by a black line.
- Non-County Maintained Roads**: Represented by a thin black line.
- Emergency Roads**: Represented by a red line, with sub-statuses:
 - Not Started
 - In Progress
 - Complete
- Primary Neighborhood Roads**: Represented by a blue line, with sub-statuses:
 - Not Started
 - In Progress
 - Complete
- Neighborhood Roads**: Represented by a yellow line, with sub-statuses:
 - Not Started
 - In Progress

At the bottom right, there are three buttons: "Locate Intersections" (yellow crosshair), "Report Missed Streets" (orange arrow), and "Report Damaged Mai" (red and white mailbox icon). The status bar at the bottom indicates "Transferring data from www5.montgomerycountymd.gov..." and "Fiddler: Disabled".

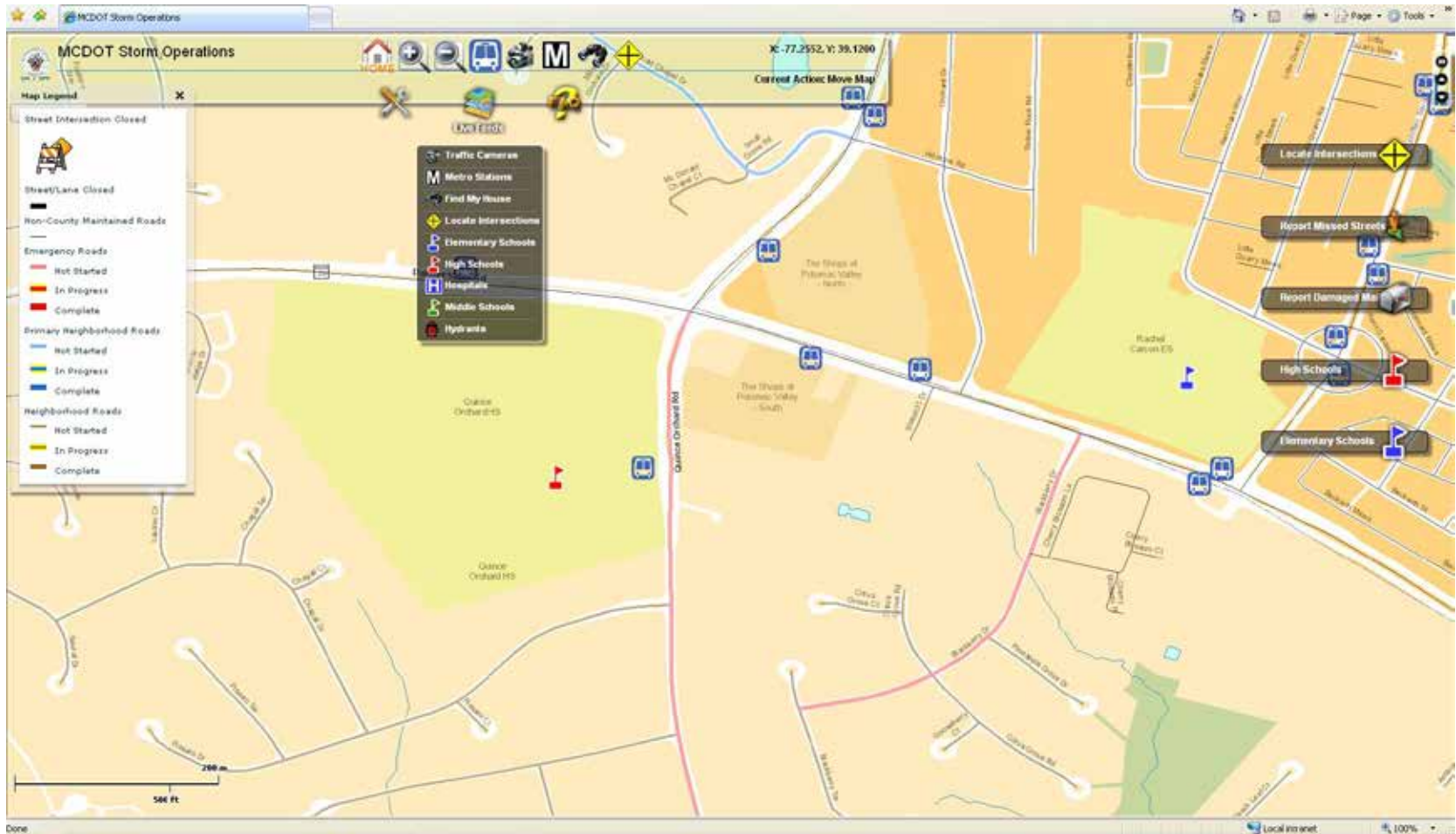
feedback: address, responsibility, priority, status



detailed plow status around 'my house'



RideOn Bus Stops



Report Damaged Mailboxes

The screenshot displays the MCDOT Storm Operations web application interface. The main map area shows a residential neighborhood with various streets and landmarks. A red flag icon is placed on a street, indicating a reported issue. A dialog box titled "Report Damaged Mailboxes" is open, containing the following information:

- Your Damaged Mailbox Address: 6 PISSARO CT
- Your Name: Apollo
- Your Contact Phone: Feng
- Email: apollo.teng@meryccocail

Below the contact information is a button labeled "Send Your Request to MCDOT". The map interface includes a "Map Legend" on the left side, detailing road types and their status (Not Started, In Progress, Complete). The legend categories are:

- Street Intersection Closed
- Street/Lane Closed
- Non-Courts Maintained Roads
- Emergency Roads
 - Not Started
 - In Progress
 - Complete
- Primary Neighborhood Roads
 - Not Started
 - In Progress
 - Complete
- Neighborhood Roads
 - Not Started
 - In Progress
 - Complete

Other features visible on the map include a "Current Action: Move Map" indicator, a scale bar (0 to 500 ft), and various navigation and utility icons. The status bar at the bottom shows "Local intranet" and "100%" zoom level.

By clicking traffic camera button on the top menu, the residents can view the real-time road conditions of major intersections near their neighborhood

The screenshot displays a web browser window titled "Rich Spatial Flex Viewer - Microsoft Internet Explorer". The address bar shows the URL "http://mcg-b017/snowmap_public/index.html". The browser interface includes a search bar, navigation buttons, and a toolbar with various icons.

The main content is a map titled "MCDOT Storm Management Operations". The map shows a network of roads with various colored overlays indicating their status. A legend on the left side of the map provides the following information:

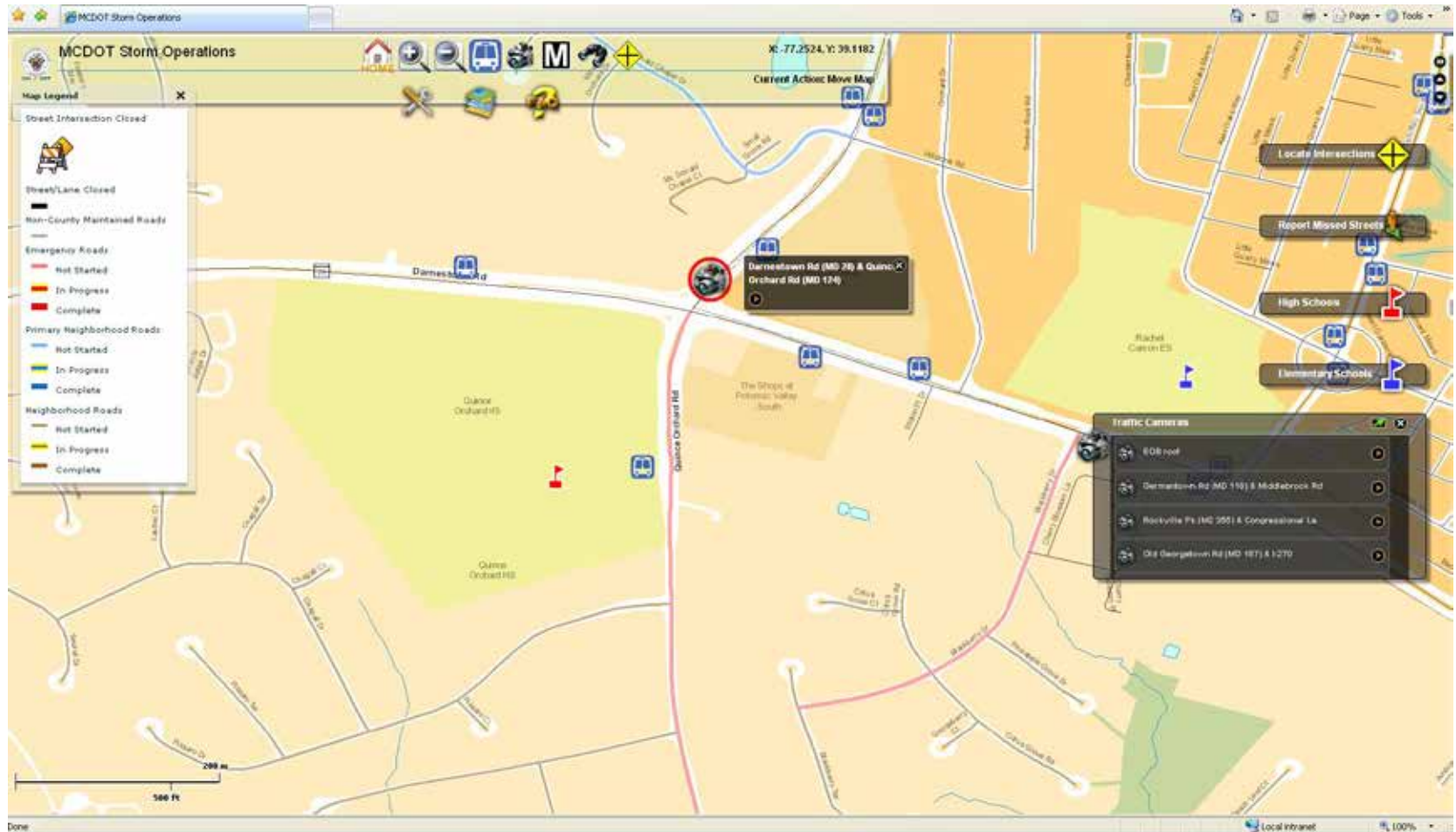
- Street/Lane Closed:** Represented by a black line.
- Emergency Routes:**
 - Not Started: Represented by a red line.
 - In Progress: Represented by a yellow line.
 - Complete: Represented by a red line.
- Primary Neighborhood Routes:**
 - Not Started: Represented by a blue line.
 - In Progress: Represented by a yellow line.
 - Complete: Represented by a blue line.
- Neighborhood Routes:**
 - Not Started: Represented by a pink line.
 - In Progress: Represented by a yellow line.
 - Complete: Represented by a purple line.
- Street Intersection Closed:** Represented by a camera icon.
- Non-County Plowed Roads:** Represented by a black line.

On the right side of the map, there are several pop-up windows:

- Locate your plow status:** Shows "Locations Found: 7" and lists details for "5 AMBIANCE CT" and "3 AMBIANCE CT", including "County Maintained Route: YES; Snow Plow" and "Priority: Neighborhood Plow Route; Plow Status: In Progress".
- Report Missed Streets:** A button with a plow icon.
- Report Damaged Mail:** A button with a mailbox icon.
- Traffic Cameras:** Lists camera locations with descriptions: "DESCRIP: EOB roof", "DESCRIP: Germantown Rd (MD 118) & Middlebrook Rd", and "DESCRIP: Rockville Pk (MD 355) & Congressional La".

The map also features a "Map Legend" section with a note: "Click the logo in the image to hide/show banner". The map includes various street names, landmarks like "Kerlands Lakes Park", and a scale bar indicating "0.5 mi".

Traffic Camera


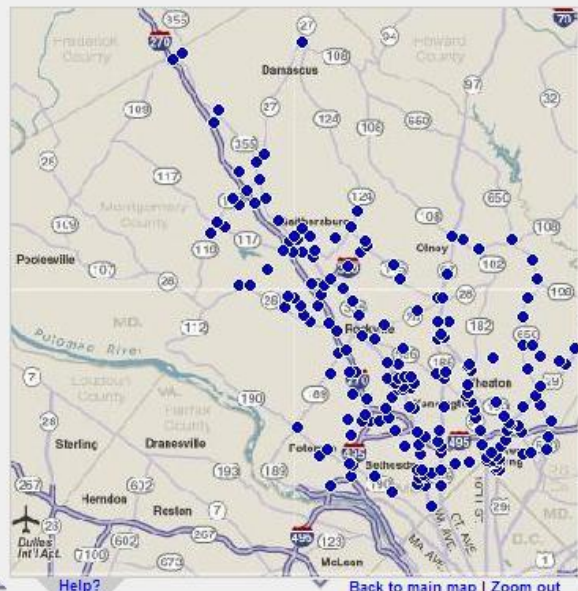


200 Traffic Cameras

http://atms.montgomerycountymd.gov/jpgcap/TL/?tlcamera=2207

Montgomery County Traffic Cameras

Montgomery County Traffic Cameras



Montgomery County
TRAFFIC VIDEO CENTER

Darnestown Rd (MD 28) and Quince Orchard Rd (MD 124)
Traffic closest to camera travelling South

Copyright 2011
Montgomery County Government
All Rights Reserved

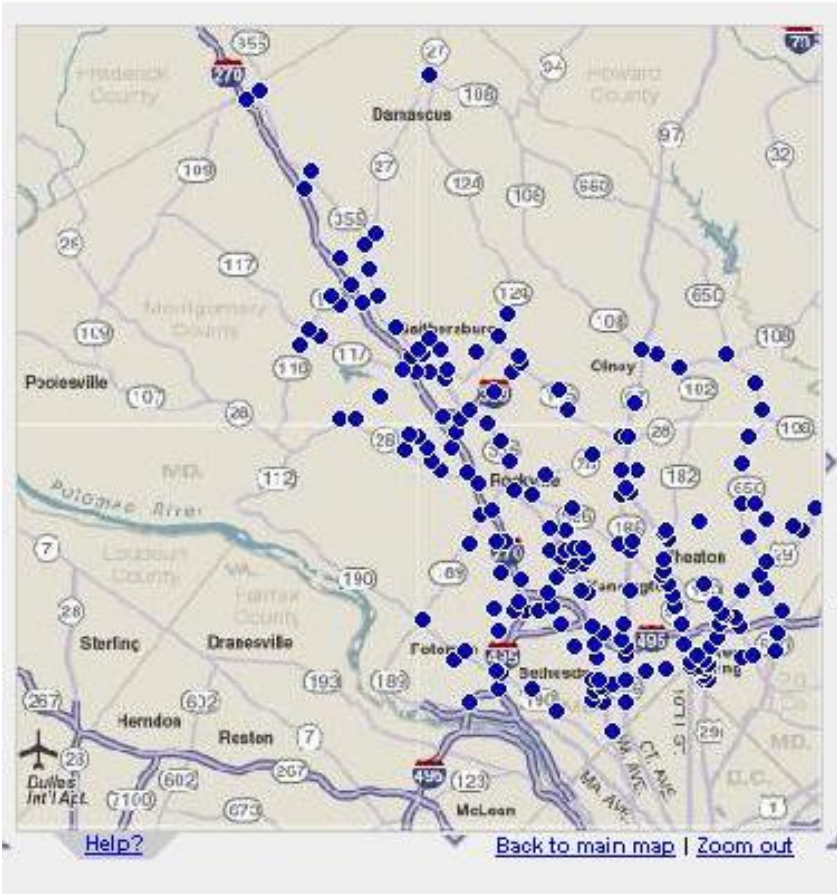
Powered by [TrafficLand](#)

[Help?](#) [Back to main map](#) | [Zoom out](#)

Which direction is the camera pointing? See: [Our Camera Tiltting Convention](#)

Intersection of Rts 355& 28 – snow cleared

Montgomery County Traffic Cameras

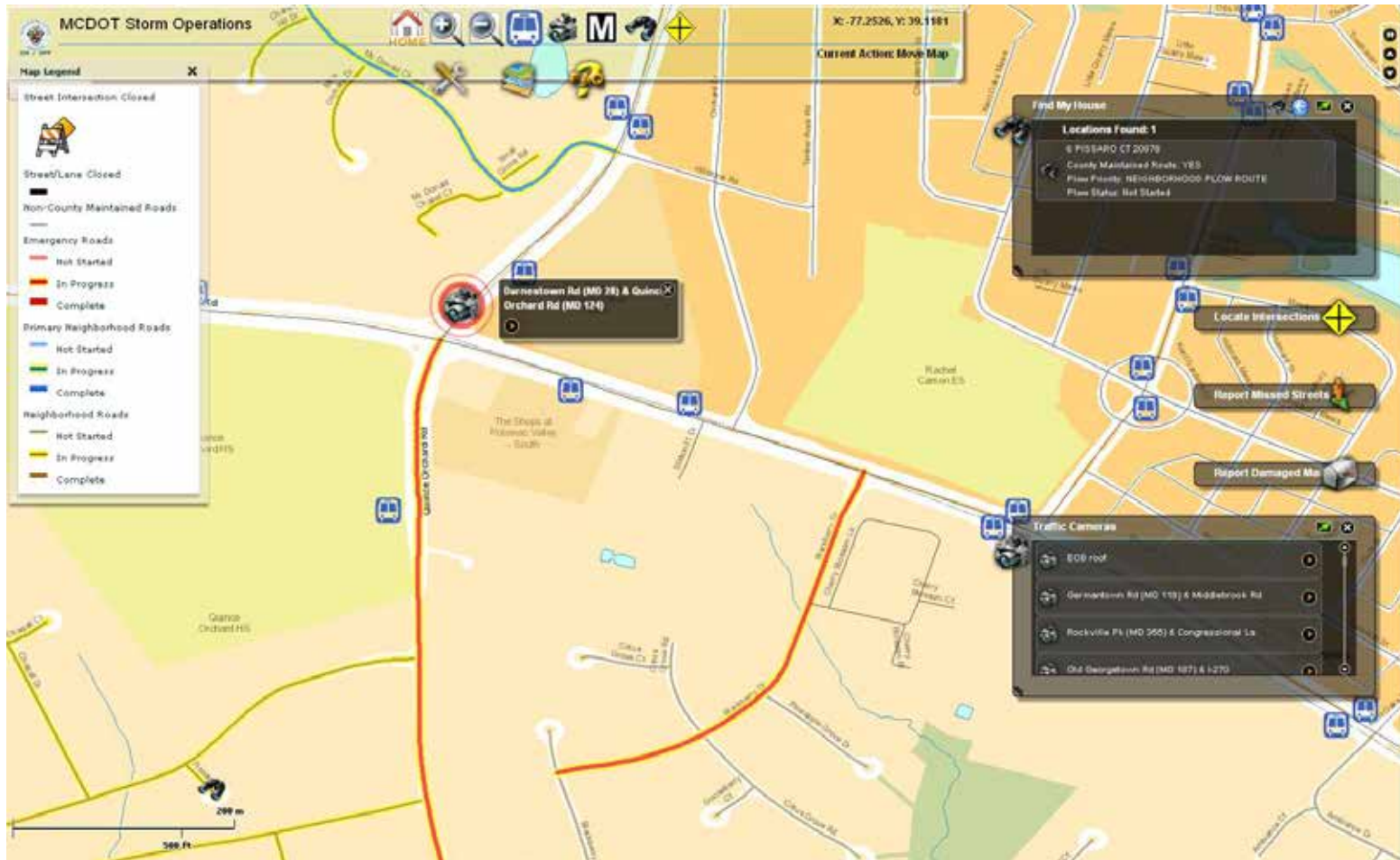


Eob Roof
Traffic closest to camera travelling South

Copyright 2011
Montgomery County Government
All Rights Reserved

Powered by [TrafficLand](#)

Traffic camera location





Residents can submit “missed street” service request; the FAQs are also presented to them

Rich Spatial Flex Viewer - Microsoft Internet Explorer

Address: http://mcg-b017/snowmap_public/index.html

MCDOT Storm Management Operations

Map Legend: Click the logo image to hide/show banner

- Street/Lane Closed
- Emergency Routes
 - Not Started
 - In Progress
 - Complete
- Primary Neighborhood Routes
 - Not Started
 - In Progress
 - Complete
- Neighborhood Routes
 - Not Started
 - In Progress
 - Complete
- Street Intersection Closed
- Non-County Plowed Roads

DOT Snow Removal FAQ

- Maryland State Highway Road Conditions
- User Manual
- Need Techn

Locate your plow status

Locations Found: 15

- 14004 ARCTIC AVE
 - County Maintained Route: YES; Snow Plow Priority: Emergency Route; Plow Status: In Progress
- 14001 ARCTIC AVE
 - County Maintained Route: YES; Snow Plow Priority: Emergency Route; Plow Status: In Progress

Report Missed Streets

Your Missed Street Address: 14004 ARCTIC AVE

Your Name: John

Your Contact Phone: Doe

Email: john.doe@aol.com

Send Your Request to MCDOT

Report Damaged Mail

Report Missed Street

MCDOT Storm Operations

Map Legend

- Street Intersection Closed
- Street/Lane Closed
- Non-County Maintained Roads
- Emergency Roads
 - Not Started
 - In Progress
 - Complete
- Primary Neighborhood Roads
 - Not Started
 - In Progress
 - Complete
- Neighborhood Roads
 - Not Started
 - In Progress
 - Complete

Current Action: Move Map

X: -77.2438, Y: 39.1157

Find My House

Locations Found: 1

- 6 PISSARO CT 20876
- County Maintained Road: YES
- Flow Priority: NEIGHBORHOOD FLOW ROUTE
- Flow Status: Not Stated

Report Missed Streets

Your Missed Street Address: 6 PISSARO CT

Your Name: John Doe

Your Contact Phone: 340-777-7777

Email: john.doe@anymail.com

Send Your Request to MCDOT

Report Damaged Ma

Report Damaged Mailboxes

MCDOT Storm Operations

HOME | Map Legend | X | X: 77,2554, Y: 39,1130 | Current Action: Move Map

Map Legend

- Street Intersection Closed
- Street/Lane Closed
- Non-County Maintained Roads
- Emergency Roads
 - Not Started
 - In Progress
 - Complete
- Primary Neighborhood Roads
 - Not Started
 - In Progress
 - Complete
- Neighborhood Roads
 - Not Started
 - In Progress
 - Complete

Find My House

Locations Found: 1

- 6 PISSARO CT 20870
- County Maintained Route: YES
- Flow Priority: NEIGHBORHOOD FLOW ROUTE
- Flow Status: Not Stated

Report Damaged MailBoxes

Your Damaged Mailbox Address: 6 PISSARO CT

Your Name:

Your Contact Phone:

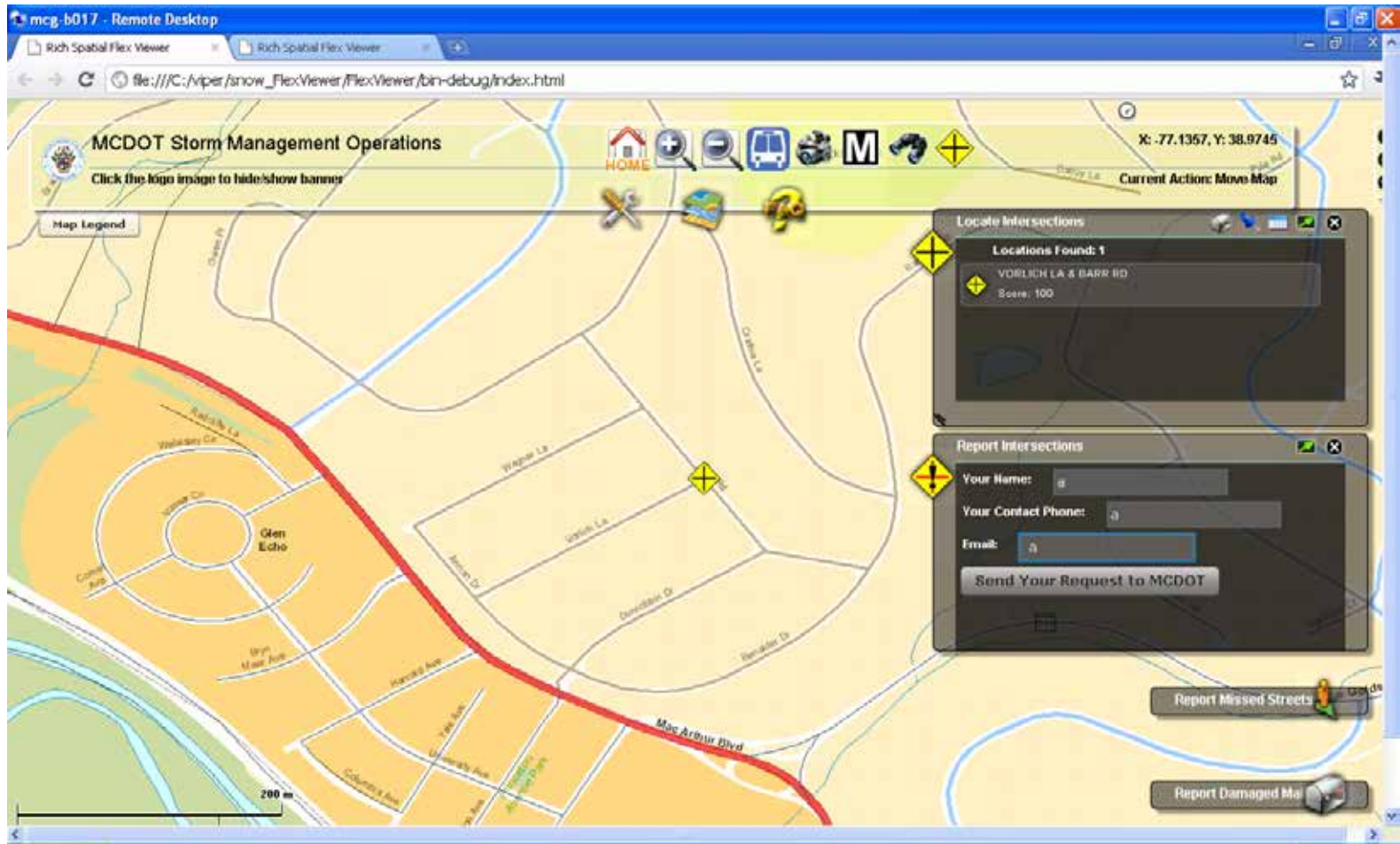
Email:

Scale: 200 m / 500 ft

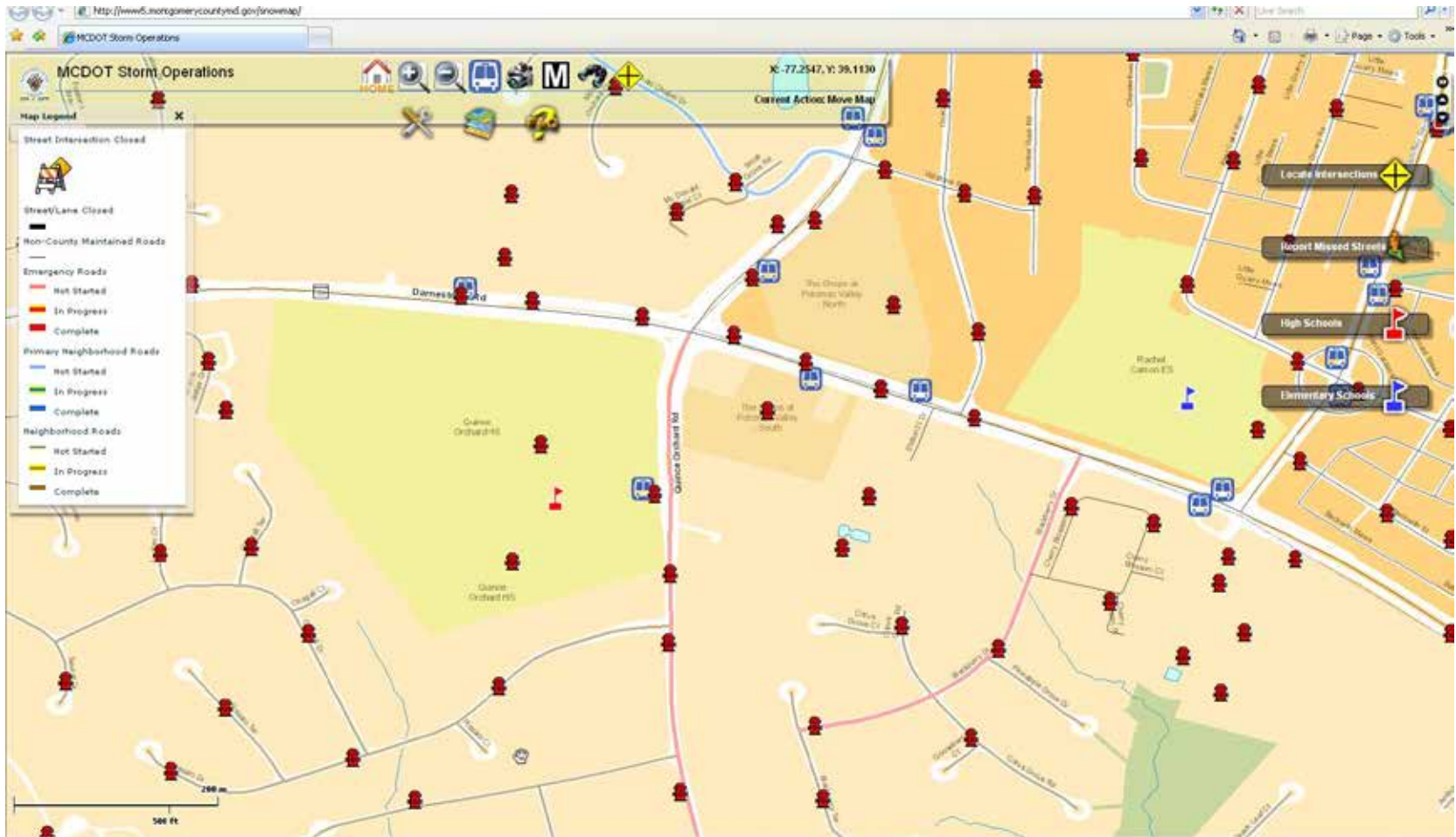
Locate Intersection

The screenshot displays the MCDOT Storm Management Operations web application interface. At the top left, the logo and text "MCDOT Storm Management Operations" are visible, along with a "HOME" button and a "Click the logo image to hide/show banner" instruction. The top right corner shows the coordinates "X: -76.7645, Y: 39.3479" and the "Current Action: Move Map". The main map area shows a geographical region with various towns and roads labeled, including Hyattstown, Damascus, Clarksburg, Laytonsville, Gaithersburg, Rockville, North Bethesda, Wheaton, Silver Spring, Bethesda, Potomac, and Burtonsville. A "Locate Intersections" dialog box is open, with the text "vorlich la and barr rd" entered in the "Street:" field. Below the input field are "Locate" and "Clear" buttons. A note below the buttons reads "Street Address Required: e.g. VORLICH LA AND BARR RD". On the right side of the map, there are three buttons: "Report Intersections" with a yellow diamond warning icon, "Report Missed Streets" with a person icon, and "Report Damaged Mai" with a truck icon. A scale bar at the bottom left indicates "20 km".

Intersection Found



Fire Hydrants – Please clear the snow!

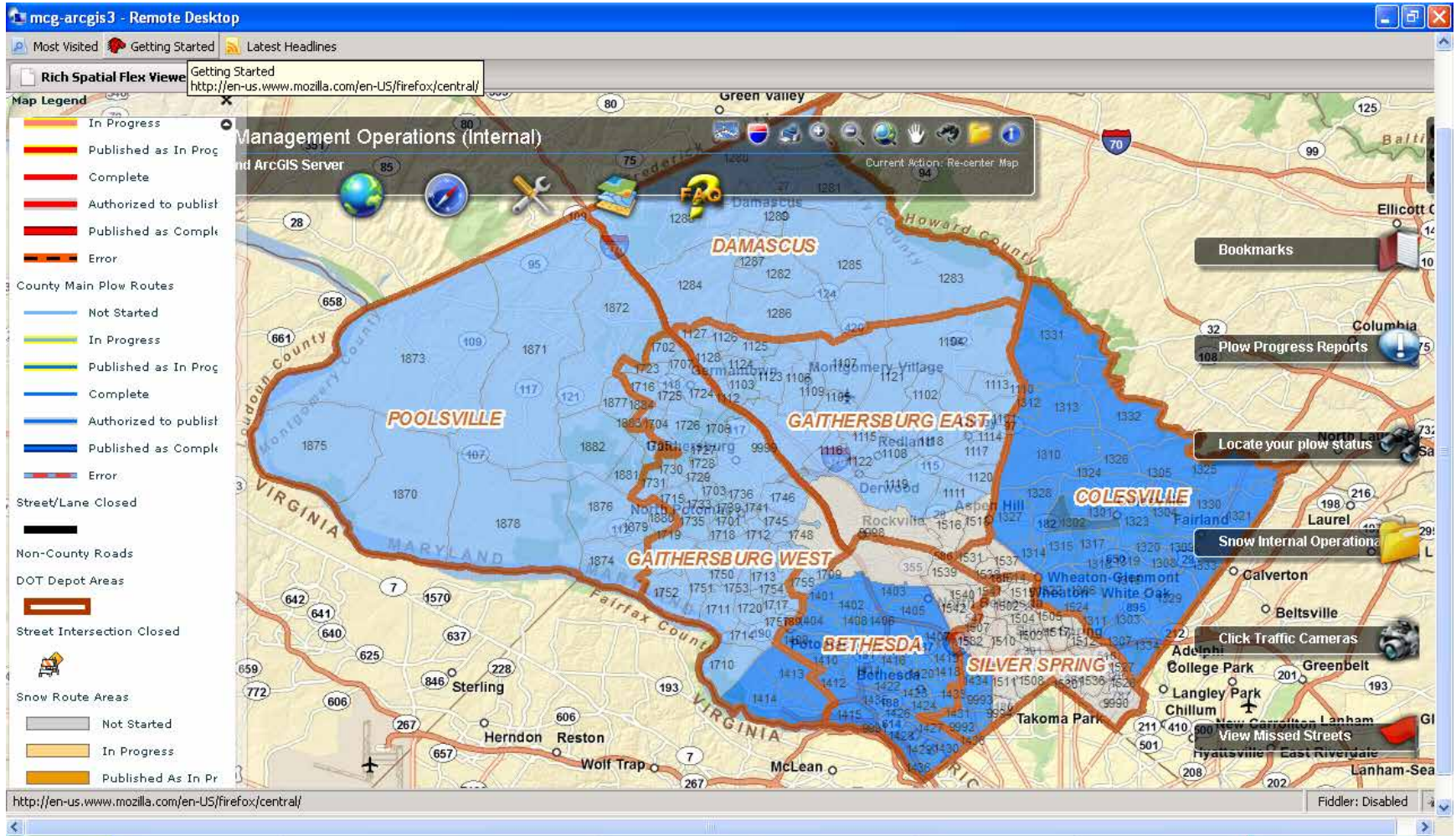


12-14-2010 Press Conference

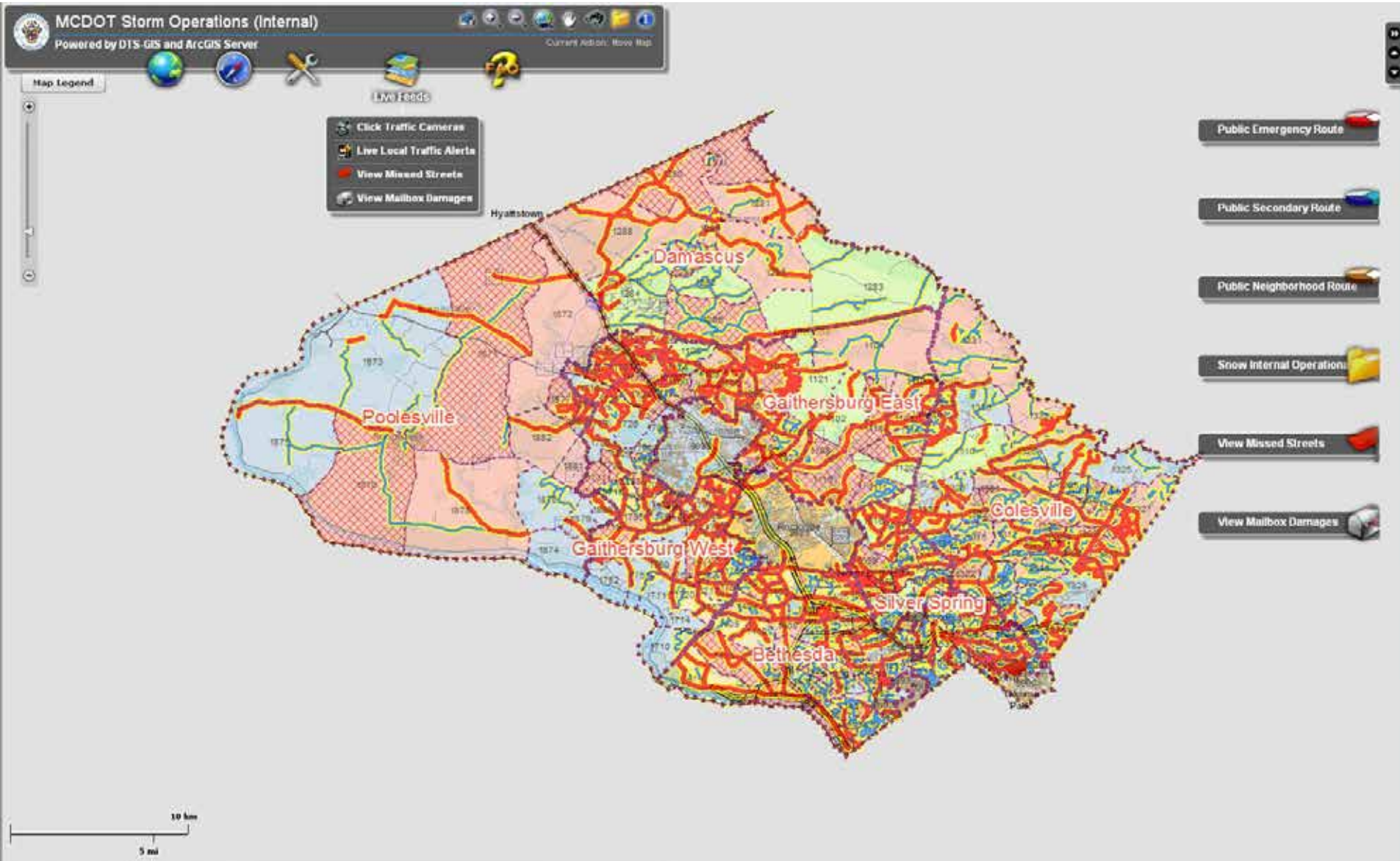


MCDOT Snow Map (Internal)

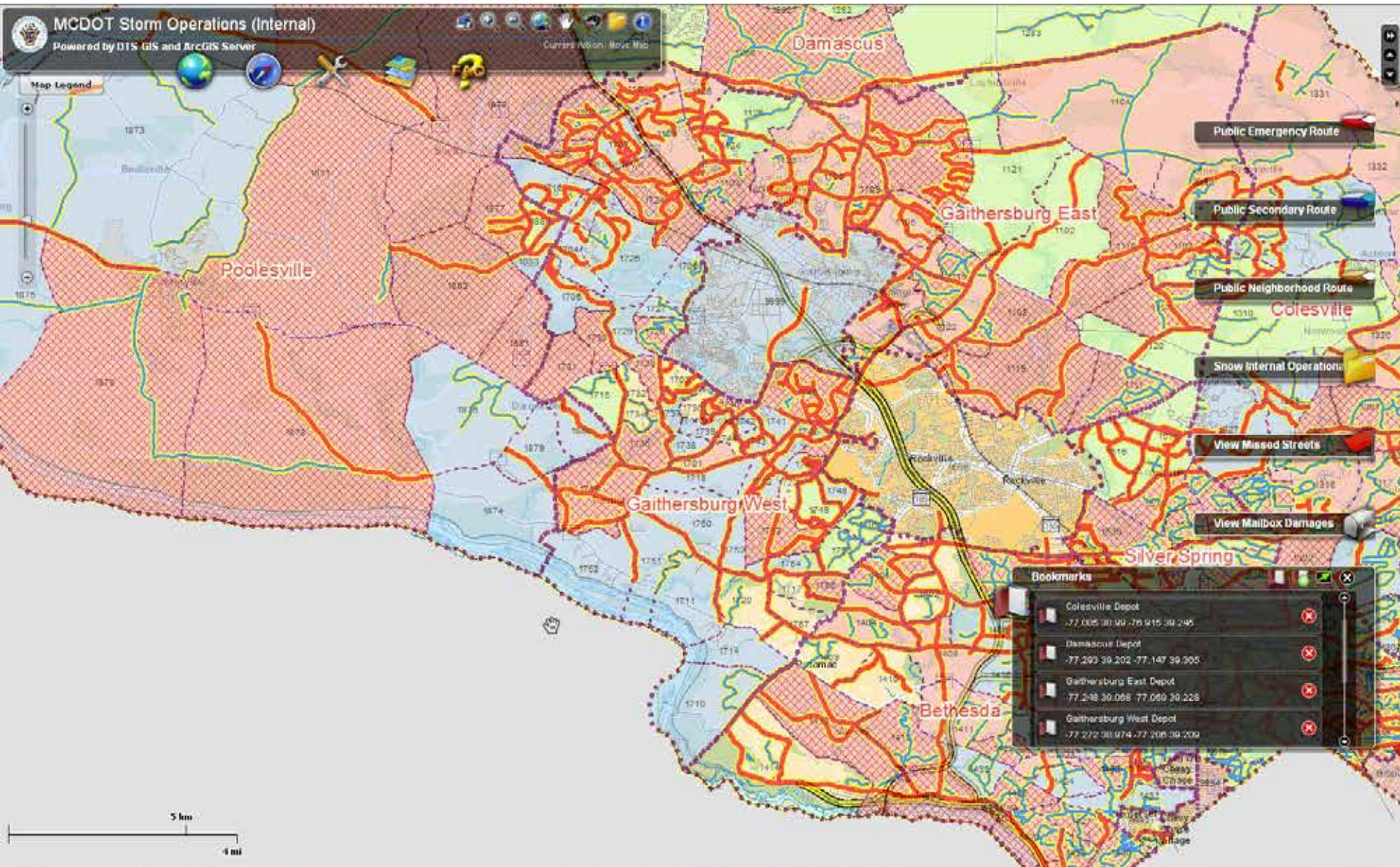
MCDOT staff can track the area-based plow status by Depots (7) and route areas (about 210)



Internal map: route by route status, missed Streets, damaged mailboxes



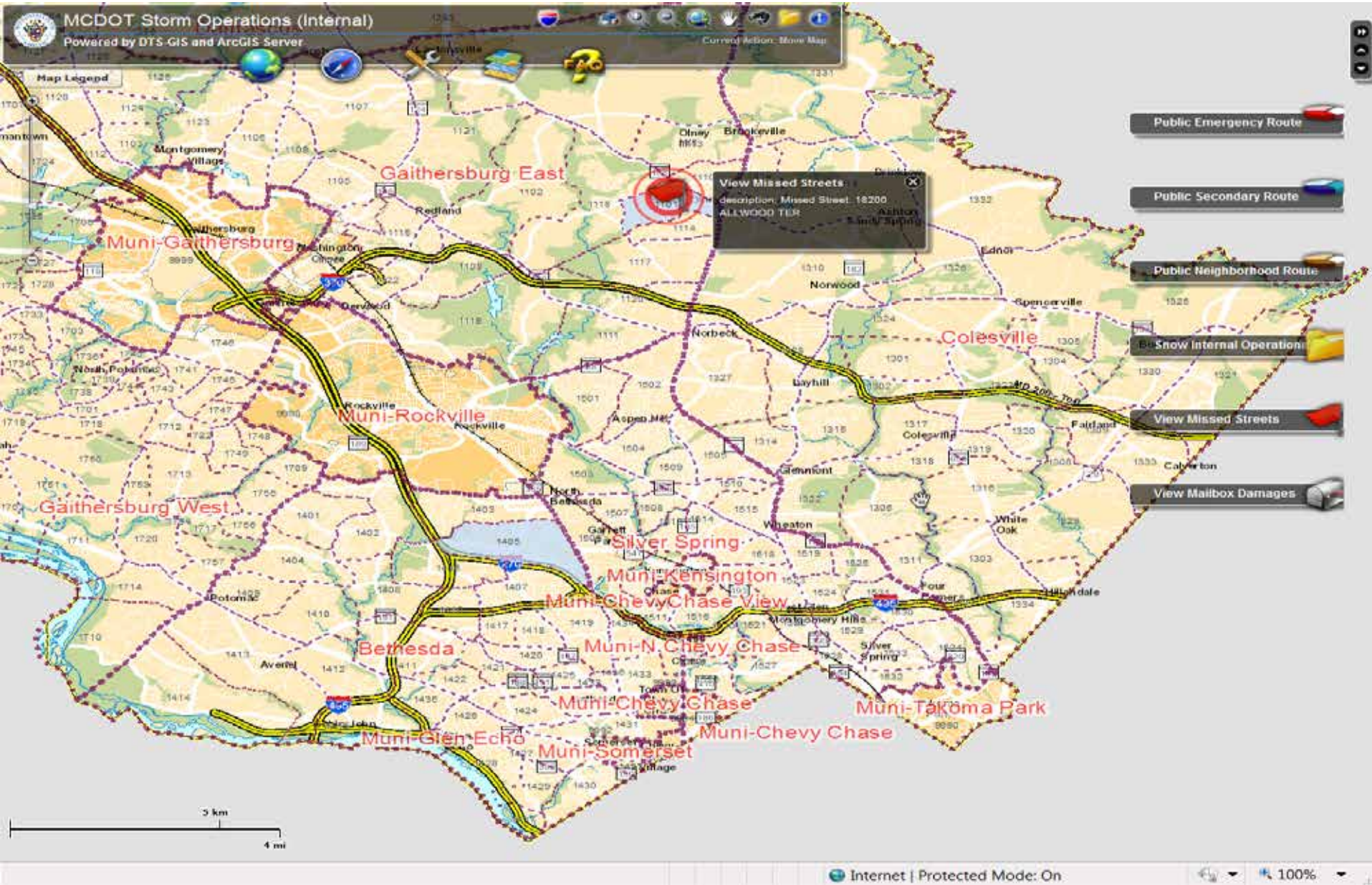
Internal map – bookmark for each Depot



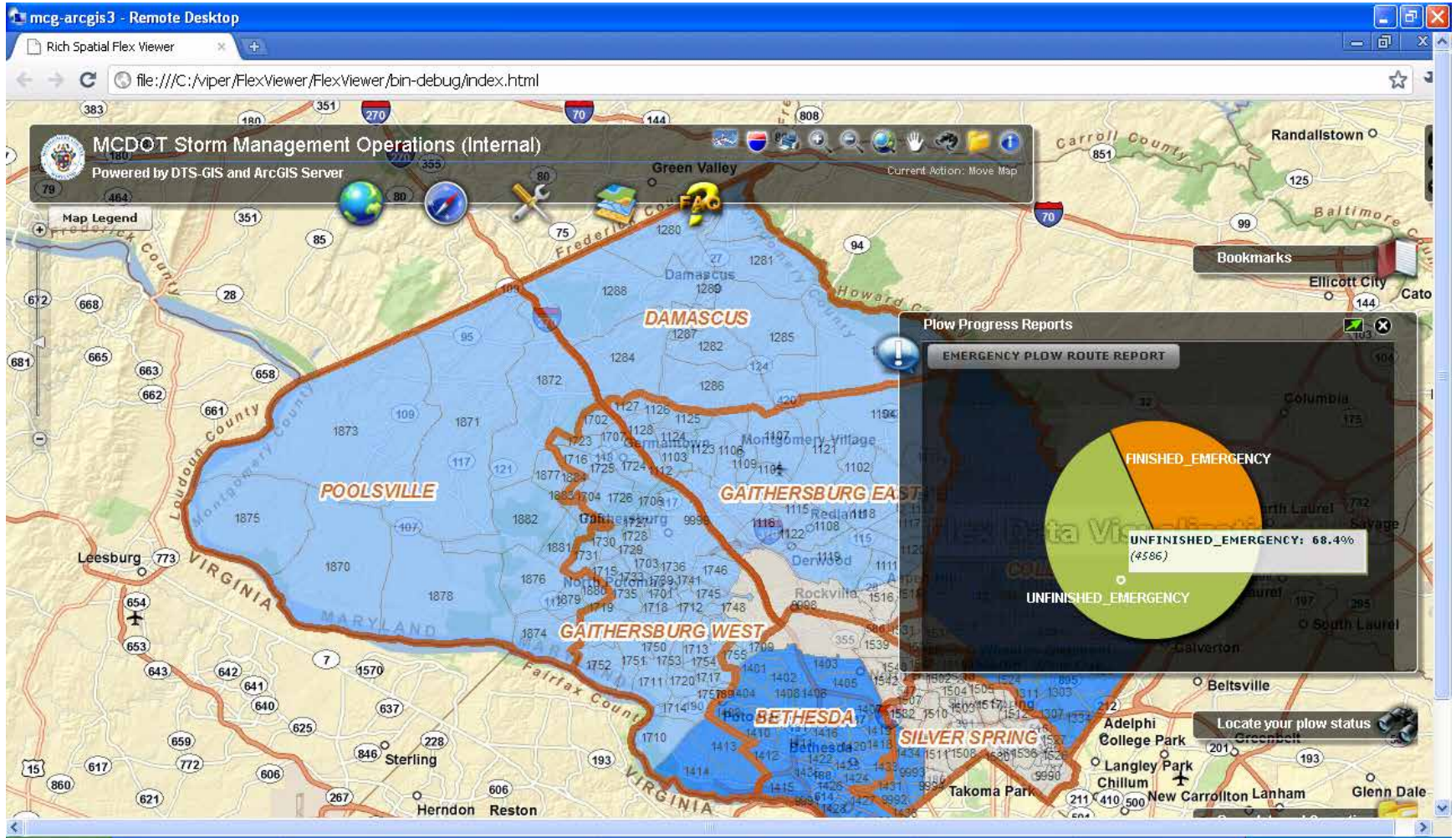
Internal map – controlling layer visibility

The image displays a screenshot of an internal GIS application for MCDOT Storm Operations. The interface includes a top navigation bar with the MCDOT logo, the text "MCDOT Storm Operations (Internal)", and "Powered by DTS GIS and ArcGIS Server". Below this is a "Map Legend" and a toolbar with various icons. The main map area shows a geographic region with colored overlays: a red hatched area, a green area, and a yellow area. Labels on the map include "Gaithersburg West" and "Poolesville". On the right side, there are several control buttons: "Public Emergency Route", "Public Secondary Route", "Public Neighborhood Route", "View Missed Streets", "View Mailbox Damages", and "Bookmarks". A "Snow Internal Operational Maps" window is open in the lower right, showing a "Layer Visibility" panel with a list of layers: "Snow Internal Map Layers" (checked), "Depot Areas", "Route Area Boundaries", "Emergency Routes", "County Main Plow Routes", and "Street/Lane Closed". A scale bar at the bottom left indicates 1 km and 0.5 mi.

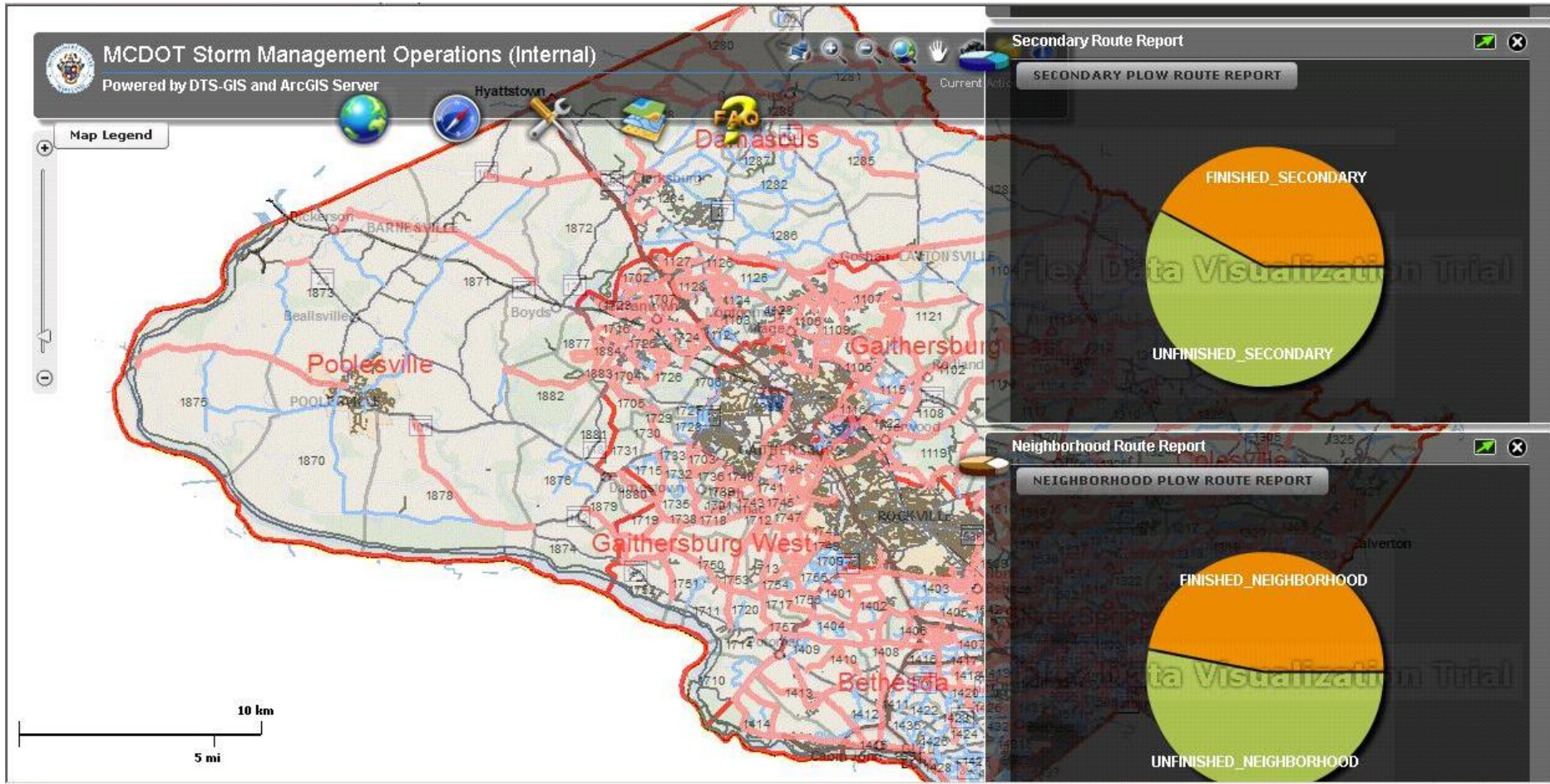
Depot supervisor sees missed streets



Top-level county and DOT administrators can view the real-time plow matrix on emergency routes



countywide progress



Award, Presentation

- “Storm Management Operations Map” - 2011 NACo Achievement Award
- “Storm Management Operations Map” – 2011 CEAM Award
- ESRI 2011 FedUC presentation – 1/20/2011
- ESRI 2011 MUG Conference – December 6, 2011

2011 NACo Achievement Award



Q & A

Apollo.teng@montgomerycountymd.gov

240-777-2883

Reza.zarif@montgomerycountymd.gov

240-777-7619