

Decennial Federal Functional Classification Update

Purpose of this meeting

- Outline FHWA functional classification update process
- Solicit input from local/county road owners

Functional Classification Update Purpose

- General update of roadway functional classification to:
 - Reflect **current** roadway characteristics
 - Reflect federal guidelines on Functional Classification 2013 update
 - Reflect changes in urbanized areas dictated by 2010 census
 - Solicit input from all roadway owners (County & Municipal)

What role does roadway classification play?

- Carry expectation of capacity, speed, and relationship to existing land-use development
- Determines federal-aid eligibility
 - Urban: Collectors and above
 - Rural: Major Collector and above
- Provides context and data for Highway Performance Monitoring System (HPMS)
- Feeds traffic modeling
- Determines eligibility for disaster relief
- National Highway System

Function Classification does NOT:

- Preclude local road classification in local planning efforts
- Plan or forecast future road conditions
- Specifically tie funding to certain roadways or projects

Seven Functional Classifications

Interstate

Freeway/Expressway

Other Principal Arterial

Minor Arterial

Major Collector

Minor Collector

Local

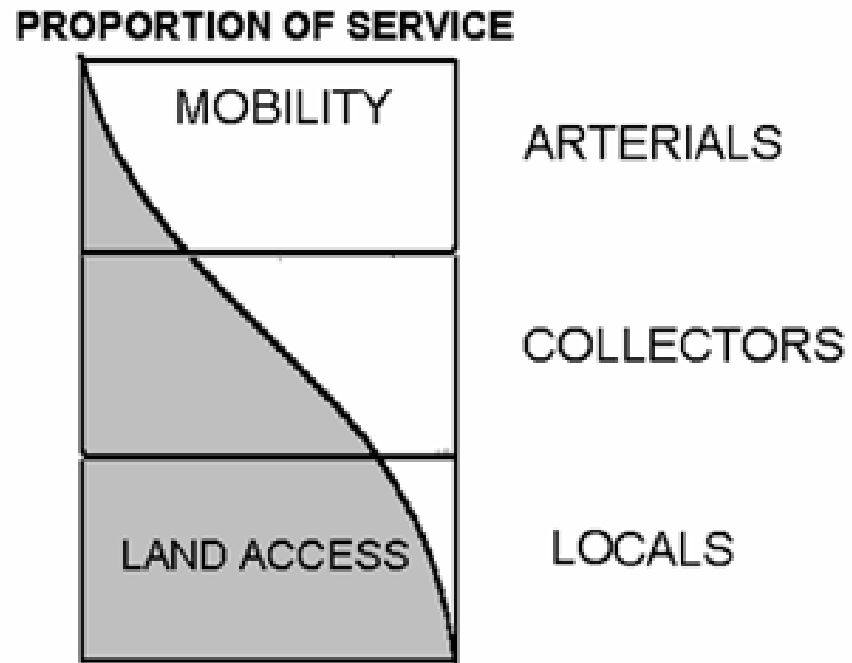
Urban/Rural Neutral Classification

	2000-2010 Rural	2000-2010 Urban	New (Urban/Rural Neutral)
Principal Arterial	Interstate	Interstate	Interstate
		Freeway / Expressway	Other Freeways & Expressways
	Other Principal Arterial	Other Principal Arterial	Other Principal Arterials
Minor Arterial	Minor Arterial	Minor Arterial	Minor Arterial
Collector	Major Collector	Collector	Major Collector
	Minor Collector		Minor Collector
Local	Local	Local	Local

Important Characteristics

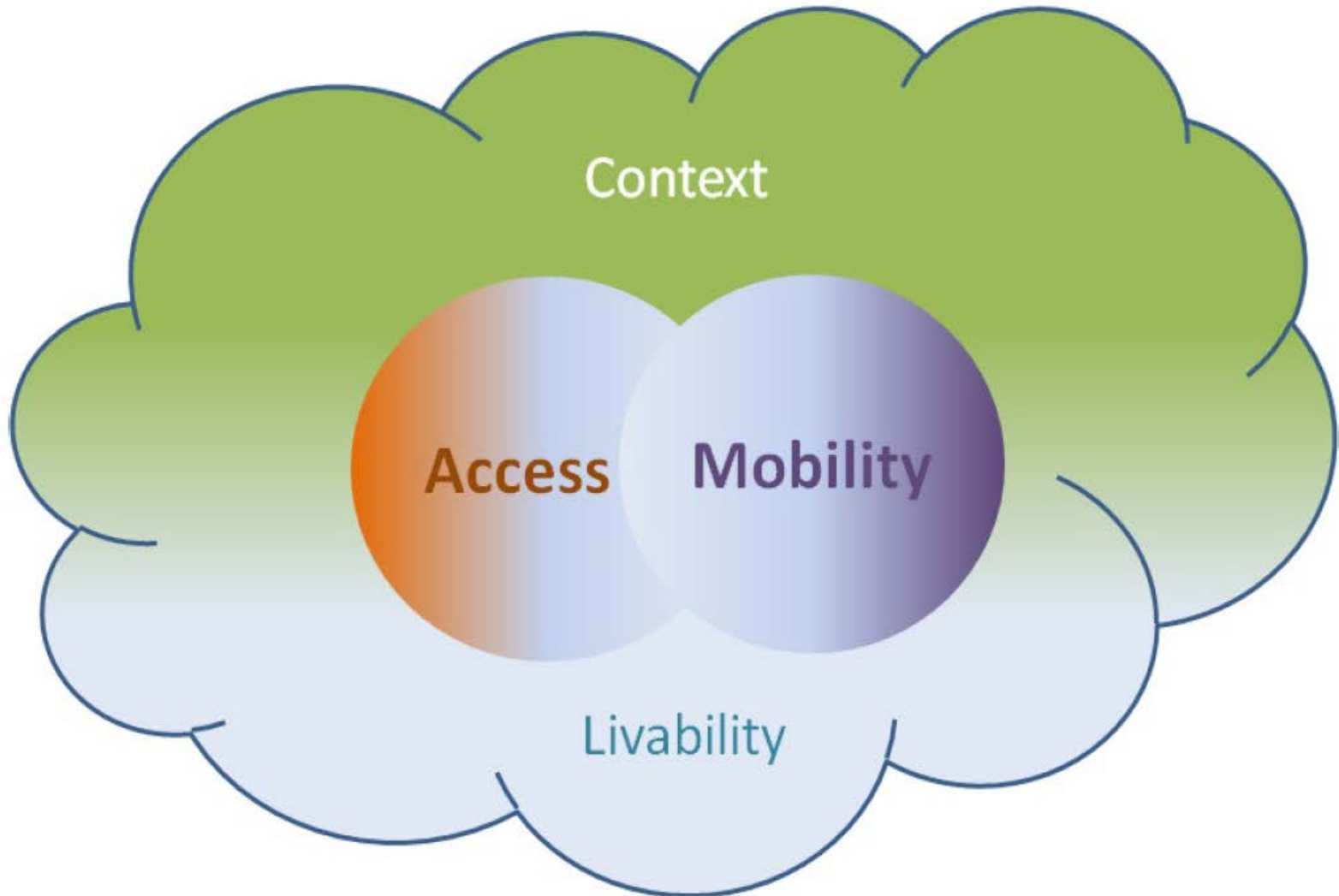
- Access vs. Mobility
- Efficiency of travel
- Access points
- Lanes
- Route Spacing
- Usage
- Statewide significance
- System continuity
- Speed

Mobility vs. Accessibility



FHWA, 2008

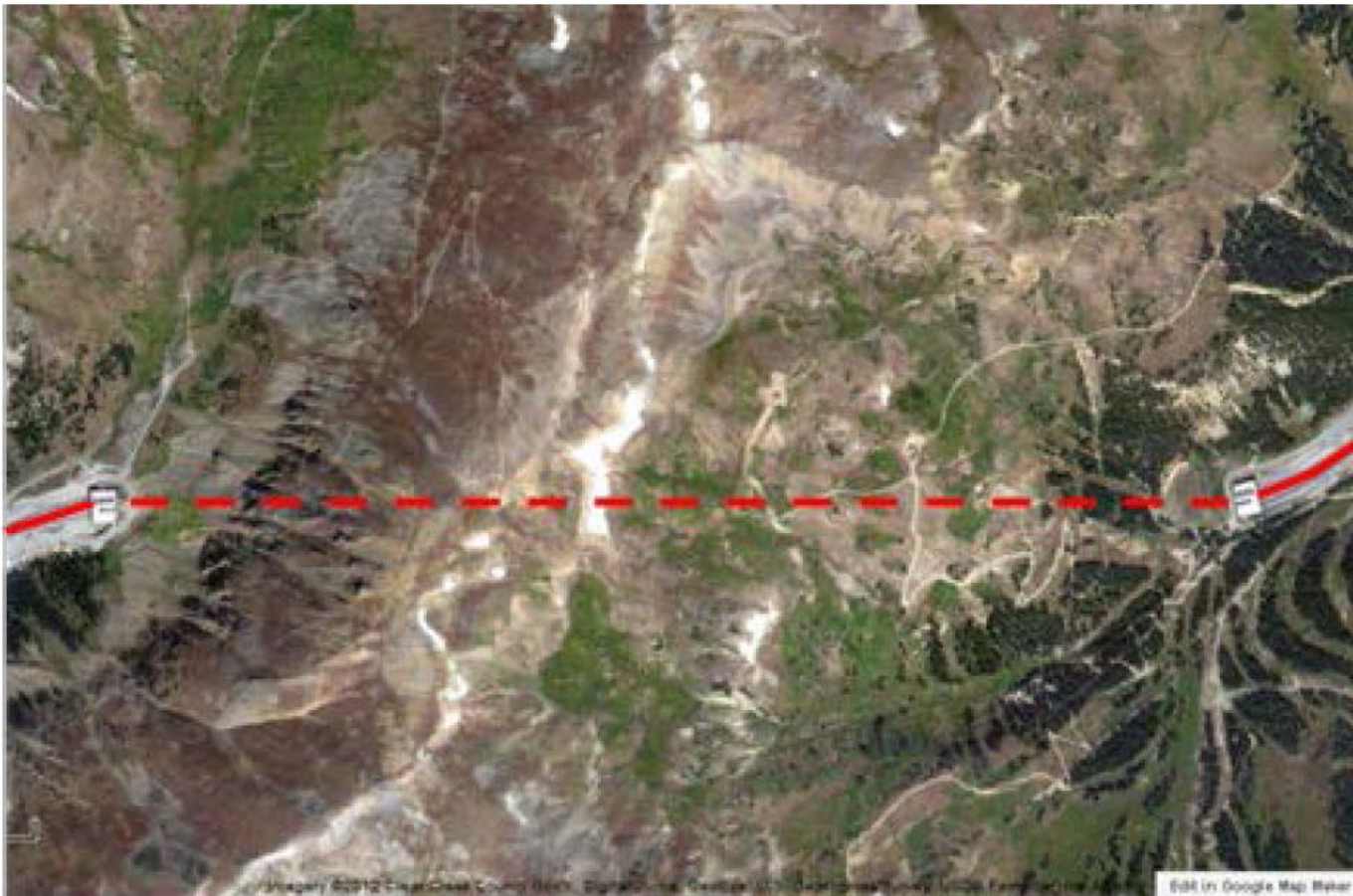
FHWA: Classifying Roads



Source: FHWA

Mobility

Figure 2-1: Aerial View of the Eisenhower (and Johnson) Tunnels along I-70, west of Denver, CO



Source: Google Earth Pro, June 27, 2012

Accessibility

Figure 2-3: Aerial View of Eisenhower Court, North Platte, NE



Source: Google Earth Pro, June 27, 2012

Quantitative vs Qualitative Characteristics

Additional Context: Quantitative

	Arterials				Collectors		Local
	Interstate	Other Freeways & Expressway	Other Principal Arterial	Minor Arterial	Major Collector	Minor Collector	
Typical Characteristics							
Lane Width	12 feet	11 - 12 feet	11 - 12 feet	10 feet - 12 feet	10 feet - 12 feet	10 - 11 feet	8 feet - 10 feet
Inside Shoulder Width	4 feet - 12 feet	0 feet - 6 feet	0 feet	0 feet	0 feet	0 feet	0 feet
Outside Shoulder Width	10 feet - 12 feet	8 feet - 12 feet	8 feet - 12 feet	4 feet - 8 feet	1 feet - 6 feet	1 feet - 4 feet	0 feet - 2 feet
AADT (Rural)	12,000 - 34,000	4,000 - 18,500	2,000 - 8,500	1,500 - 6,000	300 - 2,600	150 - 1,110	15 - 400
AADT (Urban)	35,000 - 129,000	13,000 - 55,000	7,000 – 27,000	3,000 - 14,000	1,100 - 6,300		80 - 700
Divided/Undivided	Divided	Undivided/Divided	Undivided/Divided	Undivided	Undivided	Undivided	Undivided
Access	Fully Controlled	Partially/Fully Controlled	Partially/Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled

Urban Arterials

Freeways/Expressways

- Very similar to Interstates in appearance.
- Directional travel lanes are usually barrier or median separated
- Access is limited to on- and off-ramp locations or a very limited number of at-grade intersections.
- Designed to maximize mobility
- Abutting land uses are not directly served

Other Principal

- Carry high proportion of total urban travel on minimum amount of mileage
- Interconnect major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area
- Serve demand for intra-area travel between the central business district and outlying residential areas

Minor

- Interconnect the higher-level Arterials
- Serve trips of moderate length at a lower level of travel mobility than Principal Arterials
- Distribute traffic to smaller geographic areas than those served by higher-level Arterials
- Provide more land access than Principal Arterials without penetrating identifiable neighborhoods
- Provide urban connections for Rural Collectors

Rural Arterials

Freeways/Expressways

- Very similar to Interstates in appearance.
- Directional travel lanes are usually barrier or median separated
- Access is limited to on- and off-ramp locations or a very limited number of at-grade intersections.
- Designed to maximize mobility
- Abutting land uses are not directly served

Other Principal

- Serve rural statewide or interstate travel demand
- Connect all or nearly all Urbanized Areas and a large majority of Urban Clusters with 25,000 and over population
- Provide an integrated network of continuous routes without stub connections (dead ends)

Minor

- Link cities and larger towns and form an integrated network providing interstate and inter-county service
- Be spaced at intervals, consistent with population density, so that all developed areas within the State are within a reasonable distance of an Arterial roadway

Urban Collectors

Major

- Serve both land access and traffic circulation in higher density residential, and commercial/industrial areas
- Penetrate residential neighborhoods, often for significant distances
- Distribute and channel trips between Local Roads and Arterials, usually over a distance of greater than three-quarters of a mile
- Operating characteristics include higher speeds and more signalized intersections

Minor

- Serve both land access and traffic circulation in lower density residential and commercial/industrial areas
- Penetrate residential neighborhoods, often only for a short distance
- Distribute and channel trips between Local Roads and Arterials, usually over a distance of less than three-quarters of a mile

Rural Collectors

Major

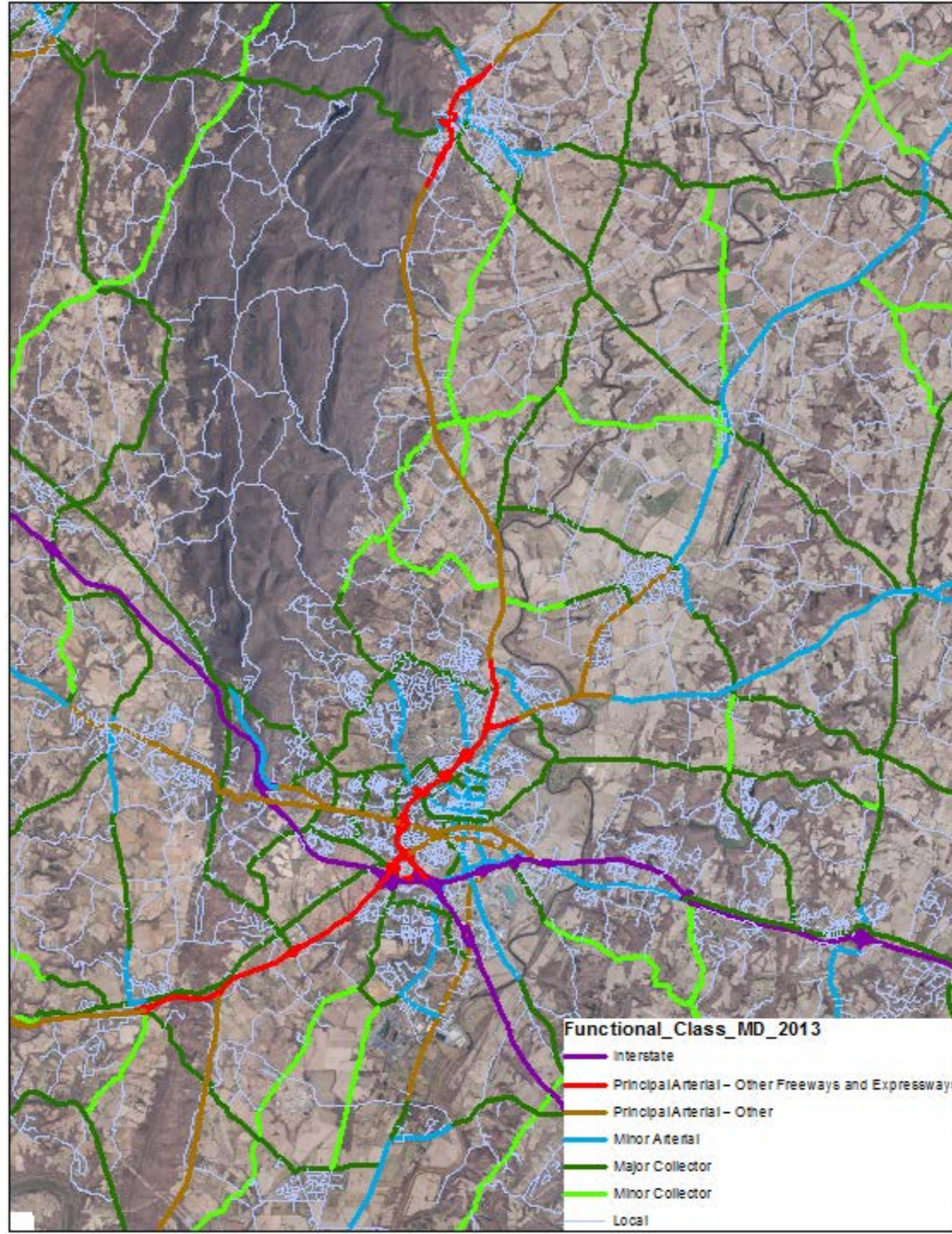
- Provide service to any county seat not on an Arterial route, to the larger towns not directly served by the higher systems and to other traffic generators such as consolidated schools, shipping points, county parks and important mining and agricultural areas
- Link above places with nearby larger towns and cities or with Arterial routes
- Serve the most important intra-county travel corridors

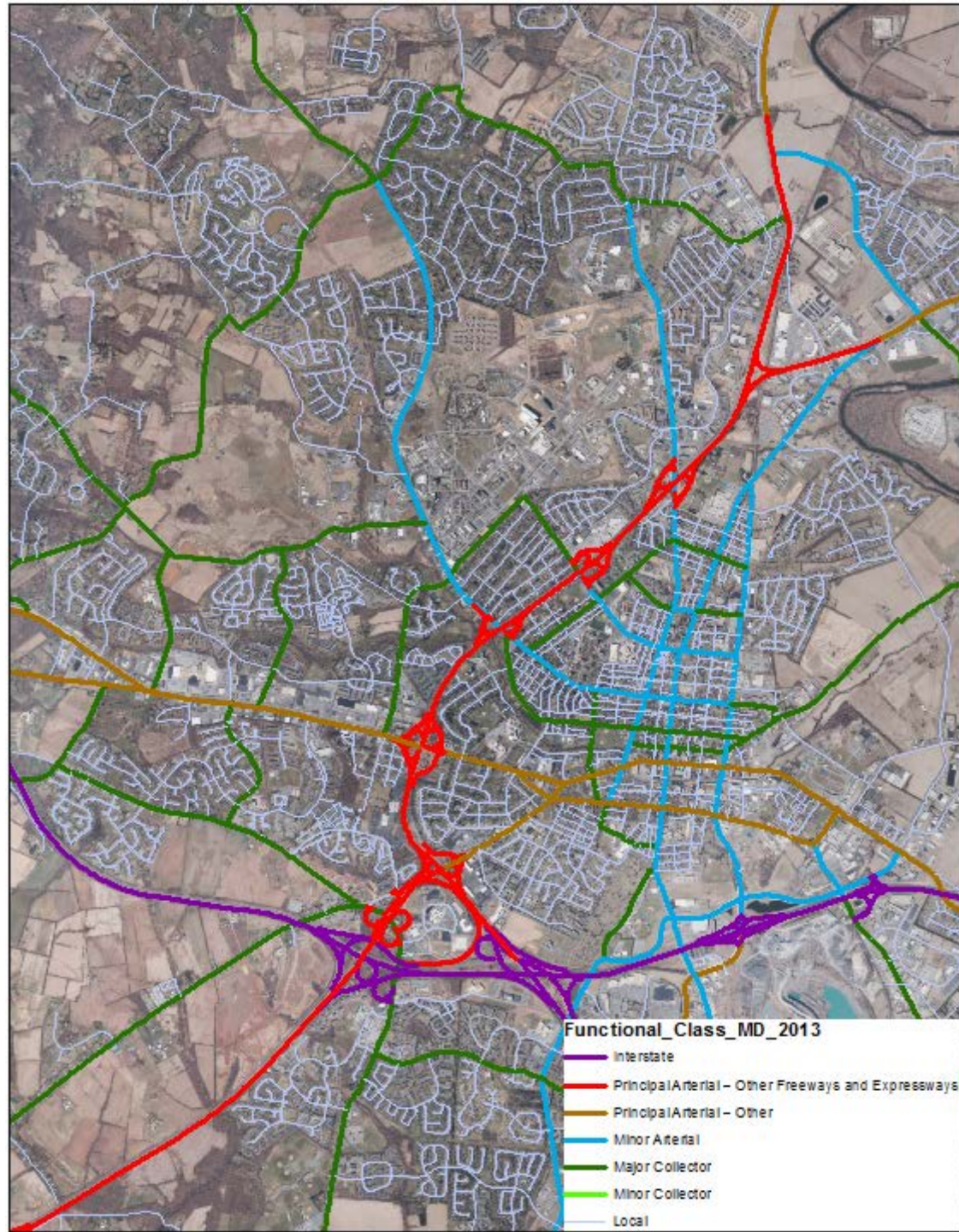
Minor

- Be spaced at intervals, consistent with population density, to collect traffic from Local Roads and bring all developed areas within reasonable distance of a Collector
- Provide service to smaller communities not served by a higher class facility
- Link locally important traffic generators with their rural hinterlands

Local

Urban	Rural
Provide direct access to adjacent land	Serve primarily to provide access to adjacent land
Provide access to higher systems	Provide service to travel over short distances as compared to higher classification categories
Carry no through traffic movement	Constitute the mileage not classified as part of the Arterial and Collector systems
Constitute the mileage not classified as part of the Arterial and Collector systems	





Review Process

	Functional Classification	Rural	Urban
1	Interstates		
2	Other Freeway / Expressways	A. Currently no rural Freeway / Expressways (0%) B. Consider existing Rural OPAs that should be Freeway Expressways C. Consider other classified or non-classified (new/ local) roadways in the rural extent consistent with F/E characteristics	A. Confirm existing Urban Freeway / Expressways B. Consider other classified or non-classified (new/local) roadways in the urban extent consistent with F/E characteristics
3	Other Principal Arterials	A. Confirm existing OPAs; those that haven't been moved to F/E B. Consider Rural Minor Arterials that should be OPAs C. Consider other classified or non-classified roadways (new/local) in the rural extent consistent with OPA characteristics	A. Confirm existing OPAs B. Consider other classified or non-classified (new/local) roadways in the urban extent consistent with OPA characteristics
4	Minor Arterials	A. Confirm existing Minor Arterials; those that haven't been moved to higher classification B. Consider Rural Major Collectors that should be Minor Arterials C. Consider other classified or non-classified roadways (new/local) in the rural extent consistent with Minor Arterial characteristics	A. Confirm existing Minor Arterials B. Consider Collectors and non-classified (new/local) roadways in the urban extent consistent with Minor Arterial characteristics
5	Major Collectors	A. Confirm existing Major Collectors; those that haven't been moved to higher classification B. Consider non-classified roadways (new/local) in the rural extent consistent with Minor Arterial characteristics	A. Collectors in urban extent not currently distinguished between Major and Minor B. Consider all collectors and non-classified (new/local) roadways consistent with Major Collector characteristics
6	Minor Collectors	A. Confirm existing Minor Collectors; those that haven't been moved to higher classification B. Consider non-classified roadways (new/local) in the rural extent consistent with Minor Arterial characteristics	A. Confirm remaining Collectors consistent with Minor Collector characteristics B. Consider non-classified (new/local) roadways in the urban extent consistent with Minor Collector characteristics
7	Local	Confirm Remainder	Confirm Remainder

OPA vs Freeway/Expressway



OPA vs. Freeway/Expressway

US 301 QA County

	Arterials				Collectors		Local
	Interstate	Other Freeways & Expressway	Other Principal Arterial	Minor Arterial	Major Collector	Minor Collector	
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Divided/Undivided	Divided	Undivided/Divided	Undivided/Divided	Undivided	Undivided	Undivided	Undivided
Access	Fully Controlled	Partially/Fully Controlled	Partially/Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled	Uncontrolled

Inside Shoulder Width	4 ft
AADT (Rural)	27,490
Access	partial; intersection right in/out, J-turns, interchange, no private access
Speed	55 mph
Design	Significant interstate/intrastate travel, high travel speed, high mobility

Major Collector vs. Minor Collector



Major vs. Minor Collector

- Much more difficult distinction
- No distinction between AADT
- Much more dependent on road design and purpose

	Arterials				Collectors		Local
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Urban Collectors

Major

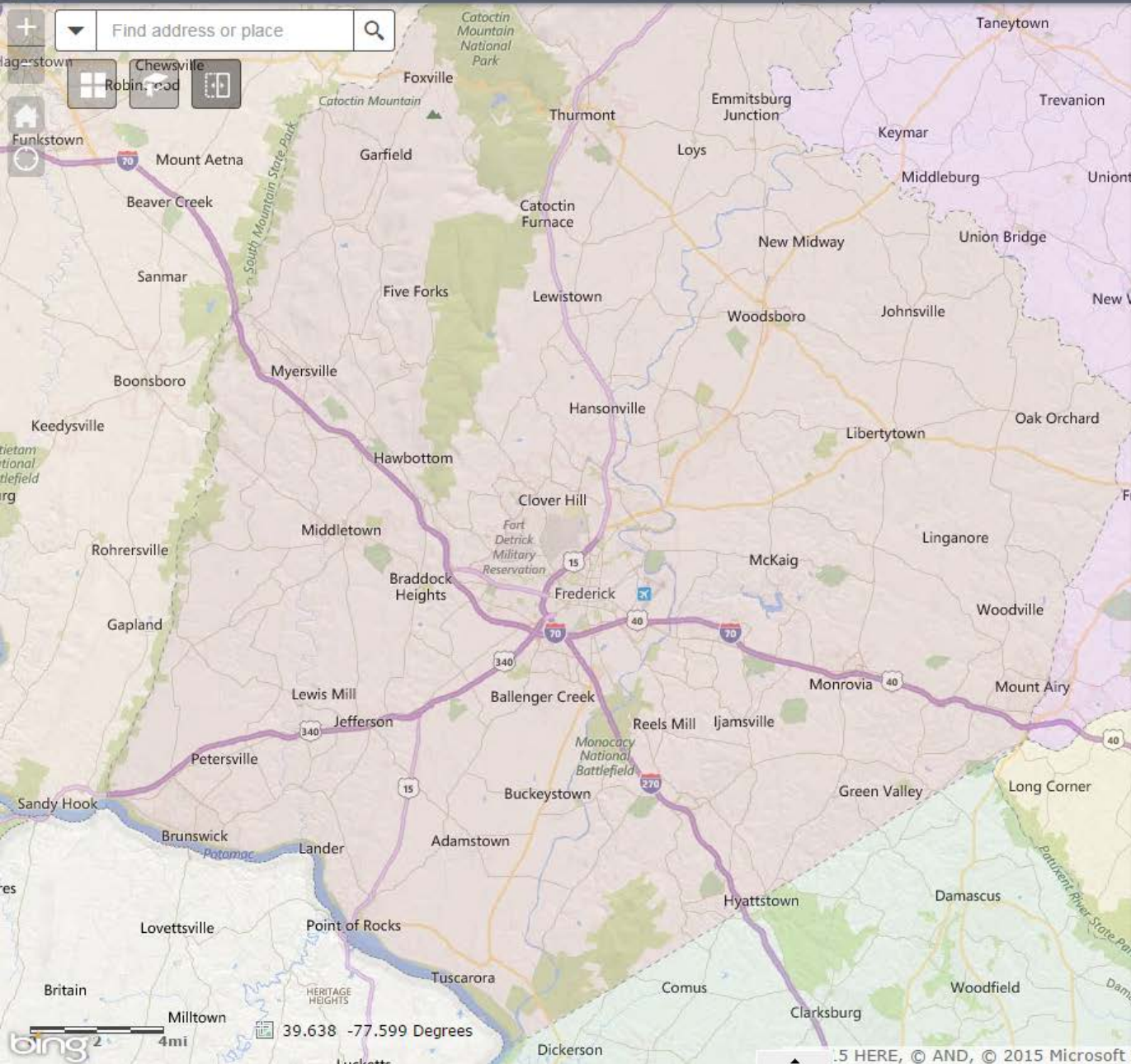
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Functional Classification Coordination App

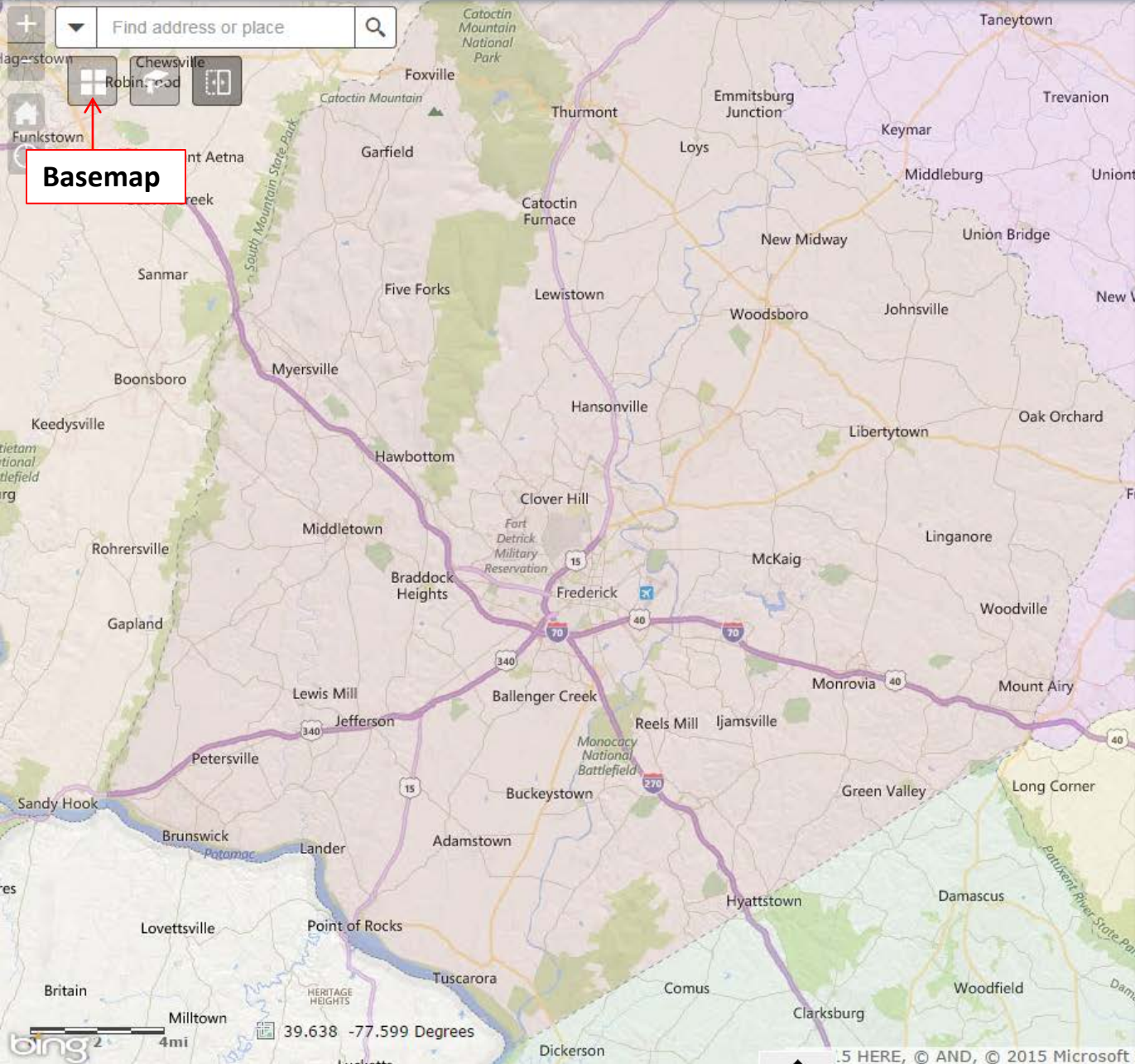
<http://maryland.maps.arcgis.com/apps/webappviewer/index.html?id=ece167652df84ef788fe38d3bdef1c01>



Layer List

Operational Layers

- ☒ Functional Class - Proposed (LOCAL)
- ☒ Functional Class - Current
- ☒ Road Name
- ☒ MD Census Designated Areas - Urban Areas 2010
- ☒ County Boundaries



Layer List

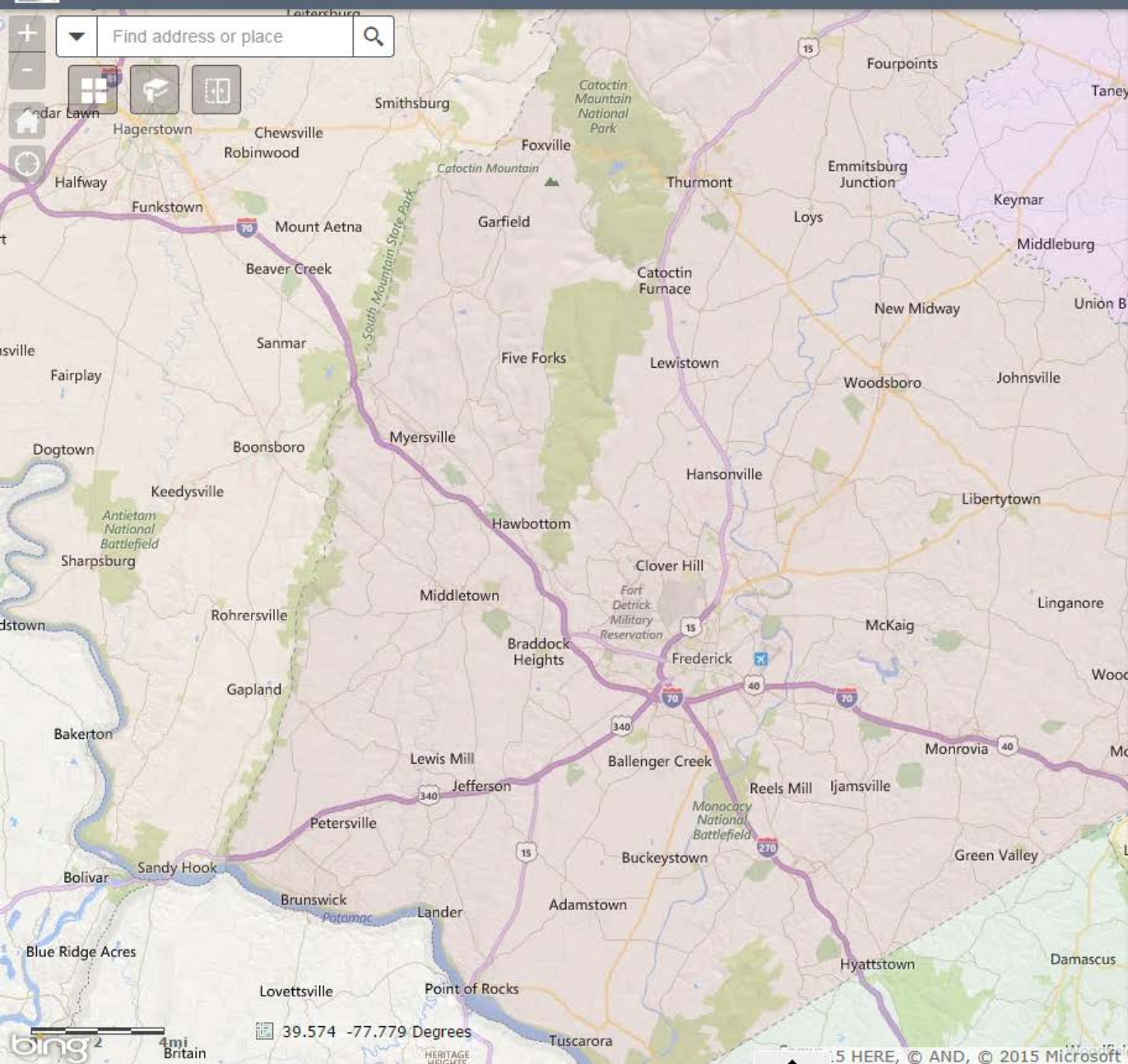
Operational

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Editor

Layers

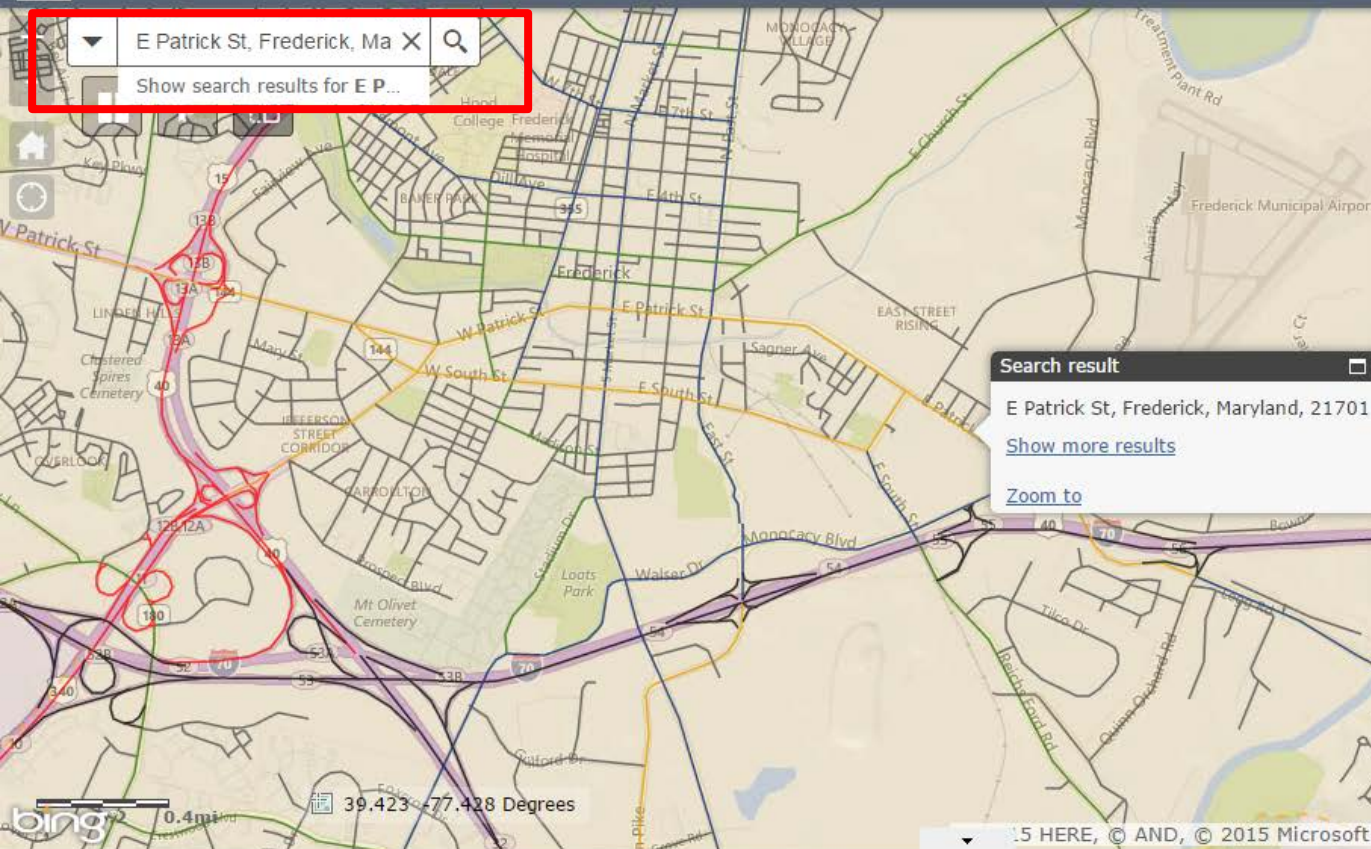
Legend



Layer List

Operational Layers

- ☒ Functional Class - Proposed (LOCAL)
 - Zoom to
 - Transparency
 - Disable Pop-up
 - Move up
 - Move down
 - Open Attribute Table
 - Show Item Details
- ☒ Functional Class - Current
- ☒ Road Name
- ☒ MD Census Designated Area 2010
- ☒ County Boundaries



Layer List

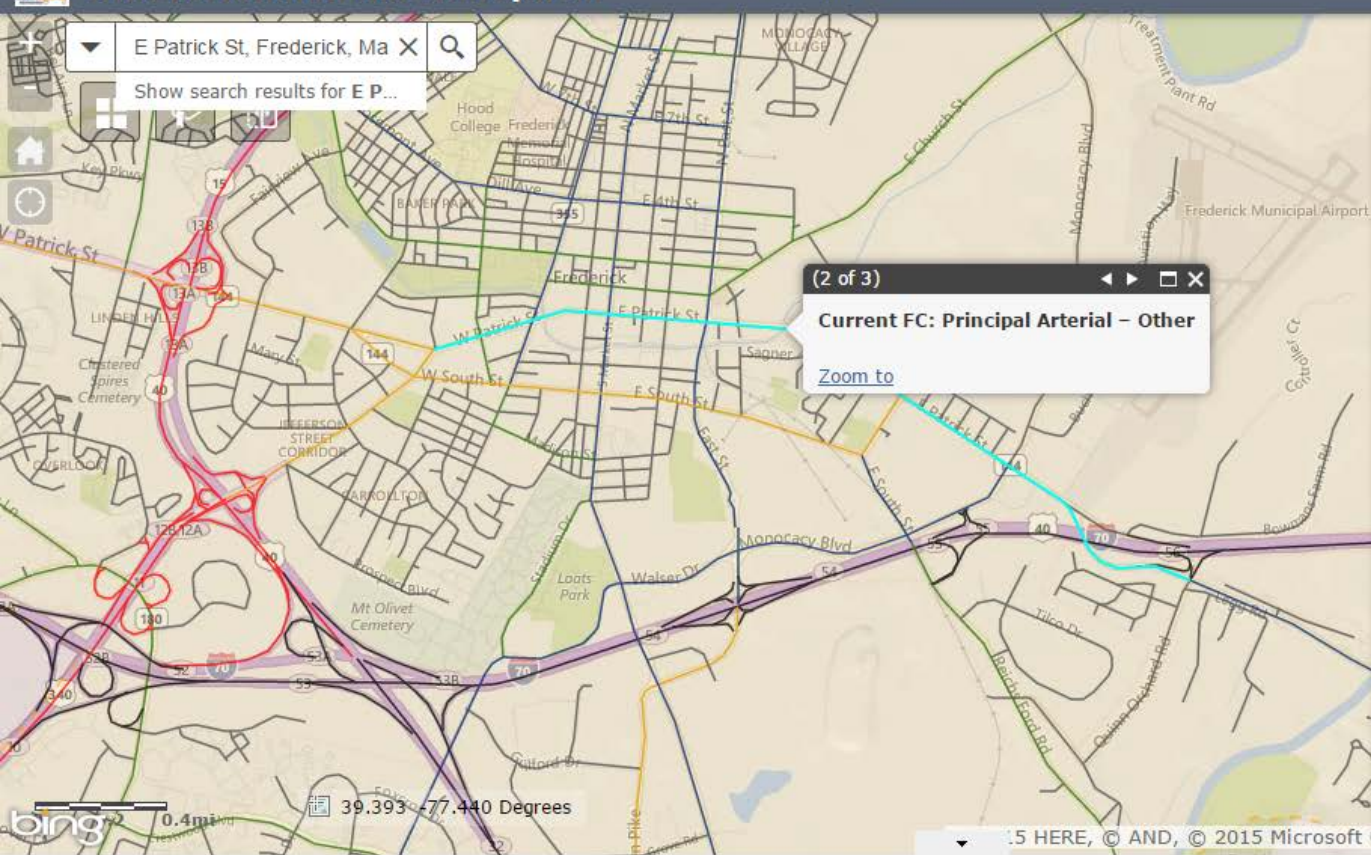
Operational Layers

- ☒ Functional Class - Proposed (LOCAL)
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Options **Filter by Map Extent** Zoom to Clear Selection Refresh

Functional Class - Proposed (LOCAL) Road Name County Boundaries Municipal Boundaries Functional Class - Current

Proposed Functional Class	Road Name	Beginning Intersection	Ending Intersection	Concur	Local Comments
0 features 0 selected					



Layer List

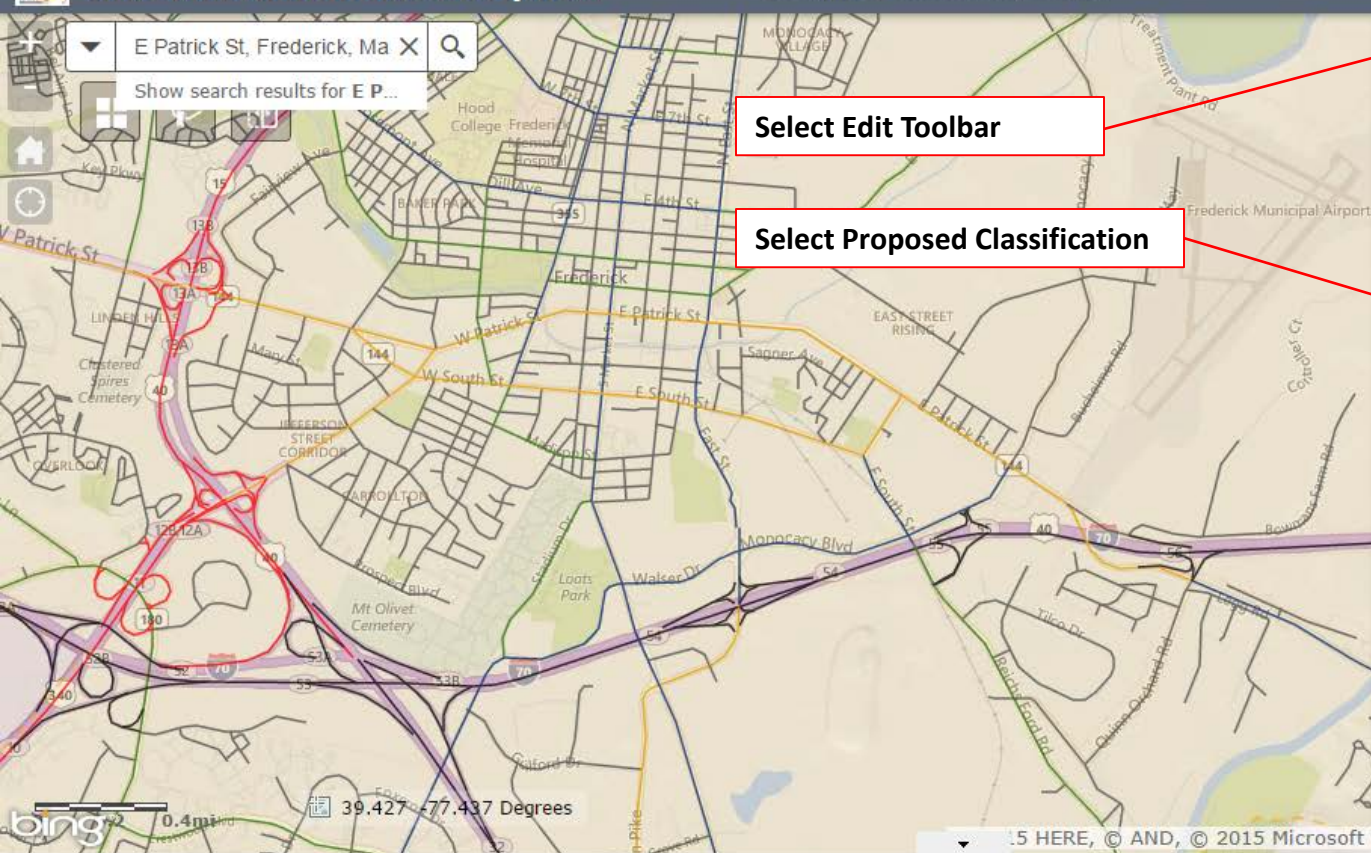
Operational Layers

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- ☒ Functional Class - Current
- ☒ Road Name
- ☒ MD Census Designated Areas - Urban Areas 2010
- ☒ County Boundaries

Options Filter by Map Extent Zoom to Clear Selection Refresh

Functional Class - Proposed (LOCAL) Road Name County Boundaries Municipal Boundaries Functional Class - Current x

Proposed Functional Class	Road Name	Beginning Intersection	Ending Intersection	Concur	Local Comments
0 features 0 selected					



Select Edit Toolbar

Select Proposed Classification

Edit

Select a template to create features

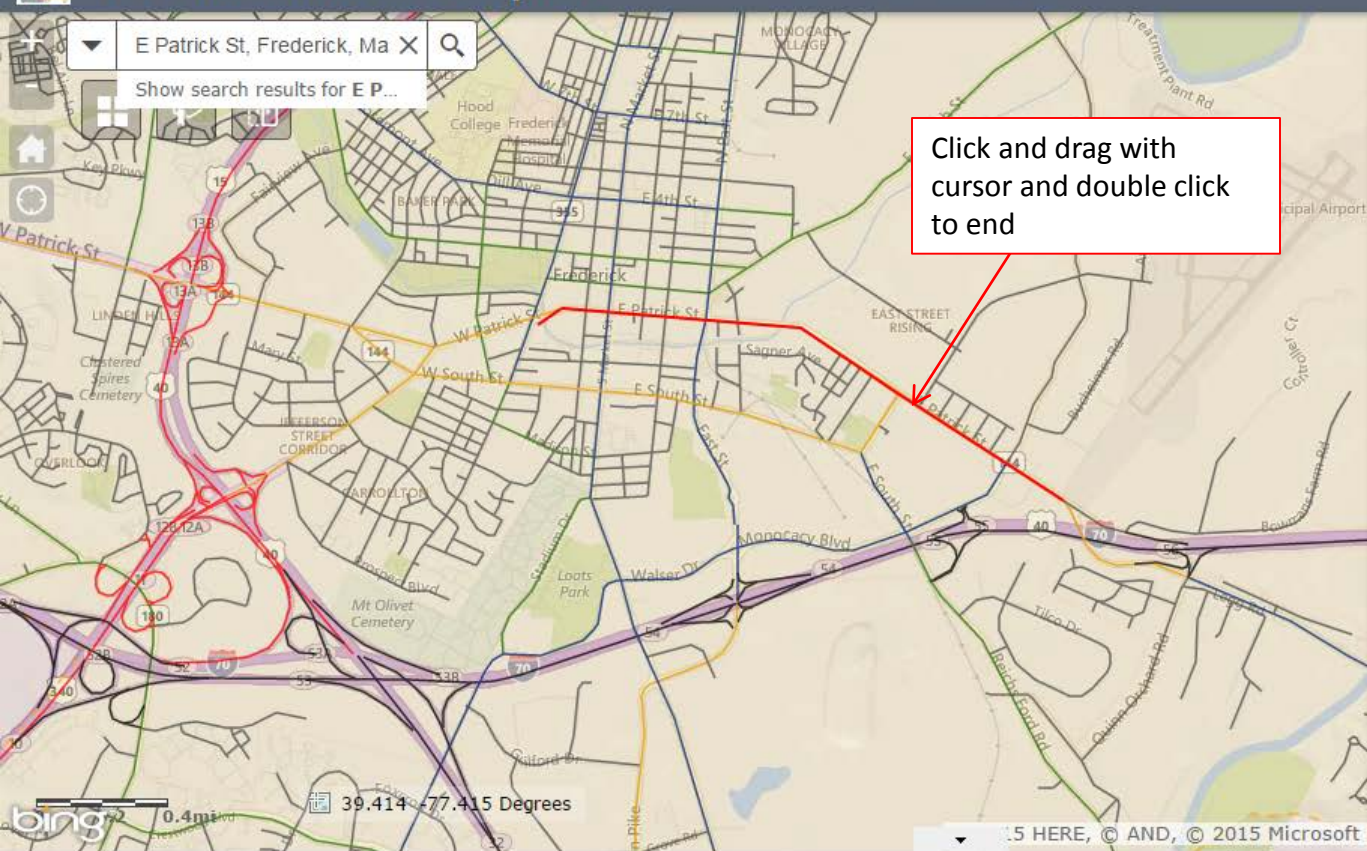
Functional Class - Proposed



Options Filter by Map Extent Zoom to Clear Selection Refresh

Functional Class - Proposed (LOCAL) Road Name County Boundaries Municipal Boundaries Functional Class - Current x

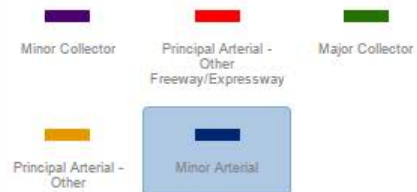
Proposed Functional Class	Road Name	Beginning Intersection	Ending Intersection	Concur	Local Comments
0 features 0 selected					



Edit

Select a template to create features

Functional Class - Proposed



Options Filter by Map Extent Zoom to Clear Selection Refresh

Functional Class - Proposed (LOCAL) Road Name County Boundaries Municipal Boundaries Functional Class - Current

Proposed Functional Class	Road Name	Beginning Intersection	Ending Intersection	Concur	Local Comments
0 features 0 selected					

E Patrick St, Frederick, Ma

Show search results for E P...

W Patrick St

Fill in all fields

Functional Class - Proposed

Proposed Functional Class

Minor Arterial

Road Name

Beginning Intersection

Ending Intersection

Concur

No

Local Comments

Object Identifier

11

Global Identifier

Edited seconds ago

Delete

Edit

Select a template to create features

Functional Class - Proposed

Minor Collector

Principal Arterial - Other Freeway/Expressway

Major Collector

Principal Arterial - Other

Minor Arterial

Options

Filter by Map Extent

Zoom to

Clear Selection

Refresh

Functional Class - Proposed (LOCAL)

Road Name

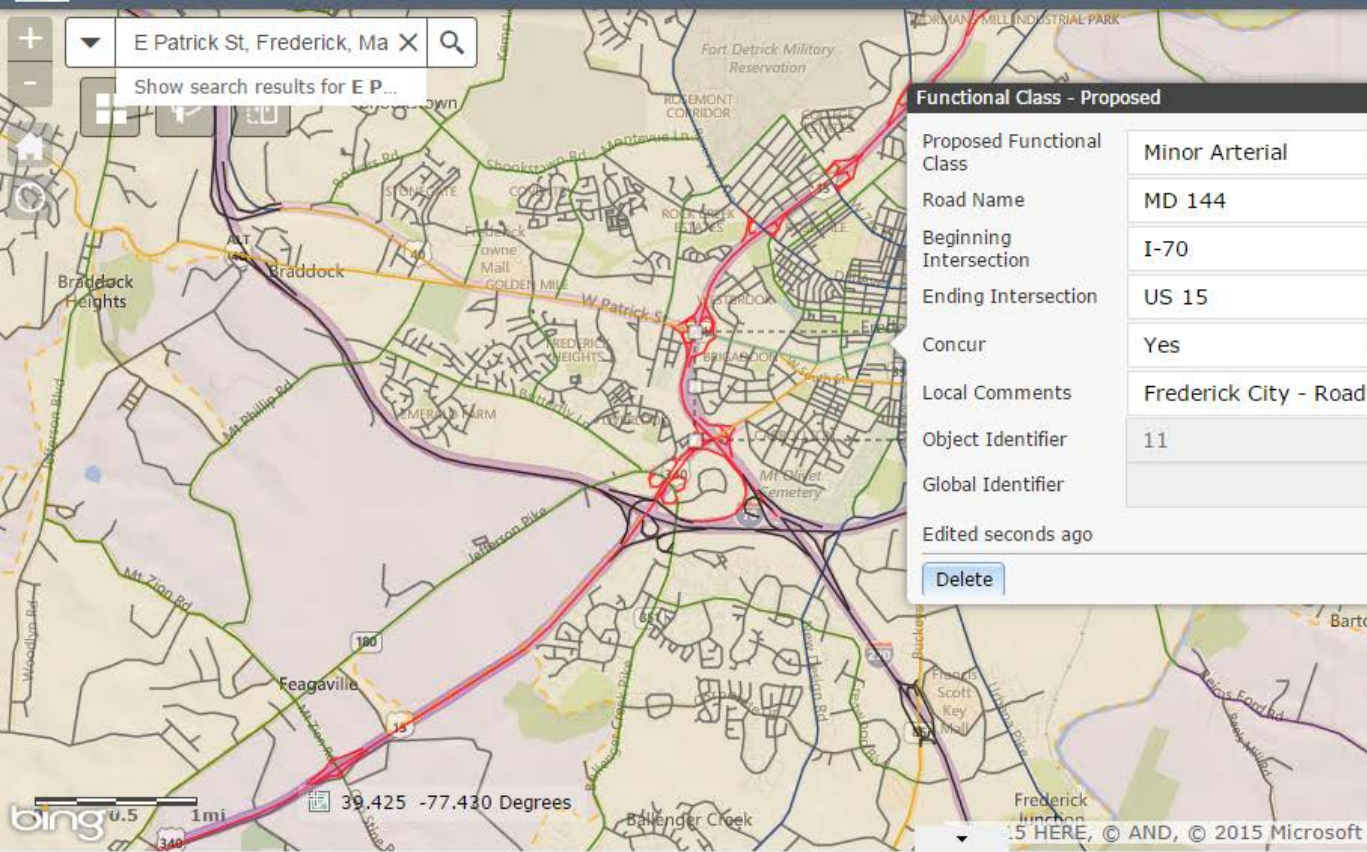
County Boundaries

Municipal Boundaries

Functional Class - Current

Proposed Functional Class	Road Name	Beginning Intersection	Ending Intersection	Concur	Local Comments
Minor Arterial				0	

1 features 0 selected



Functional Class - Proposed

Proposed Functional Class: Minor Arterial

Road Name: MD 144

Beginning Intersection: I-70

Ending Intersection: US 15

Concur: Yes

Local Comments: Frederick City - Roadw

Object Identifier: 11

Global Identifier:

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[Delete](#)

Edit

Select a template to create features

Functional Class - Proposed

Minor Collector

Principal Arterial - Other Freeway/Expressway

Major Collector

Principal Arterial - Other

Minor Arterial

Options [Filter by Map Extent](#) [Zoom to](#) [Clear Selection](#) [Refresh](#)

Functional Class - Proposed (LOCAL) [Road Name](#) [County Boundaries](#) [Municipal Boundaries](#) [Functional Class - Current](#)

Proposed Functional Class	Road Name	Beginning Intersection	Ending Intersection	Concur	Local Comments
Minor Arterial				0	

1 features 0 selected

Next Steps

- Coordinate at a local level to develop a set of recommended changes
 - Best ways to do this?
- Coordinate at a State level (additional meetings, phone/screen share) to reach mutual agreement on classification changes.
- State will submit updates to FHWA

Resources

- Peter Sotherland, PLEASE CONTACT:
psotherland@sha.state.md.us, 410-545-5721
- Traffic (Highway Location Reference):
<http://www.roads.maryland.gov/pages/hlr.aspx?PageId=832>
- Federal Highway:
https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/
- Copies of the presentation are available