

Federal Functional Classification and Urban Area Boundary Update

Charlotte County-Punta Gorda MPO

**Technical Advisory Committee Meeting
September 27, 2023**



Agenda

- What is Functional Classification?
- Why does FDOT use Functional Classification?
- Functional Classification – Categories and Characteristics
- Trip Purposes
- Functional Classification Review Process
- Functional Classification Example
- Urban Area Boundary Update Overview
- Current Status, Proposed Changes, and Next Steps
- Process Timeline

What is Functional Classification?

- Process by which streets and highways are grouped into classes, or systems, categorized as 'Urban' or 'Rural'
- Classes are based on many factors to identify the 'function' of the road in the overall network
- Functional Classifications are ranked
 - Highest: Arterials
 - Mid-level: Collectors
 - Lowest: Local



Principal Arterial



Minor Arterial



Collector



Local Street

Why does FDOT use Functional Classification?

- Federal-aid highway program funding eligibility
- Highway Performance Monitoring System (HPMS) federal reporting
- Planning – Assists in long-range transportation planning by identifying areas that require improvements or construction projects
- Roadway Design – Guides the design of roadways by defining the appropriate standards for each functional class type
- Traffic Management – Assists in managing traffic flow and congestion based on functional class

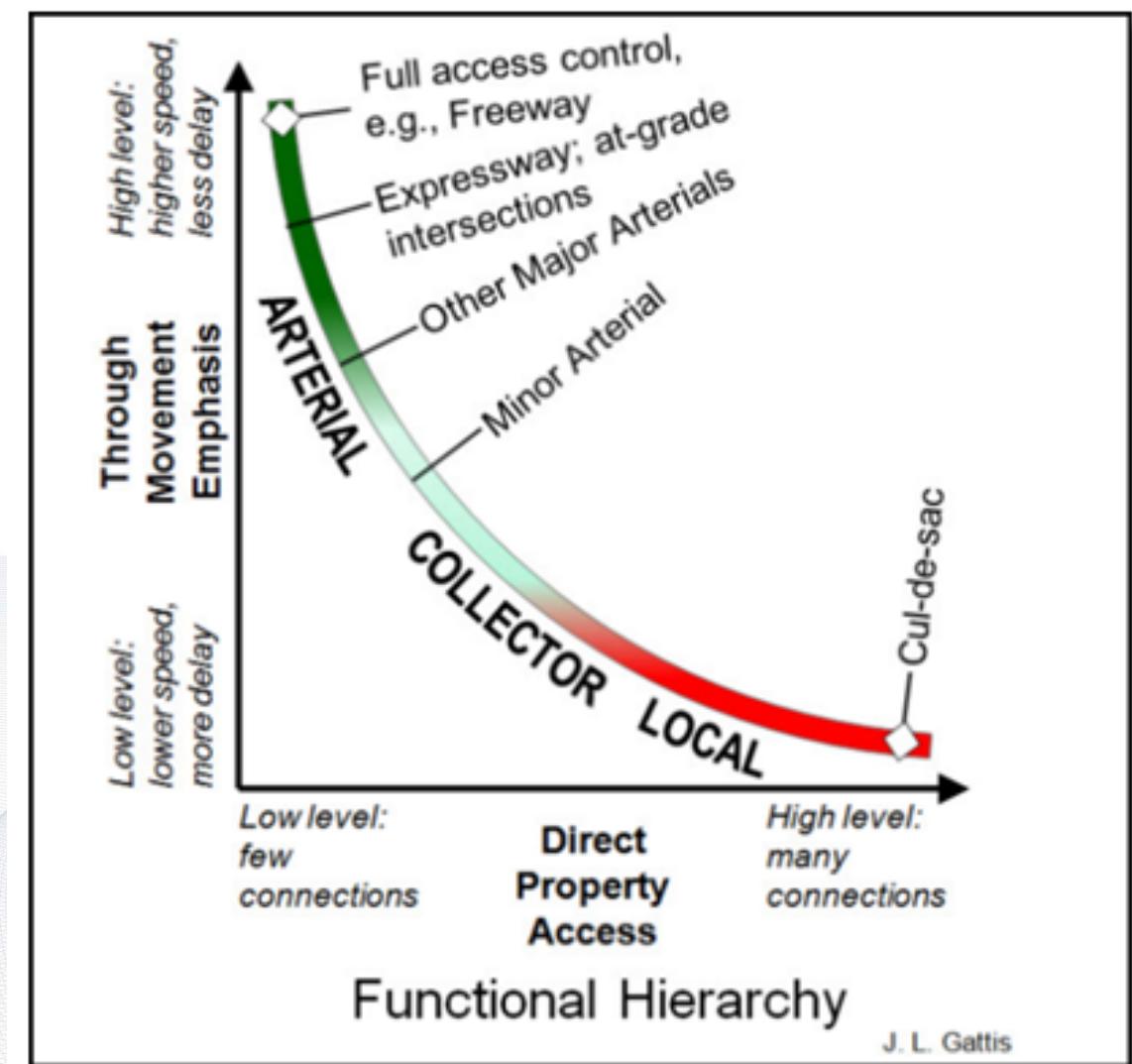


Functional Classification Categories

Five Functional Classification Categories for urban and rural roads:

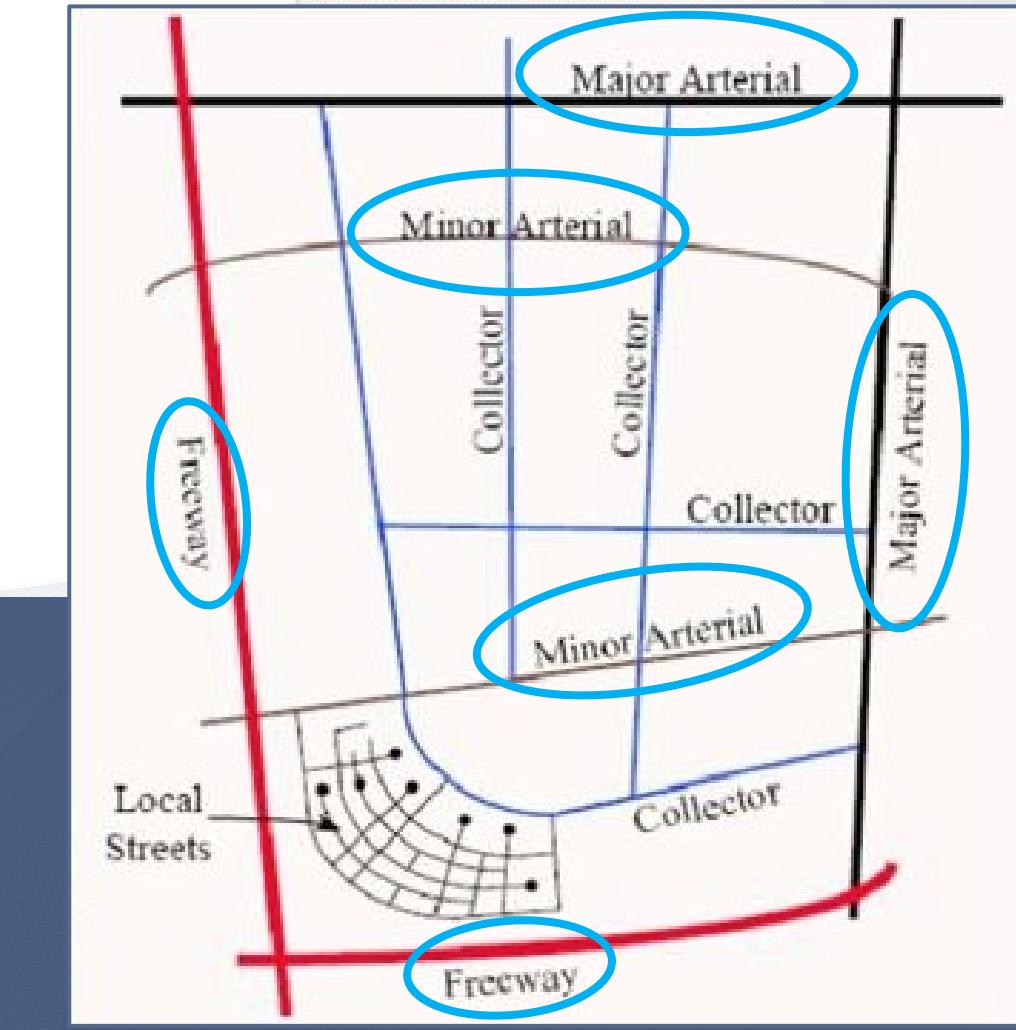
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

Roads are categorized based on factors including property access, travel distances, travel speeds, and connectivity within the network.



Higher Level Classifications – Arterials (Principal and Minor)

- Includes interstates and other freeways/expressways and 'other' major roadways
- Serve the highest traffic volumes for the longest portions of a trip
- Highest degree of through traffic movement
- Generally have higher design standards
- Lower or no level of property access
- Generally have higher speed limits



Higher Level Classifications – Principal Arterials

Urban Principal Arterials

- Serve major activity centers
- Carries highest proportion of urban area travel on a minimum of mileage
- Carries most trips entering/exiting urban areas
- Provides continuity for rural principal arterials at urban boundaries

Rural Principal Arterials

- Provides interstate and inter-county service
- Link non-adjacent urbanized areas
- Longest travel demands

Higher Level Classifications – Minor Arterials

Urban Minor Arterials

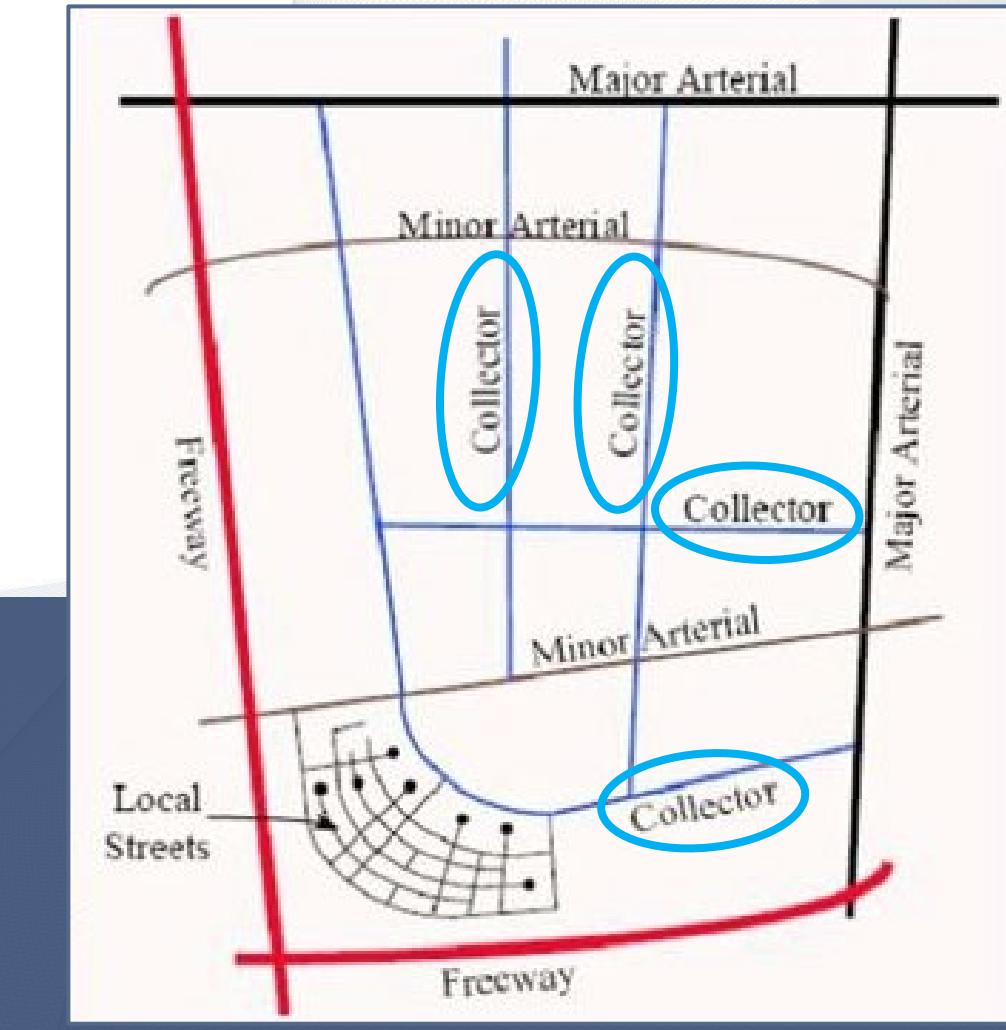
- Shorter trips and less through traffic than Principal Arterials
- Interconnect and augment higher level arterials
- More direct property access without penetrating neighborhoods
- Connect Urban Principal Arterials with Rural Collectors

Rural Minor Arterials

- Link cities and larger towns within counties
- Provides connections between outlying land uses and urbanized areas
- Minimum interference to through movement

Mid Level Classifications – Collectors (Major and Minor)

- Designed for travel at lower speeds and shorter distances than arterials
- Distribute traffic between local streets and neighborhoods to higher level arterial systems
- More direct property access than arterials
- May penetrate residential neighborhoods



Mid Level Classifications – Major Collectors

Urban Major Collectors

- Direct property access and traffic circulation in higher density residential and commercial areas
- May penetrate residential neighborhoods for significant distances
- Channel traffic from local streets to/from arterial systems

Rural Major Collectors

- Provides service to any county seat not served by the arterial system
- Serve larger towns and industrial/agricultural centers not accessed by higher order roads

Mid Level Classifications – Minor Collectors

Urban Minor Collectors

- Direct property access and traffic circulation in lower density residential and commercial areas
- May penetrate residential neighborhoods for short distances
- Channel traffic from local streets to/from arterial systems

Rural Minor Collectors

- Collect traffic from local roads and properties
- Spaced to ensure that all developed areas are within reasonable distance of a collector
- Provide service to sparsely populated areas (agriculture, preservation, remote neighborhoods, etc.)

Lowest Level Classification – Local Roads/Streets

- Majority of roadway miles are local roads
- Provide basic access between residential and commercial properties
- Serves the most direct property access
- Connects with higher order roads
- Low or no through traffic
- Lowest speeds, low-speed roadway treatments (speed bumps, stop signs, street parking)
- Generally not served by bus routes



Functional Classification and Trip Purpose

- FHWA calls for the grouping of similarly ranked travel generators or **trip purposes**.
- 12 types of trip purpose.
- Not necessary for a road to go directly to the main entrance of a traffic generator.

Principal Arterial	2 or more of trip purposes 1-7
Minor Arterial	Only 1 of trip purpose 1-7
Major Collector	1 or more trip purposes 8-10
Minor Collector	Trip purpose 11
Local	Trip purpose 12

Functional Classification: Trip Purposes 1-6



Trip Purpose 1 | Travel to and through urbanized areas



Trip Purpose 2 | Travel to and through small urban areas



Trip Purpose 3 | National defense



Trip Purpose 4 | Interstate and regional commerce



Trip Purpose 5 | Access to airports, seaports, and major rail terminals or intermodal transfer facilities



Trip Purpose 6 | Access to major public facilities

Functional Classification: Trip Purposes 7-12



Trip Purpose 7 | Access to minor public facilities



Trip Purpose 8 | Interconnection of major thoroughfares



Trip Purpose 9 | Interconnection of minor thoroughfares



Trip Purpose 10 | Access to concentrated property use areas



Trip Purpose 11 | Access to rural diffused property use areas and lower density urban residential and commercial/industrial areas



Trip Purpose 12 | Local access and circulation

Functional Classification Reviews

- GIS geodatabase format required to perform an expedited review
- District submissions of Functional Classification must include the following supporting data elements:
 - Roadway ID
 - Begin MP
 - End MP
 - AADT
 - Number of Lanes
 - Refer to form for required attributes
- TDA will finalize these elements at a later date

STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION
APPLICATION FOR FUNCTIONAL CLASSIFICATION CHANGE

Date: _____ Sponsoring Agency: FL Dept of Transportation Phone Number: _____
Contact Person: _____ E-mail: _____

Roadway Name: _____ From: _____ To: _____
Section Number: _____ From Mile Post: _____ To Mile Post: _____

If 1-Way, Number of Lanes: 1 2 3 4
If 2-Way, Number of Lanes: 2 4 6 8

AADT and Year: _____ FDOT Access Mgmt: 1 2 3 4
Classification: 5 6 7 Not classified

Status of Roadway: Not Currently Functionally Classified Currently Functionally Classified

Source: _____ Speed Limit (miles per hour): _____

Proposed Functional Classification:

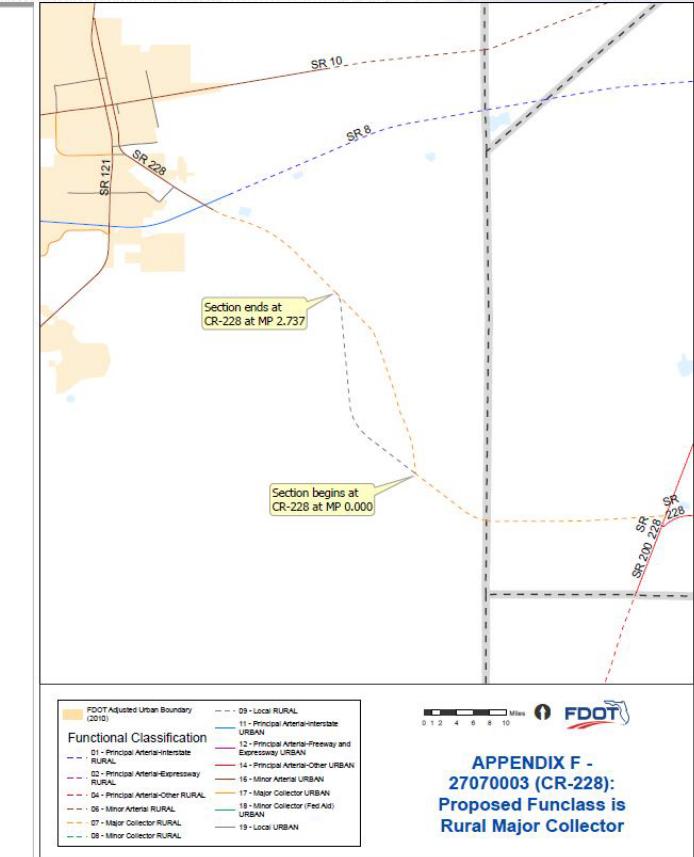
<input type="checkbox"/> Rural Principal Arterial - Interstate	<input type="checkbox"/> Urban Principal Arterial - Interstate	<input type="checkbox"/> Urban Principal Arterial - Freeways and Expressways
<input type="checkbox"/> Rural Principal Arterial - Freeways and Expressways	<input type="checkbox"/> Urban Principal Arterial - Freeways and Expressways	<input type="checkbox"/> Urban Principal Arterial - Other
<input type="checkbox"/> Rural Principal Arterial - Other	<input type="checkbox"/> Urban Principal Arterial - Other	<input type="checkbox"/> Rural Minor Arterial
<input type="checkbox"/> Rural Minor Arterial	<input type="checkbox"/> Urban Minor Arterial	<input type="checkbox"/> Rural Major Collector
<input type="checkbox"/> Rural Major Collector	<input type="checkbox"/> Urban Major Collector	<input type="checkbox"/> Urban Minor Collector
<input type="checkbox"/> Rural Local	<input type="checkbox"/> Urban Local	<input type="checkbox"/> Deleted (Removed)
<input type="checkbox"/> Rural Principal Arterial - Interstate		
<input type="checkbox"/> Rural Principal Arterial - Freeways and Expressways		
<input type="checkbox"/> Rural Principal Arterial - Other		
<input type="checkbox"/> Rural Minor Arterial		
<input type="checkbox"/> Rural Major Collector		
<input type="checkbox"/> Rural Local		
<input type="checkbox"/> Deleted (Removed)		

Justification for Proposed Change:

Please attach a location map separately when submitting this application, include Roadway ID's, Road Number symbols and Functional classification color coding of roadway segments.

Recommended By:

Local Government/Metropolitan Planning Organization (MPO) Chairman _____ Date _____
FDOT - District Office _____ Date _____
FDOT - Central Office _____ Date _____
Approved By:
Federal Highway Administration _____ Date _____



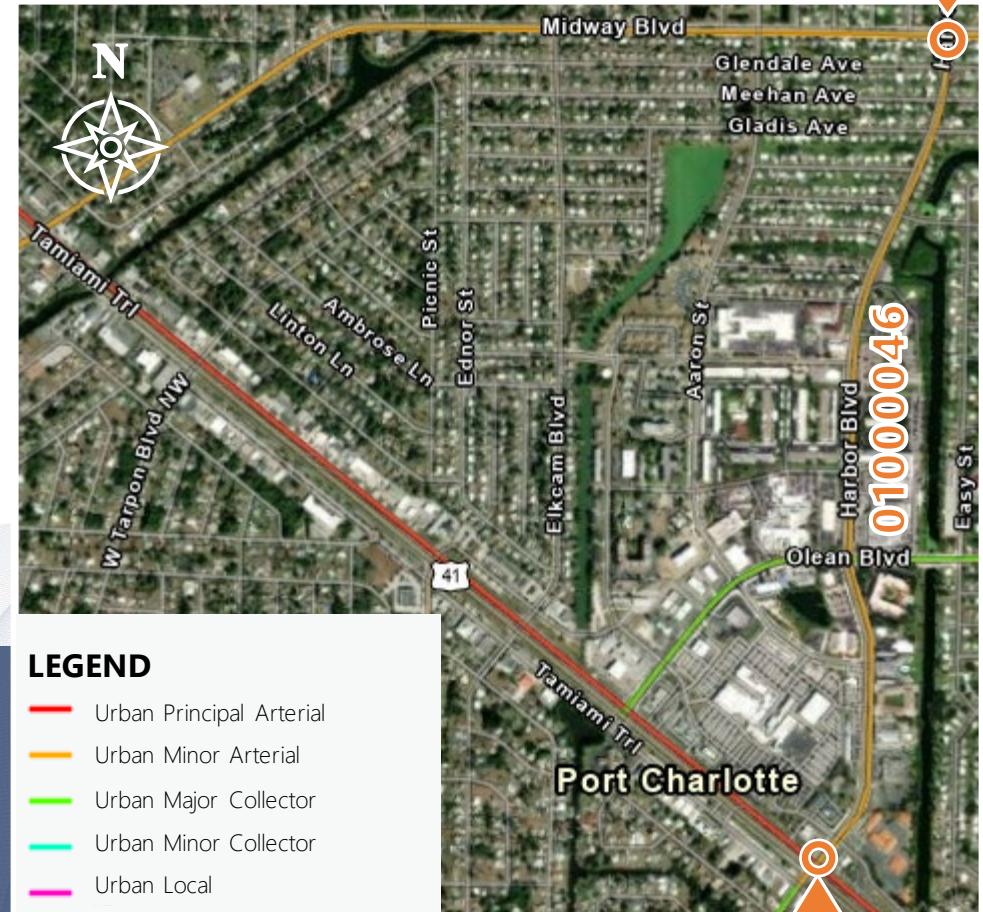
Functional Classification – Example

- **Roadway Segment:** Harbor Boulevard from US 41/SR 45 to Midway Boulevard
- **RID and MP:** 01000046 from 0.000 to 1.347
- **District:** 1
- **Number of Lanes:** 4
- **AADT:** 10,400 (2022)
- **Posted Speed:** 35 mph
- **Trip Purposes:** 6 – Access to major public facilities (regional medical centers)

Existing FC: Urban Major Collector

Proposed FC: Urban Minor Arterial

Justification: Significant medical related developments (trip purpose 6), connectivity between collectors (residential) and arterials, traffic volume falls within AADT criteria for Urban Minor Arterials



Note: Figure shows proposed functional class

Worksheet Example

County	Charlotte	Notes from FDOT D1
Roadway (State Road Number)	NA	
Roadway (Local Name)	Harbor Boulevard	
RID	01000046	
From	US 41/SR 45/Tamiami Trail	
From Milepost	0	
To	Midway Boulevard	Green is input (fill these in), Blue is output (will automatically fill)
To Milepost	1.347	Note: It is not necessary to go through the criteria for every single classification, some classes can be ignored based on judgement.
AADT	10,400	In most cases, functional class will only change upwards. For instance, a local may change to a collector, or a collector to an arterial, or a minor to a major. In some cases, it may be reasonable to change downwards, however this is rare
Lanes	4	and judgement should be used. For instance, if a roadway is currently classified as an arterial, you can ignore the criteria for
1Way or 2Way	2W	
Speed Limit	35	
Existing Functional Class (RCI)	Urban Major Collector	
Existing Functional Class (County)	Urban Major Collector	Refer to below link for Access Class, if not classified, enter "Not Classified"
Access Management Classification	N/A	https://gis-fdot.opendata.arcgis.com/datasets/access-management-tda/explore?location=27.752215%2C-83.779521%2C7.64
Purpose (high or low density? residential or commercial? institutions?) and notes		This road connects to major collectors such as Olean Blvd, and segments of Harbor Blvd to the north and south, and also connects to higher level arterials such as Veterans Boulevard to the north, US 41 to the south, and Midway Boulevard at the segment limits. The land use on this segment is a mix of residential, commercial, and institutional (hospitals). The segment provides access important medical destinations including hospitals, clinics, and private practices, and also retail, institutional, and leisure destinations including a library, a church, several retail plazas, and the parkside festival grounds. These uses are mixed in with resorts and condo residential generators. Due to the mix of attractors and generators, access between collectors and higher level arterials, and consistency with trip purposes, criteria, and volumes, it is recommended to classify this segment as an Urban Minor Arterial.
Functional Class	Percent Criteria Satisfied	AADT within range?
Principal Arterial	0%	Yes
Minor Arterial	80%	Yes
Major Collector	67%	No
Minor Collector	0%	No
Local	0%	No
Functional Class of Previous Segment	Major Collector	
Functional Class of Subsequent Segment	Major Collector	
Recommended (based on above criteria and judgement)	Urban Minor Arterial	
Trip Purpose 6 is satisfied		

Minor Arterial Criteria	Satisfied?
Interconnect with and augment the higher-level arterials	Y
Serve trips of moderate length at a somewhat lower level of through traffic movement than principal arterials	Y
Distribute traffic to smaller geographic areas than those served by higher-level arterials	Y
Provide more direct property access than principal arterials without penetrating identifiable neighborhoods	Y
Provide urban connections for rural collectors	N
Major Collector Criteria	Satisfied?
Serve both property access and traffic circulation in higher density residential, and commercial/industrial areas	N
Penetrate residential neighborhoods, often for significant distances	Y
Distribute and channel trips between Local streets and Arterials, usually over a distance of greater than three-quarters of a mile	Y

Functional Classification	AADT (Rural)	AADT (Urban)
Arterials		
Interstate	12,000-34,000	35,000-129,000
Other Freeways & Expressway	4,000-18,500	13,000-55,000
Other Principal Arterial	2,000-8,500	7,000-27,000
Minor Arterial	1,500-6,000	3,000-14,000
Collectors		
Major Collector	300-2,600	1,100-6,300
Minor Collector	150-1,100	1,100-6,300
Local		
Local	15-400	80-700

Defining Urban Area Boundaries

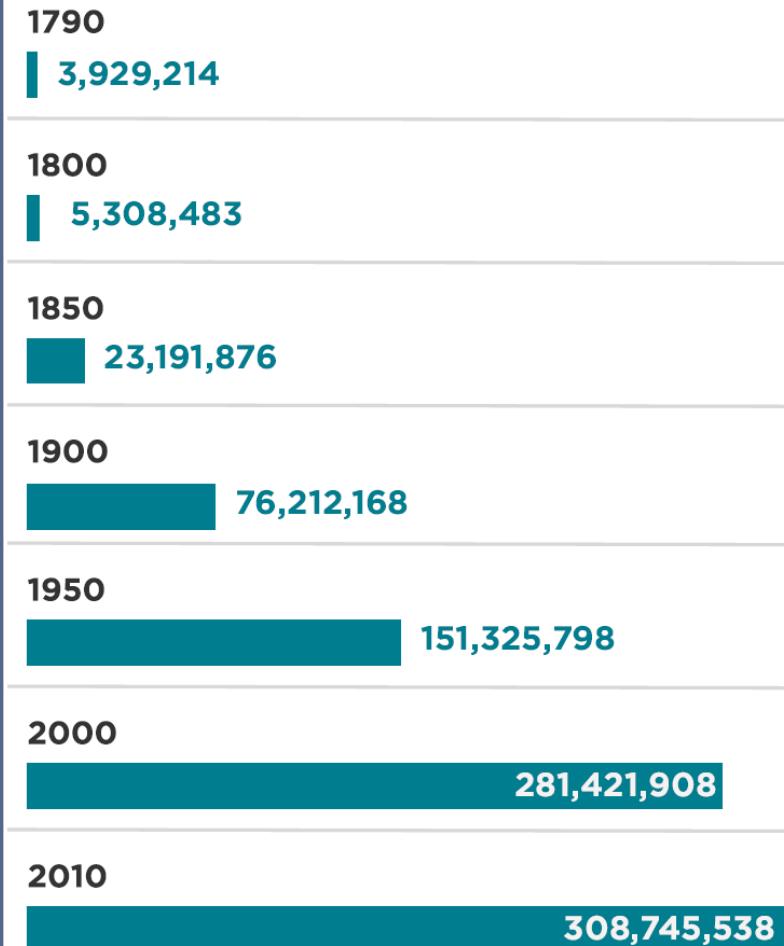
United States®
Census
2020

**Finalized Urban
Areas Released
December 2022**

Urban Areas are revised every 10 years based on population counts from decennial census.

FHWA Urban Area Boundaries are adjusted to be consistent with transportation needs.

Functional classification reviewed and updated in conjunction with adjusted urban boundaries.



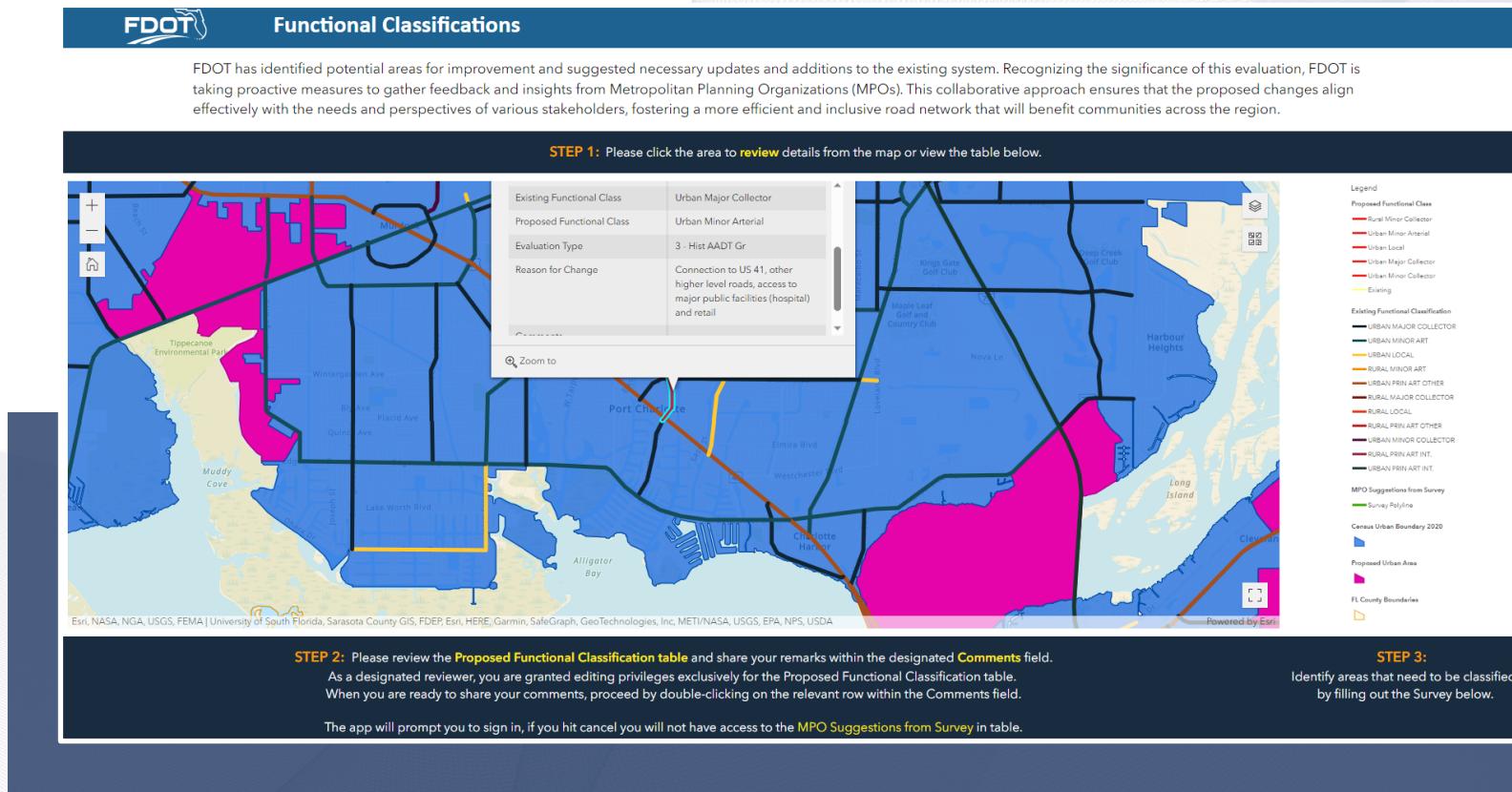
Urban Area Adjustment Considerations

- Include entire municipality.
- Include areas with Urban Characteristics.
- Include large/significant traffic generators.
- Boundary should follow municipal limits or physical features.
- Boundary should be simple without irregularities.
- Boundary should not split roadways or ramps.

The only official requirement is that an adjusted boundary includes the original urban area delineated by the Census Bureau in its entirety.

Current Status

- FDOT provided Urban Area Boundary Map and proposed Functional Classification information in a GIS based Dashboard to County/MPO for review: [D1 Functional Classification \(arcgis.com\)](https://d1functionalclassification.arcgis.com)
- County reviewed and submitted comments through the Web Map, FDOT is currently addressing comments



Proposed Changes to Functional Classification of Charlotte County Roads

Roadway Name	From	To	Existing Functional Class	Proposed Functional Class
Flamingo Blvd	Buena Vista Cir (S)	US 41	Urban Minor Arterial	Urban Minor Collector
Piper Rd	E Henry St	US 17	Urban Local	Urban Minor Arterial
Zemel Rd	Burnt Store Rd	County Landfill	-	Rural Minor Collector
Zemel Rd	County Landfill	US 41	-	Rural Minor Collector
Quesada Ave	Forrest Nelson Blvd	Harbor Blvd	Urban Local (County)/Urban Major Collector (FDOT)	Urban Major Collector
Harbor Blvd	US 41/SR 45/Tamiami Tr	Midway Blvd	Urban Major Collector	Urban Minor Arterial
Deborah Dr	Roseau Dr	Bal Harbor Blvd	Urban Major Collector	Urban Local
Veterans Boulevard	US 41/SR 45	Kings Highway	Urban Minor Arterial	Urban Principal Arterial
Kings Highway	I 75	DeSoto County Line	Urban Major Collector	Urban Minor Arterial
Bermont Road/CR 74	US 17/SR 35	Villas Del Sol Apartments	Urban Major Collector	Urban Minor Arterial
Bermont Road/CR 74	Villas Del Sol Apartments	Glades County Line	Rural Major Collector	Rural Minor Arterial

Next Steps

- FDOT will provide the updated Urban Area Boundary Map and proposed Functional Classification information in a GIS based Dashboard to County/MPO for final review.
- FDOT will submit the final Urban Area Boundary Map and proposed Functional Classification information to FHWA, including official application forms and GIS summaries.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
APPLICATION FOR FUNCTIONAL CLASSIFICATION CHANGE

Date: _____

Sponsoring Agency: FL Dept of Transportation Phone Number: _____
Contact Person: _____ E-mail: _____

Roadway Name: _____ Section Number: _____
From: _____ From Mile Post: _____
To: _____ To Mile Post: _____

If 1-Way, Number of Lanes: 1 2 3 4
If 2-Way, Number of Lanes: 2 4 6 8
Status of Roadway: Not Currently Functionally Classified
 Currently Functionally Classified

AADT and Year: _____
Source: _____
FDOT Access Mgmt. 1 2 3 4
Classification: 5 6 7 Not classified Speed Limit (miles per hour): _____

Current Functional Classification:

<input type="checkbox"/> Rural Principal Arterial – Interstate	<input type="checkbox"/> Urban Principal Arterial – Interstate
<input type="checkbox"/> Rural Principal Arterial – Freeways and Expressways	<input type="checkbox"/> Urban Principal Arterial – Freeways and Expressways
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<input type="checkbox"/> Rural Minor Arterial	<input type="checkbox"/> Urban Minor Arterial
<input type="checkbox"/> Rural Major Collector	<input type="checkbox"/> Urban Major Collector
<input type="checkbox"/> Rural Minor Collector	<input type="checkbox"/> Urban Minor Collector
<input type="checkbox"/> Rural Local	<input type="checkbox"/> Urban Local

Proposed Functional Classification:

<input type="checkbox"/> Rural Principal Arterial – Interstate	<input type="checkbox"/> Urban Principal Arterial – Interstate
<input type="checkbox"/> Rural Principal Arterial – Freeways and Expressways	<input type="checkbox"/> Urban Principal Arterial – Freeways and Expressways
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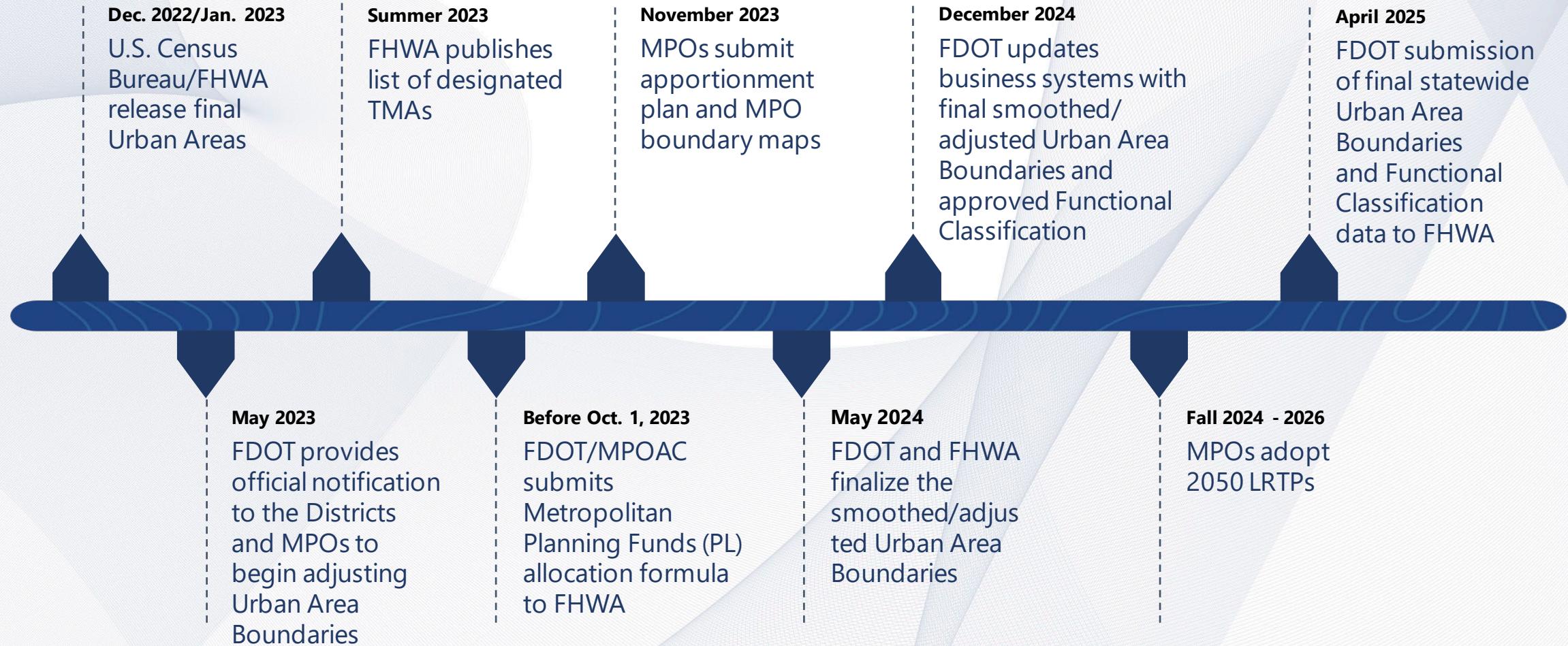
Recommended By:

Local Government/Metropolitan Planning Organization (MPO) Chairman	Date
FDOT – District Office	Date
FDOT – Central Office	Date

Approved By:

Federal Highway Administration	Date
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Process Timeline



Questions & Discussion



**BUCKLE UP
FLORIDA**

