

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

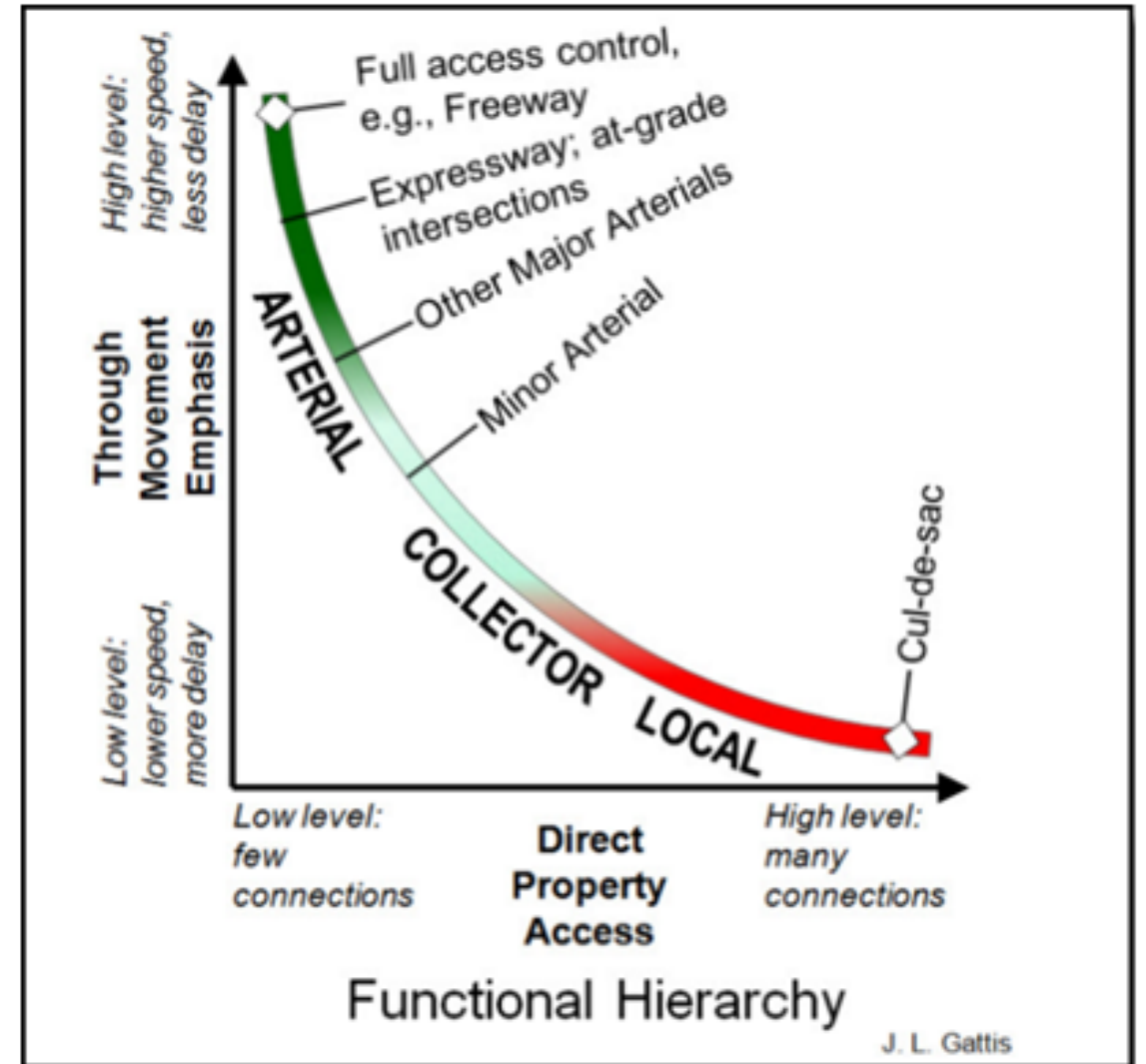


Functional Classification Categories

Five Functional Classification Categories for urban and rural roads:

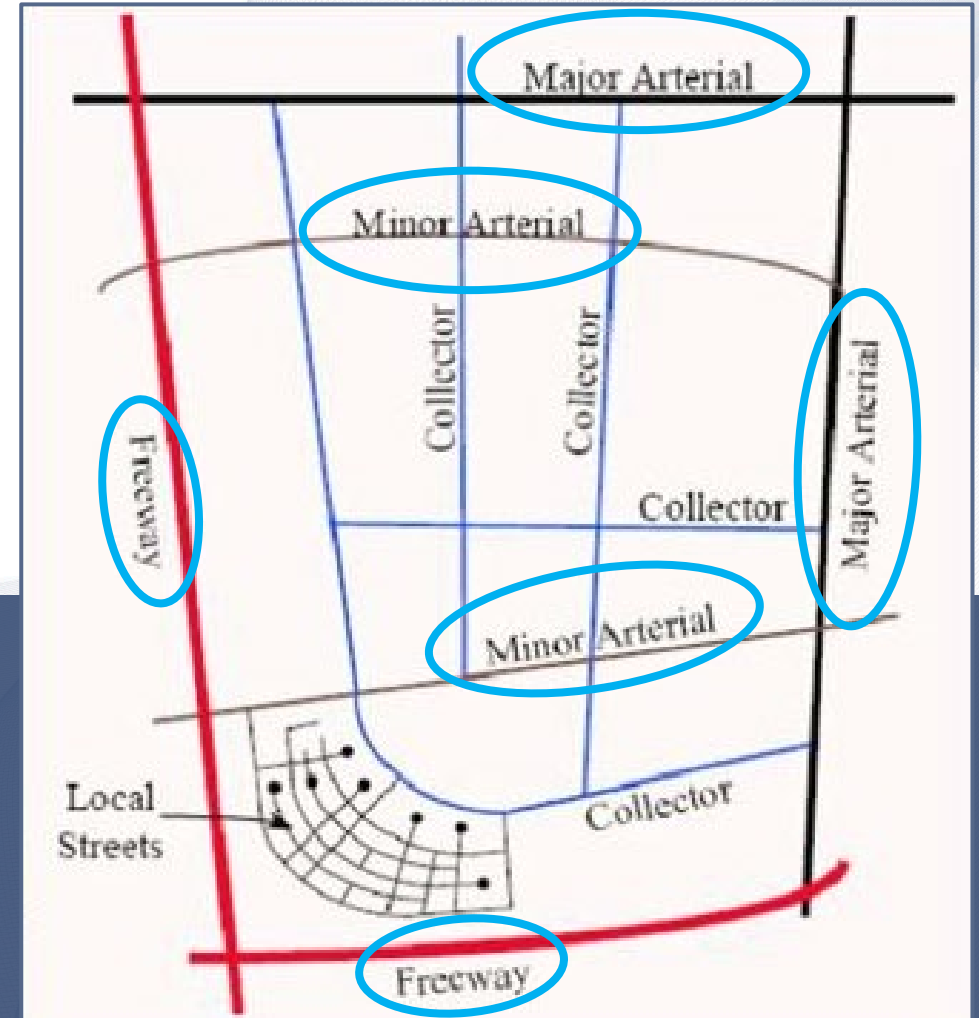
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

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

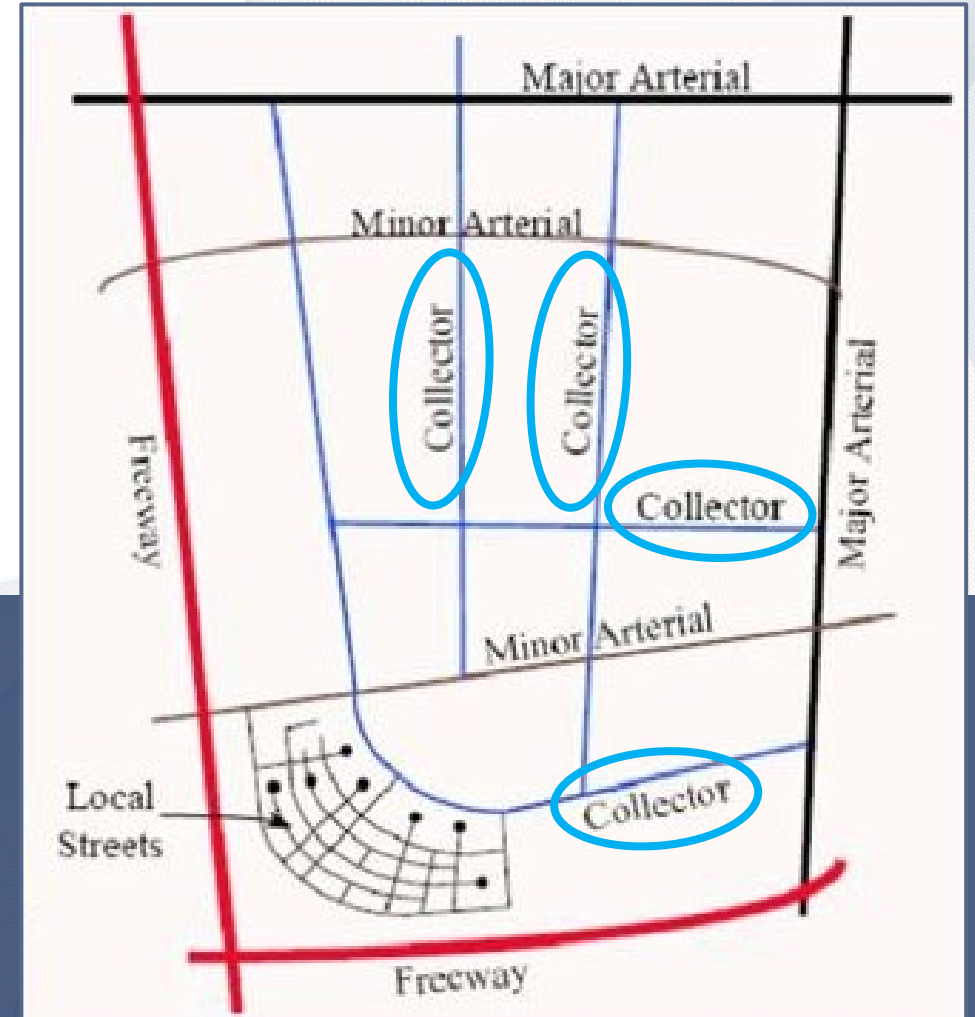
- Shorter trips and less through traffic than Principal Arterials
- Interconnect and augment higher level arterials
- More direct property access without penetrating neighborhoods
- Connect Urban Principal Arterials with Rural Collectors

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

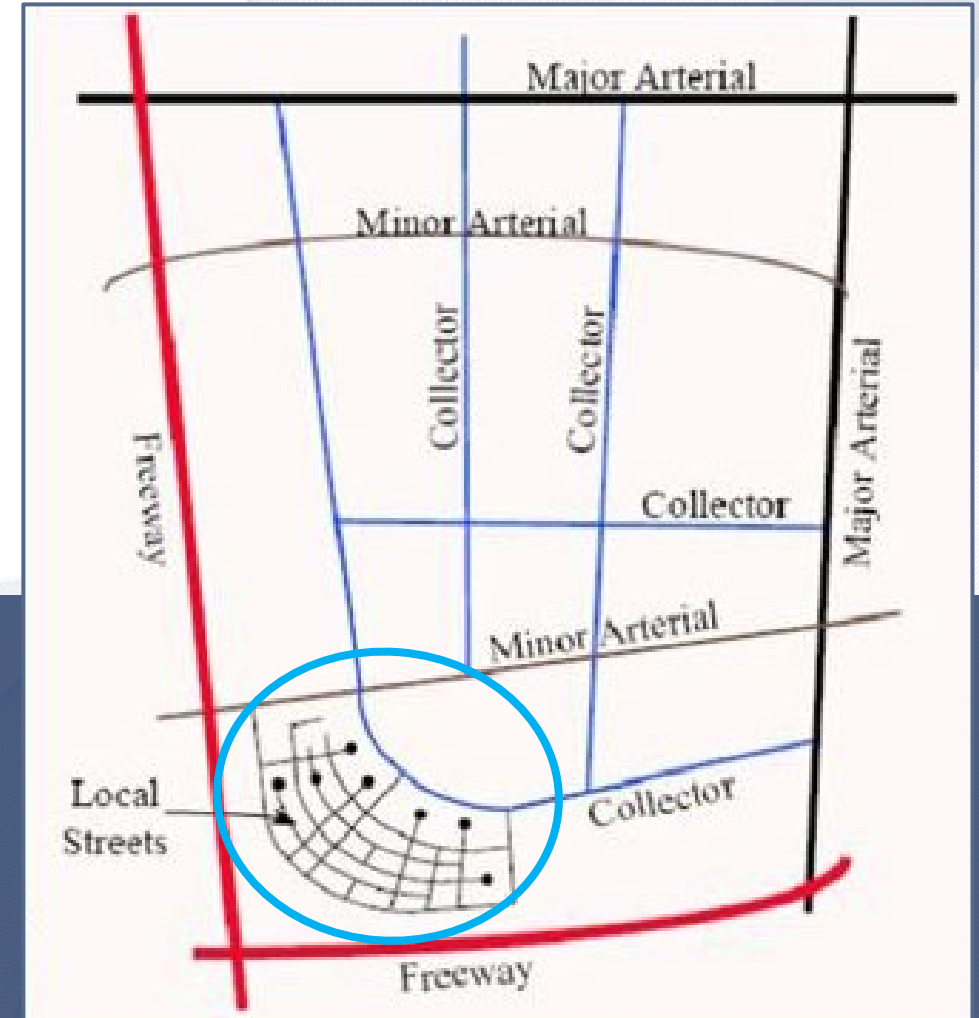
- Direct property access and traffic circulation in lower density residential and commercial areas
- May penetrate residential neighborhoods for short distances
- Channel traffic from local streets to/from arterial systems

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



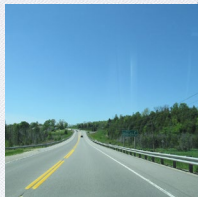
Trip Purpose 1 | Travel to and through urbanized areas



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



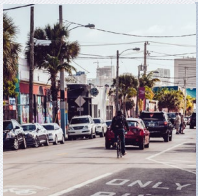
Trip Purpose 7 | Access to minor public facilities



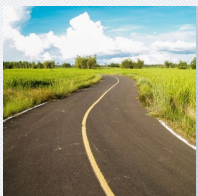
Trip Purpose 8 | Interconnection of major thoroughfares



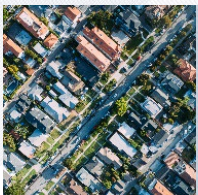
Trip Purpose 9 | Interconnection of minor thoroughfares



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: _____ 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. Classification: ☐1 ☐2 ☐3 ☐4
☐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
<input type="checkbox"/> Rural Principal Arterial - Other	<input type="checkbox"/> Urban Principal Arterial - Other	<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	<input type="checkbox"/> Deleted (Removed)	<input type="checkbox"/> Deleted (Removed)

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
<input type="checkbox"/> Rural Principal Arterial - Other	<input type="checkbox"/> Urban Principal Arterial - Other	<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	<input type="checkbox"/> Deleted (Removed)	<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:	_____	Date	_____
Federal Highway Administration	_____	Date	_____

Section ends at CR-228 at MP 2.737

Section begins at CR-228 at MP 0.000

Functional Classification

FDOT Adjusted Urban Boundary (2016)	09 - Local RURAL
01 - Principal Arterial-Interstate RURAL	11 - Principal Arterial-Interstate URBAN
02 - Principal Arterial-Expressway RURAL	12 - Principal Arterial-Freeway and Expressway URBAN
03 - Principal Arterial-Other RURAL	14 - Principal Arterial-Other URBAN
04 - Principal Arterial-Other RURAL	15 - Minor Arterial URBAN
05 - Minor Arterial RURAL	17 - Major Collector URBAN
06 - Minor Collector RURAL	18 - Minor Collector (Pedestrian) URBAN
07 - Major Collector RURAL	19 - Local URBAN
08 - Minor Collector RURAL	

APPENDIX F - 27070003 (CR-228): Proposed Funclass is Rural Major Collector

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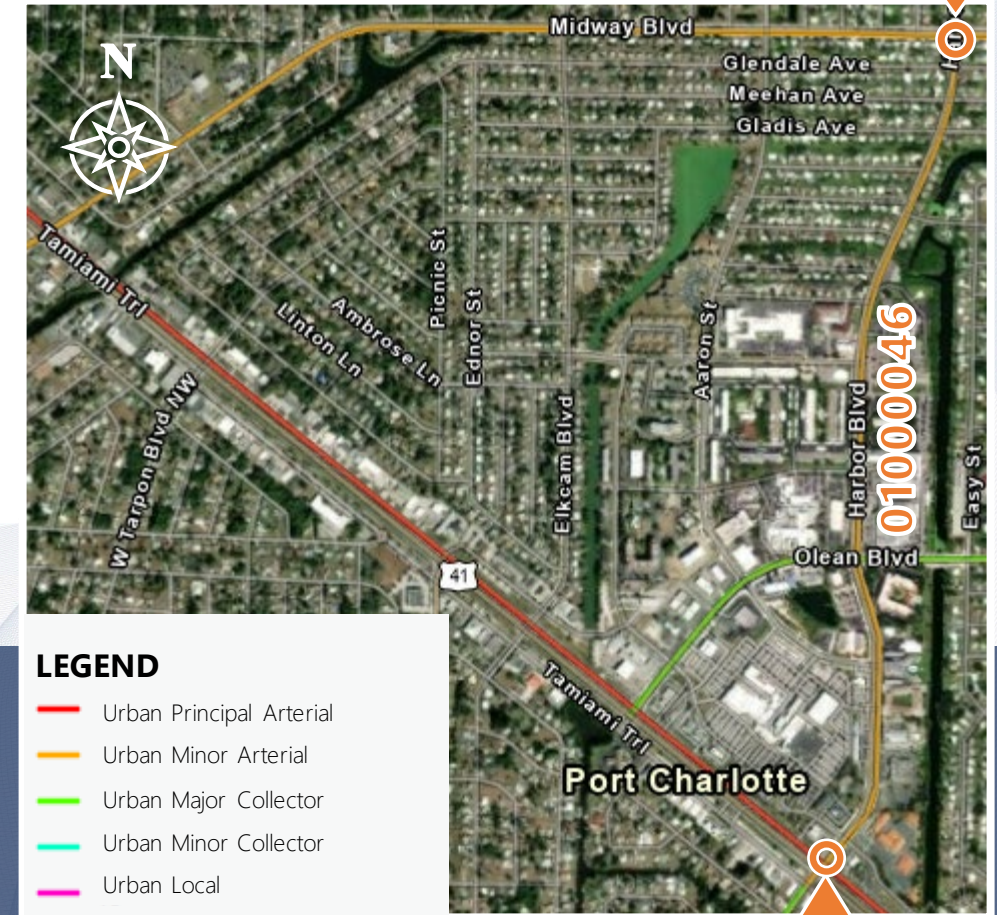
Functional Classification – Example

- **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	Green is input (fill these in), Blue is output (will automatically fill) Note: It is not necessary to go through the criteria for every single classification, some classes can be ignored based on judgement. 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 and judgement should be used. For instance, if a roadway is currently classified as an arterial, you can ignore the criteria for	
Roadway (Local Name)	Harbor Boulevard		
RID	01000046		
From	US 41/SR 45/Tamiami Trail		
From Milepost	0		
To	Midway Boulevard		
To Milepost	1.347		
AADT	10,400		
Lanes	4		
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.

1790

3,929,214

1800

5,308,483

1850

23,191,876

1900

76,212,168

1950

151,325,798

2000

281,421,908

2010

308,745,538

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 \(arcgis.com\)](#)
- County reviewed and submitted comments through the Web Map, FDOT is currently addressing comments

Functional Classifications

FDOT has identified potential areas for improvement and suggested necessary updates and additions to the existing system. Recognizing the significance of this evaluation, FDOT is taking proactive measures to gather feedback and insights from Metropolitan Planning Organizations (MPOs). This collaborative approach ensures that the proposed changes align effectively with the needs and perspectives of various stakeholders, fostering a more efficient and inclusive road network that will benefit communities across the region.

STEP 1: Please click the area to **review** details from the map or view the table below.

Existing Functional Class	Urban Major Collector
Proposed Functional Class	Urban Minor Arterial
Evaluation Type	3 - Hist AADT Gr
Reason for Change	Connection to US 41, other higher level roads, access to major public facilities (hospital) and retail

Legend

Proposed Functional Class

- Rural Minor Collector
- Urban Minor Arterial
- Urban Local
- Urban Major Collector
- Urban Minor Collector
- Existing

Existing Functional Classification

- URBAN MAJOR COLLECTOR
- URBAN MINOR ART
- URBAN LOCAL
- URBAN MINOR ART
- URBAN PRIN ART OTHER
- URBAN MAJOR COLLECTOR
- RURAL LOCAL
- RURAL PRIN ART OTHER
- URBAN MINOR COLLECTOR
- RURAL PRIN ART INT.
- URBAN PRIN ART INT.

MPO Suggestions from Survey

- Survey Polyline
- Census Urban Boundary 2020
- Proposed Urban Area
- FL County Boundaries

STEP 2: Please review the **Proposed Functional Classification table** and share your remarks within the designated **Comments** field.

As a designated reviewer, you are granted editing privileges exclusively for the Proposed Functional Classification table.

When you are ready to share your comments, proceed by double-clicking on the relevant row within the Comments field.

The app will prompt you to sign in, if you hit cancel you will not have access to the **MPO Suggestions from Survey** in table.

STEP 3:

Identify areas that need to be classified by filling out the Survey below.

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. Classification: ☐1 ☐2 ☐3 ☐4
☐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
<input type="checkbox"/> Rural Principal Arterial – Other	<input type="checkbox"/> Urban Principal Arterial – Other
<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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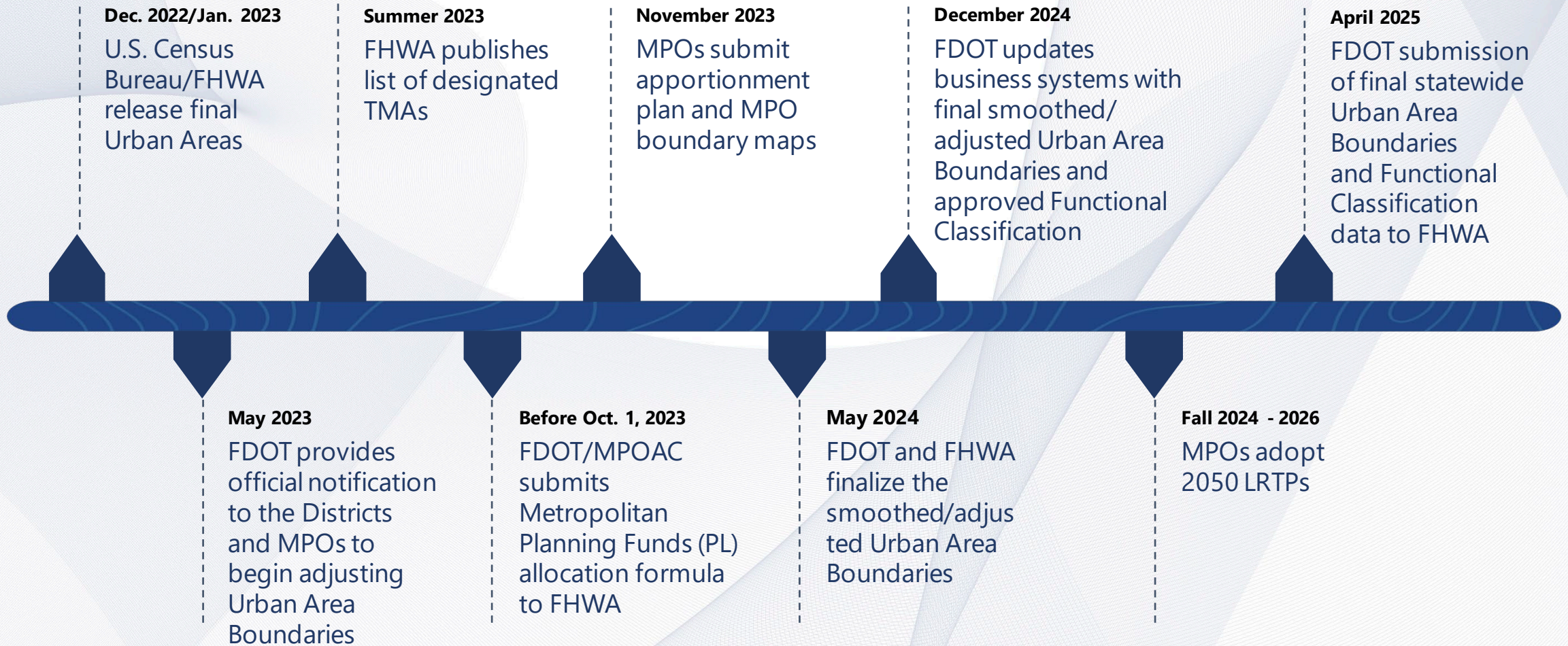
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Recommended By:

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

Process Timeline



Questions & Discussion



BUCKLE UP
FLORIDA

