DEPARTMENT OF TRANSPORTATION

MnDOT Functional Classification Metro Review

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Office of Transportation System Management

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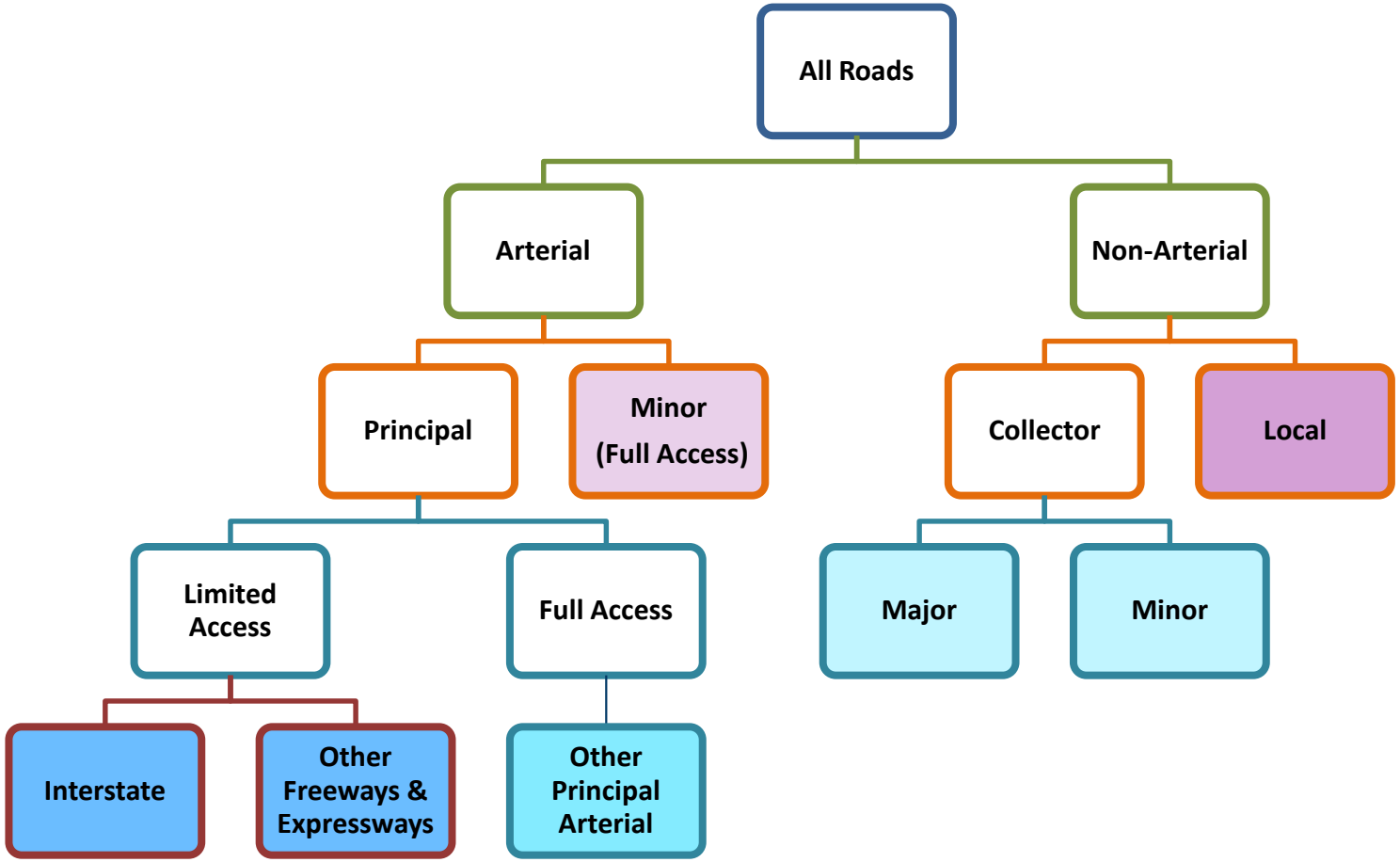
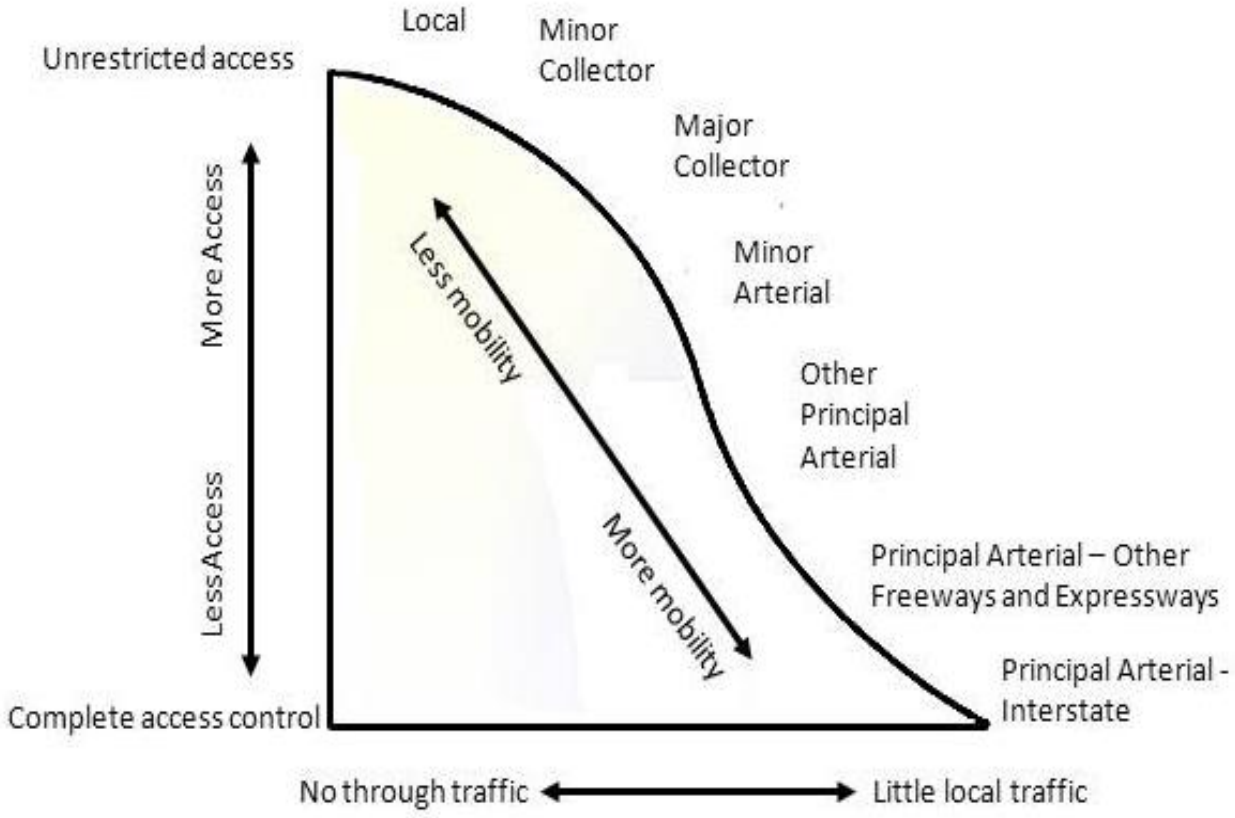
2	Review Process
3	Early takeaways
4	Next Steps

Functional Classification Decision Tree



Functional Classification: What's the Purpose

- Mobility vs Access: FC system balancing act between mobility and access.
- Efficiency: FC system intends to maximize efficiency of road network.
- Standardization: FC system creates one standard for all states. Allows coordination, comparison, knowledge transfer.
- Funding: Tying funding to FC allows for thresholds to be set, streamlines decision making and fosters more transparent process.
  - Urban: Minor Collector and above
  - Rural: Major Collector and Above



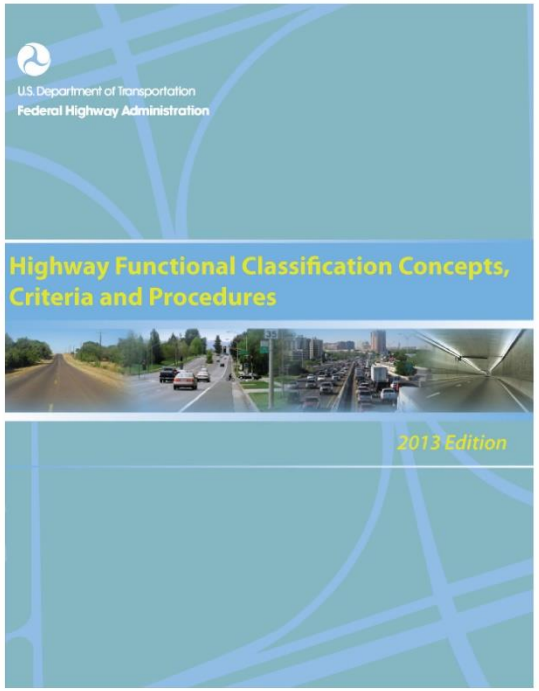
How is functional classification determined?

- Roadways serve two primary functions:
  - Access to property
  - Travel mobility
- All roadways perform these functions to varying degrees.
- Determining a roadway's primary purpose helps determine how to classify the roadway.
- Represents the existing conditions of a roadway.

Functional Classification: Why We're Here

- 2010 Census
  - New urban area boundaries
- 2013 FHWA updated FC guidelines
- 2015: MnDOT completed review and update of functional classification for Greater Minnesota following updated 2013 FHWA guidelines and 2010 decennial Census
- This update did not include metro
  - Determined that systems were different enough to separate into two processes

- FHWA has requested metro FC be reviewed and updated to achieve consistency with Greater Minnesota and better adhere to guidelines.

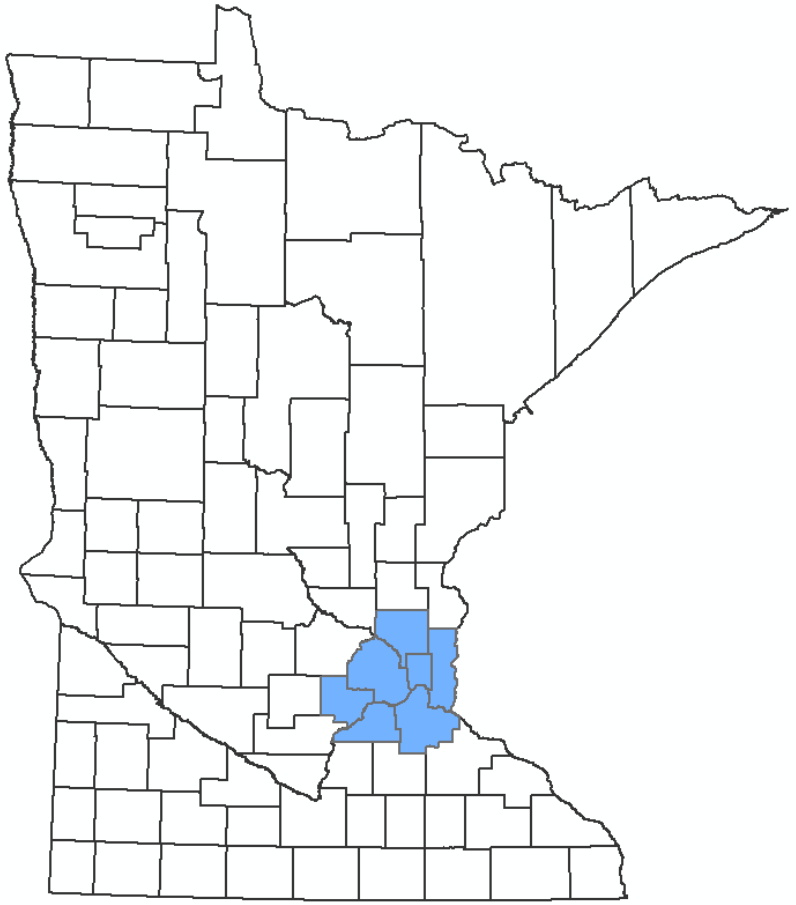


Functional Classification: Why We're Here

- Project Management Team
  - Made up of MnDOT staff and Met Council representative
  - Leading technical review
  - County by county process
- Steering Committee
  - Made up of local representatives (local, county and Met Council) and MnDOT staff
  - Provides direction of review process
  - Final decision on any differences of classification
  - Final approval of metro area functional classification review and update prior to FHWA submittal

Statewide perspective

- Greater Minnesota functional classification review completed; FHWA approved October 2015
- 7 metro county functional classification review intended to begin in 2015 but was delayed multiple times
- Anoka first county to be reviewed and is complete
- Now working with Carver, Scott, Washington and Ramsey counties
  - Hennepin and Dakota finishing technical review



Statewide perspective: 2016

Functional classification	Urban miles	% urban	FHWA urban guideline*	Rural miles	% rural	FHWA rural guideline*
Principal Arterial-Interstate	325.4	1.5%	1-3%	588.1	0.5%	1-3%
PA- Freeway/ Expressway	220.7	1.0%	0-2%	45.4	<0.1%	0-2%
PA- Other	616.2	2.8%	4-9%	3,443.1	2.9%	2-6%
Minor Arterial	2,550.2	11.5%	7-14%	6,675.3	5.5%	2-6%
Major Collector	2,198.2	9.9%	3-16%	15,653.3	13.0%	8-19%
Minor Collector	789.9	3.6%	3-16%	12,014.3	10.0%	3-15%
Local	15,454.5	69.8%	67-76%	82,199.8	68.1%	62-74%
Total	22,155.11			120,619.4		

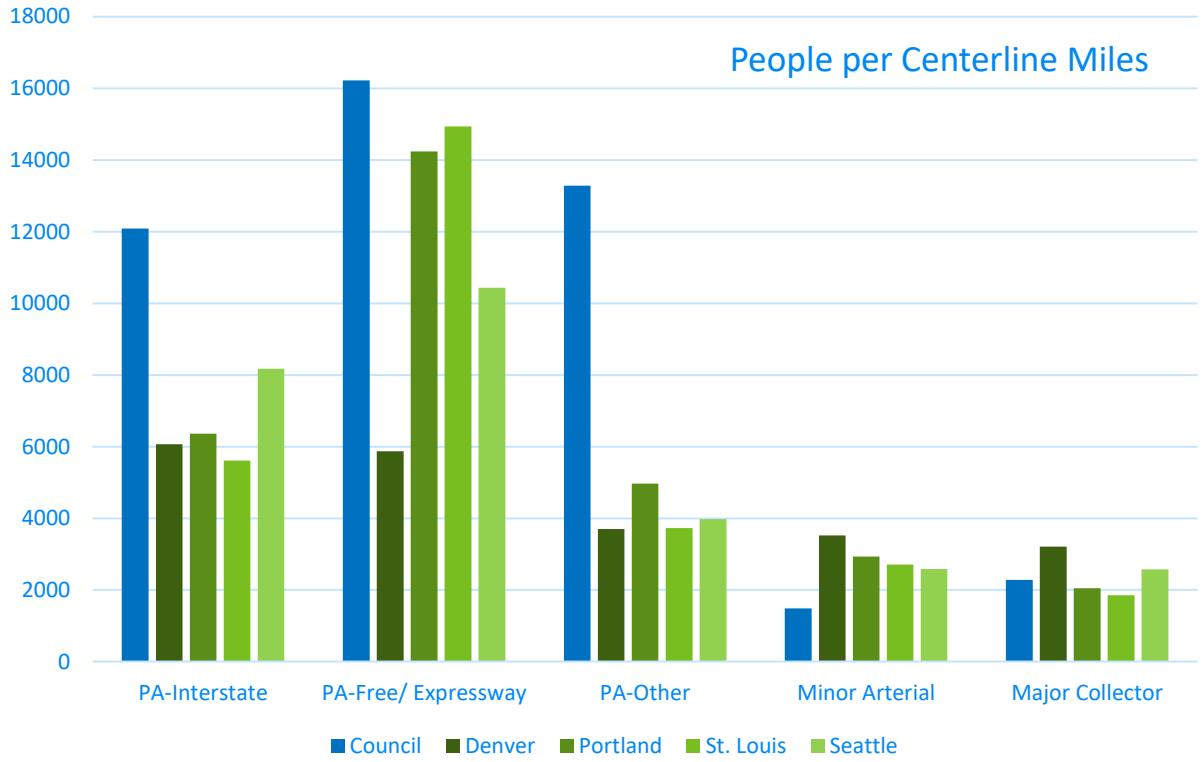
*FHWA Functional Classification Concepts, Criteria and Procedures, 2013
Minnesota is considered a rural state. There is guidance for rural/urban system separate from state designation

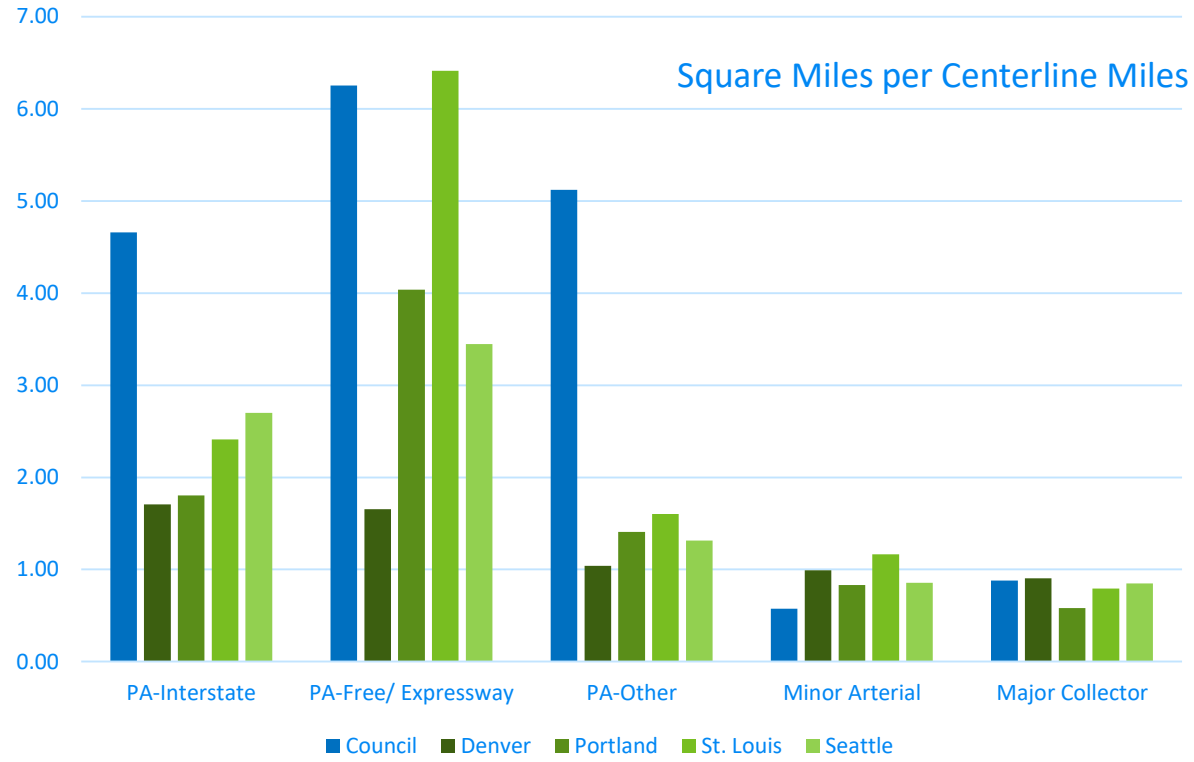
Peer MPO: Functional Classification Comparison

MPO	PA-Interstate	PA-Free/ Expressway	PA-Other	Minor Arterial	Major Collector	Minor Collector	Local
Council	219.3	163.4	199.6	1,781.7	1,162.4	198.5	9,750.8
Denver	391.5	404.1	641.5	673.7	738.9	--	7,144.6
Portland	290.6	129.9	372.4	629.8	903.6	156.5	10.7
St. Louis	383.1	144.0	576.3	793.3	1,163.3	467.5	2,708.0
Seattle	374.3	293.2	768.6	1,181.8	1,187.9	25.2	1.5

Note: Data based on centerline miles.
Source: 2018 HPMS data.

Peer MPO: Functional Classification Per Capita





Metro Perspective: Classification Percentage

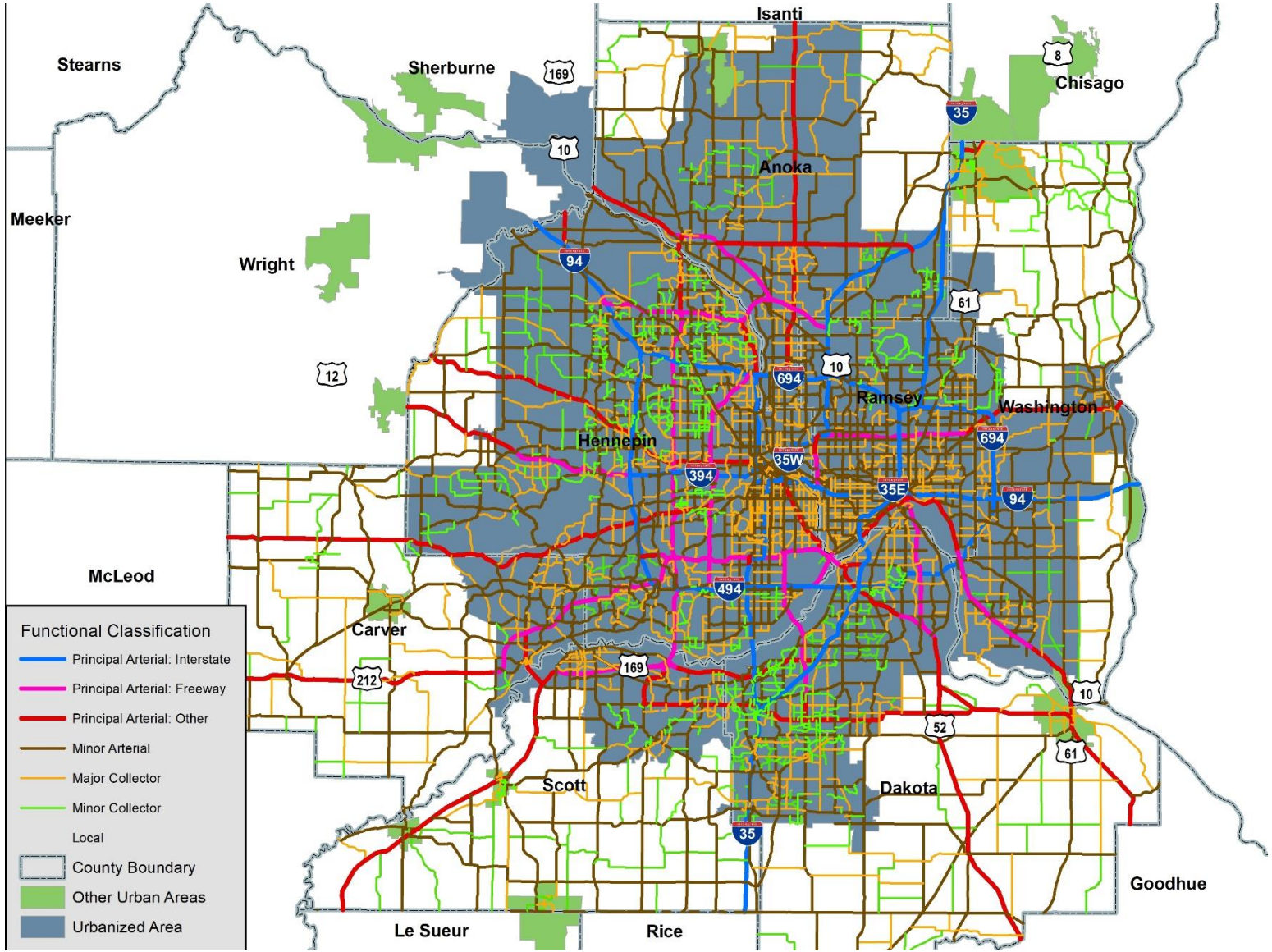
Original	Anoka		Ramsey		Carver		Scott		Washington		Dakota		Hennepin	
Total Miles	2454.41		2018.22		1180.24		1342.17		1969.23		2641.57		5449.23	
Principal Arterial	**81.79**	**3.33%**	**81.09**	**4.02%**	**45.37**	**3.84%**	**56.71**	**4.23%**	**50.28**	**2.55%**	**126.72**	**4.80%**	**244.92**	**4.49%**
PA-Interstate	23.37	0.95%	51.46	2.55%	0.00	0.00%	6.02	0.45%	24.59	1.25%	36.08	1.37%	87.45	1.60%
PA-Freeway	13.89	0.57%	16.72	0.83%	8.81	0.75%	11.84	0.88%	8.07	0.41%	15.49	0.59%	88.87	1.63%
PA-Other	44.53	1.81%	12.92	0.64%	36.57	3.10%	38.84	2.89%	17.32	0.88%	75.15	2.84%	68.6	1.26%
Minor Arterial	**312.54**	**12.73%**	**343.48**	**17.02%**	**213.34**	**18.08%**	**233.31**	**17.38%**	**314.16**	**15.95%**	**339.24**	**12.84%**	**677.33**	**12.43%**
A-Minor (% of MA system)	254.14	81.31%	218.74	63.68%	170.72	80.02%	166.23	71.25%	297.72	94.77%	289.12	85.23%	550.21	81.23%
B-Minor (% of MA system)	58.4	18.69%	124.71	36.31%	42.62	19.98%	67.08	28.75%	16.44	5.23%	50.12	14.77%	127.12	18.77%
Major Collector	**208.08**	**8.48%**	**176.49**	**8.74%**	**115.65**	**9.80%**	**104.18**	**7.76%**	**182.07**	**9.25%**	**251.08**	**9.50%**	**524.96**	**9.63%**
Minor Collector	**64.82**	**2.64%**	**32.96**	**1.63%**	**52.3**	**4.43%**	**98.50**	**7.34%**	**104.08**	**5.29%**	**217.60**	**8.24%**	**250.46**	**4.60%**
Local	**1787.18**	**72.82%**	**1384.19**	**68.58%**	**753.57**	**63.85%**	**849.47**	**63.29%**	**1318.66**	**66.96%**	**1713.59**	**64.87%**	**3751.56**	**68.85%**

Note: Data based on centerline miles.
Source: 2018 HPMS data and local comp plans

Understanding urban vs. rural areas

- Urban area - boundaries updated every 10 years with the U.S. Decennial Census
  - U.S. Census Bureau – any area having a population of 2,500 or more
  - FHWA – any urban area identified by the U.S. Census Bureau with a population of 5,000 or more
    - Federal legislation allows State DOTs to adjust urban boundaries with FHWA approval
- Urbanized area
  - Subset of urban areas
  - Population of 50,000 or more
- Rural area
  - All other areas
- Urban area boundaries (of population 5,000 and above) distinguish between “rural” and “urban” functional classification

Adjusted Metro Urban Area



Areas Needing Closer Review

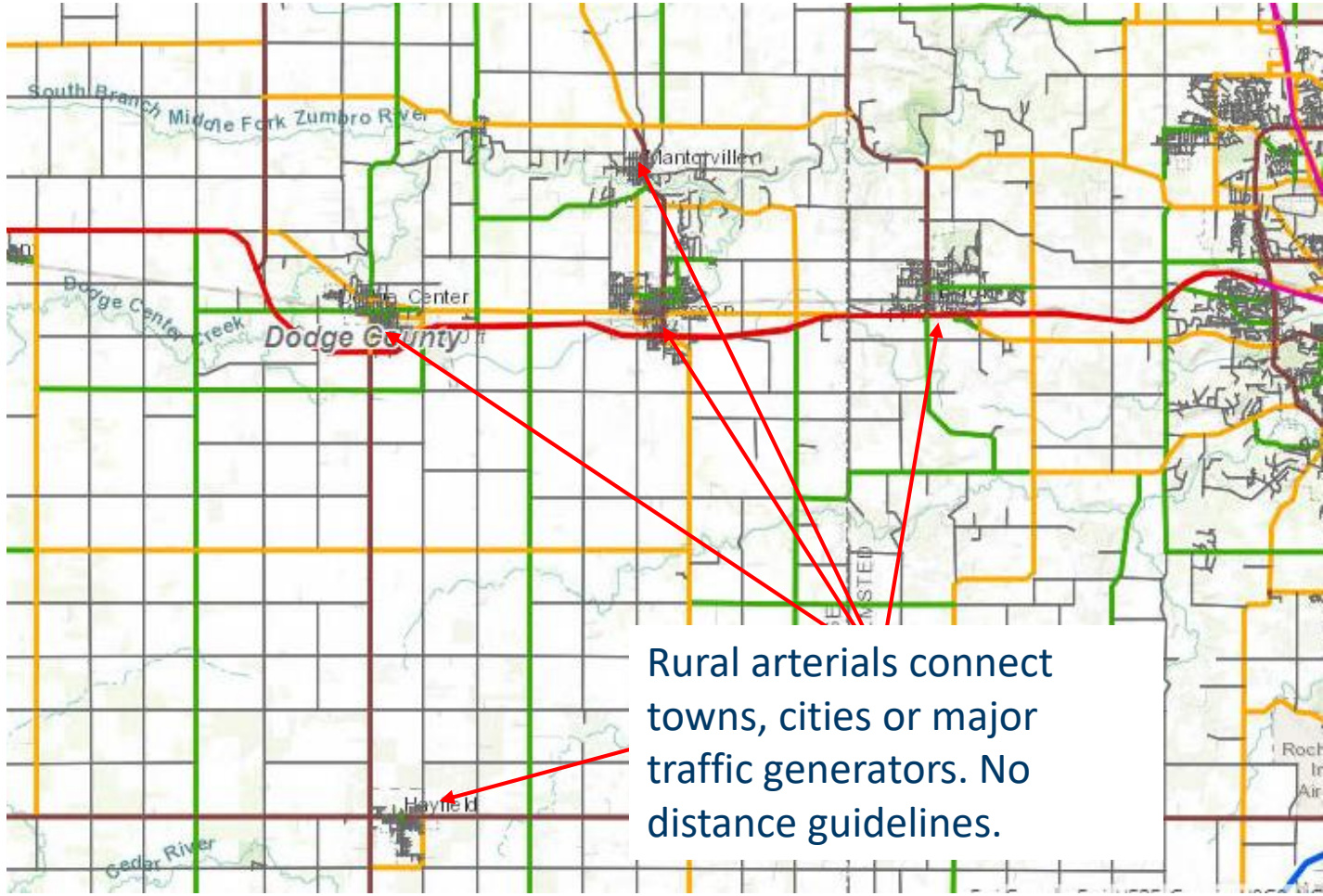
To identify areas needing a closer review:

- Spacing: Are similar classifications adjacent to each other? Are they spaced apart appropriately?
- Lack of classifications: Is there a lack of classifications (e.g., no Minor Collectors, few of any classifications besides arterial and local)?
- Border discrepancies: Does the classification change at a boundary?
- Stubs: Does the classification end in a stub i.e. dead end or abruptly shift to lower classification?
- Consistency: Is application of classifications consistent (e.g., spacing, AADT)?
- Other Considerations: Does road geometry, intersection design or other factors influence classification?

Example: Spacing

Spacing:

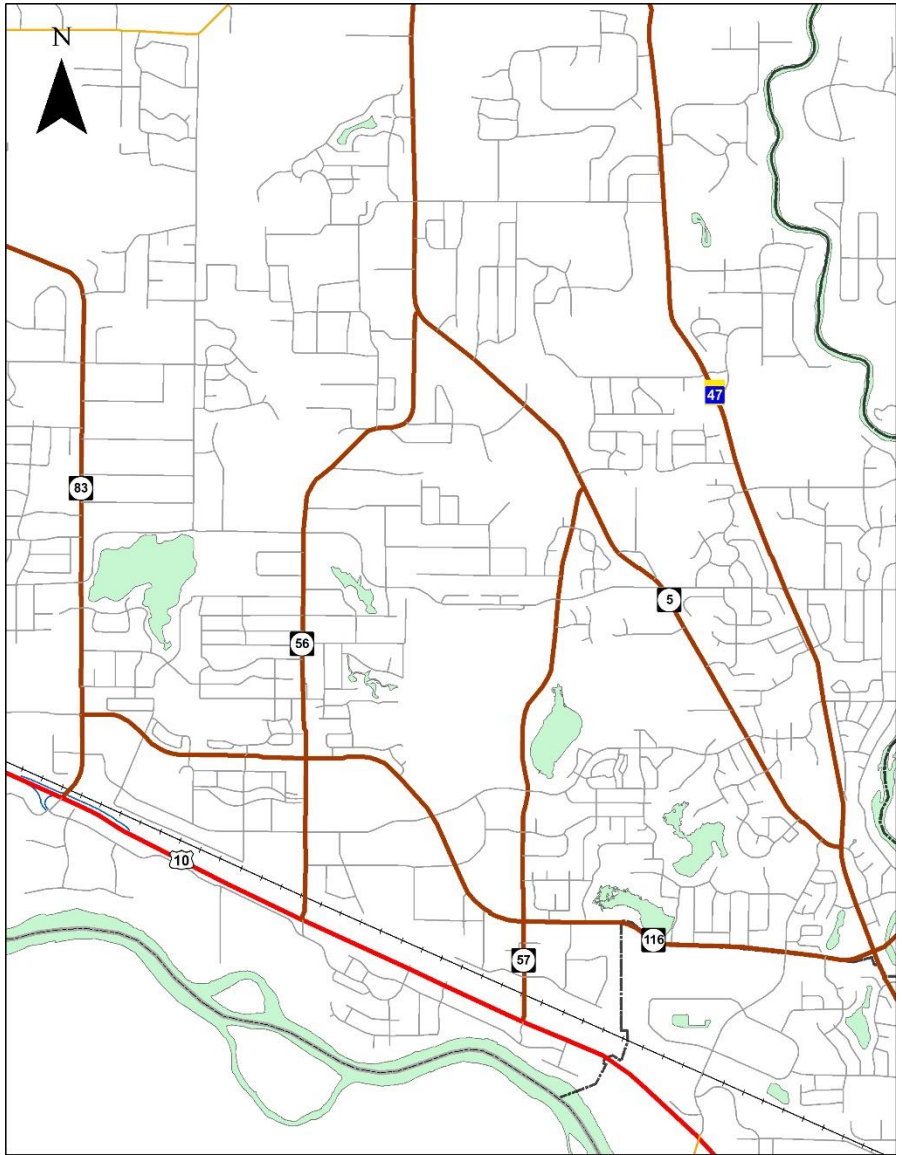
- Minor arterial spacing (generally):
  - Urban: ½-1 mile
  - Suburban: 2 to 3 miles
  - Rural: Connect rural towns, cities, traffic generators
- Should avoid situations where adjacent roadways have same classification (exception Local roads)
- May be exceptions – but exceptions should be well documented
- Should not purposely overclassify a roadway as a work around



Example: Lack of Classifications

Lack of classifications:

- Heavy use of arterial and local classifications
- No Minor Collectors identified
  - Limited collector system overall
- May be missing other roadways that could be classified



Example: Border Discrepancies

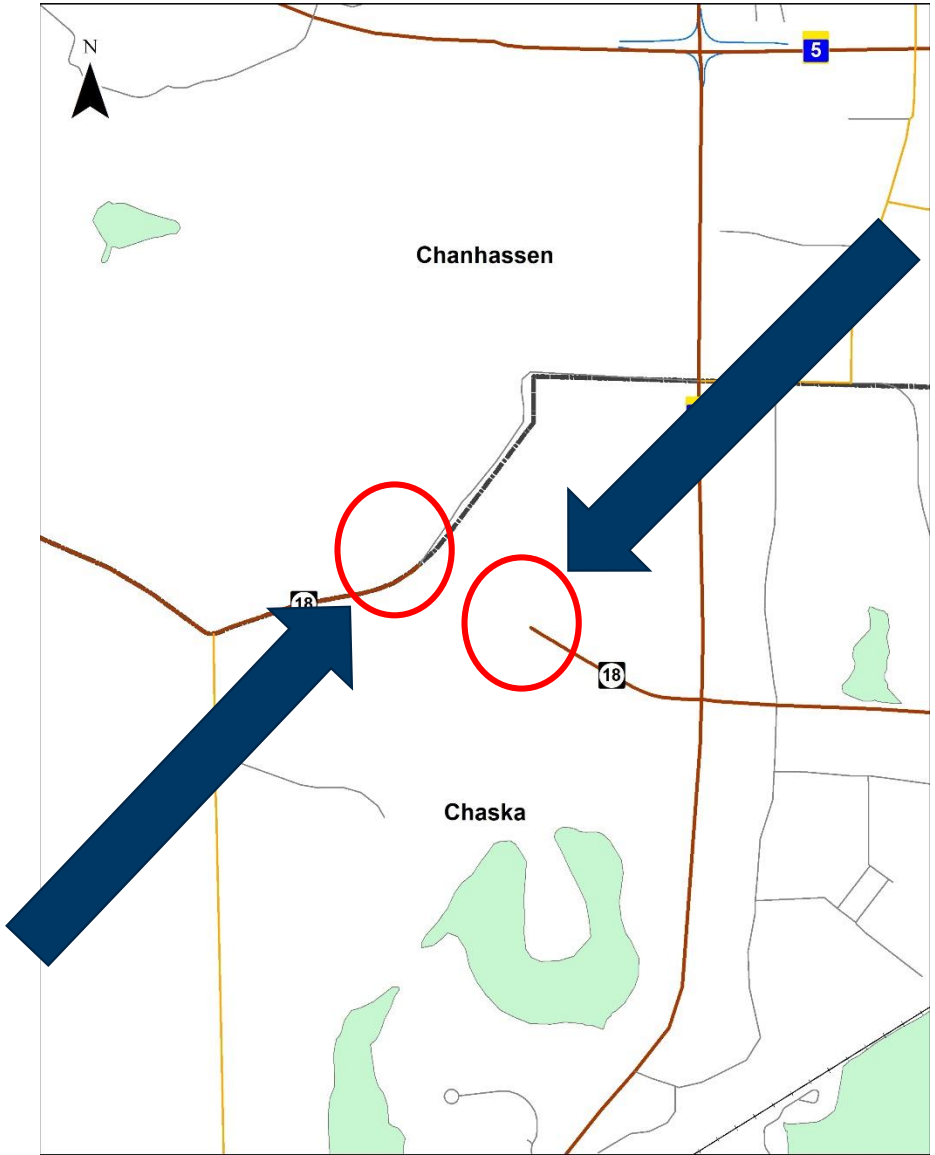
Border discrepancies:

- Functional classification changes at a municipal/county border
- Generally come from comp plan updates
- Change may be OK – just need further review

Example: Stubs

Stubs:

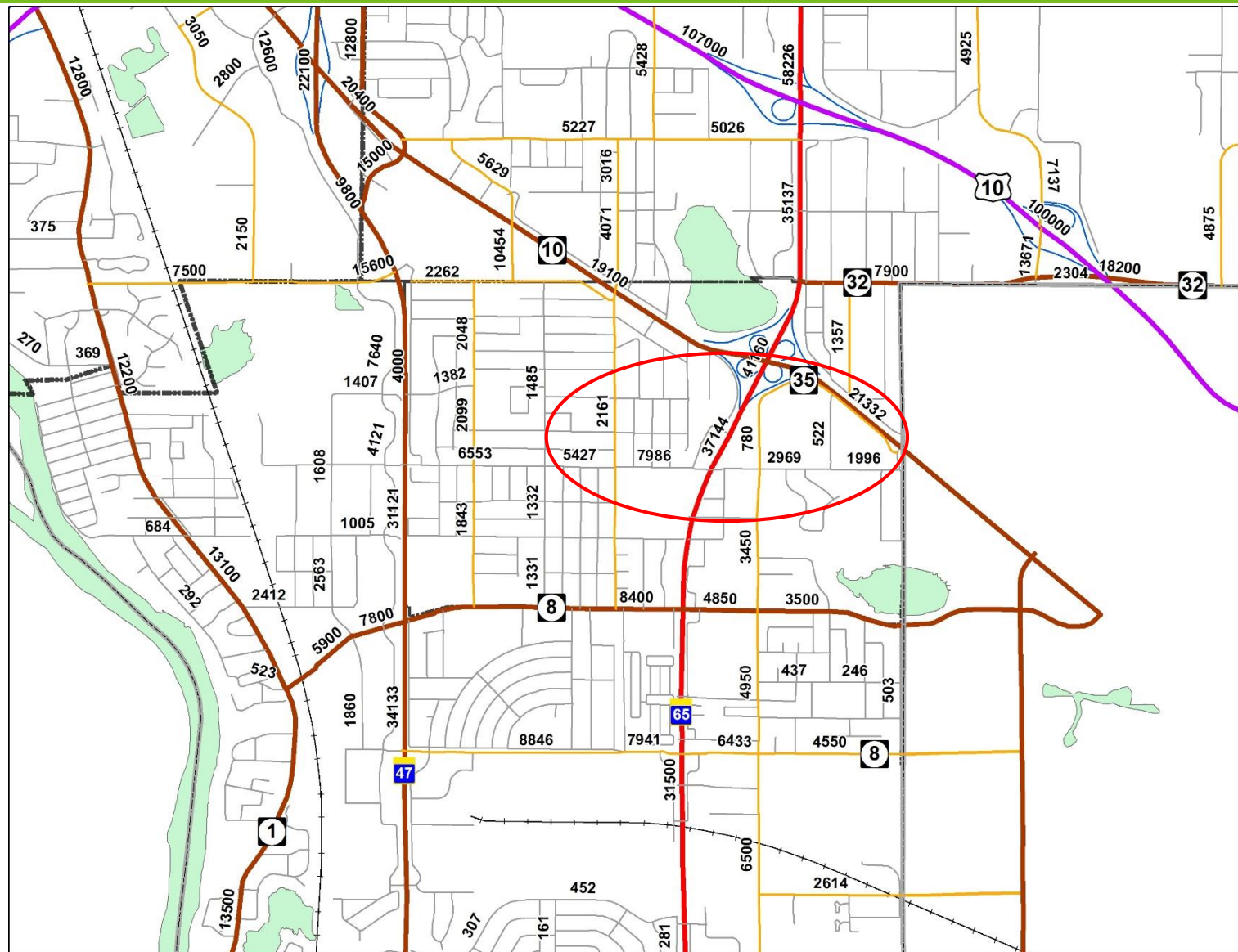
- Functional classification ends/stubs
  - Roadway dead ends
  - Classification changes abruptly
- Situations where stubs are OK
  - major traffic generators
  - higher class connecting to multiple lower class roads which together provide same capacity/function as higher class
- Typically, Locals always can stub and Minor Collectors more acceptable as stubs than higher classifications



Example: Consistency

Consistency:

- AADT
  - Modified federal guide
    - Minor Arterial: 4,000-15,000
    - Collector Major: 3,000-6,500
    - Collector Minor: 1,000-4,000
    - Local: 0-700

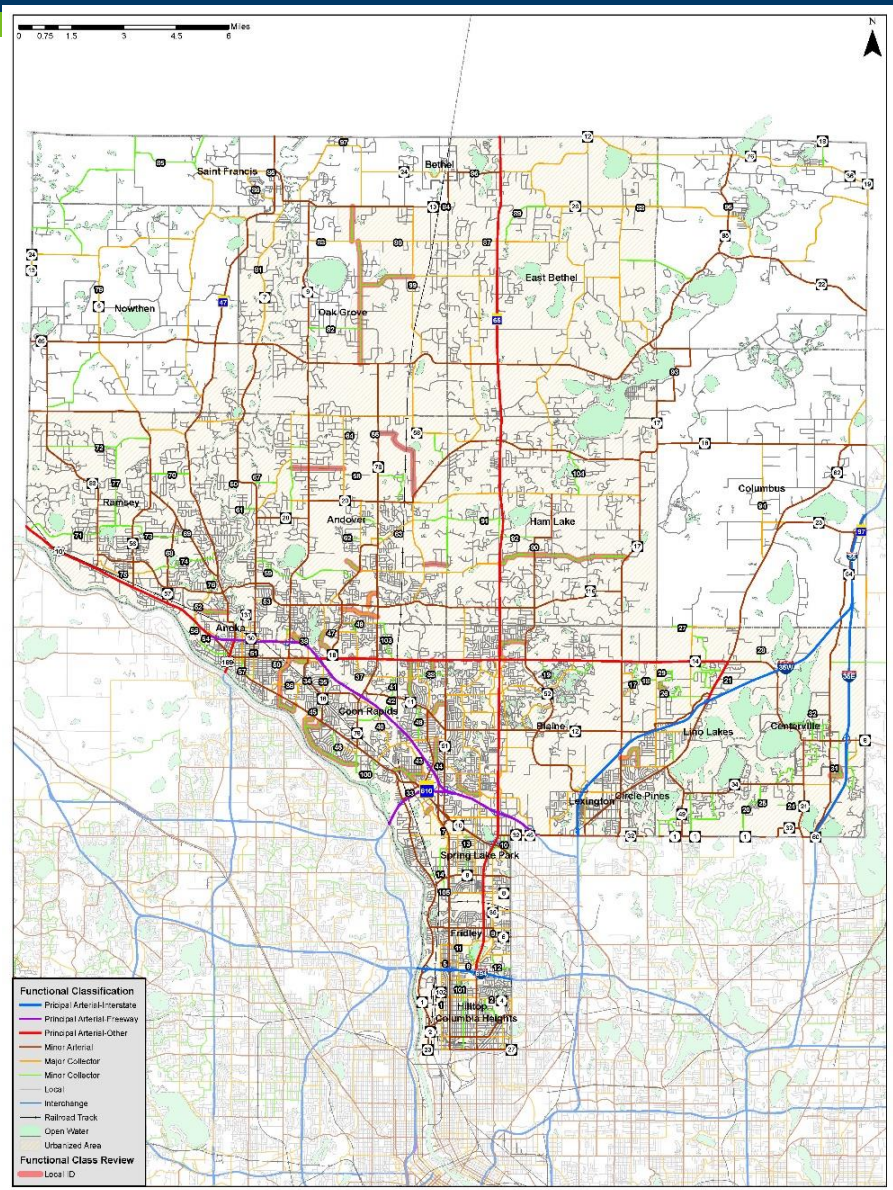


Other Considerations

- Road Geometry/Intersection Design
  - Intersections – if signalized or controlled in some other way, could determine appropriateness of classification
  - Surfacing – If roadway not surfaced with pavement it cannot be designated higher then local
  - Transit service – Roadways classified as local should not be handling transit service (generally)
- Route Length/System Connectivity
  - Minor Arterials
    - Longer trip length
    - Longer continuous route length
    - (Generally) Connected arterial system

Update on County Progress – Anoka County

- Worked with County and cities
  - Not all marked changes were ultimately changed
    - If county or local had issue, generally deferred unless far out of guidelines
    - Most changes were ultimately made, no outstanding disagreements
    - Some cities offered additional roadways to classify
- Balanced system
  - Minor collector miles doubled (+92%)
  - Increased major collector by 14%
  - Reduced minor arterial by 9%
    - A-Minor = -1.7%
    - B-Minor = -42%
  - All mileage within FHWA guidelines



Update on County Progress – Anoka County

Original			Revised			FHWA Mileage Guideline
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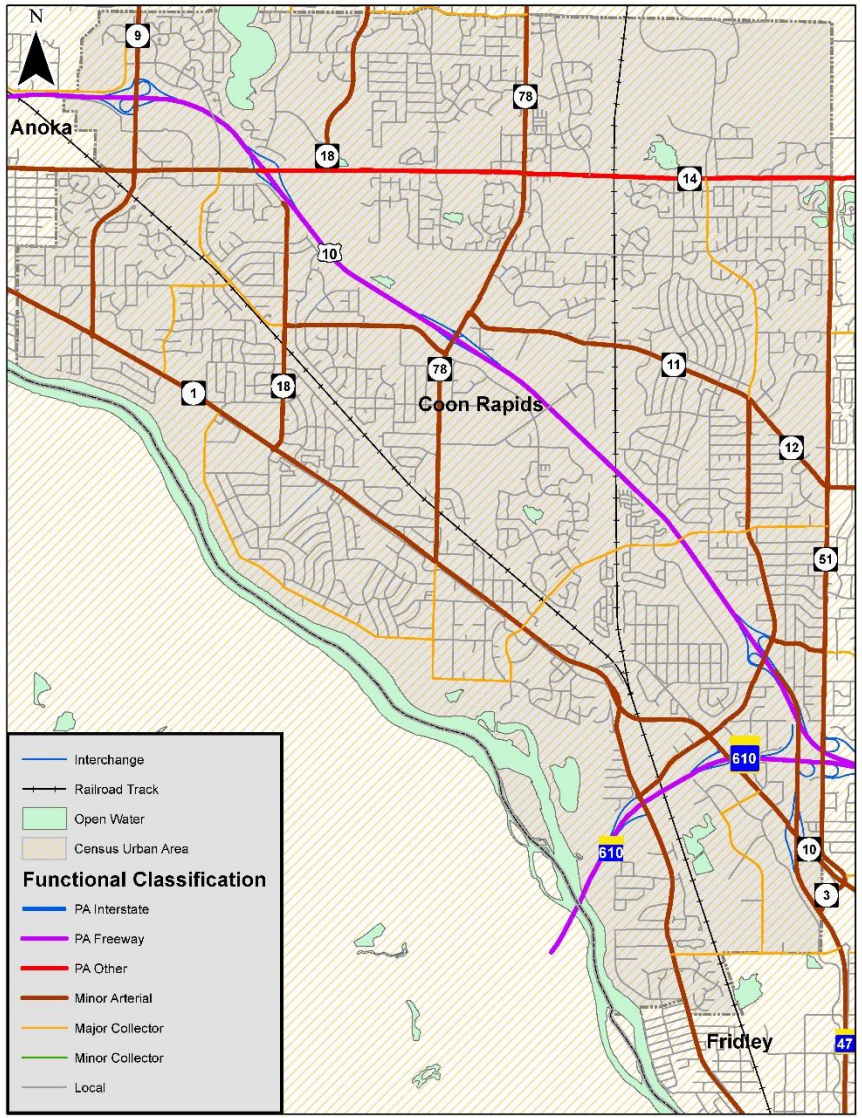
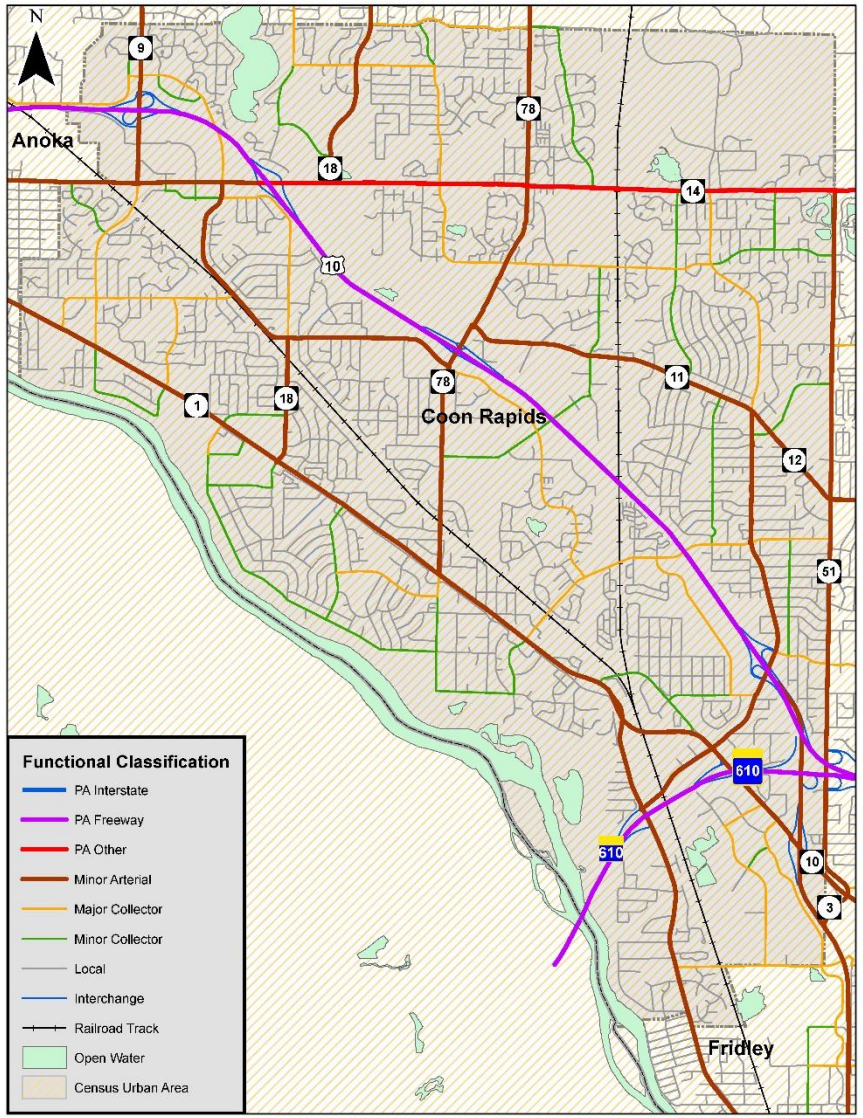
A-Minor (% of MA system)	254.14	81.31%	A-Minor (% of MA system)	249.79	88.00%	N/A
B-Minor (% of MA system)	58.4	18.69%	B-Minor (% of MA system)	34.05	12.00%	N/A
Major Collector	**208.08**	**8.48%**	**Major Collector**	**237.82**	**9.69%**	**3%-16%**
Minor Collector	**64.82**	**2.64%**	**Minor Collector**	**124.57**	**5.08%**	**3%-16%**
Local	**1787.18**	**72.82%**	**Local**	**1726.39**	**70.34%**	**62%-74%**

Update on County Progress – Anoka County





Update on County Progress – Other Counties

- Carver County
  - Met with county staff and city staff
  - Working on finalizing revisions
- Scott County
  - Met with county staff
  - City staff meeting scheduled for Nov. 18th
- Ramsey County
  - Technical review complete, working with county to schedule meetings
- Washington County
  - Technical review complete
  - Moving to reach out to county
- Hennepin and Dakota Counties
  - Technical analysis to be reviewed Nov 17th

Key Takeaways So Far

- Metro is very low in Principal Arterial – Other mileage
  - FHWA guideline = 4%-9% of system
  - Actual = 1.72%
  - This may be influencing higher levels of Minor Arterials
- Majority of minor arterials highlighted for review/revised are B-Minor/Other
  - Overall change* = -9.8%
  - A-Minor change* = -3.9%
  - B-Minor/Other change* = -30.8%
- Lack of understanding of urban/rural & existing/planned dichotomy
- Wide variance from city to city
  - Comp planning process seems insufficient for functional classification review without extensive MnDOT collaboration

Preliminary Revisions*

	Before	After	Change
Minor Arterial	**1416.83**	**1277.90**	**-9.8%**
A-Minor	1107.55	1063.97	-3.9%
B-Minor/Other	309.25	213.93	-30.8%
Major Collector	**786.47**	**826.57**	**5.1%**
Minor Collector	**352.66**	**580.24**	**64.5%**
Local	**6093.07**	**5965.03**	**-2.1%**

*preliminary reviewed counties only

Key Takeaways So Far

- County by county review format has been well received
  - MnDOT staff meeting with each county independently
    - Multiple meetings and increased collaboration
  - Allows for more detailed back and forth
    - Locals more open to initial discussions than previous attempts
  - Have had varying degree of input/feedback from cities
  - Has slowed down overall process
    - Original schedule aimed for January 2021 completion, now likely March

Next Steps in Process

- Finish technical review
  - Dakota and Hennepin final PMT meeting
- January 2021 Steering Committee Meeting
  - Aiming to have any/all outstanding disagreements ready for Committee decision
    - Could be pushed to later date depending on review status with locals
- Met Council update on process and formal review/approval
  - Will be coming back for review and ultimately formal approval of Metro system early 2021

Questions

Thank you!

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