2020 STATEWIDE REVIEW

National Functional Classification (NFC) Review

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PRESENTATION OUTLINE

- 2020 National Functional Classification (NFC) Review Overview
- About the NFC System
- NFC Revision Procedures
- 2020 NFC Review - Milestone Outline
- Next Steps and How to Submit
- Things to Consider
- Provided Materials and Additional Resources
- Questions?

OVERVIEW OF THE 2020 STATEWIDE NFC REVIEW

After each decennial census, MDOT invites all appropriate agencies to participate, and review all their NFC classifications. Any NFC revisions they propose are then sent in for evaluation.

MDOT begins the Statewide Review after the Census Bureau has approved the 2020 Adjusted Census Urban Boundaries (ACUB).

MDOT will meet with local agencies (MPO, RPA) alongside MDOT Region Planners to discuss any NFC revisions they may have.

Once these meetings are complete, requested materials will be submitted to MDOT. MDOT will then grant preliminary concurrence if MDOT feels a proposal has met federal standards.

The proposal would then go to FHWA for final approval. Only FHWA can grant final approval on an NFC revision.

About the NFC System

National Functional Class (NFC)

What is NFC, and its purpose?

NFC is a means of for identifying or categorizing the particular role of a roadway in moving vehicles through a network of highways. Furthermore, NFC acts as foundation to performance-based management of our roadways.

National Functional Class Values

- 1 = Interstate
- 2 = Other Freeways
- 3 = Other Principal Arterial
- 4 = Minor Arterial
- 5 = Major Collector
- 6 = Minor Collector
- 7 = Local

These values/designations can be applied across Urban and Rural. Roads within an ACUB are considered “Urban” outside of an ACUB they are considered “Rural.” Urban and rural are meaningful in the context of federal-aid eligibility. Local roads and are not eligible for federal aid, Rural Minor Collectors have limited federal aid eligibility, and the rest are fully eligible.

National Functional Class Values – Separate NFC / NHS Revisions

- 1 = Interstate
- 2 = Other Freeways
- 3 = Other Principal Arterial
- 4 = Minor Arterial
- 5 = Major Collector
- 6 = Minor Collector
- 7 = Local

NFC Revisions to classifications 3 - 7 would be approved by FHWA Michigan. NFC revisions to classifications 1-3 would trigger a separate NHS (National Highway System)Revision which would be required to be approved by FHWA headquarters in Washington D.C. This is because higher classifications are involved with national defense and other national implications. Revisions involving NFC 3 would create a joint NFC/NHS proposal.

Higher classifications such as Interstates and Freeways (NFC 1 & 2) emphasize mobility, lower classifications such as Local roads (NFC 7) emphasize access.

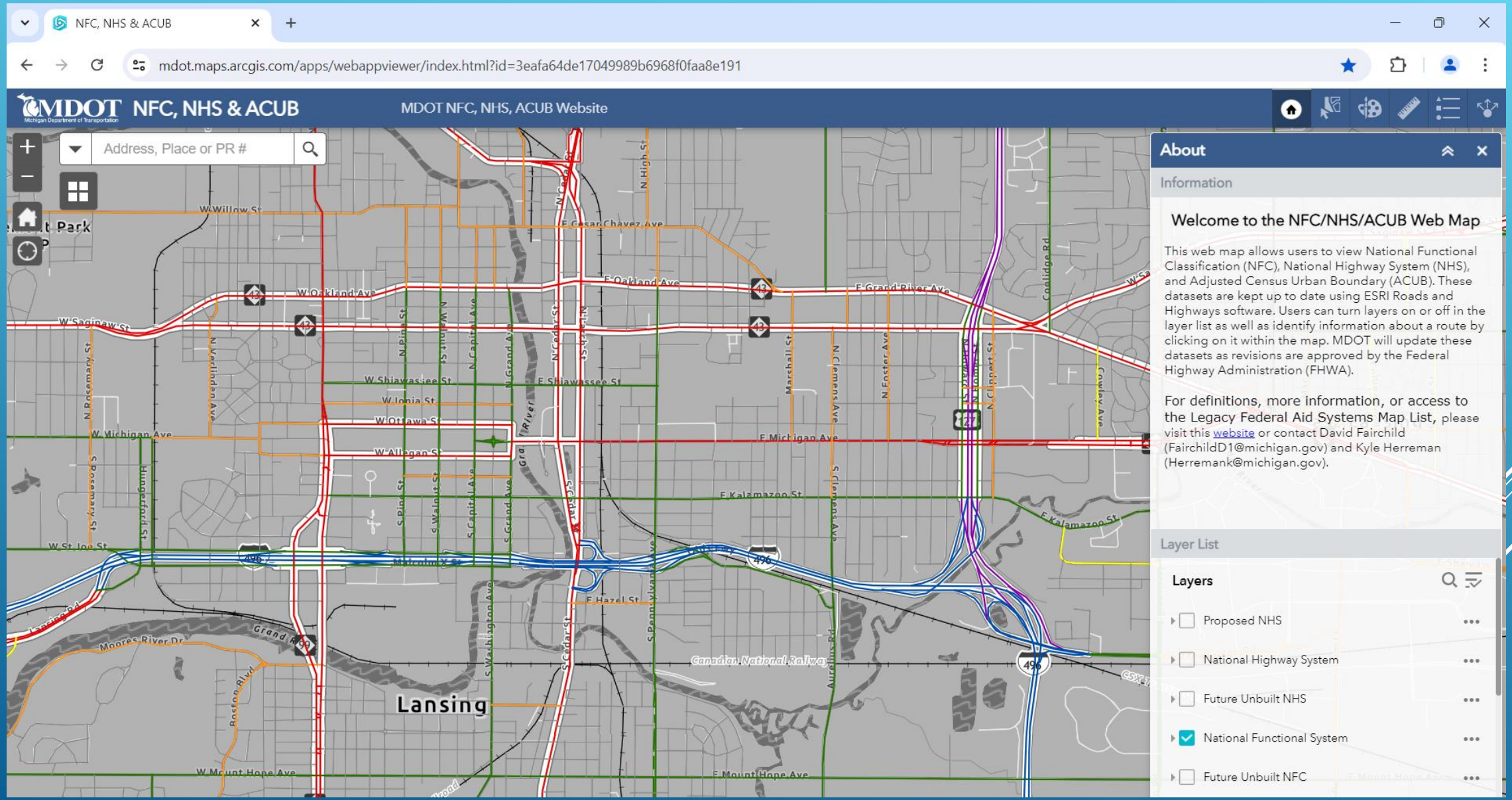
Mobility

Access

1 = Interstate
2 = Other Freeways and Expressways
3 = Other Principal Arterial
4 = Minor Arterial
5 = Major Collector
6 = Minor Collector
7 = Local

NFC WEB APP

https://mdot.maps.arcgis.com/apps/webappviewer/index.html?id=3eafa64de17049989b6968f0faa8e191

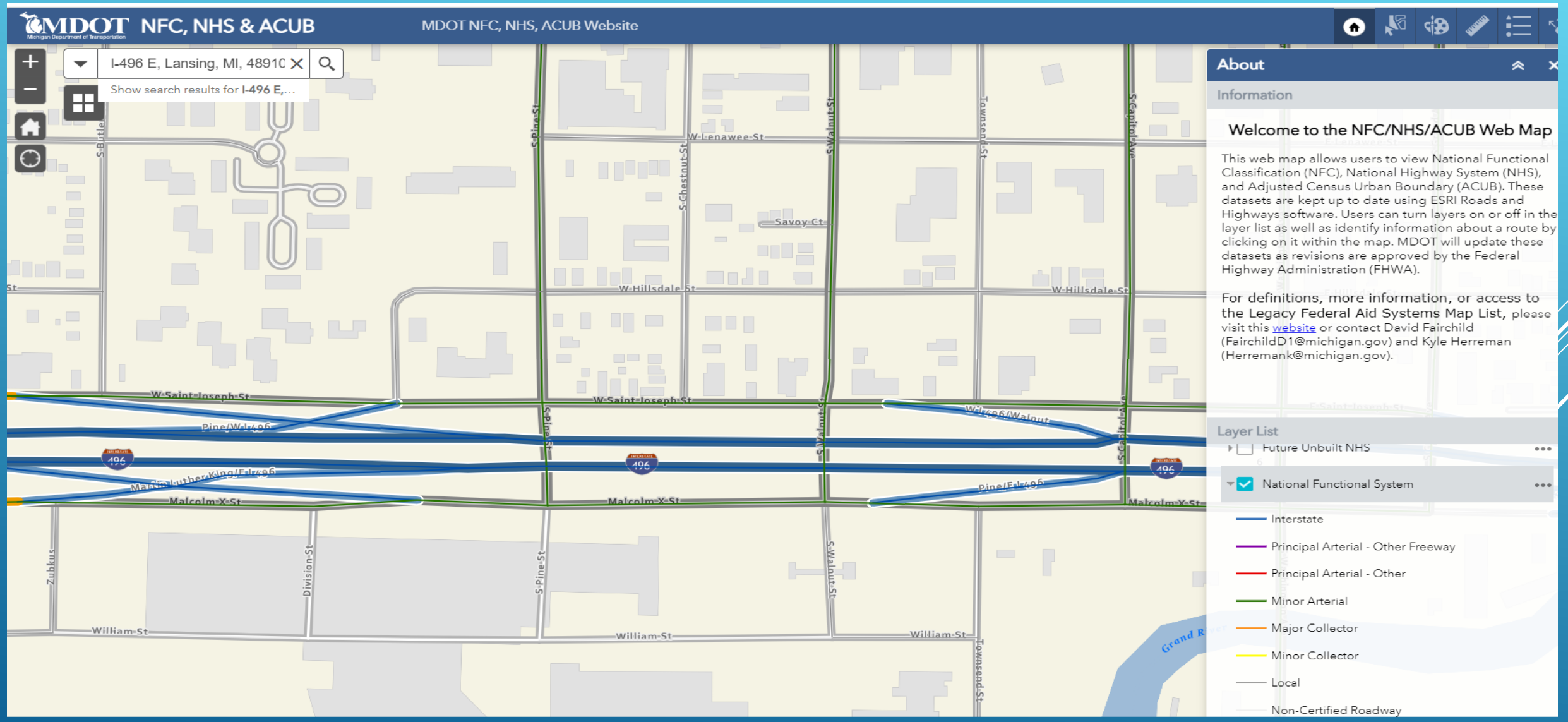


NFC 1: INTERSTATE

Interstates are the highest classification of Arterials and were designed and constructed with mobility and long-distance travel in mind.

NFC 1: INTERSTATE

496



NFC 1: INTERSTATE

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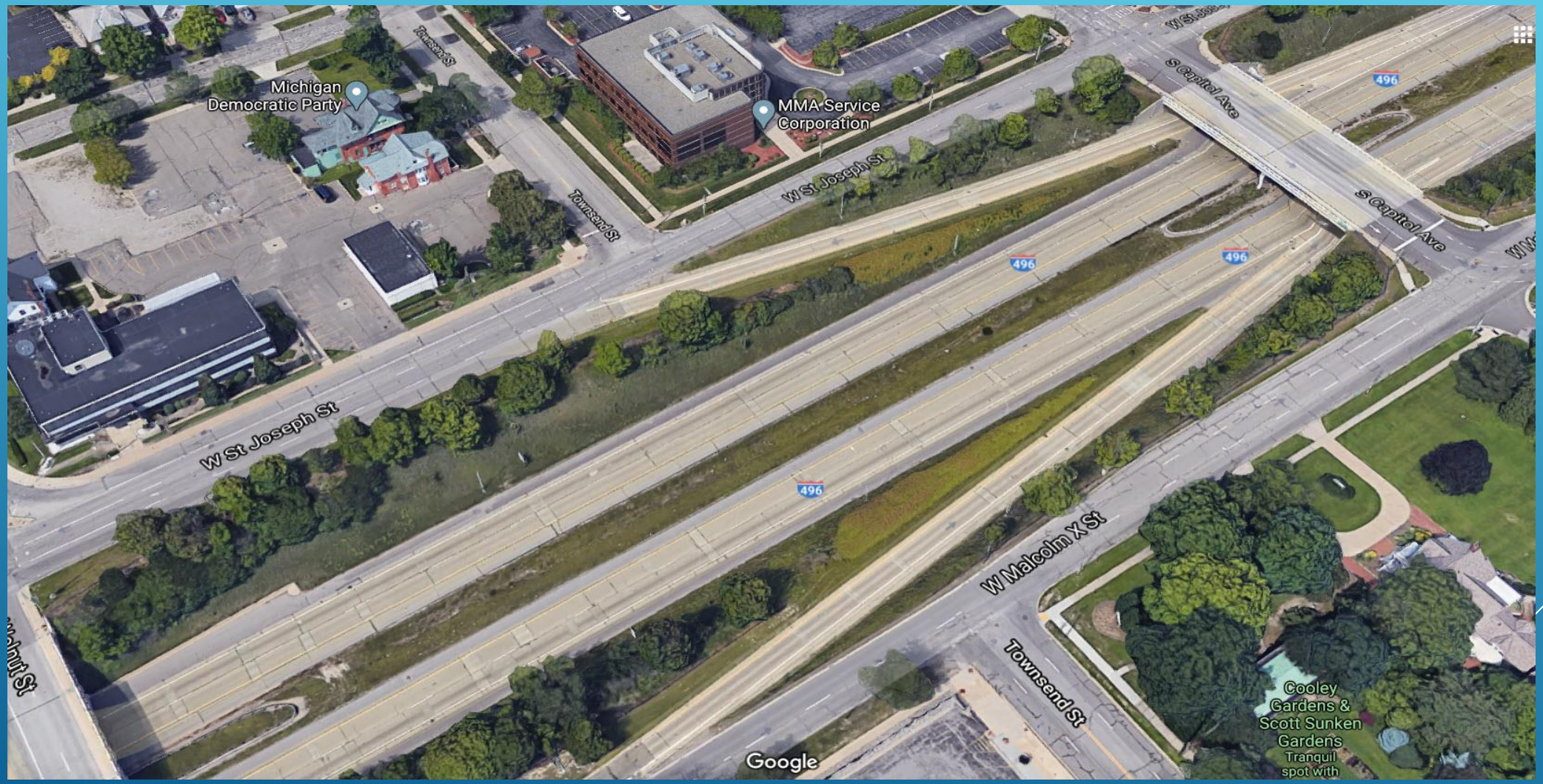
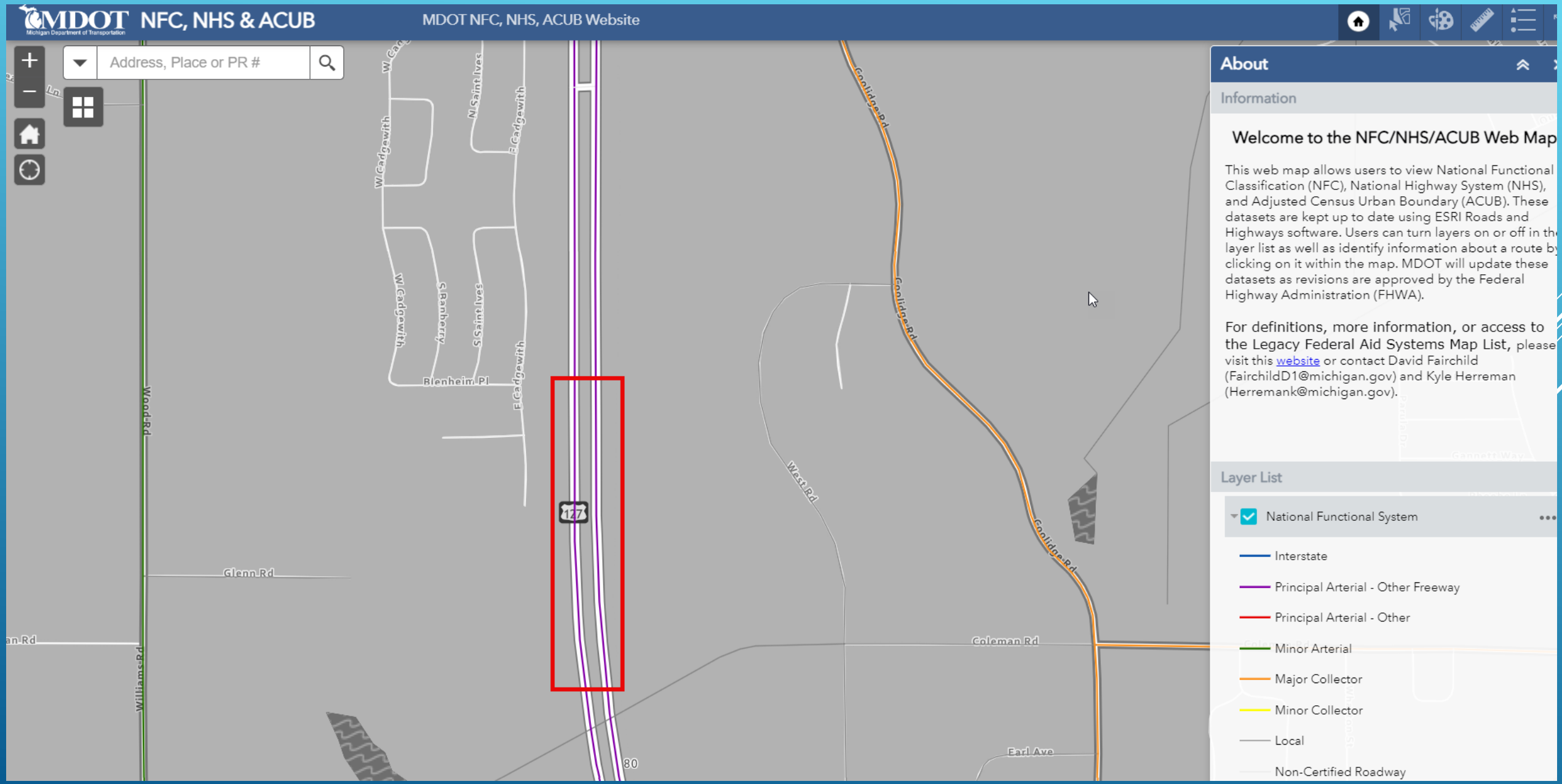


NFC 2: OTHER FREEWAY

Roadways in this functional classification category look very similar to Interstates. While there can be regional differences in the use of the terms ‘freeway’ and ‘expressway’, (MDOT only uses the term ‘freeway’) for the purpose of functional classification the roads in this classification have directional travel lanes are usually separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections.

NFC 2: OTHER FREEWAY



NFC 2: OTHER FREEWAY

NFC 3: OTHER PRINCIPAL ARTERIAL

Urban	Rural
• Serve major activity centers, highest traffic volume corridors and longest trip demands • Carry high proportion of total urban travel on minimum of mileage • Interconnect and provide continuity for 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	• Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel • Connect all or nearly all Urbanized Areas and a large majority of Urban Areas with 25,000 and over population • Provide an integrated network of continuous routes without stub connections (dead ends)

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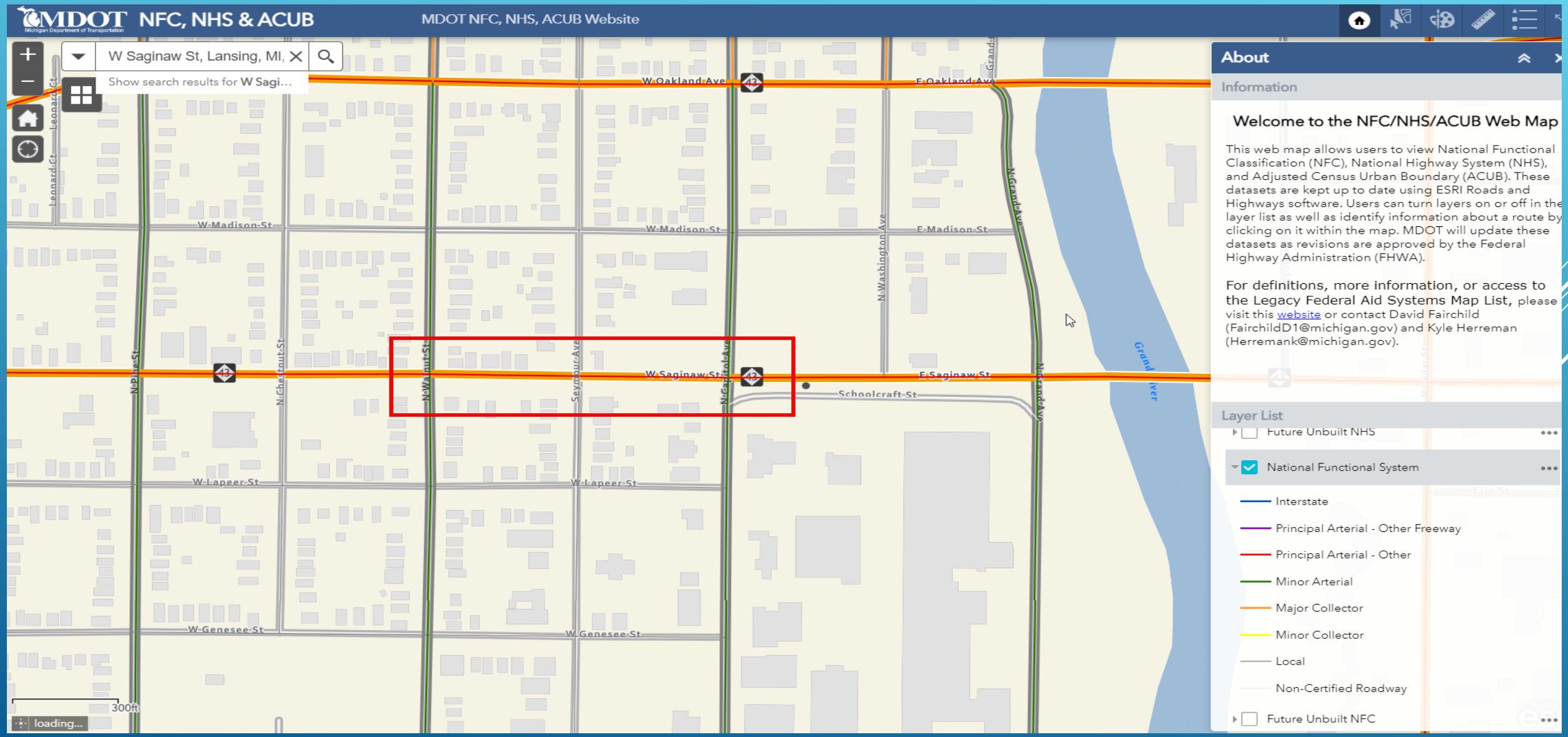
NFC 3: OTHER PRINCIPAL ARTERIAL

W Saginaw Highway



NFC 3: OTHER PRINCIPAL ARTERIAL

W Saginaw Highway

NFC 4: MINOR ARTERIAL

Urban	Rural
• Interconnect and augment the higher-level Arterials • Serve trips of moderate length at a somewhat 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	• Link cities and larger towns (and other major destinations such as resorts capable of attracting travel over long distances) 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 • Provide service to corridors with trip lengths and travel density greater than those served by Rural Collectors and Local Roads and with relatively high travel speeds and minimum interference to through movement

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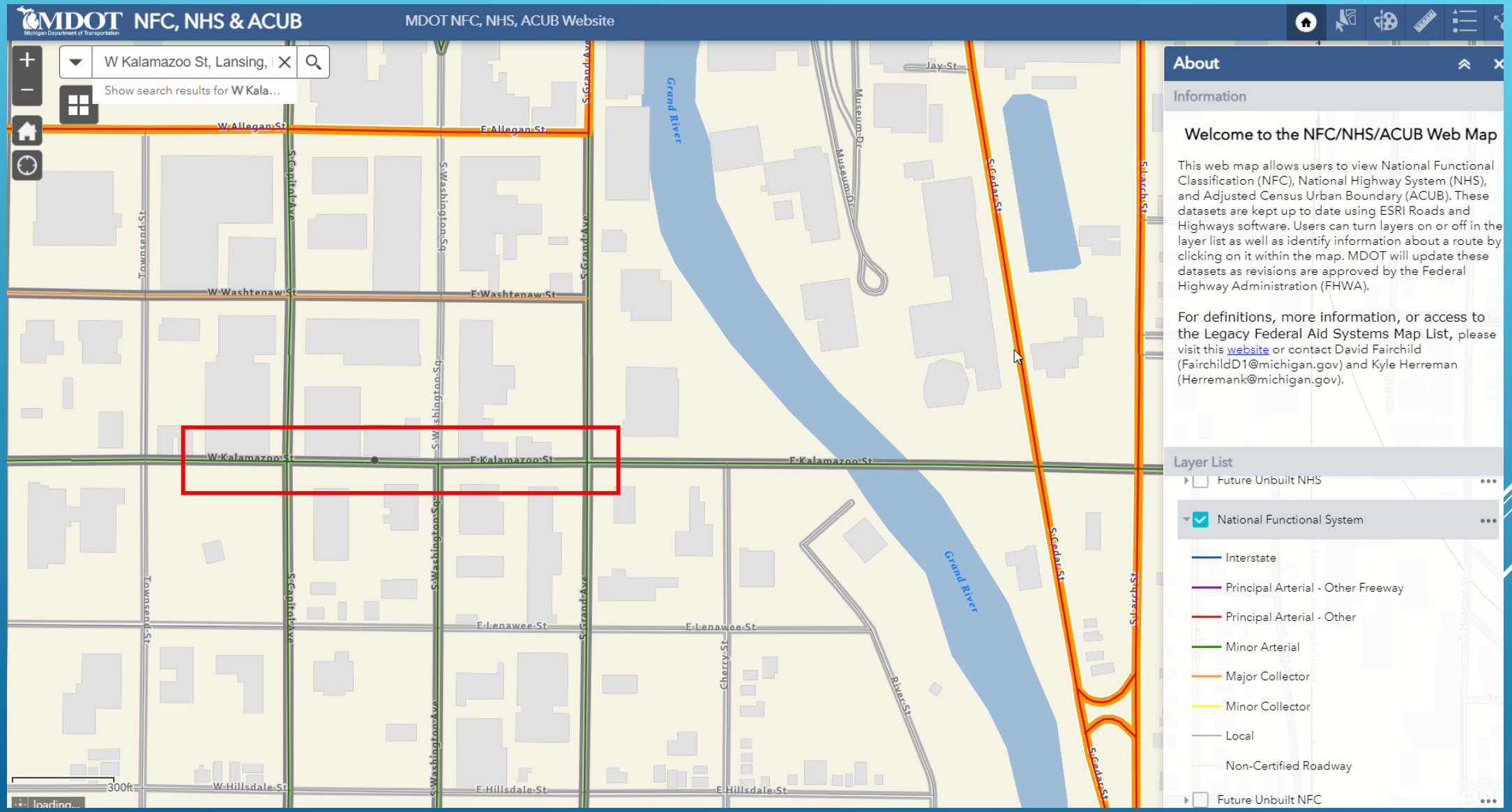
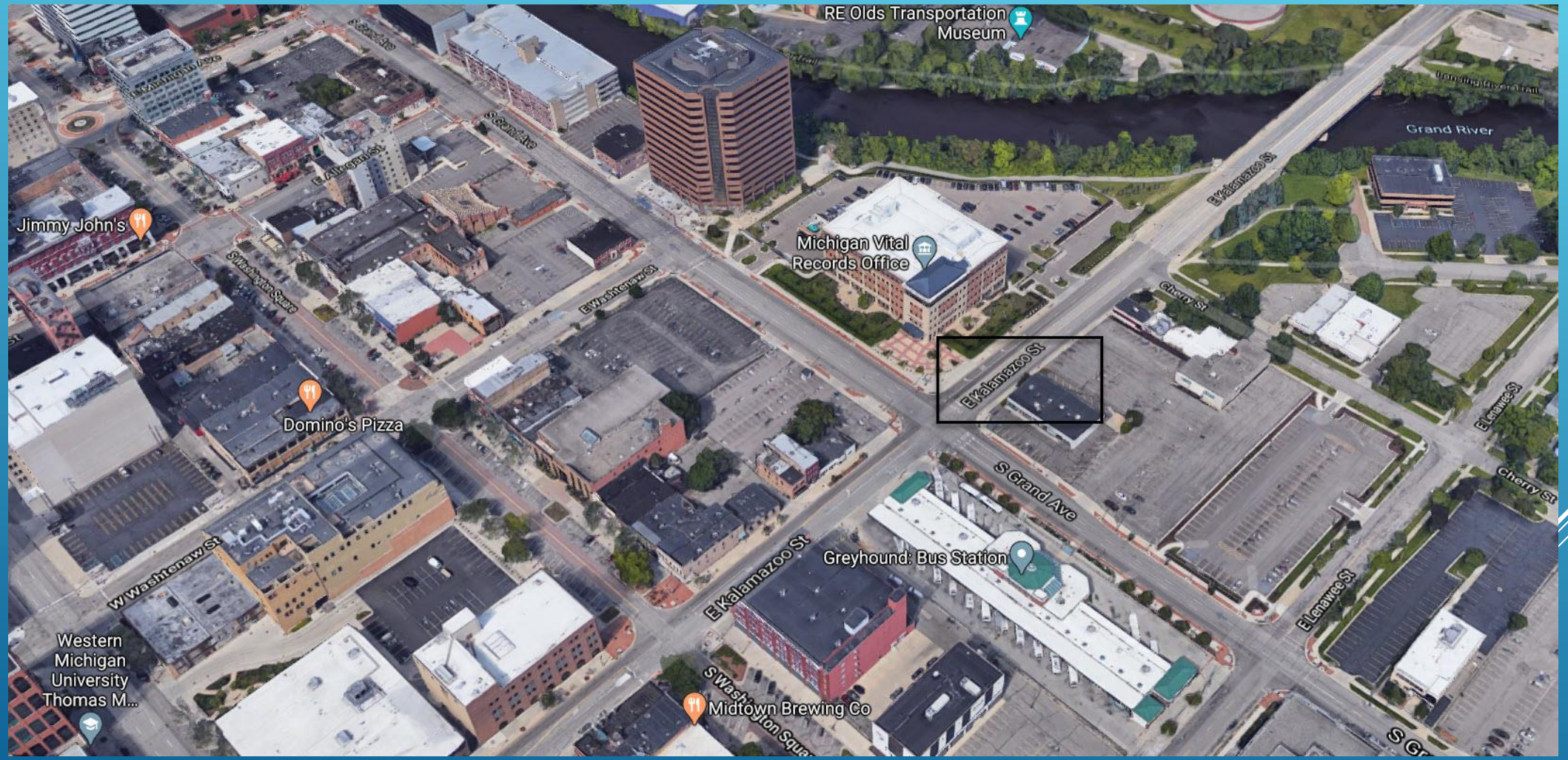
NFC 4: MINOR ARTERIAL

Kalamazoo



NFC 4: MINOR ARTERIAL

Kalamazoo



NFC 5: MAJOR COLLECTOR

MAJOR COLLECTORS	
Urban	**Rural**
• 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	• 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 of equivalent intra-county importance such as consolidated schools, shipping points, county parks and important mining and agricultural areas • Link these places with nearby larger towns and cities or with Arterial routes • Serve the most important intra-county travel corridors

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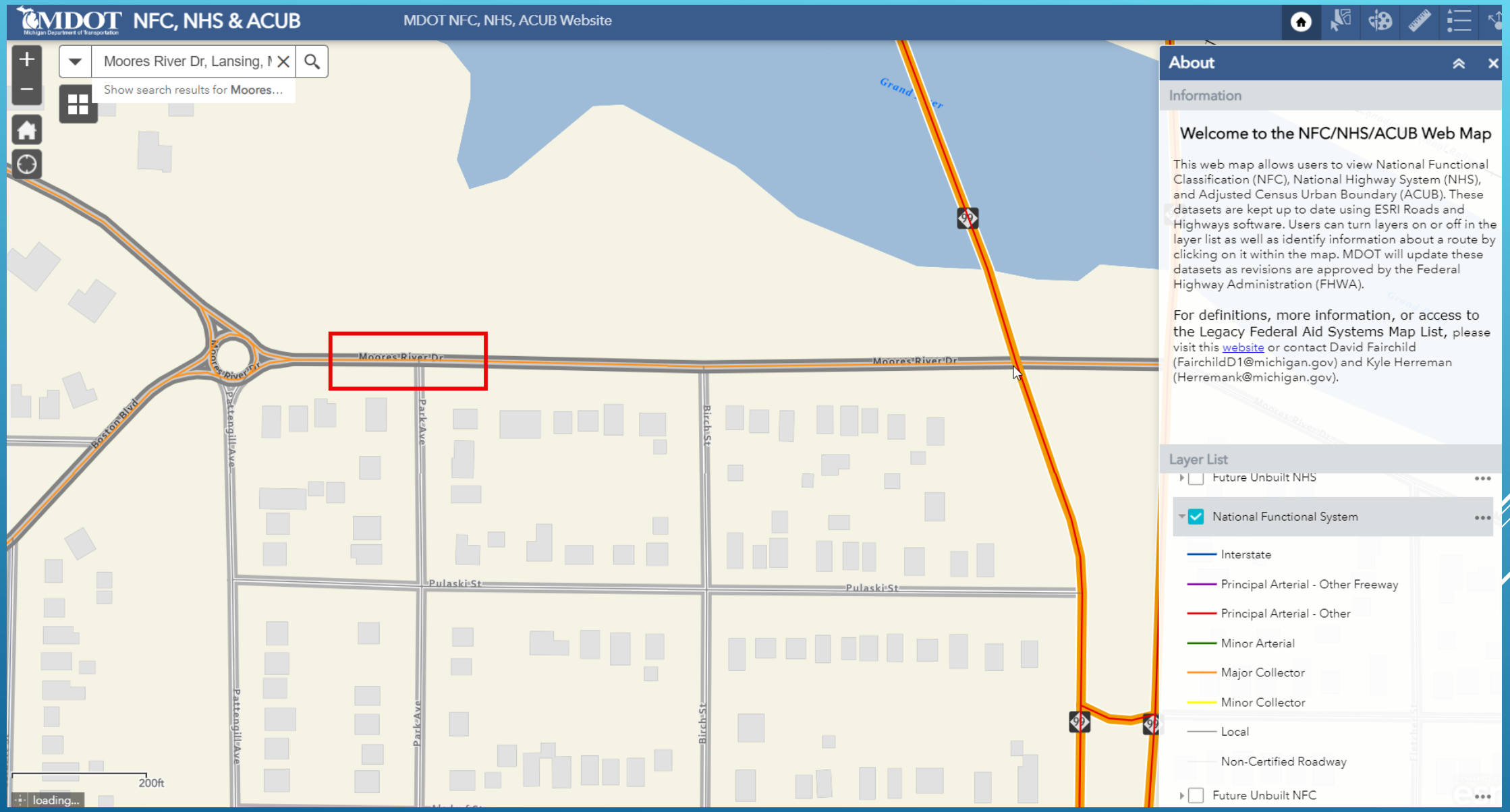
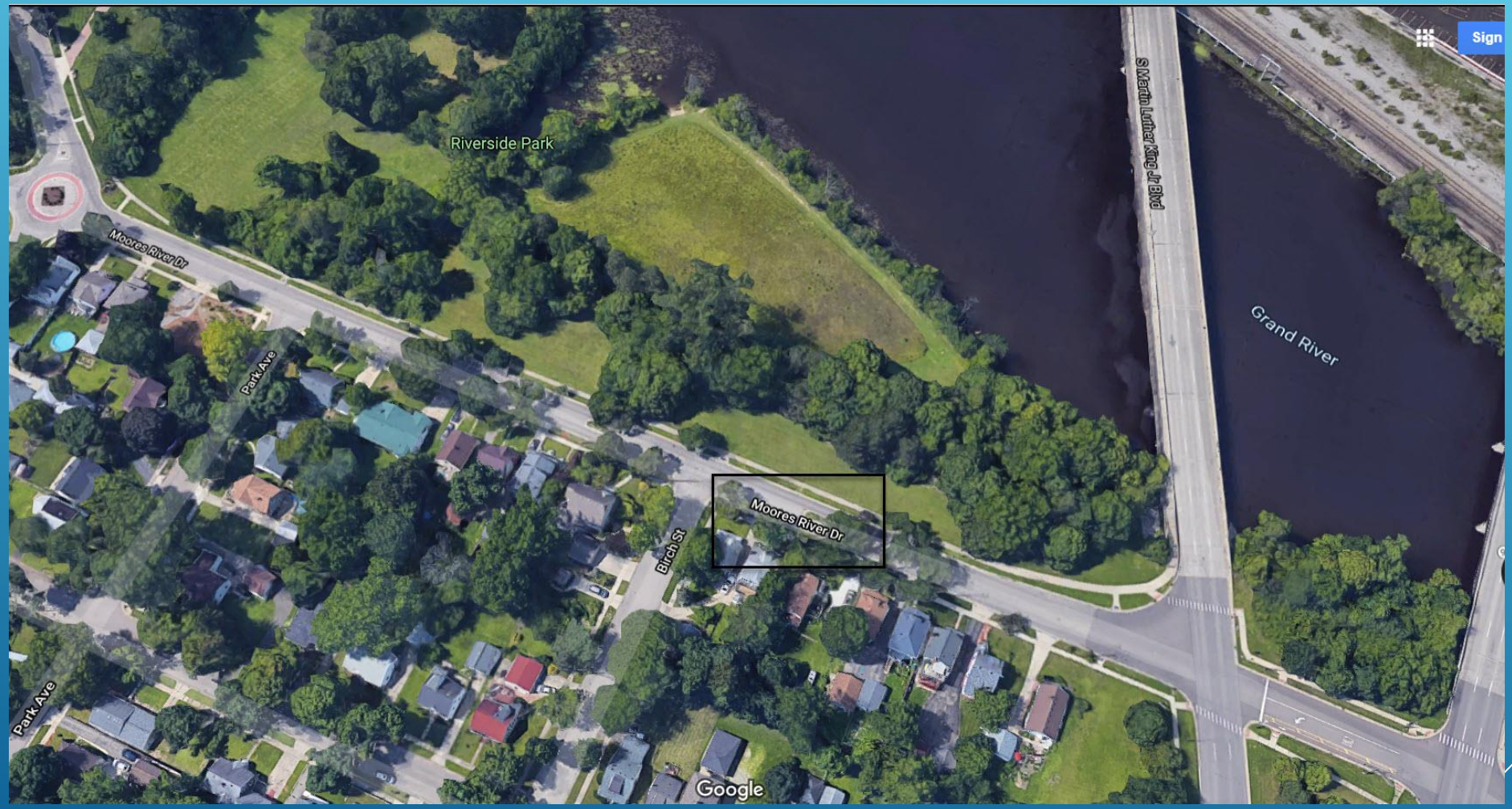
NFC 5: MAJOR COLLECTOR

Moores River Dr.



NFC 5: MAJOR COLLECTOR

Moores River Dr.



NFC 6: MINOR COLLECTOR

MINOR COLLECTORS	
Urban	**Rural**
• 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 • Operating characteristics include lower speeds and fewer signalized intersections	• 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

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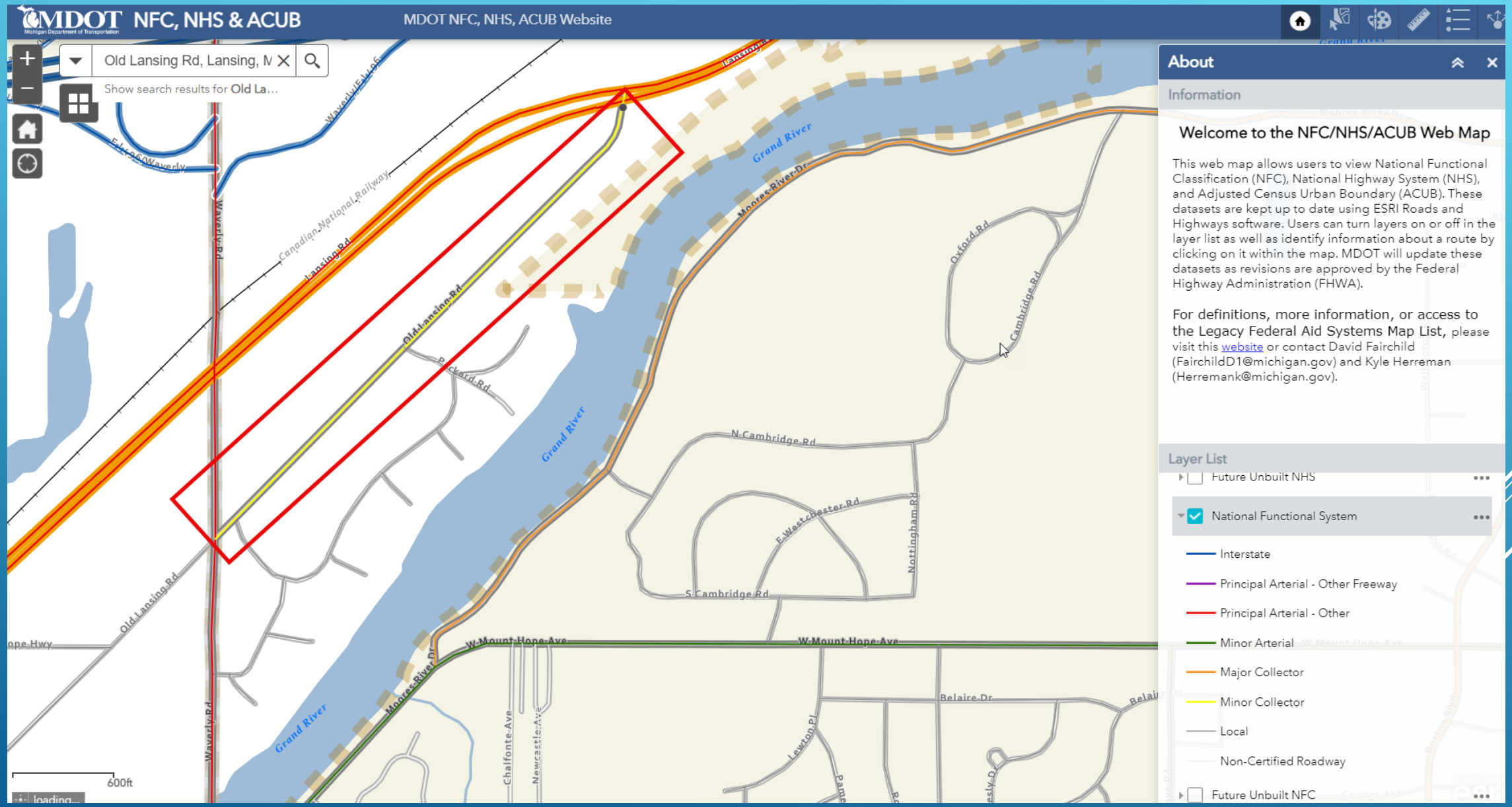
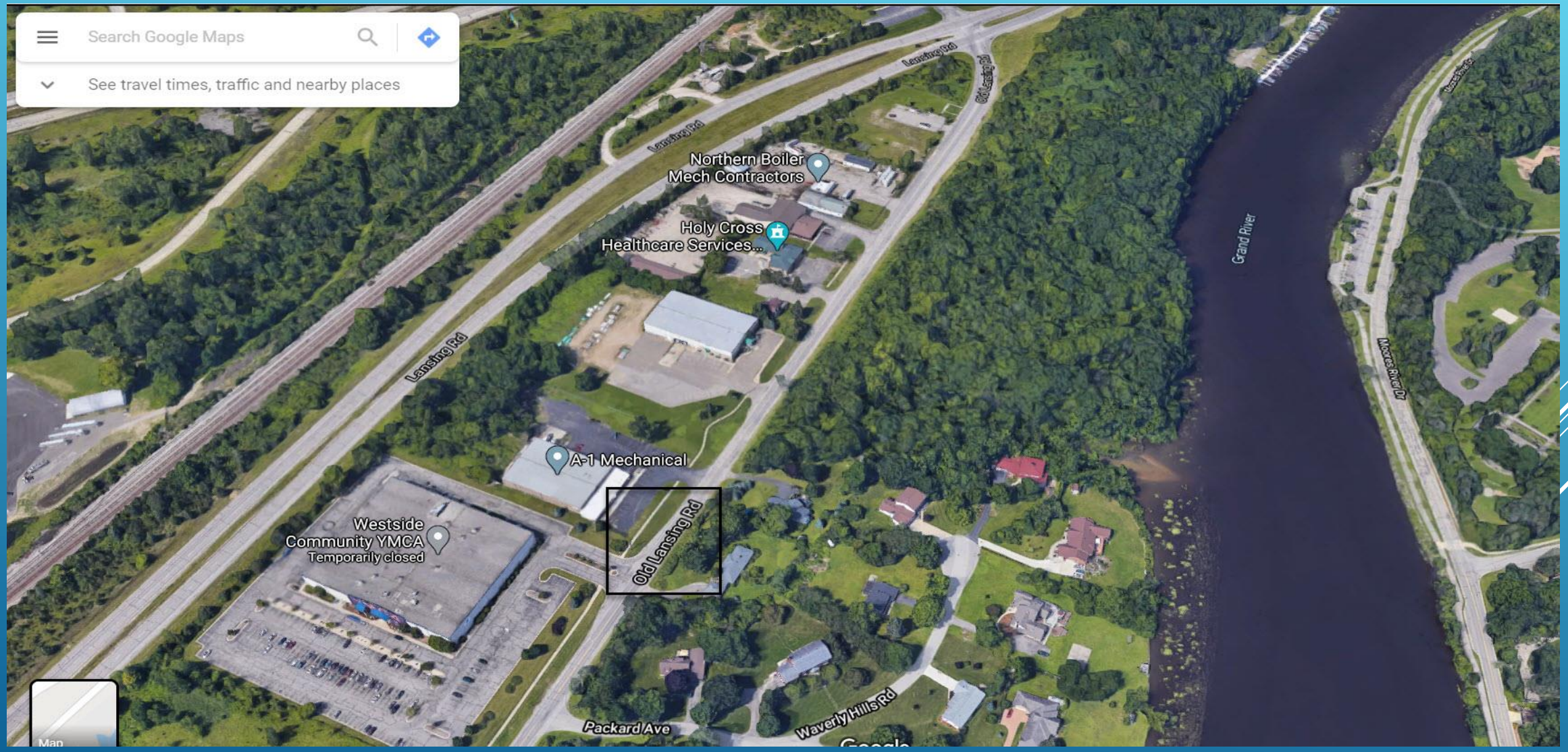
NFC 6: MINOR COLLECTOR

Old Lansing Rd



NFC 6: MINOR COLLECTOR

Old Lansing Rd



NFC 7: LOCAL

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

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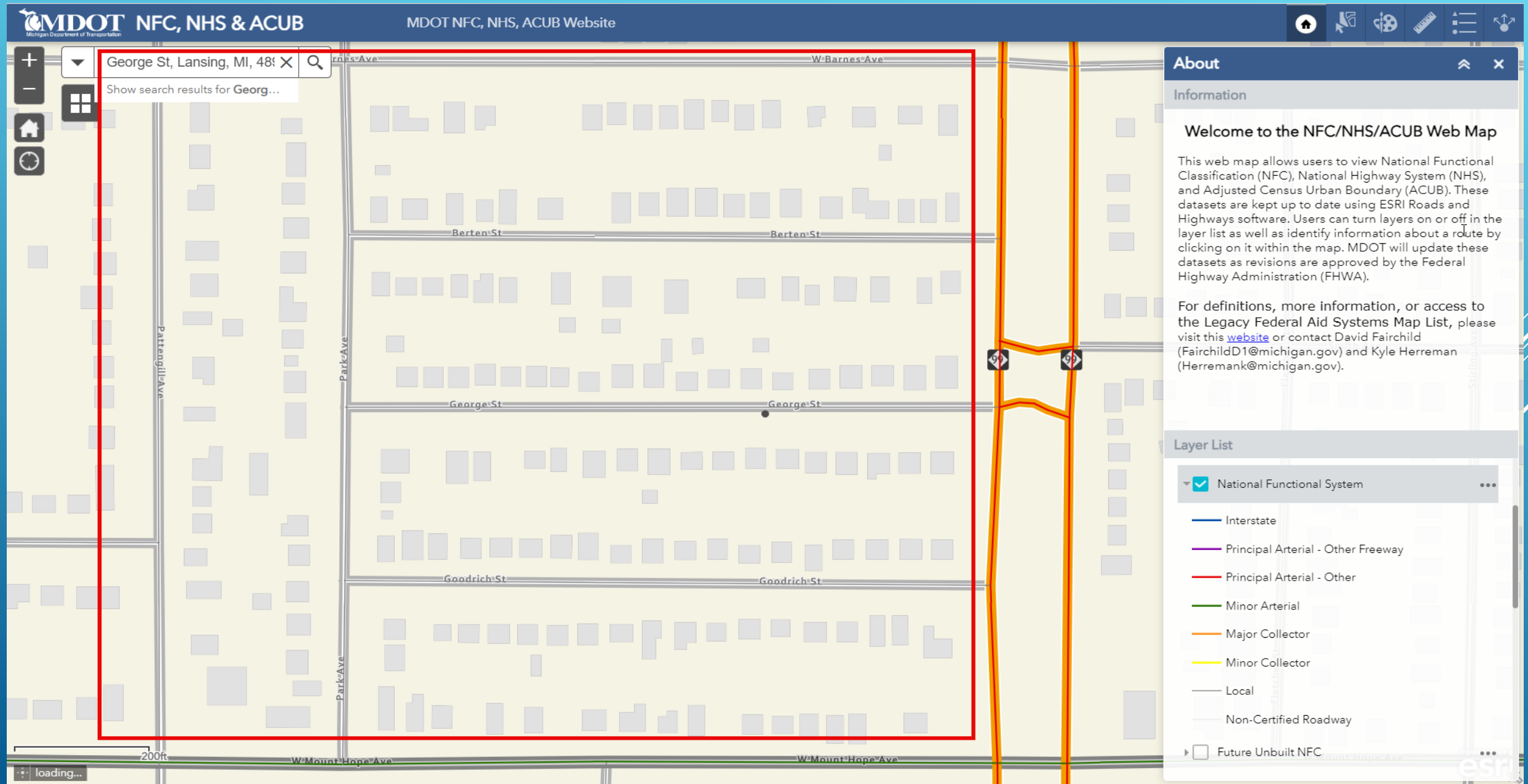
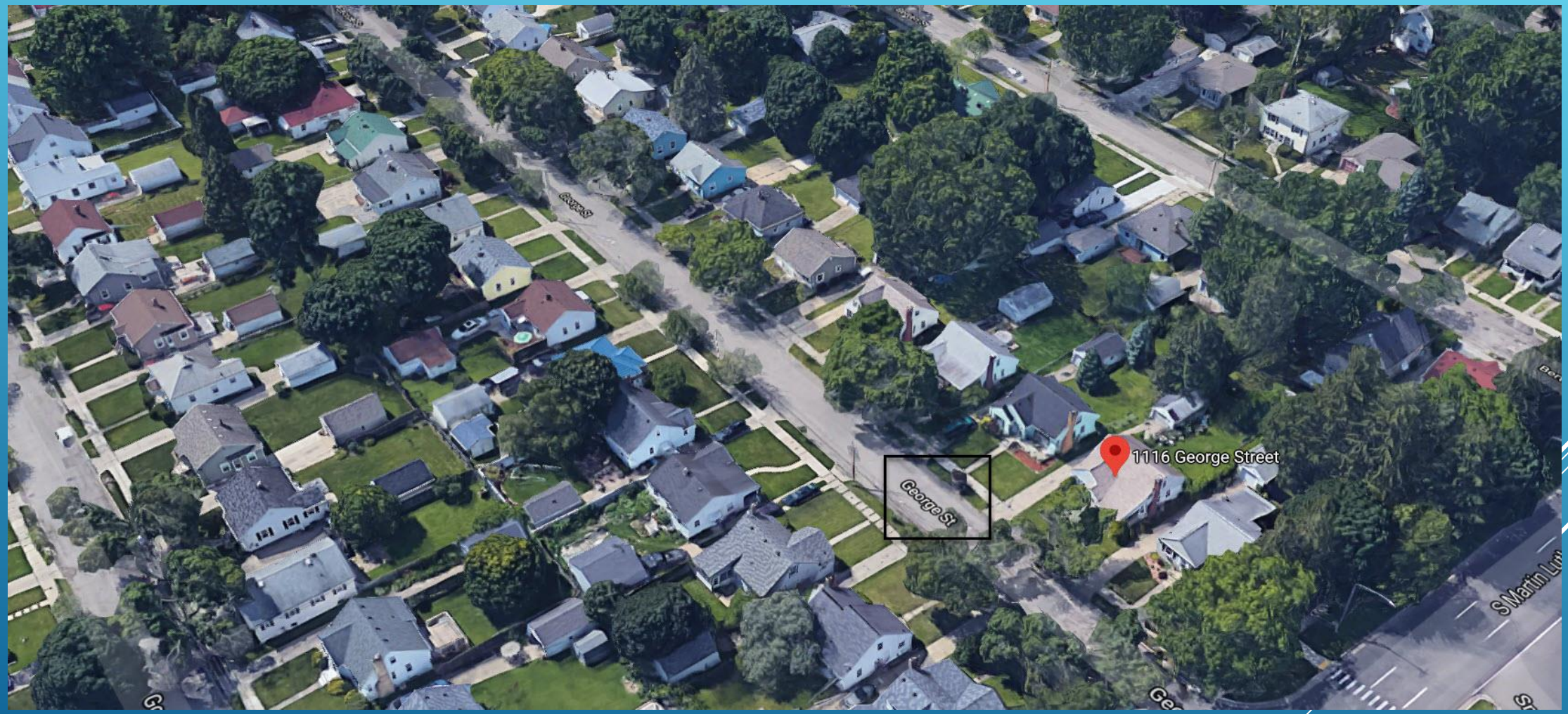
NFC 7: LOCAL

George St., Goodrich St., Berten St., W Barnes, Park Ave., Pattengill Ave



NFC 7: LOCAL

George St.



Groupings, Classifications, and Eligibility

	Rural	Urban
a. Principal Arterial		
i. Interstate	yes	yes
ii. Other Freeways & Expressways	yes	yes
iii. Other Principal Arterial	yes	yes
b. Minor Arterial	yes	yes
c. Collector		
i. Major Collector	yes	yes
ii. Minor Collector	Limited	yes
d. Local	no	no

- NFC/urban combinations showing “yes” are federal-aid highways and are fully fed-aid eligible.

NFC REVISION PROCEDURES

- What is an NFC Revision Proposal?
- What cannot be submitted as an NFC Revision Proposal?
- What criteria must an NFC Revision Proposal meet?
- What to look for in an NFC Revision Proposal
- The Order of Operations of an NFC Revision Proposal

NFC REVISION PROCEDURES

What is an NFC Revision Proposal?

- An NFC revision is a request to either raise a lower the NFC of a road to reflect the new function of a route.

NFC REVISION PROCEDURES

What cannot be submitted as an NFC Revision Proposal?

- **A General Request for Funding:** An NFC Revision Proposal cannot be submitted to request federal funding for a road.
- **Poor Pavement Conditions:** An NFC Revision Proposal cannot be submitted solely due to poor pavement conditions on a road.

NFC REVISION PROCEDURES

What criteria must an NFC Revision Proposal meet?

Criteria to be considered for an NFC revision

- Act 51 certified public road.
- **Within an MPO Planning Area:** All member agencies are aware of the proposal and there are no objections.
- **Outside of an MPO Planning Area:** The county and Act 51agency proposing the revision are aware of the proposal and there are no objections.
- If a proposal would affect an MDOT Trunkline Route, be sure to include MDOT Region staff in the proposal discussions.

NFC REVISION PROCEDURES

What to look for in an NFC Revision Proposal

- Connectivity and Continuity
- Stubs
- Traffic Counts
- Traffic Generators
- Function of the Route in Relation to the Surrounding Area
- Common Reasons for Functional Changes

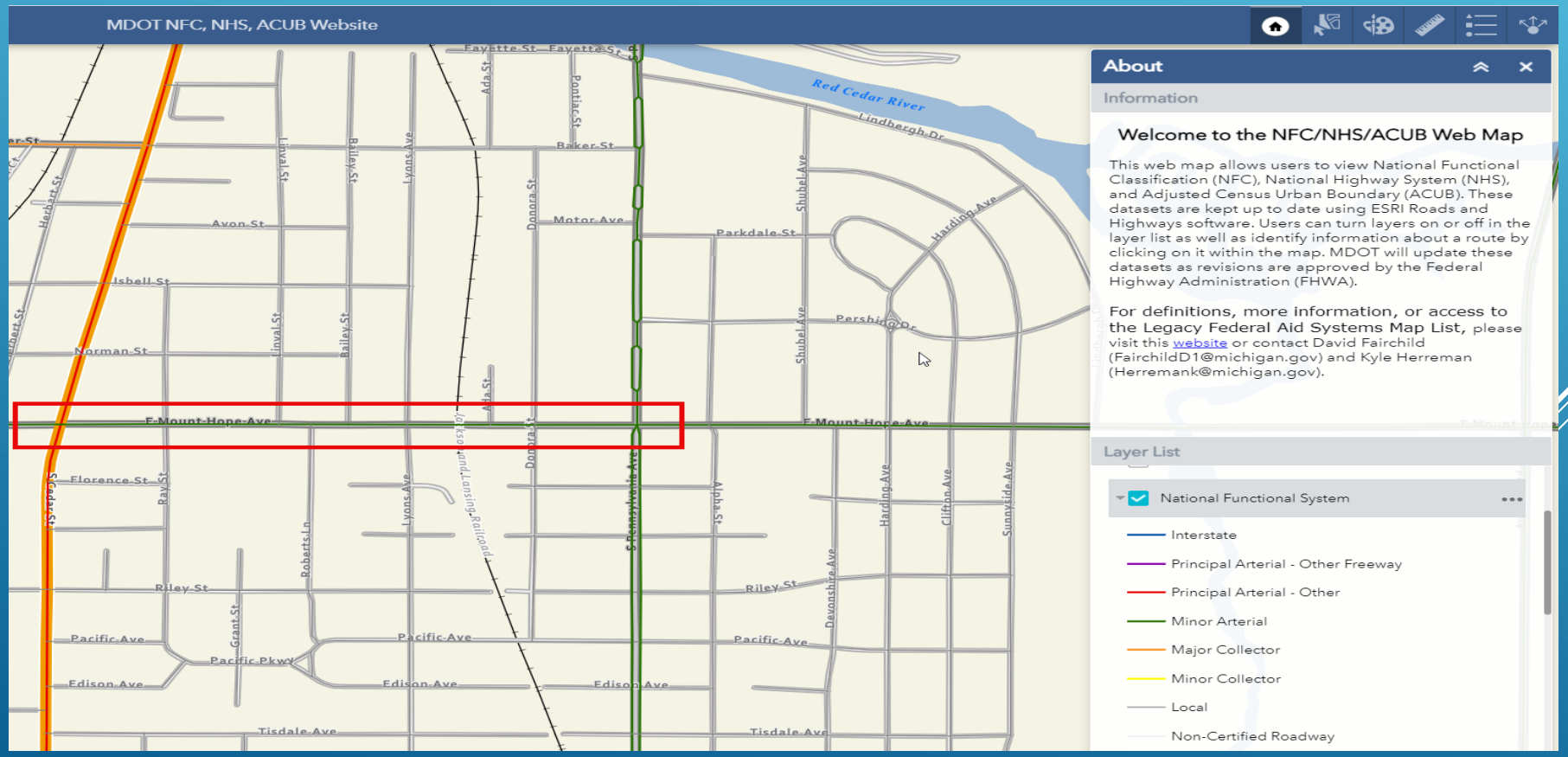
NFC REVISION PROCEDURES

What to look for in an NFC Revision Proposal

Connectivity and Continuity

- **Connectivity:** A federal aid system road should connect to another federal aid system road.

- **Continuity:** A roadway of a higher classification should connect to a roadway the same or higher classification. It should not connect to a road of a lower classification.

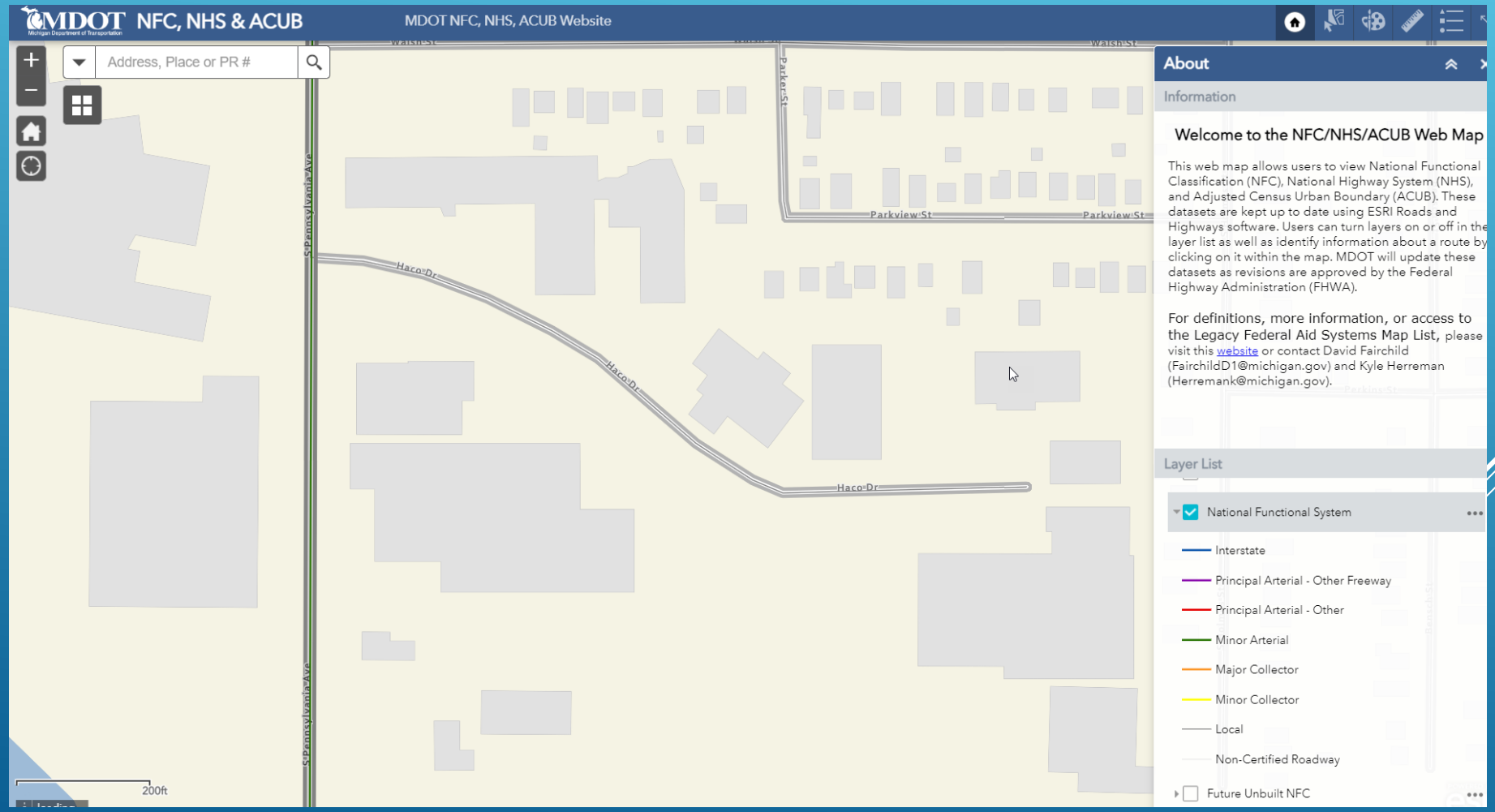


NFC REVISION PROCEDURES

What to look for in an NFC Revision Proposal

Stubs

- A "stub" is another name for a dead-end route. Stubs violate the FHWA principles of connectivity and continuity.



NFC REVISION PROCEDURES

What to look for in an NFC Revision Proposal

- Traffic Counts – Within the last two years.

Table 3-6: VMT and Mileage Guidelines by Functional Classifications – Collectors and Locals

Collectors:	Major Collector[2]	Minor Collector[2]	Local
Typical Characteristics			
Lane Width	10 feet - 12 feet	10 - 11 feet	8 feet - 10 feet
Inside Shoulder Width	0 feet	0 feet	0 feet
Outside Shoulder Width	1 foot - 6 feet	1 foot - 4 feet	0 feet - 2 feet
AADT[1] (Rural)	300 - 2,600	150 - 1,110	15 - 400
AADT[1] (Urban)	1,100 - 6,300[2]	1,100 - 6,300[2]	80 - 700
Divided/Undivided	Undivided	Undivided	Undivided
Access	Uncontrolled	Uncontrolled	Uncontrolled
Mileage/VMT Extent (Percentage Ranges)[1]			
Rural System			
Mileage Extent for Rural States[3]	8% - 19%	3% - 15%	62% - 74%
Mileage Extent for Urban States	10% - 17%	5% - 13%	66% - 74%
Mileage Extent for All States	9% - 19%	4% - 15%	64% - 75%
VMT Extent for Rural States[3]	10% - 23%	1% - 8%	8% - 23%
VMT Extent for Urban States	12% - 24%	3% - 10%	7% - 20%
VMT Extent for All States	12% - 23%	2% - 9%	8% - 23%
Urban System			
Mileage Extent for Rural States[3]	3% - 16%	3% - 16%[2]	62% - 74%
Mileage Extent for Urban States	7% - 13%	7% - 13%[2]	67% - 76%
Mileage Extent for All States	7% - 15%	7% - 15%[2]	63% - 75%
VMT Extent for Rural States[3]	2% - 13%	2% - 12%[2]	9% - 25%
VMT Extent for Urban States	7% - 13%	7% - 13%[2]	6% - 24%
VMT Extent for All States	5% - 13%	5% - 13%[2]	6% - 25%
Qualitative Description (Urban)	• 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 streets and arterials, usually over a distance of greater than three-quarters of a mile	• 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 streets and arterials, usually over a distance of less than three-quarters of a mile	• Provide direct access to adjacent land • Provide access to higher systems • Carry no through traffic movement
Qualitative Description (Rural)	• 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 of equivalent intra-county importance such as consolidated schools, shipping points, county parks, important mining and agricultural areas • Link these places with nearby larger towns and cities or with arterial routes • Serve the most important intra-county travel corridors	• Be spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within reasonable distance of a minor collector • Provide service to smaller communities not served by a higher-class facility • Link locally important traffic generators with their rural hinterlands	• Serve primarily to provide access to adjacent land • Provide service to travel over short distances as compared to higher classification categories • Constitute the mileage not classified as part of the arterial and collectors systems

1- *Ranges in this table are derived from 2011 HPMS data.*

2- *Information for Urban Major and Minor Collectors is approximate, based on a small number of States reporting.*

3- *For this table, Rural States are defined as those with a maximum of 75 percent of their population in urban areas.*

Table 3-5: VMT and Mileage Guidelines by Functional Classifications - Arterials

Arterials:	Interstate	Other Freeways & Expressway	Other Principal Arterial	Minor Arterial
Typical Characteristics				
Lane Width	12 feet	11 - 12 feet	11 - 12 feet	10 feet - 12 feet
Inside Shoulder Width	4 feet - 12 feet	0 feet - 6 feet	0 feet	0 feet
Outside Shoulder Width	10 feet - 12 feet	8 feet - 12 feet	8 feet - 12 feet	4 feet - 8 feet
AADT[1] (Rural)	12,000 - 34,000	4,000 - 18,500[2]	2,000 - 8,500[2]	1,500 - 6,000
AADT[1] (Urban)	35,000 - 129,000	13,000 - 55,000[2]	7,000 – 27,000[2]	3,000 - 14,000
Divided/Undivided	Divided	Undivided/Divided	Undivided/Divided	Undivided
Access	Fully Controlled	Partially/Fully Controlled	Partially/Uncontrolled	Uncontrolled
Mileage/VMT Extent (Percentage Ranges)[1]				
Rural System				
Mileage Extent for Rural States[2]	1% - 3%	0% - 2%	2% - 6%	2% - 6%
Mileage Extent for Urban States	1% - 2%	0% - 2%	2% - 5%	3% - 7%
Mileage Extent for All States	1% - 2%	0% - 2%	2% - 6%	3% - 7%
VMT Extent for Rural States[2]	18% - 38%	0% - 7%	15% - 31%	9% - 20%
VMT Extent for Urban States	18% - 34%	0% - 8%	12% - 29%	12% - 19%
VMT Extent for All States	20% - 38%	0% - 8%	14% - 30%	11% - 20%
Urban System				
Mileage Extent for Rural States[2]	1% - 3%	0% - 2%	4% - 9%	7% - 14%
Mileage Extent for Urban States	1% - 2%	0% - 2%	4% - 5%	7% - 12%
Mileage Extent for All States	1% - 3%	0% - 2%	4% - 5%	7% - 114%
VMT Extent for Rural States[2]	17% - 31%	0% - 12%	16% - 33%	14% - 27%
VMT Extent for Urban States	17% - 30%	3% - 18%	17% - 29%	15% - 22%
VMT Extent for All States	17% - 31%	0% - 17%	16% - 31%	14% - 25%

Qualitative Description (Urban):	• Serve major activity centers, highest traffic volume corridors, and longest trip demands • Carry high proportion of total urban travel on minimum of mileage • Interconnect and provide continuity for 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	• Interconnect with and augment the principal arterials • Serve trips of moderate length at a somewhat lower level of travel mobility than principal arterials • Distribute traffic to smaller geographic areas than those served by principal arterials • Provide more land access than principal arterials without penetrating identifiable neighborhoods • Provide urban connections for rural collectors
Qualitative Description (Rural):	• Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel • Serve all or nearly all urbanized areas and a large majority of urban areas with 25,000 and over population • Provide an integrated network of continuous routes without stub connections (dead ends)	• Link cities and larger towns (and other major destinations such as resorts capable of attracting travel over long distances) and form an integrated network providing interstate and inter-county service • Spaced at intervals, consistent with population density, so that all developed areas within the State are within a reasonable distance of an arterial roadway • Provide service to corridors with trip lengths and travel density greater than those served by rural collectors and local roads and with relatively high travel speeds and minimum interference to through movement

1- *Ranges in this table are derived from 2011 HPMS data.*

2- *For this table, Rural States are defined as those with a maximum of 75 percent of their population in urban areas.*

NFC REVISION PROCEDURES

What to look for in an NFC Revision Proposal

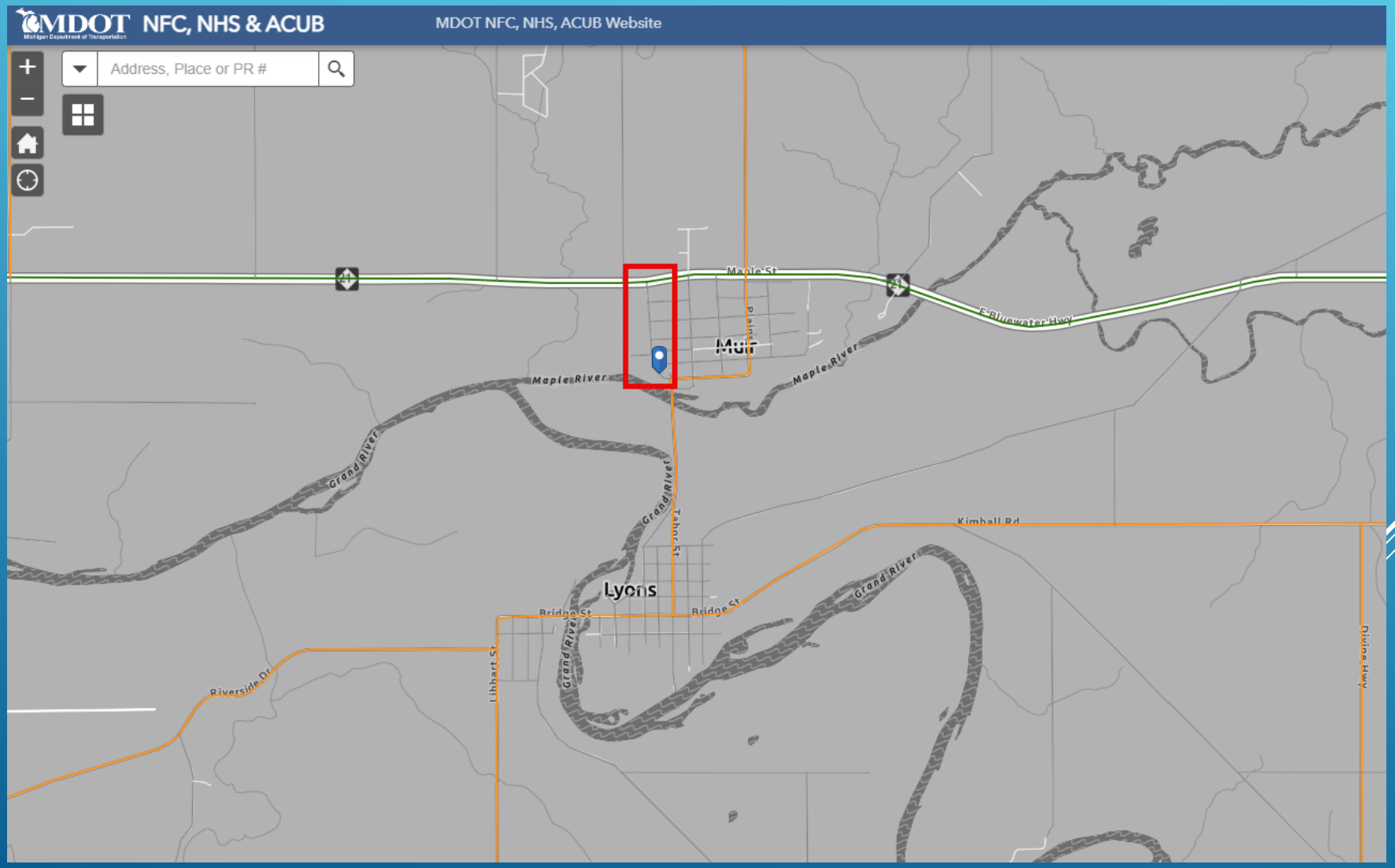
Traffic Generators

- A traffic generator is a location which sees a large volume of traffic traveling to and leaving from the area.
- **Common Traffic Generators:** Factories, schools, shopping centers, office buildings, subdivisions, places of worship, tourist destinations, sports facilities, and parks.

NFC REVISION PROCEDURES

What to look for in an NFC Revision Proposal

- Function of the Route in Relation to the Surrounding Area



NFC REVISION PROCEDURES

What to look for in an NFC Revision Proposal

- Common Reasons for Functional Class Changes

- **NFC Upgrade:** The creation of a new traffic generator: New factories, subdivisions, place of worship, shopping centers, schools. Permanent closure of a nearby route.
- **NFC Downgrade:** Road diets, lower traffic volumes, closure of a traffic generator, permanent closure of nearby route.

NFC REVISION PROCEDURES

Stakeholders: Always be sure to consult all stakeholders that may be affected by an NFC Revision: City, County, Transit, Tribal Governments (if applicable) and MDOT Region Planners if the route would directly impact a Trunkline Route.

NFC REVISION PROCEDURES

The Order of Operations of an NFC Revision Proposal

Within an MPO Planning Boundary

1. If the local agency or MDOT Region Office requesting the NFC revision is within an MPO planning area, the process will be coordinated between MPO staff and MDOT. The agency will bring their proposal to MPO staff first for preliminary MPO concurrence. A road must be Act 51 certified to be considered for an NFC revision.

2. After reviewing the proposal, if MPO staff feel it meets federal guidelines, and its member agencies would approve of the proposal, MPO staff will submit a preliminary NFC revision request to the MDOT National Functional Classification Planner.

3. The preliminary proposal should consist of information that is currently on hand, and should include a map of the proposed revision, as well as the reason for the revision and the proposed new classification of the road. If traffic counts are available those can be submitted also.

4. The MDOT National Functional Classification Planner will review the proposal with MDOT staff and will then contact MPO staff with MDOT's preliminary approval or disapproval.

5. If MDOT is in preliminary approval, the MPO would then send the proposal through their voting bodies for official MPO approval. MPO staff would submit meeting minutes and letters of concurrence from the Act 51 agencies and MPO showing a vote / concurrence with the change. Traffic counts that are within 2 years old, as well as a map of the route and a completed NFC worksheet would also be submitted.

6. Once the official proposal is received, MDOT will perform a final review. If MDOT grants final approval, the proposal would be submitted to FHWA by MDOT.

7. If FHWA grants approval to the revision, MDOT would notify the MPO and update our GIS maps to reflect the change.

NFC REVISION PROCEDURES

The Order of Operations of an NFC Revision Proposal

Outside of an MPO Planning Boundary

1. **If the agency requesting the NFC revision is outside of an MPO planning area, the agency will work with the county. Agency staff will bring their proposal to county staff first for preliminary county concurrence. A road must be Act 51 certified to be considered for an NFC revision.**
2. **After reviewing the proposal, if county staff feel it meets federal functional classification guidelines, they will submit a preliminary NFC revision request to the MDOT National Functional Classification Planner.**
3. **The preliminary proposal should consist of information that is currently on hand, and should include a map of the proposed revision, as well as the reason for the revision and the proposed new classification of the road. If traffic counts are available those can be submitted also.**
4. **The MDOT National Functional Classification Planner will review the proposal with relevant MDOT staff and will then contact county staff with MDOT's preliminary approval or disapproval.**
5. **If MDOT is in preliminary approval, the county would submit a letter of concurrence. Traffic counts that are within 2 years old, as well as a map of the route and a completed NFC worksheet would also be submitted.**
6. **Once the official proposal is received, MDOT will perform a final review. If MDOT grants final approval, the proposal would be submitted to FHWA by MDOT.**
7. **If FHWA grants approval to the revision, MDOT would notify the county and update our GIS files to reflect the change.**

2020 NFC REVIEW - MILESTONE OUTLINE

1. MPO / RPA NFC Proposal Creation and Submission Period

- **(4 months) May 2025 – August 31st 2025**

- Hold 2020 NFC Review training seminar and distribute training materials.
- Begin four-month period for MPO / RPA's to meet with their local agencies and request possible NFC revisions.
- MDOT can also meet with MPO's / RPA's individually.
- MDOT will review submissions as they come in.

2. Review Revision Proposals

- **(1 month) September 2025**

- MDOT reviews the remaining NFC revision proposals.
- If necessary, MDOT will schedule Teams meetings with MPO / RPA's to discuss any additional questions MDOT may have regarding a proposal.

4. MDOT Approved NFC Proposals go to Committee

- **(3 months) October 2025 – December 2025**

- MPO's put the approved NFC revisions through their Tech and Policy committees.

5. MDOT Submits Proposals to FHWA

January 2026

- MDOT submits the NFC proposals to FHWA for approval. (Note: FHWA may request that the state be broken up into multiple submissions)

6. Receive Approvals from FHWA

- Receive responses from FHWA and program approved NFC revisions.
- Complete 2020 NFC Review.

NEXT STEPS AND HOW TO SUBMIT

- MDOT will distribute county NFC maps, guidance documents, and a cover letter via email to each MPO/RPA. (This will be similar to what was done during the ACUB Review.)
- MDOT will setup coordination meetings with each MPO/RPA to answer additional questions. (These will be informational meetings, MDOT will not be able to grant preliminary approval during any coordination meeting.)
- NFC Revision materials will be emailed to the MDOT NFC Planner David Fairchild at: Fairchildd1@Michigan.gov

THINGS TO CONSIDER

- Only submit an NFC Revision Proposal if you feel the revision is necessary, and you are confident it will meet FHWA standards.
- If you have a small number of revisions, or no revisions, that is ok, as long as you consulted with all of the stakeholders in your planning area.
- If you would like to submit an NFC Revision Proposal after the 2020 Statewide NFC Review has completed, you will be able to. Do not feel undue pressure to submit.

ADDITIONAL RESOURCES

- MDOT Federal Aid Highways Website
- https://www.michigan.gov/mdot/programs/highway-programs/nfc

- MDOT NFC NHS ACUB Web App
- https://mdot.maps.arcgis.com/apps/webappviewer/index.html?id=3eafa64de17049989b6968f0faa8e191

- FHWA Functional Classification Guidance
- https://www.fhwa.dot.gov/planning/processes/statewide/related/hwy-functional-classification-2023.pdf

QUESTIONS?

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Michigan Department of Transportation

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