



# Chapter 8

# Preliminary Environmental Review



## Chapter 8 – Preliminary Environmental Review

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A preliminary environmental review holds paramount importance in the development of the Long-Range Transportation Plan. This crucial step ensures that transportation planning efforts are conducted with a keen awareness of the potential environmental impacts and sustainability concerns. By undertaking a high-level



comprehensive assessment of the project's environmental implications early in the planning process, decision-makers can identify and address potential challenges proactively. The review also helps the MPO align the transportation goals and objectives (see Chapter 1) with broader environmental objectives, including minimizing air and water pollution, conserving natural habitats, and mitigating climate change impacts. Moreover, it promotes compliance with relevant environmental regulations and fosters transparency and public engagement. An effective

preliminary environmental review sets the foundation for a more responsible and resilient LRTP that not only enhances regional mobility but also upholds environmental stewardship for present and future generations.

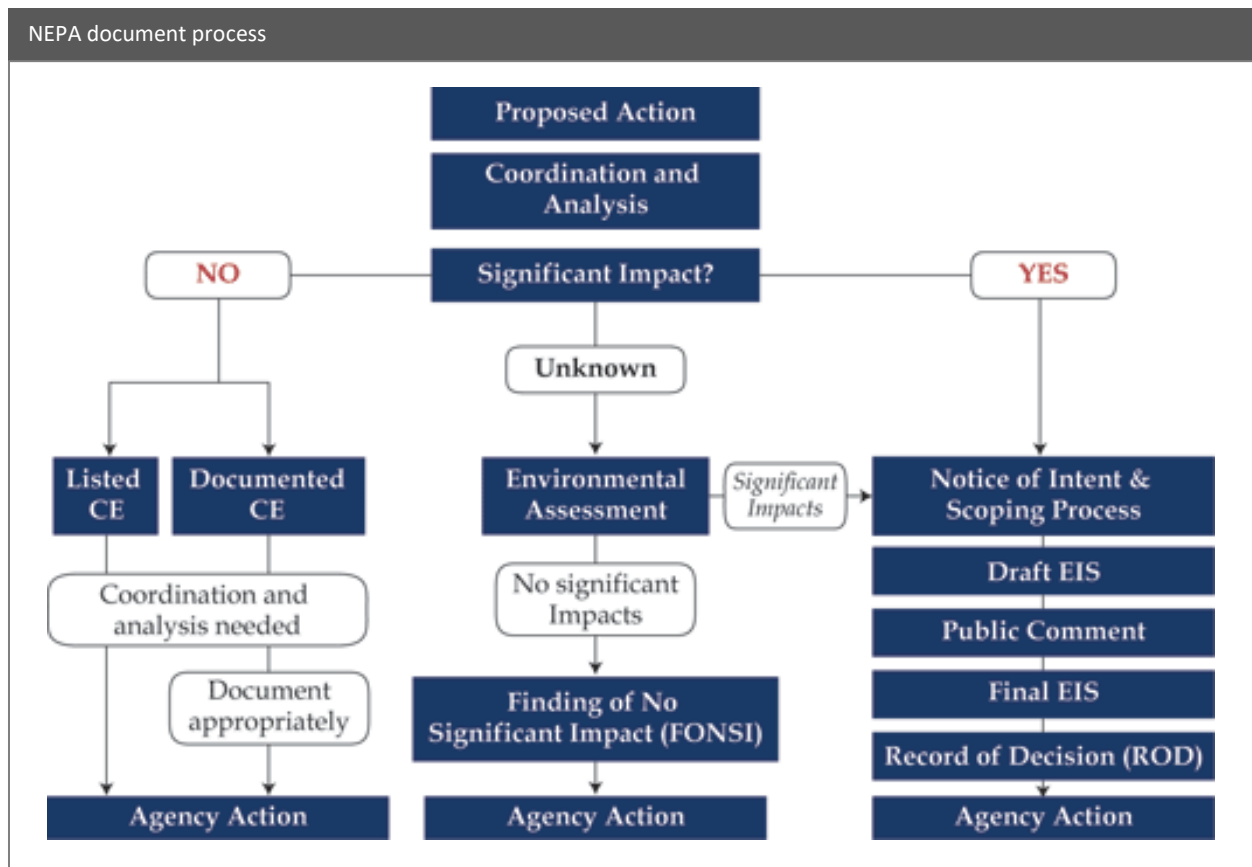
### Federal and State Requirements

23 CFR 250.324 (f)(10) outlines requirements for MPOs regarding environmental consultation. The federal code states, *“The metropolitan transportation plan shall, at a minimum, include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The MPO shall develop the discussion in consultation with applicable Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation.”*

When a federally funded transportation project reaches the engineering stage, compliance with several laws is required including the National Environmental Policy Act (NEPA) of 1969. NEPA is a national policy to protect and enhance the environment. The policy contains a process for developing major federal actions (such as federal funding for a transportation project) that requires environmental review documents as part of the project development. Complying with NEPA is typically the responsibility of the project sponsor. The NEPA process includes the consideration of alternatives for the project and their environmental effects, as well as public involvement and interagency collaboration.

The type and scope of environmental document required by NEPA depends on the nature of a project and the significance of its impacts. The three document types are a Categorical Exclusion (CE), Environmental Assessment (EA), and Environmental Impact Statement (EIS). A Categorical Exclusion is the simplest process and is applicable if the project meets certain criteria that have been previously determined to have no significant environmental impact. An Environmental Assessment is performed if a project's environmental impact is unclear, and the assessment determines whether the project would significantly affect the environment. If the project will not, a Finding of Not Significant Impact (FONSI) is issued. Conversely, if the EA

determines that there may be significant environmental consequences from the project, an Environmental Impact Statement must be prepared. This document is a detailed evaluation of the proposed project and its alternatives, and it includes additional opportunities for other agencies and the public to provide comments.



Other actions concerning federal aid transportation projects that are mandated via either federal or state legislation include the following:

- The Federal Water Pollution Control Act was enacted in 1972, amended in 1977, and became commonly known as the Clean Water Act. This Act focuses on restoring and maintaining the chemical, physical, and biological integrity of the nation’s waters so that they can support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.
  - Section 401 requires that a Federal license or permit must be obtained when any activity, including the construction or operation of transportation facilities, may result in any discharge into navigable waters.
  - Section 404 permits may be issued after adequate opportunity for public comment for the discharge of dredged or fill material into the navigable waters at specified disposal sites.
  - The National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into any surface waters. Iowa is authorized to approve NPDES permits, regulate federal facilities, approve pretreatment programs, and approve general permits.
- The Endangered Species Act of 1973 addresses the fact that various species of fish, wildlife, and plants have been rendered extinct because of economic growth and development untampered by

adequate concern and conservation. This Act seeks to conserve endangered and threatened species and to resolve water resource issues in concert with the conservation of endangered species.

- Section 7 addresses interagency cooperation and consultation to ensure that any transportation project authorized, funded, or carried out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of such species.
- The U.S. Department of Transportation Act of 1966 included a special provision to preserve the beauty and integrity of publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance.
- Section 4(f) mandates that FHWA and State DOTs cannot approve the use of land from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless there is no feasible and prudent alternative to the use of land, and the transportation project includes all possible planning to minimize harm to the property.
- The National Historic Preservation Act of 1966 focuses on using measures, including financial and technical assistance, to preserve our prehistoric and historic resources and fulfill the social, economic, and other requirements of present and future generations. Section 106 requires that prior to the approval of any federal funds for a transportation project, a detailed assessment must be undertaken which considers the project's impact on any district, site, building, structure, or object that is included in or eligible for inclusion in the National register.

Presidential Executive Orders play a significant role in shaping transportation projects in the United States. They establish guidelines, policies, and standards that projects must adhere to, promoting efficiency, sustainability, safety, and equity. Some key Executive Orders relevant to transportation projects include:

- Executive Order 12898: Environmental Justice (1994) – This order directs agencies, including those overseeing transportation projects, to identify and address disproportionately high and adverse environmental and health effects on minority and low-income populations. It ensures that environmental justice considerations are integrated into project planning, preventing disproportionate impacts on vulnerable communities.
- Executive Order 14008: Tackling the Climate Crisis at Home and Abroad (2021) – This order focuses on addressing climate change and encourages sustainable transportation practices. It directs federal agencies to incorporate climate considerations into decision-making, including transportation infrastructure planning, to reduce greenhouse gas emissions and enhance resilience to climate-related impacts.
- Executive Order 13990: Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (2021) – This order revokes certain actions taken by the previous administration and reinstates a framework for environmental protection, including for transportation projects. It emphasizes adherence to established environmental regulations and science-based decision-making to safeguard public health and the environment.
- Executive Order 13964: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government (2020) – This order addresses systemic inequalities and directs agencies to prioritize equity in their policies and projects, ensuring fair distribution of transportation benefits and access to resources for historically underserved communities.

Iowa State Code and Administrative Code have several legislative mandates concerning the environment including the following:

- Sovereign Lands Construction Permit – requires that a person, association, or corporation shall not build or erect any pier, wharf, sluice, piling, wall, fence, obstruction, building, or structure of any kind upon or over any state-owned land or water without first obtaining a written permit.
- Flood Plain Development Permit – requires that a person who desires to construct or maintain a structure, dam, obstruction, deposit, or excavation in any flood plain or floodway must first seek approval. Approval is based on the protection of life and property from floods and to promote the orderly development and wise use of the flood plains.
- The Iowa Department of Natural Resources regulates the construction, operation, and closure of facilities and projects that manage, process, and dispose solid waste. This includes the reuse of soil.
- Open burning requires that burning of landscape waste produced in clearing, grubbing, and construction operations shall be limited to areas located at least one-quarter mile from any building inhabited by other than the landowner or tenant conducting the open burning.
- State permitting and air reporting system required for air quality permits.
- Iowa’s endangered and threatened species law was enacted in 1975. The current law, entitled Endangered Plants and Wildlife, is Chapter 481B of the Code of Iowa.
- Iowa law requires transportation agencies to protect woodlands, wetlands, public parks, and prime agricultural lands (Iowa Code 314.23) and to avoid impacts to the natural and historic heritage of the state (Iowa Code 314.24).

Environmental analysis in a long-range transportation plan is not meant to be equal to or substitute for NEPA or other federal and state regulatory processes. Compliance with NEPA and other federal and state regulations will be carried out individually for each federally funded project at the development stage. The preliminary environmental review analysis in this chapter can provide a sense of the resources in the area and the potential of planned transportation projects to impact those resources.

Protecting and enhancing the natural and built environment is an important concern for the MPO. Project sponsors are encouraged to begin coordination with environmental, regulatory, and resource agencies early in the project development process to ensure the best possible project outcomes.

### **Environmental Strategy**

The MPO encourages jurisdictions to follow federal guidance as an environmental strategy. The steps used to define mitigation in 40 CFR 1508.20 should be followed by project sponsors. In order of preference, steps include:

- a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- c) Rectifying the impact by repairing, rehabilitation, or restoring the affected environment.
- d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- e) Compensating for the impact by replacing or providing substitute resources or environments.

Avoidance of damage to the environment should always be the primary goal. When this cannot be achieved, minimizing impacts and compensating for them can help mitigate any negative environmental impacts from transportation projects.

## Local Mitigation Examples

The MPO encourages on-site, in-kind mitigation when possible. This involves compensatory mitigation, which replaces wetlands, streams, or natural habitat or functions lost because of a transportation project with the same or similar land use adjacent or contiguous to the site of the impact. On-site mitigation can also involve enhancing public recreation opportunities adjacent to transportation projects. An example is the Cedar Prairie Trail in Cedar Falls which was constructed adjacent to Iowa Highway 58 as part of the environmental mitigation for that project. Another example was the construction of Big Woods Lake, Brinker Lake, and Alice Wyth Lake out of borrow areas used for the construction of U.S. Highway 218.



The location of Big Woods Lake in 1970 and now. The lake was a borrow area for construction of U.S. Highway 218. Iowa DNR Historic Photo Interactive Mapping Site

## Mitigation Activities

The project sponsor and regulating agencies will determine the type of mitigation performed for a particular transportation project. Avoidance of damage to the environment should continually be the primary goal. Nonetheless, this is not always possible. There are many types of activities that can be utilized as mitigation, depending on the size and scope of the project and the environmental resource(s) it may take. Table 8.1 outlines suggestions for potential mitigation activities for transportation projects.

**Table 8.1: Potential Mitigation Activities for Transportation Projects**

Resource	Potential Mitigation Activities
Air quality	<ul style="list-style-type: none"> <li>• Transportation control measures</li> <li>• Transportation emission reduction measures</li> <li>• Control loose exposed soils with watering or canvas sheets</li> <li>• Minimize idle heavy construction vehicles</li> </ul>
Cultural resources	<ul style="list-style-type: none"> <li>• Landscaping for historic properties</li> <li>• Preservation in place or excavation for archeological sites</li> <li>• Memorandum of Agreement with State/Federal resource authorities</li> <li>• Education activities</li> <li>• Photo documentation and/or historic archival recording</li> </ul>
Endangered and threatened species	<ul style="list-style-type: none"> <li>• Time of year restrictions</li> <li>• Construction sequencing</li> <li>• Species research and/or fact sheets</li> <li>• Memorandum of Agreement for species management</li> <li>• Bridge sensitive areas instead of laying pavement directly onto the ground</li> <li>• Design measures to minimize potential fragmenting of animal habitats</li> <li>• Enhancement or restoration of degraded habitat</li> <li>• Creation of new habitat</li> <li>• Establish buffer areas around existing habitats</li> <li>• Modifications of land use practices</li> <li>• Restrictions on land use</li> </ul>
Farmland	<ul style="list-style-type: none"> <li>• Protect one farmland acre for every acre converted</li> <li>• Agricultural conservation easements on farmland</li> </ul>
Forested and other natural areas	<ul style="list-style-type: none"> <li>• Replacement property for open space easements of equal fair market value and equivalent usefulness</li> <li>• Minimize removal and/or selective cutting in forested areas except for what is needed to establish roadways and associated right of way</li> <li>• Preserve and/or reestablish vegetation whenever possible within open areas</li> </ul>
Neighborhoods, communities, homes, and businesses	<ul style="list-style-type: none"> <li>• Context sensitive solutions for communities</li> <li>• Minimize noise impact with sound barriers</li> <li>• Prevent the spread of hazardous materials with soil testing and treatment</li> <li>• Develop sidewalks, bike lanes, recreational areas, etc.</li> <li>• Property owners paid fair market value for property acquired</li> <li>• Residential and commercial relocation</li> </ul>
Noise	<ul style="list-style-type: none"> <li>• Depressed roads</li> <li>• Noise barriers</li> <li>• Plant trees</li> </ul>
Parks and recreation areas	<ul style="list-style-type: none"> <li>• Construct bicycle and pedestrian pathways</li> <li>• Replace impaired functions</li> </ul>
Viewshed impacts	<ul style="list-style-type: none"> <li>• Vegetation and landscaping; screening; buffers; earthen berms</li> </ul>
Wetlands and water resources	<ul style="list-style-type: none"> <li>• Preserve, create, replace, or restore wetland areas</li> <li>• Vegetative buffer zones</li> <li>• Bridge sensitive areas instead of laying pavement directly onto the ground</li> <li>• Improve storm water management</li> <li>• Make perpendicular crossings of streams and riparian buffers rather than lateral encroachments</li> <li>• Restore streams and/or stream buffers</li> <li>• Strict erosion and sedimentation control measures</li> </ul>



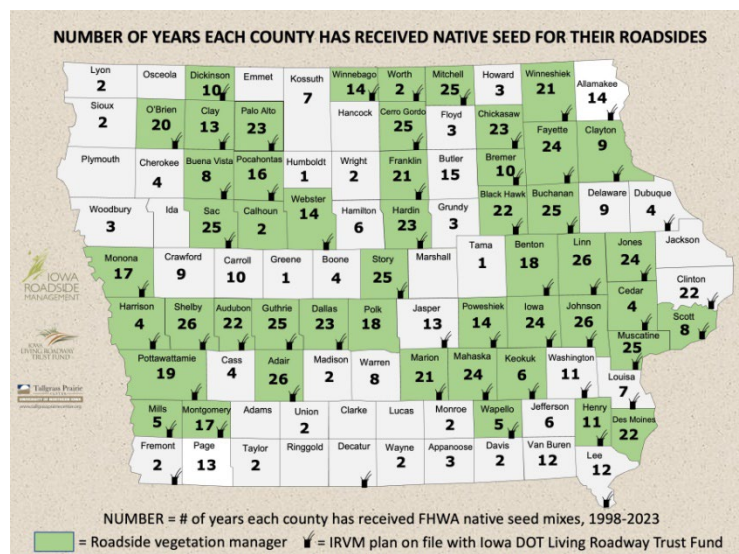
## Integrated Roadside Vegetation Management (IRVM)

IRVM is a holistic and environmentally conscious approach to managing vegetation along roadsides and highways. It involves the strategic integration of various practices, such as mowing, herbicide application, re-vegetation, prescribed burning, and the promotion of native plant species. IRVM aims to achieve multiple objectives, including enhancing road safety by maintaining clear visibility and minimizing roadside hazards, such as overgrown vegetation. Moreover, it promotes ecological sustainability by preserving and restoring natural habitats for wildlife, pollinators, and other beneficial organisms. By encouraging the growth of native plants, IRVM helps prevent the spread of invasive species and supports local biodiversity. These strong, weed-resistant plant communities adapt to all roadside conditions and provide a variety of benefits including but not limited to enhancing rainfall infiltration, slowing runoff, trapping sediment, and reducing erosion.

The history of Integrated Roadside Vegetation Management can be traced back to the mid-20th century when concerns about road safety, ecological conservation, and cost-effectiveness emerged. Prior to IRVM, roadside vegetation was often indiscriminately cleared or maintained without considering the ecological impact. In the 1960s and 1970s, with the rise of environmental awareness and the recognition of the value of native plants and wildlife, transportation agencies began experimenting with more sustainable and ecologically sensitive approaches to roadside vegetation. By the 1980s, several states in the United States, including California, Minnesota, and Maryland, pioneered IRVM programs that aimed to balance road safety with environmental preservation. Over the years, IRVM gained wider acceptance, and transportation agencies worldwide started adopting similar principles and practices. Today, IRVM continues to evolve, incorporating new technologies, research findings, and community engagement to create roadways that not only prioritize safety and functionality but also contribute positively to the natural environment and local ecosystems.

Another development of the mid-1980s was the Iowa DOT's use of native prairie grasses and wildflowers for erosion control. A few county conservation boards were also experimenting with this naturally adapted alternative vegetation for roadsides. The Iowa Legislature officially adopted IRVM in 1988, and the cornerstone of the program became the establishment and protection of native vegetation in Iowa roadsides. The Living Roadway Trust Fund was created the following year, supporting state, city, and county roadside projects.

The Iowa Roadside Management program, led by the University of Northern Iowa, is a pioneering initiative aimed at promoting sustainable and environmentally responsible practices for managing roadside vegetation in the state. Founded in collaboration with the Iowa DOT, the program focuses on IRVM principles. Since 1988, this program has received funds from the Iowa DOT to purchase native seed for county road right-of-way. The Iowa Roadside Management statewide coordinator organizes the bulk purchase of locally grown native seed, creating diverse seed mixes appropriate for use in all roadside conditions. Counties with IRVM plans then submit requests to the Iowa Roadside Management statewide coordinator for this seed. Each year, approximately one thousand acres-worth of seed is distributed to counties.



[www.tallgrassprairiecenter.org/roadsides](http://www.tallgrassprairiecenter.org/roadsides)



## Environmental Analysis

A high-level environmental analysis was conducted to raise environmental awareness early in the project development process and to provide the public and decision makers with an overview of potential environmental impacts. To conduct this analysis, GIS software was used to create a database of environment-related layers. Online interactive maps have also been identified for jurisdictions to utilize as well. This is not an exhaustive list of resources but rather a starting point to review some of the most common environmental concerns. Some types of environmental data are available at the section level, and detailed information is not available without a more in-depth review.

**Table 8.2: Environmental Analysis Layers**

Layer	Data Source
Major Water Sources	Iowa Department of Natural Resources
Watersheds	Iowa Department of Natural Resources
Impaired Waters	Iowa Department of Natural Resources
Floodplains	Iowa Department of Natural Resources
Wetlands	Iowa Department of Natural Resources
Historic Sites	Iowa Office of the State Archaeologist
Public Lands	Local jurisdictions
Cemeteries	Iowa Department of Natural Resources
Environmentally Sensitive Areas	Iowa Department of Natural Resources
Threatened and Endangered Species	Iowa Department of Natural Resources

The maps on the following pages show the environmental analysis for the road and bridge projects included in the fiscally constrained LRTP. This inventory is not meant to substitute for a project sponsor's responsibilities; rather, it is meant to create awareness of possible environmental impacts early in the planning process. The NEPA process must be completed, and other applicable federal and state regulations must be met for each project before any federal funds for transportation improvements are expended for construction.

The majority of road and bridge projects identified in this Plan are resurfacing or reconstruction projects and will occur within existing right-of-way with minimal environmental impacts. A project could end up requiring additional right-of-way than currently planned, or have a different alignment in final design, in which case other environmental impacts may be observed. Regardless, this environmental analysis provides a starting point for discussion of potential environmental effects of proposed transportation projects.



## Major Water Sources and Flood Hazards

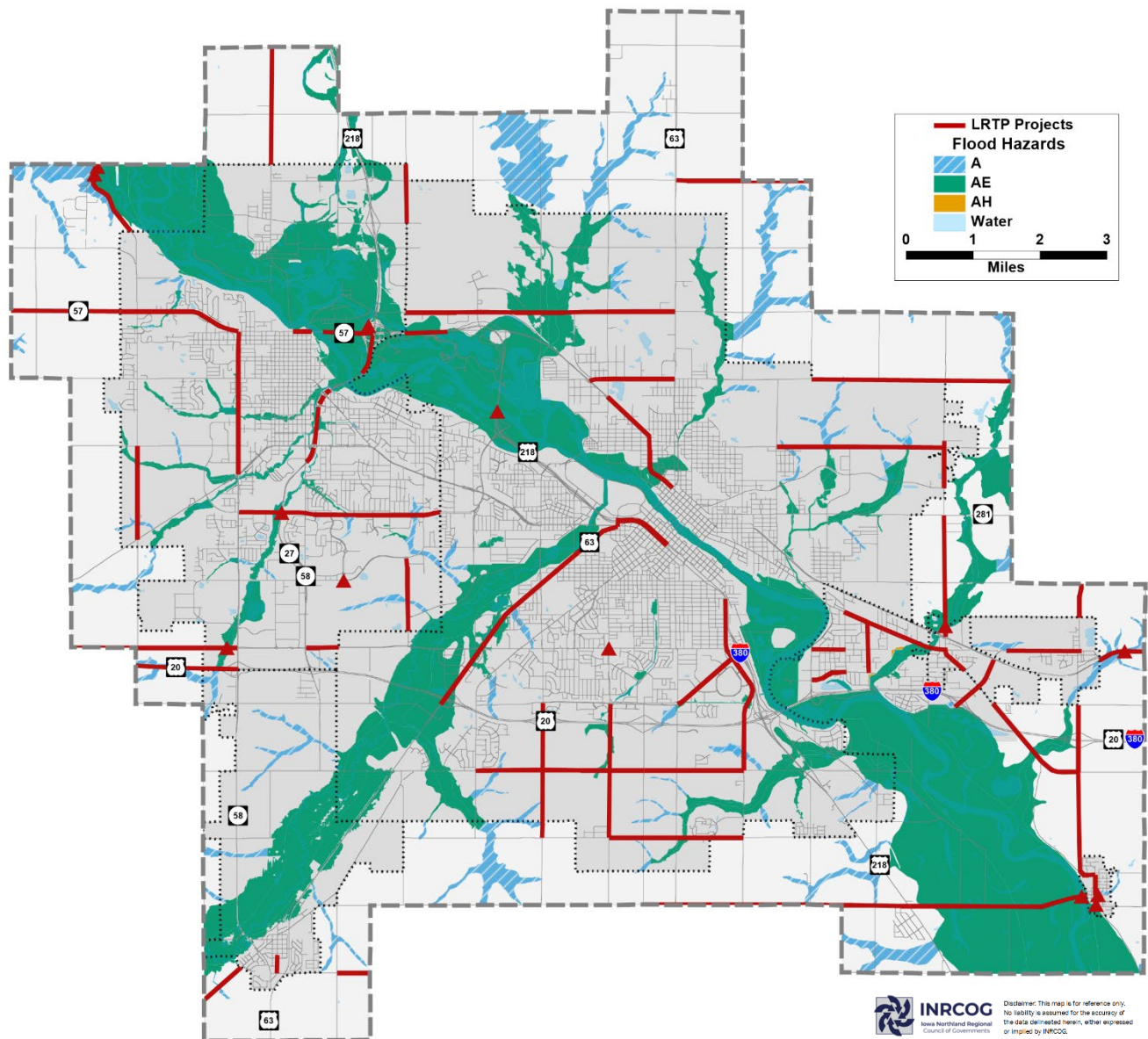
The Black Hawk County metropolitan area contains no waterways that are used for transportation purposes. The two largest rivers/creeks in the metro area are the Cedar River and the Black Hawk Creek. Flood zones are geographic areas that the Federal Emergency Management Agency (FEMA) has defined according to varying levels of flood risk. Transportation projects within a mapped floodplain would require a floodplain development permit in addition to other applicable environmental permits.

The Iowa DNR, along with the Iowa Flood Center and other partners, has created comprehensive floodplain maps for Iowa cities and counties accessible through two web-based interfaces.

<https://ifis.iowafloodcenter.org/ifis/newmaps/hazard/>  
<https://ifis.iowafloodcenter.org/ifis/newmaps/risk/map/>

### Map 8.1: Major Water Sources and Flood Hazards

Source: Federal Emergency Management Agency (FEMA)

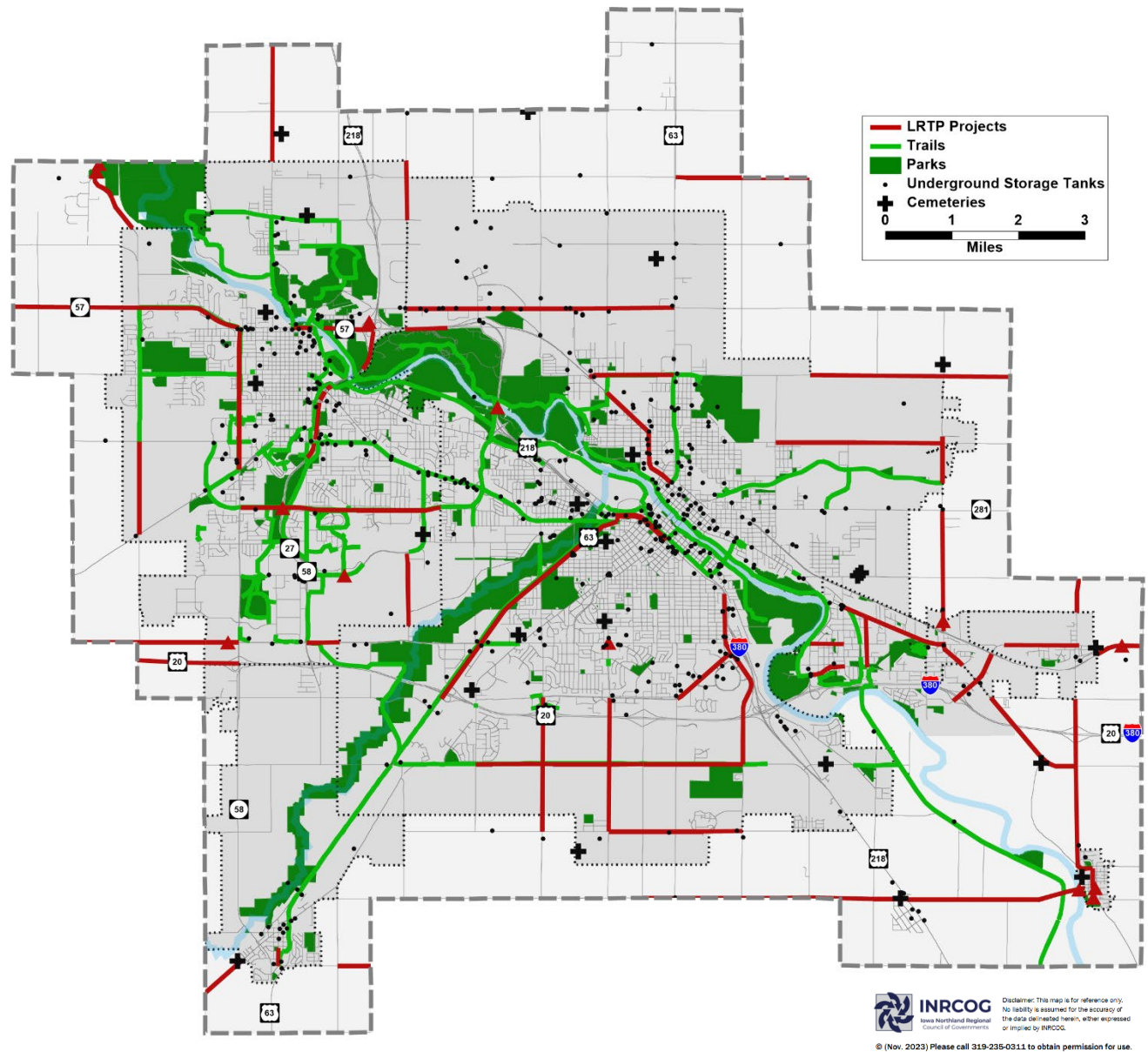


## Environmentally Sensitive Areas

In planning for a road or bridge project, it is crucial to consider environmentally sensitive areas such as parks, trails, cemeteries, and underground storage tanks. These areas hold immense ecological, cultural, and historical significance, making their preservation and protection a matter of utmost importance. Additionally, underground storage tanks can pose significant environmental risks if not managed carefully. By incorporating a comprehensive understanding of the significance of these areas into the planning process, a long-range transportation plan can be developed that ensures sustainable, harmonious development, safeguarding both nature and culture for generations to come.

### Map 8.2: Environmentally Sensitive Areas

Source: US Environmental Protection Agency, UST Finder; State of Iowa Pen Geospatial Data



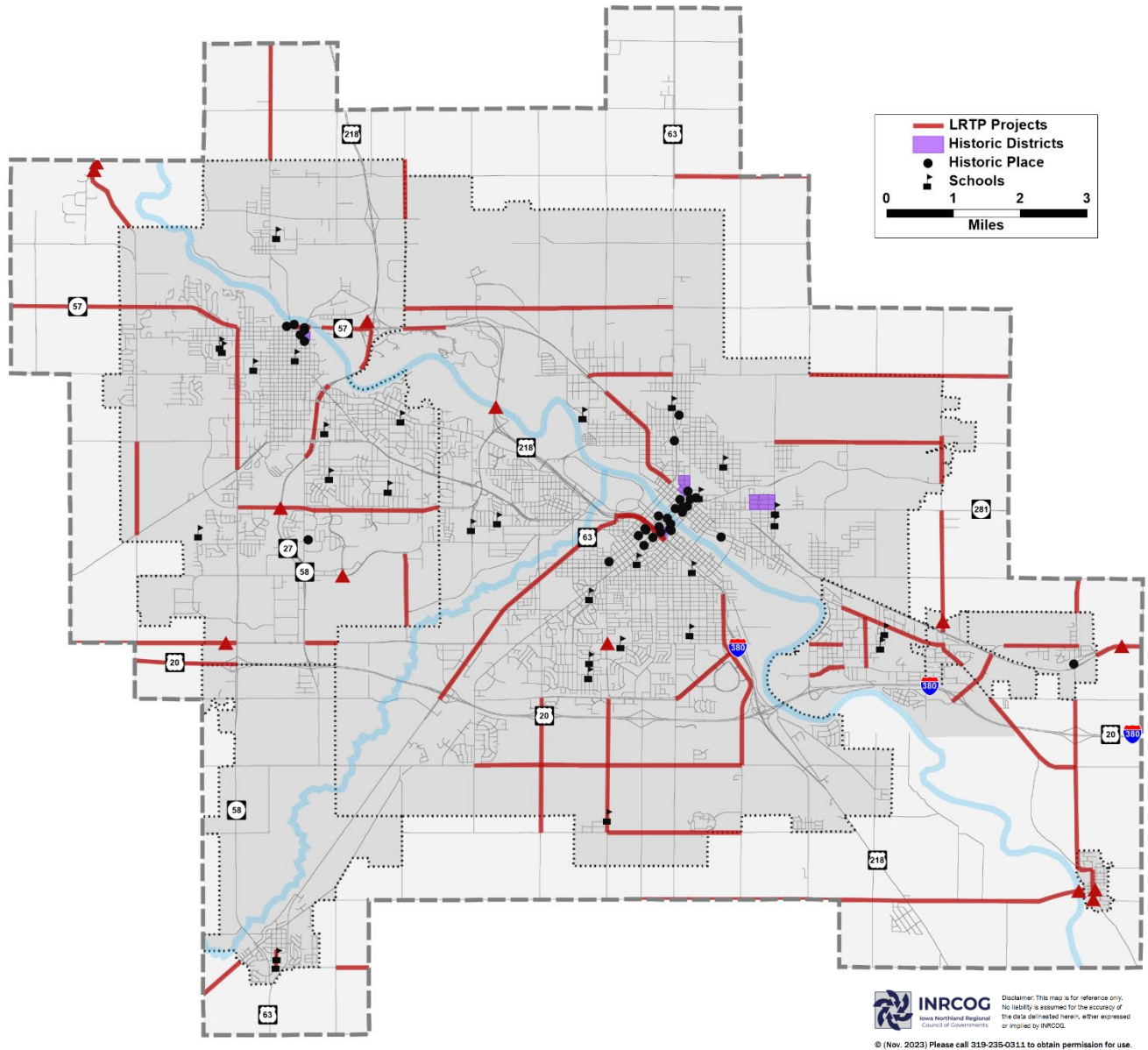


### Human Environmental Constraints

Project sponsors should also incorporate a thorough review of human-built environmental constraints, such as schools, historic properties, and historic districts. These critical infrastructures and amenities represent the very fabric of our society, directly impacting the well-being and livelihoods of residents. By integrating these elements into the planning process, we can create a more resilient, inclusive, and sustainable transportation network that truly meets the needs and aspirations of the people it serves.

### Map 8.3: Human Environmental Constraints

Source: National Register of Historic Places; Iowa Department of Education

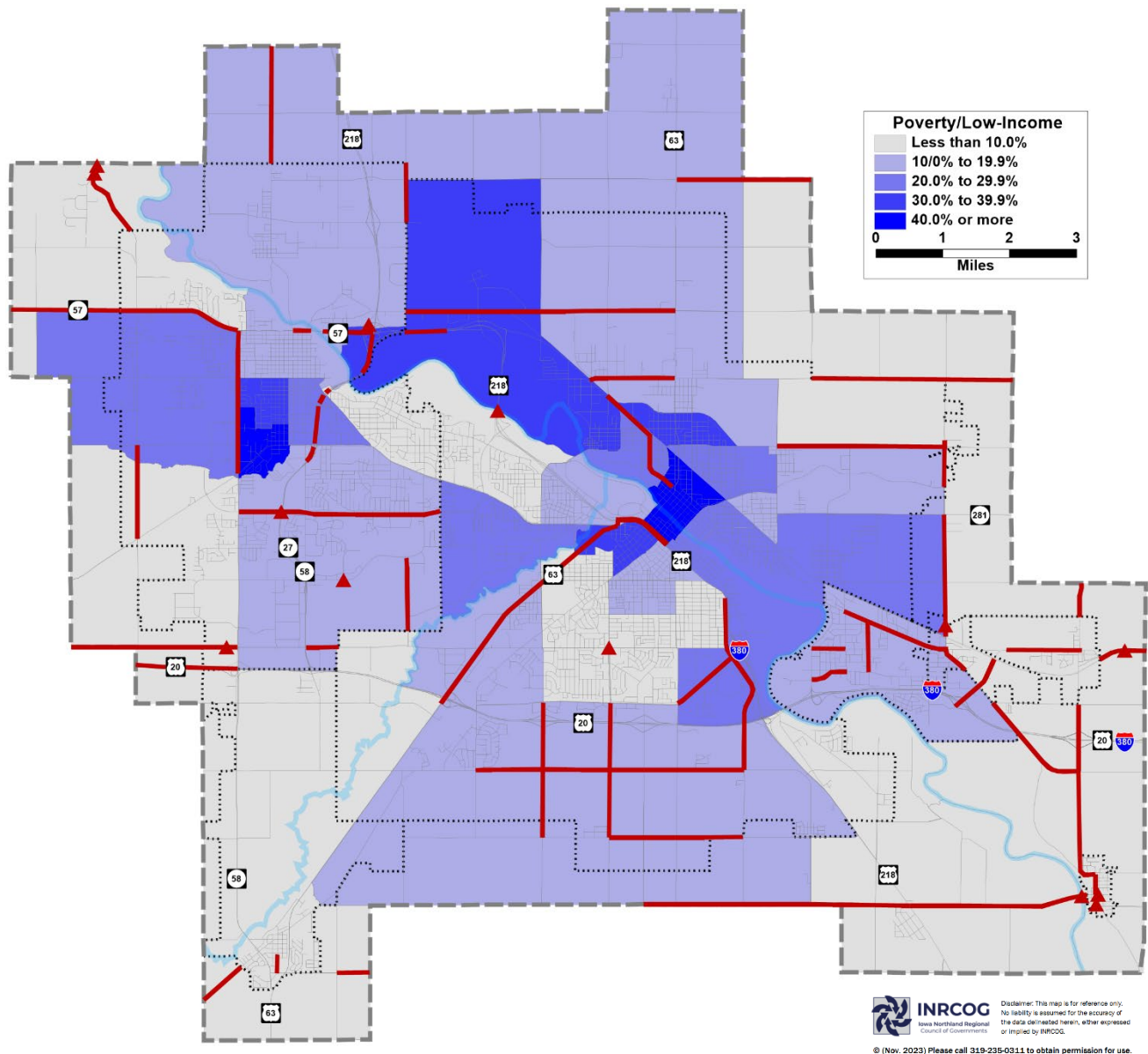


## Environmental Justice Assessment

A high-level environmental justice assessment was conducted for the road and projects included in the fiscally constrained LRTP. This assessment aims to identify concentrations of underserved populations to foster equitable and sustainable development. These underserved communities are more vulnerable to the adverse impacts of transportation projects and infrastructure changes. Through comprehensive identification, policymakers, planners, and engineers can gain crucial insights into the specific needs and challenges faced by these populations. By tailoring the long-range transportation plan to include targeted investments in these underserved areas, we can create a more inclusive and accessible transportation network. Moreover, prioritizing the needs of underserved populations aligns with broader sustainability goals, as it helps promote social equity, reduce disparities, and create a more resilient and environmentally friendly transportation system for all members of society. The maps on the following pages show road and bridge projects layered with socioeconomic data provided in Chapter 2 of this document.

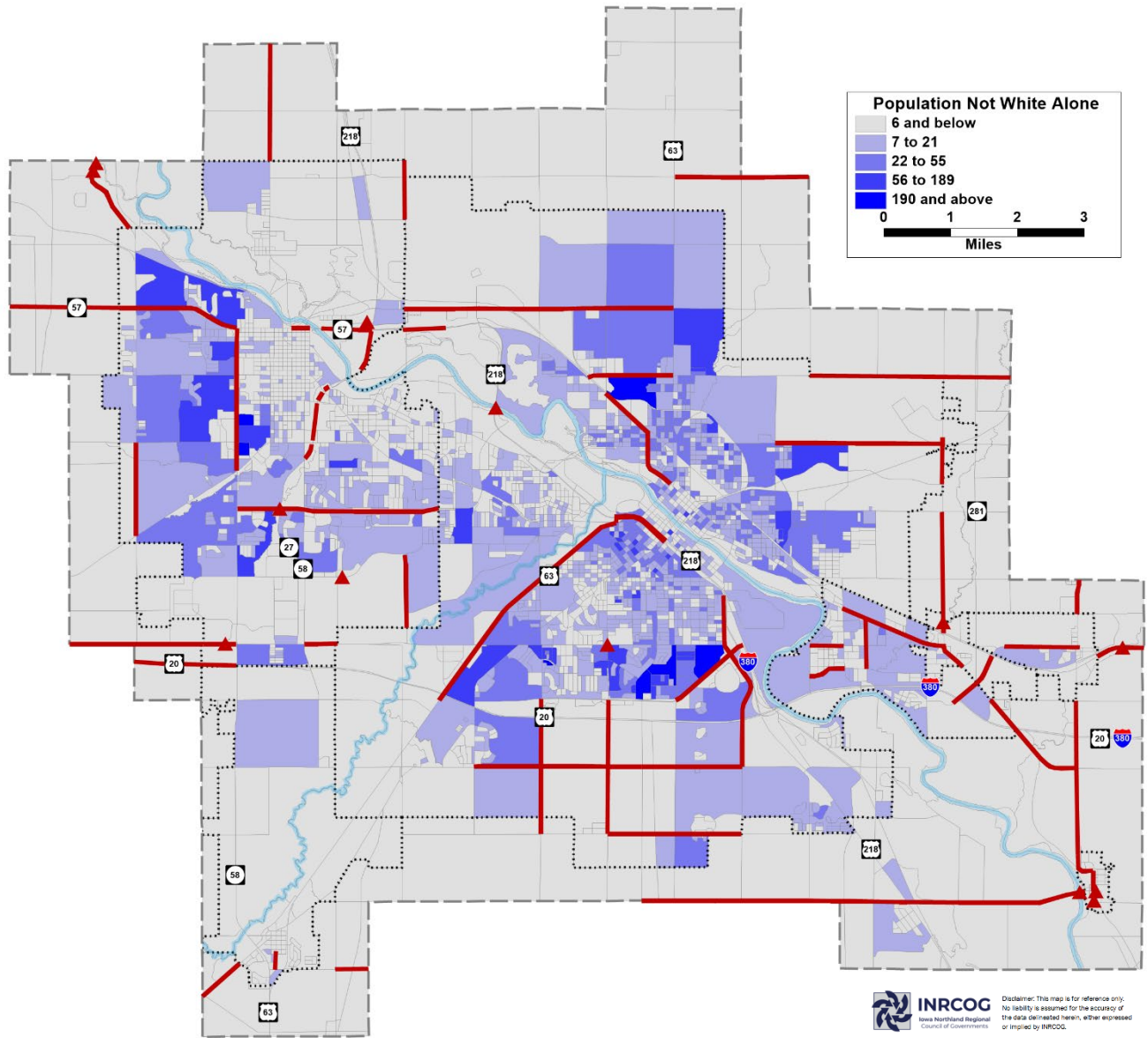
### Map 8.4: Poverty/Low-Income by Census Tract

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021



### Map 8.5: Racial and Ethnic Minorities by Census Block

Source: U.S. Census Bureau, Decennial Census, 2020

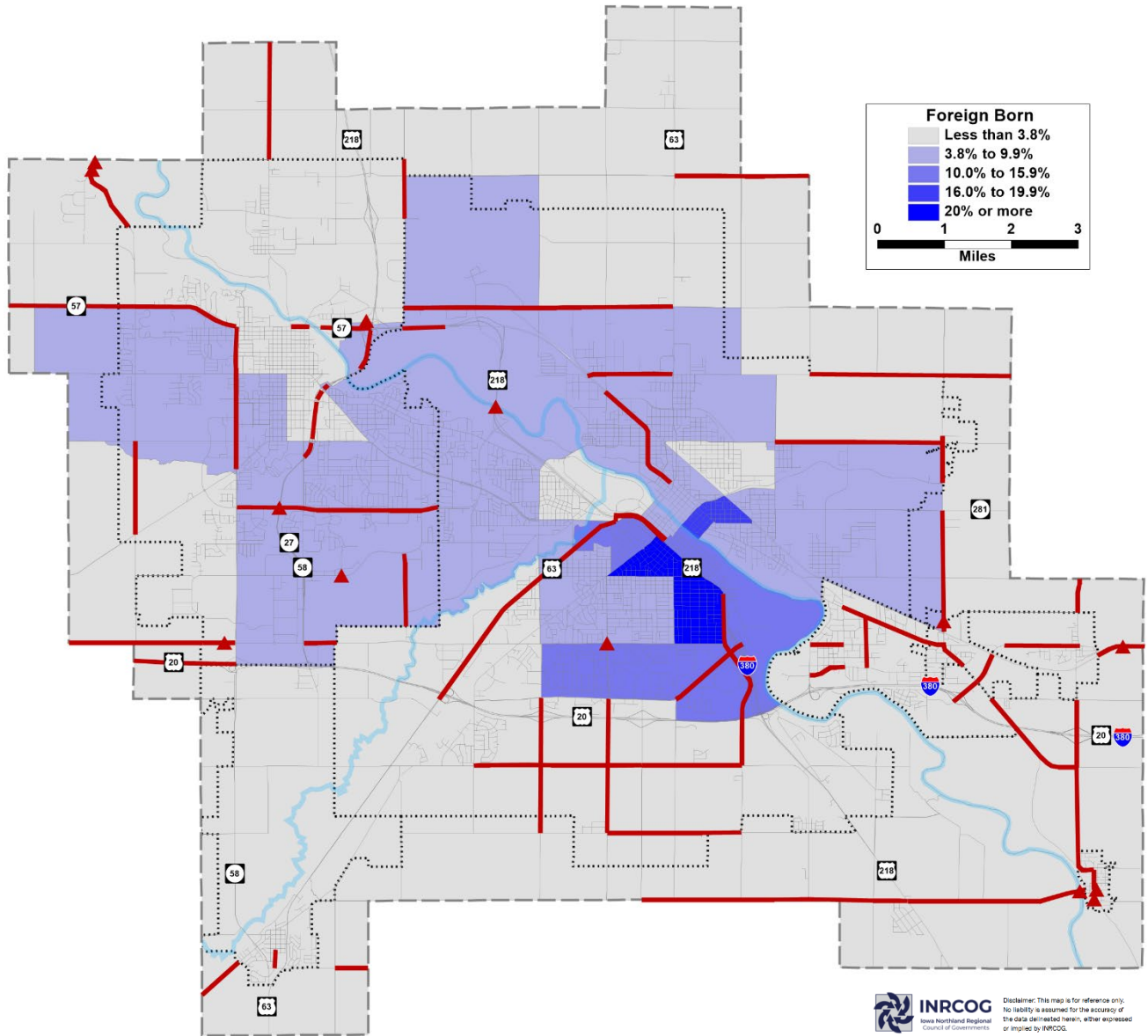


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### Map 8.6: Foreign Born Population by Census Tract

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021

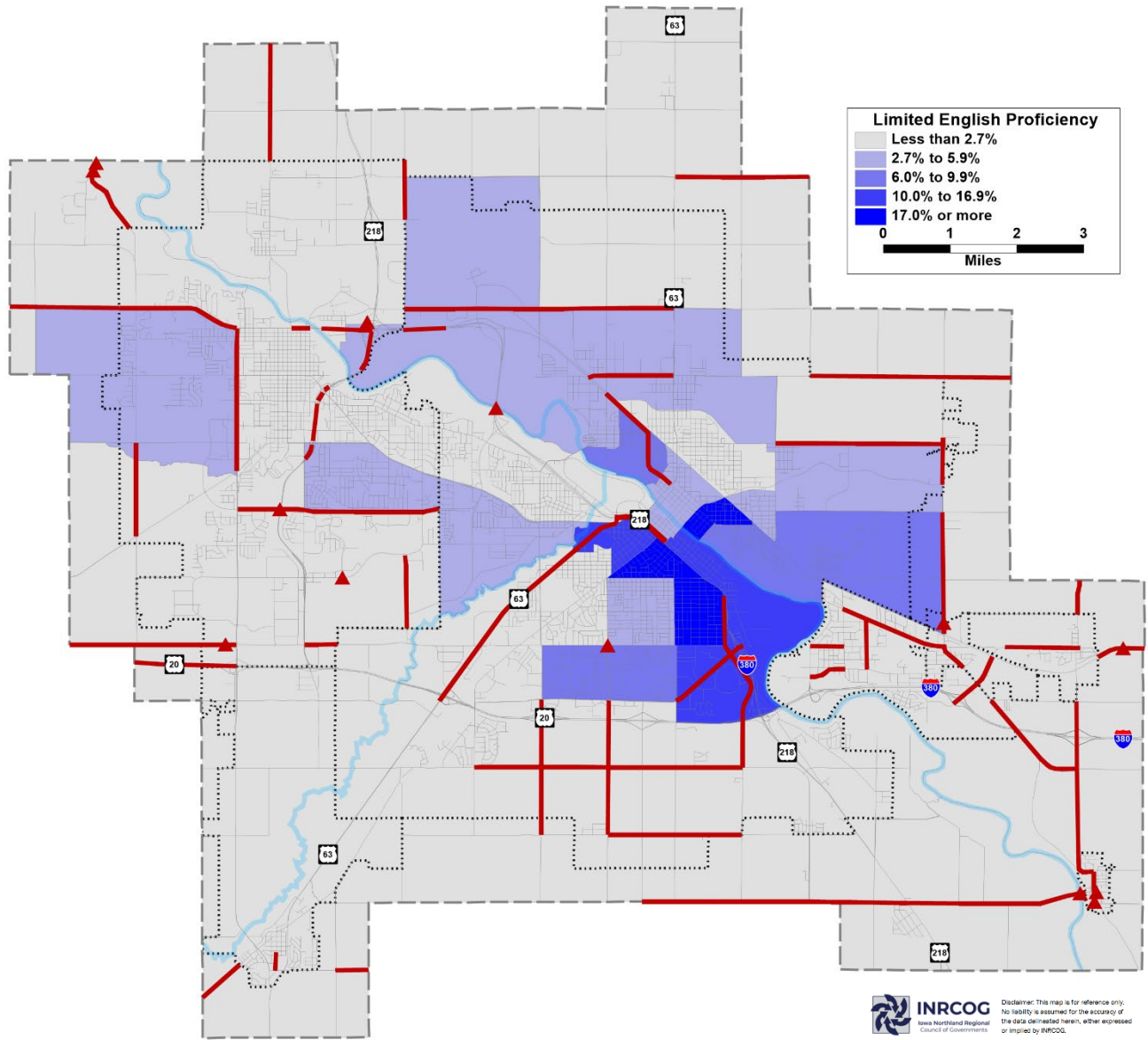


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### Map 8.7: Limited English Proficiency by Census Tract

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021



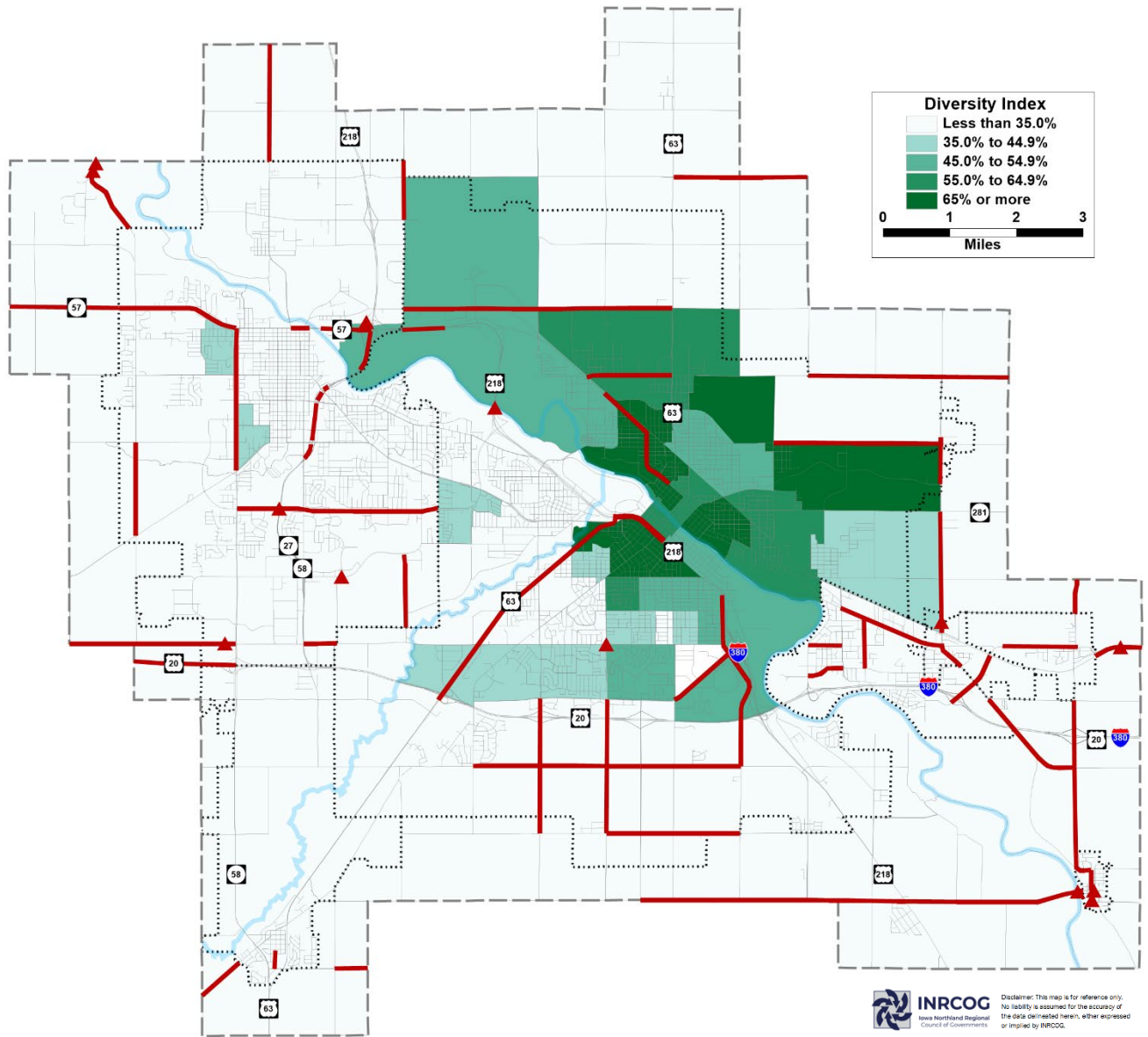
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### Map 8.8: Ethnic Diversity Index by Census Block Group

Source: U.S. Census Bureau, Decennial Census, 2020

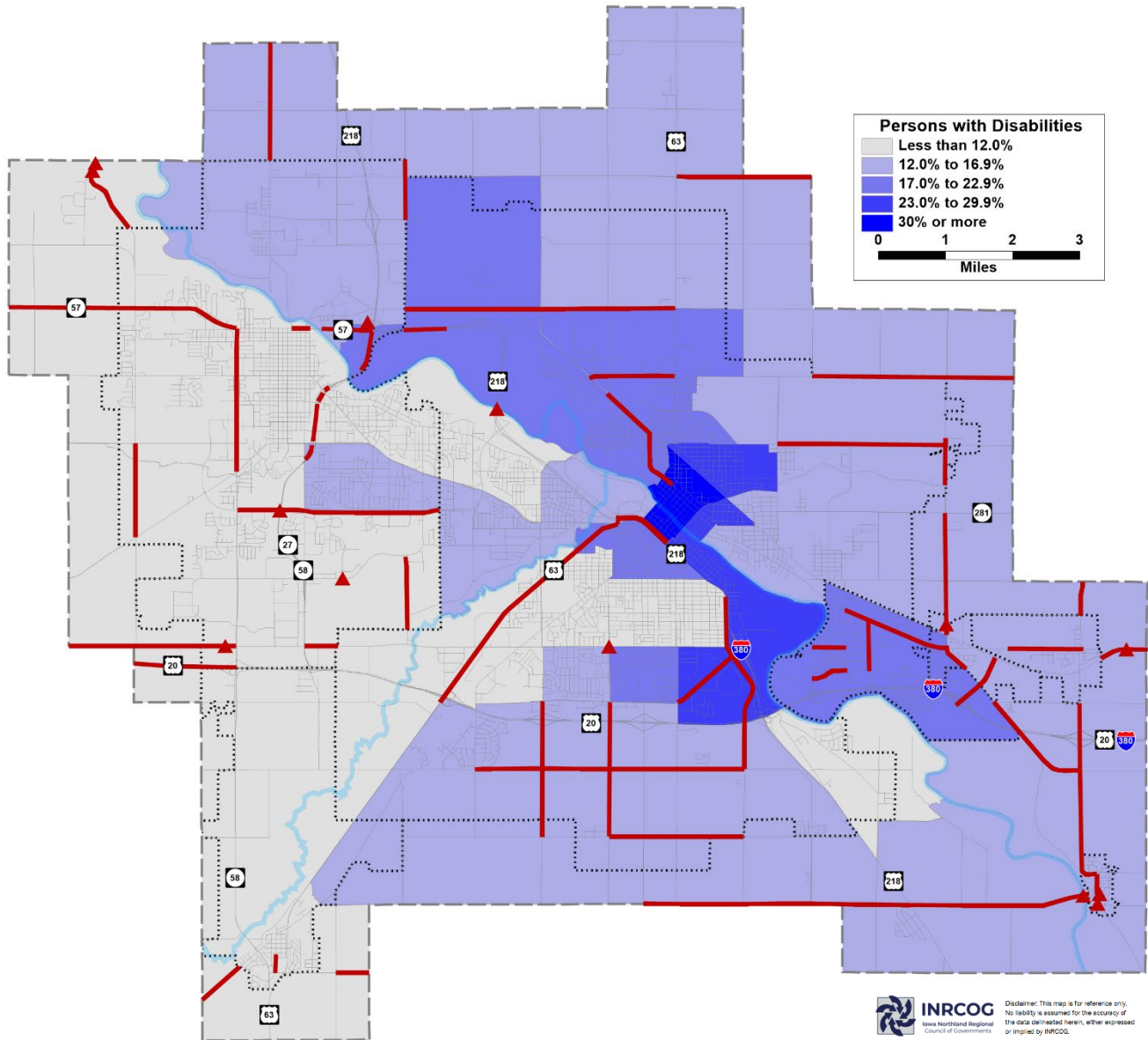


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# Map 8.9: Persons with Disabilities

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021

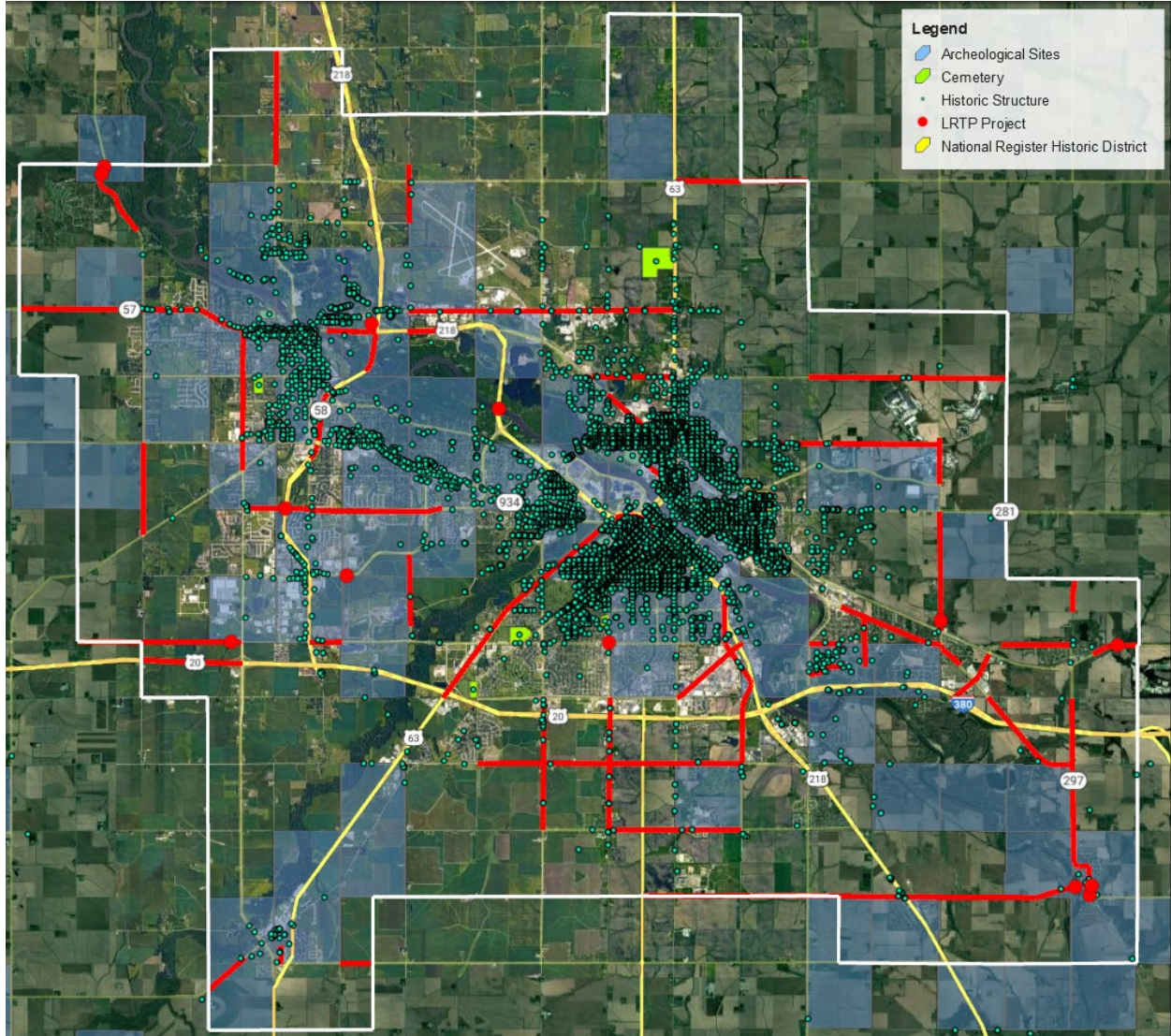


### Archaeological and Historic Sites

The Iowa Office of the State Archaeologist manages the Iowa Site File which is the master inventory of archaeological sites in Iowa. I-Site™ Public Access is an online interactive map for historic and archaeological sites. Most archaeological sites are recorded because of cultural resource surveys conducted by professional archaeologists. Some, however, are reported by landowners, avocational archaeologists, and other non-professionals. Each archaeological site recorded contains information in a relational database and their locations are stored in a GIS database.

### Map 8.10: Archaeological and Historic Sites

Source: I-Site Public Access, March 2023



<https://archaeology.uiowa.edu/services/i-sites>



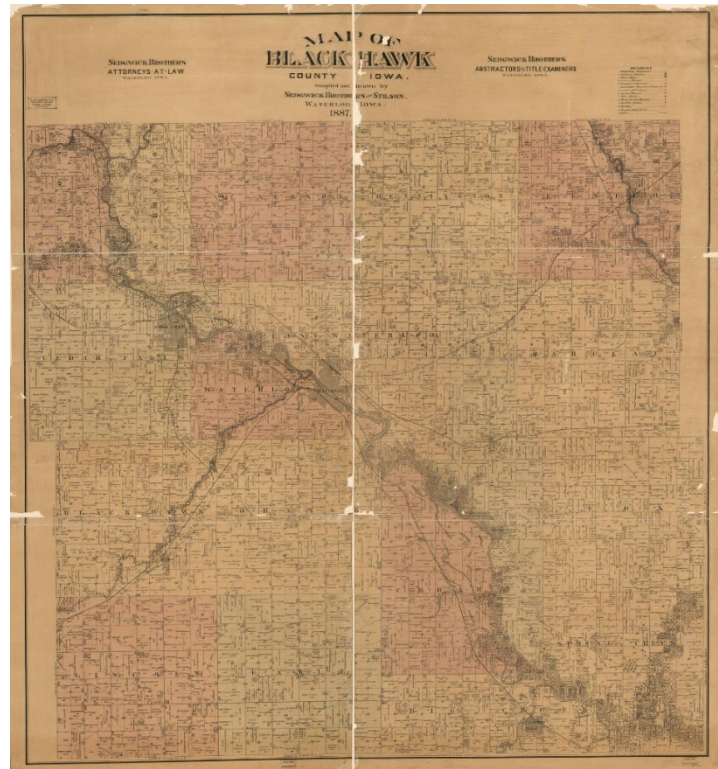
### Cultural Resources Evaluation Tool

In the realm of infrastructure development, careful consideration of cultural and historical resources is imperative to ensure a harmonious balance between progress and preservation. Jurisdictions embarking on road and bridge projects stand to greatly benefit from incorporating the Iowa DOT Location and Environment Bureau's Cultural Resources Evaluation tool into their planning processes. By harnessing this tool, which is readily available at no cost, project planners gain access to a comprehensive assessment that considers a spectrum of vital variables including landforms and soils, recorded historical data, archival accounts, and known archaeological sites. By synthesizing this information, the tool generates site-specific recommendations that steer decisions on whether further actions, such as additional fieldwork, are warranted.

Incorporating the Iowa DOT Location and Environment Bureau's CRE tool displays responsible and sustainable development, respecting history while advancing communities. Using the Cultural Resources Evaluation tool smartly links infrastructure growth with cultural preservation, guaranteeing projects are both strong and considerate of the area's historical significance.

Jurisdictions are strongly encouraged to examine the contents of the Iowa DOT Local Systems Bureau Informational Memorandum 4.120 as a crucial step before embarking on project development. This memorandum provides valuable insights into the Cultural Resources Evaluation tool process.

[https://www.iowadot.gov/local\\_systems/publications/im/4120.pdf](https://www.iowadot.gov/local_systems/publications/im/4120.pdf)





### Threatened and Endangered Species

Table 8.3 provides a list of state-classified threatened and endangered species found in Black Hawk County. Threatened species are animals and plants that are likely to become endangered soon. Endangered species are animals and plants that are in danger of becoming extinct.

**Table 8.3: Threatened and Endangered Species**

Source: Iowa DNR, Natural Areas Inventory

Common Name	Scientific Name	Class	State Status	Federal Status
Blue-spotted Salamander	<i>Ambystoma laterale</i>	AMPHIBIANS	E	
Central Newt	<i>Notophthalmus viridescens</i>	AMPHIBIANS	T	
Mudpuppy	<i>Necturus maculosus</i>	AMPHIBIANS	T	
Bald Eagle	<i>Haliaeetus leucocephalus</i>	BIRDS	S	
Barn Owl	<i>Tyto alba</i>	BIRDS	E	
Henslow's Sparrow	<i>Ammodramus henslowii</i>	BIRDS	T	
Red-shouldered Hawk	<i>Buteo lineatus</i>	BIRDS	E	
American Brook Lamprey	<i>Lampetra appendix</i>	FISH	T	
Black Redhorse	<i>Moxostoma duquesnei</i>	FISH	T	
Western Sand Darter	<i>Ammocrypta clara</i>	FISH	T	
Creek Heelsplitter	<i>Lasmigona compressa</i>	FRESHWATER MUSSELS	T	
Creeper	<i>Strophitus undulatus</i>	FRESHWATER MUSSELS	T	
Cylindrical Papershell	<i>Anodontooides ferussacianus</i>	FRESHWATER MUSSELS	T	
Yellow Sandshell	<i>Lampsilis teres</i>	FRESHWATER MUSSELS	E	
Acadian Hairstreak	<i>Satyrrium acadicum</i>	INSECTS	S	
Broad-winged Skipper	<i>Poanes viator</i>	INSECTS	S	
Dion Skipper	<i>Euphyes dion</i>	INSECTS	S	
Pipevine Swallowtail	<i>Battus philenor</i>	INSECTS	S	
Purplish Copper	<i>Lycaena helloides</i>	INSECTS	S	
Regal Fritillary	<i>Speyeria idalia</i>	INSECTS	S	
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	MAMMALS		T
Plains Pocket Mouse	<i>Perognathus flavescens</i>	MAMMALS	E	
Spotted Skunk	<i>Spilogale putorius</i>	MAMMALS	E	
Bent Milk-vetch	<i>Astragalus distortus</i>	PLANTS (DICOTS)	S	
Bog Birch	<i>Betula pumila</i>	PLANTS (DICOTS)	T	
Bog Willow	<i>Salix pedicellaris</i>	PLANTS (DICOTS)	T	
Brittle Prickly Pear	<i>Opuntia fragilis</i>	PLANTS (DICOTS)	T	
Cleft Phlox	<i>Phlox bifida</i>	PLANTS (DICOTS)	S	
Earleaf Foxglove	<i>Tomanthera auriculata</i>	PLANTS (DICOTS)	S	
Flat Top White Aster	<i>Aster pubentior</i>	PLANTS (DICOTS)	S	
Glade Mallow	<i>Napaea dioica</i>	PLANTS (DICOTS)	S	
Hill's Thistle	<i>Cirsium hillii</i>	PLANTS (DICOTS)	S	
Kitten Tails	<i>Besseyia bullii</i>	PLANTS (DICOTS)	T	
Lance-leaved Violet	<i>Viola lanceolata</i>	PLANTS (DICOTS)	S	
Marsh-speedwell	<i>Veronica scutellata</i>	PLANTS (DICOTS)	S	
Narrowleaf Pinweed	<i>Lechea intermedia</i>	PLANTS (DICOTS)	T	

Common Name	Scientific Name	Class	State Status	Federal Status
Pearly Everlasting	Anaphalis margaritacea	PLANTS (DICOTS)	S	
Pink Milkwort	Polygala incarnata	PLANTS (DICOTS)	T	
Prairie Bush Clover	Lespedeza leptostachya	PLANTS (DICOTS)	T	T
Pretty Dodder	Cuscuta indecora	PLANTS (DICOTS)	S	
Ragwort	Senecio pseudoaureus	PLANTS (DICOTS)	S	
Sage Willow	Salix candida	PLANTS (DICOTS)	S	
Sessile-leaf Tick-trefoil	Desmodium sessilifolium	PLANTS (DICOTS)	S	
Silky Prairie Clover	Dalea villosa	PLANTS (DICOTS)	E	
Silver Bladderpod	Lesquerella ludoviciana	PLANTS (DICOTS)	S	
Sweet Indian Plantain	Cacalia suaveolens	PLANTS (DICOTS)	T	
Toothcup	Rotala ramosior	PLANTS (DICOTS)	S	
Valerian	Valeriana edulis	PLANTS (DICOTS)	S	
Violet	Viola macloskeyi	PLANTS (DICOTS)	S	
Water Milfoil	Myriophyllum verticillatum	PLANTS (DICOTS)	S	
Water Shield	Brasenia schreberi	PLANTS (DICOTS)	S	
Woolly Milkweed	Asclepias lanuginosa	PLANTS (DICOTS)	T	
Field Sedge	Carex conoidea	PLANTS (MONOCOTS)	S	
Green's Rush	Juncus greenei	PLANTS (MONOCOTS)	S	
Northern Panic-grass	Dichanthelium boreale	PLANTS (MONOCOTS)	E	
Richardson Sedge	Carex richardsonii	PLANTS (MONOCOTS)	S	
Sedge	Carex cephalantha	PLANTS (MONOCOTS)	S	
Slender Sedge	Carex tenera	PLANTS (MONOCOTS)	S	
Small Green Woodland Orchid	Platanthera clavellata	PLANTS (MONOCOTS)	S	
Small White Lady's Slipper	Cypripedium candidum	PLANTS (MONOCOTS)	S	
Tall Cotton Grass	Eriophorum angustifolium	PLANTS (MONOCOTS)	S	
Vasey's Rush	Juncus vaseyi	PLANTS (MONOCOTS)	S	
Western Prairie Fringed Orchid	Platanthera praeclara	PLANTS (MONOCOTS)	T	T
Leathery Grape Fern	Botrychium multifidum	PLANTS (PTERIDOPHYTES)	T	
Ledge Spikemoss	Selaginella rupestris	PLANTS (PTERIDOPHYTES)	S	
Little Grape Fern	Botrychium simplex	PLANTS (PTERIDOPHYTES)	T	
Northern Adder's-tongue	Ophioglossum pusillum	PLANTS (PTERIDOPHYTES)	S	
Prairie Moonwort	Botrychium campestre	PLANTS (PTERIDOPHYTES)	S	
Blanding's Turtle	Emydoidea blandingii	REPTILES	T	
Bullsnake	Pituophis catenifer sayi	REPTILES	S	
Ornate Box Turtle	Terrapene ornata	REPTILES	T	
Smooth Green Snake	Liochlorophis vernalis	REPTILES	S	
Wood Turtle	Clemmys insculpta	REPTILES	E	

## Consultation

Several Federal, State, Tribal, and local government agencies were notified when the draft LRTP document was available for review and comment. Feedback on topics relevant to their field of expertise was requested.

Agencies notified include the following:

- Black Hawk County Conservation
- Black Hawk County Emergency Management Agency
- Cedar Valley Trails Partnership
- Grow Cedar Valley
- Hawkeye Community College
- Iowa Department of Agriculture and Land Stewardship
- Iowa Department on Aging
- Iowa Department for the Blind
- Iowa Department of Education
- Iowa Department of Human Rights
- Iowa Department of Health and Human Services
- Iowa Department of Natural Resources
- Iowa Department of Public Safety
- Iowa Department of Transportation, Systems Planning Bureau
- Iowa Department of Transportation, District 2
- Iowa Department of Veterans' Affairs
- Iowa Economic Development Authority
- Iowa Homeland Security and Emergency Management
- Iowa Utilities Board
- Iowa Workforce Development
- The Office of the State Archaeologist
- Sac & Fox Tribe of the Mississippi
- University of Northern Iowa
- U.S. Army Corps of Engineers, Rock Island District
- U.S. Environmental Protection Agency, Region 7
- U.S. Department of Agriculture – Natural Resources Conservation Service
- U.S. Department of the Interior Bureau Indian Affairs, Midwest Region
- U.S. Fish and Wildlife Service, Illinois-Iowa Ecological Services Field Office

