



## APPENDIX F: Data Sources and Links

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# Transportation Master Plan Grants Strategy

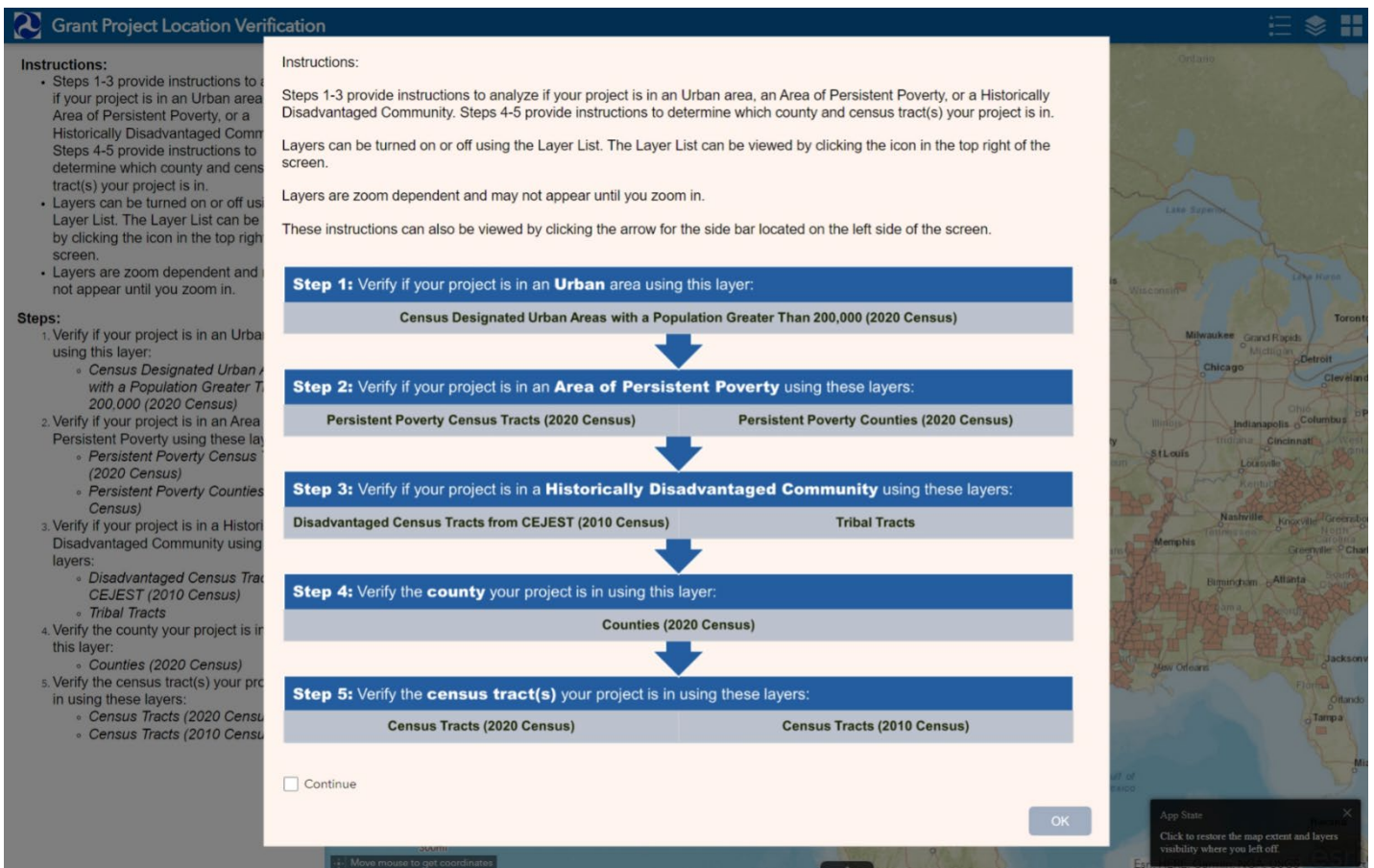
## Appendix F: List of Data Sources and Links

### Data Sources

This Appendix provides a guide to example data sources and links that are helpful in developing a grant application.

The first recommendation is to go to the USDOT Grant Verification Tool

[Grant Project Location Verification \(dot.gov\)](https://www.usdot.gov/grant-verification-tool)



**Grant Project Location Verification**

**Instructions:**

- Steps 1-3 provide instructions to analyze if your project is in an Urban area, an Area of Persistent Poverty, or a Historically Disadvantaged Community. Steps 4-5 provide instructions to determine which county and census tract(s) your project is in.
- Layers can be turned on or off using the Layer List. The Layer List can be viewed by clicking the icon in the top right of the screen.
- Layers are zoom dependent and may not appear until you zoom in.

These instructions can also be viewed by clicking the arrow for the side bar located on the left side of the screen.

**Step 1: Verify if your project is in an **Urban** area using this layer:**

- Census Designated Urban Areas with a Population Greater Than 200,000 (2020 Census)

**Step 2: Verify if your project is in an **Area of Persistent Poverty** using these layers:**

- Persistent Poverty Census Tracts (2020 Census)
- Persistent Poverty Counties (2020 Census)

**Step 3: Verify if your project is in a **Historically Disadvantaged Community** using these layers:**

- Disadvantaged Census Tracts from CEJEST (2010 Census)
- Tribal Tracts

**Step 4: Verify the **county** your project is in using this layer:**

- Counties (2020 Census)

**Step 5: Verify the **census tract(s)** your project is in using these layers:**

- Census Tracts (2020 Census)
- Census Tracts (2010 Census)

Continue OK

This tool will help the application identify whether a Project is Urban or Rural, if the Project is in an Area of Persistent Poverty, and /or is in a Historically Disadvantaged Community.



## Transportation Master Plan Grants Strategy

This tool can also help the application identify the county and census Tract(s) of the project area.

Once this basic information has been collected on the location of the project, the next step is to start to collect data to support the Merit Criteria.

This section provides example data sources and illustrative maps that can be used to support the different Merit Criteria in the Application.

### Safety

Crash Data- It is important to collect as much data as possible on the History of Crashes within the Project Area. This data will be used in the Benefit Costs Analysis (BCA) and stated within the Safety Merit Criteria Section. It is best to have a five year history to present if possible.

### Sources of Data

Local Law Enforcement Records are the best to capture accident history. With this information, analysis and summarization will be required to generate a chart that can be used in the narrative.

[Data Visualization - Fatality Analysis Reporting System \(FARS\) \(dot.gov\)- NCSA | Tools, Publications, and Data \(dot.gov\)](#)

<https://www-fars.nhtsa.dot.gov/Main/index.aspx>

<https://cdan.dot.gov/query>

[FARS Encyclopedia: States - Crashes and All Victims \(dot.gov\)](#) for Illinois

### Crash Modification Factors (CMF)

Crash Modification Factors are used to calculate the reduction of accidents due to a design improvement. The link below goes to the Crash Modification Clearinghouse that provides directions on how to use the site and select CMFs that are appropriate to the specific road improvements that the Project Sponsor intends to implement in the construction of the project.

[CMF Clearinghouse](#)

## Transportation Master Plan Grants Strategy

Once the safety data is collected for the Project, it is recommended that the data be summarized for use in the Benefit Cost Analysis (BCA) and the results of the BCA included in the Safety section of the Merit Criteria

Annual Crashes at Nelson Rd and Laraway Rd						
should be included in the Safety Section of the Merit Criteria as shown below the chart	K	A	B	C	O	Total Crashes
Total # of Crashes (2011-2015)	0	1	1	1	11	14
Average Annual # of Crashes (Total / 5)	0.00	0.20	0.20	0.20	2.20	2.80
Add RT Lanes CMF (applies to all crashes)	0.92	0.92	0.92	0.92	0.92	-
Annual Crashes Eliminated	0.00	0.02	0.02	0.02	0.18	0.22

Adding right turn lanes to Laraway Rd is the only improvement considered at this intersection.

	K	A	B	C	O	Total Crashes
Total # of Crashes (2008-2011)	0	1	10	2	58	71
Average Annual # of Crashes (Total / 4)	0.00	0.25	2.50	0.50	14.50	17.75
Total # of LT Crashes (2008-2011)	0.00	0.15	1.54	0.31	1.00	3.00
Average Annual # of LT Crashes (Total / 4)	0.00	0.04	0.38	0.08	0.25	0.75
Add RT Lanes CMF (applies to all crashes)	0.92	0.92	0.92	0.92	0.92	-
EB/WB Protected LT CMF (applies to left turn crashes only)	0.01	0.01	0.01	0.01	0.01	-
Annual Crashes Eliminated	0.00	0.17	1.72	0.34	2.15	4.39

Improvements considered adding right turn lanes to Laraway Rd and changing left turns on Laraway Rd to protected-only operation. Three EB/WB left turn crashes were observed in the crash history, but severity was not listed. Severity for left turn crashes was estimated using the frequency of injury crashes of turning crashes compared to other crashes.



## Transportation Master Plan Grants Strategy

Explanatory Narrative from the Will County IL Laraway Road Project FY23 RAISE Application.

*“Improving safety along Nelson Road and will be achieved by constructing a raised median with the addition of auxiliary turn lanes, include pedestrian accommodations, add transitional street lighting at Laraway Road and Nelson Road, and provide for access modifications consistent with the Will County design standards. Additionally, channelization of the turn lanes will help manage traffic patterns and increase the safety and efficiency of intersections. Signal timing will also be updated.*

*A crash analysis was completed for the period from 2011 – 2015 for the corridor. During this period, no fatal crashes occurred; however, 86.9% of all crashes occurred at the intersections along Laraway Road.*

*The intersection at Nelson Road represented the second largest number of crashes (14 crashes) comprised 16.7% of all crashes. The single pedestrian crash occurred in the segment between Heatherway Lane and Nelson Road near the Nelson Road intersection. Several subdivisions north of Laraway Road at Nelson Road are within the attendance boundary of Nelson Prairie and Nelson Ridge Elementary Schools. This makes the intersection of Laraway and Nelson Roads of particular concern for providing safe crossings for both pedestrians/cyclists and motorized traffic.*

*The intersection at Laraway Road and Foxwood Drive experienced four intersection related accidents. Two of these incidents resulted in B-type injuries and one was a C-type injury.*

*Cardinal Drive cited two accidents with only one being characterized as a B- type injury.*

*According to the most recent crash data the intersection of Laraway and Cedar Roads experienced 71 crashes over a three-year period. While there were no fatalities, there were a total of 21 injuries recorded. “*

### State of Good Repair

Data for State of Good Repair can be pulled from the BCA and the Asset Management Plan. In the BCA, the analyst will calculate the No-Build versus Build cost of Maintenance for the Project. This calculation will be informed by the Jurisdiction’s Asset Management Plan that details the maintenance schedule policy. Working with the Project’s design engineer, a schedule of maintenance should be developed for the 20-year period post construction for the project. This Build schedule will be compared to the No-Build schedule and enable the grant writer to discuss the change in maintenance costs between the No-Build and the Build scenarios. If the project is a rail project and can demonstrate that the project will remove trucks off the road, a calculation can be used to estimate the road maintenance savings by removing trucks on a specific route.

# Transportation Master Plan Grants Strategy

## Economic Impacts, Freight Movement, and Job Creation

Data for this section can be collected for the local MPO or the Economic Development Departments at the City, County and State.

Economic Impacts can also be described as travel time savings, vehicle operating cost savings, and emissions reductions. These figures can be pulled from the BCA and supplemented with a narrative on how the proposed improvement will reduce congestion (i.e. time savings), reduce idling (time saving, operating cost and emissions) or induce a modal shift from truck to rail (operating savings).

This section of the Merit Criteria narrative should also discuss current employers that use the Project Area and any new development / potential development that will bring new jobs into the area that is supported by the Project.

### **Climate Change, Resiliency, and the Environment**

The USDOT offered examples in its rubric for each of the scoring levels. To achieve the highest score (3) in this criterion, the USDOT offers this example:

Example 1: The project will provide alternative transportation modes to access the technology park by adding a separated bicycle lane and dedicating one of the roadway lanes to new bus service. These added travel options to the technology park will offer lower carbon travel modes to workers getting to work in the park.

### **Suggested Data sources:**

Data needs to be collected on the current and projected ADDT and future road use, bicycle lane and transit usage current and projected.

- Traffic Studies
- State Bicycle Association
- Transit Agencies

Example 2: The project is aimed at reconstructing a vulnerable transportation facility with a design specifically addressing resilience—flood mitigation measures and stormwater infrastructure, including nature- based elements, that will help keep the roadway operable consistently in spite of increased frequency of climate- related flood events.

### **Suggested Approach:**

1. Collect data on past flooding events that impacted the roadway- local Emergency Management Department, County Emergency Management Department and State Emergency Management Department.

## Transportation Master Plan Grants Strategy

2. Check CMF for any element that describes an improvement that reduces crashes – such as improvements to stormwater infrastructure that reduces water on the roads, etc.

### **Equity, Multimodal Options, and Quality of Life**

Equity/ Justice40 data sources- each NOFO lists specific tools that are recommended for that application.

For example: Guidance in the INFRA FY 23 NOFO<sup>1</sup> states “In addition to the Climate and Economic Justice Screening Tool (CEJST), (<https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>) which is the tool to use to identify disadvantaged communities, as discussed in the INFRA FY23 eligibility section , applicants are also encouraged to use USDOT’s Equitable Transportation Community (ETC) Explorer to understand how their community or project area is experiencing disadvantage related to lack of transportation investments or opportunities. Through understanding how a community or project area is experiencing transportation-related disadvantage, applicants are able to address how the benefits of a project will reverse or mitigate the burdens of disadvantage and demonstrate how the project will address challenges and accrued benefits.”

The Justice40 initiative, created by the Biden-Harris Administration through Executive Order 14008 Tackling the Climate Crises at Home and Abroad, is a key component in USDOT’s efforts to confront and address decades of underinvestment. When decision makers at all levels have the tools to understand how a community is experiencing disadvantage and can identify projects that create benefits that will reverse or mitigate those causes, the result is a higher quality of life and economic prosperity in communities across the country.

The [US DOT Equitable Transportation Community \(ETC\) Explorer](#) is an interactive web application that uses 2020 census tracts and data, to explore the cumulative burden communities experience, as a result of underinvestment in transportation, in the following five components: Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability. It is designed to complement CEQ’s [Climate & Economic Justice Screening Tool](#) (CEJST) by providing users deeper insight into the Transportation disadvantage component of CEJST, and the ETC Explorer’s Transportation Insecurity component, which will help ensure the benefits of DOT’s investments are addressing the transportation related causes of disadvantage. Applicants to USDOT’s Justice40 covered program NOFOs should use CEJST as the primary tool to identify disadvantaged communities, as USDOT’s ETC

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<sup>1</sup> The INFRA FY23 grant program funding was made available under the MPDG FY23 combined Notice of Funding Opportunity (NOFO).

# Transportation Master Plan Grants Strategy

Explorer is not a binary tool indicating whether a census tract is considered disadvantaged; it is a dynamic tool that allows every community in the country to understand how it is experiencing burden that transportation investments can mitigate or reverse.

Climate and Economic Justice Screening Tool (CEJST),  
<https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5>

## Explore the map

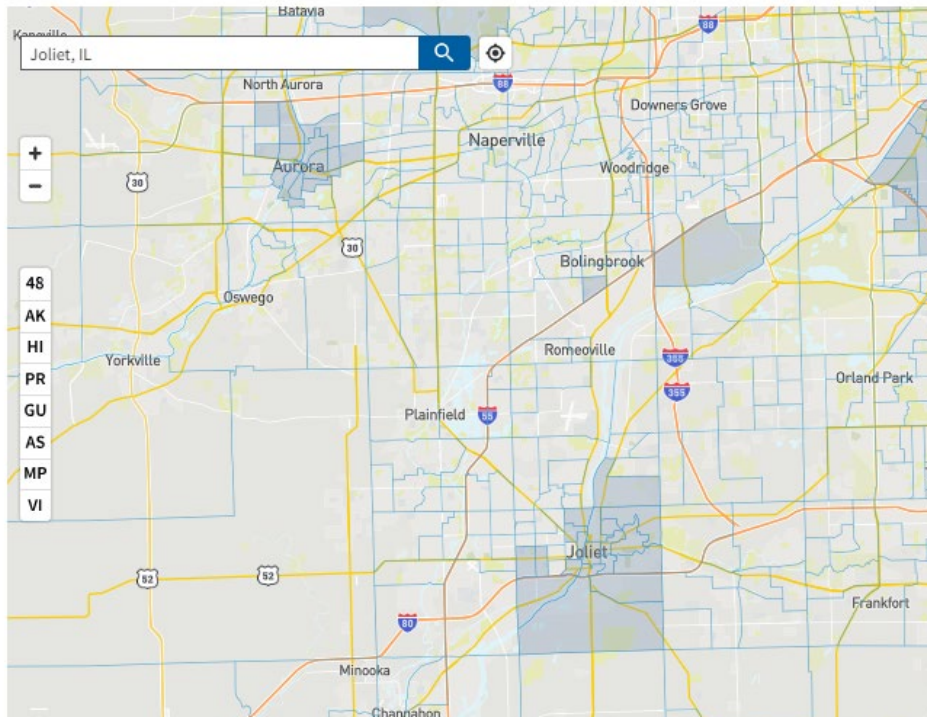
Share data sources with CEQ

Census tracts that are overburdened and underserved are highlighted as being disadvantaged on the map. Federally Recognized Tribes, including Alaska Native Villages, are also considered disadvantaged communities.

Zooming in and selecting shows information about each census tract.

**Get the data** ↓

Download the data with documentation and shapefile from the [downloads](#) page.



### How to use the map:

Zoom in +, search 🔍, or locate yourself 📍 and select to see information about any census tract.

### Things to know:

The tool uses census tracts 🗺️. Census tracts are a small unit of geography. They generally have populations 🧑 of between 1,200 - 8,000 people.

Communities that are disadvantaged live in tracts that experience burdens. These tracts are highlighted 🟦 on the map.

The tool ranks most of the burdens using percentiles 📊. Percentiles show how much burden each tract experiences when compared to other tracts.

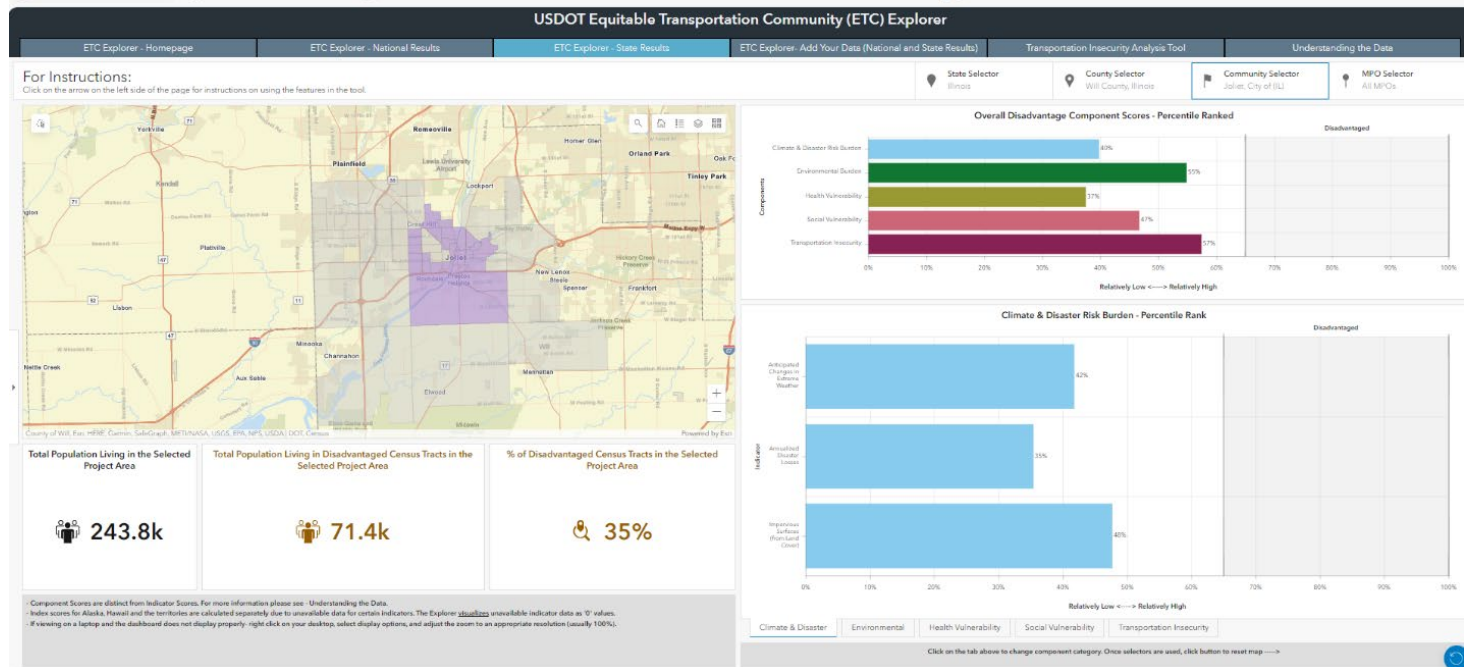


# Transportation Master Plan Grants Strategy

USDOT’s Equitable Transportation Community (ETC) Explorer

[USDOT Equitable Transportation Community \(ETC\) Explorer \(arcgis.com\)](https://arcgis.com)

Example of City of Joliet, IL on the ETC Explorer – State Results



## Innovation Areas: Technology, Project Delivery, and Financing

Excerpt for MPDG NOFO 2023-2024:

“Consistent with the Department’s Innovation Principles<sup>2</sup> to support workers, to allow for experimentation and learn from failure, to provide opportunities to collaborate, and to be flexible and adapt as technology changes, the Department will assess the extent to which the applicant uses innovative and secure-by-design strategies, including: (1) innovative technologies, (2) innovative project delivery, or (3) innovative financing.

**Innovative Technology:** Consistent with the Department’s Innovation Principles, the Department will assess innovative and secure-by-design technological approaches to transportation, particularly in relation to automated, connected, and electric vehicles and the detection, mitigation, and documentation of safety risks. When making grant award decisions, the Department will consider any innovative technological approaches proposed by the applicant, particularly projects that incorporate innovative technological design solutions, enhance the environment for connected, electric, and automated vehicles, or use technology to improve the detection, mitigation, and documentation of safety risks.

<sup>2</sup> <https://www.transportation.gov/priorities/innovation/us-dot-innovation-principles>

## Transportation Master Plan Grants Strategy

Innovative technological approaches may include, but are not limited to:

- Conflict detection and mitigation technologies (e.g., intersection alerts and signal prioritization);
- Dynamic signaling, smart traffic signals, or pricing systems to reduce congestion;
- Traveler information systems, to include work zone data exchanges;
- Signage and design features that facilitate autonomous or semi-autonomous vehicle technologies;
- Applications to automatically capture and report safety-related issues (e.g., identifying and documenting near-miss incidents);
- Vehicle-to-Everything (V2X) Technologies (e.g., technology that facilitates passing of information between a vehicle and any entity that may affect the vehicle);
- Vehicle-to-Infrastructure (V2I) Technologies (e.g., digital, physical, coordination, and other infrastructure technologies and systems that allow vehicles to interact with transportation infrastructure in ways that improve their mutual performance);
- Vehicle-to-Grid Technologies (e.g., technologies and infrastructure that encourage electric vehicle charging, and broader sustainability of the power grid);
- Cybersecurity elements to protect safety-critical systems;
- Broadband deployment and the installation of high-speed networks concurrent with the transportation project construction;
- Technology at land and seaports of entry that reduces congestion, wait times, and delays, while maintaining or enhancing the integrity of our border;
- Work Zone data exchanges or related data exchanges; or
- Other Intelligent Transportation Systems (ITS) that directly benefit the project's users or workers, such as a project to develop, establish, or maintain an integrated mobility management system, a transportation demand management system, or on-demand mobility services.

For innovative safety proposals, the USDOT will evaluate safety benefits that those approaches could produce and the broader applicability of the potential results. The Department will also assess the extent to which the project uses innovative technology that supports surface transportation to significantly enhance the operational performance of the transportation

## Transportation Master Plan Grants Strategy

system. Please note that all innovative technology must be in compliance with 2 CFR §200.216.<sup>3</sup>

**Innovative Project Delivery:** The Department will consider the extent to which the project utilizes innovative practices in contracting (such as public-private partnerships and single contractor design-build arrangements), congestion management, asset management, or long-term operations and maintenance.

The Department also seeks projects that employ innovative approaches to improve the efficiency and effectiveness of the environmental permitting and review to accelerate project delivery and achieve improved outcomes for communities and the environment. The Department's objective is to achieve timely and consistent environmental review and permit decisions. Participation in innovative project delivery approaches will not remove any statutory requirements affecting project delivery.

**Innovative Financing:** The Department will assess the extent to which the project incorporates innovations in transportation funding and finance through both traditional and innovative means, including by using private sector funding or financing or using congestion pricing or other demand management strategies to address congestion. This includes the use of non-traditional sources of transportation funding to leverage traditional federal sources of funding to expand the overall investment in transportation infrastructure.

To achieve a high rating in this Criteria, a Project application must state that **Innovation is a primary purpose of the project AND the project results in clear and Innovation benefits matching two or more of the descriptions below.** (Benefits can be within the same area)

- Innovative Technologies
  - Enhance the environment for electric, connected, and automated vehicles to improve the detection, mitigation, and documentation of safety risks; or
  - Use low-carbon materials; or
  - Use caps, land bridges, or underdecks
- Innovative Project Delivery
  - Use practices that facilitate accelerated project delivery such as single contractor design- build arrangements, congestion management, asset management, or long- term operations and maintenance
- Innovative Financing
  - Secure TIFIA, RRIF, or private activity bond financing; or
  - Use congestion pricing
  - or other demand management strategies”

Note: There are not any specific data sources for this criterion.

<sup>3</sup> <https://ecfr.federalregister.gov/current/title-2/subtitle-A/chapter-II/part-200/subpart-C/section-200.216>