



From the Multidisciplinary Program Discretionary Grant (MPDG) Notice of Funding Opportunity (NOFO)

In accordance with 49 U.S.C. 6701(g), a Mega grant applicant is required to submit, as an attachment to their application, a plan for the collection and analysis of data to identify the impacts of the project and the accuracy of any forecast prepared during the development phase of the project and included in the grant application. The contents of the plan must include A) an approach to measuring impacts to proposed project outcome criteria as described in Section E and B) an approach for analyzing the consistency of predicted impacts with actual outcomes.

Upon award, the plan will be reviewed and used to inform the performance measures collections that are required of Mega recipients. Therefore, the data plan should include specific performance measures related to program goals (e.g., travel time savings, greenhouse gas emissions, passenger counts, or level of service) among other information.

Performance indicators should include measurable goals or targets, and to the extent possible, should align with the estimated impacts to the outcome criteria described in the application. Before the start of construction of the Mega project, the project sponsor must submit a report providing baseline data for the purpose of analyzing the long-term impact of the project. Not later than six (6) years after the date of substantial completion of a project, the eligible entity carrying out the project shall submit a project outcomes report that compares the baseline data to quarterly project data for the duration of the fifth year of the project after substantial completion.

MPDG applicants that are opting out of Mega may also choose to submit a data plan if they intend to participate in the voluntary performance measures reporting pilot for the INFRA and Rural programs described in Section F.3. Participation in the performance measures reporting pilot does not make applications more competitive for those programs.

INTRODUCTION

NCDOT has experience with data collection and reporting for USDOT discretionary grant programs. As one of the first recipients of a TIGER grant award for the I-85 Yadkin River bridge replacement, the Department was required to provide pre-project reporting along with three years of post-project reporting. In recent years, NCDOT has provided pre-project reporting on other TIGER/BUILD grant awards, including the Blue Ridge TIGER grant, as well as the GREATTER-NC and I-95 BUILD grants. NCDOT also prepared a Data Collection Plan for the successful 2022 Alligator River Bridge Replacement (STERLING) MPDG grant application.

321 CONNECT

NCDOT is submitting a Mega grant application to maintain the project schedule for the shovel-ready 321 CONNECT (Calibrating Our National Network to Encourage Commerce and Tourism) Project. The funding will allow NCDOT to move forward with State Transportation Improvement Program (STIP) project U-4700A. The schedule for this project has already been



delayed due to escalating materials costs. Mega funding for 321 CONNECT will allow NCDOT to construct critically needed improvements to US 321 in this western Piedmont area, including the replacement of two bridges over the Catawba River.

NCDOT realizes that the transportation network must be prepared to meet the needs of a rapidly changing world. Mega funding for 321 CONNECT will allow NCDOT to upgrade US 321 into the connected, technologically-forward facility that meets current and future needs. These upgrades include installation of broadband along US 321 from Gastonia, NC to Lenoir, NC, as well as the addition of cameras and ITS infrastructure that will prepare the corridor for future automated/connected vehicle use. The project will also install a flood gauge on Frye Creek near US 321, giving increased information to allow Hickory, NCDOT and NC Emergency Management (NCEM) to prepare for the effects of increased precipitation events in this part of North Carolina.

Broadband will not only allow US 321 to meet these future needs, it will also serve to improve educational opportunities for those who live near US 321. This is critically needed in an area where more than 10 percent of the population lack a high school diploma. It will also serve the Apple, Microsoft, and Google data centers on US 321 as well as other technological and manufacturing industries in the region. NCDOT currently lacks a funding source for these much-needed improvements.

DATA PROVIDED IN THE GRANT NARRATIVE

As part of the grant application, NCDOT has provided the following information that could inform performance measures.

Crash Data

From April 1, 2018 to March 31, 2023, there were 1,966 crashes along US 321 from Hickory to Lenoir. This includes three fatal crashes and 495 crashes for which non-fatal injuries were reported. The crash history of US 321 in the project corridor shows that since 2007 there have been 25 bicyclist and pedestrian crashes on or approaching the facility. Nineteen of the 25 crashes were pedestrian and six were bicyclist crashes. This has resulted in four fatalities and 17 crashes resulting in injuries (possible injuries to serious injuries). The redesign of US 321 will provide safer bicycle and pedestrian crossings, reducing the potential for crashes.

Bridge Condition Report Data

The June 2022 bridge inspection rated the southbound bridge (0367) a score of 36.94 out of 100 and the facility, which was constructed in 1962, is considered structurally deficient. The inspection noted metal deterioration in one location, which is considered a critical find, as well as ten additional items that were assigned as priority maintenance. Cracking was noted in the surface asphalt of the structure, which required additional maintenance activities. The northbound bridge (0366) was also inspected in June 2022. The structure had a sufficiency rating of 69.48 out of 100 and is also considered structurally deficient. This structure, which was built



in 1983, has corrosion and cracking issues, with some exposed rebar noted. A total of nine items were assigned as priority maintenance activities.

While routine maintenance will enable continued use of the structures, the southbound bridge is at the end of its useful life and the northbound bridge does not meet current design standards. In 2021, U-4700AA funded stop-gap renovations of the Catawba River southbound bridge. The total cost of the project was \$1,915,072.35.

Congestion/Delay Data

Based on National Transportation Dashboard Mobility Indicators, the 219 miles of National Highway System roadways in the Hickory Urban Area experienced 1,356 hours of truck delay in 2022. The Dashboard estimates that in 2022, the cost of congestion for the Hickory Urban Area was over \$21.8 million.

MORE ABOUT PERFORMANCE MEASURES AT NCDOT

The Mission for NCDOT is “Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina.” The way NCDOT holds itself accountable is through the collection and reporting of performance measures.

Over the last several years, NCDOT has expanded on the identification and collection of performance measures. The Department now provides information to the public on “measuring performance” in relation to its organizational goals (<https://www.ncdot.gov/about-us/our-mission/Performance/Pages/default.aspx>). The collection of performance measurement data for 321 CONNECT as part of the Mega grant application will be conducted along with all of NCDOT’s other reporting.

Proposed Reporting Measures include:

Measure – Travel Time Savings

- Description – Travel time savings for traffic measured during daily peak and off-peak traffic
- Outcome Criterion – Quality of Life
- Measurement Frequency – Quarterly
- Measurement Location – US 321 at US-70 to US 321 at Business 321 Intersection
- Projected outcome – Improved travel times.

Measure – Bridge Condition Rating

- Description – The condition report of the bridges based on Bridge Inspection Reports
- Outcome Criterion – State of Good Repair
- Measurement Frequency – Biennial

NCDOT Data Collection Plan
2023 MPDG Mega Grant Program
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- Measurement Location – US 321 northbound and southbound bridges over the Catawba River
- Projected Outcome – Structures that are not rated as structurally deficient or functionally obsolete.